FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
OFFICE OF TRANSPORTATION ENGINEERING

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

FREDERICK COUNTY PROJECT NUMBER: C6309.6309.01
MDOT SHA TRACKING NUMBER: 21APFR008XX

DEVELOPMENT REVIEW ENGINEERING

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND /OR CONSTRUCTION.
APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

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 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.

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.

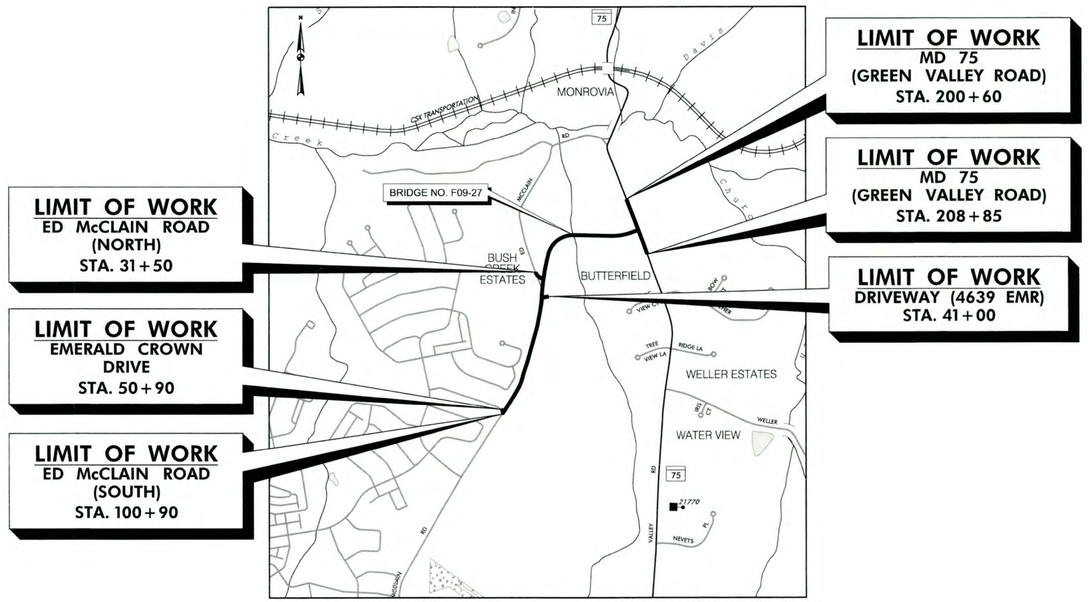
IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT THE STANDARD PLATES IN HIS / HER POSSESSION ARE THE LATEST REVISED S.H.A. STANDARD PLATES AS OF THE DATE OF THE AWARD OF THIS PROJECT.

RIGHT OF WAY LINES ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE R / W PLATS NUMBERED: 500-513, 62196

MDE PERMIT NO. 22-NT-3129 /202260937, EXPIRATION DATE: 08 /31 /2027

US ARMY CORPS OF ENGINEERS PERMIT NO. NAB-2022-60937-M43, EXPIRATION DATE: 09 /30 /26

COMBINED SWM DEVELOPMENT AND IMPROVEMENT PLAN



LENGTH OF PROJECT: FREDERICK COUNTY
EAST-WEST CONNECTOR = 0.32 MILES
ED McCLAIN ROAD = 0.40 MILES
MD 75 (GREEN VALLEY ROAD) = 0.15 MILES

LOCATION MAP
SCALE: 1" = 1000'

SURVEY INFORMATION

FIELD SURVEY PREPARED BY: THE WILSON T. BALLARD CO.
DEC. 2020 – JUNE 2021
HORIZONTAL DATUM: NAD 83 / 91
VERTICAL DATUM: NAVD 88

THIS DATA WAS COLLECTED ELECTRONICALLY AND NO PHYSICAL FIELD BOOKS EXIST. CONTROL INFORMATION IS AVAILABLE UPON REQUEST.

UTILITY GENERAL NOTE

ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FREDERICK COUNTY GENERAL CONDITIONS AND STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAINS, SANITARY SEWER AND RELATED STRUCTURES, SPECIAL PROVISIONS AND AMENDMENTS THERETO.

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.

WHEN CLEARING AND GRUBBING TO INSTALL AND DURING THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN THE TEMPORARY EASEMENT AREAS, (BETWEEN THE LIMITS OF PERMANENT GRADING AND LIMIT OF DISTURBANCE), THE CONTRACTOR SHALL MAKE EVERY POSSIBLE ATTEMPT TO AVOID UNNECESSARY DISTURBANCE TO EXISTING TREES, STRUCTURES AND LANDSCAPING WITHIN THE AREA. THE CONTRACTOR SHALL PRESENT THE ENGINEER WITH POSSIBLE OPTIONS TO MINIMIZE DISTURBANCES TO THESE ITEMS FOR APPROVAL.

DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 13.1 ACRES, AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 68,000 CUBIC YARDS** OF EXCAVATION AND APPROXIMATELY 25,100 CUBIC YARDS** OF FILL.

JOHN J. WEBSTER, P.E. | 24828 LICENSE REG NO. | 10/19/22 DATE

**THESE QUANTITIES ARE APPROXIMATE AND SHALL NOT BE USED BY THE CONTRACTOR FOR BIDDING PURPOSES.

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01.07, "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" (LATEST VERSION AND REVISIONS), AND NRCS STANDARD FOR POND 378.

JOHN J. WEBSTER, P.E. | 24828 LICENSE REG NO. | 10/19/22 DATE

ADA COMPLIANCE

THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION.

ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR	
ROAD CLASSIFICATION	RURAL COLLECTOR
DESIGN SPEED	35 MPH
POSTED SPEED	30 MPH
A.D.T. (2016)	–
A.D.T. (2026)	1,830
PERCENT TRUCKS	3.0%

MD 75 (GREEN VALLEY ROAD)	
ROAD CLASSIFICATION	URB. MINOR ARTERIAL
DESIGN SPEED	30 MPH
POSTED SPEED	30 MPH
A.D.T. (2016)	6,750
A.D.T. (2026)	9,650
PERCENT TRUCKS	5.5%

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.

JOHN J. WEBSTER, P.E. 10/19/22 DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE 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

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.

AMANDA RADCLIFFE, P.E., CHIEF 1/3/23 DATE
FREDERICK COUNTY OFFICE OF TRANSPORTATION ENGINEERING
355 MONTEVUE LANE, SUITE 200
FREDERICK, MARYLAND 21702
301-600-2932

JOHN J. WEBSTER, P.E. 10/19/22 DATE

PROFESSIONAL CERTIFICATION

IN MY PROFESSIONAL OPINION, THESE PLAN SHEETS COMPLY WITH THE CURRENT REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AS OF THE APPROVED DATE INDICATED ON THIS DOCUMENT. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE 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

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

FREDERICK SOIL CONSERVATION DISTRICT NRCS SMALL POND	FREDERICK SOIL CONSERVATION DISTRICT SEDIMENT AND EROSION CONTROL	FREDERICK COUNTY DIVISION OF PUBLIC WORKS	FREDERICK COUNTY OFFICE OF TRANSPORTATION ENGINEERING
APPROVED BY: Steve Leatherman ASST. DISTRICT MANAGER	APPROVED BY: Steve Leatherman ASST. DISTRICT MANAGER	APPROVED BY: DIRECTOR	APPROVED BY: CHIEF
DATE 1-5-23	DATE 1-5-23	DATE 1/4/23	DATE 1/3/23

STATE OF MARYLAND JOHN JACKSON WEBSTER No. 24828 PROFESSIONAL ENGINEER 10/19/22

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

Internal Use Only
Development Review
File # CIP
A / P # PW266398
Due Date:

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

TITLE SHEET

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01

TI-1

DWG. 1 OF 226

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\TraffEng\Frederick County - Monrovia E-W Connector\Design Files\PDN-TI01_ENG_SCD.dgn

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PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEPHEN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

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IN-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

INDEX OF SHEETS

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 2 OF 226

BY: AKR -
PLOTTED: 10/20/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\GN-100_EWC.dgn

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

SOIL TYPE BOUNDARY

EDGE OF WOODED AREAS

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.)

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

℄ SURVEY	BASE LINE OF SURVEY
℄ CONSTR.	BASE LINE OF CONSTRUCTION
BA	BELL ATLANTIC
B.C.	BOTTOM CURB
BD	BERM DITCH
BM	BENCH MARK
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
E/OH	OVERHEAD ELECTRIC LINE
E	UNDERGROUND ELECTRIC LINE
EBR	EAST BOUND ROADWAY
EMH	ELECTRIC MANHOLE
EX	EXISTING
ES	PIPE CULVERT END SECTION
FH	FIRE HYDRANT
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
NBR	NORTHBOUND ROADWAY
OD	OUTLET DITCH
PROP	PROPOSED
PC	POINT OF CURVATURE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVATURE
℄	PROPERTY LINE
PGL	PROFILE GRADE LINE
P.G.L	PROFILE OF GROUND LINE
P/R	POINT OF ROTATION
P.G.E	POINT OF APPLICATION OF PROFILE GRADE ELEVATION
P/C	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
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 8391.

STANDARD PLATES

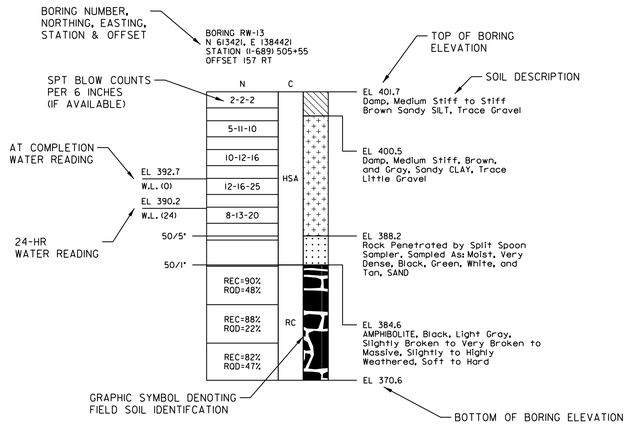
IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT THE STANDARD PLATES IN THEIR POSSESSION ARE THE LATEST REVISED SHA STANDARD PLATES AS OF THE DATE OF AWARD OF THIS PROJECT.

SIGHT DISTANCES

STOPPING SIGHT DISTANCE FOR VERTICAL CURVES ARE BASED ON A HEIGHT OF EYE 3.5 FEET AND A HEIGHT OF OBJECT OF 6 INCHES. HEAD-LIGHT SIGHT DISTANCE FOR SAG VERTICAL CURVES ARE BASED ON HEAD LAMP BEAM 2.0 FEET ABOVE THE ROADWAY AND A 1° UPWARD DIVERGENCE.

SOILS LEGEND

EXAMPLE SOIL BORING PROFILE



EXAMPLE SOIL LABORATORY TEST RESULT

BORING ID	BORING LOCATION					SAMPLE ID	DEPTH	CLASSIFICATION			NMC (%)	ATTERBERG LIMITS			T-180		% PASSING #200 SIEVE
	STATION	OFFSET (FT)	DIR	NORTHING	EASTING			USCS	AASHTO	USDA		LL	PL	PI	MDD (pcf)	OMC (%)	
SB-58	3627+00	17	LT	376321.71	1349450.18	-	0.4' - 8.0'	CL	A-6	Clay Loam	23	35	23	12	120	12	-
SB-59	3629+50	0	RT	376147.82	1349629.73	-	0.4' - 8.0'	-	-	-	-	-	-	-	-	-	-
SB-60	552+00	0	RT	377100.77	1347372.06	-	1.0' - 7.0'	SP-SM	A-1-b	Loamy Sand	4	NV	NP	NP	135	5	-

SOILS LEGEND

GRAVEL

SAND

SILT

CLAY

TOP SOIL

ROCK

ASPHALT

PLAN LOCATION OF SOIL BORINGS

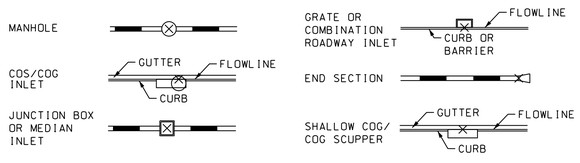
BORING TARGETS AND PROFILES SCALE:
HORIZONTAL - NONE
VERTICAL - SEE PROFILE SHEETS

AO-ABOVE OPTIMUM
SAT-SATURATED
LIQ-LIQUEFIED
REC-RECOVERY
ROD-ROCK QUALITY DESIGNATION
N-BLOW COUNTS PER 6" PER T-206
HSA-HOLLOW STEM AUGER
RC-ROCK CORE
C-CASING
HCI- HOLE CLOSED IMMEDIATELY

LL-LIQUID LIMIT (%)
PI-PLASTICITY INDEX (%)
NP-NON-PLASTIC
NV-NON-VALUE
MDD-MAXIMUM DRY DENSITY (pcf) PER T-180
OMC-OPTIMUM MOISTURE CONTENT (%) PER T-180
USC-UNIFIED SOIL CLASSIFICATION
USDA-UNITED STATES DEPARTMENT OF AGRICULTURE CLASSIFICATION

NOTES:
- SOIL SYMBOLS ARE BASED ON FIELD IDENTIFICATION.
- FOR LAB TEST ON SELECTED SAMPLES, REFER TO SOIL LABORATORY TEST RESULT TABLE.
- ALL DIMENSIONS, DEPTHS AND ELEVATIONS ARE IN FEET, UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE NOTED ON PLANS, ALL SOIL SURVEY BORINGS FOR ROADWAY CONSTRUCTION WERE LEFT OPEN FOR 24 HOURS WITH NO EXCESS MOISTURE OR FREE WATER ENCOUNTERED DURING TIME OF SOIL SURVEY (JULY 2021).

DRAINAGE STRUCTURE STAKEOUT LOCATIONS



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

MDOT SHA STANDARDS

THE FOLLOWING STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:

BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES:

MD 104.01-22 - PORTABLE VARIABLE MESSAGE SIGN PLACEMENT ALL ROADWAYS/ALL SPEEDS
MD 104.01-25 - BARRIER DELINEATION BARRIER 4 FEET OR CLOSER TO EDGE LINE
MD 104.02-01 - SHOULDER WORK / 2-LANE, 2-WAY GREATER THAN 40 MPH
MD 104.02-02 - SHOULDER WORK / 2-LANE, 2-WAY EOL/LESS THAN 40 MPH
MD 104.02-09 - FLAGGING OPERATION / 2-LANE, 2-WAY GREATER THAN 40 MPH
MD 104.02-10 - FLAGGING OPERATION / 2-LANE, 2-WAY EOL/LESS THAN 40 MPH
MD 104.02-14 - INTERSECTION FLAGGING OPERATION / 2-LANE, 2-WAY EOL/LESS THAN 40 MPH
MD 104.06-15 - PAVEMENT DROP-OFF 2.5 INCHES OR LESS (BETWEEN TRAFFIC LANES)
MD 104.06-16 - PAVEMENT DROP-OFF 2.5 INCHES OR LESS (BETWEEN TRAFFIC LANES AND SHOULDER)
MD 104.06-17 - PAVEMENT EDGE DROP-OFF GREATER THAN 2.5 INCHES BUT EQUAL TO OR LESS THAN 5 INCHES (BETWEEN TRAFFIC LANES AND SHOULDER)
MD 354.01 - STANDARD TYPE C ENDWALL METAL OR CONCRETE ROUND PIPE
MD 360.01 - STANDARD TYPE G ENDWALL METAL OR CONCRETE ROUND PIPE
MD 368.01 - STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE
MD 369.00 - STANDARD CONCRETE END SECTION HORIZONTAL ELLIPTICAL PIPE
MD 374.31 - STANDARD C.O.G. INLETS 5', 10', 15' & 20'
MD 374.41 - STANDARD C.O.S. INLETS 5' & 15'
MD 374.66 - PRECAST OR CAST IN PLACE SHALLOW C.O.G. INLET 5' OR 10' TROUGH OPENING
MD 378.05 - STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE
MD 383.11 - STANDARD DROP MANHOLE
MD 383.91 - STANDARD METAL LADDER RUNGS MISCELLANEOUS STRUCTURES
MD 384.01 - 48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES
MD 384.03 - 60" DIAMETER PRECAST MANHOLE FOR 27" TO 36" PIPES
MD 384.13 - PRECAST DRIP STONE LANDING DETAILS FOR 48" TO 120" DIAMETER MANHOLES
MD 387.01 - STANDARD UNDERDRAINS
MD 387.11-01 - LONGITUDINAL UNDERDRAIN LOCATED AT CURB & GUTTER EDGE FOR FLEXIBLE PAVEMENT
MD 578.01 - REPAIRING PAVEMENT OPENINGS FOR UTILITY TRENCES
MD 605.01 - TRAFFIC BARRIER W-BEAM BURIED-IN-BACKSLOPE END TREATMENT (TYPE A)
MD 605.03 - TRAFFIC BARRIER W-BEAM ONE-SIDED END TREATMENT (TYPE C)
MD 605.13 - TRAFFIC BARRIER W-BEAM RADIUS END TREATMENT (TYPE L)
MD 605.23 - TRAFFIC BARRIER W-BEAM, W-BEAM SPLICES AND WOOD OFFSET BLOCK
MD 605.41 - TRAFFIC BARRIER THRIE-BEAM ANCHORAGE TO VERTICAL FACE
MD 620.02 - STANDARD TYPES A & B CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER
MD 690.03 - 4'-0" FARM TYPE FENCE

STRUCTURAL DETAIL MANUAL:

REFER TO STRUCTURES SHEETS.

ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCED STANDARD AT THE TIME OF CONSTRUCTION. ADDITIONAL STANDARDS MAY BE REFERENCED BY THE ABOVE STANDARDS. AND ADDITIONAL STANDARDS MAY BE REQUIRED THAT ARE NOT DIRECTLY REFERENCED IN THE CONTRACT DOCUMENTS.

THE BOOK OF STANDARDS CAN BE ACCESSED AT:
apps.roads.maryland.gov/BusinessWithSHA/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp

THE STRUCTURAL DETAIL MANUAL CAN BE ACCESSED AT:
roads.maryland.gov/mdotsha/pages/index.aspx?PageId=777

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

GN-1

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

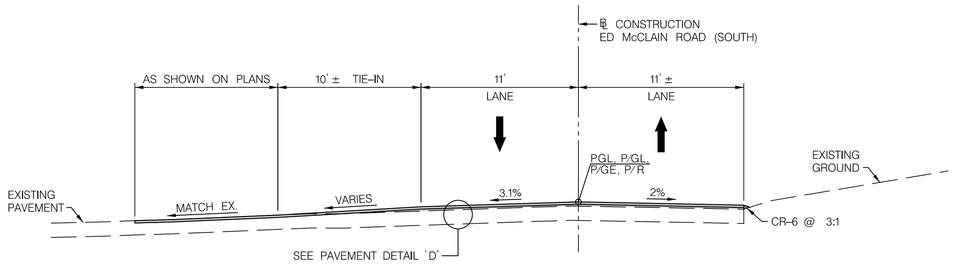
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

CONVENTIONAL SIGNS, ABBREVIATIONS AND NOTES

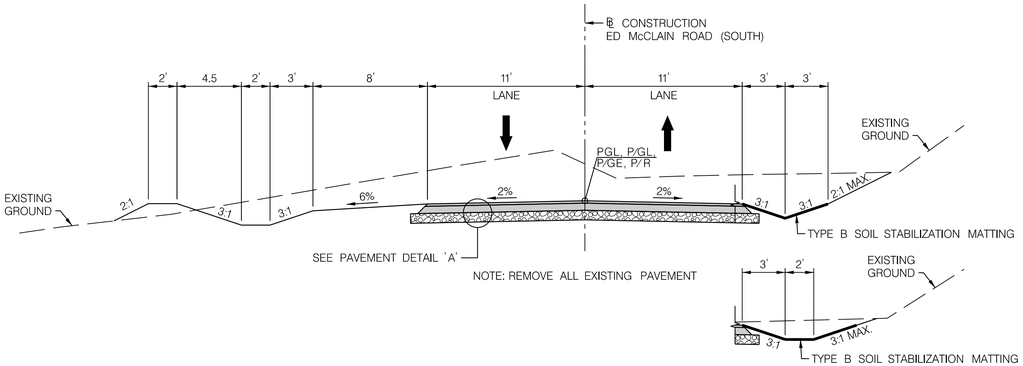
DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 3 OF 226

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pGN-N001.ENC.dgn

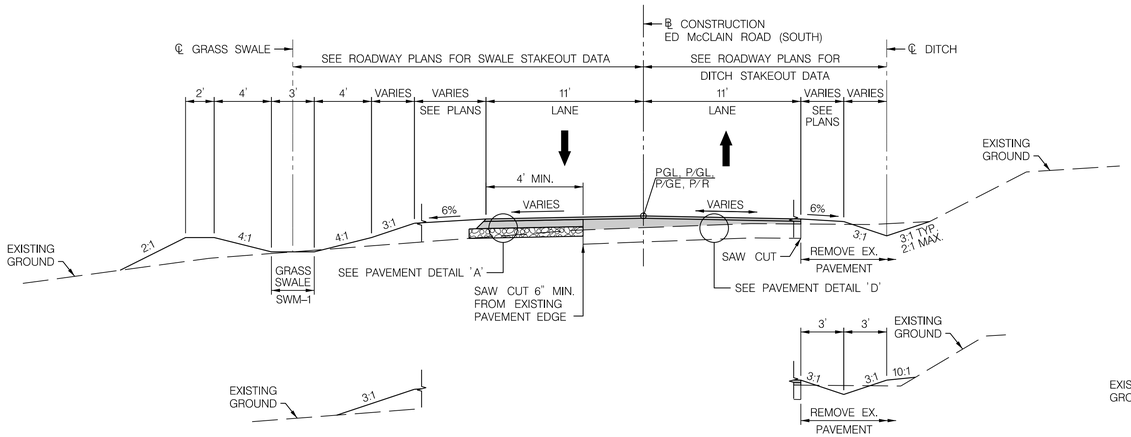


ED McCLAIN ROAD (SOUTH)
NORMAL OPEN SECTION
STA. 100+90 TO STA. 102+11



STA. 110+69 TO STA. 111+00

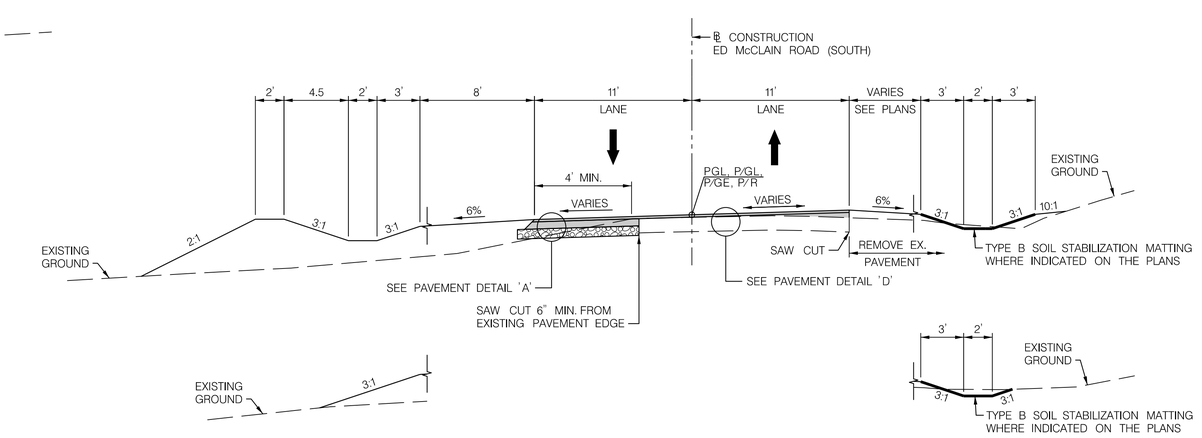
ED McCLAIN ROAD (SOUTH)
NORMAL OPEN SECTION
STA. 109+38 TO STA. 111+00



STA. 102+11 TO STA. 102+50

STA. 102+11 TO STA. 103+33

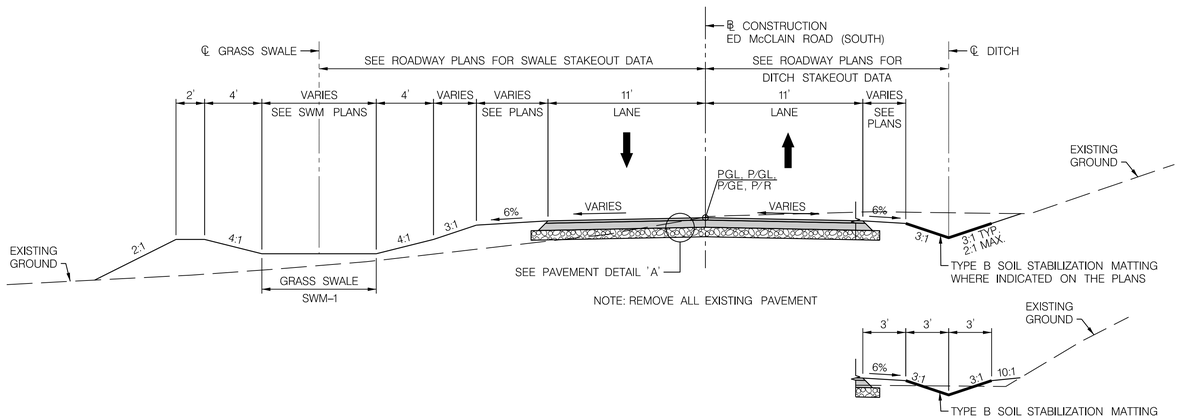
ED McCLAIN ROAD (SOUTH)
NORMAL/SUPERELEVATED OPEN SECTION
STA. 102+11 TO STA. 105+75



STA. 116+50 TO STA. 116+90

STA. 111+69 TO STA. 112+87
STA. 114+85 TO STA. 115+50
STA. 116+50 TO STA. 116+90

ED McCLAIN ROAD (SOUTH)
NORMAL/SUPERELEVATED OPEN SECTION
STA. 111+00 TO STA. 116+90



STA. 106+91 TO STA. 108+28

ED McCLAIN ROAD (SOUTH)
NORMAL/SUPERELEVATED OPEN SECTION
STA. 105+75 TO STA. 109+38

STANDARD ROADSIDE LANDSCAPING:

1. FOR SLOPES 2:1 AND STEEPER: PLACING FURNISHED TOPSOIL 2 INCH DEPTH, TURFGRASS ESTABLISHMENT, AND TYPE A SSM FOR SLOPES LONGER THAN 10 FEET
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PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/10/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

TS-1

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

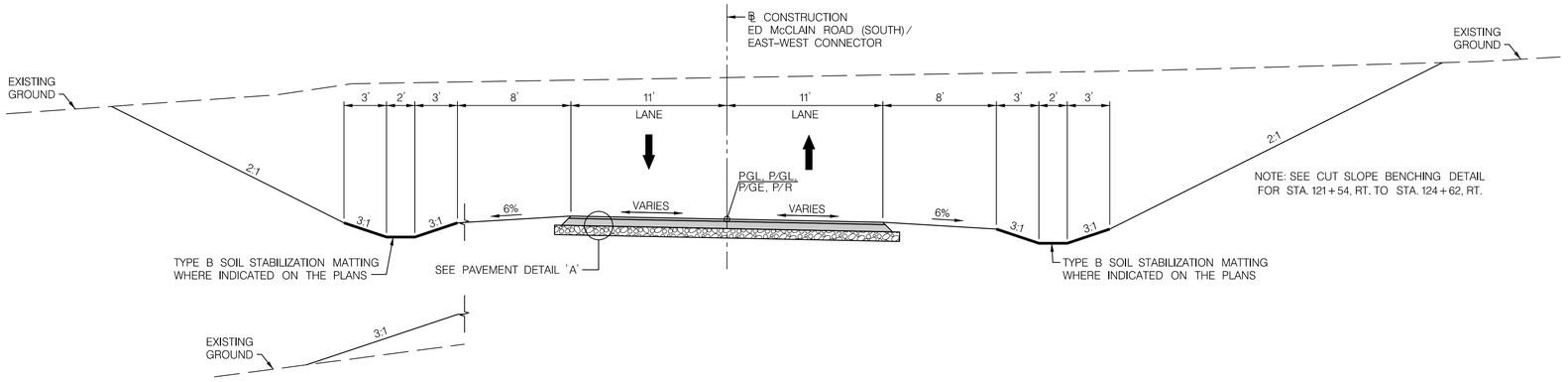
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

TYPICAL SECTIONS

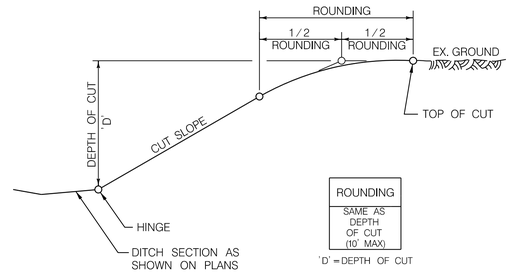
DATE: OCTOBER 2022 SCALE: 1"=5'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 4 OF 226

BY: AKR - PLOTTED: 10/18/2022 - FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\pHT-X00_ENC.dgn



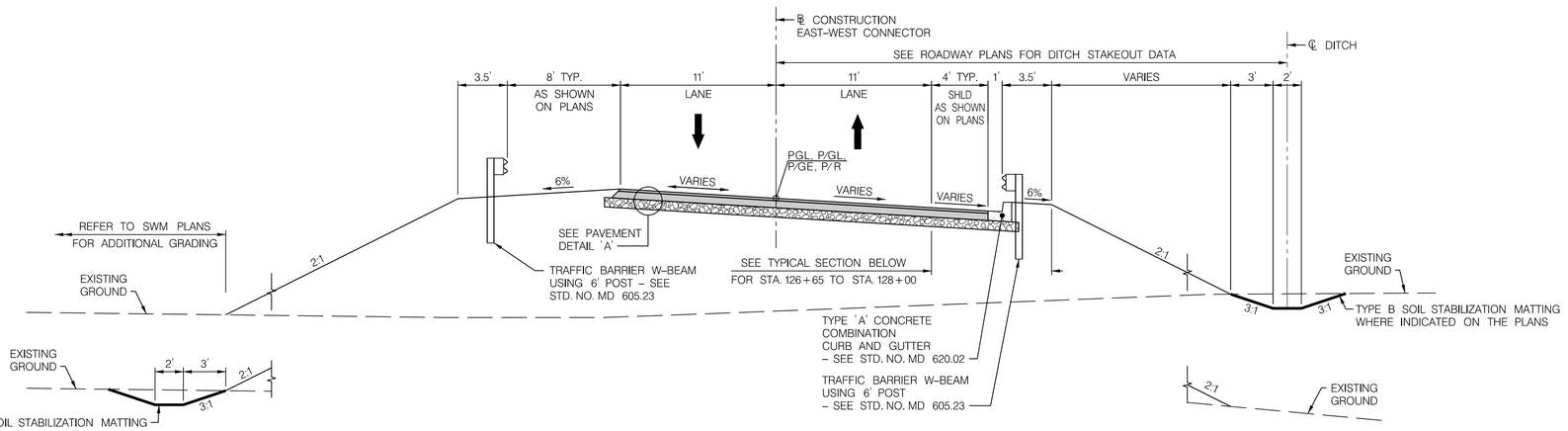
STA. 116+90 TO STA. 117+46



CUT SLOPE ROUNDING

ED McCLAIN ROAD (SOUTH) / EAST–WEST CONNECTOR

SUPERELEVATED OPEN SECTION
STA. 116+90 TO STA. 126+65

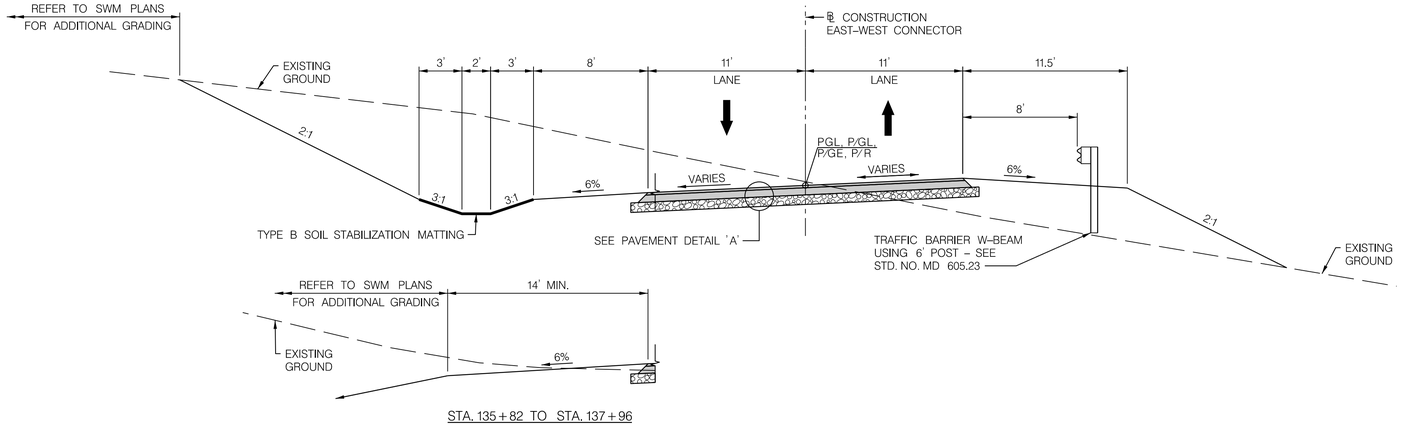


STA. 126+65 TO STA. 127+45

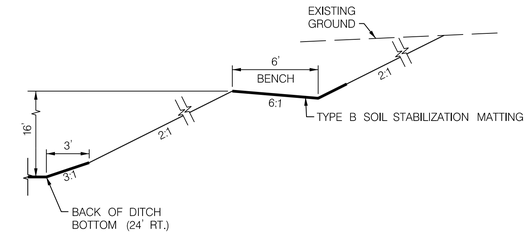
STA. 130+29 TO STA. 134+00

EAST–WEST CONNECTOR

NORMAL/SUPERELEVATED OPEN SECTION
STA. 126+65 TO STA. 134+00



STA. 135+82 TO STA. 137+96



CUT SLOPE BENCHING

EAST–WEST CONNECTOR

NORMAL/SUPERELEVATED OPEN SECTION
STA. 134+00 TO STA. 137+96

STANDARD ROADSIDE LANDSCAPING:

1. FOR SLOPES 2:1 AND STEEPER: PLACING FURNISHED TOPSOIL 2 INCH DEPTH, TURFGRASS ESTABLISHMENT, AND TYPE A SSM FOR SLOPES LONGER THAN 10 FEET
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSH JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER — 10/18/22

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

CROSS REFERENCE

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TS-2

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

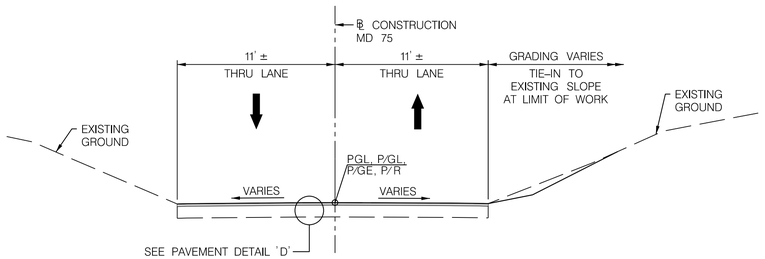
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

TYPICAL SECTIONS

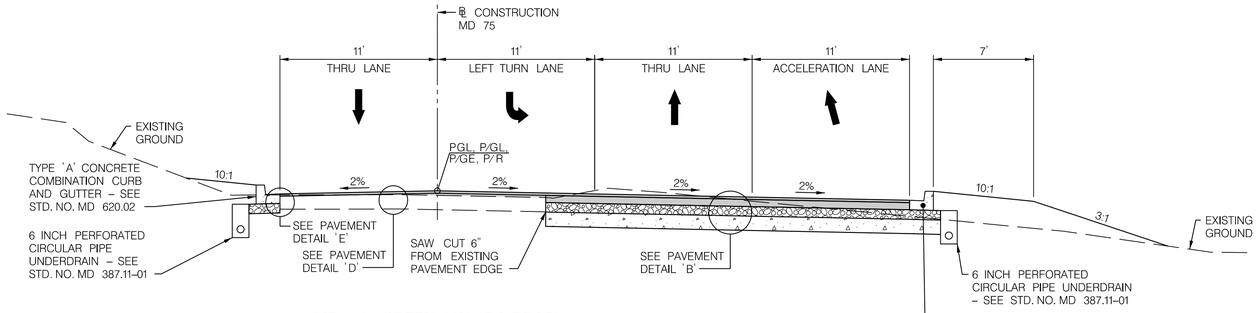
DATE: OCTOBER 2022 SCALE: 1"=5'–0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 5 OF 226

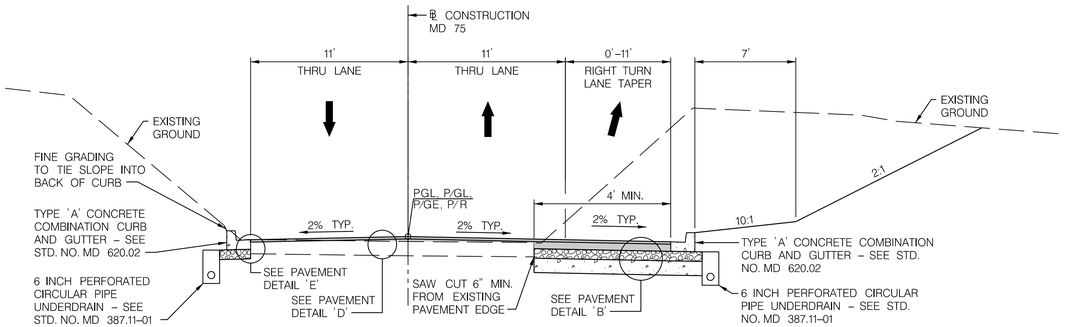
BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pdT-K002_EWC.dgn



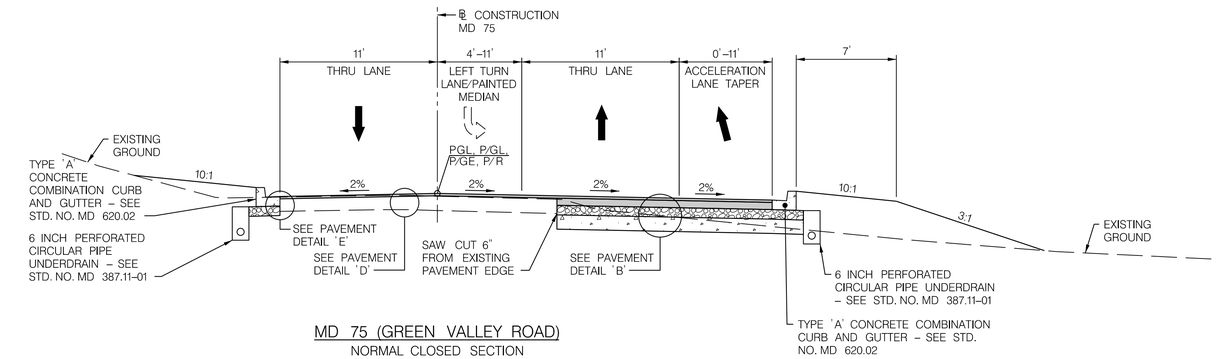
MD 75 (GREEN VALLEY ROAD)
NORMAL OPEN SECTION
STA. 200+60 TO STA. 200+70
STA. 208+75 TO STA. 208+85



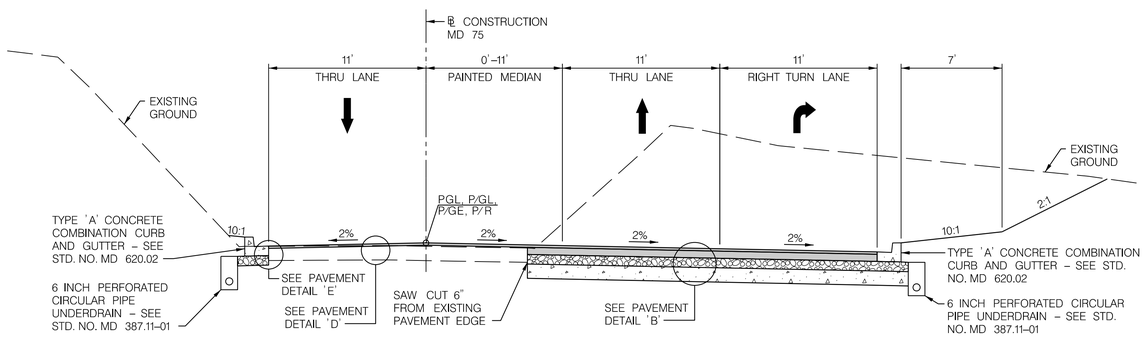
MD 75 (GREEN VALLEY ROAD)
NORMAL CLOSED SECTION
STA. 205+20 TO STA. 206+45



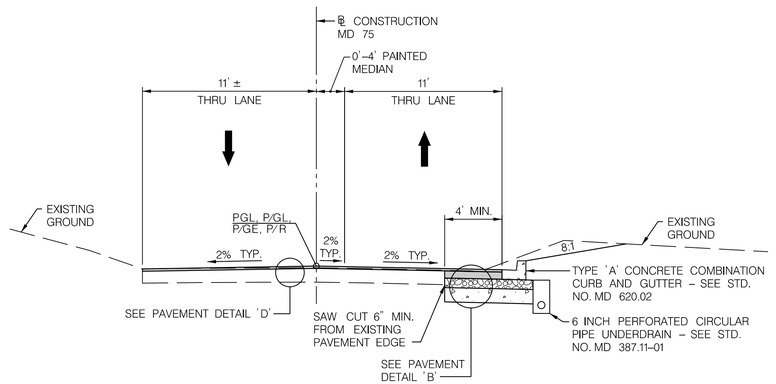
MD 75 (GREEN VALLEY ROAD)
NORMAL CLOSED SECTION
STA. 200+70 TO STA. 201+75



MD 75 (GREEN VALLEY ROAD)
NORMAL CLOSED SECTION
STA. 206+45 TO STA. 207+95



MD 75 (GREEN VALLEY ROAD)
NORMAL CLOSED SECTION
STA. 203+75 TO STA. 205+20



MD 75 (GREEN VALLEY ROAD)
NORMAL PARTIALLY CLOSED SECTION
STA. 207+95 TO STA. 208+75

STANDARD ROADSIDE LANDSCAPING:

1. FOR SLOPES 2:1 AND STEEPER: PLACING FURNISHED TOPSOIL 2 INCH DEPTH, TURFGRASS ESTABLISHMENT, AND TYPE A SSM FOR SLOPES LONGER THAN 10 FEET
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND
JACKSON WILLIAM BALLARD
No. 24828
PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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TS-3

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

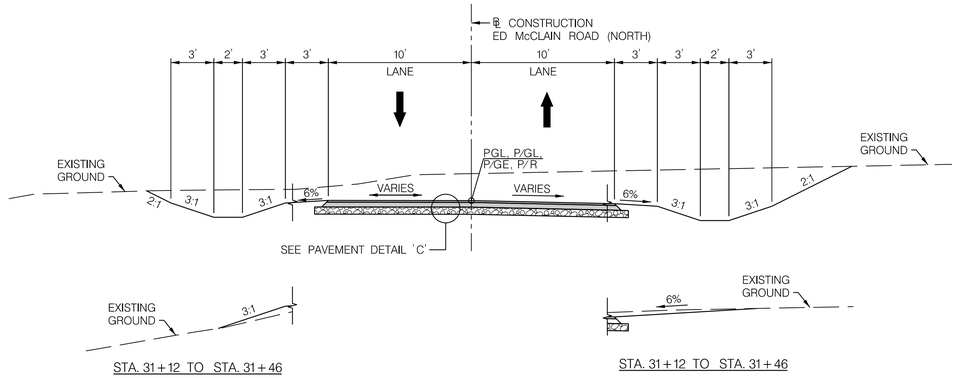
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

TYPICAL SECTIONS

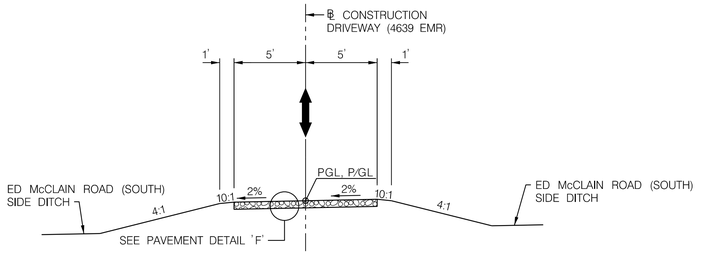
DATE: OCTOBER 2022 SCALE: 1"=5'–0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 6 OF 226

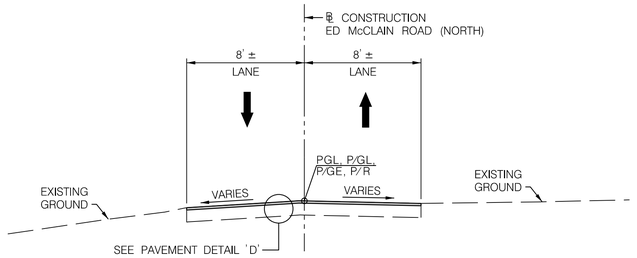
BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\PHT-X003_EWC.dgn



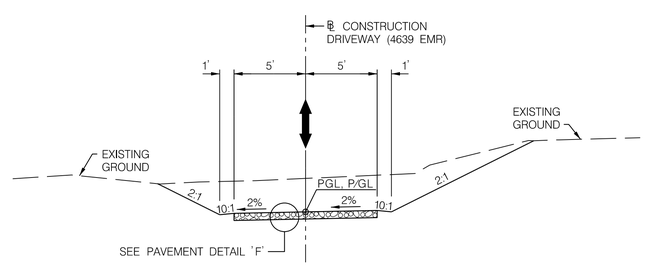
ED McCLAIN ROAD (NORTH)
SUPERELEVATED OPEN SECTION
STA. 30+11 TO STA. 31+46



DRIVEWAY (4639 ED McCLAIN ROAD)
TYPICAL SECTION
STA. 40+11 TO STA. 40+32



ED McCLAIN ROAD (NORTH)
NORMAL OPEN SECTION
STA. 31+46 TO STA. 31+50



DRIVEWAY (4639 ED McCLAIN ROAD)
TYPICAL SECTION
STA. 40+32 TO STA. 41+00

STANDARD ROADSIDE LANDSCAPING:

1. FOR SLOPES 2:1 AND STEEPER: PLACING FURNISHED TOPSOIL 2 INCH DEPTH, TURFGRASS ESTABLISHMENT, AND TYPE A SSM FOR SLOPES LONGER THAN 10 FEET
2. FOR SLOPES BETWEEN 2:1 AND 4:1: PLACING FURNISHED TOPSOIL 4 INCH DEPTH, TURFGRASS ESTABLISHMENT, AND TYPE A SSM FOR SLOPES LONGER THAN 10 FEET
3. FOR SLOPES 4:1 AND FLATTER; PLACING FURNISHED TOPSOIL 4 INCH DEPTH AND TURFGRASS ESTABLISHIMENT

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON REED — No. 24828 — PROFESSIONAL ENGINEER
10/10/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

TS-4

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

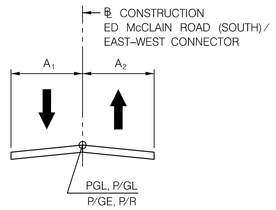
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

TYPICAL SECTIONS

DATE: OCTOBER 2022 SCALE: 1"=5'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 7 OF 226

BY: AKR -
PLOTTED: 10/18/2022
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\eMT-X004_ENC.dgn

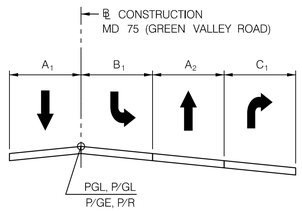


c = 0.00035

DS = 35 MPH
e_{max} = 0.06

ED McCLAIN ROAD (SOUTH) / EAST–WEST CONNECTOR

STATION	A_1	A_2	REMARKS
100+90.00	–0.031	–0.020	MEET EX. PAVMENT
102+10.00	–0.031	–0.020	BEGIN A_1 TRANSTION
102+41.42	–0.020	–0.020	END A_1 TRANSTION
103+10.19	–0.020	–0.020	BEGIN A_2 TRANSTION
104+24.48	–0.020	+0.020	BEGIN A_1 TRANSTION
105+10.19	–0.050	+0.050	END TRANSTION
105+96.12	–0.050	+0.050	BEGIN TRANSTION
106+81.83	–0.020	+0.020	END A_1 TRANSTION
107+96.12	–0.020	–0.020	END A_2 TRANSTION
113+33.58	–0.020	–0.020	BEGIN A_2 TRANSTION
114+47.87	–0.020	+0.020	BEGIN A_1 TRANSTION
114+76.44	–0.030	+0.030	END TRANSTION
117+64.41	–0.030	+0.030	BEGIN TRANSTION
119+07.27	+0.020	–0.020	END TRANSTION
123+66.42	+0.020	–0.020	BEGIN TRANSTION
124+80.71	+0.060	–0.060	END TRANSTION
128+09.86	+0.060	–0.060	BEGIN TRANSTION
128+67.00	+0.040	–0.040	END TRANSTION
129+87.00	+0.040	–0.040	BEGIN TRANSTION
130+44.14	+0.020	–0.020	END A_2 TRANSTION
131+58.43	–0.020	–0.020	END A_1 TRANSTION
133+03.89	–0.020	–0.020	BEGIN A_2 TRANSTION
134+18.17	–0.020	+0.020	BEGIN A_1 TRANSTION
134+92.46	–0.046	+0.046	END TRANSTION
137+61.27	–0.046	+0.046	BEGIN A_1 TRANSTION
137+69.85	–0.049	+0.046	BEGIN A_2 TRANSTION
137+95.56	–0.058	+0.055	END TRANSTION; MEET MD 75

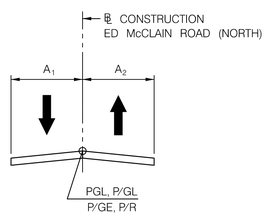


c = 0.0002

DS = 30 MPH
e_{max} = 0.04

MD 75 (GREEN VALLEY ROAD)

STATION	A_1	B_1	A_2	C_1	REMARKS
200+60.00	0.000	–	–0.033	–	MEET EX PAVEMENT, BEGIN TRANSITION
200+75.00	–0.003	–	–0.030	–0.030	BEGIN C_1
201+25.00	–0.013	–	–0.020	–0.020	END A_1, C_1 TRANSTION
201+60.00	–0.020	–	–0.020	–0.020	END A_1 TRANSTION
202+75.00	–0.020	–0.020	–0.020	–0.020	BEGIN B_1
207+95.00	–0.020	–0.020	–0.020	–0.020	END C_1
208+35.00	–0.020	–0.020	–0.020	–	BEGIN A_1 TRANSTION
208+65.00	–0.014	–0.020	–0.020	–	BEGIN B_1, A_2 TRANSTION
208+70.00	–0.013	–0.019	–0.019	–	END B_1
208+85.00	–0.010	–	–0.016	–	END TRANSTION, MEET EX. PAVEMENT

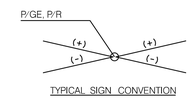


c = 0.000835

DS = 25 MPH
e_{max} = 0.06

ED McCLAIN ROAD (NORTH)

STATION	A_1	A_2	REMARKS
30+11.01	+0.055	–0.055	MEET ED McCLAIN ROAD (S); BEGIN TRANS.
30+51.73	+0.021	–0.021	END A_2 TRANSTION
31+50.00	–0.061	–0.021	END A_1 TRANSTION; MEET EX. PAVEMENT



TYPICAL SIGN CONVENTION

LEGEND

A	THRU OR SHARED THRU / RIGHT TURN LANE
B	LEFT TURN LANE
C	AUXILIARY / RIGHT TURN LANE
D	SHOULDER

NOTE: AREAS SHADED IN TABLES REFLECT LANES IN TRANSITION

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
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STATE OF MARYLAND · JOHN JACKSON REED · No. 24828 · PROFESSIONAL ENGINEER

10/19/22

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

CROSS REFERENCE

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SE-1

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

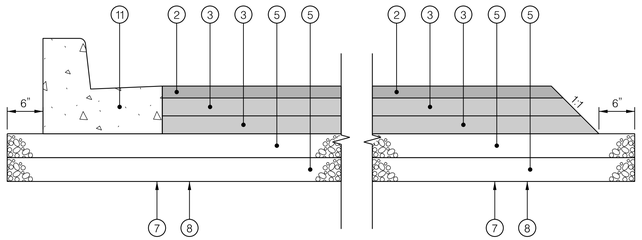
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SUPERELEVATION TABLES

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 8 OF 226

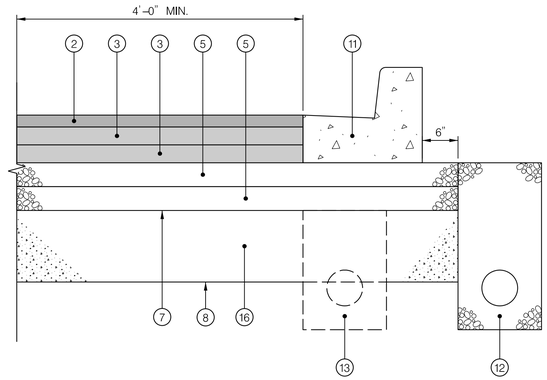
BY: AKR -
PLOTTED: 10/18/2022
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\05E-0001-EWC.dgn



CLOSED SECTION OPEN SECTION

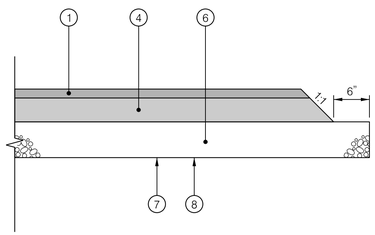
PAVEMENT DETAIL 'A'

NEW PAVEMENT SECTION
ED McCLAIN ROAD (SOUTH), EAST–WEST CONNECTOR
SCALE: 1" = 1'–0"



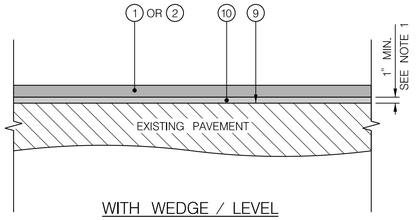
PAVEMENT DETAIL 'B'

NEW PAVEMENT SECTION – CLOSED SECTION
MD 75
SCALE: 1" = 1'–0"

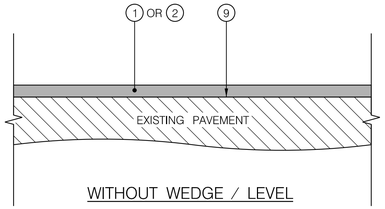


PAVEMENT DETAIL 'C'

NEW PAVEMENT SECTION – OPEN SECTION
ED McCLAIN ROAD (NORTH)
SCALE: 1" = 1'–0"



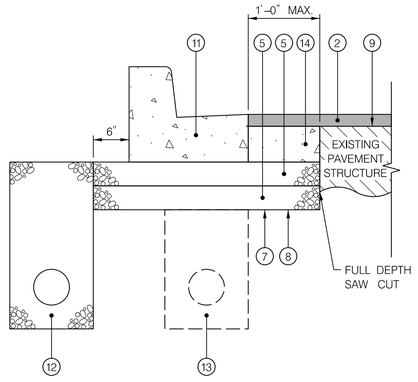
WITH WEDGE / LEVEL



WITHOUT WEDGE / LEVEL

PAVEMENT DETAIL 'D'

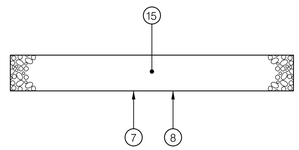
RESURFACING SECTION
ED McCLAIN ROAD (SOUTH), EAST–WEST CONNECTOR, MD 75,
ED McCLAIN ROAD (NORTH), EMERALD CROWN DRIVE
SCALE: 1" = 1'–0"



AN ADDITIONAL 1' MAXIMUM SHALL BE USED FOR CURB & GUTTER FORM PLACEMENT. THE ADDITIONAL WIDTH IS TO BE FILLED WITH TWO 6" GRADED AGGREGATE BASE COURSES AND 8" PORTLAND CEMENT CONCRETE MIX #3 TO THE BOTTOM OF THE ASPHALT SURFACE COURSE. JOINTS SHALL MATCH THE CURB & GUTTER. DOWEL BARS ARE NOT NECESSARY. SAW CUT, GRADED AGGREGATE BASE BELOW CONCRETE, AND PORTLAND CEMENT CONCRETE SHALL BE INCIDENTAL TO THE CURB & GUTTER ITEM.

PAVEMENT DETAIL 'E'

RESURFACING SECTION WITH NEW CURB AND GUTTER
MD 75
SCALE: 1" = 1'–0"



PAVEMENT DETAIL 'F'

AGGREGATE DRIVEWAY SECTION
SCALE: 1" = 1'–0"

PAVEMENT LEGEND

1	1.5"	SUPERPAVE ASPHALT MIX 12.5 mm FOR SURFACE, PG 64S–22, LEVEL 2
2	2"	SUPERPAVE ASPHALT MIX 12.5 mm FOR SURFACE, PG 64S–22, LEVEL 2
3	3"	SUPERPAVE ASPHALT MIX 19.0 mm FOR BASE, PG 64S–22, LEVEL 2
4	4"	SUPERPAVE ASPHALT MIX 19.0 mm FOR BASE, PG 64S–22, LEVEL 2
5	4"	GRADED AGGREGATE BASE COURSE
6	6"	GRADED AGGREGATE BASE COURSE
7		TOP OF SUBGRADE
8		LIMIT OF CLASS 1 EXCAVATION (SEE NOTE 2)
9		TOP OF EXISTING PAVEMENT AFTER 1"–2" FINE MILLING – SEE NOTE 8
10	VARIABLE DEPTH	ASPHALT WEDGE/LEVEL (SEE NOTE 1)
11		TYPE 'A' CONCRETE COMBINATION CURB AND GUTTER, 12" GUTTER PAN, 8" DEPTH (STD. NO. MD 620.02)
12		6 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN (STD. NO. MD 387.11–01)
13		ALTERNATE UNDERDRAIN LOCATION TO AVOID CONFLICTS WITH TRAFFIC BARRIER, STORM DRAIN, UTILITIES, ETC.
14	6"	PORTLAND CEMENT CONCRETE MIX #3
15	6"	CRUSHER RUN AGGREGATE CR–6, COMPACTED
16	12"	CEMENT MODIFIED SUBGRADE

NOTES:

1. USE THE FOLLOWING ITEMS FOR WEDGE /LEVEL AS DIRECTED BY THE ENGINEER:

   FOR WEDGE /LEVEL LAYER 2" THICK OR LESS:
   VARIABLE DEPTH SUPERPAVE ASPHALT MIX 9.5 MM FOR WEDGE /LEVEL, PG 64S–22, LEVEL–2 (MIN. 1" AND MAX. 2" LIFTS)

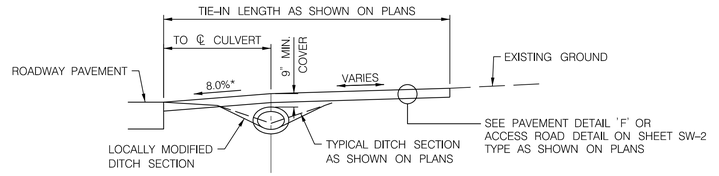
   FOR WEDGE /LEVEL LAYER GREATER THAN 2":
   VARIABLE DEPTH SUPERPAVE ASPHALT MIX 19.0 MM FOR WEDGE /LEVEL, PG 64S–22, LEVEL–2 (MIN. 2" AND MAX. 4" LIFTS)

2. USE THE FOLLOWING ITEMS FOR REPAIRING PAVEMENT OPENINGS FOR UTILITY TRENCHES AS DIRECTED BY THE ENGINEER, AND REFER TO STD. NO. MD 578.01:

   VARIABLE DEPTH SUPERPAVE ASPHALT MIX 19.0 MM FOR FULL–DEPTH PATCH, PG 64S–22, LEVEL–2 (MIN. 2" AND MAX. 4" LIFTS)

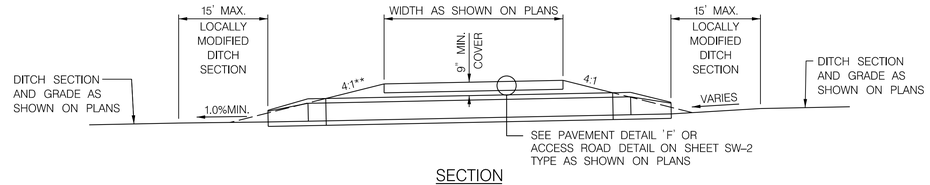
   6" GRADED AGGREGATE BASE COURSE

3. MATCH PATCHING THICKNESS WITH THE EXISTING THICKNESS OF THE MATERIAL AROUND THE PATCH.
4. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING REMOVED, THE LIMIT OF CLASS 1 EXCAVATION SHALL BE AT THE BOTTOM OF THE BOUND MATERIALS IN THE EXISTING PAVEMENT OR THE TOP OF SUBGRADE, WHICHEVER IS LOWER.
5. PERFORM ALL RESURFACING AFTER PATCHING AND BASE WIDENING OPERATIONS ARE COMPLETED.
6. ALL FULL–DEPTH SAW CUTS FOR PATCHING, PAVEMENT REMOVAL, AND CURB & GUTTER PLACEMENT SHALL BE INCIDENTAL TO THE RESPECTIVE PAY ITEM.
7. 6" MINIMUM THICKNESS FOR REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL. USE GRADED AGGREGATE BASE FOR BACKFILL MATERIAL.
8. FINE MILLING SHALL BE A MAXIMUM OF 1.5" ON ED McCLAIN ROAD (NORTH).



PROFILE

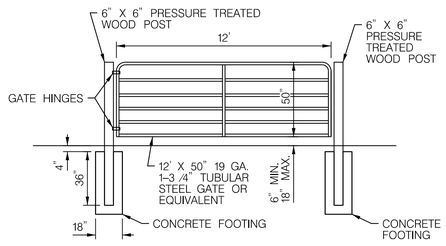
* 1.0% LONGITUDINAL SLOPE FOR STA. 127+00, RT.
** 2:1 DOWNSTREAM SIDE SLOPE FOR STA. 127+00, RT.



SECTION

STANDARD DRIVEWAY WITH CULVERT

STA. 106+35, RT. (DRIVEWAY); STA. 115+47, RT. (DRIVEWAY)
STA. 119+25, RT. (UTILITY ACCESS); STA. 126+25, LT. (FIELD ACCESS)
STA. 127+00, RT. (FIELD ACCESS)
SCALE: NONE



TUBULAR STEEL FARM GATE

SCALE: 1 /4" = 1'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

TD-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

TYPICAL DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 9 OF 226

BY: AKR -
PLOTTED: 10/18/2022
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\pGT-0001_ENC.dgn

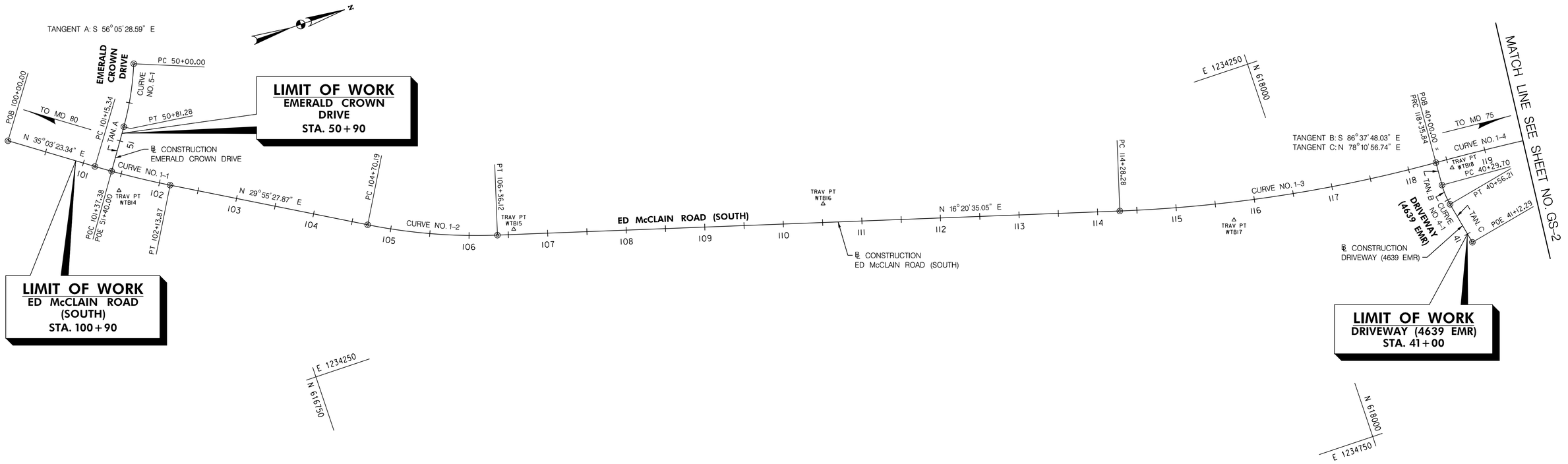
ED McCLAIN ROAD (SOUTH)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
	POB 100+00.00	616474.4477	1233840.4229	N 35°03'23.34" E
1–1	PC 101+15.34	616568.8659	1233906.6740	
	PI 101+64.64	616609.2200	1233934.9896	
	CC	617200.6880	1233006.2292	
	PT 102+13.87	616651.9453	1233959.5819	N 29°55'27.87" E
1–2	PC 104+70.19	616874.0903	1234087.4470	
	PI 105+53.54	616946.3322	1234129.0288	
	CC	617223.2902	1233480.7679	
	PT 106+36.12	617026.3185	1234152.4838	N 16°20'35.05" E
1–3	PC 114+28.28	617786.4755	1234375.3897	
	PI 116+32.92	617982.8619	1234432.9774	
	CC	618292.9742	1232648.1204	
	PRC 118+35.84	618187.1638	1234445.0078	N 3°22'11.97" E
1–4	PI 121+40.26	618491.0604	1234462.9028	
	CC	618010.8132	1237439.8200	
	PCC 124+42.61	618785.1676	1234541.4799	N 14°57'30.34" E

DRIVEWAY (4639 EMR)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
	POB 40+00.00	618187.1638	1234445.0078	S 86°37'48.03" E
	PC 40+29.70	618185.4177	1234474.6594	
4–1	PI 40+43.03	618184.6340	1234487.9681	
	CC	618285.2448	1234480.5377	
	PT 40+56.21	618187.3643	1234501.0173	N 78°10'56.74" E
	POE 41+12.29	618198.8493	1234555.9087	

EMERALD CROWN DRIVE				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
	PC 50+00.00	616657.2770	1233798.4873	S 68°51'02.86" E
5–1	PI 50+40.81	616642.5525	1233836.5492	
	CC	616316.8619	1233666.7961	
	PT 50+81.28	616619.7854	1233870.4192	S 56°05'28.59" E
	POE 51+40.00	616587.0293	1233919.1493	

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–1	PC 101+15.34	5°07'55.47"	5°12'31.35"	1100.00'	49.30'	98.53'	1.10'
1–2	PC 104+70.19	13°34'52.82"	8°11'06.40"	700.00'	83.35'	165.93'	4.95'
1–3	PC 114+28.28	12°58'23.09"	3°10'59.16"	1800.00'	204.66'	407.56'	11.60'
1–4	PRC 118+35.84	11°35'18.37"	1°54'35.49"	3000.00'	304.42'	606.77'	15.41'
4–1	PC 40+29.70	15°11'15.23"	57°17'44.81"	100.00'	13.33'	26.51'	0.88'
5–1	PC 50+00.00	12°45'34.27"	15°41'50.91"	365.00'	40.81'	81.28'	2.27'

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
WTB14	616588.1438	1233945.4209	563.08
WTB15	617048.3525	1234151.9020	557.01
WTB16	617431.7116	1234246.5921	534.98
WTB17	617920.4768	1234432.3934	507.41
WTB18	618204.6396	1234457.7514	510.30



BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\GS-P00_EWC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

GS-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

GEOMETRY SHEET

DATE: OCTOBER 2022 SCALE: 1" = 60'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 10 OF 226

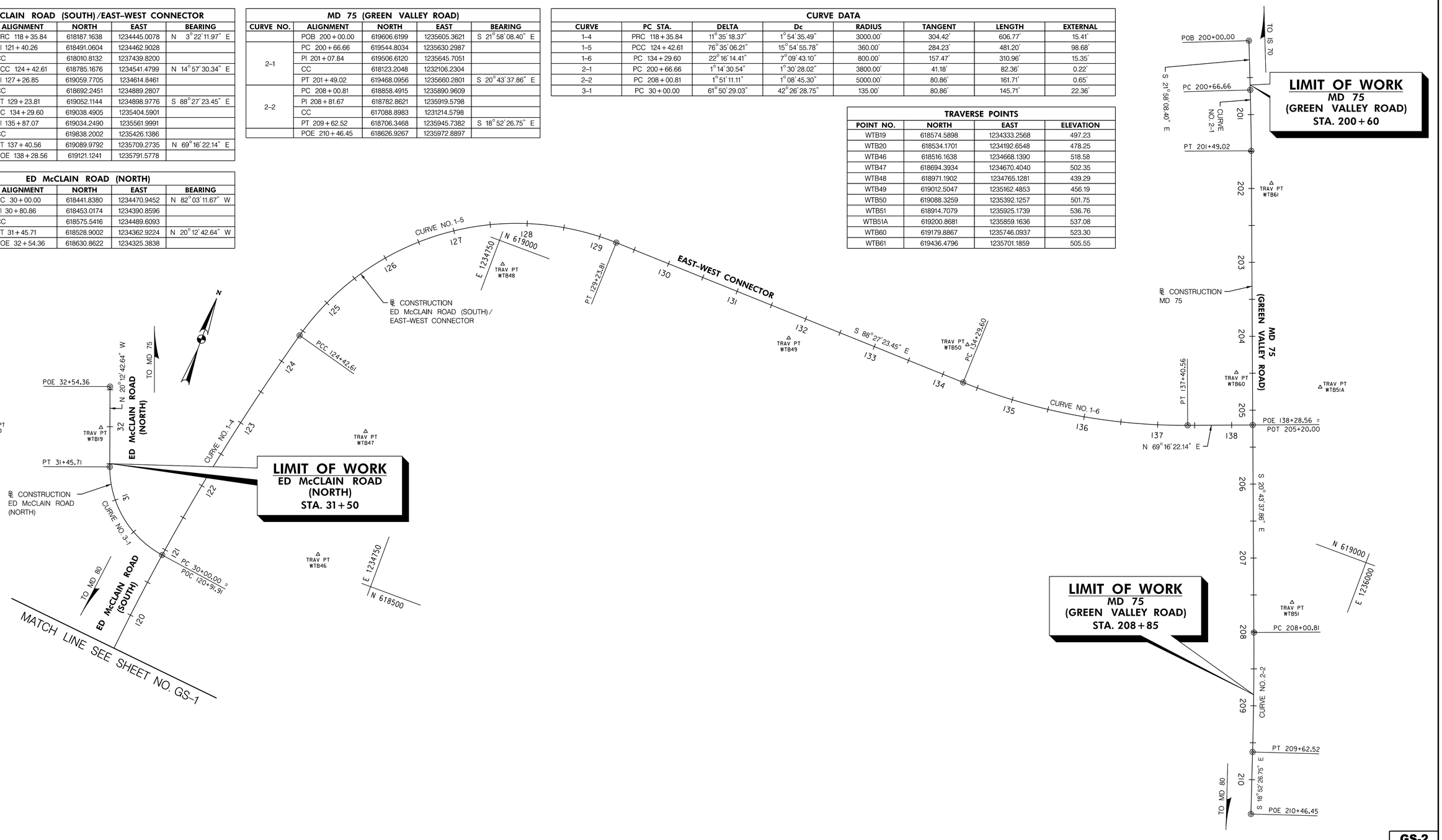
ED McCLAIN ROAD (SOUTH)/EAST–WEST CONNECTOR				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
1–4	PRC 118+35.84	618187.1638	1234445.0078	N 3°22'11.97" E
	PI 121+40.26	618491.0604	1234462.9028	
	CC	618010.8132	1237439.8200	
	PCC 124+42.61	618785.1676	1234541.4799	N 14°57'30.34" E
1–5	PI 127+26.85	619059.7705	1234614.8461	
	CC	618692.2451	1234889.2807	
	PT 129+23.81	619052.1144	1234898.9776	S 88°27'23.45" E
1–6	PC 134+29.60	619038.4905	1235404.5901	
	PI 135+87.07	619034.2490	1235561.9991	
	CC	619838.2002	1235426.1386	
	PT 137+40.56	619089.9792	1235709.2735	N 69°16'22.14" E
	POE 138+28.56	619121.1241	1235791.5778	

ED McCLAIN ROAD (NORTH)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
3–1	PC 30+00.00	618441.8380	1234470.9452	N 82°03'11.67" W
	PI 30+80.86	618453.0174	1234390.8596	
	CC	618575.5416	1234489.6093	
	PT 31+45.71	618528.9002	1234362.9224	N 20°12'42.64" W
	POE 32+54.36	618630.8622	1234325.3838	

MD 75 (GREEN VALLEY ROAD)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
	POB 200+00.00	619606.6199	1235605.3621	S 21°58'08.40" E
2–1	PC 200+66.66	619544.8034	1235630.2987	
	PI 201+07.84	619506.6120	1235645.7051	
	CC	618123.2048	1232106.2304	
	PT 201+49.02	619468.0956	1235660.2801	S 20°43'37.86" E
2–2	PC 208+00.81	618858.4915	1235890.9609	
	PI 208+81.67	618782.8621	1235919.5798	
	CC	617088.8983	1231214.5798	
	PT 209+62.52	618706.3468	1235945.7382	S 18°52'26.75" E
	POE 210+46.45	618626.9267	1235972.8897	

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–4	PRC 118+35.84	11°35'18.37"	1°54'35.49"	3000.00'	304.42'	606.77'	15.41'
1–5	PCC 124+42.61	76°35'06.21"	15°54'55.78"	360.00'	284.23'	481.20'	98.68'
1–6	PC 134+29.60	22°16'14.41"	7°09'43.10"	800.00'	157.47'	310.96'	15.35'
2–1	PC 200+66.66	1°14'30.54"	1°30'28.02"	3800.00'	41.18'	82.36'	0.22'
2–2	PC 208+00.81	1°51'11.11"	1°08'45.30"	5000.00'	80.86'	161.71'	0.65'
3–1	PC 30+00.00	61°50'29.03"	42°26'28.75"	135.00'	80.86'	145.71'	22.36'

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
WTB19	618574.5898	1234333.2568	497.23
WTB20	618534.1701	1234192.6548	478.25
WTB46	618516.1638	1234668.1390	518.58
WTB47	618694.3934	1234670.4040	502.35
WTB48	618971.1902	1234765.1281	439.29
WTB49	619012.5047	1235162.4853	456.19
WTB50	619088.3259	1235392.1257	501.75
WTB51	618914.7079	1235925.1739	536.76
WTB51A	619200.8681	1235859.1636	537.08
WTB60	619179.8867	1235746.0937	523.30
WTB61	619436.4796	1235701.1859	505.55



LIMIT OF WORK
ED McCLAIN ROAD (NORTH)
STA. 31+50

LIMIT OF WORK
MD 75
(GREEN VALLEY ROAD)
STA. 200+60

LIMIT OF WORK
MD 75
(GREEN VALLEY ROAD)
STA. 208+85

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

GS-2

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

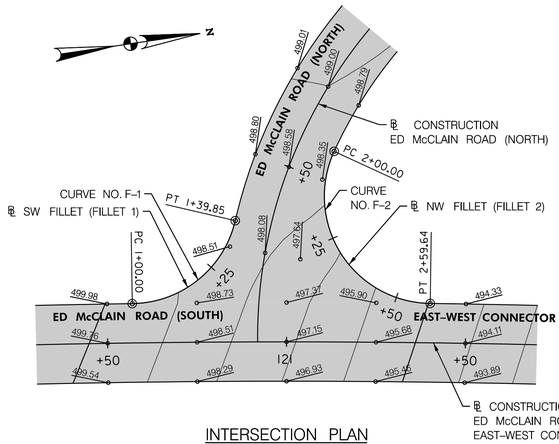
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

GEOMETRY SHEET

DATE: OCTOBER 2022 SCALE: 1" = 60'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 11 OF 226

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\GS-P002.DWG.dgn



INTERSECTION PLAN

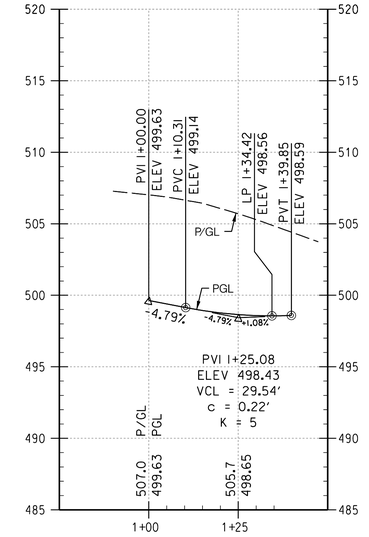
ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR
AT ED McCLAIN ROAD (NORTH)
SCALE: 1" = 20'

SW FILLET (FILLET 1)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
F-1	PC 1+00.00	618408.7449	1234455.2310	N 7°24'14.76" E
	PI 1+23.48	618432.0206	1234458.3344	
	CC	618412.7096	1234425.4942	
	1+39.85	618440.6237	1234436.4854	N 7%d35'39.80" E

NW FILLET (FILLET 2)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
F-2	PC 2+00.00	618470.7969	1234421.3925	S 56°55'30.32" E
	PI 2+46.10	618445.6364	1234460.0255	
	CC	618495.9356	1234437.7645	
	PT 2+59.64	618491.1498	1234467.3803	N 9°10'46.05" E

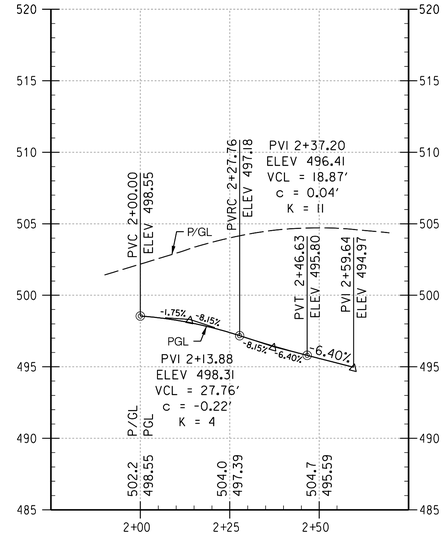
NOTE: SEE SHEETS GS-1 TO GS-2 FOR ROADWAY BASELINE GEOMETRY AND TRAVERSE DATA

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
F-1	1+00.00	76°06'08.36"	190°59'09.35"	30.00'	23.48'	39.85'	8.10'
F-2	2+00.00	113°53'43.63"	190°59'09.35"	30.00'	46.10'	59.64'	25.01'



SW FILLET (FILLET 1)

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'



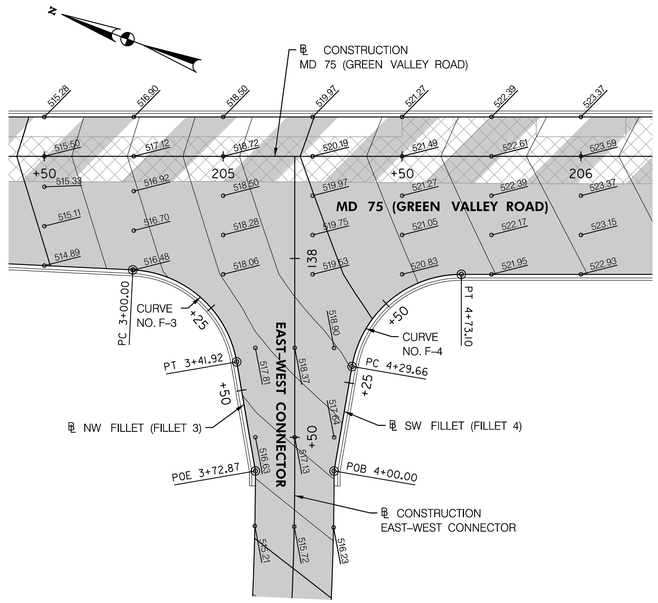
NW FILLET (FILLET 2)

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

NW FILLET (FILLET 3)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
F-3	PC 3+00.00	619152.2228	1235745.8470	S 17°55'41.83" E
	PI 3+24.87	619128.5620	1235753.5021	
	CC	619142.6802	1235716.3523	
	PT 3+41.92	619115.9573	1235732.0649	S 59°32'42.86" W
	POE 3+72.87	619100.2673	1235705.3804	

SW FILLET (FILLET 4)				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
	POB 4+00.00	619079.6912	1235713.1666	N 79°00'01.42" E
F-4	PC 4+29.66	619085.3512	1235742.2860	
	PI 4+55.80	619090.3384	1235767.9438	
	CC	619054.9208	1235748.2009	
	PT 4+73.10	619065.8922	1235777.1945	S 20°43'37.86" E

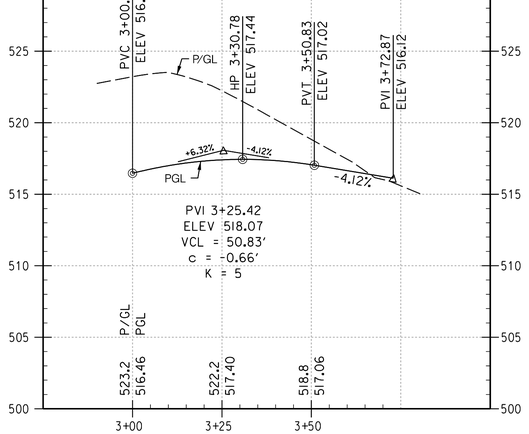
NOTE: SEE SHEETS GS-1 TO GS-2 FOR ROADWAY BASELINE GEOMETRY AND TRAVERSE DATA



INTERSECTION PLAN

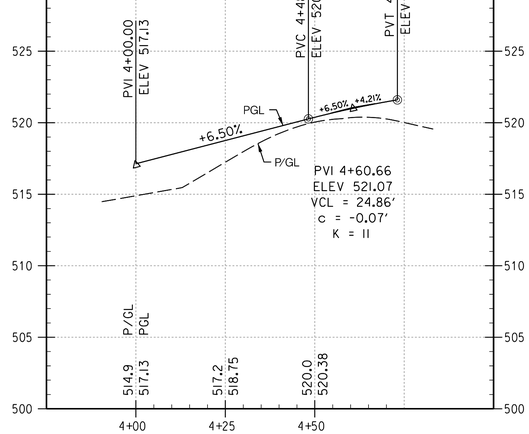
MD 75 (GREEN VALLEY ROAD)
AT EAST-WEST CONNECTOR
SCALE: 1" = 20'

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
F-3	3+00.00	77°28'24.68"	184°49'30.34"	31.00'	24.87'	41.92'	8.74'
F-4	4+29.66	80°16'20.72"	184°49'30.34"	31.00'	26.14'	43.43'	9.55'



NW FILLET (FILLET 3)

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'



SW FILLET (FILLET 4)

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

PV-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

INTERSECTION PAVING PLANS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 12 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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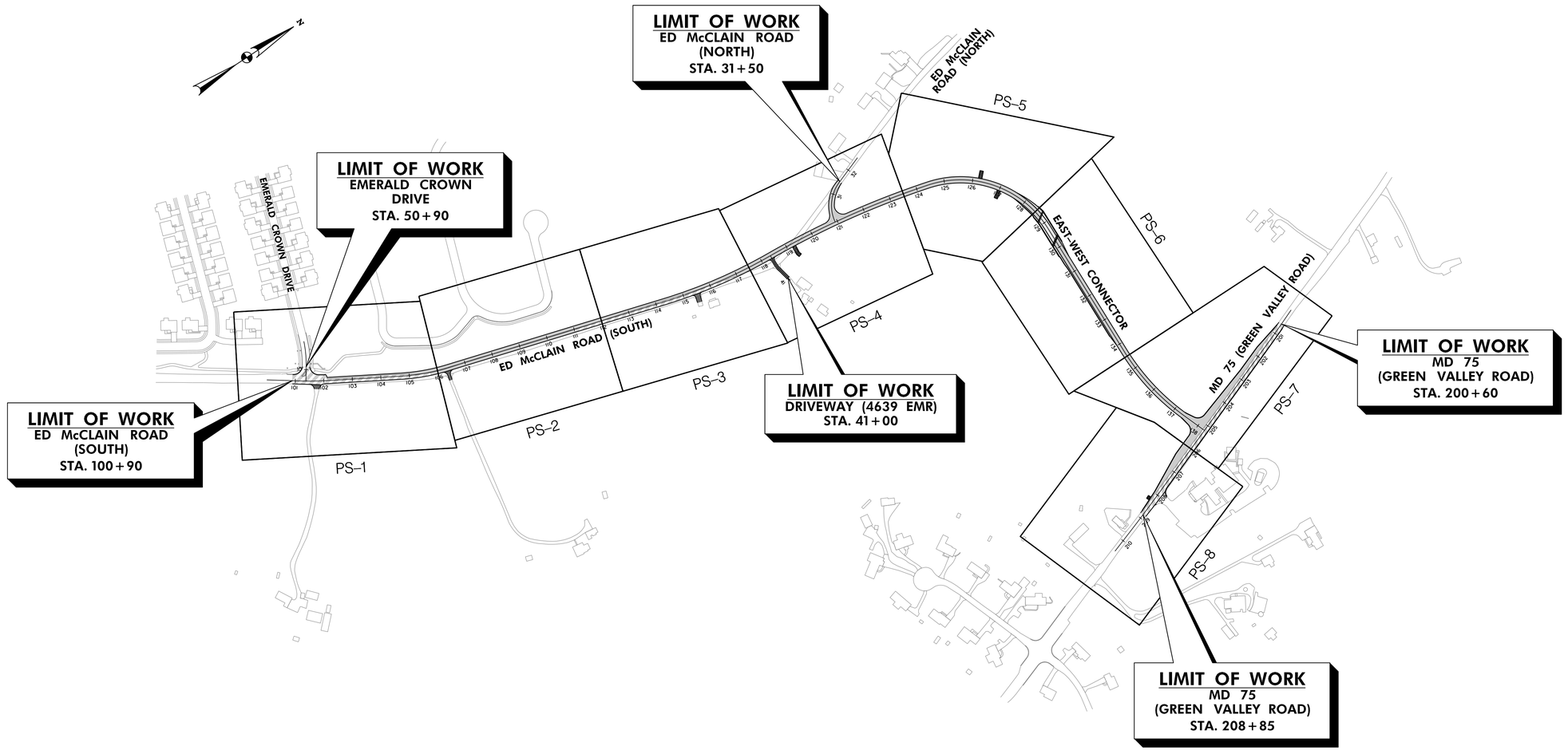
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\GSR-P001_ENC.dgn



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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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LA-1

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

ROADWAY PLAN SHEET LAYOUT

DATE: OCTOBER 2022 SCALE: 1" = 200'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 13 OF 226

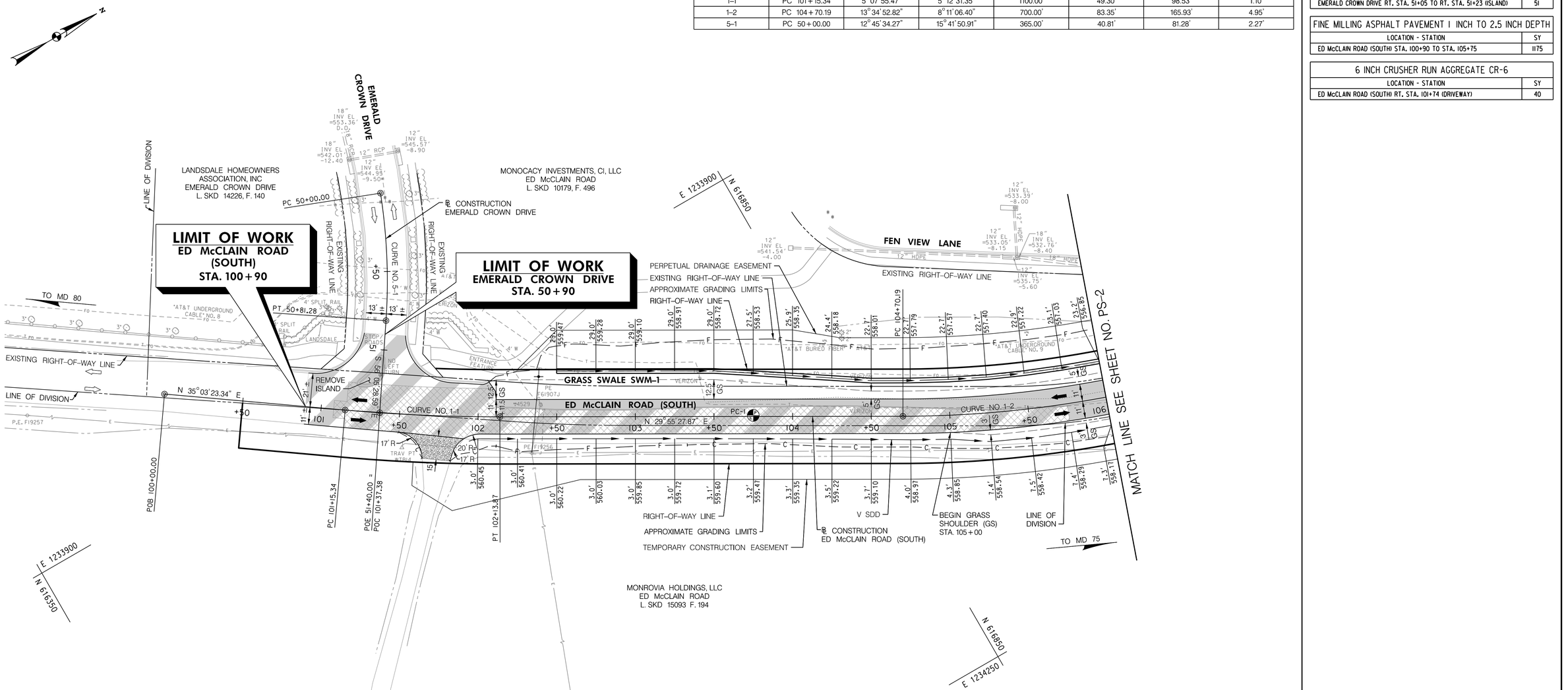
BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\plt\D-LAO1_EWC.dgn

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–1	PC 101+15.34	5°07'55.47"	5°12'31.35"	1100.00'	49.30'	98.53'	1.10'
1–2	PC 104+70.19	13°34'52.82"	8°11'06.40"	700.00'	83.35'	165.93'	4.95'
5–1	PC 50+00.00	12°45'34.27"	15°41'50.91"	365.00'	40.81'	81.28'	2.27'

REMOVAL OF EXISTING COMBINATION CURB & GUTTER	
LOCATION - STATION	LF
EMERALD CROWN DRIVE RT. STA. 51+05 TO RT. STA. 51+23 (ISLAND)	51

FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) STA. 100+90 TO STA. 105+75	1175

6 INCH CRUSHER RUN AGGREGATE CR-6	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) RT. STA. 101+74 (DRIVEWAY)	40



LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN PAUL JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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PS-1

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

ROADWAY PLAN

ED McCLAIN ROAD (SOUTH) STA. 100+90 TO STA. 106+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 14 OF 226

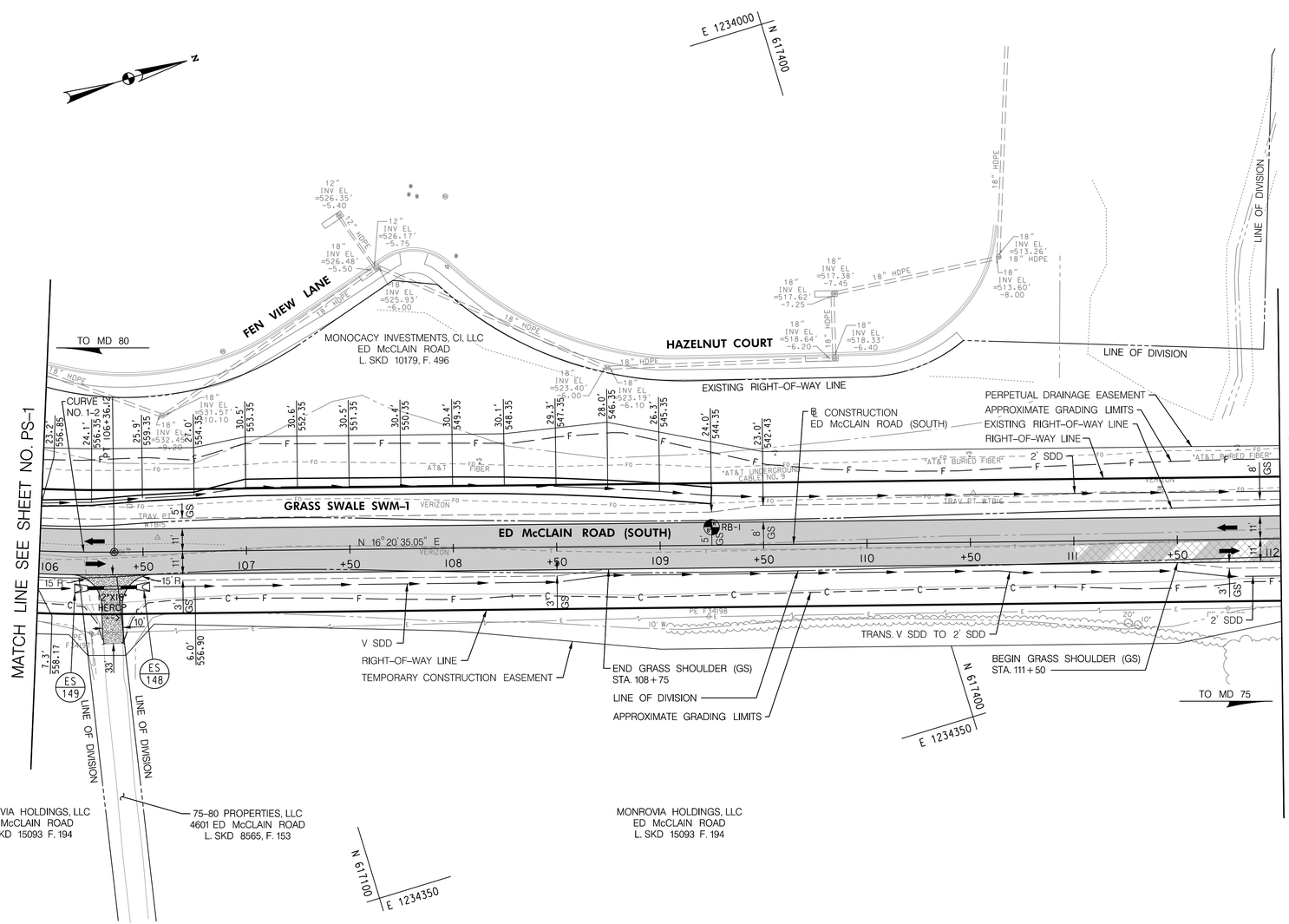
BY: AKR - PLOTTED: 10/18/2022
FILE: K:\Frederick County - Monrovia E-W Connector\Design Files\MHD-P001 EWC.dgn

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–2	PC 104+70.19	13°34'52.82"	8°11'06.40"	700.00'	83.35'	165.93'	4.95'

FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) STA. 111+00 TO STA. 112+00	110

6 INCH CRUSHER RUN AGGREGATE CR-6	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) RT. STA. 106+35 (DRIVEWAY)	47

TYPE B SOIL STABILIZATION MATTING	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) RT. STA. 106+53 TO RT. STA. 112+00 (DITCH)	406



NOTES:

1. DITCHES WITHOUT OFFSET / ELEVATION DATA SHALL FOLLOW CONSTANT OFFSETS AND DEPTHS SHOWN ON TYPICAL SECTIONS.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEPHEN JACKSON WILLARD — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

PS-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
ROADWAY PLAN
ED McCLAIN ROAD (SOUTH)
STA. 106+00 TO STA. 112+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 15 OF 226

BY: AKR - PLOTTED: 10/18/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\sht0-P002_EWC.dgn

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–3	PC 114+28.28	12°58'23.09"	3°10'59.16"	1800.00'	204.66'	407.56'	11.60'

REMOVAL OF EXISTING PIPE	
LOCATION - STATION	LF
ED McCLAIN ROAD (S) RT. STA. 116+36 TO RT. STA. 116+45 (12" CMP)	21

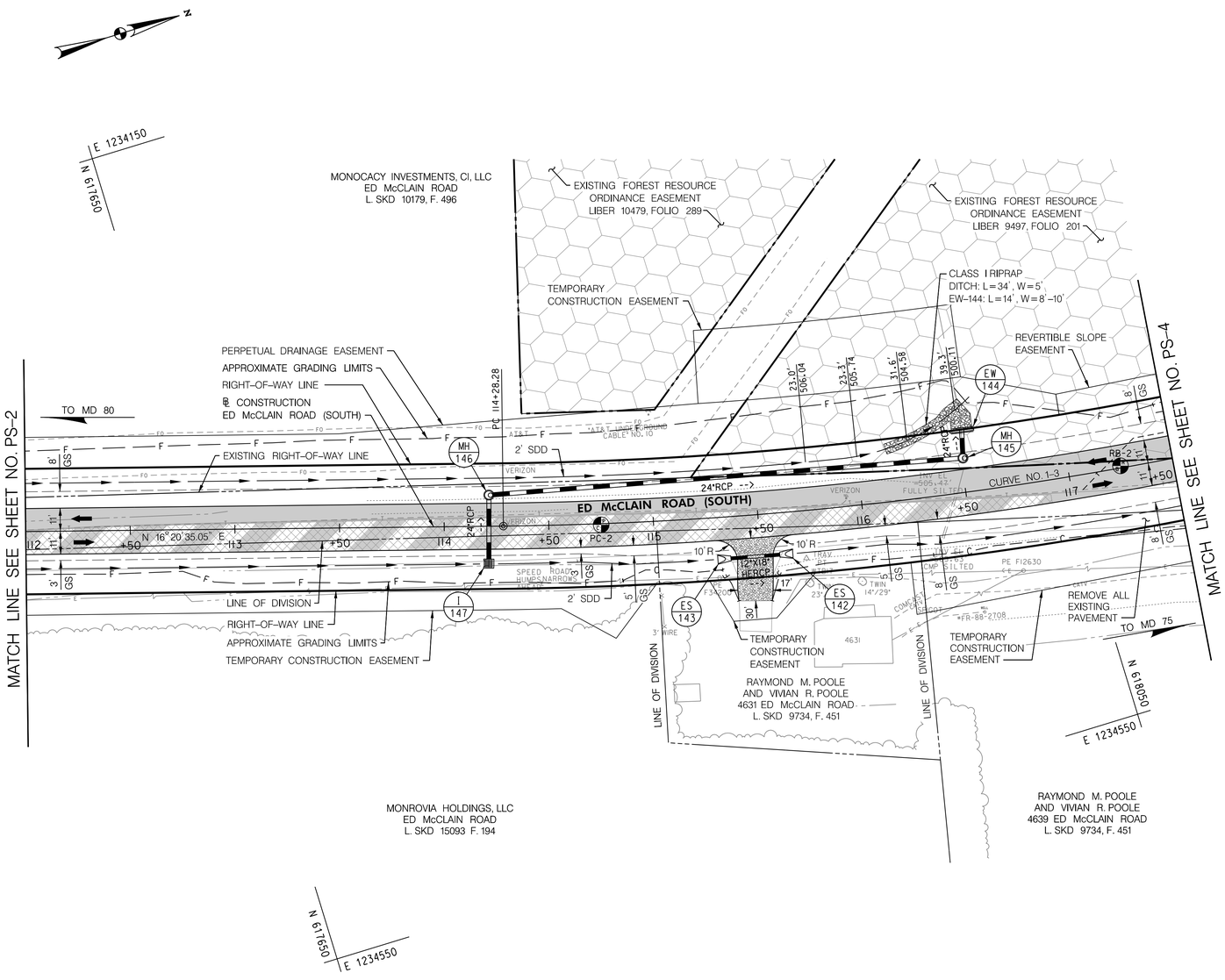
CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) LT. STA. 116+14 TO LT. STA. 116+46 (DITCH)	19
ED McCLAIN ROAD (SOUTH) LT. STA. 116+52 (EW-144)	15

BOTTOM CUTOFF WALLS FOR CLASS I RIPRAP	
LOCATION - STATION	LF
ED McCLAIN ROAD (SOUTH) LT. STA. 116+55 (EW-144 & DITCH)	9

FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) STA. 112+00 TO STA. 116+90	689

6 INCH CRUSHER RUN AGGREGATE CR-6	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) RT. STA. 115+47 (DRIVEWAY)	52

TYPE B SOIL STABILIZATION MATTING	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) RT. STA. 112+00 TO RT. STA. 114+19 (DITCH)	200
ED McCLAIN ROAD (SOUTH) RT. STA. 115+65 TO RT. STA. 115+85 (ES-142)	19



NOTES:

1. DITCHES WITHOUT OFFSET / ELEVATION DATA SHALL FOLLOW CONSTANT OFFSETS AND DEPTHS SHOWN ON TYPICAL SECTIONS.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\phase 3\PS-P003.EWC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

PS-3

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

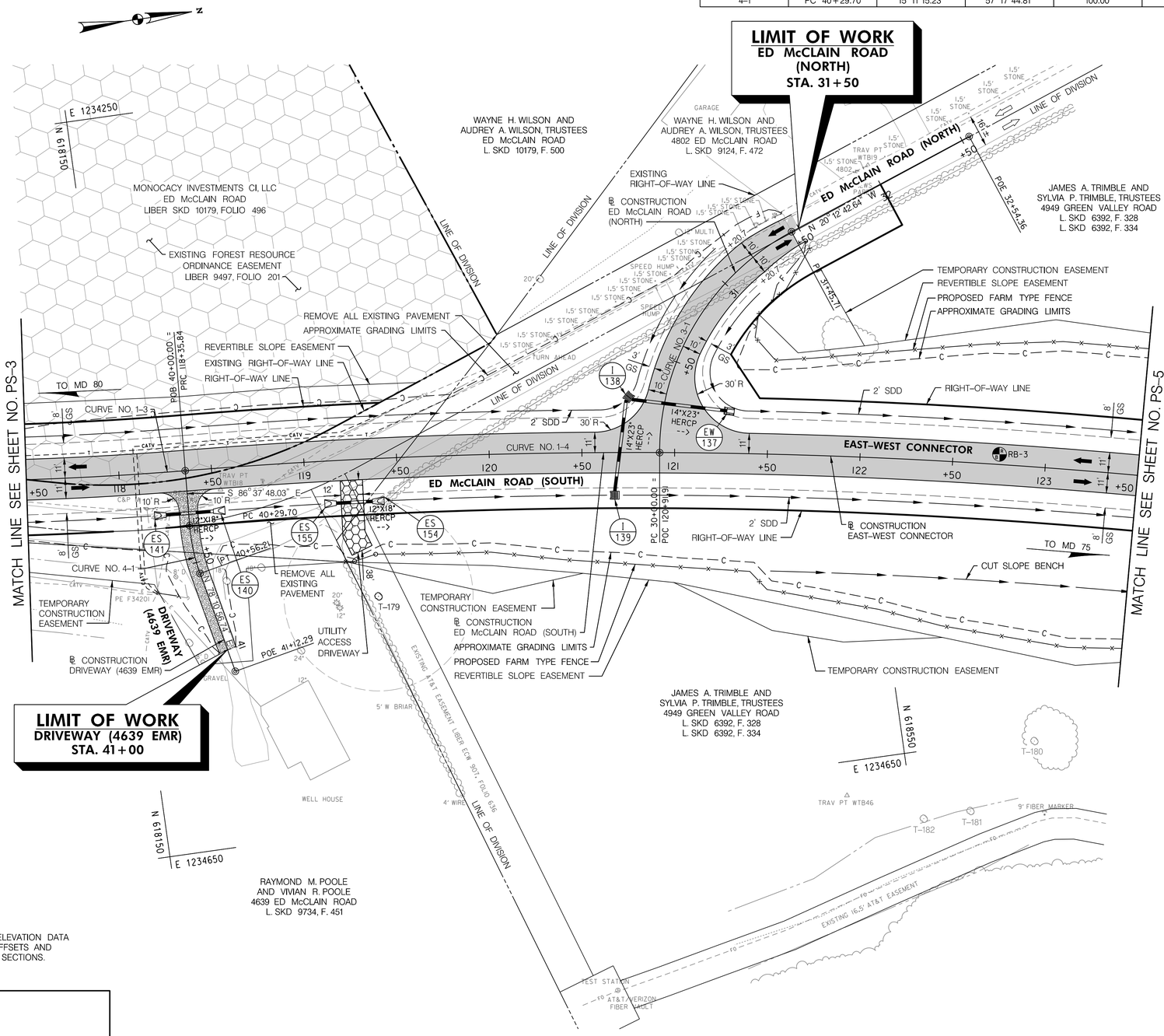
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
ROADWAY PLAN
ED McCLAIN ROAD (SOUTH)
STA. 112+00 TO STA. 117+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 16 OF 226

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–3	PC 114+28.28	12°58'23.09"	3°10'59.16"	1800.00'	204.66'	407.56'	11.60'
1–4	PRC 118+35.84	11°35'18.37"	1°54'35.49"	3000.00'	304.42'	606.77'	15.41'
3–1	PC 30+00.00	61°50'29.03"	42°26'28.75"	135.00'	80.86'	145.71'	22.36'
4–1	PC 40+29.70	15°11'15.23"	57°17'44.81"	100.00'	13.33'	26.51'	0.88'



NOTES:

1. DITCHES WITHOUT OFFSET / ELEVATION DATA SHALL FOLLOW CONSTANT OFFSETS AND DEPTHS SHOWN ON TYPICAL SECTIONS.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM (SEE DETAIL, SHEET SW-2)	
LOCATION - STATION	SY
ED McCLAIN ROAD (SOUTH) RT. STA. 119+25 (UTILITY ACCESS DW)	52

FINE MILLING ASPHALT PAVEMENT 0 INCH TO 2.5 INCH DEPTH	
LOCATION - STATION	SY
ED McCLAIN ROAD (NORTH) STA. 31+46 TO STA. 31+50	8

6 INCH CRUSHER RUN AGGREGATE CR-6	
LOCATION - STATION	SY
DRIVEWAY (4639 ED McCLAIN ROAD) STA. 40+11 TO STA. 41+00	103

4 FOOT FARM TYPE FENCE (MD 690.03)	
LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 119+20 TO RT. STA. 119+24	5
EAST-WEST CONNECTOR RT. STA. 119+36 TO RT. STA. 123+50	410
ED McCLAIN RD (N) RT. STA. 31+50 TO E-W CONN. LT. STA. 123+50	276

TUBULAR STEEL FARM GATE (SEE DETAIL, SHEET TD-1)	
LOCATION - STATION	EA
ED McCLAIN ROAD (SOUTH) RT. STA. 119+30 (UTILITY ACCESS DW)	1

TYPE B SOIL STABILIZATION MATTING	
LOCATION - STATION	SY
ED McCLAIN ROAD (S) RT. STA. 118+56 TO STA. RT. 118+76 (ES-140)	18
ED McCLAIN ROAD (S) RT. STA. 119+42 TO STA. RT. 119+62 (ES-154)	18
ED McCL. RD (S) RT. STA. 120+70 TO E-W CONN. RT. STA. 123+50 (D)	254
EAST-WEST CONNECTOR LT. STA. 121+31 TO LT. STA. 123+50 (DITCH)	202
EAST-WEST CONNECTOR RT. STA. 121+53 TO RT. STA. 123+50 (BENCH)	176

PROFESSIONAL CERTIFICATION.
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EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON REED — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

PS-4

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

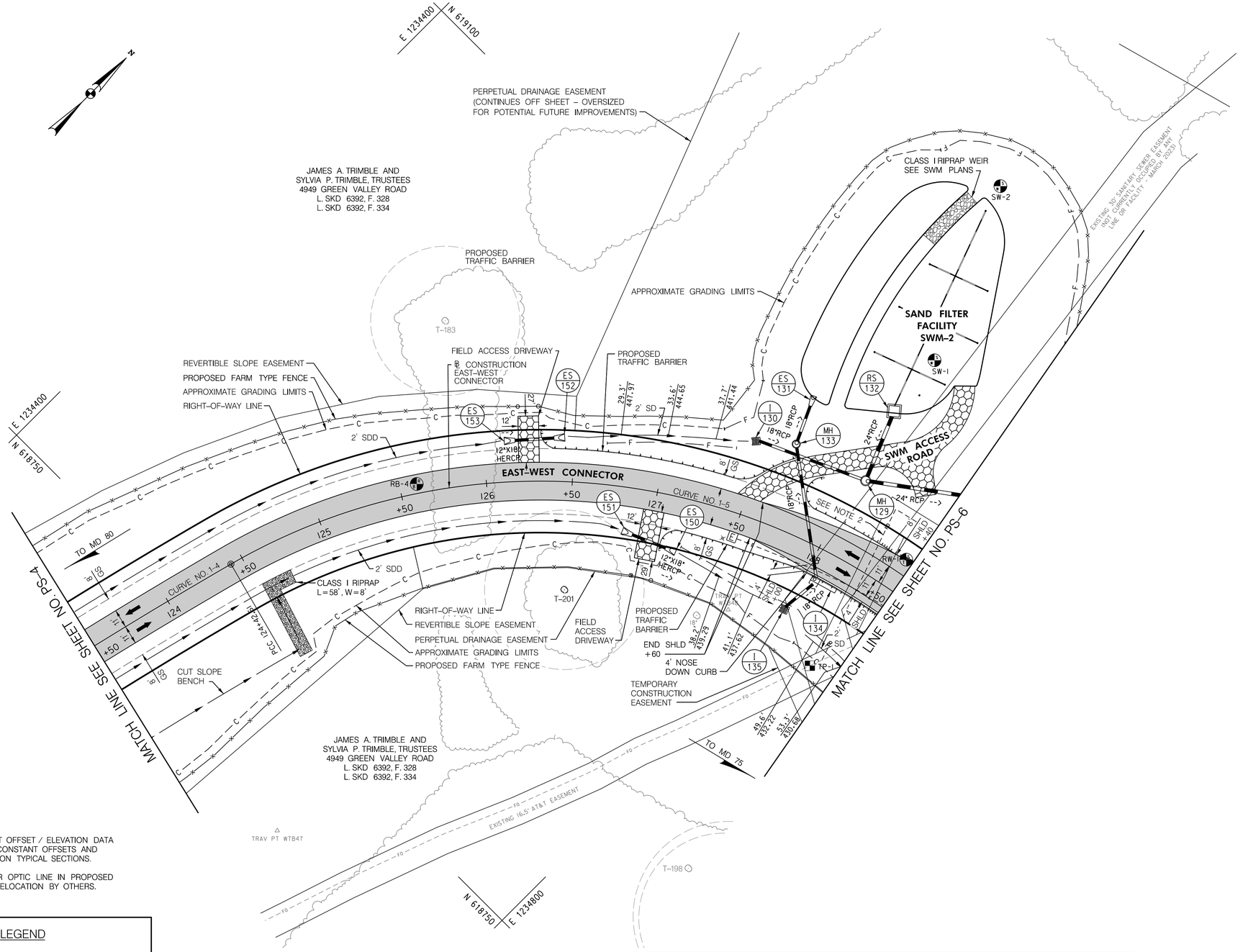
ROADWAY PLAN ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR STA. 117+50 TO STA. 123+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 17 OF 226

BY: AKR - PLOTTED: 3/22/2023
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\PHD-P004.ENC.dgn

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–4	PRC 118+35.84	11°35'18.37"	1°54'35.49"	3000.00'	304.42'	606.77'	15.41'
1–5	PCC 124+42.61	76°35'06.21"	15°54'55.78"	360.00'	284.23'	481.20'	98.68'



NOTES:

1. DITCHES WITHOUT OFFSET / ELEVATION DATA SHALL FOLLOW CONSTANT OFFSETS AND DEPTHS SHOWN ON TYPICAL SECTIONS.
2. RELOCATED FIBER OPTIC LINE IN PROPOSED 16.5' EASEMENT. RELOCATION BY OTHERS.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION	
LOCATION - STATION	SY
EAST-WEST CONNECTOR RT. STA. 124+57 TO RT. STA. 124+73 (DITCH)	51

BOTTOM CUTOFF WALLS FOR CLASS I RIPRAP	
LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 124+73 (DITCH)	8

ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM (SEE DETAIL, SHEET SW-2)	
LOCATION - STATION	SY
EAST-WEST CONNECTOR LT. STA. 126+25 (FIELD ACCESS DW)	36
EAST-WEST CONNECTOR RT. STA. 127+00 (FIELD ACCESS DW)	39
EAST-WEST CONNECTOR LT. STA. 127+45 TO LT. STA. 128+28 (SWM-2)	245

TRAFFIC BARRIER W-BEAM RADIUS END TREATMENT (TYPE L) (MD 605.13)	
LOCATION - STATION	EA
EAST-WEST CONNECTOR LT. STA. 126+41	1
EAST-WEST CONNECTOR RT. STA. 127+18	1
EAST-WEST CONNECTOR LT. STA. 127+39	1
EAST-WEST CONNECTOR LT. STA. 127+89	1

TRAFFIC BARRIER W-BEAM USING 6 FOOT POST (MD 605.23)	
LOCATION - STATION	LF
EAST-WEST CONNECTOR LT. STA. 126+32 TO LT. STA. 127+67	158
EAST-WEST CONNECTOR RT. STA. 127+07 TO RT. STA. 128+11	107
EAST-WEST CONNECTOR LT. STA. 127+84 TO LT. STA. 128+00	39

TRAFFIC BARRIER THRIE-BEAM ANCHORAGE TO VERTICAL FACE (MD 605.41)	
LOCATION - STATION	EA
EAST-WEST CONNECTOR LT. STA. 128+44	1
EAST-WEST CONNECTOR RT. STA. 128+59	1

STANDARD TYPE 'A' COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN, 8 INCH MINIMUM DEPTH (MD 620.02)	
LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 128+00 TO RT. STA. 128+59	41

4 FOOT FARM TYPE FENCE (MD 690.03)	
LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 123+50 TO RT. STA. 126+94	310
EAST-WEST CONNECTOR LT. STA. 123+50 TO LT. STA. 126+19	299
EAST-WEST CONNECTOR LT. STA. 126+31 TO LT. STA. 128+50	501
EAST-WEST CONNECTOR RT. STA. 127+06 TO RT. STA. 128+50	121

TUBULAR STEEL FARM GATE (SEE DETAIL, SHEET TD-1)	
LOCATION - STATION	EA
EAST-WEST CONNECTOR LT. STA. 126+25 (FIELD ACCESS DW)	1
EAST-WEST CONNECTOR RT. STA. 127+00 (FIELD ACCESS DW)	1

TYPE B SOIL STABILIZATION MATTING	
LOCATION - STATION	SY
EAST-WEST CONNECTOR RT. STA. 123+50 TO RT. STA. 124+53 (DITCH)	93
EAST-WEST CONNECTOR RT. STA. 123+50 TO RT. STA. 124+53 (BENCH)	91
EAST-WEST CONNECTOR LT. STA. 123+50 TO LT. STA. 126+12 (DITCH)	250
EAST-WEST CONNECTOR RT. STA. 124+73 TO RT. STA. 126+85 (DITCH)	181
EAST-WEST CONNECTOR LT. STA. 126+45 TO LT. STA. 127+44 (DITCH)	100
EAST-WEST CONNECTOR RT. STA. 127+19 TO RT. STA. 127+95 (DITCH)	63
EAST-WEST CONNECTOR LT. STA. 127+54 TO LT. STA. 127+73 (ES-131)	47
EAST-WEST CONNECTOR RT. STA. 128+18 TO RT. STA. 128+50 (DITCH)	26

TEST PIT LOCATIONS							
TEST PIT NO.	STATION	OFFSET	NORTHING	EASTING	TOP ELEV.	DEPTH	DESCRIPTION
TP-1	128+32	62.5' RT	618981.782	1234821.830	428.6	4'-11"	2x 3" PLASTIC CONDUIT - FIBER OPTIC

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN R. JACKSON REG. No. 24828 — PROFESSIONAL ENGINEER
10/10/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

PS-5

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

ROADWAY PLAN

EAST-WEST CONNECTOR

STA. 123+50 TO STA. 128+50

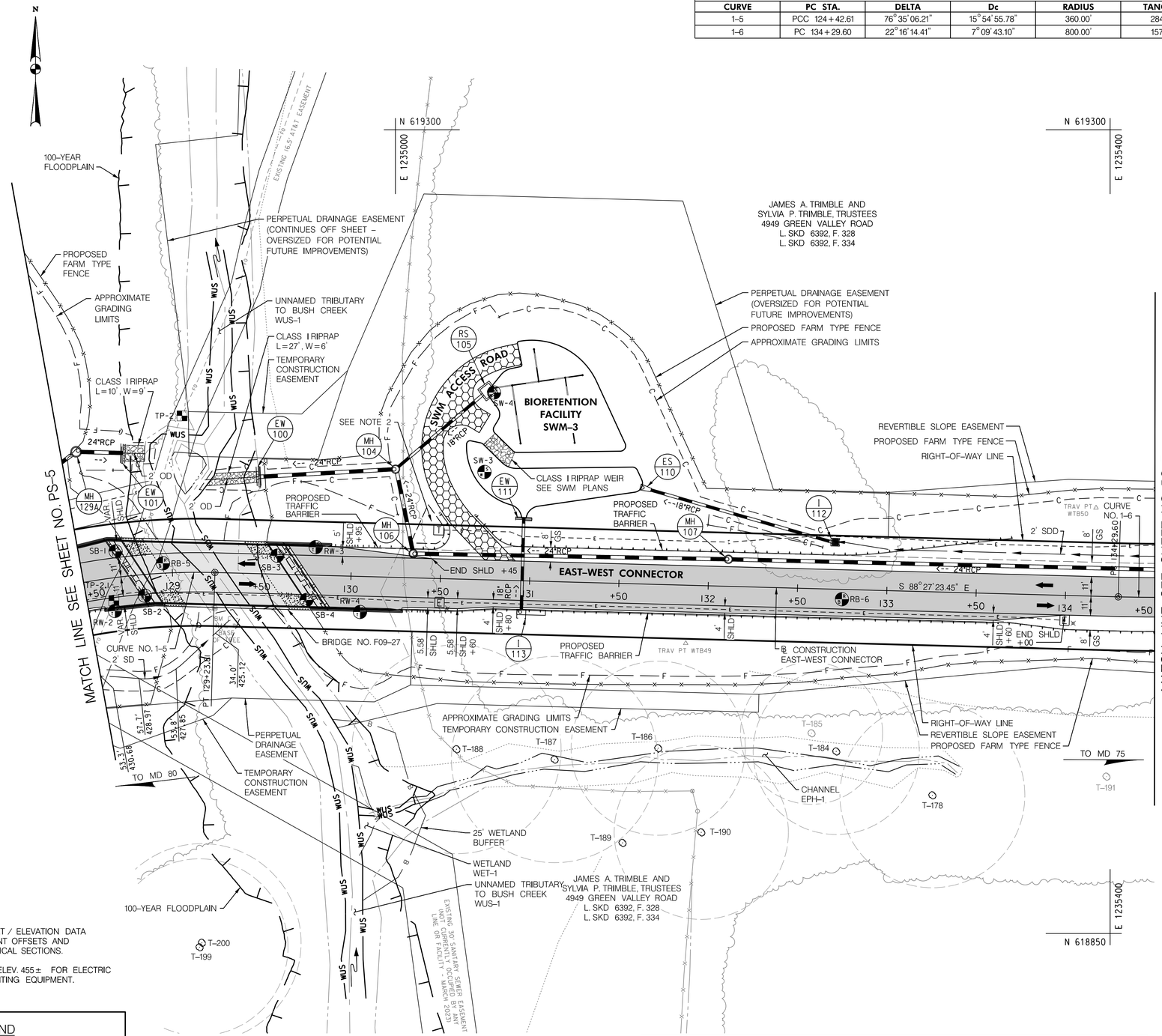
DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 18 OF 226

BY: AKR - PLOTTED:3/22/2023
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\WHD-PP05_ENC.dgn

CURVE DATA

CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–5	PCC 124+42.61	76°35'06.21"	15°54'55.78"	360.00'	284.23'	481.20'	98.68'
1–6	PC 134+29.60	22°16'14.41"	7°09'43.10"	800.00'	157.47'	310.96'	15.35'



NOTES:

1. DITCHES WITHOUT OFFSET / ELEVATION DATA SHALL FOLLOW CONSTANT OFFSETS AND DEPTHS SHOWN ON TYPICAL SECTIONS.
2. PROVIDE FLAT AREA AT ELEV. 455± FOR ELECTRIC TRANSFORMER AND LIGHTING EQUIPMENT.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

TEST PIT LOCATIONS

TEST PIT NO.	STATION	OFFSET	NORTHING	EASTING	TOP ELEV.	DEPTH	DESCRIPTION
TP-2	129+07	87.5' LT	619139.821	1234880.598	N/A	N/A	NONE FOUND; TERMINATED AT 9'-0" DEPTH
TP-2.1	128+65	12.5' RT	619036.356	1234842.410	425.0	4'-3"	2x 3" PLASTIC CONDUIT - FIBER OPTIC

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION

LOCATION - STATION	SY
EAST-WEST CONNECTOR LT. STA. 128+79 TO LT. STA. 128+89 (EW-101)	12
EAST-WEST CONNECTOR LT. STA. 129+21 TO LT. STA. 129+47 (EW-100)	19

BOTTOM CUTOFF WALLS FOR CLASS I RIPRAP

LOCATION - STATION	LF
EAST-WEST CONNECTOR LT. STA. 128+89 (EW-101)	9
EAST-WEST CONNECTOR LT. STA. 129+21 (EW-100)	8

ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM (SEE DETAIL, SHEET SW-2)

LOCATION - STATION	SY
EAST-WEST CONNECTOR LT. STA. 130+75 TO LT. STA. 130+92 (SWM-3)	242

TRAFFIC BARRIER W-BEAM BURIED-IN-BACKSLOPE END TREATMENT (TYPE A) (MD 605.01)

LOCATION - STATION	EA
EAST-WEST CONNECTOR LT. STA. 133+70	1

TRAFFIC BARRIER W-BEAM RADIUS END TREATMENT (TYPE L) (MD 605.13)

LOCATION - STATION	EA
EAST-WEST CONNECTOR LT. STA. 130+45	1
EAST WEST CONNECTOR LT. STA. 130+93	1

TRAFFIC BARRIER W-BEAM USING 6 FOOT POST (MD 605.23)

LOCATION - STATION	LF
EAST-WEST CONNECTOR LT. STA. 130+35 TO LT. STA. 130+50	38
EAST-WEST CONNECTOR RT. STA. 130+76 TO RT. STA. 134+50	375
EAST-WEST CONNECTOR LT. STA. 130+69 TO LT. STA. 133+57	294

TRAFFIC BARRIER THRIE-BEAM ANCHORAGE TO VERTICAL FACE (MD 605.41)

LOCATION - STATION	EA
EAST-WEST CONNECTOR LT. STA. 129+89	1
EAST-WEST CONNECTOR RT. STA. 130+29	1

STANDARD TYPE 'A' COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN, 8 INCH MINIMUM DEPTH (MD 620.02)

LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 130+29 TO RT. STA. 133+60	315

4 FOOT FARM TYPE FENCE (MD 690.03)

LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 128+50 TO RT. STA. 128+95	83
EAST-WEST CONNECTOR LT. STA. 128+50 TO LT. STA. 128+73	187
EAST-WEST CONNECTOR LT. STA. 129+52 TO LT. STA. 134+50	660
EAST-WEST CONNECTOR RT. STA. 129+78 TO RT. STA. 134+50	491

TYPE B SOIL STABILIZATION MATTING

LOCATION - STATION	SY
EAST-WEST CONNECTOR RT. STA. 128+50 TO LT. STA. 129+33 (DITCH)	77
EAST-WEST CONNECTOR LT. STA. 130+75 TO LT. STA. 131+17 (EW-111)	69
EAST-WEST CONNECTOR LT. STA. 131+38 TO LT. STA. 131+62 (ES-110)	34
EAST-WEST CONNECTOR LT. STA. 132+73 TO LT. STA. 134+50 (DITCH)	162

PS-6

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
ROADWAY PLAN
EAST-WEST CONNECTOR
STA. 128+50 TO STA. 134+50

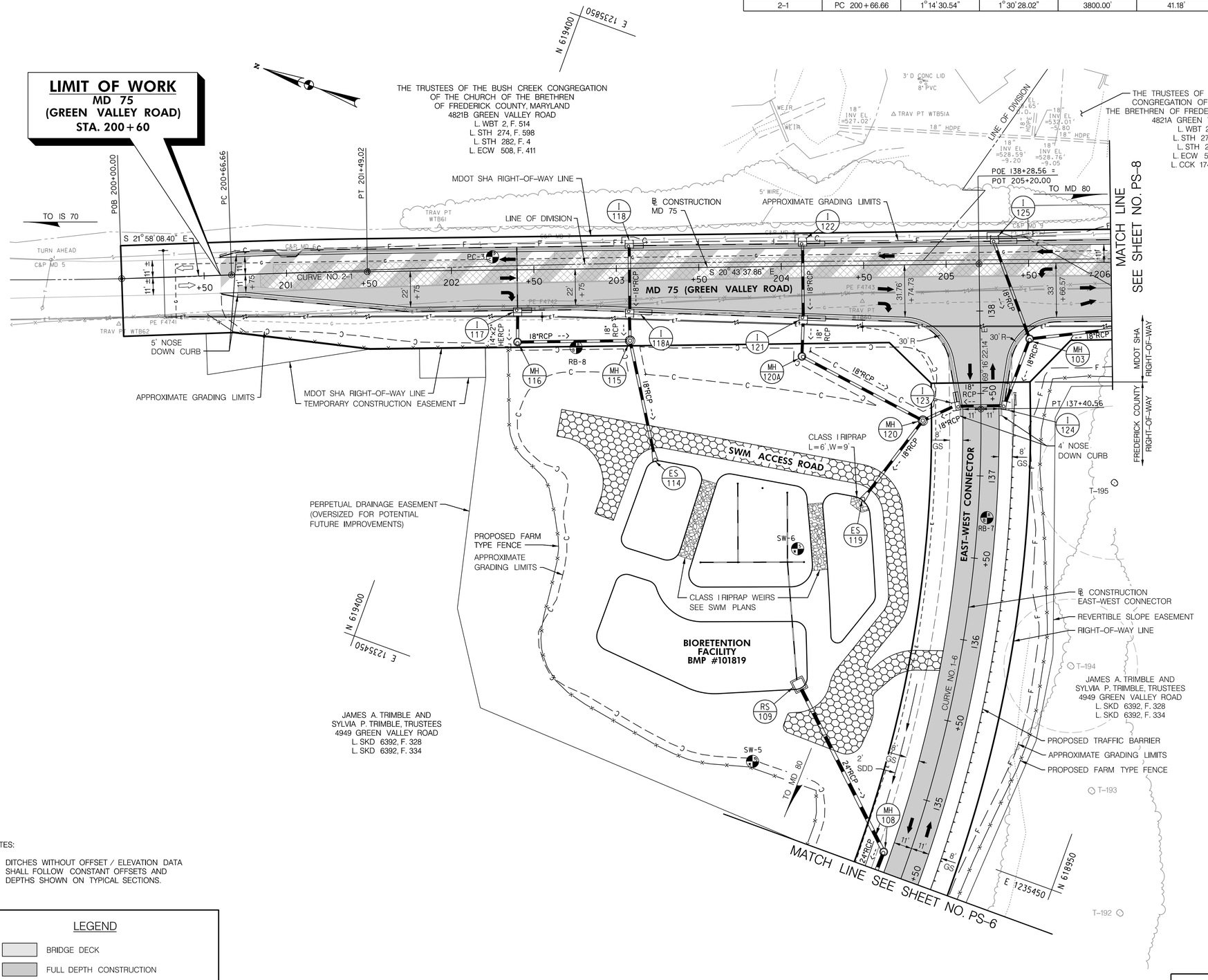
DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 19 OF 226

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pHD-P006_EWC.dgn

CURVE DATA

CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1–6	PC 134+29.60	22°16'14.41"	7°09'43.10"	800.00'	157.47'	310.96'	15.35'
2–1	PC 200+66.66	1°14'30.54"	1°30'28.02"	3800.00'	41.18'	82.36'	0.22'



NOTES:

1. DITCHES WITHOUT OFFSET / ELEVATION DATA SHALL FOLLOW CONSTANT OFFSETS AND DEPTHS SHOWN ON TYPICAL SECTIONS.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

FLOWABLE BACKFILL FOR UTILITY CUTS

LOCATION - STATION	CY
MD 75 (GREEN VALLEY ROAD) STA. 202+40 (UNDERDRAIN OUTLET)	3
MD 75 (GREEN VALLEY ROAD) STA. 203+08 (18" RCP)	12
MD 75 (GREEN VALLEY ROAD) STA. 204+13 (18" RCP)	12
MD 75 (GREEN VALLEY ROAD) STA. 205+30 (18" RCP)	14

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN (MD 387.11-01)

LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) RT. STA. 200+70 TO RT. STA. 202+37	168
MD 75 (GREEN VALLEY ROAD) LT. STA. 200+70 TO LT. STA. 203+06	239
MD 75 (GREEN VALLEY ROAD) RT. STA. 202+48 TO RT. STA. 203+06	57
MD 75 (GREEN VALLEY ROAD) RT. STA. 203+21 TO RT. STA. 204+11	89
MD 75 (GREEN VALLEY ROAD) LT. STA. 203+17 TO LT. STA. 204+11	94
MD 75 (GREEN VALLEY ROAD) LT. STA. 204+27 TO LT. STA. 205+27	105
MD 75 (GVR) RT. STA. 204+27 TO E-W CONNECTOR LT. STA. 137+51	111
E-W CONNECTOR RT. STA. 137+56 TO MD 75 (GVR) RT. STA. 206+00	87
MD 75 (GREEN VALLEY ROAD) LT. STA. 205+43 TO LT. STA. 206+00	57

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS (MD 387.01)

LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) RT. STA. 200+65	10
MD 75 (GREEN VALLEY ROAD) LT. STA. 200+65	10
MD 75 (GREEN VALLEY ROAD) LT. STA. 202+40 TO STA. RT. 202+40	37
MD 75 (GREEN VALLEY ROAD) RT. STA. 202+46	6
MD 75 (GREEN VALLEY ROAD) LT. STA. 203+14	6
MD 75 (GREEN VALLEY ROAD) RT. STA. 203+16	11
MD 75 (GREEN VALLEY ROAD) RT. STA. 204+22	11
MD 75 (GREEN VALLEY ROAD) LT. STA. 204+22	11
MD 75 (GREEN VALLEY ROAD) LT. STA. 205+38	11
EAST-WEST CONNECTOR LT. STA. 137+48	6
EAST-WEST CONNECTOR RT. STA. 137+50	11

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION

LOCATION - STATION	SY
EAST-WEST CONNECTOR LT. STA. 136+75 (ES-119)	7

BOTTOM CUTOFF WALLS FOR CLASS I RIPRAP

LOCATION - STATION	LF
EAST-WEST CONNECTOR LT. STA. 136+75 (ES-119)	9

ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM (SEE DETAIL, SHEET SW-2)

LOCATION - STATION	SY
MD 75 (GVR) RT. STA. 202+64 TO E-W CONNECTOR LT. STA. 135+14	803

FINE MILLING ASPHALT PAVEMENT 0 INCH TO 2.5 INCH DEPTH

LOCATION - STATION	SY
MD 75 (GREEN VALLEY ROAD) STA. 200+60 TO STA. 206+00	1127

TRAFFIC BARRER W-BEAM ONE-SIDED END TREATMENT (TYPE C) (MD 605.03)

LOCATION - STATION	EA
EAST-WEST CONNECTOR RT. STA. 137+49	1

TRAFFIC BARRIER W-BEAM USING 6 FOOT POST (MD 605.23)

LOCATION - STATION	LF
EAST-WEST CONNECTOR RT. STA. 134+50 TO RT. STA. 137+00	256

STANDARD TYPE 'A' COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN, 8 INCH MINIMUM DEPTH (MD 620.02)

LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) LT. STA. 200+70 TO LT. STA. 206+00	487
MD 75 (GVR) RT. STA. 200+70 TO E-W CONNECTOR LT. STA. 137+36	427
E-W CONNECTOR RT. STA. 137+36 TO MD 75 (GVR) RT. STA. 206+00	93

4 FOOT FARM TYPE FENCE (MD 690.03)

LOCATION - STATION	LF
MD 75 (GVR) RT. STA. 200+51 TO E-W CONNECTOR LT. STA. 134+50	609
E-W CONNECTOR RT. STA. 134+50 TO MD 75 (GVR) RT. STA. 206+00	363

TYPE B SOIL STABILIZATION MATTING

LOCATION - STATION	SY
EAST-WEST CONNECTOR LT. STA. 134+50 TO LT. STA. 135+68 (DITCH)	105
E-W CONNECTOR LT. STA. 135+74 TO LT. STA. 136+05 (SWM WEIR)	43
MD 75 (GVR) RT. STA. 202+98 TO RT. STA. 203+31 (SWM WEIR)	56
MD 75 (GVR) RT. STA. 203+12 TO RT. STA. 203+42 (ES-114)	52

PS-7

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
ROADWAY PLAN
MD 75 (GREEN VALLEY ROAD)
STA. 200+60 TO STA. 206+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 20 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

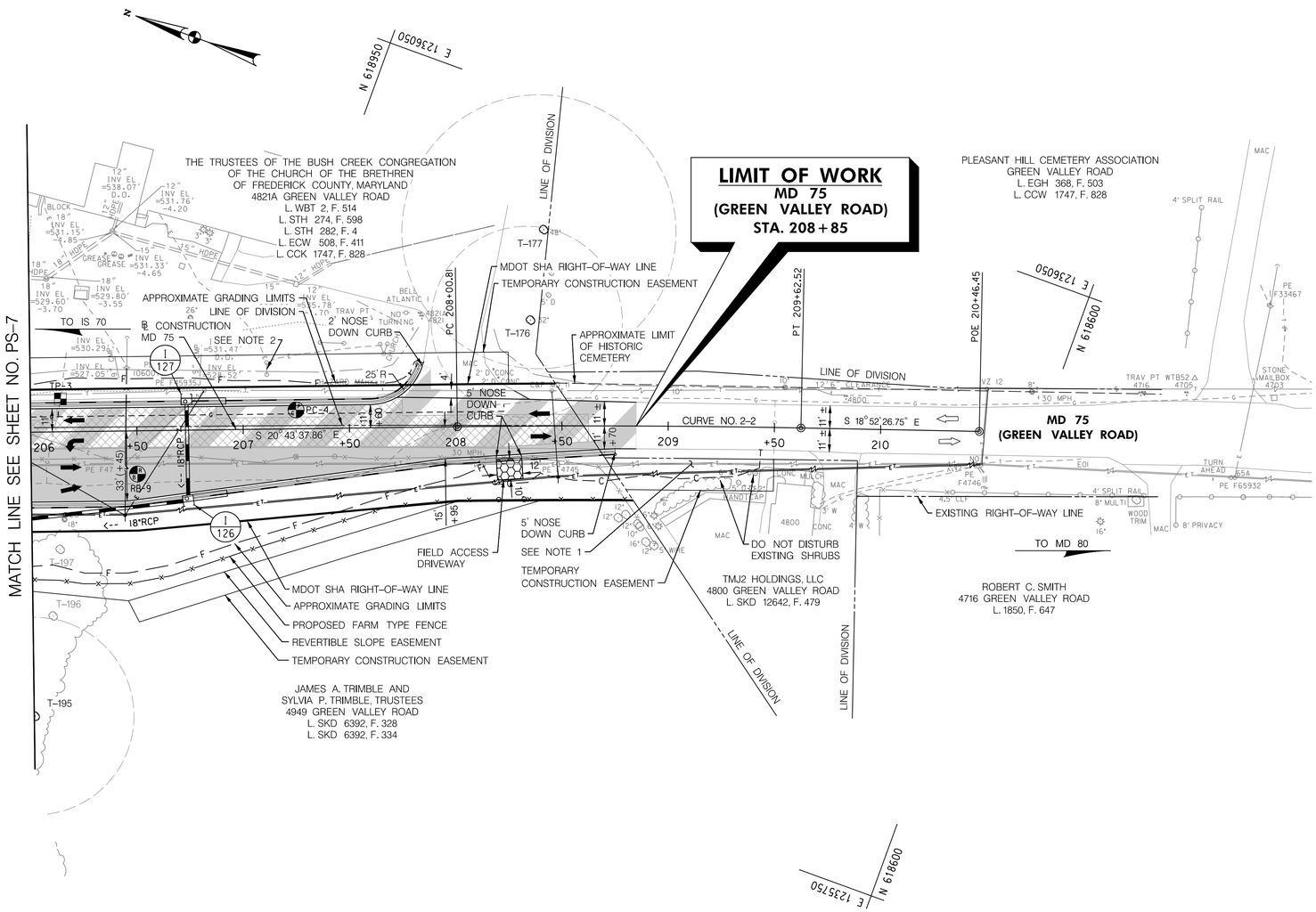
THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\PHD-P007-EWC.dgn

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
2-2	PC 208+00.81	1°51'11.11"	1°08'45.30"	5000.00'	80.86'	161.71'	0.65'



NOTES:

1. LAY BACK EXISTING SLOPE AT 5:1 FROM EXISTING ROAD EDGE FROM STA. 208+85 TO STA. 209+45. DO NOT DISTURB EXISTING SHRUBS, SIDEWALK, OR WELL.
2. DO NOTE DISTURB EXISTING MASONRY CHURCH SIGN.

LEGEND

- BRIDGE DECK
- FULL DEPTH CONSTRUCTION
- FINE MILLING AND RESURFACING
- FINE MILLING, OVERLAY AND RESURFACING
- AGGREGATE DRIVEWAY
- ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM
- RIPRAP FOR SLOPE OR CHANNEL PROTECTION

TEST PIT LOCATIONS							
TEST PIT NO.	STATION	OFFSET	NORTHING	EASTING	TOP ELEV.	DEPTH	DESCRIPTION
TP-3	206+14	15.5' LT	619038.541	1235839.374	520.0	3'-10"	1" PLASTIC GAS SERVICE LINE
					520.6	3'-3"	14" METAL PIPE - UNIDENTIFIED

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

FLOWABLE BACKFILL FOR UTILITY CUTS	
LOCATION - STATION	CY
MD 75 (GREEN VALLEY ROAD) STA. 206+74 (18" RCP)	12

6 INCH PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN (MD 387.11-01)	
LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) RT. STA. 206+00 TO RT. STA. 206+71	71
MD 75 (GREEN VALLEY ROAD) LT. STA. 206+00 TO LT. STA. 206+71	71
MD 75 (GREEN VALLEY ROAD) RT. STA. 206+92 TO RT. STA. 208+75	183
MD 75 (GREEN VALLEY ROAD) LT. STA. 206+92 TO LT. STA. 207+82	97

6 INCH CIRCULAR PIPE UNDERDRAIN OUTLETS (MD 387.01)	
LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) LT. STA. 206+84	16
MD 75 (GREEN VALLEY ROAD) RT. STA. 206+84	16

ACCESS ROAD WITH CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM (SEE DETAIL, SHEET SW-2)	
LOCATION - STATION	SY
MD 75 (GREEN VALLEY ROAD) RT. STA. 208+25	13

FINE MILLING ASPHALT PAVEMENT 0 INCH TO 2.5 INCH DEPTH	
LOCATION - STATION	SY
MD 75 (GREEN VALLEY ROAD) STA. 206+00 TO STA. 208+85	671

STANDARD TYPE 'A' COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN, 8 INCH MINIMUM DEPTH (MD 620.02)	
LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) RT. STA. 206+00 TO RT. STA. 208+75	255
MD 75 (GREEN VALLEY ROAD) LT. STA. 206+00 TO LT. STA. 207+84	170

4 FOOT FARM TYPE FENCE (MD 690.03)	
LOCATION - STATION	LF
MD 75 (GREEN VALLEY ROAD) RT. STA. 206+00 TO RT. STA. 208+19	225
MD 75 (GREEN VALLEY ROAD) RT. STA. 206+32 TO RT. STA. 208+79	47

TUBULAR STEEL FARM GATE (SEE DETAIL, SHEET TD-1)	
LOCATION - STATION	EA
EAST-WEST CONNECTOR RT. STA. 208+25 (FIELD ACCESS DW)	1

PS-8

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

ROADWAY PLAN

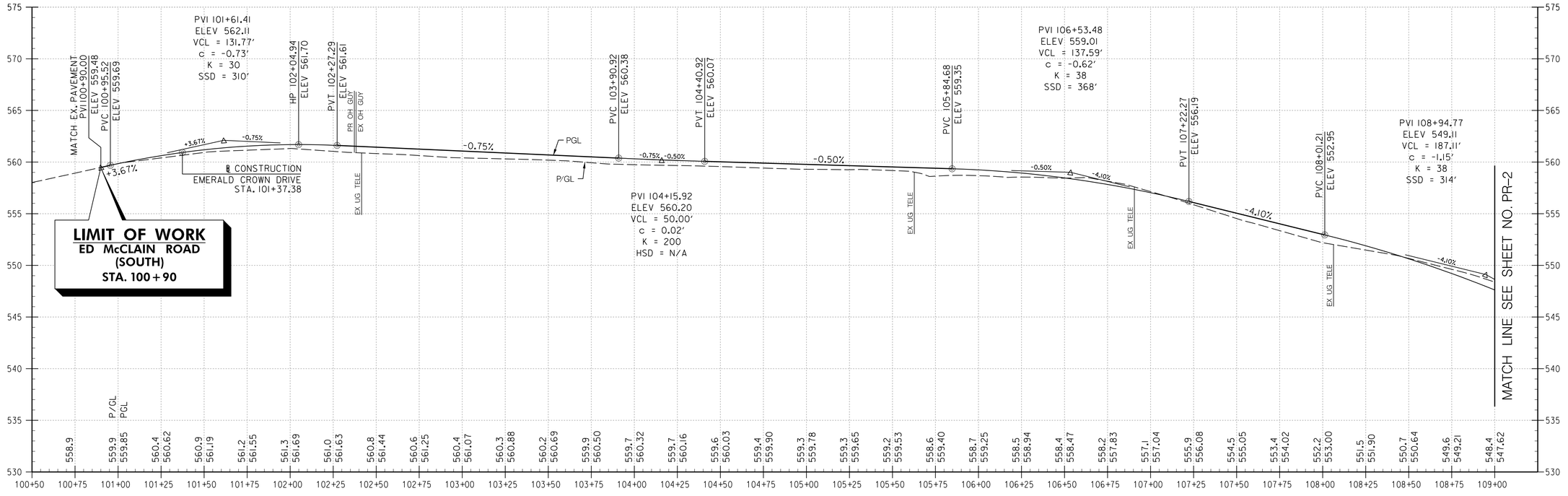
MD 75 (GREEN VALLEY ROAD)

STA. 206+00 TO STA. 208+85

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 21 OF 226

BY: AKR - PLOTTED: 3/22/2023
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\VHD-P008_ENC.dgn



ED McCLAIN ROAD (SOUTH) STA. 100+90 TO STA. 109+00

PR-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

ROADWAY PROFILE
ED McCLAIN ROAD (SOUTH)
STA. 100+90 TO STA. 109+00

DATE: OCTOBER 2022 SCALE: H: 1" = 30' V: 1" = 5'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 22 OF 226

CROSS REFERENCE

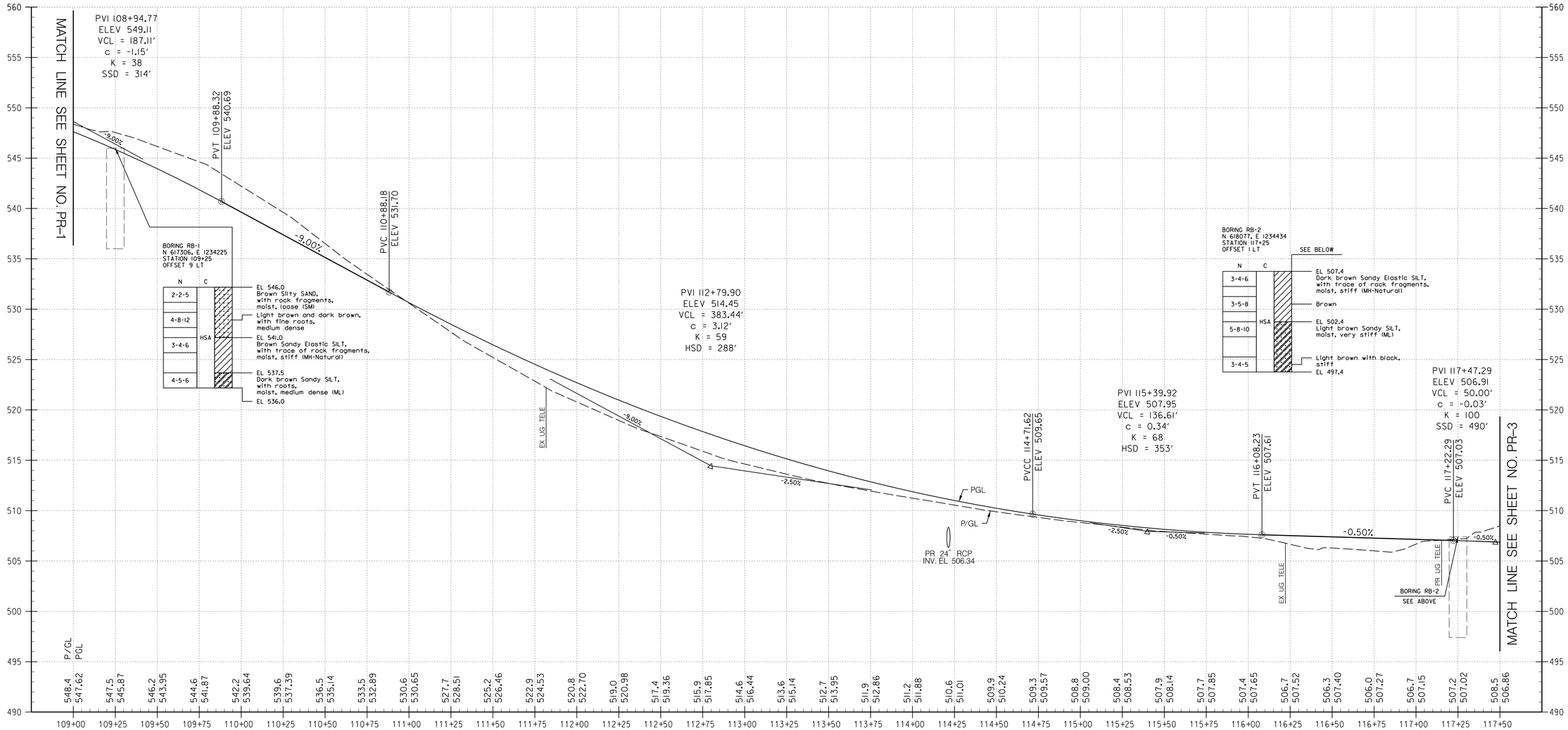
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E.W. Connector\Design Files\pw\P-V001_ENG.dgn



ED McCLAIN ROAD (SOUTH) STA. 109+00 TO STA. 117+50

PR-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

ROADWAY PROFILE
ED McCLAIN ROAD (SOUTH)
STA. 109+00 TO STA. 117+50

DATE: OCTOBER 2022 SCALE: H: 1" = 30' V: 1" = 5'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 23 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEED — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
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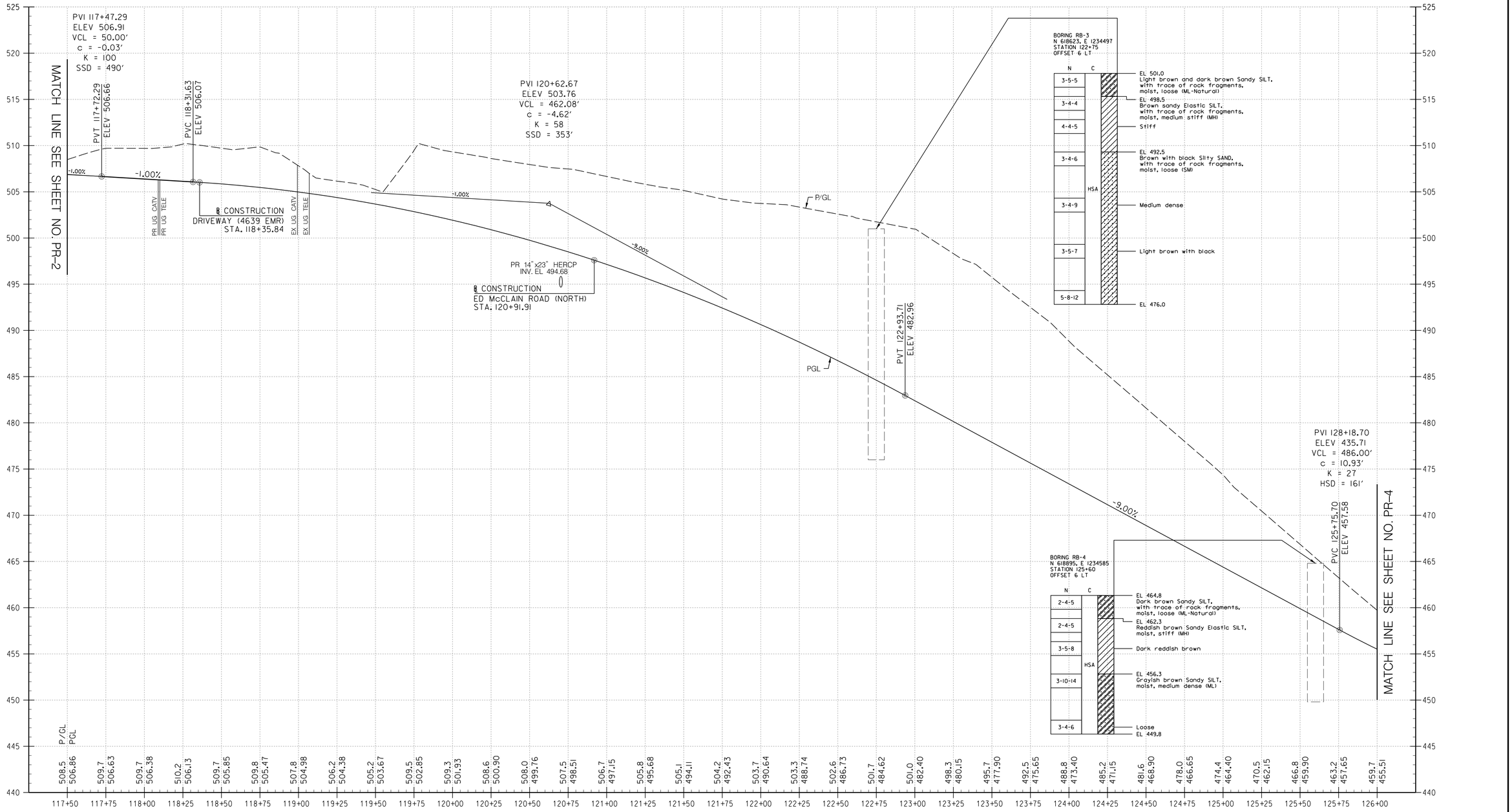

ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR STA. 117+50 TO STA. 126+00

PR-3

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

ROADWAY PROFILE
ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR
STA. 117+50 TO STA. 126+00

DATE: OCTOBER 2022 SCALE: H: 1" = 30' V: 1" = 5'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 24 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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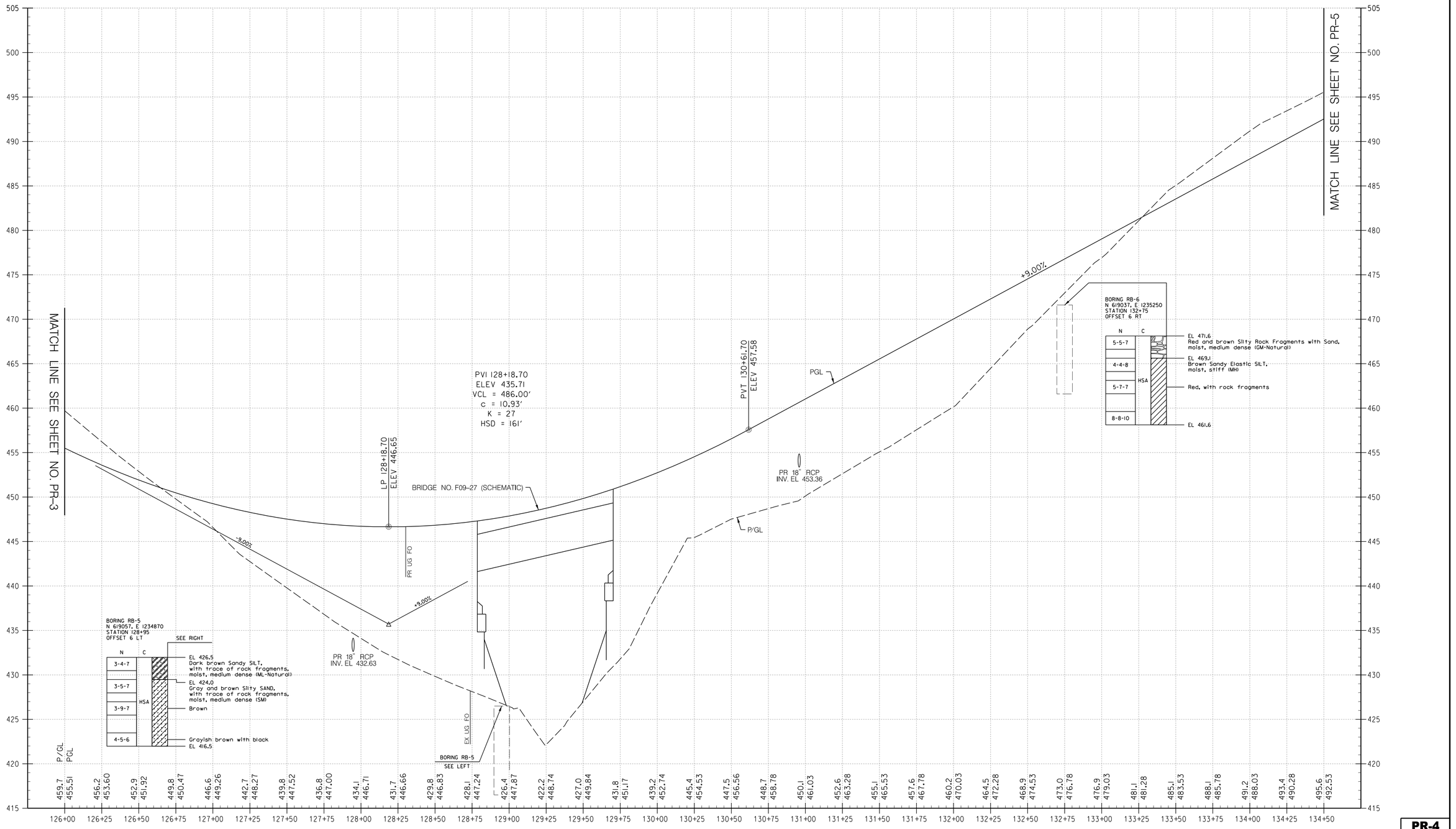
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pw\P-V003.EWC.dgn



EAST–WEST CONNECTOR STA. 126+00 TO STA. 134+50

PR-4

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

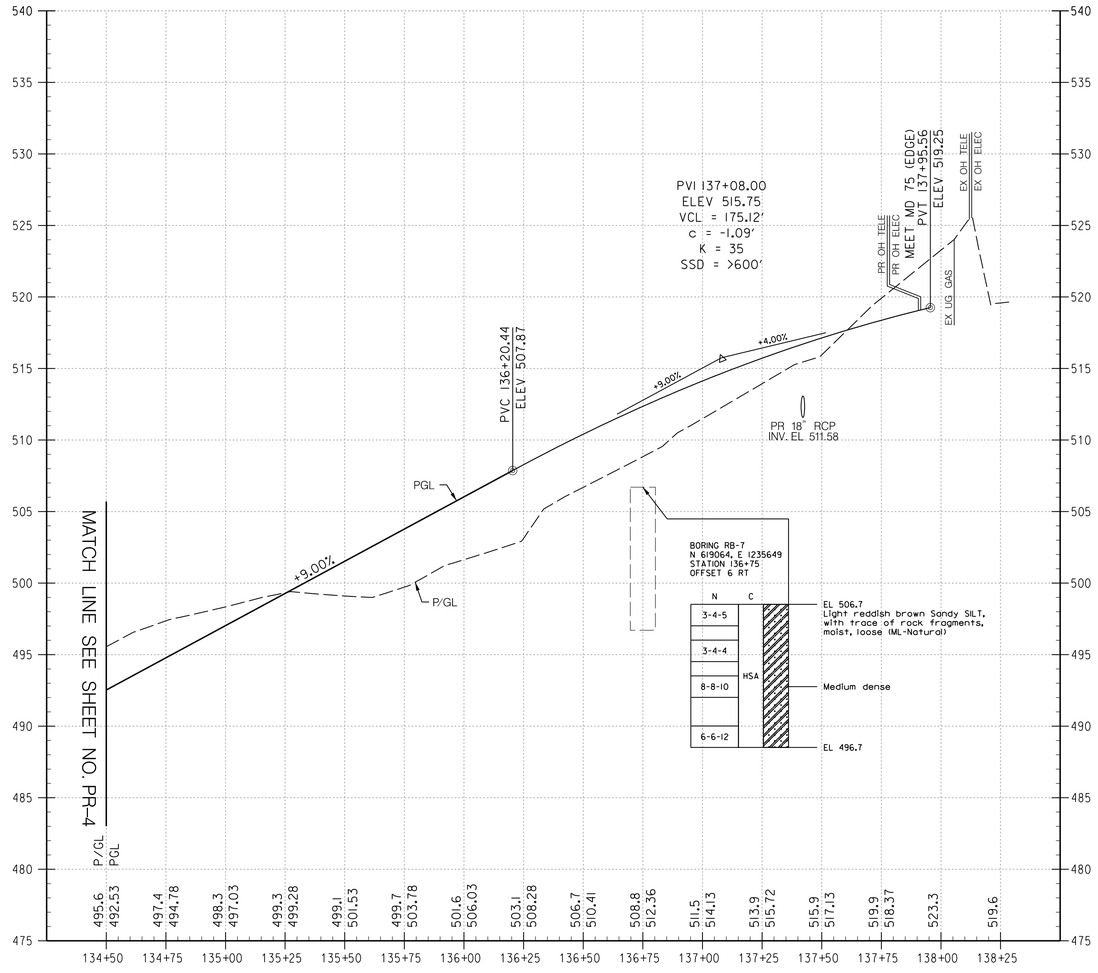
ROADWAY PROFILE
EAST-WEST CONNECTOR
STA. 126+00 TO STA. 134+50

DATE: OCTOBER 2022 SCALE: H: 1" = 30' V: 1" = 5'

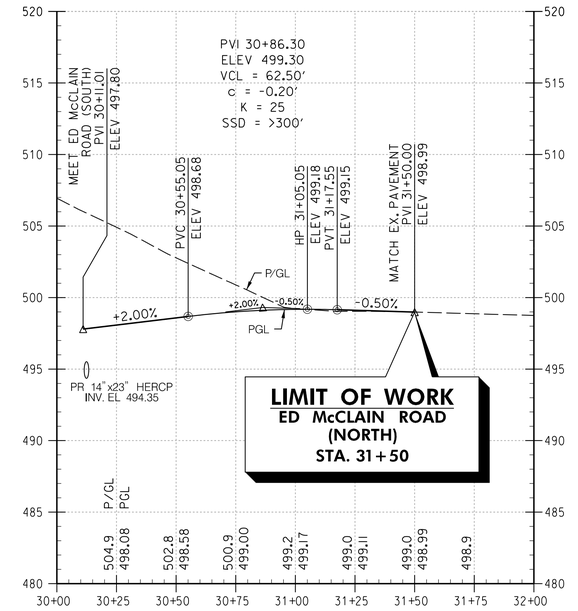
FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 25 OF 226

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\phase\PR-V004.DWG.dgn



EAST–WEST CONNECTOR STA. 134+50 TO STA. 137+95.56



ED McCLAIN ROAD (NORTH) STA. 30+11.01 TO STA. 31+50

DRIVEWAY (4639 EMR) STA. 40+11 TO STA. 41+00

PR-5

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
ROADWAY PROFILE
E-W CONN. STA. 134+50 TO STA. 137+95.56
ED McCLAIN ROAD (NORTH)
STA. 30+11.01 TO STA. 31+50
DRIVEWAY (4639 EMR)
STA. 40+11 TO STA. 41+00

DATE: OCTOBER 2022
SCALE: H: 1" = 30'
V: 1" = 5'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 26 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JACKSON WILLIAM BALLARD — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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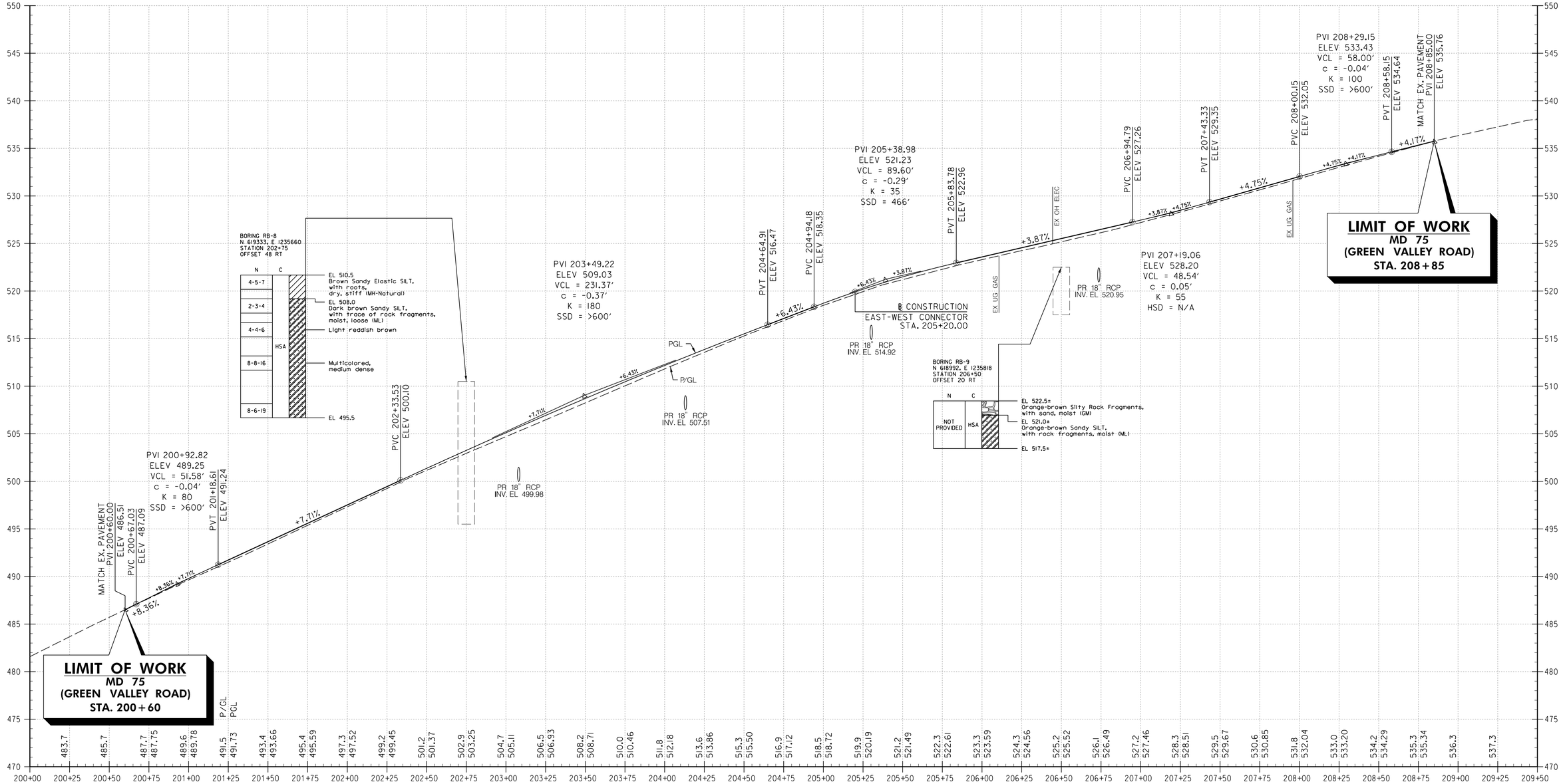
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 3/22/2023
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\sht-V005_EWC.dgn



MD 75 (GREEN VALLEY ROAD) STA. 200+60 TO STA. 208+85

PR-6

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

ROADWAY PROFILE
MD 75 (GREEN VALLEY ROAD)
STA. 200+60 TO STA. 208+85

DATE: OCTOBER 2022

SCALE: H: 1" = 30'
V: 1" = 5'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 27 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND
STEPHEN JACKSON WILSON
No. 24828
PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
FILE: I:\SYP\Frederick County - Monrovia E-W Connector\Design Files\MP-V006_EWC.dgn

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 MD 75 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 THE OFFICE OF TRANSPORTATION ENGINEERING 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 THE SHA INSPECTOR.

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 THE SHA INSPECTOR 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. MD 75: 10 FEET
b. ED MCCLAIN ROAD: 10 FEET

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

a. MD 75: 9:00 P.M. TO 5:00 A.M. M-F
b. ED MCCLAIN ROAD: 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 THE MDOT SHA DISTRICT 7 TRAFFIC OFFICE.

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.

III. ROADWAY CLOSURE NOTIFICATION

A PLANS PROJECT REPORT SHOULD BE COMPLETED AND FORWARDED TO THE MDOT SHA DISTRICT 7 COMMUNICATIONS LIAISON ELIZABETH HARRIS (301-624-8157) AT LEAST 4 WEEKS IN ADVANCE OF THE ROAD CLOSURE. THE SHA WILL ISSUE THE OFFICIAL PRESS RELEASE WHICH THE CONTRACTOR MUST FORWARD AS NOTIFICATION TO THE FOLLOWING AGENCIES AT LEAST TWO WEEKS (PREFERABLY FOUR WEEKS) IN ADVANCE OF THE ROAD CLOSURE:

1.FREDERICK COUNTY PUBLIC SCHOOLS TRANSPORTATION DIVISION
FRED PUNTURIERO (301-644-5376)
Fred.Punturier@fcps.org
CC: HOLLY NELSON (301-644-5026)
Holly.Nelson@fcps.org

2.FREDERICK COUNTY EMERGENCY COMMUNICATIONS CENTER
SUPERVISOR ON DUTY (301-600-1603)
911Administration@frederickcountymd.gov
Frederick911@frederickcountymd.gov

3.FREDERICK COUNTY FIRE AND RESCUE SERVICES DIVISION
THOMAS COE (301-600-1780)
tcoe@frederickcountymd.gov
CC: STEVE LEATHERMAN
sleatherman@frederickcountymd.gov
CC: KENNY POOLE
kpoole1@frederickcountymd.gov

4.MARYLAND STATE POLICE - FREDERICK BARRACK
DUTY OFFICER (301-644-4150)
msp.frederick@maryland.gov

5.FREDERICK COUNTY SHERIFF'S OFFICE
MIKE OCHOA (301-600-3049)
mochoa@frederickcountymd.gov

6.FREDERICK COUNTY DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
ROBERT SHEN (301-600-2928)
rshen@frederickcountymd.gov

7.FREDERICK COUNTY OFFICE OF HIGHWAY OPERATIONS
MIKE RAMSBURG (301-600-3353, MOBILE 301-748-7236)
mramsburg@frederickcountymd.gov

8.FREDERICK COUNTY PUBLIC INFORMATION OFFICE
VIVIAN LAXTON (301-600-1315)
vlaxton@frederickcountymd.gov

9.MDOT SHA DISTRICT 7 MAINTENANCE DIVISION
DAN HOUCK (ADE - MAINTENANCE)
(301-624-8100 D7 MAIN OFFICE)
DHouck@mdot.maryland.gov
KENNY KARLHEIM (RESIDENT MAINTENANCE ENGINEER)
(301-624-8251)
KKarlheim@mdot.maryland.gov

10.MDOT SHA DISTRICT 7 TRAFFIC DIVISION
CHRIS RANKEN (ADE - TRAFFIC)
(301-624-8100 D7 MAIN OFFICE)
CRanken@mdot.maryland.gov
SAMUEL DELAURANCE (301-624-8251)
SDelaurence@mdot.maryland.gov

11.MDOT SHA OFFICE OF CUSTOMER RELATIONS AND INFORMATION
1-800-323-6742

12.MDOT SHA MOTOR CARRIER DIVISION
410-582-5734
sharouterestrictions@sha.state.md.us

13.LOCAL POST OFFICE

CONTACT FREDERICK COUNTY EMERGENCY SERVICES AT 301-600-1603 WHEN THE ROAD IS ACTUALLY CLOSED.

SEQUENCE OF CONSTRUCTION

SEQUENCE OF CONSTRUCTION - STAGE 1

1. INSTALL ALL ADVANCE WARNING SIGNS AND PVMS ON ED MCCLAIN ROAD FOR STAGE 1.
2. PERFORM INITIAL EROSION AND SEDIMENT CONTROL AS SHOWN ON PLANS ES-1 TO ES-8.
3. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 120+00 TO STA. 120+92, ED MCCLAIN ROAD NORTH FROM STA. 30+00 TO STA. 30+50 AND EAST-WEST CONNECTOR FROM APPROX. STA. 120+92 TO MD 75 (GREEN VALLEY ROAD) INCLUDING GRADING AND DRAINAGE WORK.
4. PERFORM FULL-DEPTH WIDENING ALONG SOUTHBOUND MD 75 (GREEN VALLEY ROAD), WHEN WORKING WITHIN 10 FEET OF THE SOUTHBOUND TRAVEL LANE, INSTALL TEMPORARY CHANNELIZATION DEVICES AND PERFORM FULL-DEPTH WIDENING DURING OFF-PEAK HOURS, UNDER A SHOULDER CLOSURE (AS PER MD STD. 104.02-01) AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09). MAINTAIN TWO-WAY TRAVEL AT ALL TIMES ON MD 75. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.

SEQUENCE OF CONSTRUCTION (CONT.)

SEQUENCE OF CONSTRUCTION - STAGE 2

1. AT LEAST FOUR WEEKS IN ADVANCE OF THE ANTICIPATED STAGE 2 ROAD CLOSURES, BEGIN THE ROADWAY CLOSURE NOTIFICATION AS DESCRIBED ON THIS SHEET. AT THIS TIME, DIRECTLY CONTACT THE MDOT SHA DISTRICT 7 TRAFFIC DIVISION AND THE FREDERICK COUNTY DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT REGARDING THE ALLOWABLE STAGE 2 CLOSURE DURATION AND SCHEDULE. APPLY FOR A FREDERICK COUNTY RIGHT-OF-WAY PERMIT THROUGH THE TRAFFIC AND PERMITS SECTION.
2. TWO WEEKS PRIOR TO THE CLOSURES, INSTALL PORTABLE VARIABLE MESSAGE SIGNS. PVMSs SHALL BE PLACED ACCORDING TO STD. NO. MD 104.01-22 OR AS DIRECTED BY THE ENGINEER.
3. INSTALL ALL STAGE 2 ADVANCE WARNING, GUIDE, AND DETOUR SIGNS AND CLOSE ED MCCLAIN ROAD TO TRAFFIC BETWEEN DRIVEWAYS FROM APPROX. STA. 118+35 TO STA. 31+50 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER. MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS FOR 4639 ED MCCLAIN ROAD TO THE SOUTH. EAST-WEST CONNECTOR SHALL REMAIN CLOSED TO TRAFFIC.
4. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 117+50 TO STA. 120+00 AND ED MCCLAIN ROAD NORTH FROM STA. 30+50 TO STA. 31+50 INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD NORTH AND SOUTHBOUND ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.
5. CONSTRUCT NEW ALIGNMENT OF 4639 ED MCCLAIN ROAD DRIVEWAY INCLUDING GRADING AND DRAINAGE IN COORDINATION WITH THE PROPERTY OWNERS. ONCE FINISHED, MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS FOR 4639 ED MCCLAIN ROAD TO THE NORTH VIA NEW ED MCCLAIN ROAD ALIGNMENTS AS SHOWN ON MT-13.

SEQUENCE OF CONSTRUCTION - STAGE 3A

1. RELOCATE ANY ADVANCE WARNING, GUIDE, AND DETOUR SIGNS INSTALLED IN STAGE 2 TO STAGE 3A LOCATIONS. SHIFT ROAD CLOSURE OF ED MCCLAIN ROAD BETWEEN DRIVEWAYS FROM APPROX. STA. 115+50 TO STA. 118+35 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER.
2. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 115+00 TO STA. 117+50 INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.
3. CONSTRUCT NEW ALIGNMENT OF DRIVEWAY LOCATED AT APPROX. STA. 115+50 INCLUDING GRADING AND DRAINAGE IN COORDINATION WITH THE PROPERTY OWNERS. ONCE FINISHED, MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS TO THE NORTH VIA NEW ED MCCLAIN ROAD ALIGNMENTS AS SHOWN IN DETAIL "B" ON MT-12.
4. SHIFT ROAD CLOSURE OF ED MCCLAIN ROAD SOUTH BETWEEN DRIVEWAYS FROM APPROX. STA. 106+50 TO STA. 115+25 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER AS SHOWN IN DETAILS "A" AND "B" ON MT-11 AND MT-12, RESPECTIVELY. RELOCATE ADVANCE WARNING, GUIDE, AND DETOUR SIGNS AS NEEDED. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 106+50 TO STA. 115+00 INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.

SEQUENCE OF CONSTRUCTION - STAGE 3B

1. RELOCATE ANY ADVANCE WARNING, GUIDE, AND DETOUR SIGNS INSTALLED IN STAGE 3A TO STAGE 3B LOCATIONS. INSTALL PVMS FOR STAGE 3B. SHIFT ROAD CLOSURE OF ED MCCLAIN ROAD BETWEEN DRIVEWAYS FROM APPROX. STA. 101+75 TO STA. 106+50 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER.
2. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 106+15 TO STA. 106+50 AND NEW ALIGNMENT OF DRIVEWAY LOCATED AT APPROX. STA. 106+40 INCLUDING GRADING AND DRAINAGE IN COORDINATION WITH THE PROPERTY OWNERS. ONCE FINISHED, MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS TO THE NORTH VIA NEW ED MCCLAIN ROAD ALIGNMENTS.
3. CONSTRUCT REMAINING FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 102+00 TO STA. 106+15. PERFORM ANY REMAINING WEDGE, LEVEL, AND ROADSIDE WORK INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.
4. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-01), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), REMOVE ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY DOUBLE FACE CONCRETE BARRIER ALONG ED MCCLAIN ROAD SOUTH. INSTALL TEMPORARY PAVEMENT MARKINGS, REOPEN ED MCCLAIN ROAD SOUTH AND SHIFT TRAFFIC ONTO THE ULTIMATE ALIGNMENT. EAST-WEST CONNECTOR SHALL REMAIN CLOSED TO TRAFFIC.
5. DURING OFF-PEAK HOURS, UNDER FLAGGING OPERATION (AS PER MD STD. 104.02-10), ALONG ED MCCLAIN ROAD NORTH AND ED MCCLAIN ROAD SOUTH, PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS.
6. DURING OFF-PEAK HOURS, UNDER A SHOULDER CLOSURE (AS PER MD STD. 104.02-01) AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), SHIFT MD 75 TRAFFIC EAST ONTO NEWLY CONSTRUCTED SOUTHBOUND WIDENING. INSTALL TEMPORARY PAVEMENT MARKINGS AND CHANNELIZATION DEVICES. PERFORM CONSTRUCTION ALONG MD 75 NORTHBOUND INCLUDING GRADING AND DRAINAGE.
7. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-01), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), REMOVE ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, AND CHANNELIZATION DEVICES ALONG NORTHBOUND MD 75. INSTALL TEMPORARY PAVEMENT MARKINGS AND SHIFT MD 75 TRAFFIC TO ULTIMATE ALIGNMENT.
8. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-01), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), ALONG NORTHBOUND AND SOUTHBOUND MD 75, PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS. PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS ALONG EAST-WEST CONNECTOR. OPEN EAST-WEST CONNECTOR TO TRAFFIC.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON HEIDT — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

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MT-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC GENERAL NOTES

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 28 OF 226

BY: AKR - PLOTTED: 10/19/2022
FILE: K:\Frederick County - Monrovia E-W Connector\Design Files\MT-N001_EWC.dgn

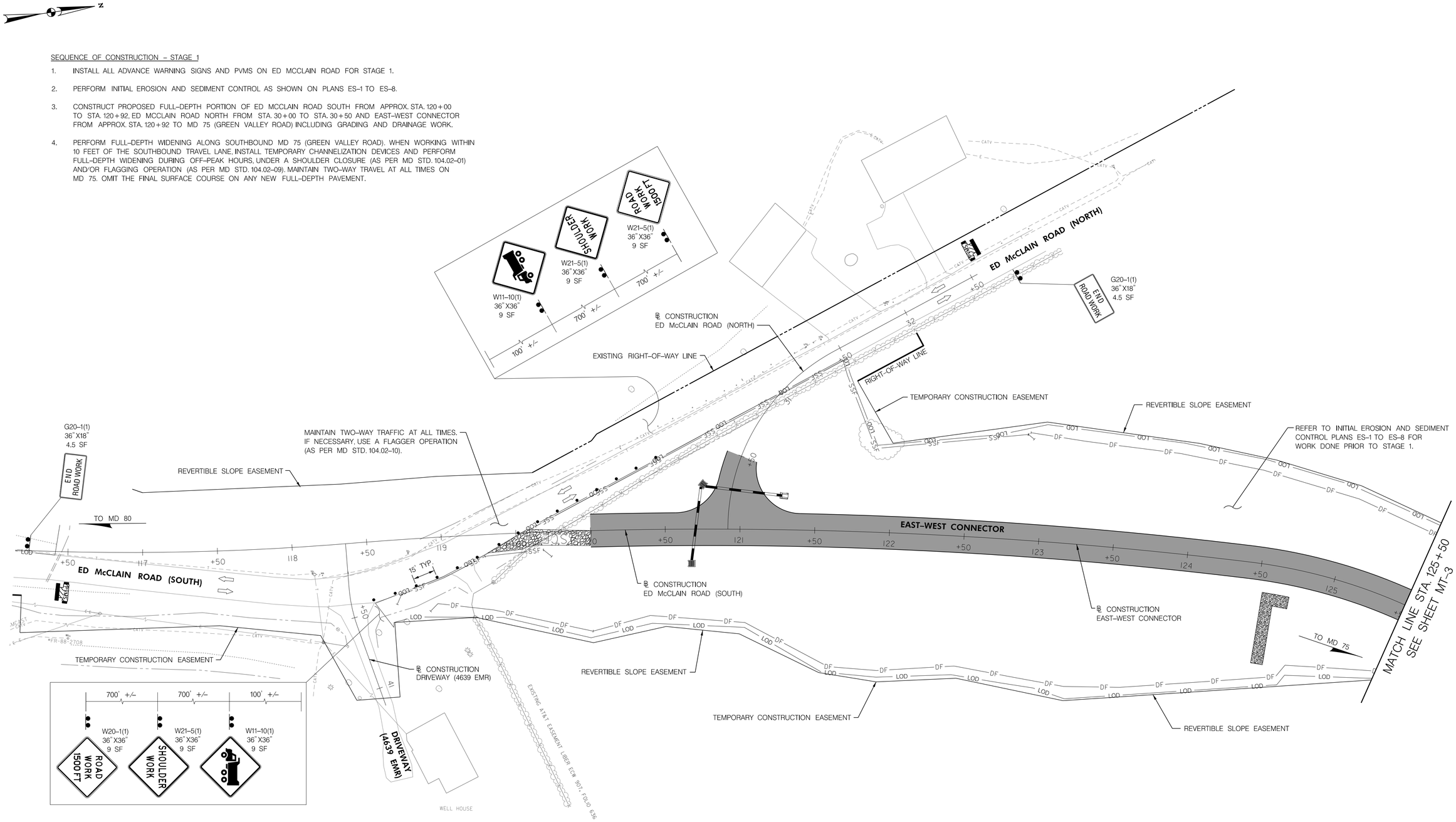
SEQUENCE OF CONSTRUCTION – STAGE 1

1. INSTALL ALL ADVANCE WARNING SIGNS AND PVMS ON ED MCCLAIN ROAD FOR STAGE 1.

2. PERFORM INITIAL EROSION AND SEDIMENT CONTROL AS SHOWN ON PLANS ES–1 TO ES–8.

3. CONSTRUCT PROPOSED FULL–DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 120+00 TO STA. 120+92, ED MCCLAIN ROAD NORTH FROM STA. 30+00 TO STA. 30+50 AND EAST–WEST CONNECTOR FROM APPROX. STA. 120+92 TO MD 75 (GREEN VALLEY ROAD) INCLUDING GRADING AND DRAINAGE WORK.

4. PERFORM FULL–DEPTH WIDENING ALONG SOUTHBOUND MD 75 (GREEN VALLEY ROAD). WHEN WORKING WITHIN 10 FEET OF THE SOUTHBOUND TRAVEL LANE, INSTALL TEMPORARY CHANNELIZATION DEVICES AND PERFORM FULL–DEPTH WIDENING DURING OFF–PEAK HOURS, UNDER A SHOULDER CLOSURE (AS PER MD STD. 104.02–01) AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02–09). MAINTAIN TWO–WAY TRAVEL AT ALL TIMES ON MD 75. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL–DEPTH PAVEMENT.



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS OR
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER OR
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

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

CROSS REFERENCE

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MT-2

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

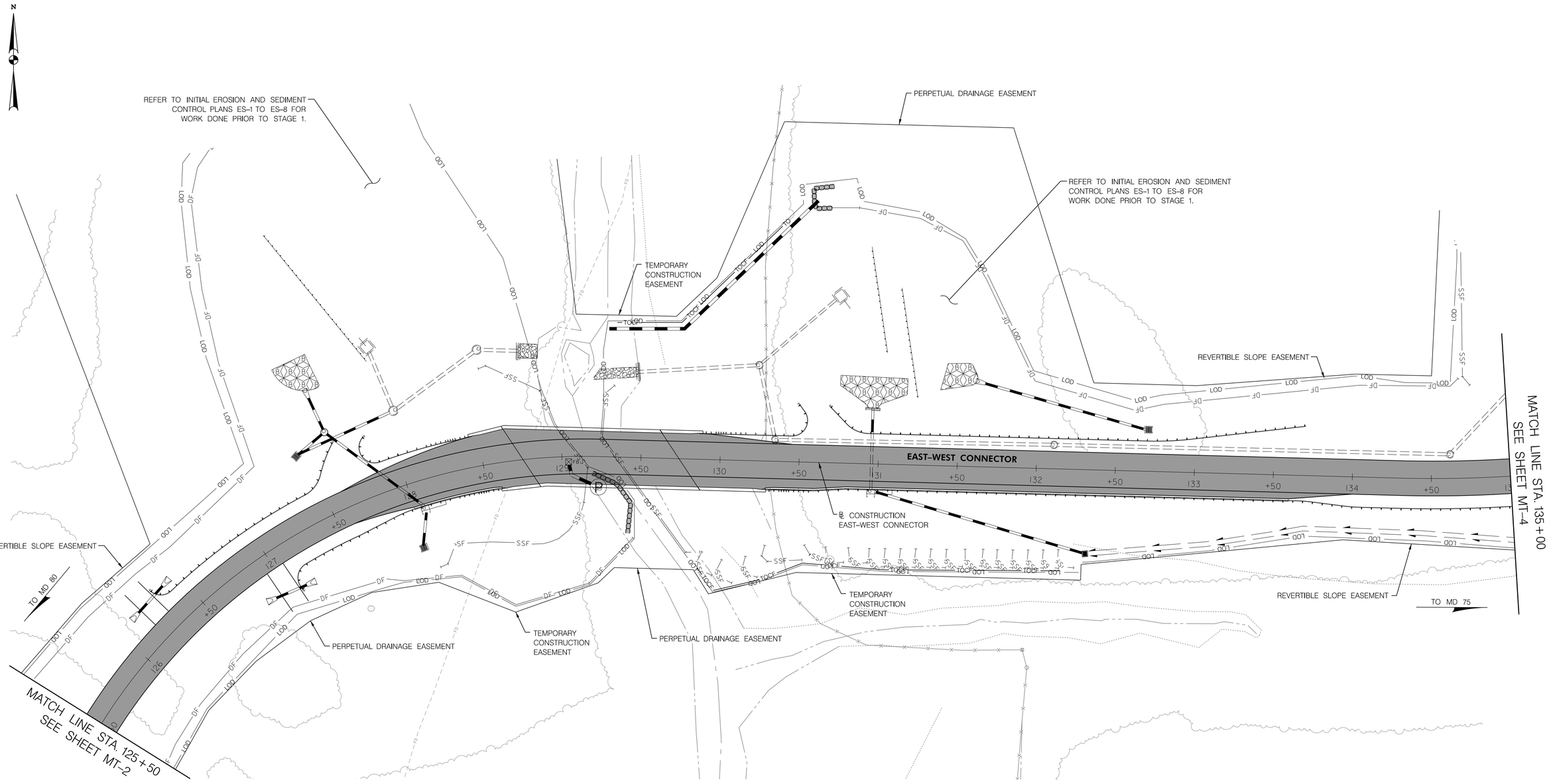
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 1

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 29 OF 226

BY: AKR - PLOTTED: 10/19/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\MT-P102.ENC.dgn



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN (PVMS)
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS (OR)
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER (OR)
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-3

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

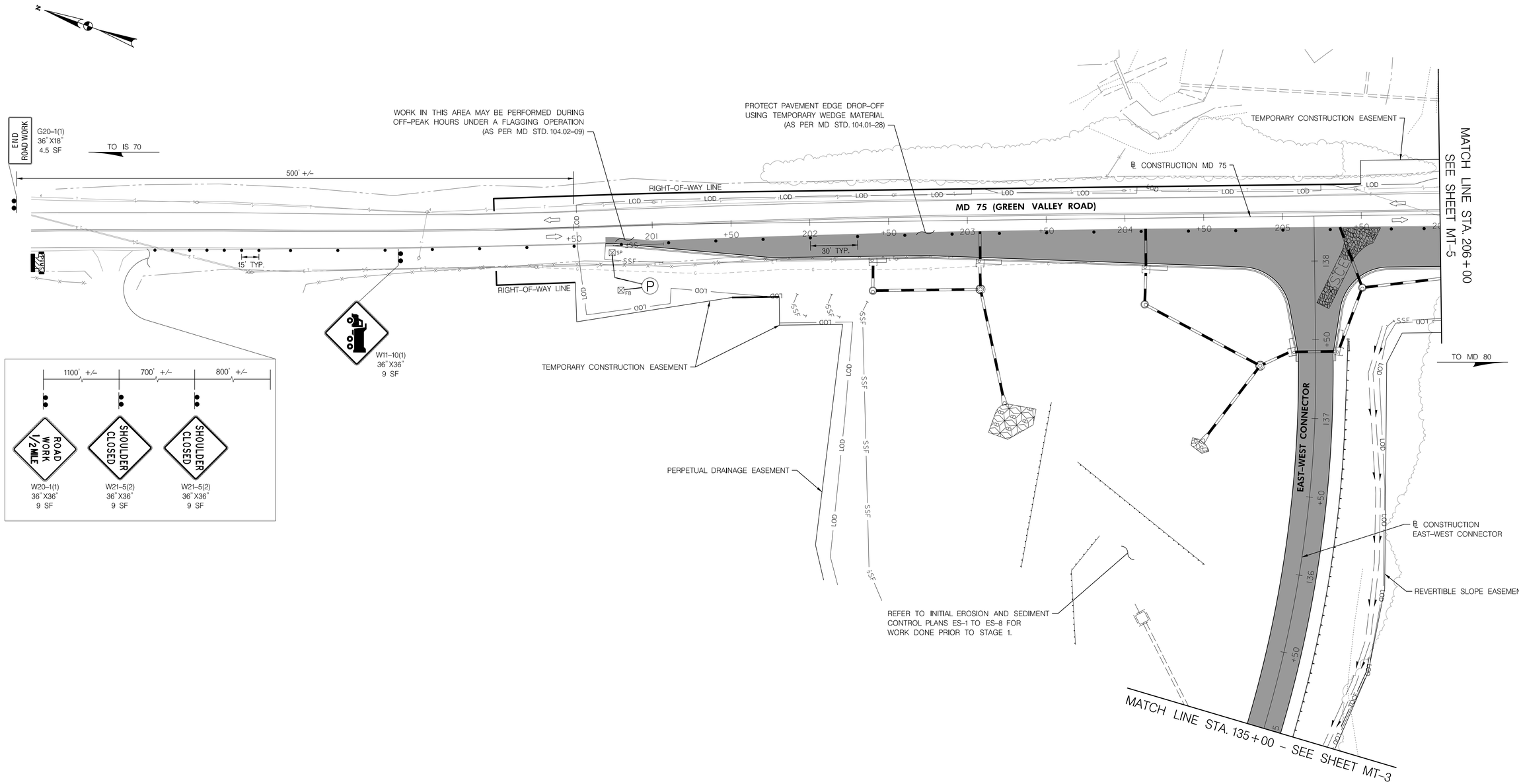
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 1

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 30 OF 226

BY: AKR - PLOTTED: 10/19/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-PI03_EWC.dgn



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- PROPOSED SIGN
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS OR
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER OR
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED

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- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
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STATE OF MARYLAND — JOHN JACKSON WELTY — No. 24828 — PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-4

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

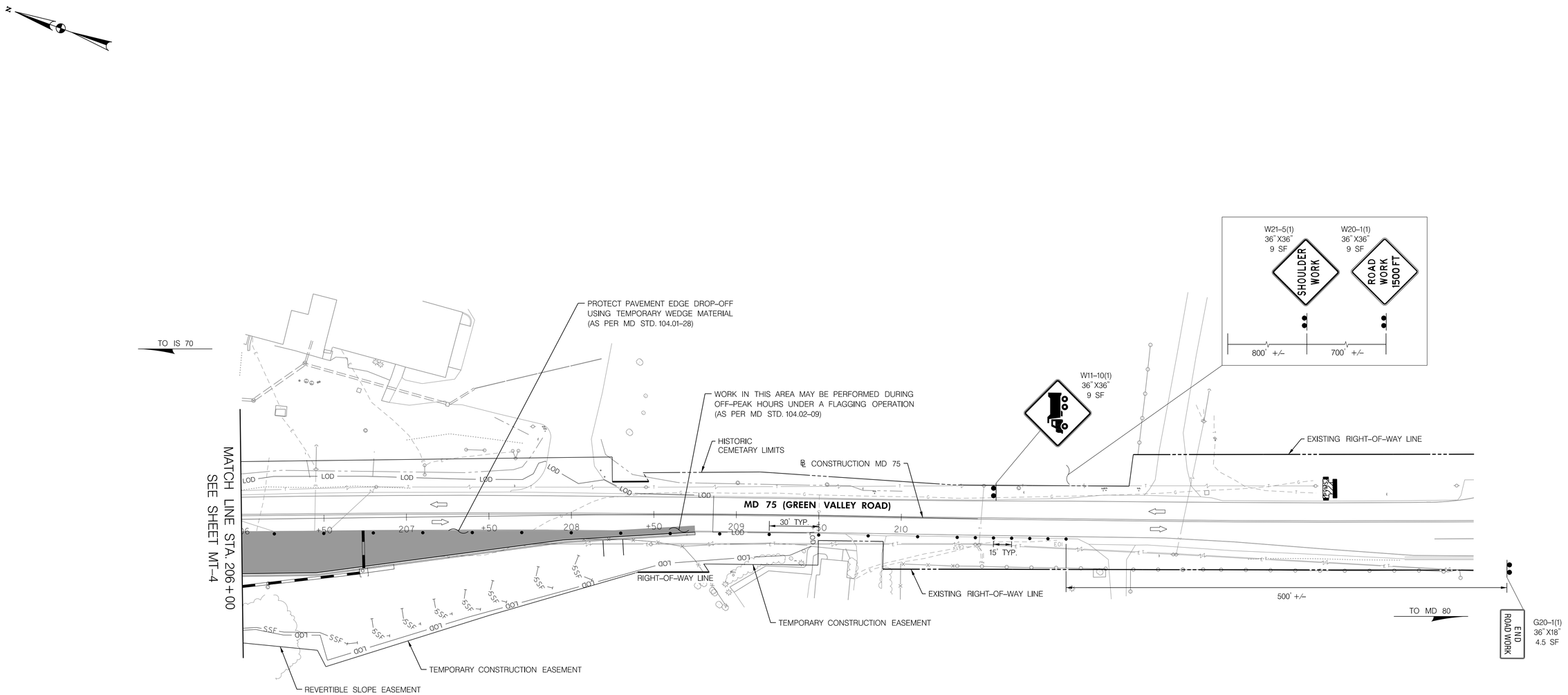
MAINTENANCE OF TRAFFIC PLAN STAGE 1

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 31 OF 226

BY: AKR - 10/19/2022
PLOTTED:
FILE:U:\Frederick County - Monrovia E-W Connector\Design Files\MT-P104_EWC.dgn



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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON REED — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-5

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 1

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 32 OF 226

BY: AKR - PLOTTED: 10/19/2022
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\MT-PI05_EWC.dgn

SEQUENCE OF CONSTRUCTION – STAGE 2

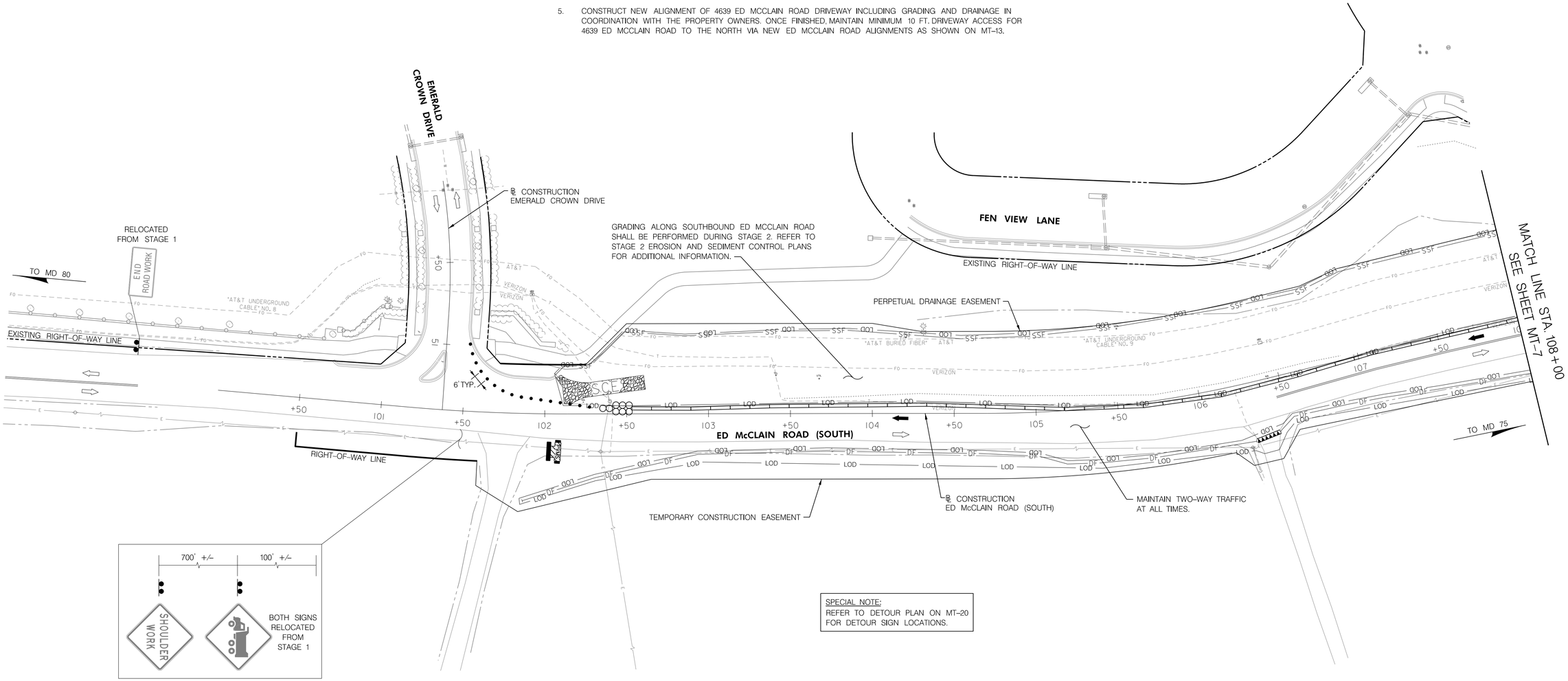
1. AT LEAST FOUR WEEKS IN ADVANCE OF THE ANTICIPATED STAGE 2 ROAD CLOSURES, BEGIN THE ROADWAY CLOSURE NOTIFICATION AS DESCRIBED ON MT-1. AT THIS TIME, DIRECTLY CONTACT THE MDOT SHA DISTRICT 7 TRAFFIC DIVISION AND THE FREDERICK COUNTY DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT REGARDING THE ALLOWABLE STAGE 2 CLOSURE DURATION AND SCHEDULE. APPLY FOR A FREDERICK COUNTY RIGHT-OF-WAY PERMIT THROUGH THE TRAFFIC AND PERMITS SECTION.

2. TWO WEEKS PRIOR TO THE CLOSURES, INSTALL PORTABLE VARIABLE MESSAGE SIGNS. PVMSs SHALL BE PLACED ACCORDING TO STD. NO. MD 104.01-22 OR AS DIRECTED BY THE ENGINEER.

3. INSTALL ALL STAGE 2 ADVANCE WARNING, GUIDE, AND DETOUR SIGNS AND CLOSE ED MCCLAIN ROAD TO TRAFFIC BETWEEN DRIVEWAYS FROM APPROX. STA. 118+35 TO STA. 31+50 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER. MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS FOR 4639 ED MCCLAIN ROAD TO THE SOUTH. EAST-WEST CONNECTOR SHALL REMAIN CLOSED TO TRAFFIC.

4. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 117+50 TO STA. 120+00 AND ED MCCLAIN ROAD NORTH FROM STA. 30+50 TO STA. 31+50 INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD NORTH AND SOUTHBOUND ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.

5. CONSTRUCT NEW ALIGNMENT OF 4639 ED MCCLAIN ROAD DRIVEWAY INCLUDING GRADING AND DRAINAGE IN COORDINATION WITH THE PROPERTY OWNERS. ONCE FINISHED, MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS FOR 4639 ED MCCLAIN ROAD TO THE NORTH VIA NEW ED MCCLAIN ROAD ALIGNMENTS AS SHOWN ON MT-13.



SPECIAL NOTE:
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEVEN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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MT-6

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

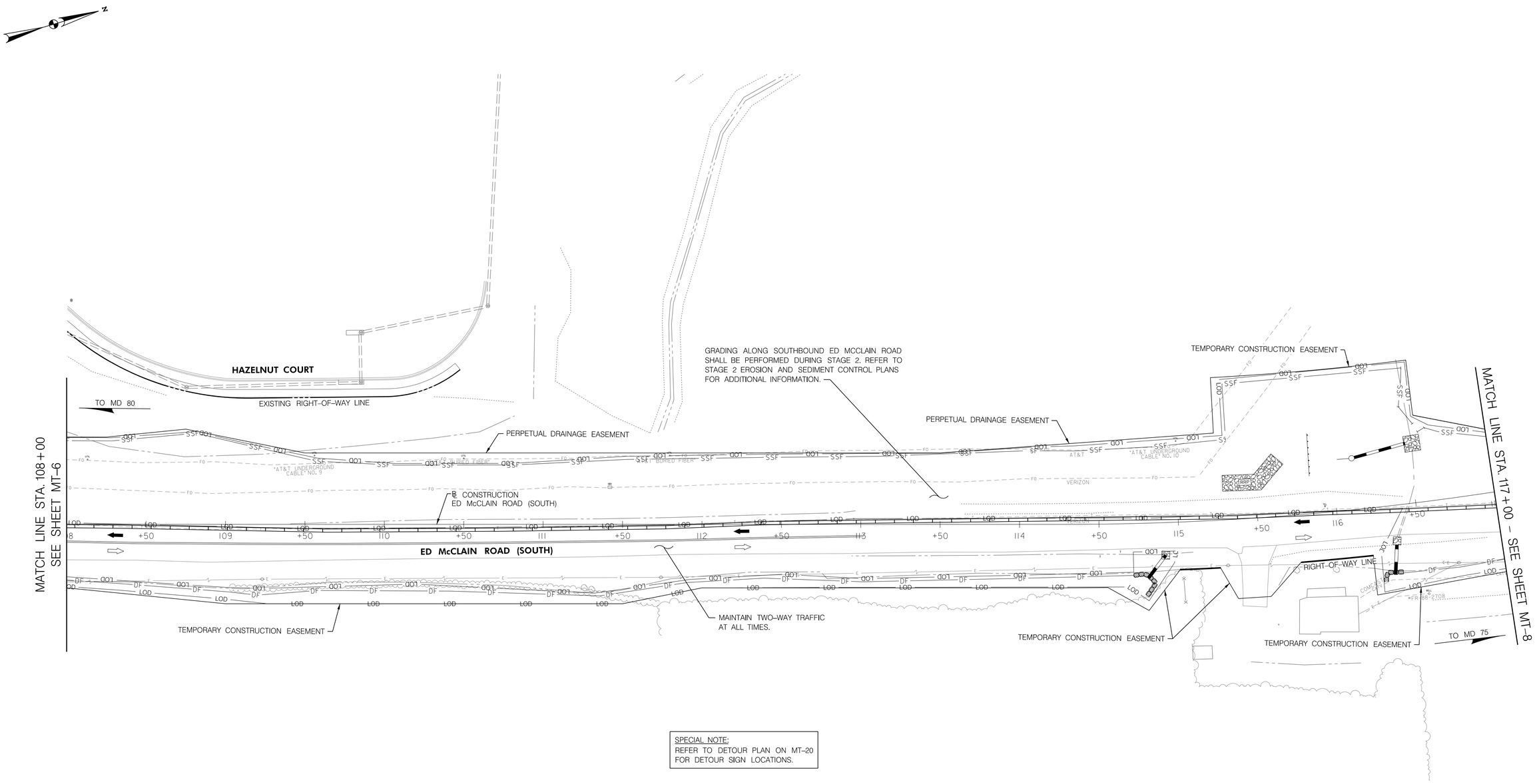
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 2

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 33 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\MT-P206_EWC.dgn



SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT-20 FOR DETOUR SIGN LOCATIONS.

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STATE OF MARYLAND — JOHN JACKSON HEARD — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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MT-7

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

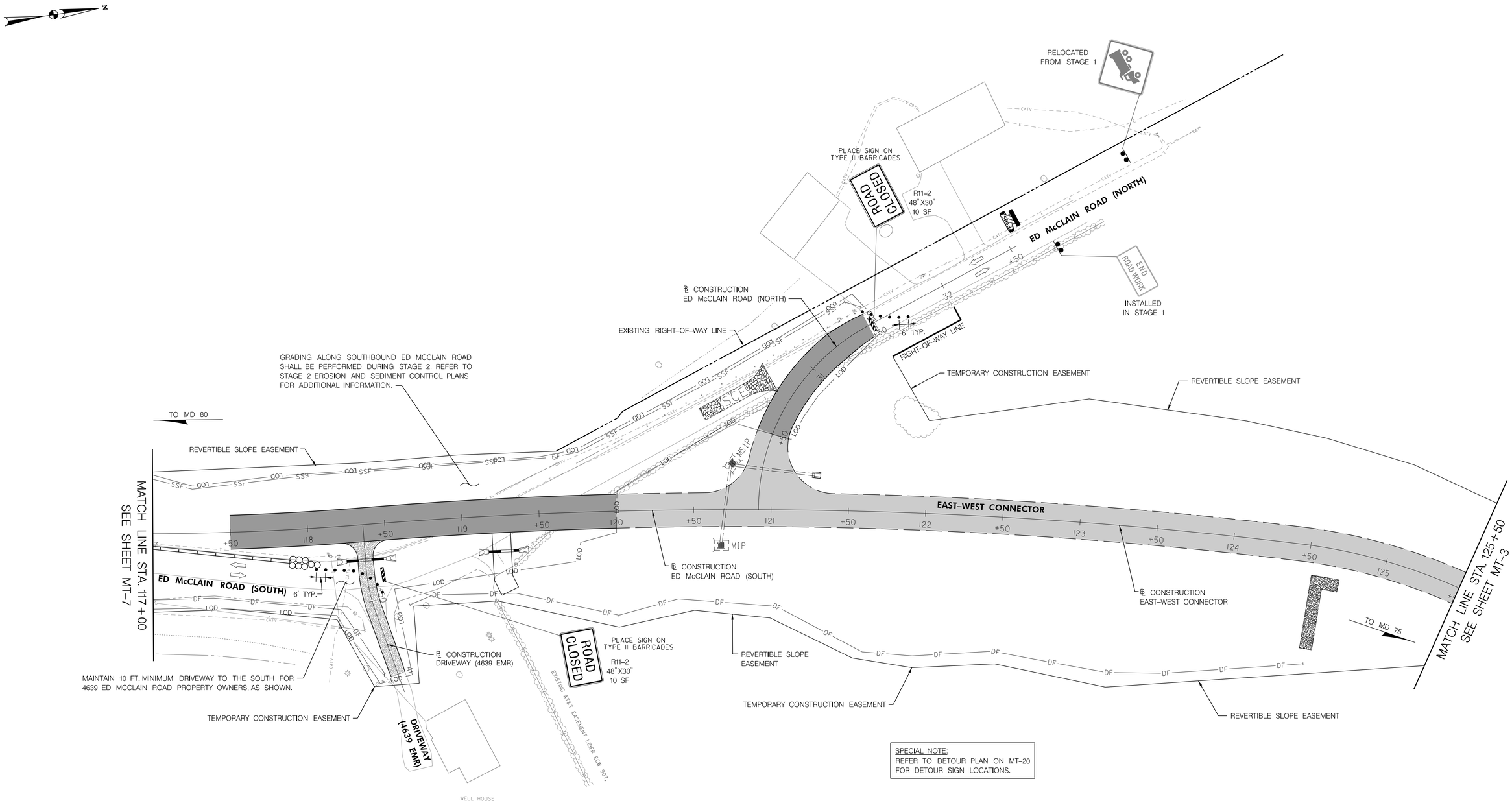
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 2

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 34 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\MT-P207 EWC.dgn



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STATE OF MARYLAND — JOHN HUDSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

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MT-8

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 2

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 35 OF 226

BY: AKR - PLOTTED: 10/19/2022
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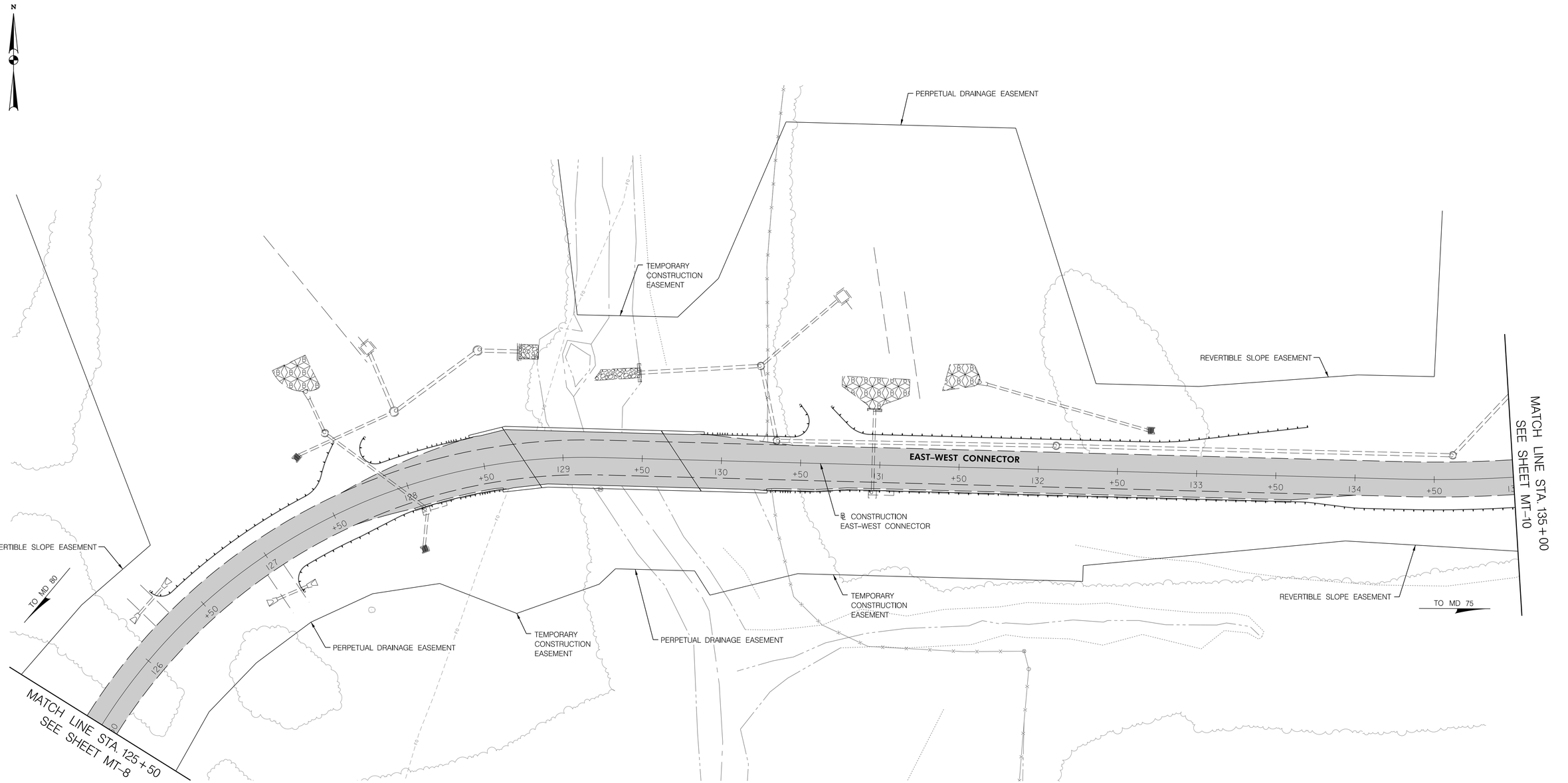

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STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
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MT-9

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 2

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 36 OF 226

BY: AKR - PLOTTED:10/19/2022
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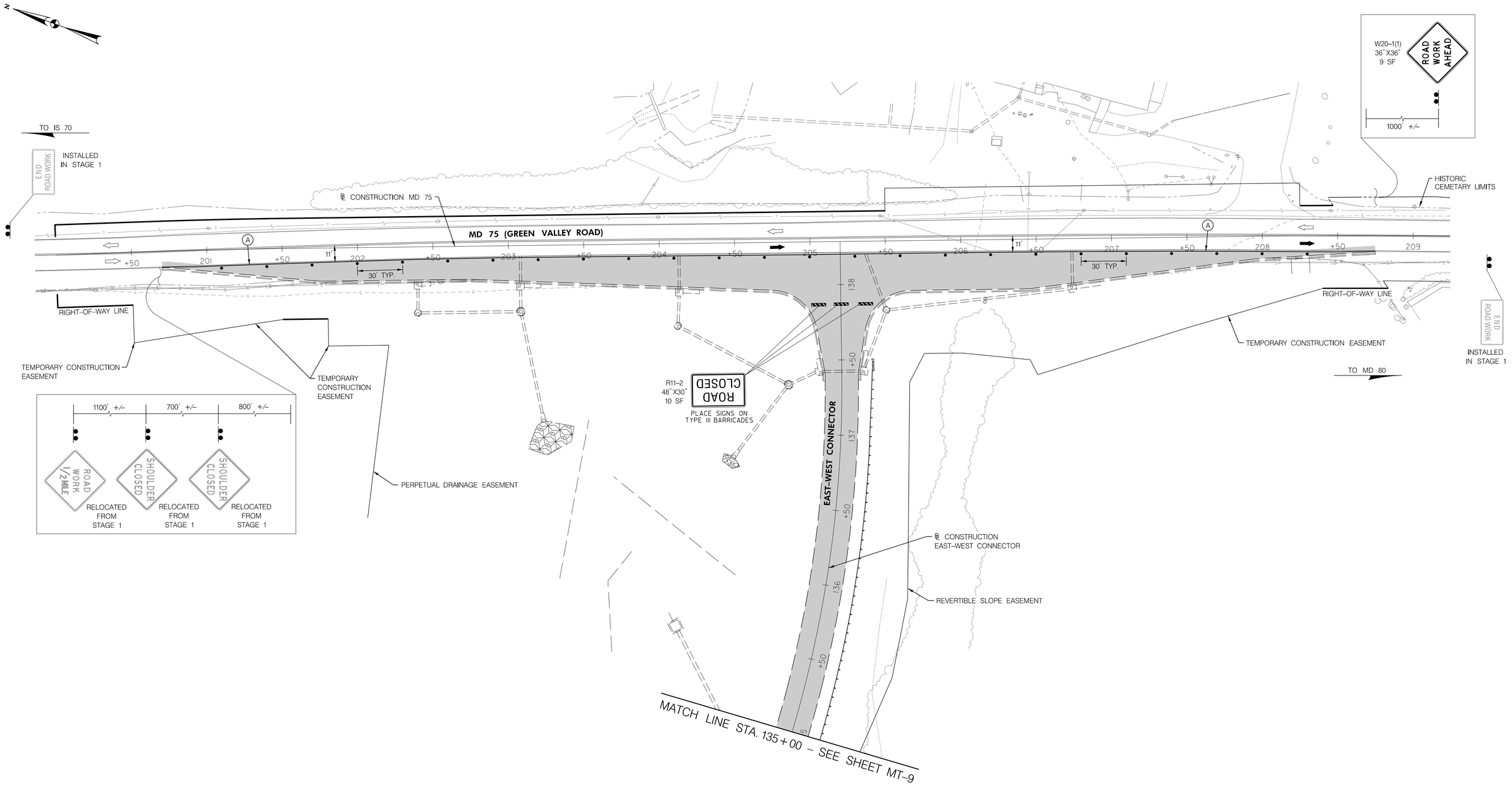

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- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS OR
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER OR
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-10

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 2

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 37 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pMT-P210_EWC.dgn

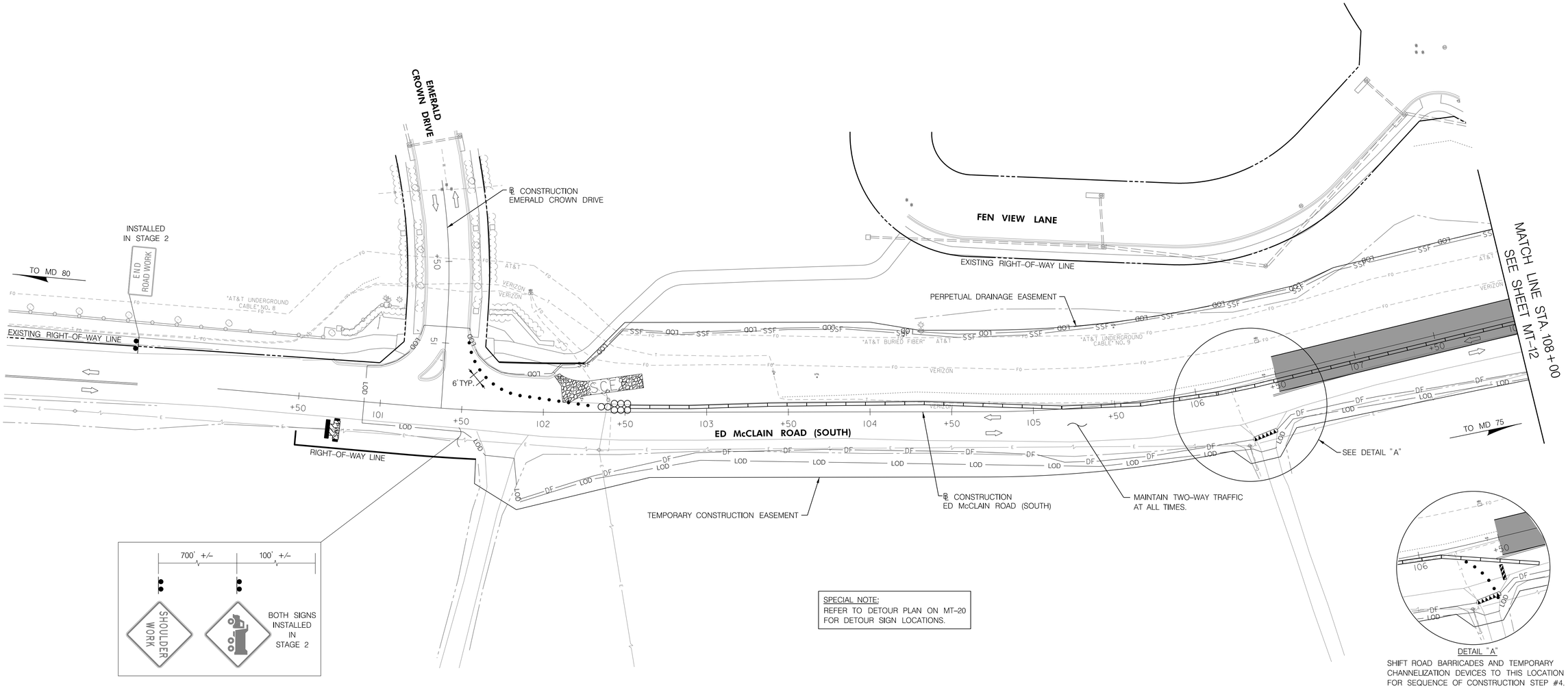
SEQUENCE OF CONSTRUCTION – STAGE 3A

1. RELOCATE ANY ADVANCE WARNING, GUIDE, AND DETOUR SIGNS INSTALLED IN STAGE 2 TO STAGE 3A LOCATIONS. SHIFT ROAD CLOSURE OF ED MCCLAIN ROAD BETWEEN DRIVEWAYS FROM APPROX. STA. 115+50 TO STA. 118+35 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER.

2. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 115+00 TO STA. 117+50 INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.

3. CONSTRUCT NEW ALIGNMENT OF DRIVEWAY LOCATED AT APPROX. STA. 115+50 INCLUDING GRADING AND DRAINAGE IN COORDINATION WITH THE PROPERTY OWNERS. ONCE FINISHED, MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS TO THE NORTH VIA NEW ED MCCLAIN ROAD ALIGNMENTS AS SHOWN IN DETAIL "B" ON MT-12.

4. SHIFT ROAD CLOSURE OF ED MCCLAIN ROAD SOUTH BETWEEN DRIVEWAYS FROM APPROX. STA. 106+50 TO STA. 115+25 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER AS SHOWN IN DETAILS "A" AND "B" ON MT-11 AND MT-12, RESPECTIVELY. RELOCATE ADVANCE WARNING, GUIDE, AND DETOUR SIGNS AS NEEDED. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 106+50 TO STA. 115+00 INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.



SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT-20 FOR DETOUR SIGN LOCATIONS.

DETAIL "A"
SHIFT ROAD BARRICADES AND TEMPORARY CHANNELIZATION DEVICES TO THIS LOCATION FOR SEQUENCE OF CONSTRUCTION STEP #4.

SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- OR DRUMS
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- OR TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELTZ — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-11

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

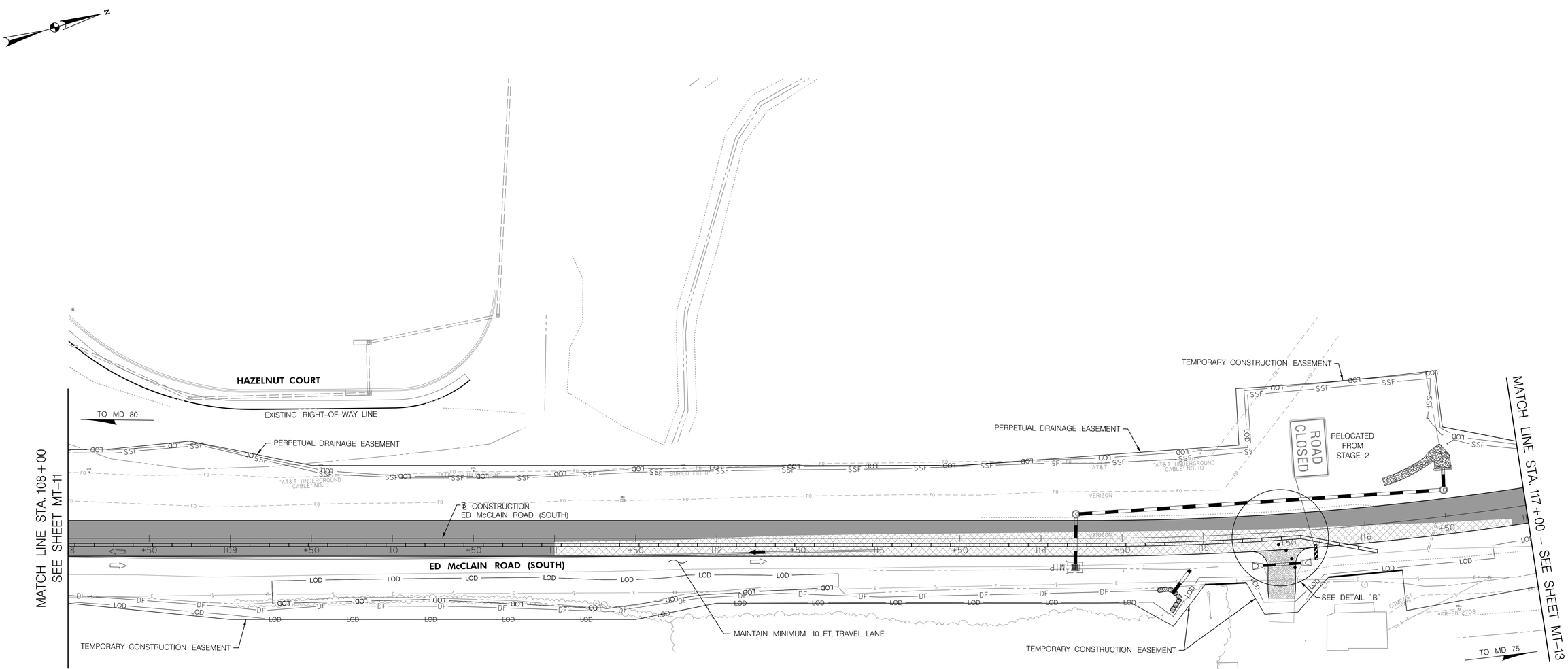
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3A

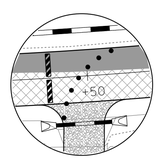
DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 38 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-P3II_ENG.dgn



SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT-20 FOR DETOUR SIGN LOCATIONS.



DETAIL "B"

SHIFT ROAD BARRICADES AND TEMPORARY CHANNELIZATION DEVICES TO THIS LOCATION FOR SEQUENCE OF CONSTRUCTION STEPS #3 AND #4.

SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-12

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3A

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 39 OF 226

BY: AKR -
PLOTTED:10/19/2022
FILE:S:\Frederick County - Monrovia E-W Connector\Design Files\MT-P3\2_ENC.dgn

N

TO MD 80

REVERTIBLE SLOPE EASEMENT

ROAD CLOSED

RELOCATED FROM STAGE 2

MATCH LINE STA. 117+00
SEE SHEET MT-12

ED McCLAIN ROAD (SOUTH)

118 +50 119 +50 120 +50 121 +50 122 +50 123 +50 124 +50 125

LOD

35'R

6' TYP.

℄ CONSTRUCTION
ED McCLAIN ROAD (SOUTH)

EAST–WEST CONNECTOR

ROAD CLOSED

PLACE SIGNS ON TYPE III BARRICADES

R11–2
48" X30"
10 SF

℄ CONSTRUCTION
EAST–WEST CONNECTOR

TO MD 75

℄ CONSTRUCTION
ED McCLAIN ROAD (NORTH)

EXISTING RIGHT–OF–WAY LINE

ED McCLAIN ROAD (NORTH)

END ROAD WORK

INSTALLED IN STAGE 1

RIGHT–OF–WAY LINE

TEMPORARY CONSTRUCTION EASEMENT

REVERTIBLE SLOPE EASEMENT

℄ CONSTRUCTION
DRIVEWAY (4639 EMR)

DRIVEWAY (4639 EMR)

EXISTING AT&T EASEMENT LIBER ECW 907

WELL HOUSE

REVERTIBLE SLOPE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REVERTIBLE SLOPE EASEMENT

SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT–20 FOR DETOUR SIGN LOCATIONS.

SCALE: 1" = 30'

SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS OR
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER OR
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

MT-13

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3A

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 40 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-P313_EMC.dgn

SEQUENCE OF CONSTRUCTION – STAGE 3B

1. RELOCATE ANY ADVANCE WARNING, GUIDE, AND DETOUR SIGNS INSTALLED IN STAGE 3A TO STAGE 3B LOCATIONS. INSTALL PVMS FOR STAGE 3B. SHIFT ROAD CLOSURE OF ED MCCLAIN ROAD BETWEEN DRIVEWAYS FROM APPROX. STA. 101+75 TO STA. 106+50 USING BARRICADES AND TEMPORARY CHANNELIZATION DEVICES AND/OR TEMPORARY DOUBLE FACE CONCRETE BARRIER.

2. CONSTRUCT PROPOSED FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 106+15 TO STA. 106+50 AND NEW ALIGNMENT OF DRIVEWAY LOCATED AT APPROX. STA. 106+40 INCLUDING GRADING AND DRAINAGE IN COORDINATION WITH THE PROPERTY OWNERS. ONCE FINISHED, MAINTAIN MINIMUM 10 FT. DRIVEWAY ACCESS TO THE NORTH VIA NEW ED MCCLAIN ROAD ALIGNMENTS.

3. CONSTRUCT REMAINING FULL-DEPTH PORTION OF ED MCCLAIN ROAD SOUTH FROM APPROX. STA. 102+00 TO STA. 106+15. PERFORM ANY REMAINING WEDGE, LEVEL, AND ROADSIDE WORK INCLUDING GRADING AND DRAINAGE ALONG ED MCCLAIN ROAD SOUTH. OMIT THE FINAL SURFACE COURSE ON ANY NEW FULL-DEPTH PAVEMENT.

4. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-01), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), REMOVE ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY DOUBLE FACE CONCRETE BARRIER ALONG ED MCCLAIN ROAD SOUTH. INSTALL TEMPORARY PAVEMENT MARKINGS, REOPEN ED MCCLAIN ROAD SOUTH AND SHIFT TRAFFIC ONTO THE ULTIMATE ALIGNMENT. EAST-WEST CONNECTOR SHALL REMAIN CLOSED TO TRAFFIC.

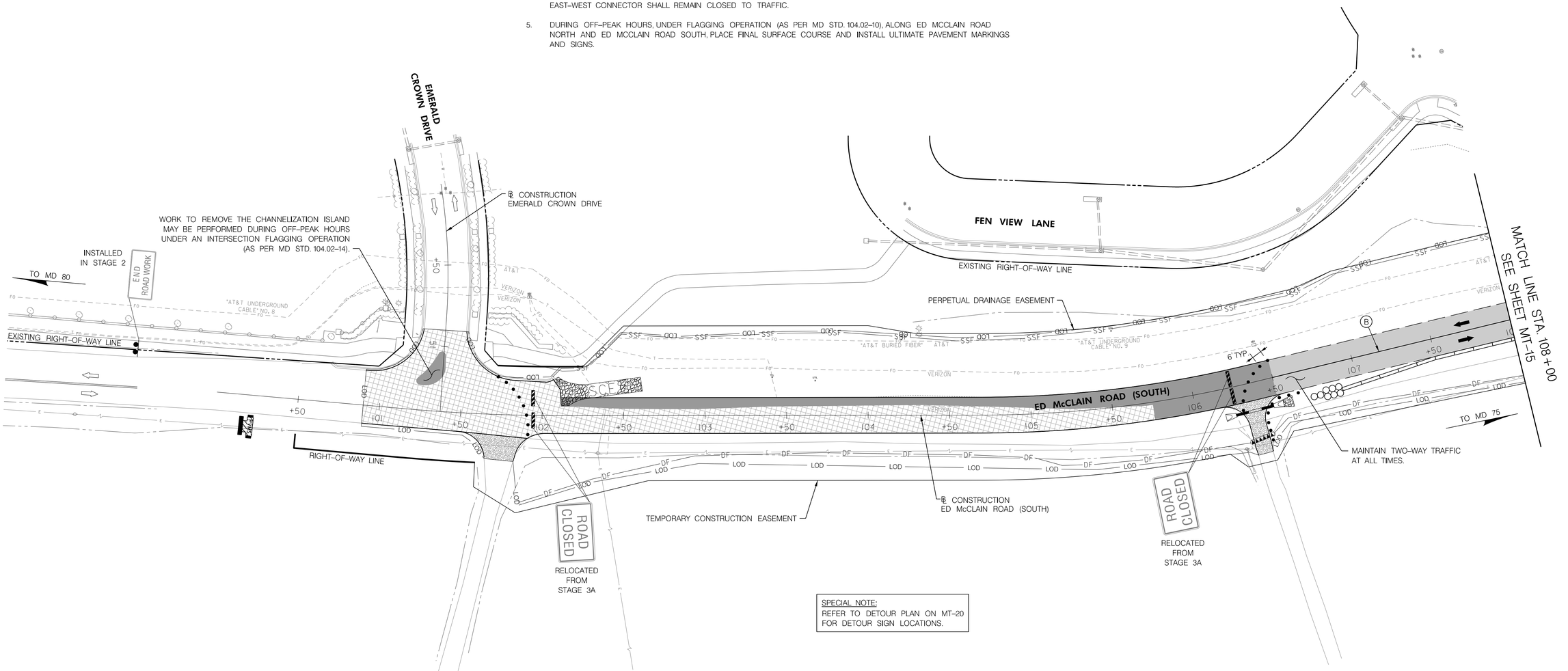
5. DURING OFF-PEAK HOURS, UNDER FLAGGING OPERATION (AS PER MD STD. 104.02-10), ALONG ED MCCLAIN ROAD NORTH AND ED MCCLAIN ROAD SOUTH, PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS.

SEQUENCE OF CONSTRUCTION – STAGE 3B (CONT.)

6. DURING OFF-PEAK HOURS, UNDER A SHOULDER CLOSURE (AS PER MD STD. 104.02-01) AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), SHIFT MD 75 TRAFFIC EAST ONTO NEWLY CONSTRUCTED SOUTHBOUND WIDENING. INSTALL TEMPORARY PAVEMENT MARKINGS AND CHANNELIZATION DEVICES. PERFORM CONSTRUCTION ALONG MD 75 NORTHBOUND INCLUDING GRADING AND DRAINAGE.

7. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-01), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), REMOVE ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, AND CHANNELIZATION DEVICES ALONG NORTHBOUND MD 75. INSTALL TEMPORARY PAVEMENT MARKINGS AND SHIFT MD 75 TRAFFIC TO ULTIMATE ALIGNMENT.

8. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-01), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-09), ALONG NORTHBOUND AND SOUTHBOUND MD 75, PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS. PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS ALONG EAST-WEST CONNECTOR. OPEN EAST-WEST CONNECTOR TO TRAFFIC.



SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT-20 FOR DETOUR SIGN LOCATIONS.

SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN (PVMS)
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS (OR)
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER (OR)
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

PROFESSIONAL CERTIFICATION. I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24828 EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-14

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

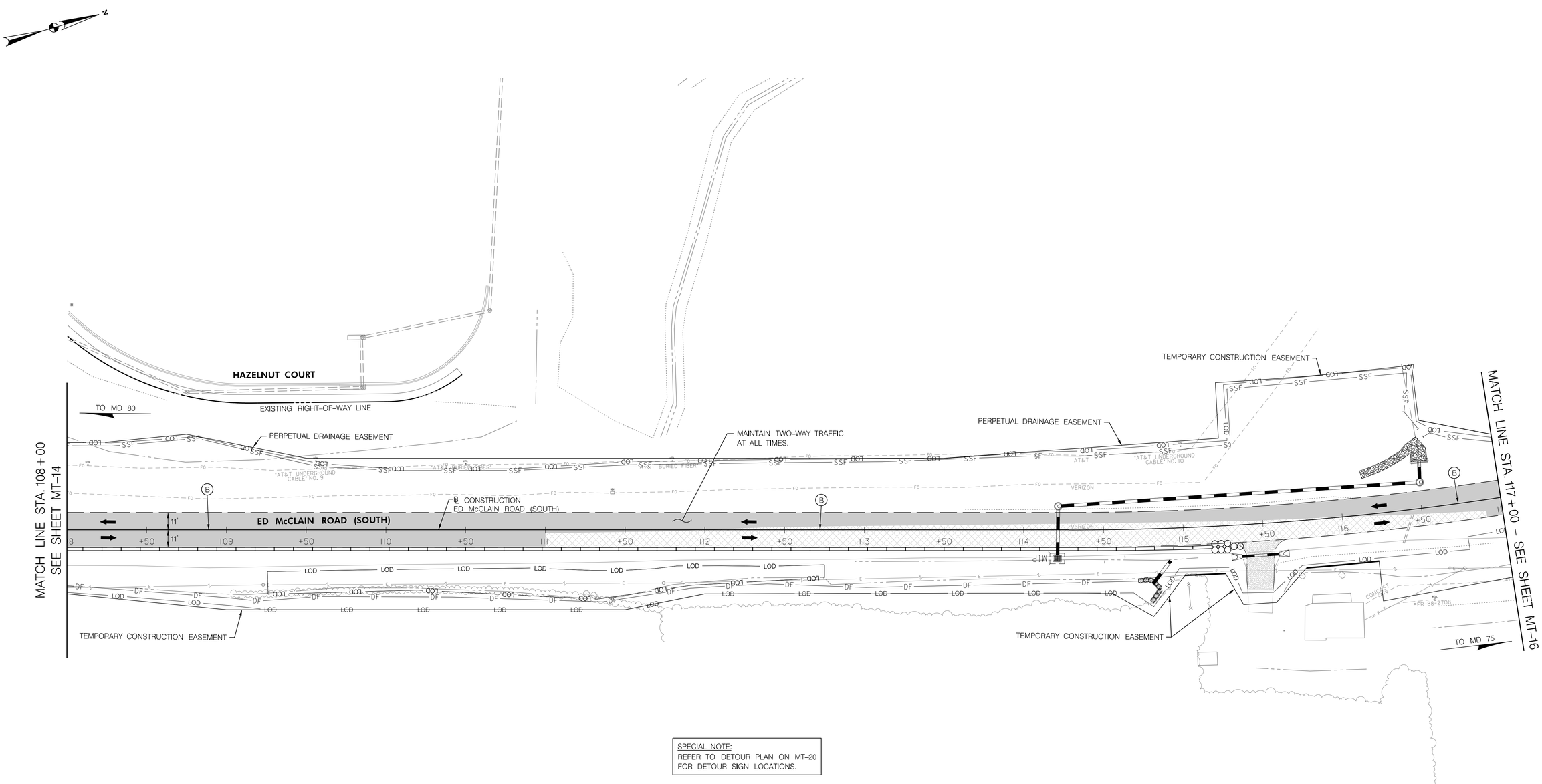
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3B

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 41 OF 226

BY: AKR - 10/19/2022
PLOTTED:
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-P314_EWC.dgn



SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT-20 FOR DETOUR SIGN LOCATIONS.

SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS OR
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER OR
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

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STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-15

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

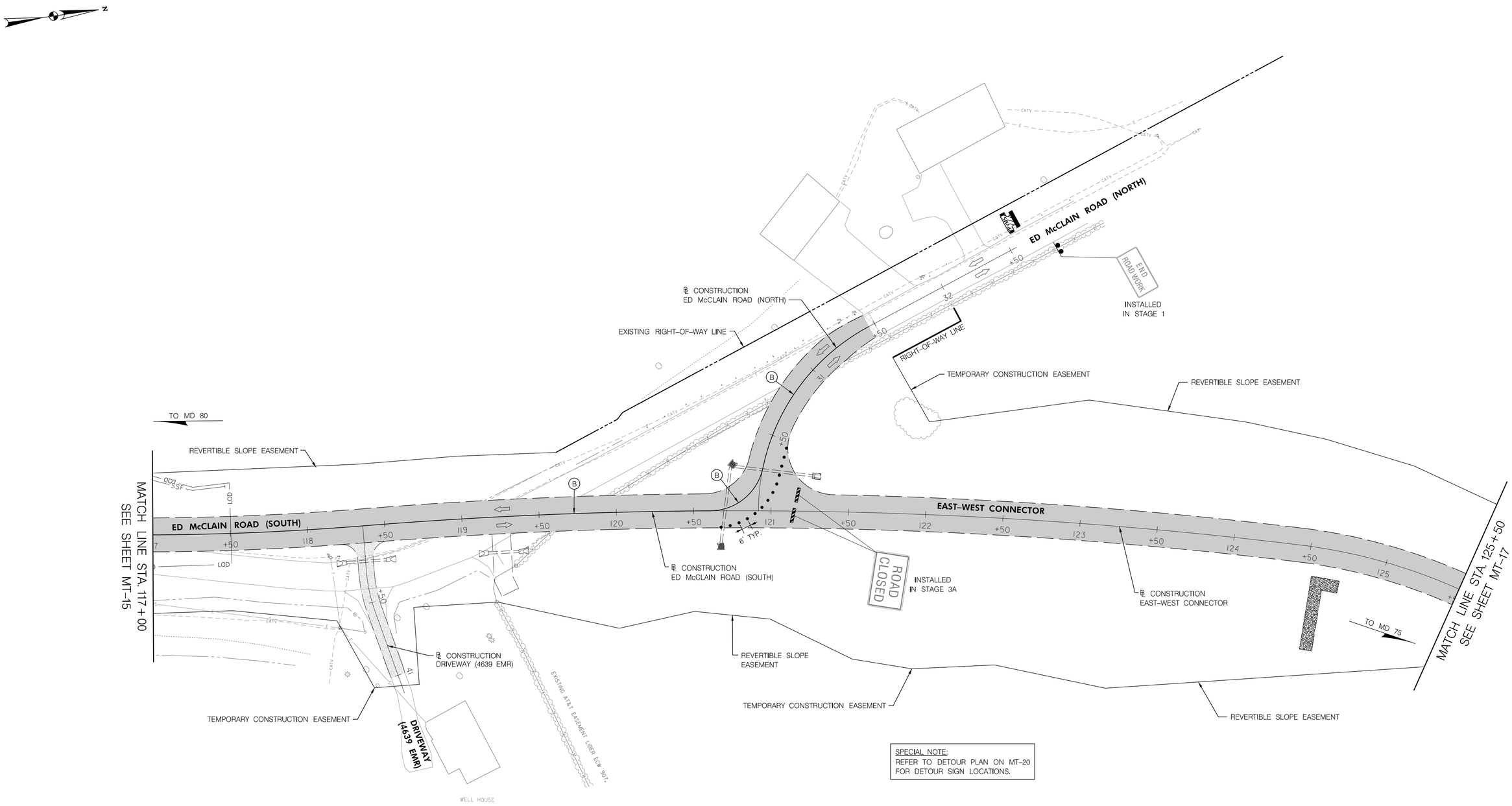
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3B

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 42 OF 226

BY: AKR - 10/19/2022
PLOTTED:
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-P315_ENC.dgn



SPECIAL NOTE:
REFER TO DETOUR PLAN ON MT-20 FOR DETOUR SIGN LOCATIONS.

SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PREVIOUS STAGE WEDGE, LEVEL, AND/OR RESURFACING
- CURRENT STAGE DRIVEWAY AGGREGATE
- PREVIOUS STAGE DRIVEWAY AGGREGATE
- TEMPORARY SIGN AND POST
- PROPOSED SIGN (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (40 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- CRASH CUSHION SAND FILLED PLASTIC BARRELS (40 MPH)
- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)

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) 24" WHITE PAVEMENT MARKING PAINT – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

MT-16

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

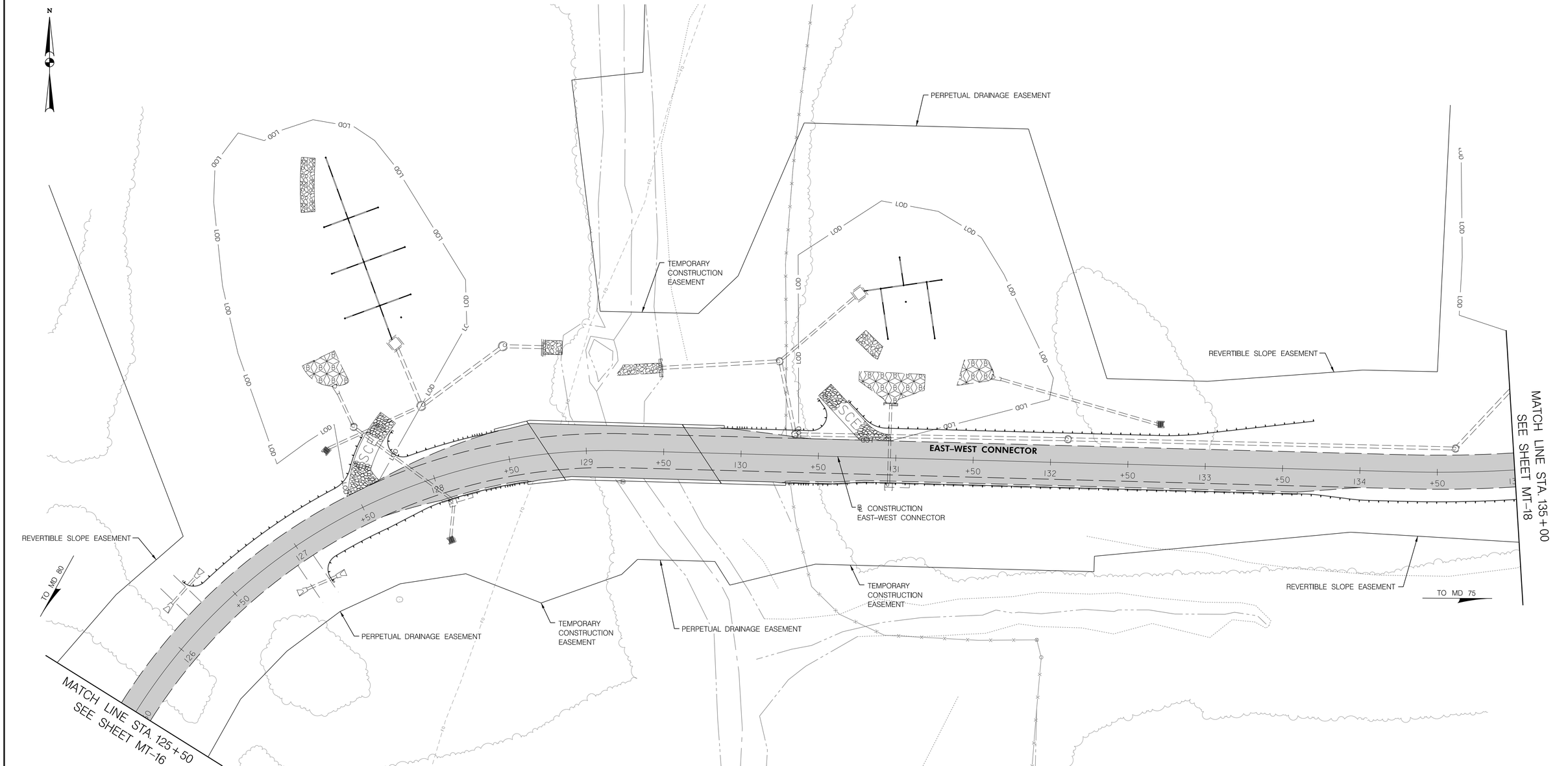
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN
STAGE 3B

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 43 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-P316_EMC.dgn



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- PROPOSED SIGN (ROAD WORK)
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- TYPE E END TREATMENT (40 MPH)
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- DRUMS (OR)
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STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

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RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

MT-17

FREDERICK COUNTY, MARYLAND

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

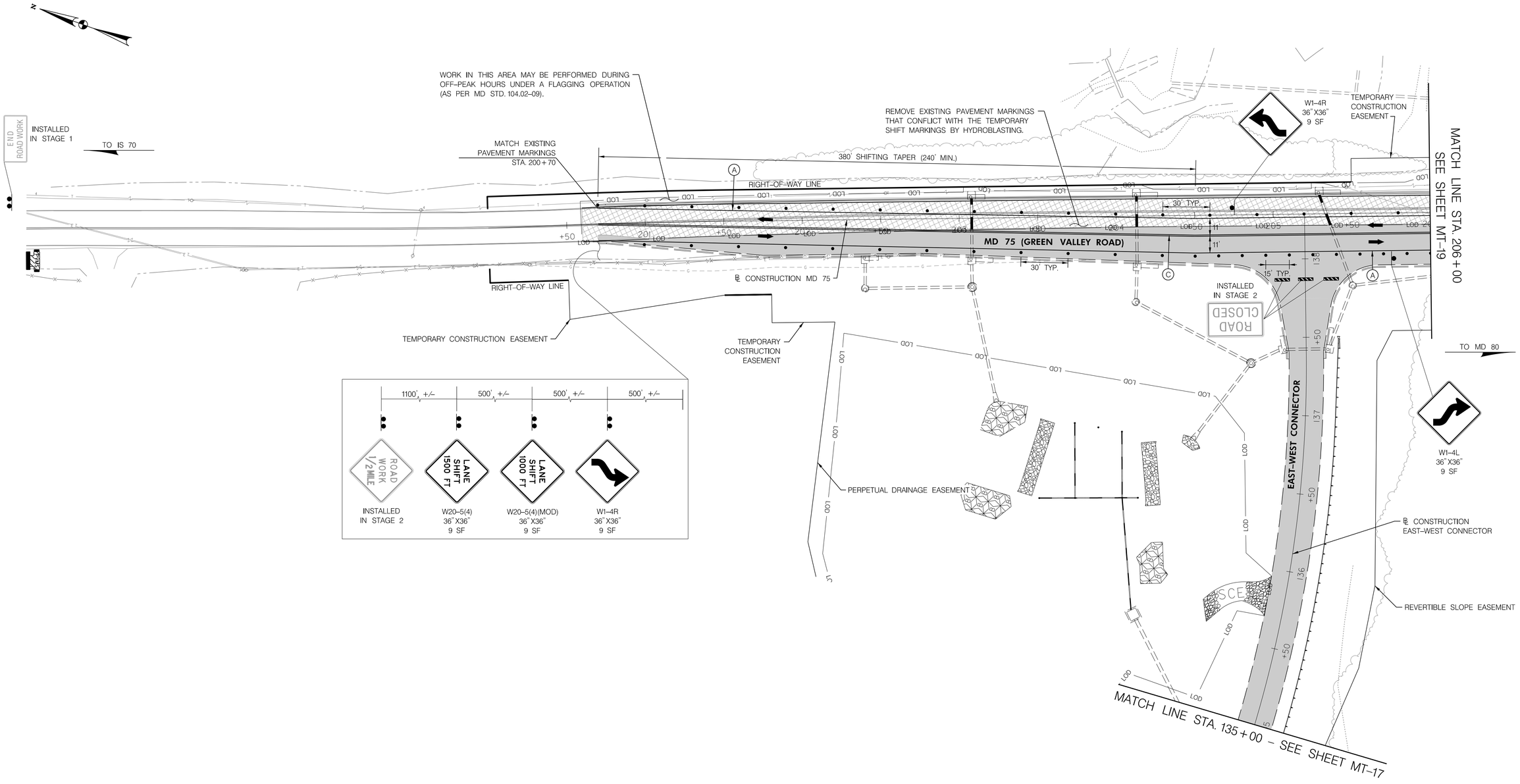
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3B

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 44 OF 226

BY: AKR -
PLOTTED:10/19/2022
FILE:S:\Frederick County - Monrovia E-W Connector\Design Files\MT-P3\7 ENC.dgn



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- TYPE III BARRICADE
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER OR
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STATE OF MARYLAND · JOHN JACKSON WELSH · No. 24828 · PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

MT-18

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

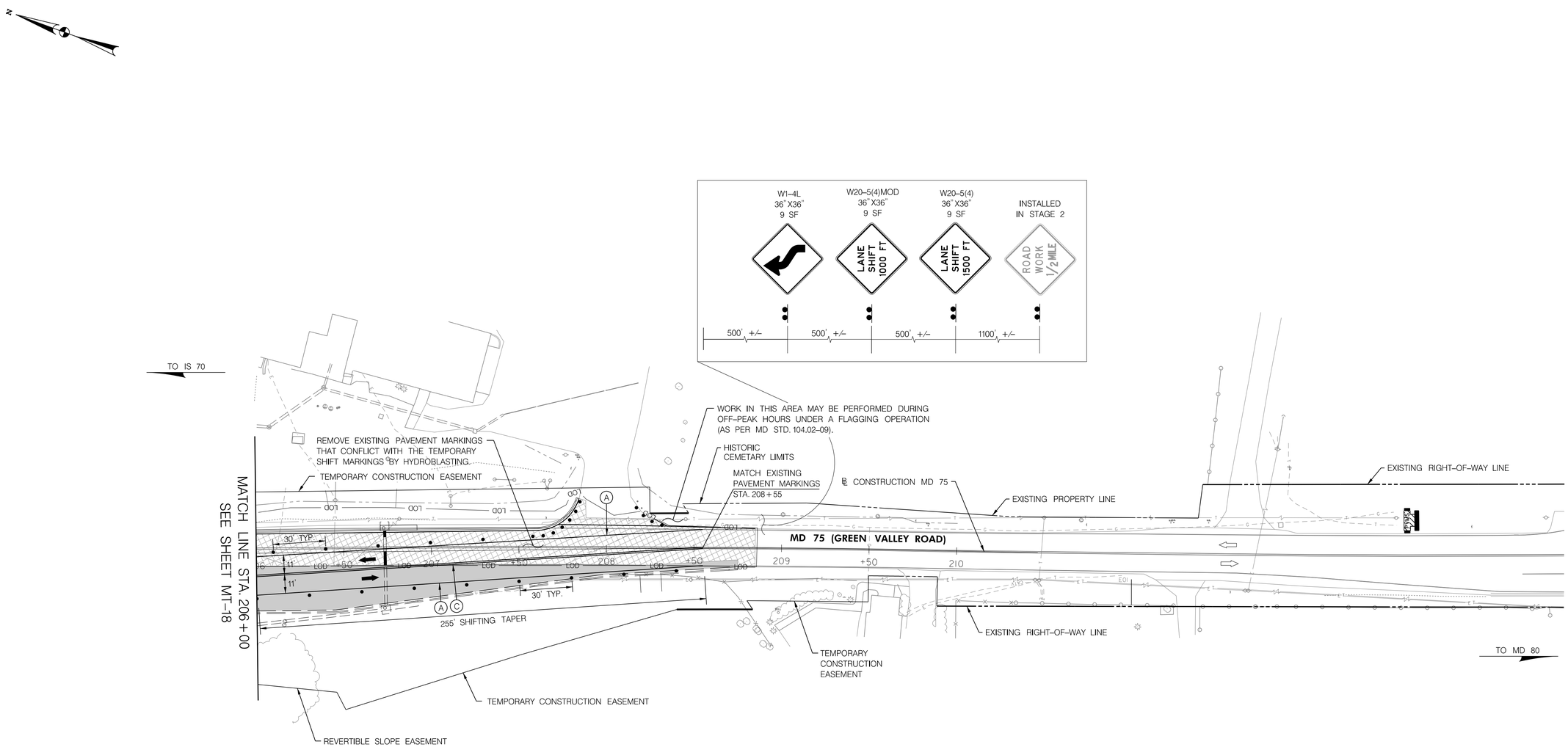
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN STAGE 3B

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 45 OF 226

BY: AKR - 10/19/2022
PLOTTED:
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\MT-P318_EWC.dgn



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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON TREECE — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

MT-19

FREDERICK COUNTY, MARYLAND

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

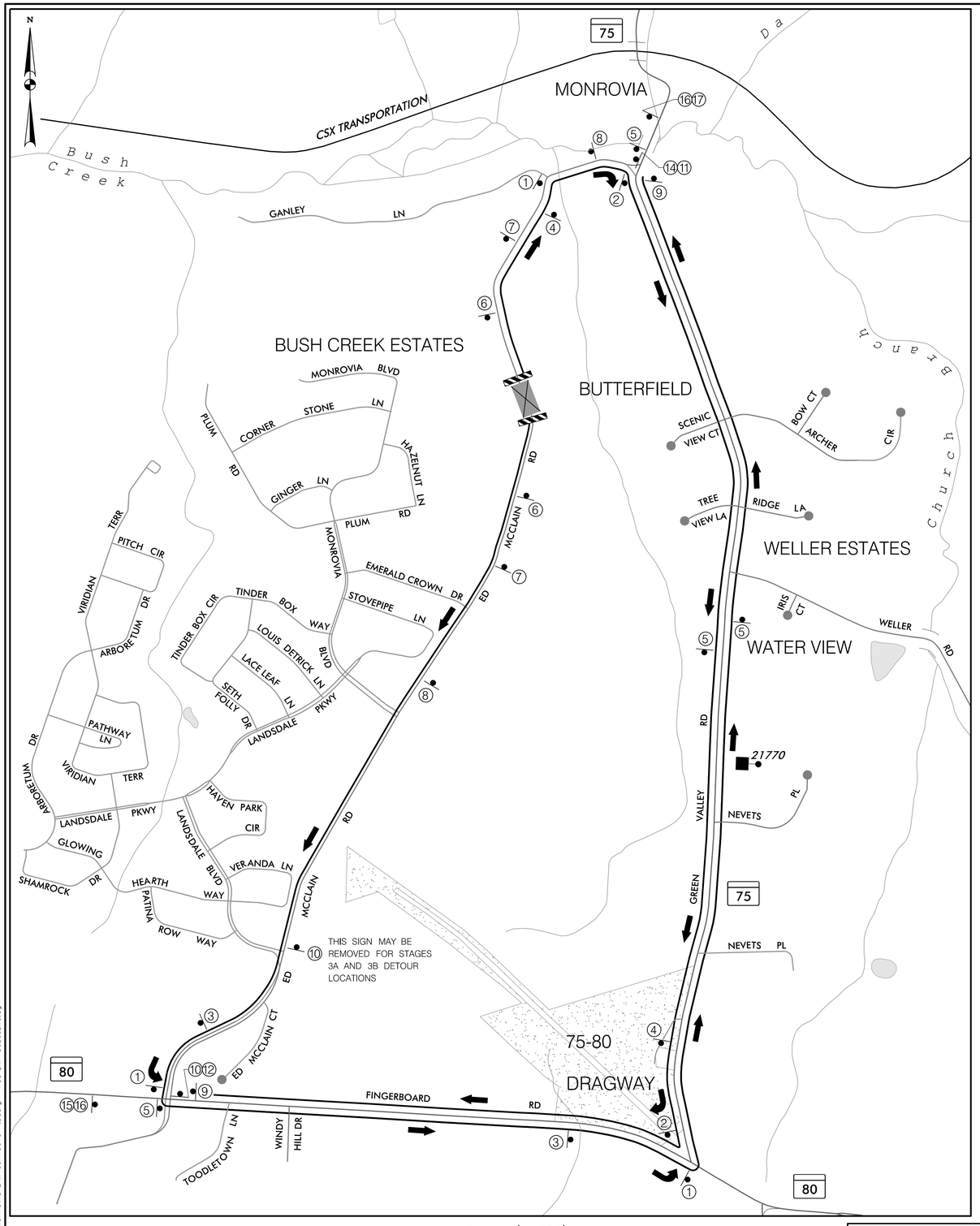
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

MAINTENANCE OF TRAFFIC PLAN
STAGE 3B

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 46 OF 226

BY: AKR - PLOTTED: 10/19/2022
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\MT-P319_ENC.dgn



MAP SCALE: 1" = 500'

DETOUR SIGNS

① ED MCCLAIN ROAD / DETOUR ←
M4–9(1) 30"X12"
M4–9L 30"X24"

② ED MCCLAIN ROAD / DETOUR →
M4–9(1) 30"X12"
M4–9R 30"X24"

③ ED MCCLAIN ROAD / DETOUR ↰
M4–9(1)(MOD) 30"X12"
M4–9L(MOD) 30"X24"

④ ED MCCLAIN ROAD / DETOUR ↱
M4–9(1)(MOD) 30"X12"
M4–9R(MOD) 30"X24"

⑤ ED MCCLAIN ROAD / DETOUR ↑
M4–9(1)(MOD) 30"X12"
M4–9L(MOD) 30"X24"

⑥ ROAD CLOSED 800 FT
W20–3(1) 36"X36"

⑦ ROAD CLOSED 1500 FT
W20–3(1) 36"X36"

⑧ ROAD CLOSED 1/2 MILE
W20–3(1) 36"X36"

⑨ END DETOUR
M4–8a 24"X18"

⑩ ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY
R11–3a 60"X30"

⑪ DETOUR ←
M4–10L 48"X18"

⑫ DETOUR →
M4–10R 48"X18"

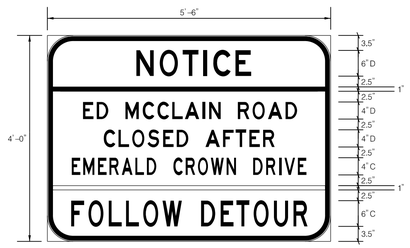
⑬ MOUNTED ON TYPE III BARRICADE
ROAD CLOSED
R11–2 48"X30"

⑭ ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY
R11–3a 60"X30"

LEGEND

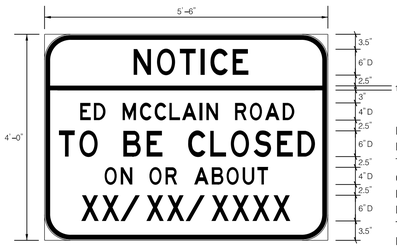
- TEMPORARY TRAFFIC SIGN(S) MOUNTED ON WOODEN SUPPORT
- DETOUR ROUTE
- TYPE III BARRICADE
- WORK AREA (CLOSED SECTION)

⑮



BORDER:
R=6"
TH=1"
OF=0.25"
LEGEND: BLACK
BACKGROUND:
TOP–FLUORESCENT YELLOW
MIDDLE–WHITE
BOTTOM–FLUORESCENT YELLOW

⑯ INSTALL 3 WEEKS PRIOR TO CLOSING ROAD. REMOVE ONCE CLOSURE IS IN PLACE AND REPLACE WITH SIGN #15 OR #17, AS SHOWN.



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BOTTOM–WHITE

⑰

BORDER:
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TH=1"
OF=0.25"
LEGEND: BLACK
BACKGROUND:
TOP–FLUORESCENT YELLOW
MIDDLE–WHITE
BOTTOM–FLUORESCENT YELLOW

SPECIAL NOTE:
ADJUST ADVANCE WARNING, GUIDE, AND DETOUR SIGNAGE ACCORDINGLY FOR STAGES 3A AND 3B DETOURS.

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CATEGORY 1 OF THE BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES, THE 2011 EDITION OF THE MD MUTCD, AND THIS PLAN.
2. NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, PAVEMENT MARKINGS, AND CHANNELIZATION DEVICES ARE IN PLACE AND OPERATIONAL.
3. VARIABLE MESSAGE SIGN(S) MESSAGES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER. ALL PROPOSED PVMS SHALL BE PLACED ACCORDING TO STD. NO. MD. 104.01–22.
4. ALL DETOUR SIGNS SHALL BE FULLY COVERED BY WITH AN OPAQUE BLACK MATERIAL WHEN DETOUR IS NOT IN USE AS APPROVED BY THE ENGINEER.
5. TRAFFIC CONTROL DEVICES SHOWN ON THIS PLAN MAY BE MODIFED BASED ON FIELD CONDITION, AS DIRECTED BY THE ENGINEER.

PVMS DISPLAY DETAIL

DISPLAY 1	DISPLAY 2
ROAD WORK TO BEGIN	ON OR ABOUT XX/XX/XX

1. TWO WEEKS PRIOR TO THE START OF CONSTRUCTION, ALL PROPOSED PVMS SHALL BE PLACED IN ACCORDANCE WITH MD STD. 104.01–22.
2. THE PROJECT ENGINEER SHALL DETERMINE THE FINAL VARIABLE SIGN MESSAGES.

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH A. JACKSON III — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

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MT-20

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

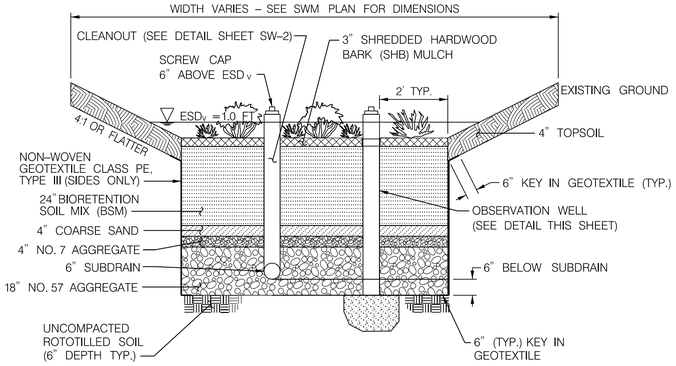
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DETOUR PLAN

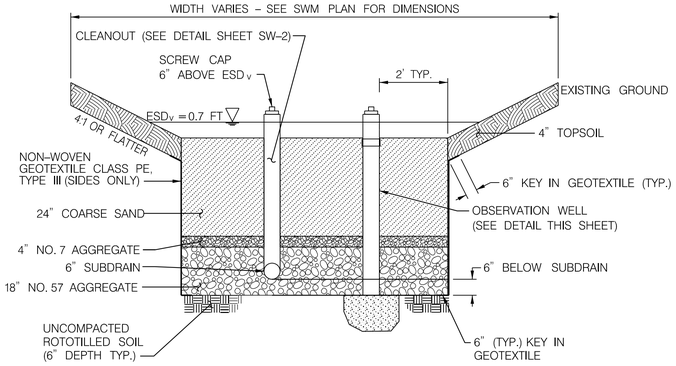
DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 47 OF 226

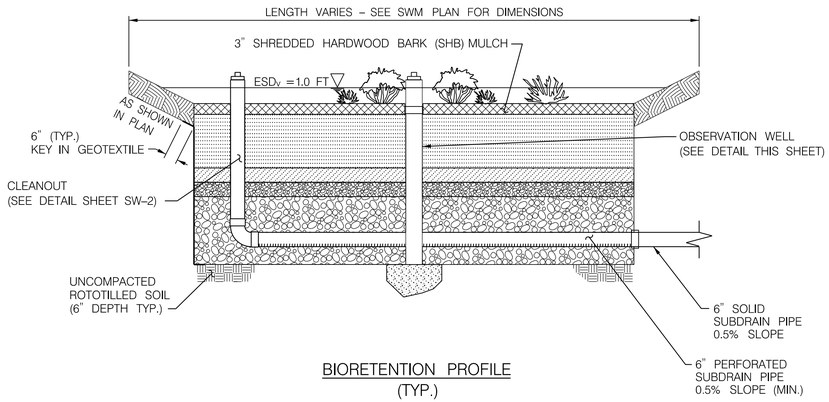
BY: AKR -
PLOTTED: 10/19/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MT-0020_EMC.dgn



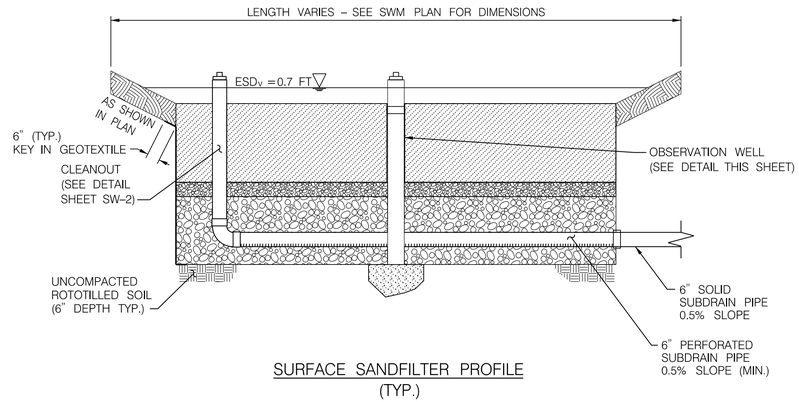
BIORETENTION SECTION
(TYP.)
NOT TO SCALE



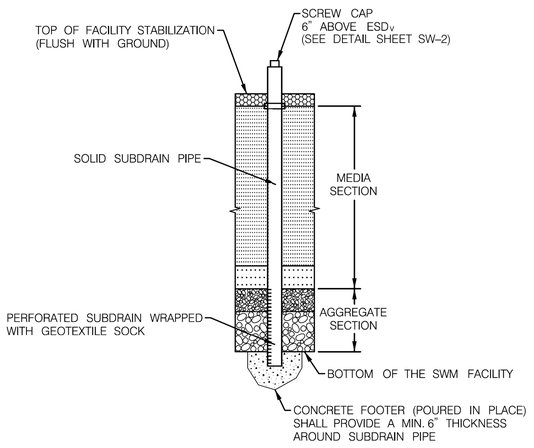
SURFACE SANDFILTER SECTION
(TYP.)
NOT TO SCALE



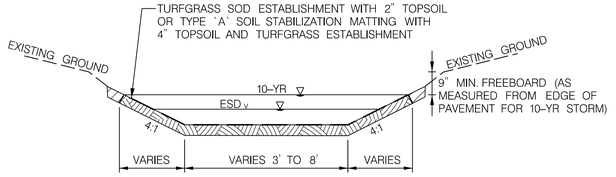
BIORETENTION PROFILE
(TYP.)
NOT TO SCALE



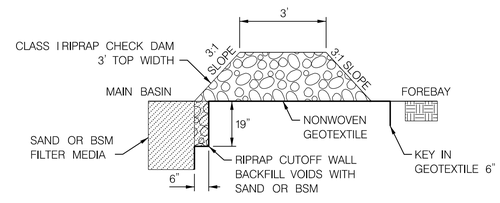
SURFACE SANDFILTER PROFILE
(TYP.)
NOT TO SCALE



TYPICAL OBSERVATION WELL DETAIL
NOT TO SCALE



GRASS–SWALE
TYPICAL SECTION
NOT TO SCALE



RIPRAP CHECK DAM – TYPICAL RIPRAP WINDOW
NOT TO SCALE

Material Specifications for Bioretention

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site specific
Planting Soil	Meets MDOT SHA BSM Specifications	n/a	Place in lifts not to exceed 12". Saturate entire BSM surface until water flows from the subdrain outlet prior to placing preceding lifts.
Mulch	shredded hardwood		aged 6 months, minimum
Stone	AASHTO M–80 washed stone free of soil and fines	NO. 7 and NO. 57	For unlined facilities, till excavated bottom of facility to a minimum depth of 6" to loosen soil prior to placing stone (or geotextile for lined facilities).
Geotextile		n/a	Unlined facilities: PE Type III nonwoven to be placed only on the sides Lined facilities: 30 mil PVC to be placed on sides and bottom
Underdrain Piping	AASHTO M–304	6" rigid schedule 40 PVC	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 4" of gravel over pipes. Perforated pipe shall be wrapped with 1/4–inch galvanized hardware cloth
Sand	AASHTO M–6 or ASTM C–33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Poured in place Concrete (if required)	MSHA Mix No. 3; f'_c = 3500 psi @ 28 days, normal weight, air–entrained; reinforcing to meet ASTM 615–60	n/a	on–site testing of poured–in–place concrete required; 28 day strength and slump test; all concrete design (cast–in–place or pre–cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licenses in the State of Maryland – design to include meeting ACI Code 350.R89; vertical loading (H–10 or H–20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking.

Material Specifications for Sand Filter

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site specific
Stone	AASHTO M–80 washed stone free of soil and fines	NO. 7 and NO. 57	For unlined facilities, till excavated bottom of facility to a minimum depth of 6" to loosen soil prior to placing stone (or geotextile for lined facilities).
Geotextile		n/a	Unlined facilities: PE Type III nonwoven to be placed only on the sides Lined facilities: 30 mil PVC to be placed on sides and bottom
Underdrain Piping	AASHTO M–304	6" rigid schedule 40 PVC	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 4" of gravel over pipes. Perforated pipe shall be wrapped with 1/4–inch galvanized hardware cloth
Sand	AASHTO M–6 or ASTM C–33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Poured in place Concrete (if required)	MSHA Mix No. 3; f'_c = 3500 psi @ 28 days, normal weight, air–entrained; reinforcing to meet ASTM 615–60	n/a	on–site testing of poured–in–place concrete required; 28 day strength and slump test; all concrete design (cast–in–place or pre–cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licenses in the State of Maryland – design to include meeting ACI Code 350.R89; vertical loading (H–10 or H–20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEPHEN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
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ROADWAY PROFILE SHEETS	22 TO 27
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

SW-1

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

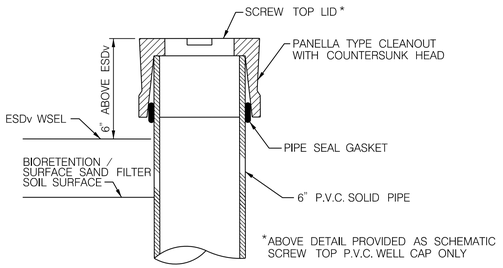
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SWM DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 48 OF 226

BY: BAS - PLOTTED: Thursday, October 20, 2022 AT 01:14 AM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SW-0008_EWC.dgn



EACH CLEANOUT SHALL INCLUDE THE FOLLOWING:

1. FOR AN UNDERGROUND FLUSH MOUNTED OBSERVATION WELL /CLEANOUT, PROVIDE A TUBE MADE OF NON-CORROSIVE MATERIAL, SCHEDULE 40 OR EQUAL, WITH AN INSIDE DIAMETER OF AT LEAST 6 INCHES.
2. THE TUBE SHALL HAVE A FACTORY ATTACHED CAST IRON OR HIGH IMPACT PLASTIC COLLAR WITH RIBS TO PREVENT ROTATION WHEN REMOVING SCREW TOP LID. THE SCREW TOP LID SHALL WITHSTAND ULTRA-VIOLET RAYS.
3. THE FOLLOWING INFORMATION IS TO BE COMPLETED AND MARKED ON THE LID OF THE OBSERVATION WELL: IN BIORETENTION /SURFACE SAND FILTER AREA: "DEPTH TO INVERT = X'-X"" **

**NOTE: DEPTH TO BE MARKED AS-BUILT BY CONTRACTOR.

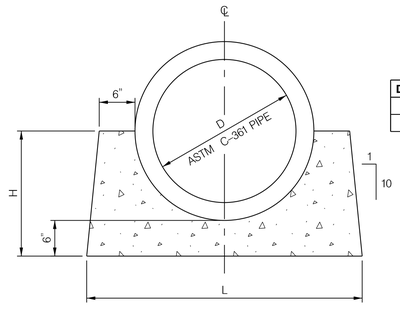
BIORETENTION /SURFACE SAND FILTER AREA /CLEANOUT /OBSERVATION WELL

(NOT TO SCALE)

NOTE: THIS ITEM INCIDENTAL TO UNDERDRAIN PIPING

NOTES:

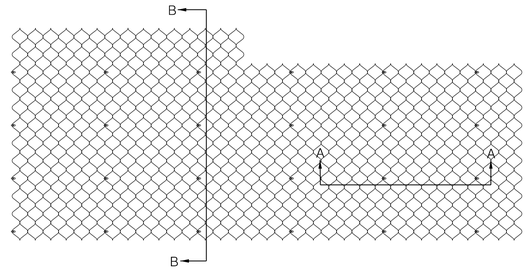
1. ONE CLEANOUT TO BE PROVIDED EVERY 1000 SQUARE FEET OF SURFACE AREA.
2. SUBDRAIN PIPE TO BE 6" PPWP OR CPP-S.
3. ALL PERFORATED SUBDRAIN PIPE SHALL BE WRAPPED IN 1/4" GALVANIZED HARDWARE CLOTH. SEE SECTION 316 – STORMWATER FILTRATION FACILITIES OF THE IFB BOOK FOR MATERIAL AND INSTALLATION PROCEDURE. THE COST OF THE 1/4" GALVANIZED HARDWARE CLOTH WILL BE INCIDENTAL TO THE COST OF THE PPWP OR CPP-S ITEM.
4. RODENT SCREEN TO BE PROVIDED WHERE SUBDRAIN OUTFALLS TO EXISTING GRADE. COST OF THE RODENT SCREEN WILL BE INCIDENTAL TO THE COST OF THE SOLID PPWP OR CPP-S ITEM AS USED FOR THE OUTLET.



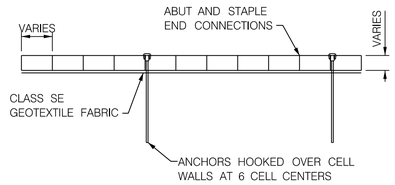
D (PIPE DIA.)	H	L
18"	1'-6"	3'-3"
24"	1'-9"	3'-10"

CONCRETE CRADLE DETAIL

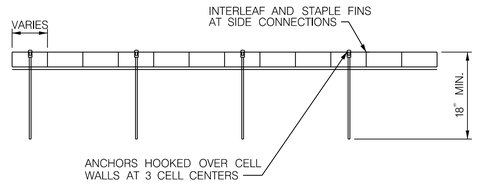
(NOT TO SCALE)



PLAN VIEW

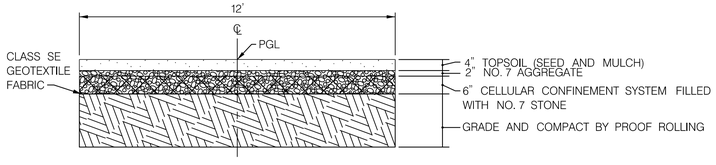


SECTION A – A



SECTION B – B

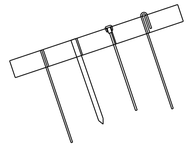
TYPICAL CELLULAR CONFINEMENT ANCHOR SYSTEM



ACCESS ROAD SECTION

STORMWATER MANAGEMENT MAINTENANCE ACCESS ROAD CELLULAR CONFINEMENT LOAD SUPPORT SYSTEM

NOT TO SCALE

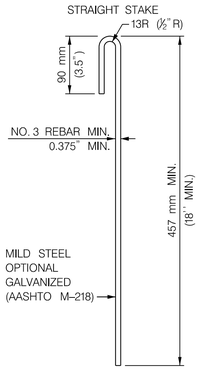


STEP 1 – POSITION STAKE NEXT TO 'UP-SLOPE' CELL WALL

STEP 2 – DRIVE STAKE INTO GROUND UNTIL FLUSH WITH THE TOP OF THE CELL WALLS

EXAMPLES

STAKE ANCHOR INSTALLATION NO TENDONS



J-PIN TYPICAL STAKE DETAILS

NOTE: ANCHORS ONLY REQUIRED WHERE SLOPE IS GREATER THAN OR EQUAL TO 5.00%

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON HEDRICK — No. 24828 — PROFESSIONAL ENGINEER — 10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-2

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

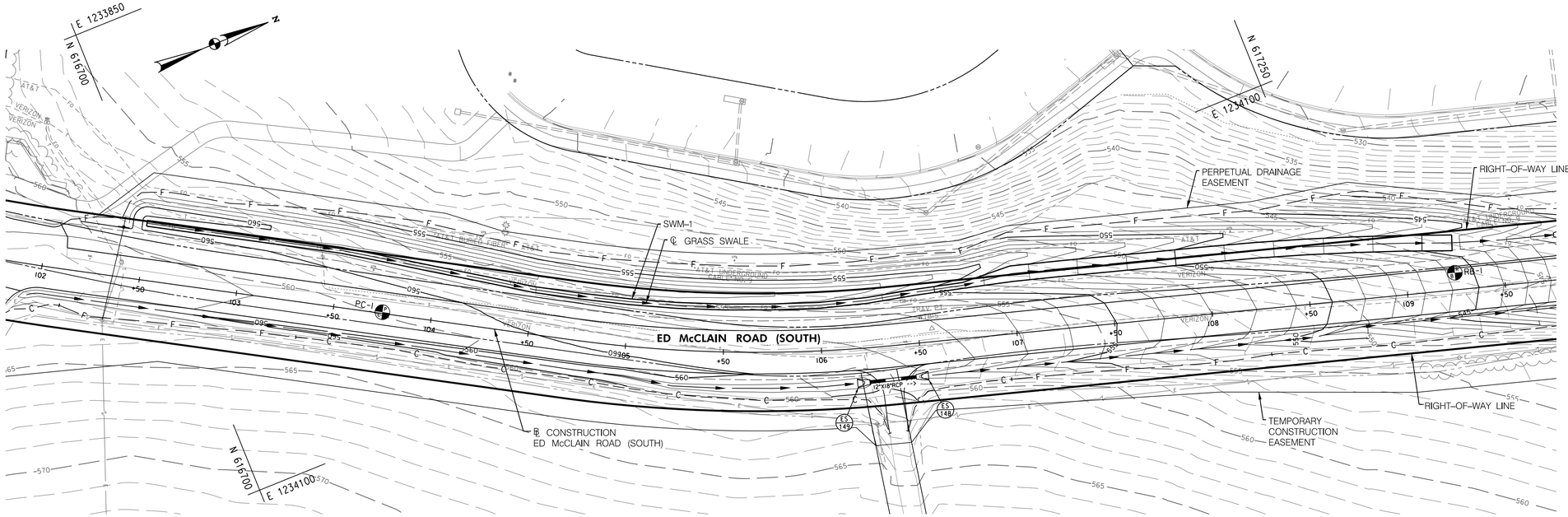
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SWM DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 49 OF 226

BY: BAS - PLOTTED: Thursday, October 20, 2022 AT 01:18 AM
FILE: K:\Frederick County - Monrovia E-W Connector\Design Files\SWM-0009_ENC.dgn



SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE
FOR M-8 GRASS SWALES

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 1		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, OBSERVED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF CHECK DAMS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ CHECK DAM ☐ OUTFALL ☐ NOT APPLICABLE ☐ OTHER (WRITE IN):	
OBSERVED FINAL GRADING OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED ESTABLISHMENT OF TURFGRASS SOD OR SOIL STABILIZATION MATTING AND TURFGRASS SEED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ LANDSCAPE ACCEPTANCE LETTER	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT) – MAY NOT BE LESS THAN 2 FT OR EXCEED 8 FT	3-8		
TOTAL LENGTH (FT)	670		
MAXIMUM CHANNEL SLOPE (FT/FT) – MAY NOT EXCEED 4%	0.04		
LEFT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	4		
RIGHT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	4		
NUMBER OF CHECK DAMS	0		
DISTANCE BETWEEN CHECK DAMS (FT)	N/A		
CHECK DAM HEIGHT (FT)	N/A		
TOP OF DITCH ELEVATION (FT)	N/A		

ONLY COMPLETE THE PORTION BELOW WHEN TOLERANCES ARE NOT MET. ALSO PROVIDE COMPUTATIONS AND SWM REPORT REVISIONS.

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
ESDv WATER SURFACE ELEVATION (FT)			
ESDv FLOW DEPTH (IN.)			
1-YR FLOW VELOCITY (FT/S) – MUST BE NON-EROSIVE			
10-YR WATER SURFACE ELEVATION (FT)			
10-YR FLOW DEPTH (IN.)			
10-YR FLOW VELOCITY (FT/S) – MUST BE NON-EROSIVE			
10-YR FREEBOARD (IN.) – MAY NOT BE LESS THAN 9 IN. – MEASURED VERTICALLY FROM 10-YR WATER SURFACE ELEVATION TO PAVEMENT EDGE/SHOULDER	9		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM-1 DIMENSION TABLE			
STATION	OFFSET TO ℄	ELEVATION	BOTTOM WIDTH (FT)
102+50	29.0' L	559.47	3.0
130+00	29.0' L	559.10	3.0
103+50	29.0' L	558.72	3.0
104+00	25.9' L	558.35	3.0
104+50	22.7' L	558.01	3.0
105+00	22.7' L	557.57	3.0
105+50	22.9' L	557.22	3.0
106+00	23.2' L	556.85	3.0
106+50	25.9' L	555.35	3.0
106+75	27.0' L	554.34	3.0
107+00	30.5' L	553.35	8.0
107+50	30.5' L	551.35	8.0
108+00	30.4' L	549.35	8.0
108+50	29.3' L	547.35	8.0
109+00	26.3' L	545.35	8.0
109+25	24.0' L	544.35	8.0

SWM-1 FACILITY SIZING TABLE	
FACILITY TYPE	GRASS SWALE
TOTAL DA (AC)	0.61
IMPERVIOUS AREA TREATED (AC)	0.24
TARGET ESDv (CF)	1,611
TARGET PE (IN)	1.80
TOTAL ESDv PROVIDED (CF)	1,067
TREATED PE (IN)	1.19
RCN	76
TC (MIN)	0.340

30′ 0 30′ 60′
SCALE: 1"=30′

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND · JOHN DICKSON WEBB · No. 24828 · PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-3

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

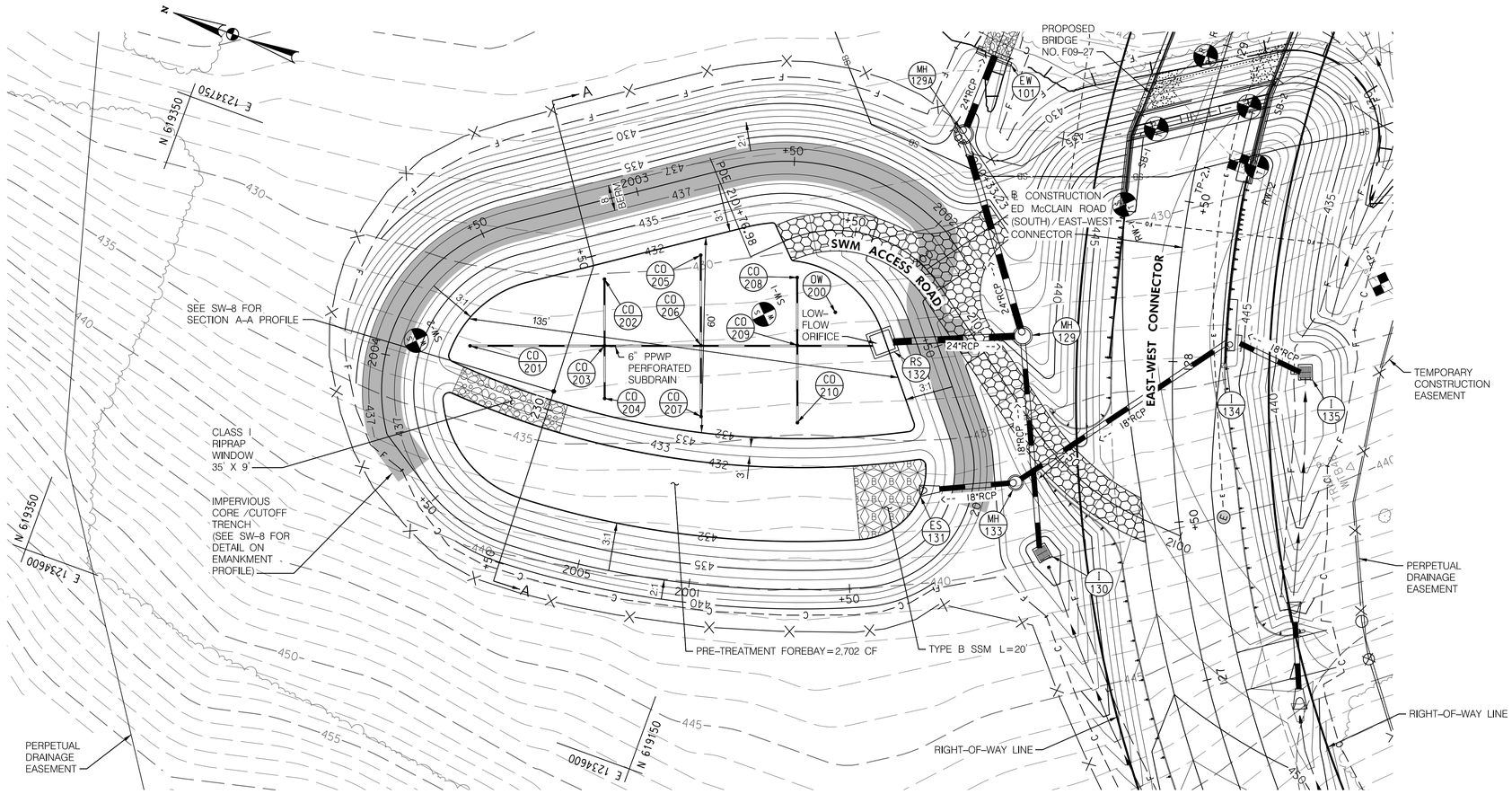
SWM-1 PLAN

DATE: OCTOBER 2022 SCALE: 1"=30

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 50 OF 226

BY: BAS -
PLOTTED Thursday, October 20, 2022 AT 07:42 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SWM P001.ENC.dgn



SURFACE SAND FILTER (SWM-2)

SWM-2 FACILITY SIZING TABLE	
FACILITY TYPE	SAND FILTER
TOTAL DA (AC)	7.43
IMPERVIOUS AREA TREATED (AC)	0.74
TARGET ESDv (CF)	3,774
TARGET PE (IN)	1.00
TOTAL ESDv PROVIDED (CF)	9,813
TREATED PE (IN)	2.60
RCN	73
TC (MIN)	0.227

FILTER DIAPHRAM	
LOCATION - STATION	EA
EWC LT. STA. 128+05	1

6" PERFORATED UNDERDRAIN	
LOCATION - STATION	LF
EWC LT. STA. 127+83 TO LT. STA. 128+20	261

CLAY BACKFILL FOR CORE TRENCH	
LOCATION - STATION	CY
EWC LT. STA. 127+58 TO LT. STA. 128+49	3776

NO. 7 AGGREGATE FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 127+79 TO LT. STA. 128+29	80

NO. 57 AGGREGATE FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 127+79 TO LT. STA. 128+29	361

6" SUBDRAIN PIPE	
LOCATION - STATION	LF
EWC LT. STA. 128+09 - OBSERVATION WELL-200, TOP ELEV. 433.2	6
EWC LT. STA. 127+99 - CLEANOUT-201, TOP ELEV. 433.2	6
EWC LT. STA. 128+13 - CLEANOUT-202, TOP ELEV. 433.2	6
EWC LT. STA. 128+00 - CLEANOUT-203, TOP ELEV. 433.2	6
EWC LT. STA. 127+88 - CLEANOUT-204, TOP ELEV. 433.2	6
EWC LT. STA. 128+20 - CLEANOUT-205, TOP ELEV. 433.2	6
EWC LT. STA. 128+00 - CLEANOUT-206, TOP ELEV. 433.2	6
EWC LT. STA. 127+85 - CLEANOUT-207, TOP ELEV. 433.2	6
EWC LT. STA. 128+17 - CLEANOUT-208, TOP ELEV. 433.2	6
EWC LT. STA. 128+01 - CLEANOUT-209, TOP ELEV. 433.2	6
EWC LT. STA. 127+83 - CLEANOUT-210, TOP ELEV. 433.2	6

COARSE SAND FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 127+79 TO LT. STA. 128+29	481

20' 0 20' 40'
SCALE: 1"=20'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON THEIS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE	
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SW-4

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

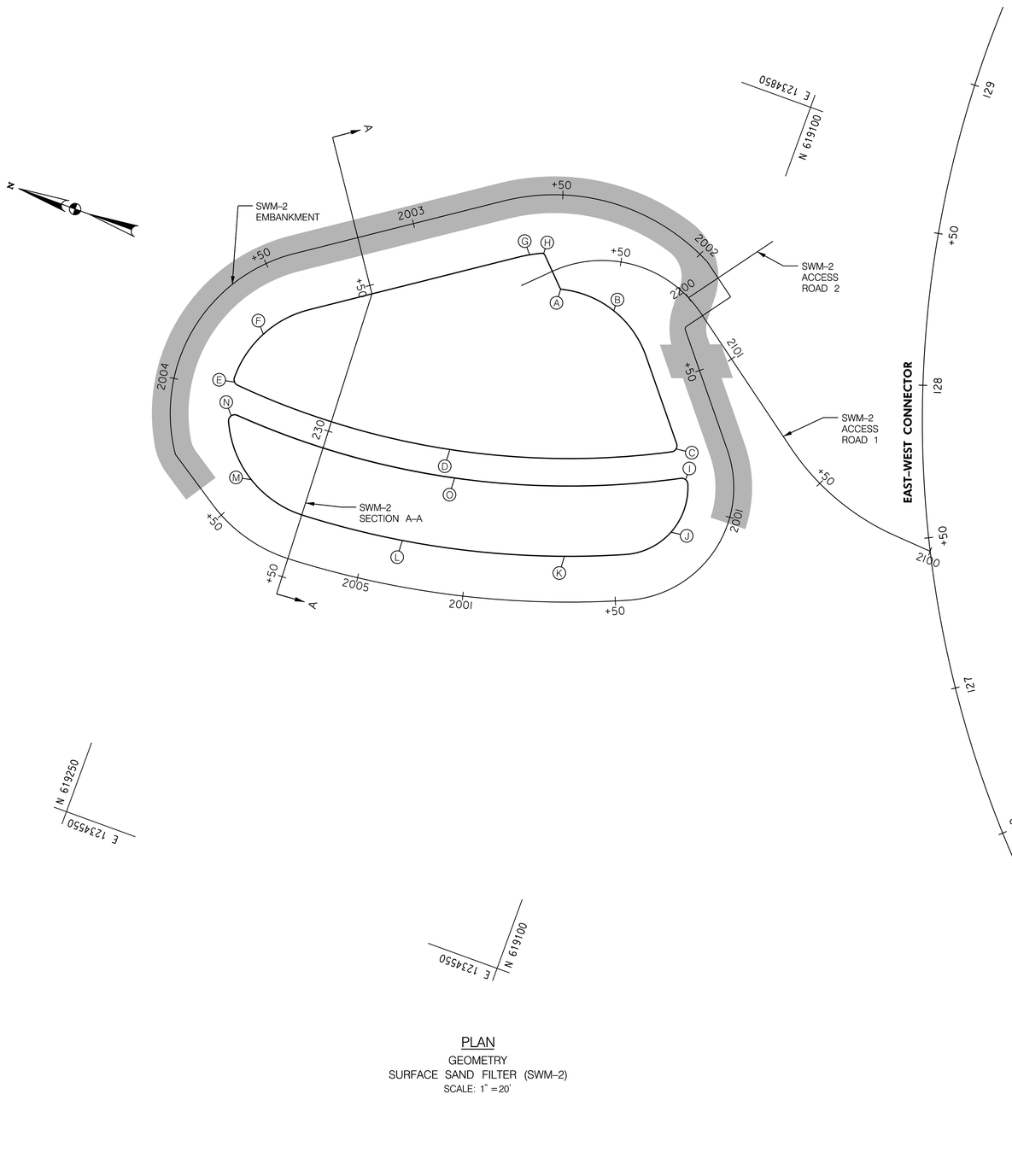
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SWM-2 PLAN

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 51 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:45 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SW#2002_EWC.dgn



PLAN

GEOMETRY

SURFACE SAND FILTER (SWM-2)

SCALE: 1" = 20'

BASELINE CONTROL COORDINATES			
LOCATION	STATION	NORTHING	EASTING
SWM-2 SECTION A-A	POB 2300+00.00	619243.6598	1234787.2584
	PI 2300+52.86	619214.0177	1234743.4932
	POE 2301+55.92	619209.7323	1234640.5213
SWM-2 ACCESS ROAD 1	POB 2100+00.00	619013.4974	1234726.8094
	PC 2100+12.75	619026.2153	1234727.7106
	PI 2100+35.84	619049.2458	1234729.3426
	PT 2100+57.71	619067.8652	1234742.9950
	PC 2101+10.69	619110.5966	1234774.3269
	PI 2101+43.94	619137.4098	1234793.9872
	PT 2101+65.76	619161.0645	1234770.6220
	POE 2101+76.98	619169.0508	1234762.7336
SWM-2 ACCESS ROAD 2	POB 2200+00.00	619116.2110	1234777.7555
	POE 2200+33.23	619096.5609	1234804.5549
SWM-2 EMBANKMENT	PC 2000+00.00	619152.2260	1234660.7134
	PI 2000+27.14	619125.8259	1234667.0215
	PCC 2000+54.14	619100.9608	1234677.9066
	PI 2001+02.90	619056.3006	1234697.4576
	PT 2001+22.33	619087.1612	1234735.1988
	PC 2001+64.07	619113.5832	1234767.5119
	PI 2001+64.84	619114.0736	1234768.1116
	PT 2001+65.39	619113.6155	1234768.7362
	PI 2001+82.76	619103.3422	1234782.7473
	PC 2001+96.46	619114.3868	1234790.8455
	PI 2002+37.03	619150.4031	1234809.5270
	PT 2002+69.65	619183.9962	1234786.7745
	PC 2003+39.98	619242.2265	1234747.3352
	PI 2003+94.26	619287.1691	1234716.8958
	PT 2004+25.08	619256.4970	1234672.1116
	PC 2004+45.48	619239.4697	1234660.8835
	PI 2004+61.66	619225.9599	1234651.9749
	PCC 2004+76.78	619209.7922	1234652.6714
	PI 2005+05.98	619180.6229	1234653.9282
	PT 2005+34.99	619152.2260	1234660.7134

POINT NO.	STATION	OFFSET	ELEVATION	RADIUS	NORTHING	EASTING
Ⓐ	128+20.81	120.30' LT.	432.00	1.0'	619156.5038	1234766.1887
Ⓑ	128+16.45	102.41' LT.	432.00	33.0'	619137.7444	1234765.3752
Ⓒ	127+80.84	80.71' LT.	432.00	2.0'	619103.1040	1234729.8339
Ⓓ	127+81.82	154.74' LT.	432.00	257.0'	619172.6225	1234704.3510
Ⓔ	127+96.20	225.28' LT.	432.00	2.0'	619246.4117	1234700.9882
Ⓕ	128+06.09	216.44' LT.	432.00	35.0'	619242.9324	1234718.8961
Ⓖ	128+28.26	131.58' LT.	432.00	49.2'	619169.9105	1234773.1669
Ⓗ	128+28.91	127.05' LT.	432.00	1.0'	619165.7199	1234775.0774
Ⓘ	127+72.53	77.91' LT.	432.00	2.0'	619096.7213	1234721.4668
Ⓙ	127+58.76	83.80' LT.	432.00	22.0'	619095.3659	1234703.6584
Ⓚ	127+55.01	119.21' LT.	432.00	289.0'	619125.4140	1234684.3195
Ⓛ	127+61.84	171.68' LT.	432.00	289.0'	619177.0660	1234671.0437
Ⓜ	127+76.42	219.97' LT.	432.00	35.0'	619230.3074	1234672.8291
Ⓝ	127+89.40	226.26' LT.	432.00	2.0'	619243.6740	1234690.2202
Ⓞ	127+75.26	153.46' LT.	432.00	266.0'	619167.9805	1234696.1160

20' 0 20' 40'

SCALE: 1"=20'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER

10/19/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-5

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

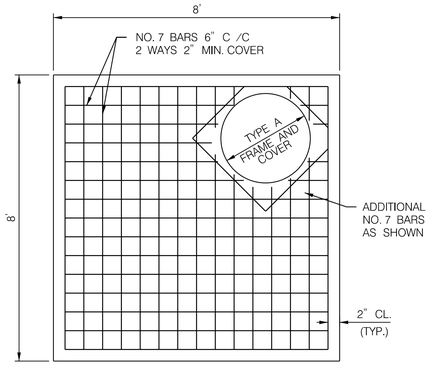
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-2 GEOMETRY

DATE: OCTOBER 2022 SCALE: 1"=20'

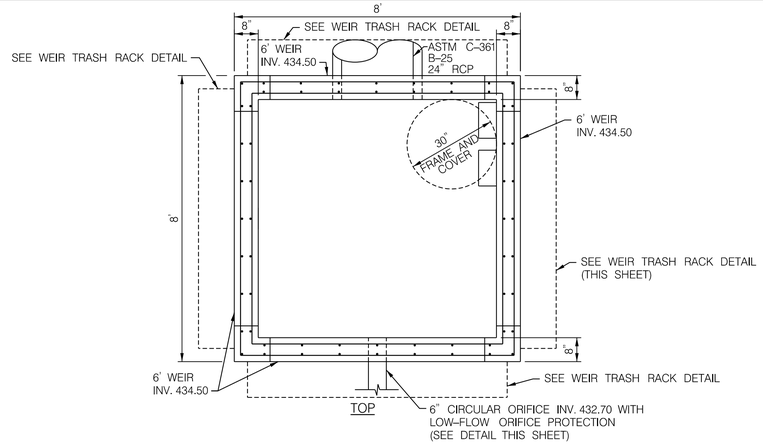
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 52 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:34 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SWM-02_ENG.dgn

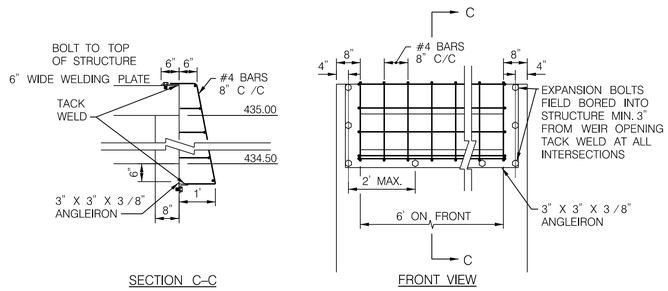


TOP SLAB REINFORCEMENT

NOTE: TOP EDGES OF RISER STRUCTURE SHALL BE CHAMFERED.



TOP

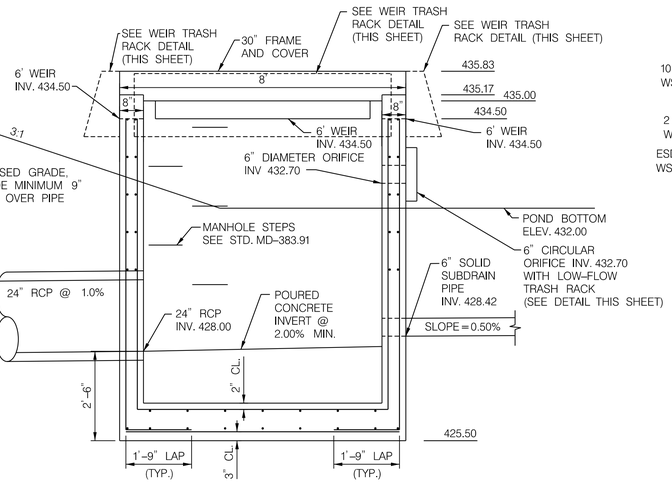


SECTION C–C

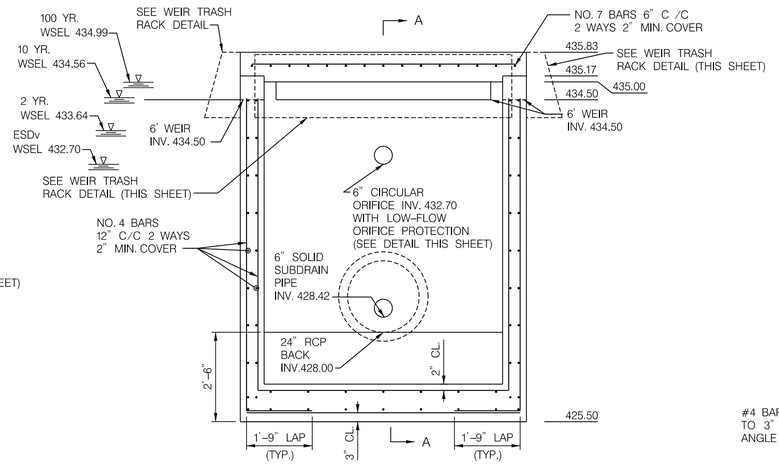
FRONT VIEW

WEIR TRASH RACK DETAIL

SCALE: $\frac{1}{2}$" = 1'–0"



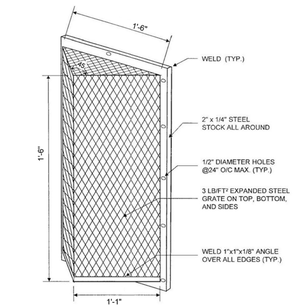
SECTION A–A



FRONT

SWM 2 SURFACE SAND FILTER FACILITY RISER DETAIL

SCALE: $\frac{1}{2}$" = 1'–0"

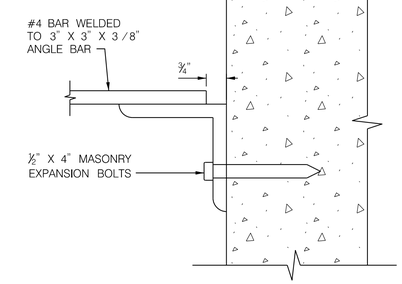


NOTES FOR TRASH RACK

1. TRASH RACK TO BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.

LOW–FLOW TRASH RACK DETAIL

SCALE: N.T.S.

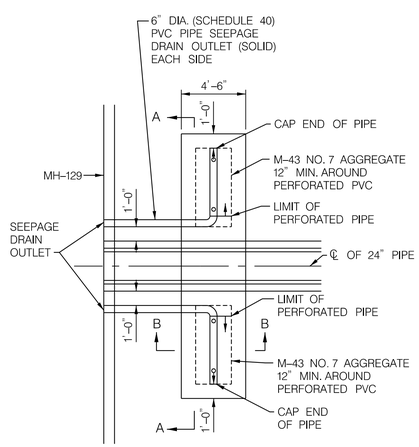


TRASH RACK CONNECTION DETAIL

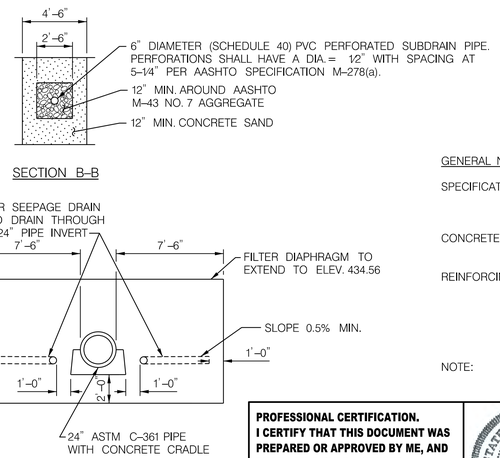
SCALE: $\frac{3}{8}$" = 1"

TRASH RACK NOTES:

1. ALL RISER DIMENSIONS SHALL BE FIELD VERIFIED BEFORE TRASH RACK IS FABRICATED.
2. TRASH RACK SHALL BE GALVANIZED AFTER FABRICATION.
3. GALVANIZING DAMAGED DURING INSTALLATION SHALL BE RESTORED USING FIELD GALVANIZING COMPOUND.
4. ANGLES AND PLATES TO BE ASTM A36 STEEL.
5. ALL TRASH RACK BARS SHALL BE ASTM A36 STEEL.
6. ALL BARS SHALL BE WELDED TOGETHER AT LOCATIONS OF INTERSECTIONS.
7. ALL BARS SHALL BE WELDED TO L3X3 USING ELECTRODES.



PLAN VIEW



SECTION B–B

SECTION A–A

FILTER DIAPHRAGM DETAILS

SCALE: 1" = 5'

GENERAL NOTES:

SPECIFICATIONS: SHA SPECIFICATIONS DATED JULY 2024 REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.

CONCRETE: ALL CONCRETE SHALL BE MIX NO. 3 (3500 PSI) UNLESS OTHERWISE NOTED.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A 615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED. WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

NOTE: 1. ALL CONNECTIONS SHALL BE WATERTIGHT.
2. RISER STRUCTURE SHALL BE BROWN OR GRAY IN COLOR.

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

STATE OF MARYLAND · JOHN JACKSON WISEMAN · PROFESSIONAL ENGINEER · 3/7/25

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-6

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

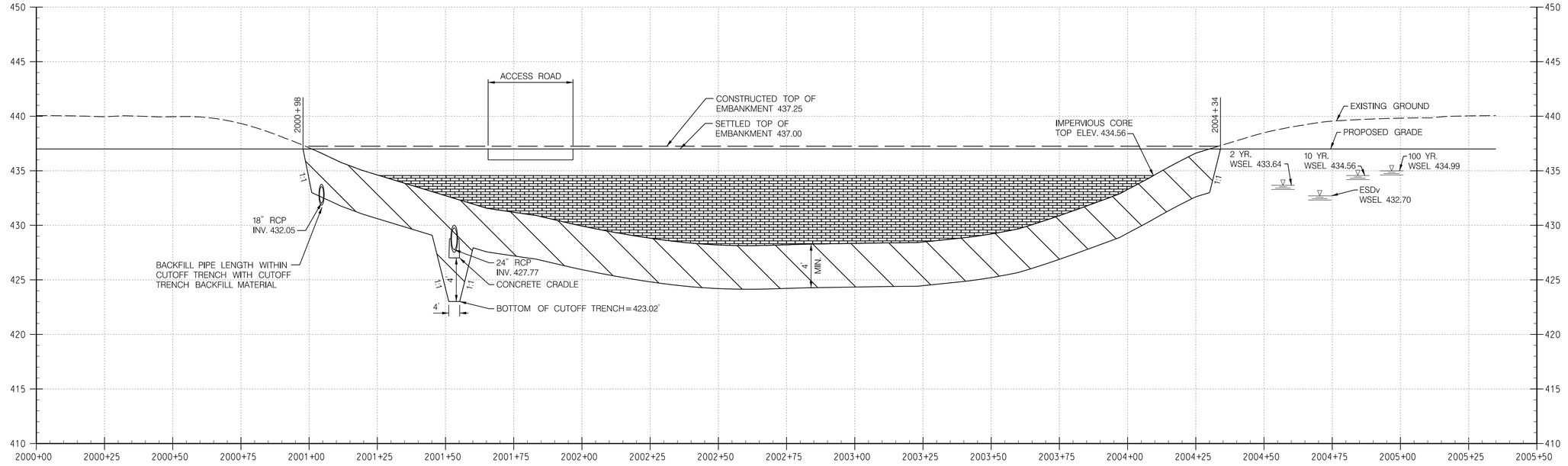
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SWM-2
DETAILS

DATE: MARCH 2025 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 53 OF 226

BY: DAW - PLOTTED: 3/12/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SW-0005_EWC.dgn

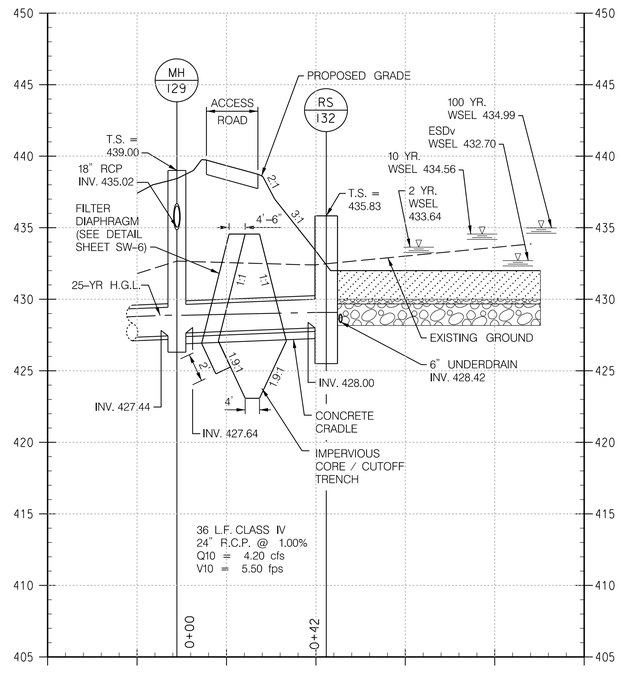


SWM–2 EMBANKMENT PROFILE

LEGEND

CUTOFF TRENCH

IMPERVIOUS CORE



SWM–2 OUTLET PIPE PROFILE

20' 0 20' 40'
HORIZ. SCALE: 1"=20'

5' 0 5' 10'
VERT. SCALE: 1"=5'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

SW-7

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

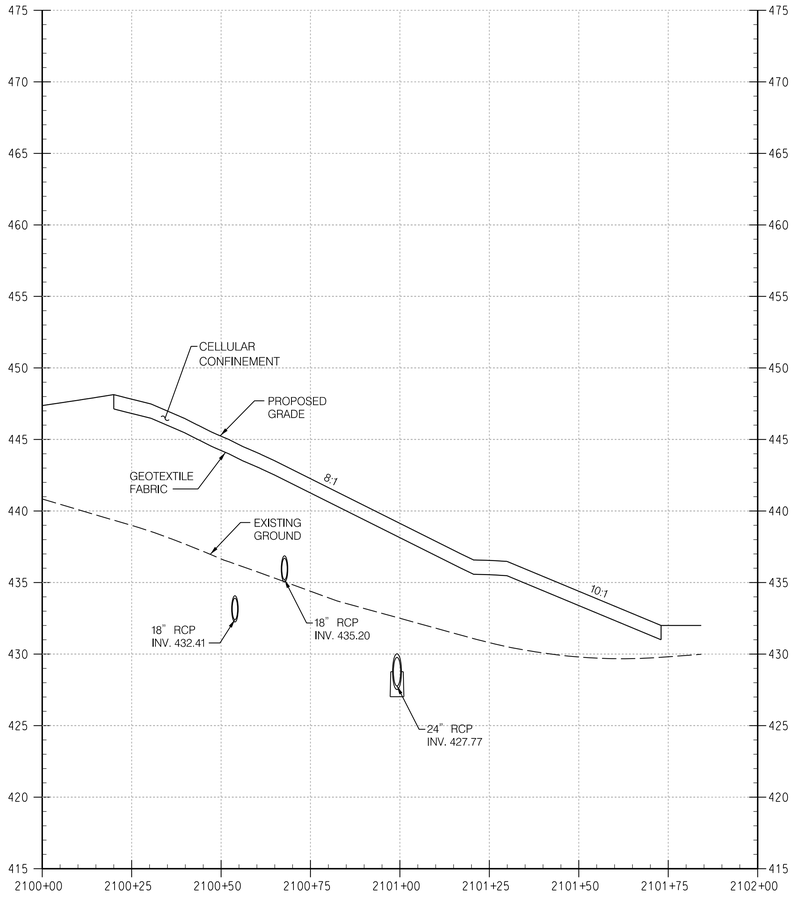
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-2
PROFILES AND SECTIONS
SURFACE SAND FILTER

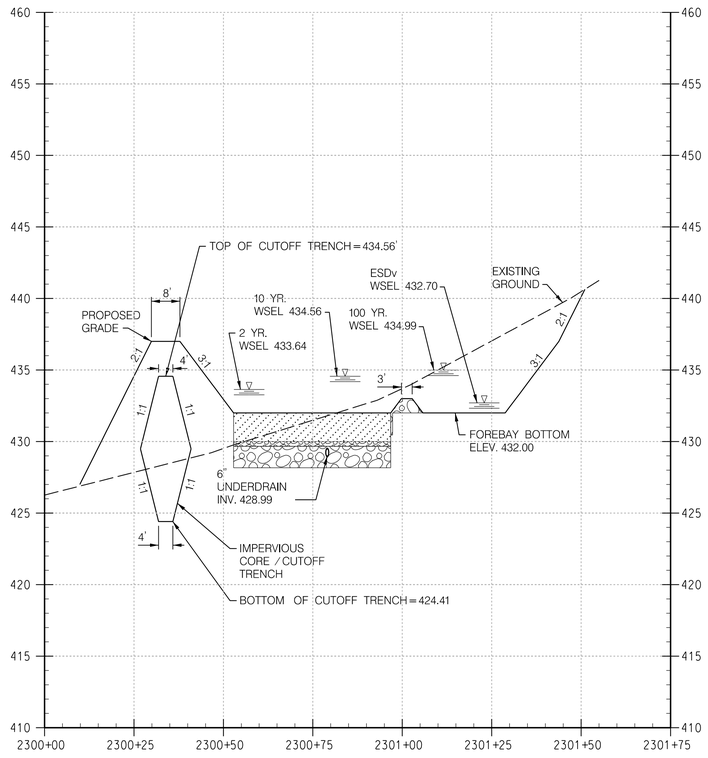
DATE: OCTOBER 2022
SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01
DWG. 54 OF 226

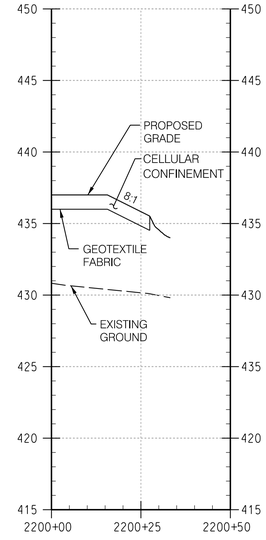
BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 03:34 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SWM-0001.ENC.dgn



SWM–2 ACCESS ROAD 1 PROFILE



SWM–2 SECTION A–A PROFILE



SWM–2 ACCESS ROAD 2 PROFILE

20' 0 20' 40'
HORIZ. SCALE: 1"=20'

5' 0 5' 10'
VERT. SCALE: 1"=5'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-8

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SWM-2
PROFILES AND SECTIONS
SURFACE SAND FILTER

DATE: OCTOBER 2022
SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01
DWG. 55 OF 226

BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 03:55 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SWM0002.ENC.dgn

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE
FOR FOREBAYS

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 2		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO FOREBAY EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED AND CONFIRMED FOREBAY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION AND GRADING OF FOREBAY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF ENDWALLS AND END SECTIONS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM ELEVATION (FT)	432.00		
SIDE SLOPES (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
FREEBOARD (IN.) – MEASURED VERTICALLY FROM THE WATER SURFACE ELEVATION TO TOP OF EBMANKMENT/TOP OF FOREBAY	24.1		
INVERT IN ELEVATION (FT)	432.00		
INVERT OUT ELEVATION (FT)	432.00		
WEIR CREST ELEVATION (FT)	433.00		
TOP EMBANKMENT ELEVATION (FT)	437.00		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE
FOR RELEASE STRUCTURES - RISERS

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 2		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
OBSERVED EXCAVATION FOR STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF BEDDING	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED STRUCTURE HAS LADDER RUNGS INSTALLED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED TOP OF STRUCTURE (GRATE OR SLAB WITH MANHOLE) IS INSTALLED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS CHECK ONE: ☐ TOP GRATE ☐ SLAB WITH MANHOLE	
VERIFIED LOW FLOW ORIFICE IS PRESENT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF LOW FLOW PIPE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE VALVE, VERIFIED FUNCTIONAL, AND CLOSED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED PLACEMENT OF BACKFILL AROUND STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF TRASH RACKS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	

FEATURES FOR RISERS	DESIGN	AS-BUILT	DIFFERENCE
TOP ELEVATION (FT)	435.83		
INVERT IN ELEVATION (FT)	N/A		
INVERT OUT ELEVATION (FT)	428.00		
LOW FLOW ORIFICE INVERT ELEVATION (FT)	432.70		
LOW FLOW ORIFICE DIAMETER (IN.)	6		
WEIR CREST ELEVATION (FT.)	434.50		
SUB-DRAIN INVERT IN ELEVATION (FT)	428.42		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE
FOR F-1 SURFACE SAND FILTER

MAY ONLY BE COMPLETED AND/OR CERTIFIED BY THE AS-BUILT (AB) INSPECTOR AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 2		16-019B

ACTIVITY	ADDITIONAL SUPPORTING DOCUMENTATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED, AND CONFIRMED FACILITY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST:	
OBSERVED EXCAVATION AND GRADING OF SWM FACILITY	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST:	
OBSERVED INSTALLATION OF GEOTEXTILE AND VERIFIED INSTALLATION PERFORMED AS SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE BEDDING FOR SUB-DRAIN	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF SUB-DRAIN, VERIFIED TYPE IS PPWP OR CPP-S AND HAS SLOTTED PERFORATIONS	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF OBSERVATION WELL, VERIFIED TYPE IS PPWP OR CPP-S AND HAS SLOTTED PERFORATIONS, AND VERIFIED USE OF GEOTEXTILE SOCK	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE AROUND AND ABOVE SUB-DRAIN	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF NO. 7 AGGREGATE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF COARSE SAND	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ OTHER (WRITE IN):	
OBSERVED INSTALLATION AND ESTABLISHMENT OF VEGETATION AND VERIFIED SPECIES AND QUANTITIES SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT.)	60		
BOTTOM LENGTH (FT.)	135		
LEFT SIDE SLOPE (H:V) – CANNOT BE STEEPER THAN 3:1	3:1		
RIGHT SIDE SLOPE (H:V) – CANNOT BE STEEPER THAN 3:1	3:1		
OBSERVATION WELL PIPE DIAMETER (IN.)	6		
SUB-DRAIN PIPE DIAMETER (IN.)	6		
SUB-DRAIN INVERT OUT ELEVATION (FT.)	428.42		
THICKNESS OF NO. 57 AGGREGATE (IN.)	18		
THICKNESS OF NO. 7 AGGREGATE (IN.)	4		
THICKNESS OF COARSE SAND (IN.)	24		
ESDv DEPTH (IN.) – CANNOT EXCEED 12 IN.	8.4		
FREEBOARD (IN.) – CANNOT BE LESS THAN 6 IN.	24.1		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 10-25-2017

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH THOMAS JACKSON III — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-9

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

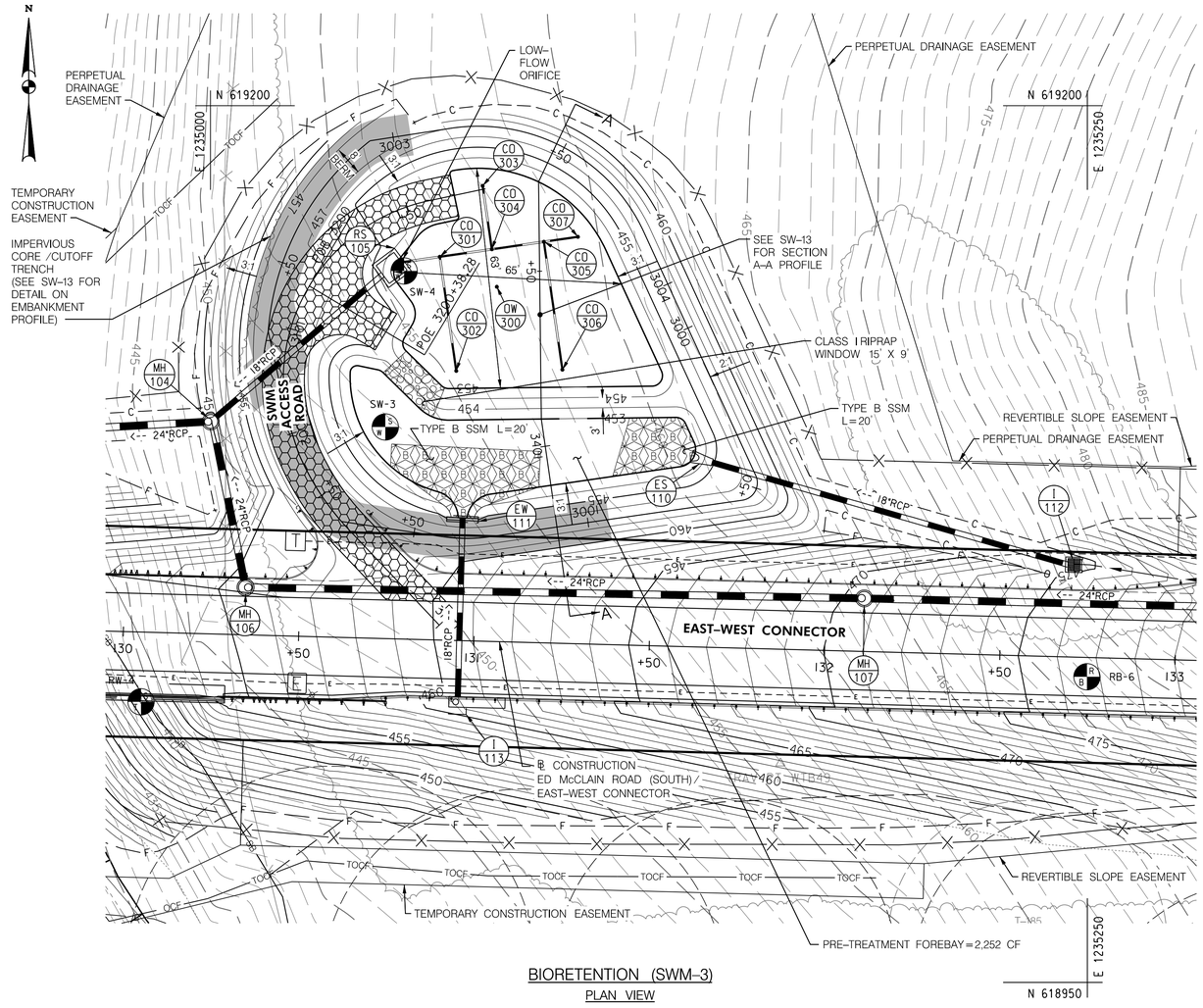
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-2 AS-BUILT CHECKLIST

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 56 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:51 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SW-P005.DWG.dgn



BIORETENTION (SWM-3)

PLAN VIEW

SWM-3 FACILITY SIZING TABLE	
FACILITY TYPE	BIORETENTION
TOTAL DA (AC)	1.58
IMPERVIOUS AREA TREATED (AC)	0.28
TARGET ESDv (CF)	1,299
TARGET PE (IN)	1.10
TOTAL ESDv PROVIDED (CF)	3,086
TREATED PE (IN)	2.60
RCN	81
TC (MIN)	0.109

FILTER DIAPHRAM	
LOCATION - STATION	EA
EWC LT. STA. 130+34	1

6" PERFORATED UNDERDRAIN	
LOCATION - STATION	LF
EWC LT. STA. 130+76 TO LT. STA. 131+27	139

CLAY BACKFILL FOR CORE TRENCH	
LOCATION - STATION	CY
EWC LT. STA. 130+32 TO LT. STA. 131+39	1,833

NO. 7 AGGREGATE FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 130+74 TO LT. STA. 131+52	42

NO. 57 AGGREGATE FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 130+74 TO LT. STA. 131+52	188

6" SUBDRAIN PIPE	
LOCATION - STATION	LF
EWC LT. STA. 131+04 - OBSERVATION WELL-300, TOP ELEV. 454.5	6
EWC LT. STA. 130+87 - CLEANOUT-301, TOP ELEV. 454.5	6
EWC LT. STA. 130+93 - CLEANOUT-302, TOP ELEV. 454.5	6
EWC LT. STA. 130+99- CLEANOUT-303, TOP ELEV. 454.5	6
EWC LT. STA. 131+02 - CLEANOUT-304, TOP ELEV. 454.5	6
EWC LT. STA. 131+17 - CLEANOUT-305, TOP ELEV. 454.5	6
EWC LT. STA. 131+23 - CLEANOUT-306, TOP ELEV. 454.5	6
EWC LT. STA. 131+27 - CLEANOUT-307, TOP ELEV. 454.5	6

COARSE SAND FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 130+74 TO LT. STA. 131+52	42

BIORETENTION SOIL MIX	
LOCATION - STATION	CY
EWC LT. STA. 130+74 TO LT. STA. 131+52	250

BIORETENTION MEADOW ESTABLISHMENT	
LOCATION - STATION	SY
EWC LT. STA. 130+74 TO LT. STA. 131+52	375

SHREDDED HARDWOOD BARK MULCH, 3 INCH DEPTH	
LOCATION - STATION	SY
EWC LT. STA. 130+74 TO LT. STA. 131+52	375

20' 0 20' 40'

SCALE: 1"=20'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-10

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

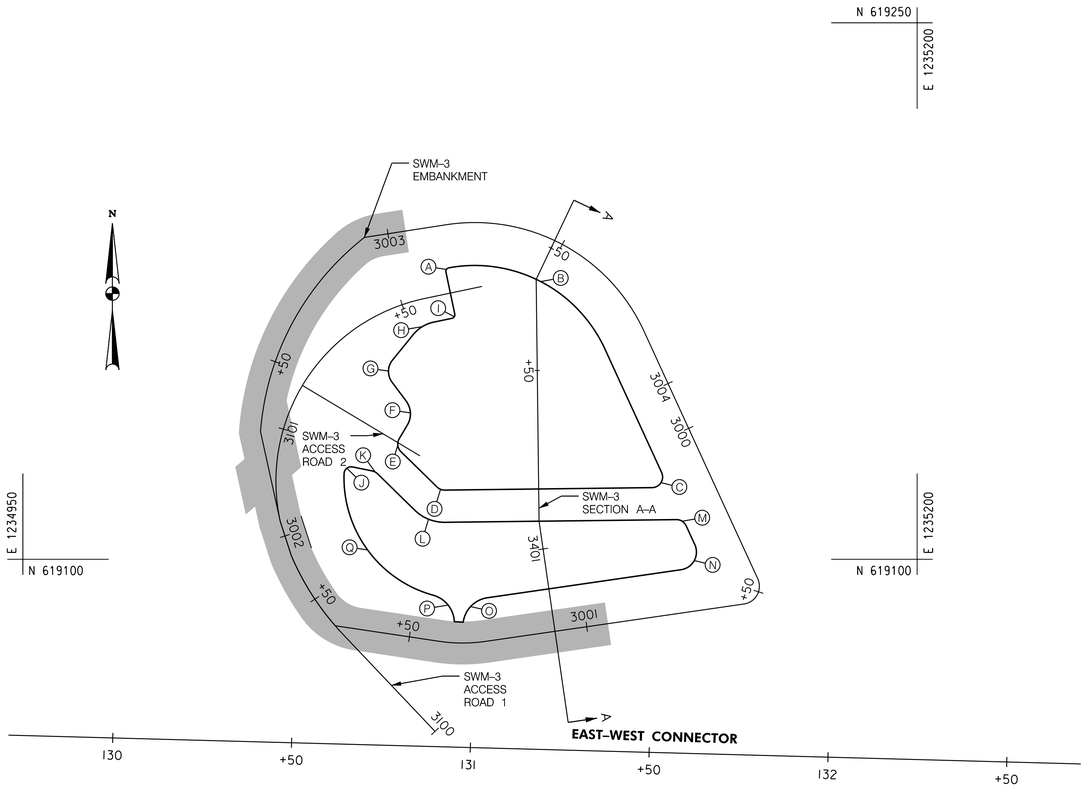
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-3 PLAN

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 57 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 01:24 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SW-P003.EWC.dgn



PLAN

GEOMETRY

BIORETENTION (SWM-3)

SCALE: 1" = 20'

BASELINE CONTROL COORDINATES

LOCATION	STATION	NORTHING	EASTING
SWM-3 SECTION A-A	POB 3400+00.00	619200.4229	1235104.0432
	PI 3400+25.41	619178.2841	1235093.5181
	PI 3400+92.14	619110.6590	1235094.3125
	POE 3401+48.98	619054.4067	1235102.4512
SWM-3 ACCESS ROAD 1	POB 3100+00.00	619051.8900	1235065.2296
	PC 3100+37.58	619079.1618	1235039.3800
	PI 3100+50.86	619088.8021	1235030.2425
	PT 3100+63.86	619101.0291	1235025.0531
	PC 3100+73.88	619110.5643	1235021.9685
	PI 3101+26.53	619161.9789	1235010.6459
	PT 3101+56.33	619172.8742	1235062.1527
	POE 3101+72.91	619176.3060	1235078.3764
SWM-3 ACCESS ROAD 2	POB 3200+00.00	619148.5952	1235028.1509
	POE 3200+38.28	619128.9451	1235061.0016
SWM-3 EMBANKMENT	POB 3000+00.00	619136.5915	1235136.1283
	PC 3000+46.28	619094.5418	1235155.4494
	PI 3000+52.97	619088.4636	1235158.2423
	PT 3000+55.57	619087.5057	1235151.6220
	PC 3001+28.51	619077.0606	1235079.4291
	PI 3001+35.17	619076.1071	1235072.8383
	PT 3001+41.73	619077.0943	1235066.2526
	PC 3001+70.99	619081.4321	1235037.3162
	PI 3001+82.70	619090.2551	1235029.6258
	PT 3001+94.21	619101.0291	1235025.0531
	PI 3002+04.23	619110.5643	1235021.9685
	PC 3002+29.97	619135.7017	1235016.4327
	PI 3002+63.59	619169.2256	1235019.0318
	PT 3002+93.33	619189.9958	1235045.4742
	PC 3003+16.51	619193.5455	1235068.3805
	PI 3003+55.79	619199.5604	1235107.1952
	PT 3003+83.79	619163.8698	1235123.5944
	POE 3004+13.81	619136.5915	1235136.1283

POINT NO.	STATION	OFFSET	ELEVATION	RADIUS	NORTHING	EASTING
A	130+89.72	133.47' LT.	453.00	1.0'	619181.0651	1235068.4225
B	131+16.14	130.78' LT.	453.00	40.0'	619177.6638	1235094.7664
C	131+51.27	75.47' LT.	453.00	3.0'	619121.4261	1235128.3869
D	130+89.73	71.95' LT.	453.00	3.0'	619119.5657	1235066.7768
E	130+77.46	83.97' LT.	453.00	3.0'	619131.9183	1235054.8300
F	130+80.73	93.09' LT.	453.00	6.0'	619140.9457	1235058.3481
G	130+74.28	104.61' LT.	453.00	5.0'	619152.6343	1235052.2073
H	130+83.38	117.26' LT.	453.00	10.0'	619165.0383	1235061.6465
I	130+92.26	120.28' LT.	453.00	1.0'	619167.8166	1235070.6122
J	130+63.38	77.12' LT.	453.00	2.0'	619125.4508	1235040.5781
K	130+71.34	76.29' LT.	453.00	3.0'	619124.4012	1235048.5057
L	130+86.60	63.51' LT.	453.00	12.0'	619111.2142	1235063.4222
M	131+57.48	64.85' LT.	453.00	3.0'	619110.6449	1235134.3117
N	131+61.16	53.94' LT.	453.00	5.0'	619099.6425	1235137.6915
O	130+99.01	39.41' LT.	453.00	8.0'	619086.7918	1235075.1740
P	130+92.71	39.66' LT.	453.00	8.0'	619087.2118	1235068.8893
Q	130+69.79	54.45' LT.	453.00	34.0'	619102.6159	1235046.3757

20' 0 20' 40'

SCALE: 1"=20'

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH ANDERSON SHEETS — No. 24828 — PROFESSIONAL ENGINEER

10/19/22

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

CROSS REFERENCE

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TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-11

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

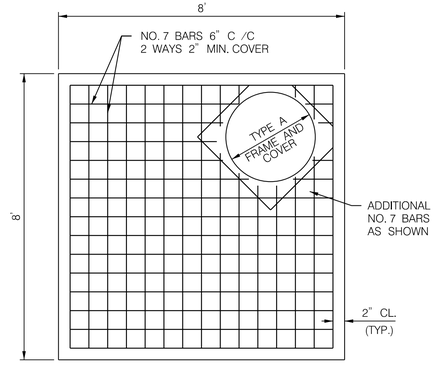
SWM-3 GEOMETRY

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

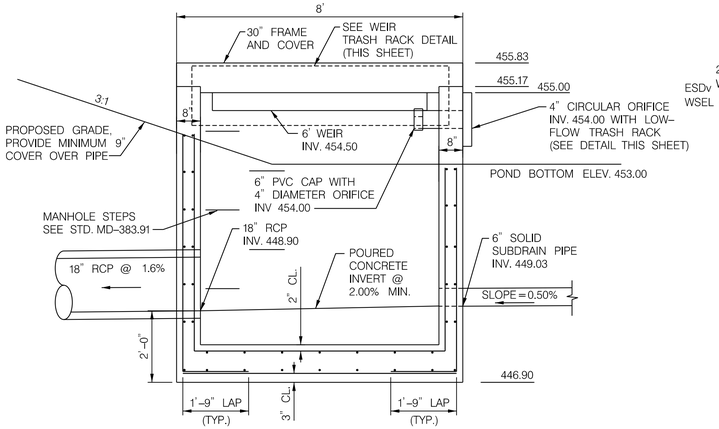
DWG. 58 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:35 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SWM-03.ENG.dgn

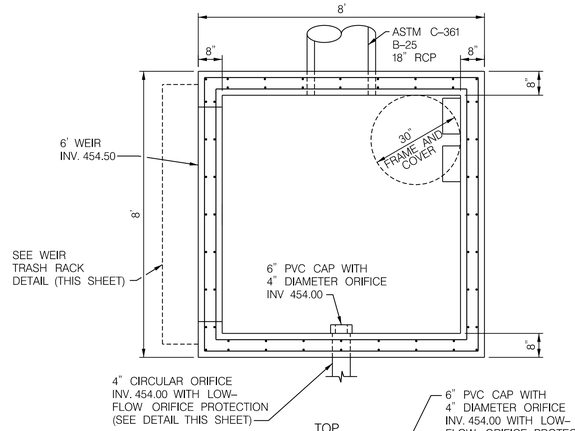


TOP SLAB REINFORCEMENT

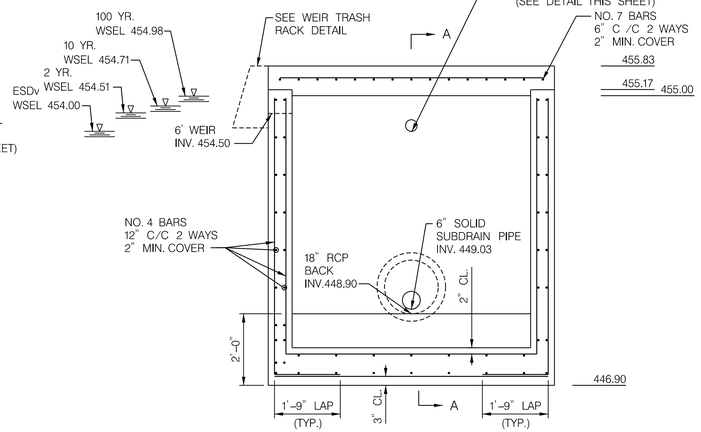
NOTE: TOP EDGES OF RISER STRUCTURE SHALL BE CHAMFERED.



SECTION A-A



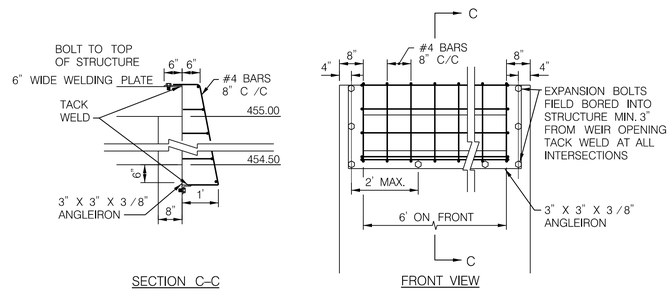
TOP



FRONT

SWM 3 BIORETENTION FACILITY RISER DETAIL

SCALE: ½" = 1'-0"

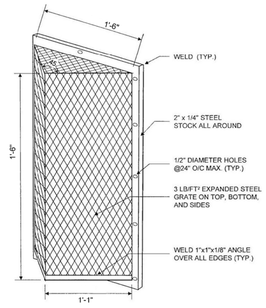


SECTION C-C

FRONT VIEW

WEIR TRASH RACK DETAIL

SCALE: ½" = 1'-0"

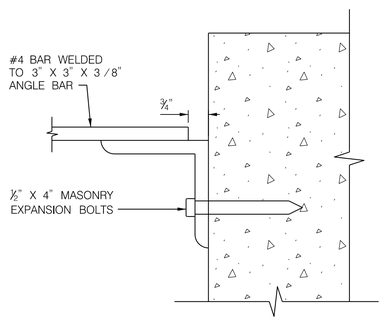


NOTES FOR TRASH RACK

1. TRASH RACK TO BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.

LOW-FLOW TRASH RACK

SCALE: N.T.S.

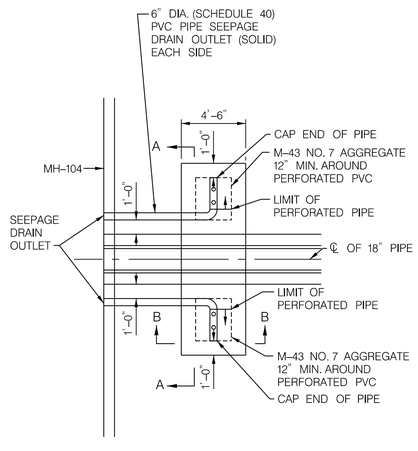


TRASH RACK CONNECTION DETAIL

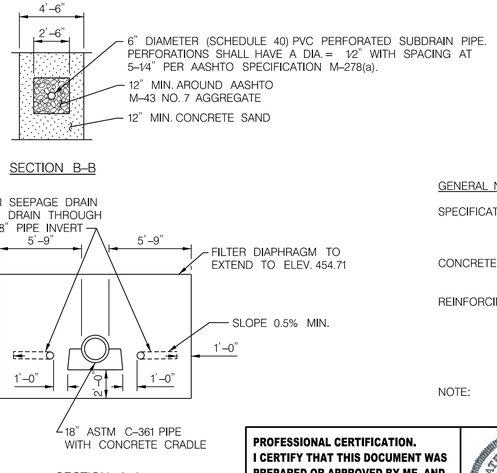
SCALE: ⅜" = 1"

TRASH RACK NOTES:

1. ALL RISER DIMENSIONS SHALL BE FIELD VERIFIED BEFORE TRASH RACK IS FABRICATED.
2. TRASH RACK SHALL BE GALVANIZED AFTER FABRICATION.
3. GALVANIZING DAMAGED DURING INSTALLATION SHALL BE RESTORED USING FIELD GALVANIZING COMPOUND.
4. ANGLES AND PLATES TO BE ASTM A36 STEEL.
5. ALL TRASH RACK BARS SHALL BE ASTM A36 STEEL.
6. ALL BARS SHALL BE WELDED TOGETHER AT LOCATIONS OF INTERSECTIONS.
7. ALL BARS SHALL BE WELDED TO L3X3 USING ELECTRODES.



PLAN VIEW



SECTION B-B

SECTION A-A

FILTER DIAPHRAGM DETAILS

SCALE: 1" = 5'

GENERAL NOTES:

SPECIFICATIONS: SHA SPECIFICATIONS DATED JULY 2024 REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.

CONCRETE: ALL CONCRETE SHALL BE MIX NO. 3 (3500 PSI) UNLESS OTHERWISE NOTED.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A 615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED. WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

NOTE: 1. ALL CONNECTIONS SHALL BE WATERTIGHT.
2. RISER STRUCTURE SHALL BE BROWN OR GRAY IN COLOR.

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2026

STATE OF MARYLAND — JOHN JACKSON WEBB — PROFESSIONAL ENGINEER — 5/1/25

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-12

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

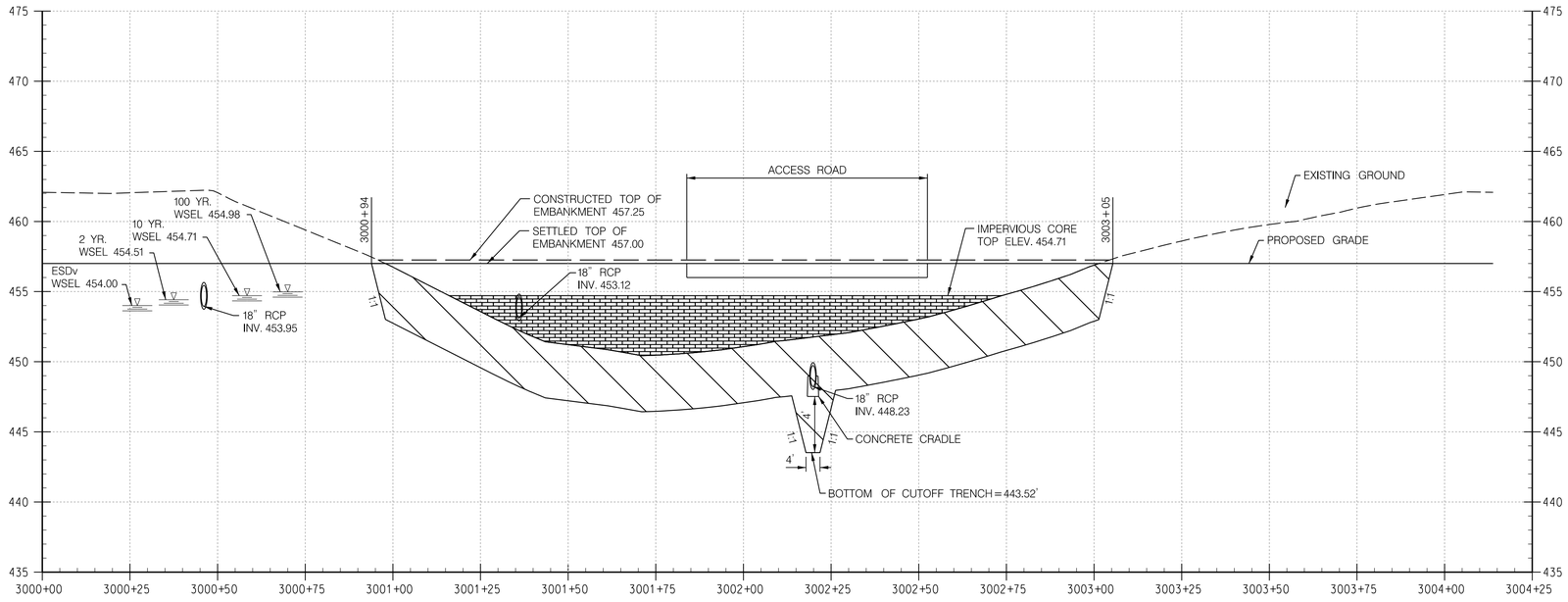
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-3
DETAILS

DATE: MARCH 2025 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 59 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SW-0006.EWC.dgn

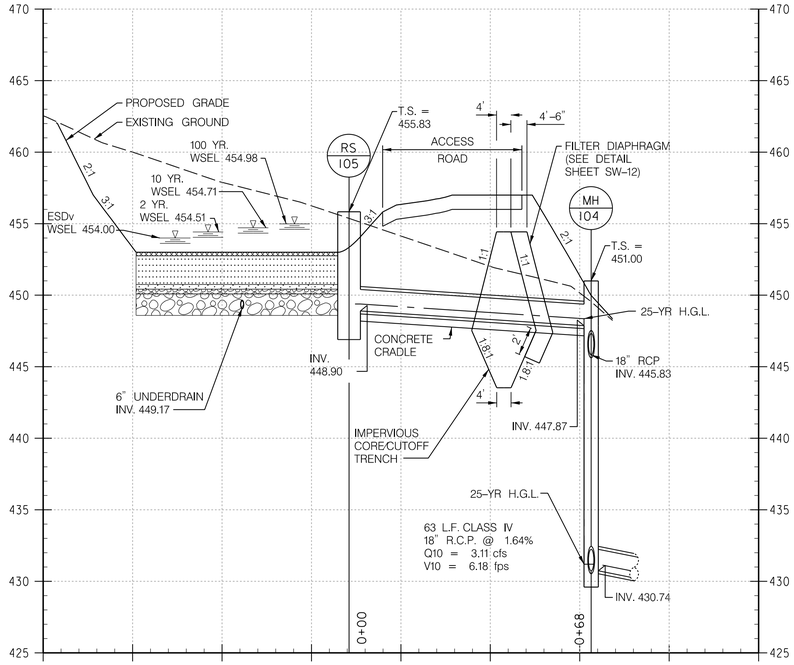


SWM-3 EMBANKMENT PROFILE

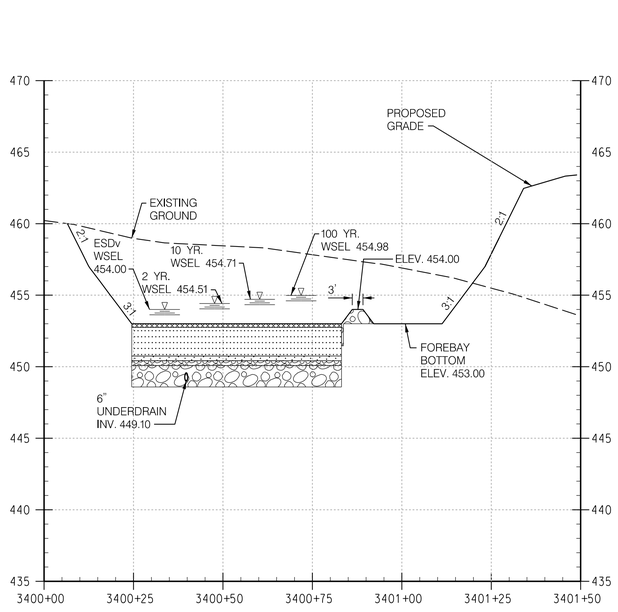
LEGEND

CUTOFF TRENCH

IMPERVIOUS CORE



SWM-3 OUTLET PIPE PROFILE



SWM-3 SECTION A-A PROFILE

20' 0 20' 40'

HORIZ. SCALE: 1"=20'

5' 0 5' 10'

VERT. SCALE: 1"=5'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEVEN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-13

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

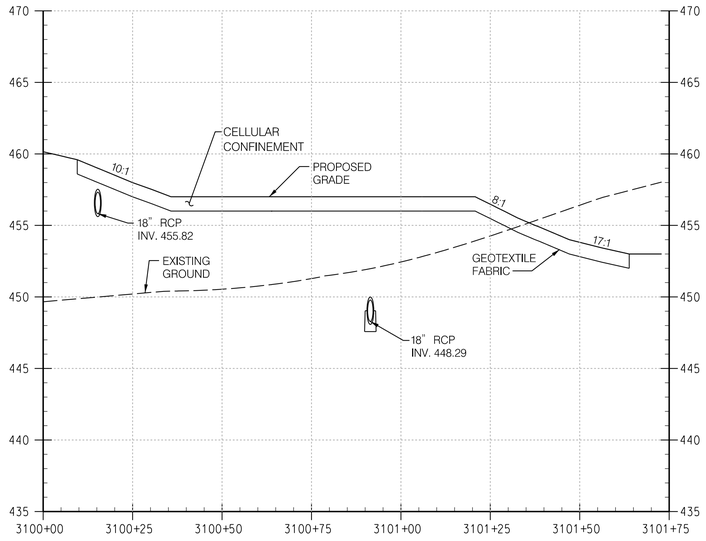
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-3
PROFILES AND SECTIONS
BIORETENTION

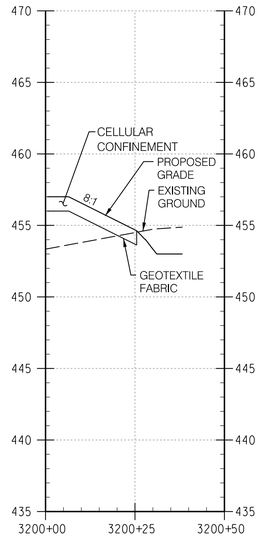
DATE: OCTOBER 2022 SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 60 OF 226

BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 03:37 PM
FILE: U:\F\Frederick County - Monrovia E-W Connector\Design Files\SW-0003_EWC.dgn



SWM–3 ACCESS ROAD 1 PROFILE



SWM–3 ACCESS ROAD 2 PROFILE

20′ 0 20′ 40′
SCALE: 1"=20′

5′ 0 5′ 10′
SCALE: 1"=5′

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-14

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SWM-3
PROFILES AND SECTIONS
BIORETENTION

DATE: OCTOBER 2022
SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01
DWG. 61 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:20 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SWM-001.DWG.dgn

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR FOREBAYS

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 3		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO FOREBAY EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED AND CONFIRMED FOREBAY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION AND GRADING OF FOREBAY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF ENDWALLS AND END SECTIONS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM ELEVATION (FT)	453.00		
SIDE SLOPES (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
FREEBOARD (IN.) – MEASURED VERTICALLY FROM THE WATER SURFACE ELEVATION TO TOP OF EBMANKMENT/TOP OF FOREBAY	24.2		
INVERT IN ELEVATION (FT)	453.00		
INVERT OUT ELEVATION (FT)	453.00		
WEIR CREST ELEVATION (FT)	454.00		
TOP EMBANKMENT ELEVATION (FT)	457.00		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR RELEASE STRUCTURES - RISERS

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 3		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
OBSERVED EXCAVATION FOR STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF BEDDING	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED STRUCTURE HAS LADDER RUNGS INSTALLED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED TOP OF STRUCTURE (GRATE OR SLAB WITH MANHOLE) IS INSTALLED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS CHECK ONE: ☐ TOP GRATE ☐ SLAB WITH MANHOLE	
VERIFIED LOW FLOW ORIFICE IS PRESENT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF LOW FLOW PIPE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE VALVE, VERIFIED FUNCTIONAL, AND CLOSED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED PLACEMENT OF BACKFILL AROUND STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF TRASH RACKS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	

FEATURES FOR RISERS	DESIGN	AS-BUILT	DIFFERENCE
TOP ELEVATION (FT)	455.83		
INVERT IN ELEVATION (FT)	N/A		
INVERT OUT ELEVATION (FT)	448.90		
LOW FLOW ORIFICE INVERT ELEVATION (FT)	454.00		
LOW FLOW ORIFICE DIAMETER (IN.)	4		
WEIR CREST ELEVATION (FT.)	454.50		
SUB-DRAIN INVERT IN ELEVATION (FT)	449.03		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR F-6 BIORETENTION

MAY ONLY BE COMPLETED AND/OR CERTIFIED BY THE AS-BUILT (AB) INSPECTOR AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
SWM 3		16-019B

ACTIVITY	ADDITIONAL SUPPORTING DOCUMENTATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED, AND CONFIRMED FACILITY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST:	
OBSERVED EXCAVATION AND GRADING OF SWM FACILITY	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST:	
OBSERVED INSTALLATION OF GEOTEXTILE AND VERIFIED INSTALLATION PERFORMED AS SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE BEDDING FOR SUB-DRAIN	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF SUB-DRAIN, VERIFIED TYPE IS PPWP OR CPP-S AND HAS SLOTTED PERFORATIONS	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF OBSERVATION WELL, VERIFIED TYPE IS PPWP OR CPP-S AND HAS SLOTTED PERFORATIONS, AND VERIFIED USE OF GEOTEXTILE SOCK	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE AROUND AND ABOVE SUB-DRAIN	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF NO. 7 AGGREGATE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF COARSE SAND	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF APPROVED BIORETENTION SOIL MIX (BSM)	☐ PHOTOGRAPHS ☐ MATERIAL APPROVAL FORM(S) ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ OTHER (WRITE IN):	
OBSERVED INSTALLATION AND ESTABLISHMENT OF VEGETATION, VERIFIED SPECIES AND QUANTITIES SPECIFIED, AND OBSERVED HARDWOOD BARK MULCH INSTALLATION	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT.)	63		
BOTTOM LENGTH (FT.)	65		
LEFT SIDE SLOPE (H:V) – CANNOT BE STEEPER THAN 3:1	3:1		
RIGHT SIDE SLOPE (H:V) – CANNOT BE STEEPER THAN 3:1	3:1		
OBSERVATION WELL PIPE DIAMETER (IN.)	6		
SUB-DRAIN PIPE DIAMETER (IN.)	6		
SUB-DRAIN INVERT OUT ELEVATION (FT.)	449.03		
THICKNESS OF NO. 57 AGGREGATE (IN.)	18		
THICKNESS OF NO. 7 AGGREGATE (IN.)	4		
THICKNESS OF COARSE SAND (IN.)	4		
THICKNESS OF BSM (IN.)	24		
ESDv DEPTH (IN.) – CANNOT EXCEED 12 IN.	12		
FREEBOARD (IN.) – CANNOT BE LESS THAN 6 IN.	24.2		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 10-25-2017

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JASON T. HENDERSON — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-15

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

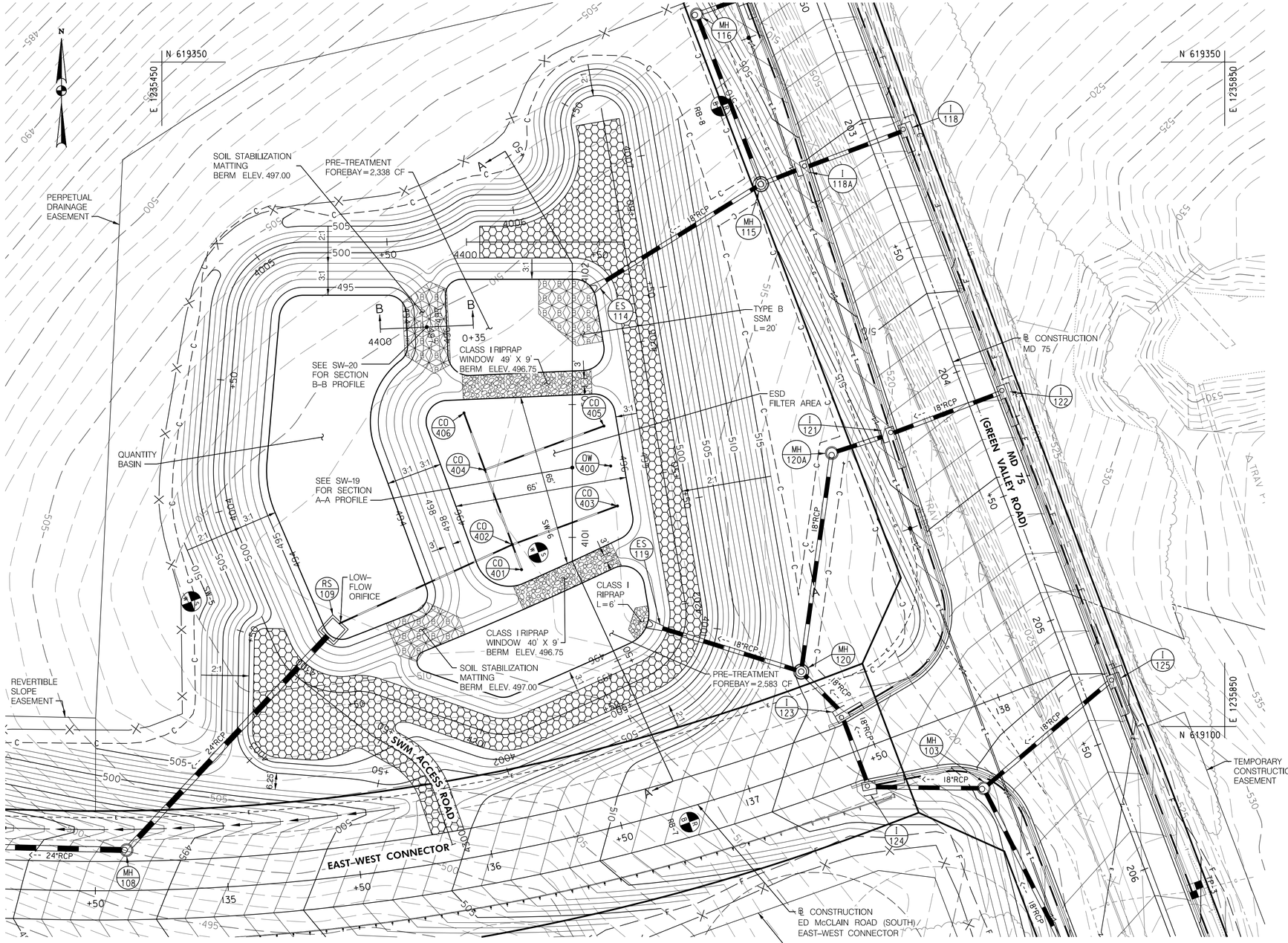
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SWM-3 AS-BUILT CHECKLIST

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 62 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:52 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SW-P005.DWG.dgn



BMP #101819 FACILITY SIZING TABLE

FACILITY TYPE	BIORETENTION
TOTAL DA (AC)	4.12
IMPERVIOUS AREA TREATED (AC)	1.01
TARGET ESDv (CF)	6,059
TARGET PE (IN)	1.50
TOTAL ESDv PROVIDED (CF)	10,484
TREATED PE (IN)	2.60
RCN	74
TC (MIN)	0.197

BIORETENTION (BMP #101819)
PLAN VIEW

FILTER DIAPHRAM	
LOCATION - STATION	EA
EWC LT. STA. 134+97	1

6" PERFORATED UNDERDRAIN	
LOCATION - STATION	LF
EWC LT. STA. 136+26 TO LT. STA. 136+87	153

NO. 7 AGGREGATE FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 136+07 TO LT. STA. 136+94	52

NO. 57 AGGREGATE FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 136+07 TO LT. STA. 136+94	234

6" SUBDRAIN PIPE	
LOCATION - STATION	LF
EWC LT. STA. 136+85 - OBSERVATION WELL-400, TOP ELEV. 497.5	6
EWC LT. STA. 136+35 - CLEANOUT-401, TOP ELEV. 497.5	6
EWC LT. STA. 136+34 - CLEANOUT-402, TOP ELEV. 497.5	6
EWC LT. STA. 136+83- CLEANOUT-403, TOP ELEV. 497.5	6
EWC LT. STA. 136+29 - CLEANOUT-404, TOP ELEV. 497.5	6
EWC LT. STA. 136+87 - CLEANOUT-505, TOP ELEV. 497.5	6
EWC LT. STA. 136+26 - CLEANOUT-306, TOP ELEV. 497.5	6
EWC LT. STA. 135+54 TO LT. STA. 136+34	72

COARSE SAND FOR SWM FACILITIES	
LOCATION - STATION	CY
EWC LT. STA. 136+07 TO LT. STA. 136+94	52

BIORETENTION SOIL MIX	
LOCATION - STATION	CY
EWC LT. STA. 136+07 TO LT. STA. 136+94	312

BIORETENTION MEADOW ESTABLISHMENT	
LOCATION - STATION	SY
EWC LT. STA. 136+07 TO LT. STA. 136+94	468

SHREDDED HARDWOOD BARK MULCH, 3 INCH DEPTH	
LOCATION - STATION	SY
EWC LT. STA. 136+07 TO LT. STA. 136+94	468

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEPHEN JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-16

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

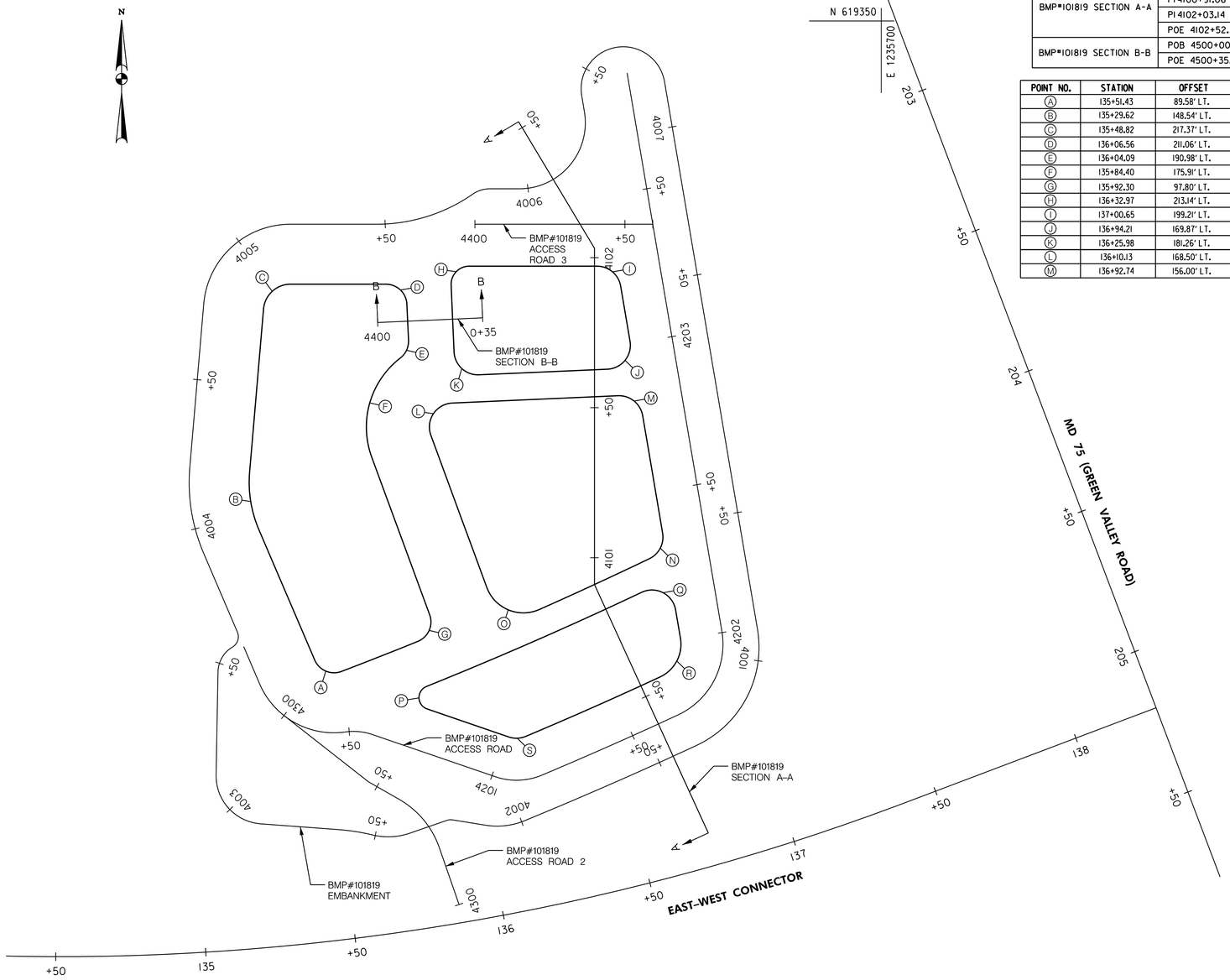
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

BMP #101819 PLAN

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 63 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:50 AM
FILE: I:\SYFrederick County - Monrovia E-W Connector\Design Files\SW-P004-EWC.dgn



BASELINE CONTROL COORDINATES

LOCATION	STATION	NORTHING	EASTING
BMP#101819 SECTION A-A	POB 4100+00.00	619131.3723	1235469.6891
	PI 4100+91.06	619162.195	1235604.4622
	PI 4102+03.14	619274.2817	1235604.4622
	POE 4102+52.30	619316.4467	1235579.2016
BMP#101819 SECTION B-B	POB 4500+00.00	619249.5254	1235532.2318
	POE 4500+35.00	619251.0604	1235567.1981

POINT NO.	STATION	OFFSET	ELEVATION	RADIUS	NORTHING	EASTING
(A)	135+51.43	89.58' LT.	494.00	7.0'	619133.3505	1235514.9545
(B)	135+29.62	148.54' LT.	494.00	40.0'	619189.8759	1235489.9298
(C)	135+48.82	217.37' LT.	494.00	9.0'	619259.9107	1235497.0879
(D)	136+06.56	211.06' LT.	494.00	7.0'	619260.3388	1235539.8220
(E)	136+04.09	190.98' LT.	494.00	7.0'	619240.2733	1235541.8576
(F)	135+84.40	175.91' LT.	494.00	29.0'	619222.7468	1235529.6034
(G)	135+92.30	97.80' LT.	494.00	7.0'	619146.9051	1235549.3856
(H)	136+32.97	213.14' LT.	496.00	6.0'	619266.4303	1235558.3670
(I)	137+00.65	199.21' LT.	496.00	8.0'	619266.3934	1235610.4819
(J)	136+94.21	169.87' LT.	496.00	8.0'	619236.9288	1235614.6529
(K)	136+25.98	181.26' LT.	496.00	8.0'	619234.1792	1235560.2750
(L)	136+10.13	168.50' LT.	496.00	8.0'	619219.1271	1235550.8035
(M)	136+92.74	156.00' LT.	496.00	8.0'	619223.3399	1235617.6708

POINT NO.	STATION	OFFSET	ELEVATION	RADIUS	NORTHING	EASTING
(N)	136+85.52	106.59' LT.	496.00	8.0'	619174.3341	1235626.3845
(O)	136+23.28	99.44' LT.	496.00	13.0'	619153.7878	1235575.7056
(P)	135+84.26	76.23' LT.	496.00	4.0'	619124.4270	1235546.0019
(Q)	136+81.69	92.09' LT.	496.00	8.0'	619159.4825	1235627.3232
(R)	136+79.42	68.96' LT.	496.00	12.0'	619136.7165	1235631.9041
(S)	136+16.65	56.95' LT.	496.00	8.0'	619110.9934	1235578.7553

BASELINE CONTROL COORDINATES

LOCATION	STATION	NORTHING	EASTING
BMP#101819 ACCESS ROAD	POB 4200+00.00	619141.5181	1235487.5796
	PC 4200+13.43	619129.1685	1235492.8667
	PI 4200+34.14	619110.1288	1235501.0180
	PRC 4200+48.77	619113.0682	1235521.5195
	PI 4200+53.35	619113.7179	1235526.0512
	PT 4200+57.75	619112.2324	1235530.3814
	PC 4201+01.06	619098.1793	1235571.3455
	PI 4201+09.45	619095.4567	1235579.2818
	PCC 4201+17.09	619098.7103	1235587.0155
	PI 4201+32.88	619104.8327	1235601.5686
	PT 4201+48.67	619111.2947	1235615.9741
	PC 4201+55.99	619114.3094	1235622.6462
	PI 4201+61.27	619116.4959	1235627.4503
	PCC 4201+66.55	619118.7199	1235632.2371
	PI 4201+86.39	619127.0822	1235650.2354
	PT 4202+00.45	619146.6486	1235646.9154
	POE 4203+89.16	619332.7022	1235615.3461
BMP#101819 ACCESS ROAD 2	POB 4300+00.00	619055.5482	1235559.3554
	PC 4300+19.94	619074.3928	1235552.8351
	PI 4300+31.21	619085.0399	1235549.1512
	PT 4300+41.50	619090.6299	1235539.3694
	PI 4300+53.20	619096.4358	1235529.2099
	POE 4300+89.03	619118.5528	1235501.0211
BMP#101819 ACCESS ROAD 3	POB 4400+00.00	619282.2817	1235564.6202
	POE 4400+59.28	619282.2817	1235623.9014
BMP#101819 EMBANKMENT	POB 4000+00.00	619235.4841	1235643.8106
	PC 4000+89.48	619147.2688	1235658.7788
	PI 4001+16.93	619120.2060	1235663.3708
	PCC 4001+36.38	619108.6140	1235638.4890
	PI 4001+67.69	619095.3934	1235610.1114
	PCC 4001+98.98	619083.4940	1235581.1549
	PI 4002+05.75	619080.9197	1235574.8906
	PT 4002+12.18	619081.9999	1235568.2047
	PC 4002+23.30	619083.7734	1235557.2278
	PI 4002+24.31	619083.9340	1235556.2336
	PT 4002+25.28	619083.6047	1235555.2818
	PC 4002+38.31	619079.3413	1235542.9601
	PI 4002+44.65	619077.2712	1235536.9772
	PT 4002+50.64	619078.6977	1235530.8091
	PC 4002+51.56	619078.9043	1235529.9158
	PI 4002+56.90	619080.1081	1235524.7109
	PT 4002+62.22	619080.5081	1235519.3837
	PC 4002+88.47	619082.4736	1235493.2064
	PI 4003+03.59	619083.6056	1235478.1288
	PT 4003+12.70	619098.7232	1235478.4071
	PC 4003+47.10	619133.1144	1235479.0403
	PI 4003+52.57	619138.5862	1235479.1410
	PRC 4003+57.08	619141.3707	1235483.8524
	PI 4003+60.60	619143.1585	1235486.8773
	PT 4003+62.85	619146.3886	1235485.4944
	PC 4003+91.39	619172.6224	1235474.2631
	PI 4004+06.37	619186.4022	1235468.3637
	PT 4004+20.76	619201.3375	1235469.6380
	PC 4004+75.37	619255.7471	1235474.2804
	PI 4005+02.00	619282.2817	1235476.5444
	PT 4005+18.46	619282.2817	1235503.1754
	PC 4005+47.24	619282.2817	1235531.9591
	PI 4005+64.78	619282.2817	1235549.5051
	PRC 4005+81.25	619292.2938	1235563.9140
	PI 4005+84.38	619294.0817	1235566.4870
	PT 4005+87.32	619294.0817	1235569.6202
	PC 4005+97.12	619294.0817	1235579.4202
	PI 4006+23.17	619294.0817	1235605.4676
	PC 4006+40.75	619325.0626	1235600.2108
	PT 4006+84.73	619329.7467	1235627.8163
	POE 4007+80.34	619235.4841	1235643.8106

20' 0 20' 40'
SCALE: 1"=20'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND · JOSEPH JACKSON WILLIS · No. 24828 · PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-17

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

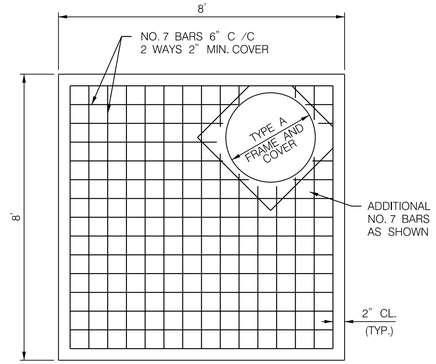
BMP #101819 GEOMETRY

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

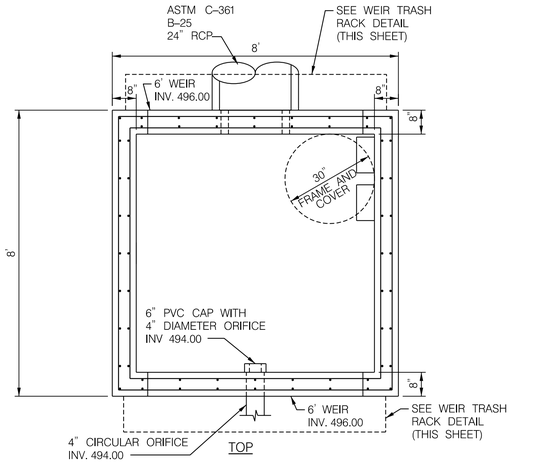
DWG. 64 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:37 AM
FILE: K:\Frederick County - Monrovia E-W Connector\Design Files\SW-04 EWC.dgn

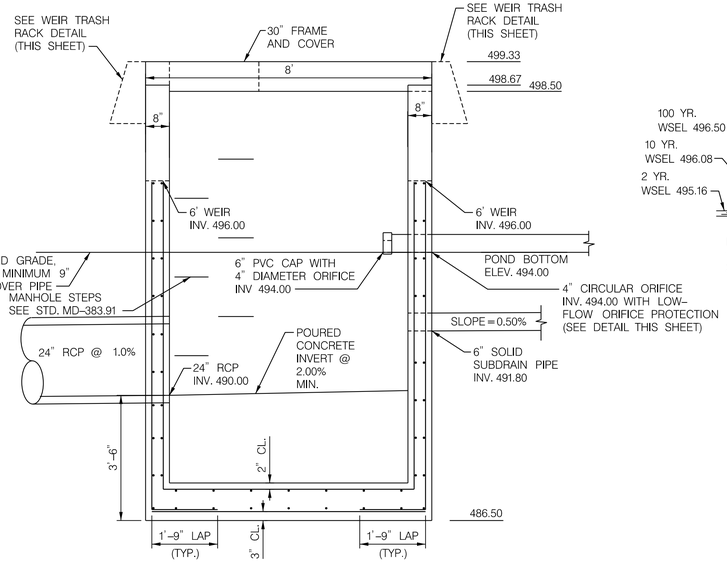


TOP SLAB REINFORCEMENT

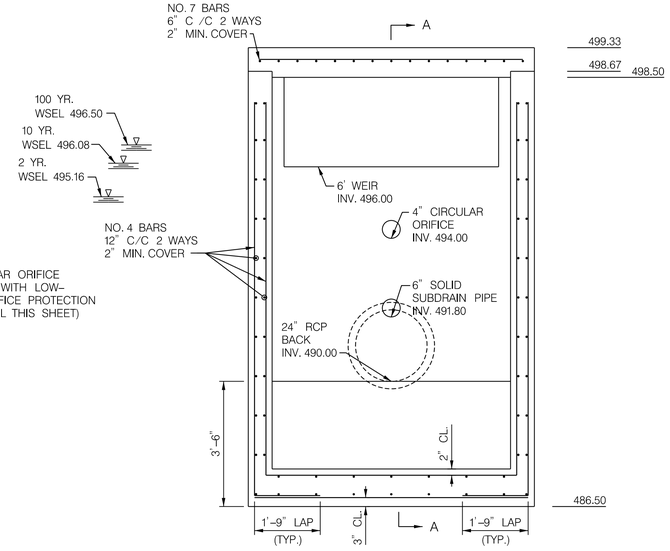
NOTE: TOP EDGES OF RISER STRUCTURE SHALL BE CHAMFERED.



TOP



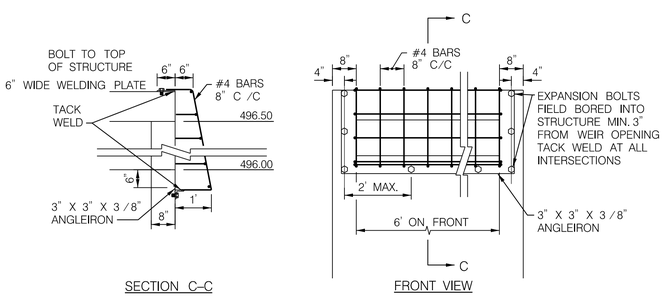
SECTION A–A



FRONT

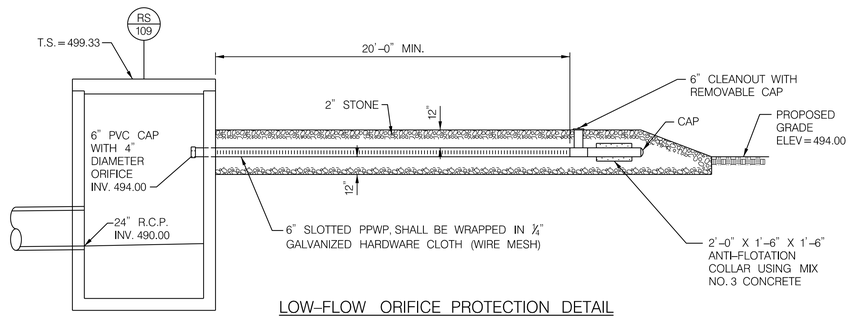
BMP #101819 BIORETENTION FACILITY RISER DETAIL

SCALE: ½" = 1'–0"



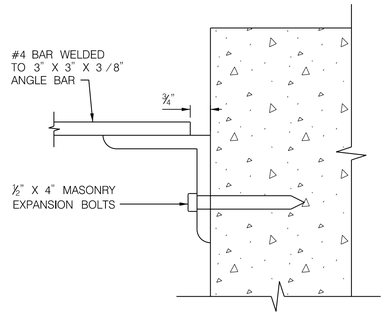
WEIR TRASH RACK DETAIL

SCALE: ½" = 1'–0"



LOW–FLOW ORIFICE PROTECTION DETAIL

SCALE: ¼" = 1'–0"

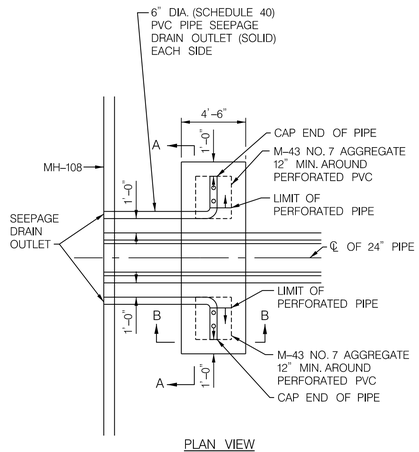


TRASH RACK CONNECTION DETAIL

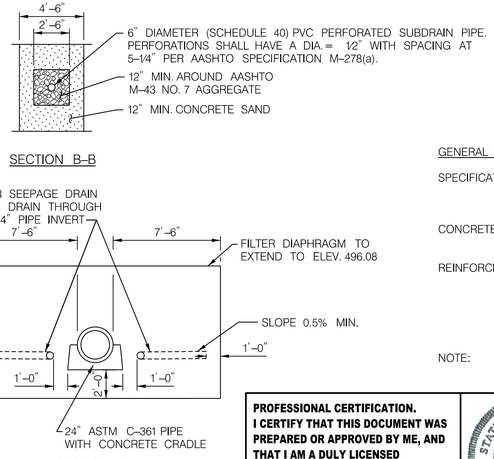
SCALE: ⅜" = 1"

TRASH RACK NOTES:

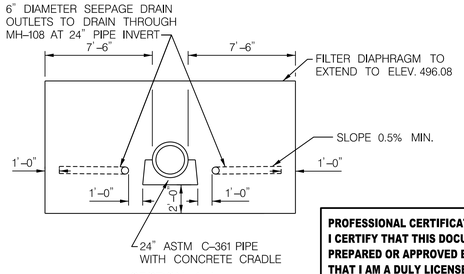
1. ALL RISER DIMENSIONS SHALL BE FIELD VERIFIED BEFORE TRASH RACK IS FABRICATED.
2. TRASH RACK SHALL BE GALVANIZED AFTER FABRICATION.
3. GALVANIZING DAMAGED DURING INSTALLATION SHALL BE RESTORED USING FIELD GALVANIZING COMPOUND.
4. ANGLES AND PLATES TO BE ASTM A36 STEEL.
5. ALL TRASH RACK BARS SHALL BE ASTM A36 STEEL.
6. ALL BARS SHALL BE WELDED TOGETHER AT LOCATIONS OF INTERSECTIONS.
7. ALL BARS SHALL BE WELDED TO L3X3 USING ELECTRODES.



PLAN VIEW



SECTION B–B



SECTION A–A

FILTER DIAPHRAGM DETAILS

SCALE: 1" = 5'

GENERAL NOTES:

SPECIFICATIONS: SHA SPECIFICATIONS DATED JULY 2024 REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.

CONCRETE: ALL CONCRETE SHALL BE MIX NO. 3 (3500 PSI) UNLESS OTHERWISE NOTED.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A 615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

NOTE: 1. ALL CONNECTIONS SHALL BE WATERTIGHT.
2. RISER STRUCTURE SHALL BE BROWN OR GRAY IN COLOR.

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

STATE OF MARYLAND — JOHN JACKSON WEBB — PROFESSIONAL ENGINEER — 5/17/25

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-18

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

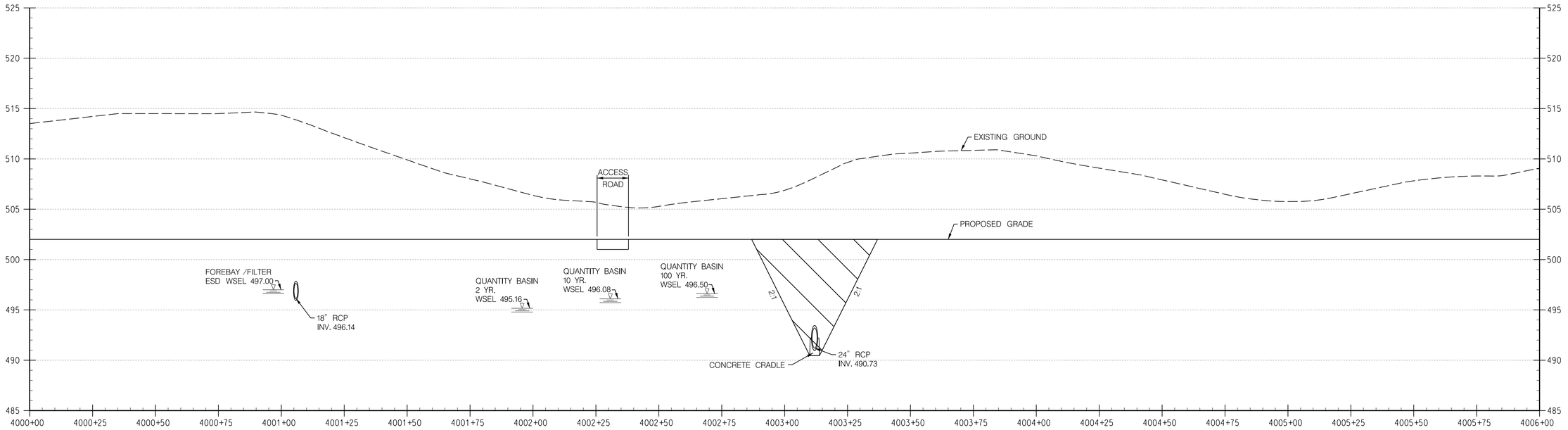
BMP #101819
DETAILS

DATE: MARCH 2025 SCALE: AS SHOWN

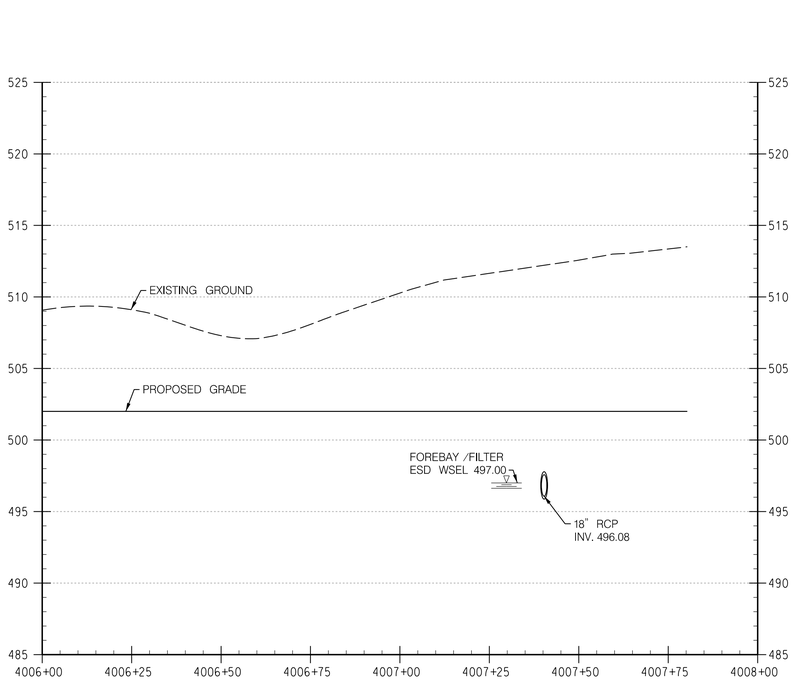
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 65 OF 226

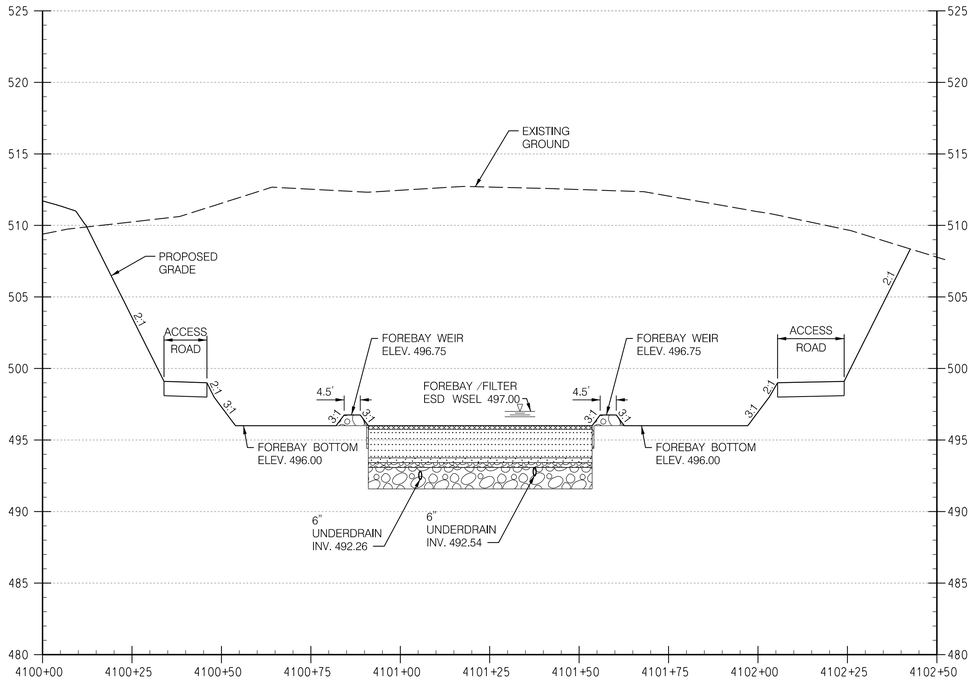
BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pSW-0007.EWC.dgn



BMP #101819 EMBANKMENT PROFILE



BMP #101819 EMBANKMENT PROFILE (CONTD.)



BMP #101819 SECTION A–A PROFILE

LEGEND

CUTOFF TRENCH

IMPERVIOUS CORE

20' 0 20' 40'
HORIZ. SCALE: 1"=20'

5' 0 5' 10'
VERT. SCALE: 1"=5'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND · CHRISTOPHER JACKSON WELLS · No. 24828 · PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-19

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

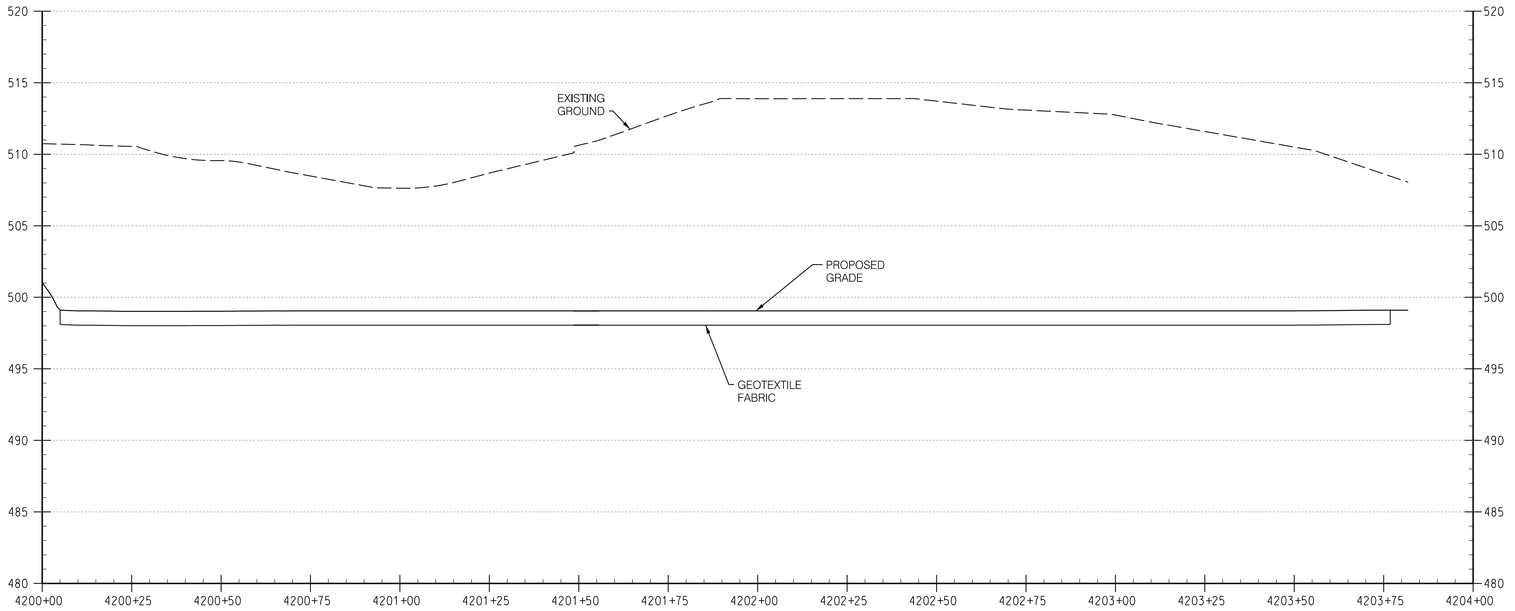
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BMP #101819
PROFILES AND SECTIONS
BIORETENTION

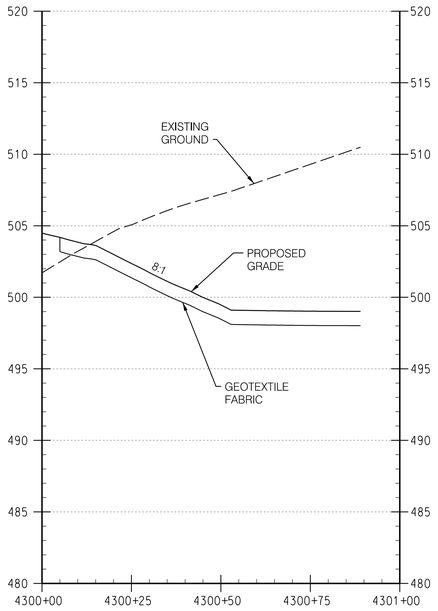
DATE: OCTOBER 2022 SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 66 OF 226

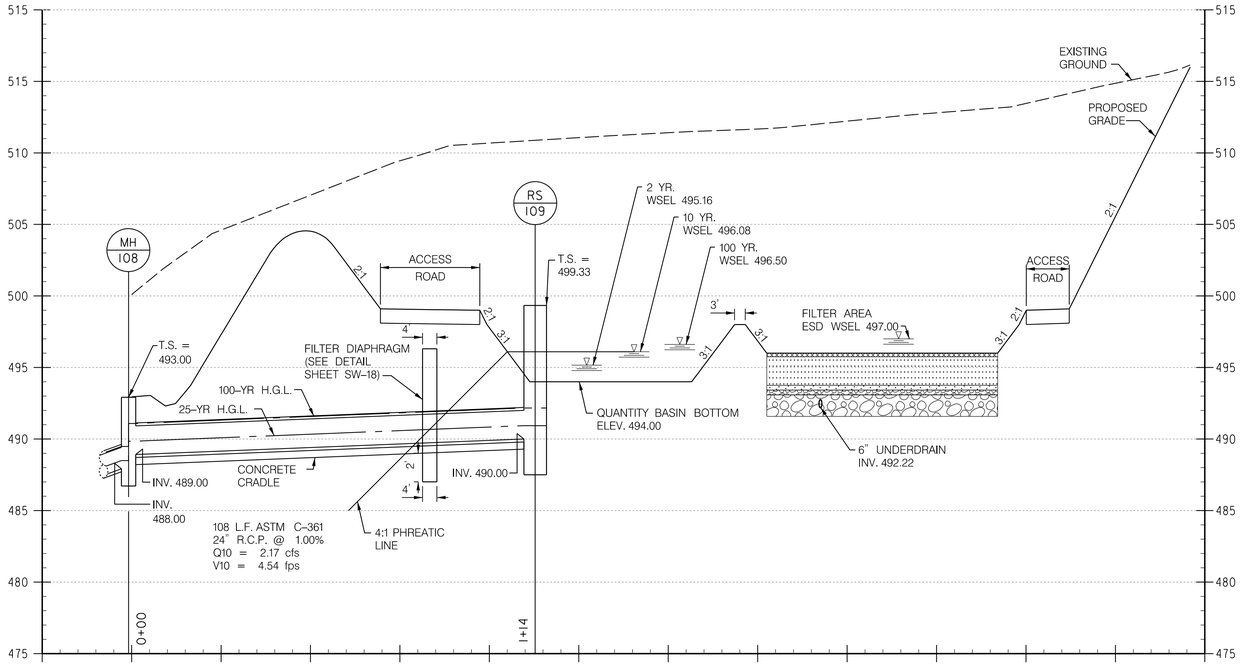
BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 03:45 PM
FILE: U:\SF\Frederick County - Monrovia E-W Connector\Design Files\SW-0004.EWC.dgn



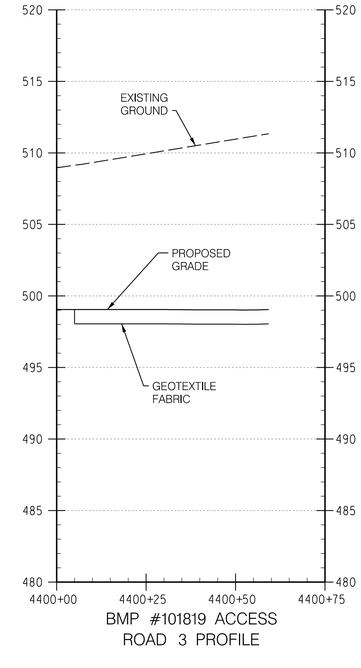
BMP #101819 ACCESS ROAD PROFILE



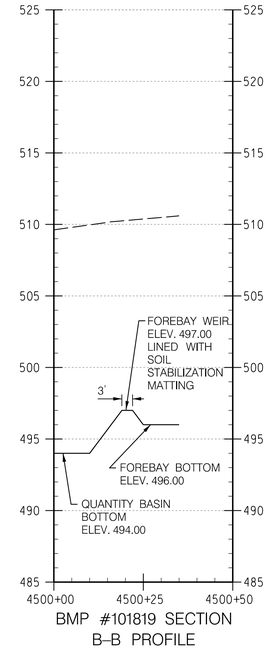
BMP #101819 ACCESS ROAD 2 PROFILE



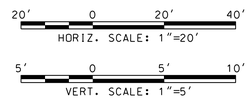
BMP #101819 OUTLET PIPE PROFILE



BMP #101819 ACCESS ROAD 3 PROFILE



BMP #101819 SECTION B-B PROFILE



SW-20

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BMP #101819
PROFILES AND SECTIONS
BIORETENTION

DATE: OCTOBER 2022 SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 67 OF 226

BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:21 AM
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\SW-0012_ENC.dgn

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR FOREBAYS

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
BMP #101819		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO FOREBAY EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED AND CONFIRMED FOREBAY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION AND GRADING OF FOREBAY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF ENDWALLS AND END SECTIONS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM ELEVATION (FT)	496		
SIDE SLOPES (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
FREEBOARD (IN.) – MEASURED VERTICALLY FROM THE WATER SURFACE ELEVATION TO TOP OF EBMANKMENT/TOP OF FOREBAY	66		
INVERT IN ELEVATION (FT)	496		
INVERT OUT ELEVATION (FT)	496		
WEIR CREST ELEVATION (FT)	497 / 496.75		
TOP EMBANKMENT ELEVATION (FT)	502		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR RELEASE STRUCTURES - RISERS

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*CONTRACT NUMBER*
BMP #101819		16-019B

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
OBSERVED EXCAVATION FOR STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF BEDDING	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED STRUCTURE HAS LADDER RUNGS INSTALLED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED TOP OF STRUCTURE (GRATE OR SLAB WITH MANHOLE) IS INSTALLED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS CHECK ONE: ☐ TOP GRATE ☐ SLAB WITH MANHOLE	
VERIFIED LOW FLOW ORIFICE IS PRESENT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF LOW FLOW PIPE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE VALVE, VERIFIED FUNCTIONAL, AND CLOSED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED PLACEMENT OF BACKFILL AROUND STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF TRASH RACKS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	

FEATURES FOR RISERS	DESIGN	AS-BUILT	DIFFERENCE
TOP ELEVATION (FT)	499.17		
INVERT IN ELEVATION (FT)	N/A		
INVERT OUT ELEVATION (FT)	490.00		
LOW FLOW ORIFICE INVERT ELEVATION (FT)	494		
LOW FLOW ORIFICE DIAMETER (IN.)	4		
WEIR CREST ELEVATION (FT.)	496		
SUB-DRAIN INVERT IN ELEVATION (FT)	491.8		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR F-6 BIORETENTION

MAY ONLY BE COMPLETED AND/OR CERTIFIED BY THE AS-BUILT (AB) INSPECTOR AS REQUIRED BY COMAR 26.17.02.10.

SWM FACILITY NUMBER	*DPDR NUMBER*	*SHA CONTRACT NUMBER*
BMP #101819		16-019B

ACTIVITY	ADDITIONAL SUPPORTING DOCUMENTATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED, AND CONFIRMED FACILITY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST:	
OBSERVED EXCAVATION AND GRADING OF SWM FACILITY	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST:	
OBSERVED INSTALLATION OF GEOTEXTILE AND VERIFIED INSTALLATION PERFORMED AS SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE BEDDING FOR SUB-DRAIN	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF SUB-DRAIN, VERIFIED TYPE IS PPWP OR CPP-S AND HAS SLOTTED PERFORATIONS	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF OBSERVATION WELL, VERIFIED TYPE IS PPWP OR CPP-S AND HAS SLOTTED PERFORATIONS, AND VERIFIED USE OF GEOTEXTILE SOCK	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE AROUND AND ABOVE SUB-DRAIN	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF NO. 7 AGGREGATE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF COARSE SAND	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF APPROVED BIORETENTION SOIL MIX (BSM)	☐ PHOTOGRAPHS ☐ MATERIAL APPROVAL FORM(S) ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST): RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ OTHER (WRITE IN):	
OBSERVED INSTALLATION AND ESTABLISHMENT OF VEGETATION, VERIFIED SPECIES AND QUANTITIES SPECIFIED, AND OBSERVED HARDWOOD BARK MULCH INSTALLATION	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT.)	65		
BOTTOM LENGTH (FT.)	65		
LEFT SIDE SLOPE (H:V) – CANNOT BE STEEPER THAN 3:1	3:1		
RIGHT SIDE SLOPE (H:V) – CANNOT BE STEEPER THAN 3:1	3:1		
OBSERVATION WELL PIPE DIAMETER (IN.)	6		
SUB-DRAIN PIPE DIAMETER (IN.)	6		
SUB-DRAIN INVERT OUT ELEVATION (FT.)	492.16		
THICKNESS OF NO. 57 AGGREGATE (IN.)	18		
THICKNESS OF NO. 7 AGGREGATE (IN.)	4		
THICKNESS OF COARSE SAND (IN.)	4		
THICKNESS OF BSM (IN.)	24		
ESDv DEPTH (IN.) – CANNOT EXCEED 12 IN.	12		
FREEBOARD (IN.) – CANNOT BE LESS THAN 6 IN.	66		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE

ACCEPTED BY: _____ DATE: _____
(NAME)

REVISED 10-25-2017

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JONATHAN WESLEY BALLARD — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE

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TYPICAL SECTIONS	4 TO 7
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ROADWAY PROFILE SHEETS	22 TO 27
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SW-21

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

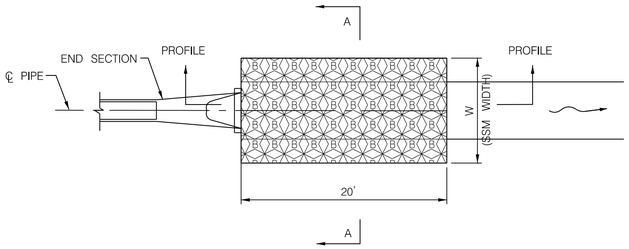
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BMP #101819 AS-BUILT CHECKLIST

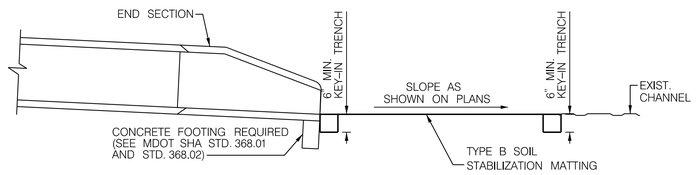
DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 68 OF 226

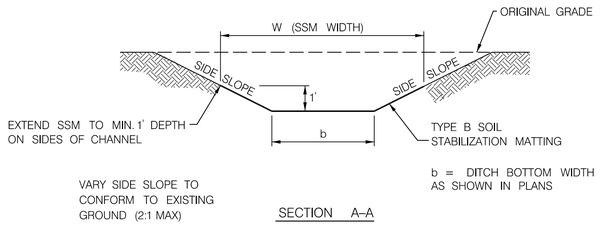
BY: BAS -
PLOTTED: Thursday, October 20, 2022 AT 07:53 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SW-P007.DWG.dgn



PLAN VIEW



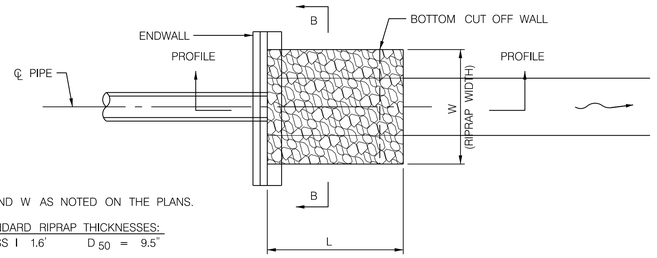
PROFILE



SECTION A–A

SOIL STABILIZATION MATTING OUTLET PROTECTION

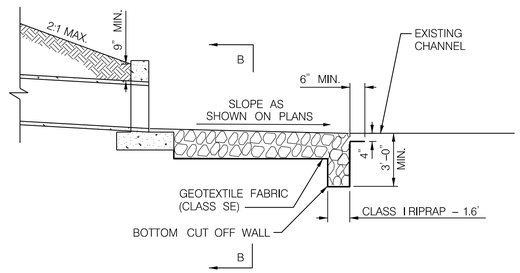
N.T.S.



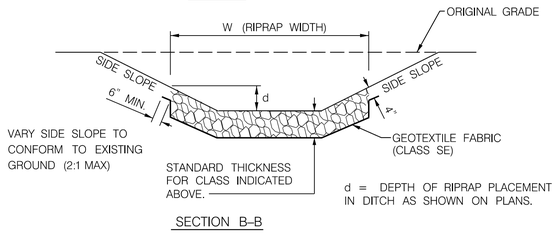
NOTE: L AND W AS NOTED ON THE PLANS.

STANDARD RIPRAP THICKNESSES:
CLASS I 1.6' D_{50} = 9.5"

PLAN VIEW



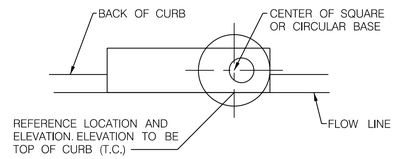
PROFILE



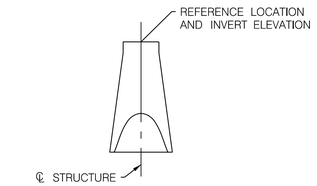
SECTION B–B

RIPRAP OUTLET PROTECTION

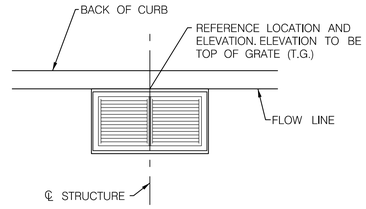
N.T.S.



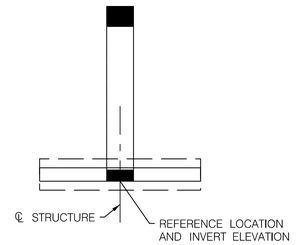
SQUARE OR CIRCULAR COG INLET



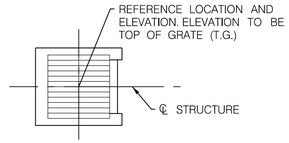
END SECTION



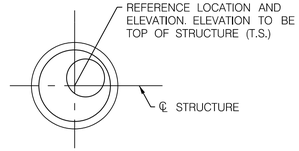
TYPE 'S' INLET



ENDWALL



TYPE 'K' INLET



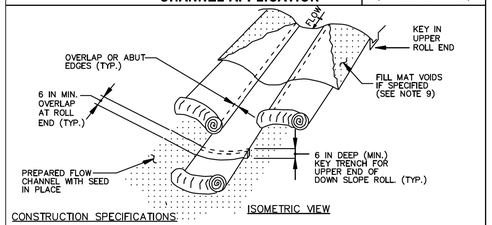
MANHOLE

DRAINAGE STRUCTURE STAKEOUT LOCATION DETAILS

N.T.S.

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL
PSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS:

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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

PRECAST MATERIAL ACCEPTANCE POLICY

1. THE COUNTY SHALL REQUIRE SEPARATE CERTIFICATIONS FOR THE PRE-CAST CONCRETE STORM DRAINAGE STRUCTURES, THE MANHOLE FRAMES AND COVERS, AND THE INLET GRATES.

   THE CERTIFICATIONS SHALL BE IN ACCORDANCE WITH ALL PROVISIONS OF THE MARYLAND STATE HIGHWAY (SHA) ADMINISTRATION'S 2024 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

2. THE COUNTY SHALL HAVE THE RIGHT TO OBTAIN INDEPENDENT VERIFICATION OF ANY, AND/OR ALL OF THE MATERIALS UTILIZED IN THE PRE-CAST MANUFACTURING PROCESS TO ENSURE THAT THEY COMPLY WITH CURRENT SHA SPECIFICATIONS. THE VERIFICATION SHALL BE FROM AN SHA APPROVED INDEPENDENT TESTING LABORATORY. ALL COSTS FOR THE TESTING AND VERIFICATION PROCESS SHALL BE BORNE BY THE CONTRACTOR.

3. THE CONTRACTOR MUST FIELD VERIFY THE EXISTING STORMDRAIN AND STRUCTURE INVERTS AND CLEARANCES TO EXISTING UTILITIES FOR CONSISTENCY WITH CONTRACT DOCUMENTS. IF THERE IS A DISCREPENCY BETWEEN THE CONTRACT DOCUMENTS AND FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER BEFORE ORDERING ANY STRUCTURES THAT MAY BE AFFECTED.

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

STATE OF MARYLAND — JOHN JACKSON WILSON — PROFESSIONAL ENGINEER — 3/17/25

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DD-1

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

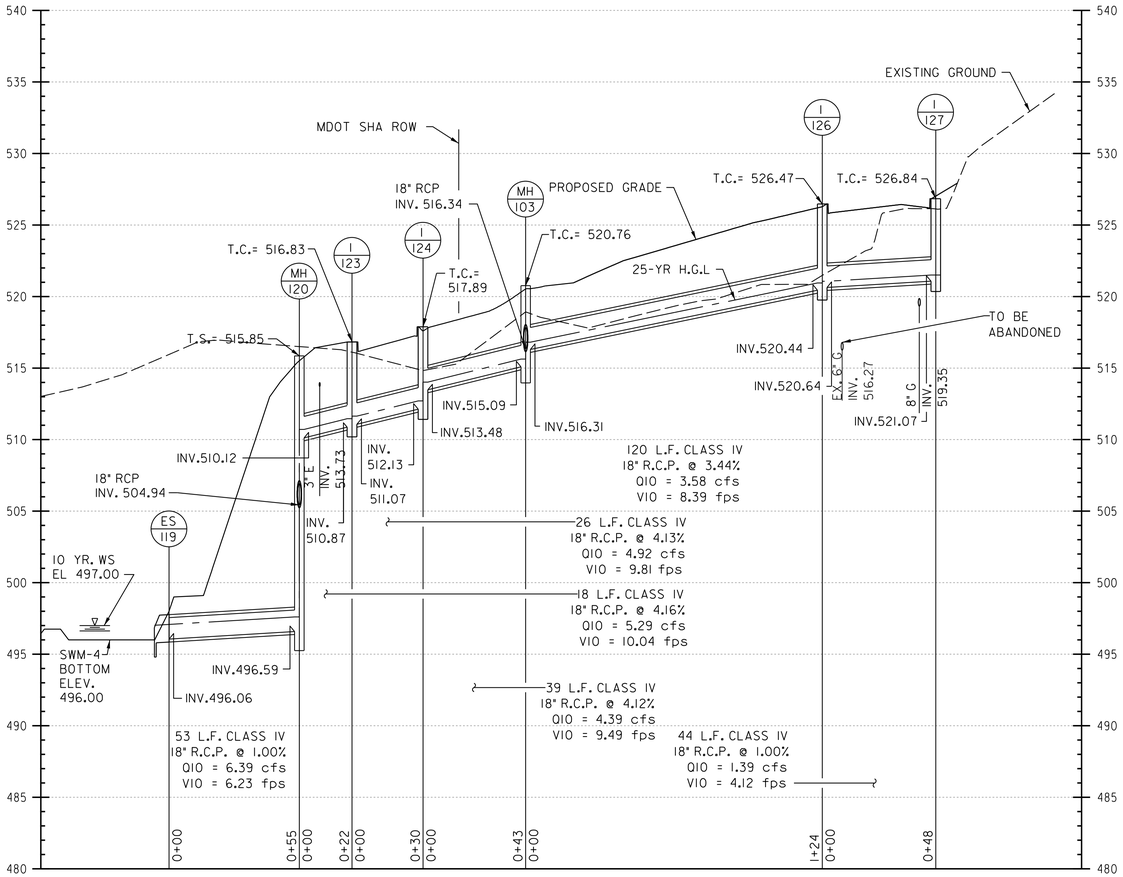
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

TYPICAL DRAINAGE DETAILS

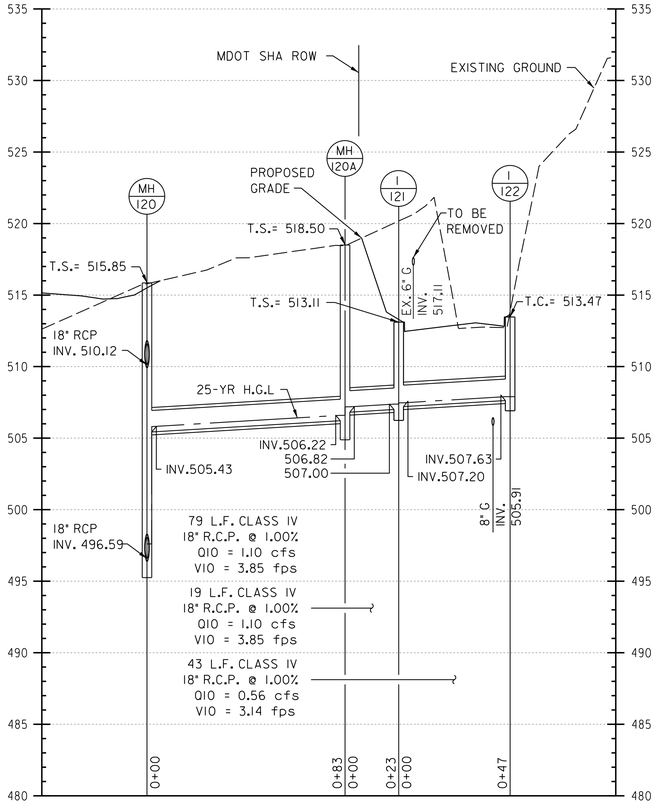
DATE: MARCH 2025 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 69 OF 226

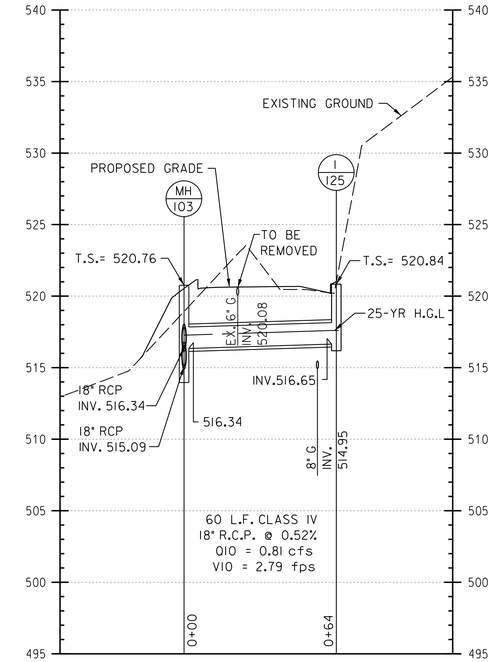
BY: DAW - 3/12/2025
PLOTTED:
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SHEET 0000_ENC.dgn



ES–119 TO I–127



MH–120 TO I–122



MH–103 TO I–125

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HORIZ. SCALE: 1"=30′

5′ 0 5′ 10′
VERT. SCALE: 1"=5′

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DP-1

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

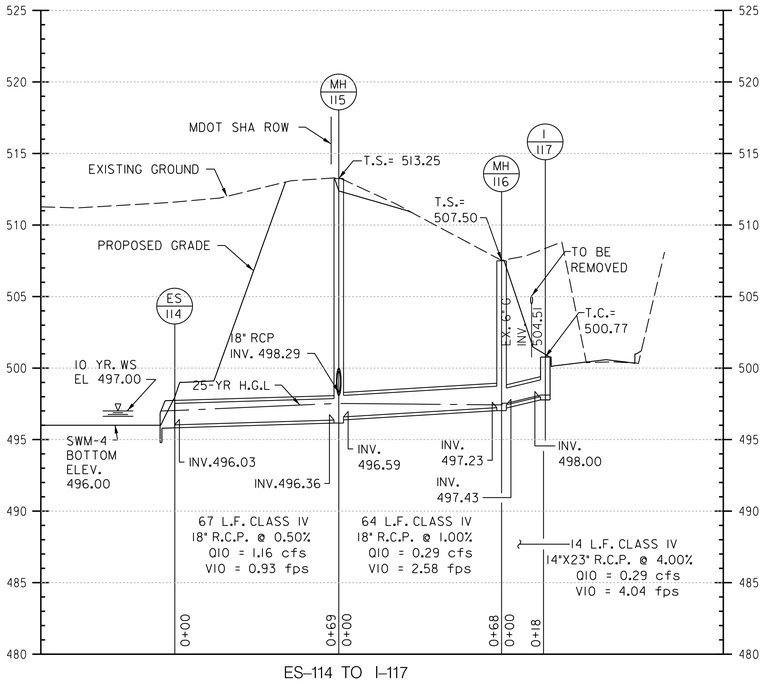
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DRAINAGE PROFILES

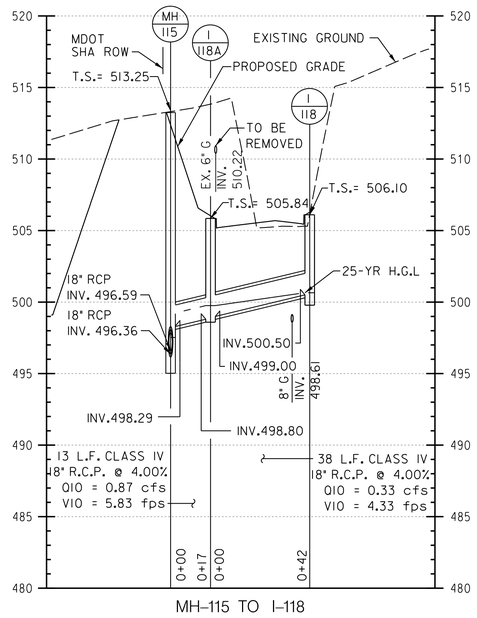
DATE: OCTOBER 2022 SCALE: 1"=30' HORZ 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 70 OF 226

BY: BAS -
PLOTTED: Wednesday, March 22, 2023 AT 11:45 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\DP-VOL.DWG.dgn



ES–114 TO I–117



MH–115 TO I–118

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HORIZ. SCALE: 1"=30′

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VERT. SCALE: 1"=5′

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DP-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DRAINAGE PROFILES

DATE: OCTOBER 2022
SCALE: 1"=30' HORZ 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01
DWG. 71 OF 226

BY: BAS -
PLOTTED: Wednesday, March 22, 2023 AT 11:46 AM
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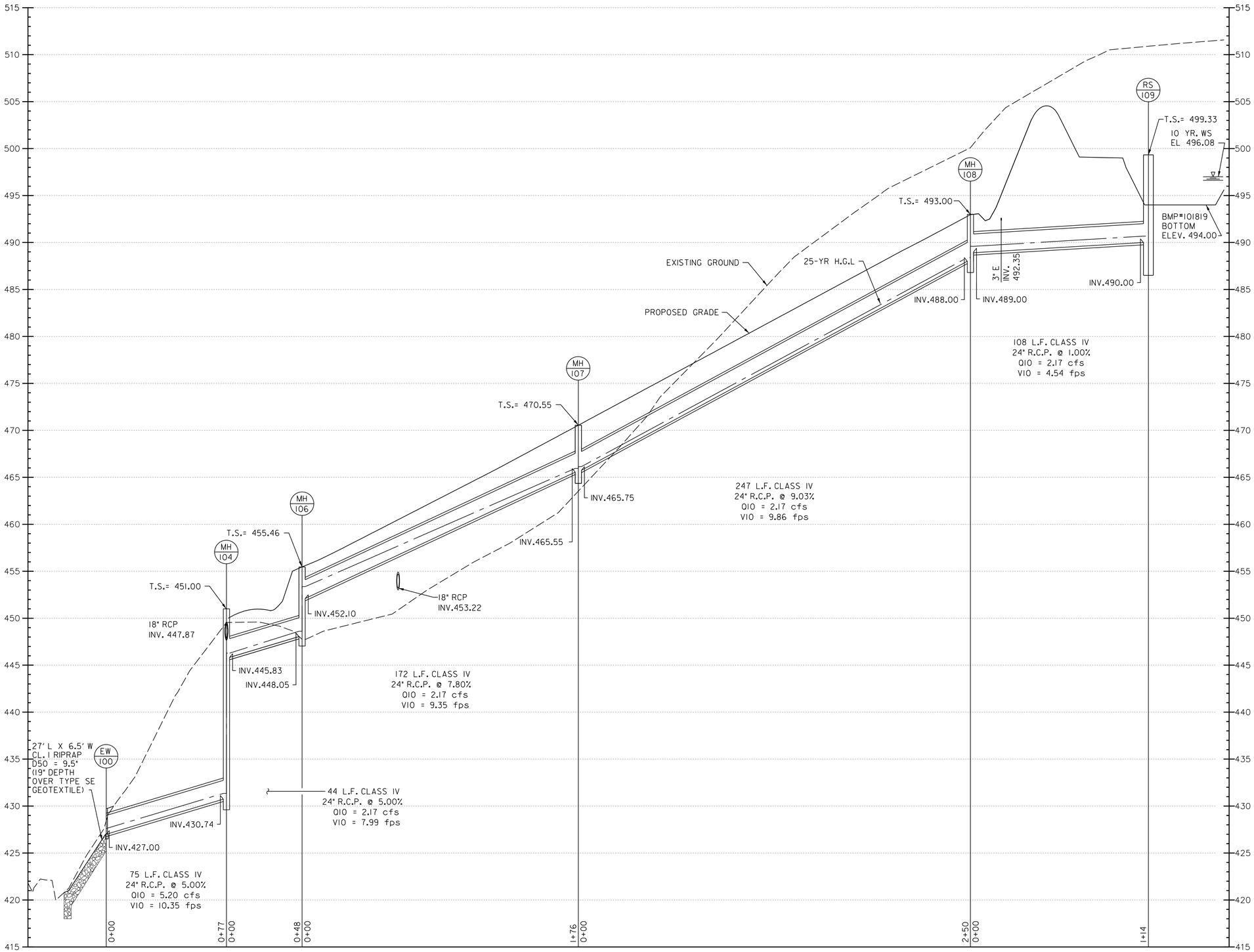

EW–100 TO RS–109

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VERT. SCALE: 1"=5′

DP-3

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DRAINAGE PROFILE

DATE: OCTOBER 2022
SCALE: 1"=30' HORZ
1"=5' VERT.

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 72 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND
JOHN JACKSON WEED
No. 24828
PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
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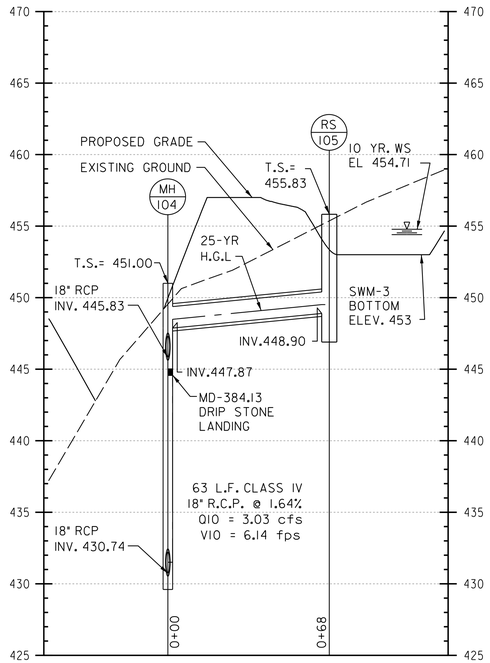
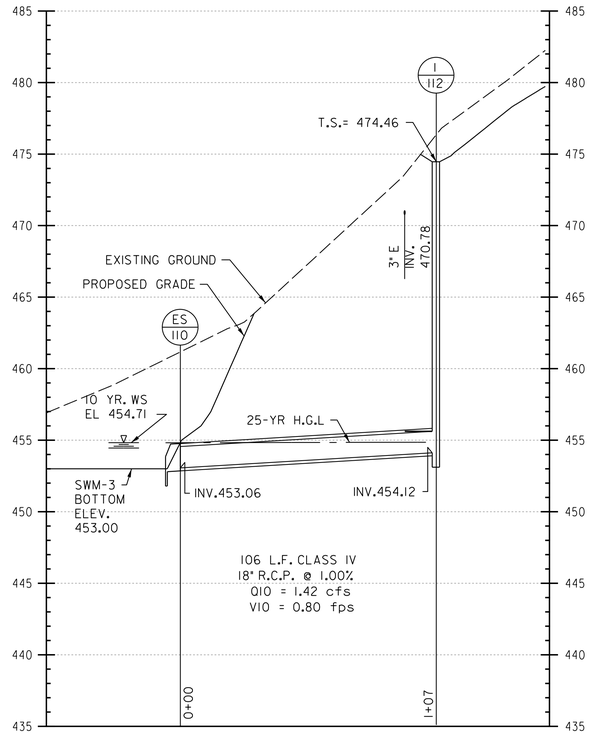
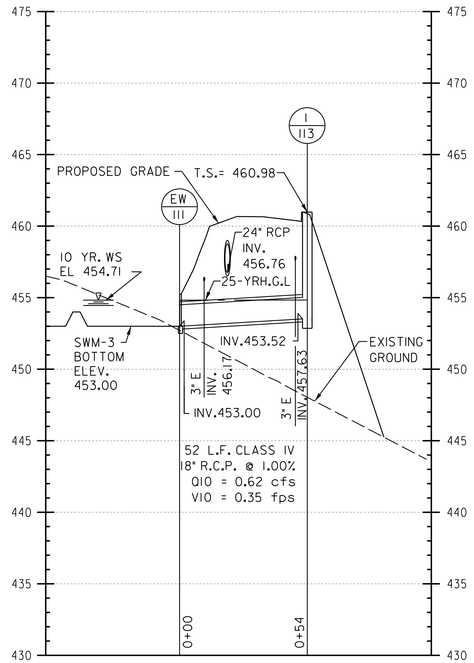
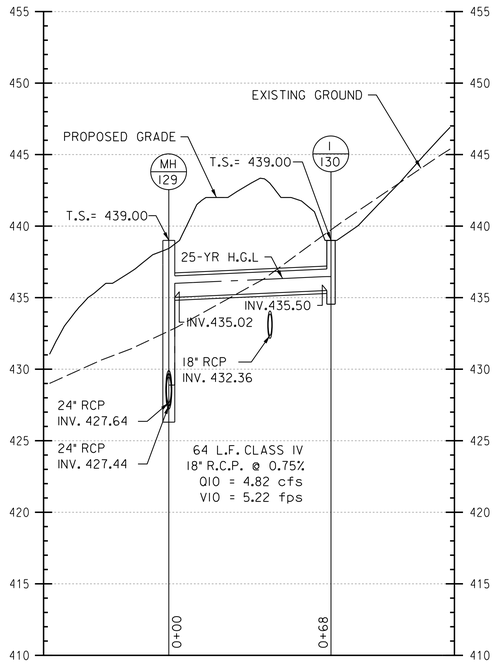
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	119 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 02:22 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\dP-V003.ENC.dgn









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HORIZ. SCALE: 1"=30′

5′ 0 5′ 10′
VERT. SCALE: 1"=5′

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON TIETZ — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DP-4

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

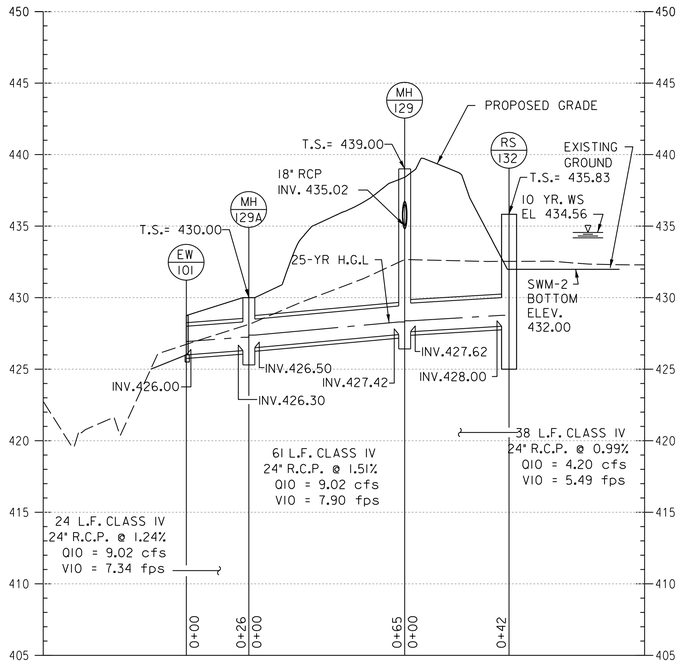
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

DRAINAGE PROFILES

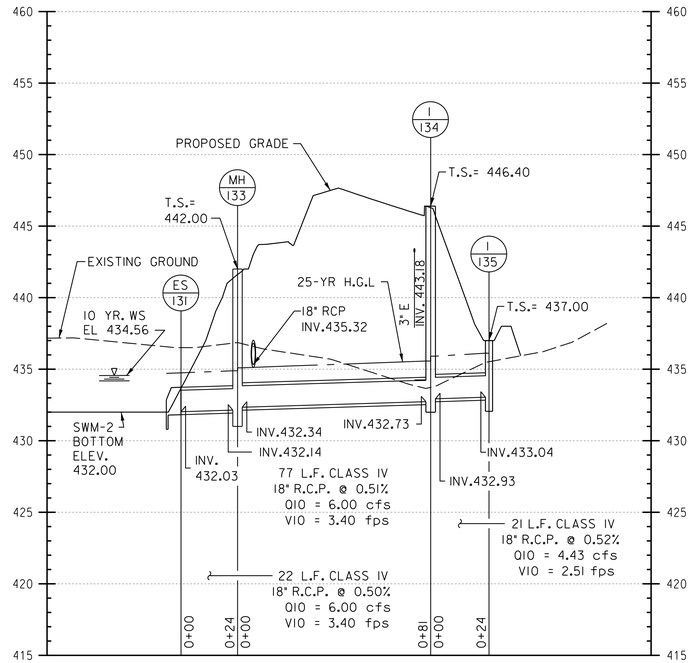
DATE: OCTOBER 2022
SCALE: 1"=30' HORZ 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01
DWG. 73 OF 226

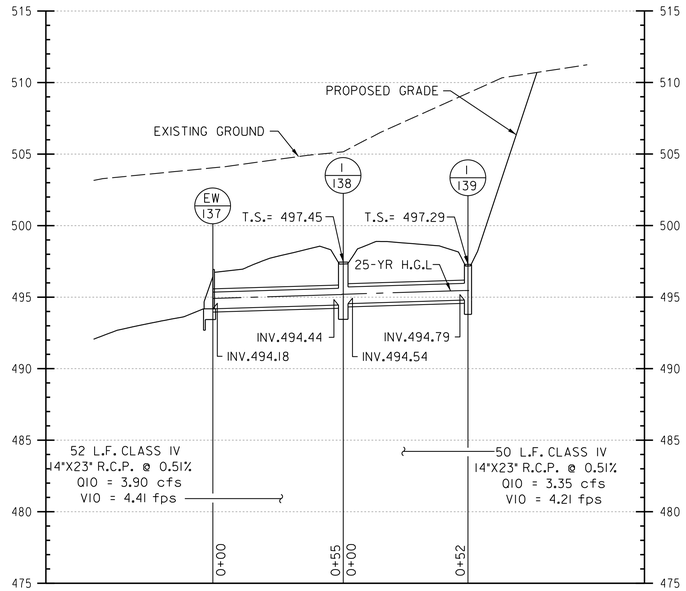
BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 02:24 PM
FILE: I:\Frederick County - Monrovia E+W Connector\Design Files\DP-V004.ENG.dgn



EW–101 TO RS–132



ES–131 TO I–134



EW–137 TO I–139

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VERT. SCALE: 1"=5′

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELSH — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DP-5

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

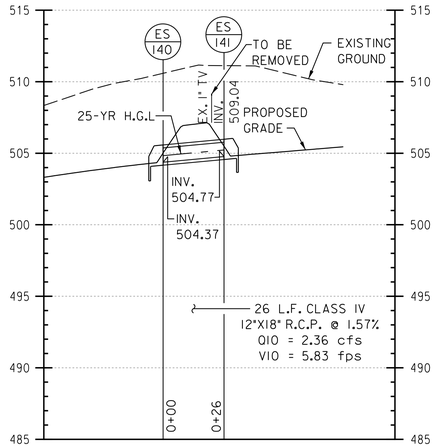
DRAINAGE PROFILES

DATE: OCTOBER 2022
SCALE: 1"=30' HORZ
1"=5' VERT.

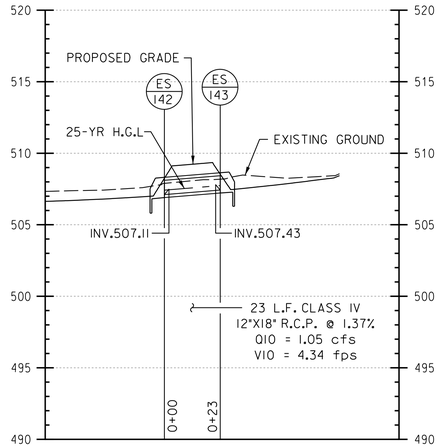
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 74 OF 226

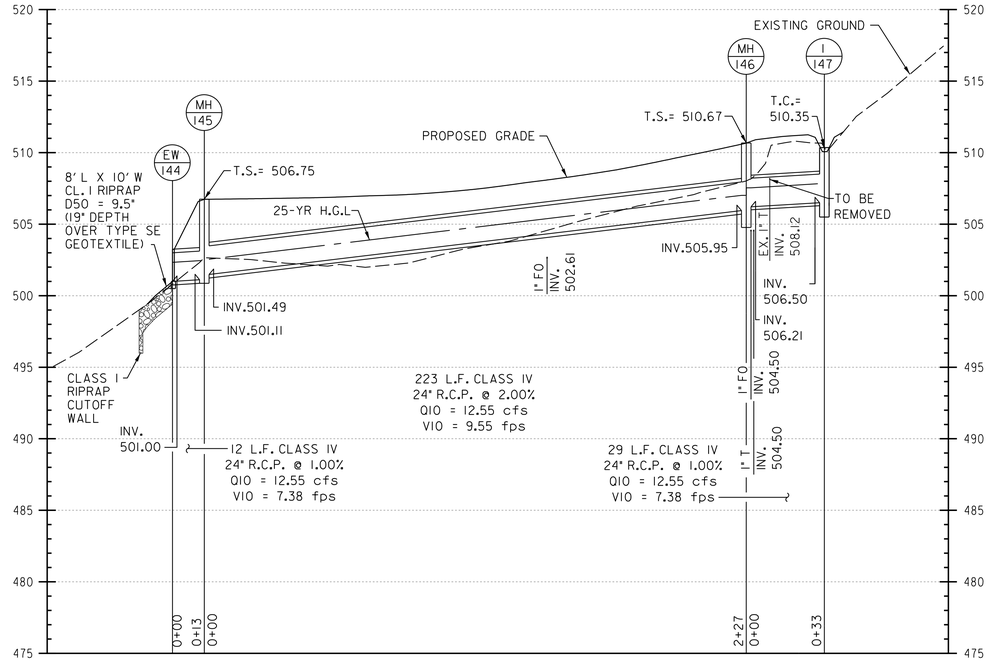
BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 02:25 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\DP-V005_EWC.dgn



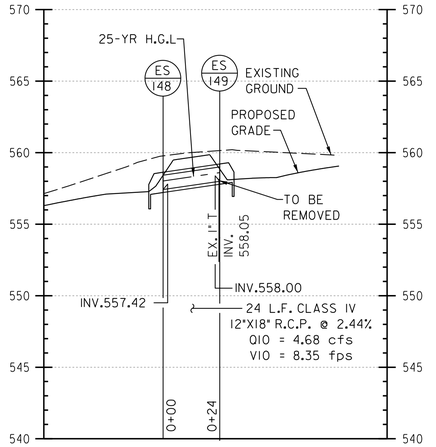
ES–140 TO ES–141



ES–142 TO ES–143



ES–144 TO I–147



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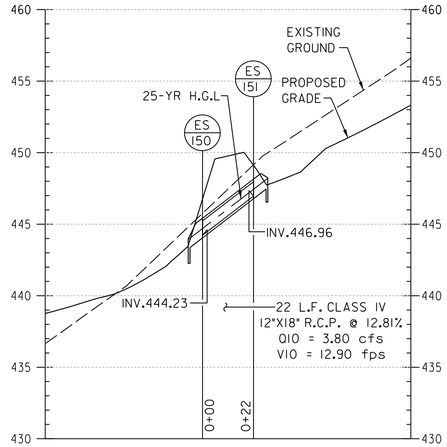

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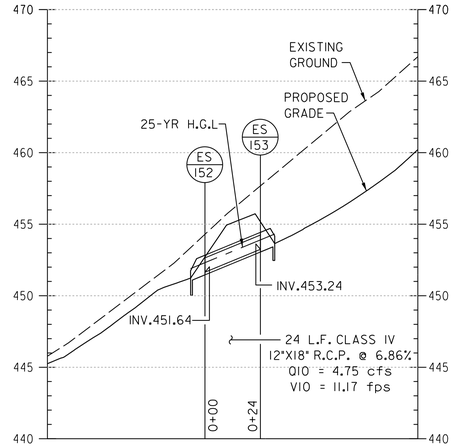
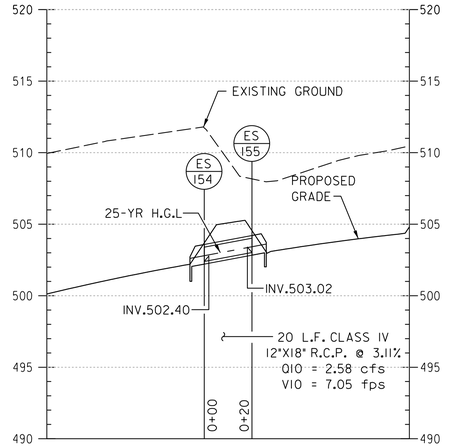


ES–152 TO ES–153



ES–154 TO ES–155

30′ 0 30′ 60′
HORIZ. SCALE: 1"=30′

5′ 0 5′ 10′
VERT. SCALE: 1"=5′

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DP-6

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DRAINAGE PROFILES

DATE: OCTOBER 2022
SCALE: 1"=30' HORZ
1"=5' VERT.

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 75 OF 226

BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 02:26 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\DP-V006.ENG.dgn

DRAINAGE STRUCTURE

PIPE					STRUCTURE							
FROM STRUCTURE NO.	TO STRUCTURE NO.	SIZE	TYPE	LENGTH	NO.	STATION	OFFSET	VERTICAL DEPTH	MD STANDARD NO. TYPE	T.C/T.G. OR T.S.	INV. IN	INV. OUT
					ES-119	204+51.03	137.59' RT.		MD-368.01 STANDARD CONCRETE END SECTION		496.06	496.00
ES-119	MH-120	18	CLASS IV RCP	41								
					MH-120	204+84.69	94.60' RT.	21.7	MD-383.11 STANDARD DROP MANHOLE	516.82	508.34	496.47
MH-120	I-123	18	CLASS IV RCP	61								
					I-123	137+42.86	12.41' LT	6.0	MD-374.31 STANDARD 10' COG INLET	516.83	511.07	510.87
I-123	I-124	18	CLASS IV RCP	26								
					I-124	137+42.86	12.41' RT	5.8	MD-374.31 STANDARD 15' COG INLET	517.89	513.48	512.13
I-124	MH-103	18	CLASS IV RCP	39								
					MH-103	205+50.09	45.86' RT	6.8	MD-384.01 48" DIA. PRECAST MANHOLE	520.76	516.31	515.09
MH-103	I-126	18	CLASS IV RCP	120								
					I-126	206+73.47	30.62' RT	6.0	MD-374.31 STANDARD 20' COG INLET	526.47	520.64	520.44
I-126	I-127	18	CLASS IV RCP	44								
					I-127	206+73.47	12.00' LT	5.8	MD-374.31 STANDARD 20' COG INLET	526.84		521.07
MH-120	MH-120A	18	CLASS IV RCP	79								
					MH-120A	204+11.88	54.72' RT	13.6	MD-384.01 48" DIA. PRECAST MANHOLE	518.50	506.82	506.22
MH-120A	I-121	18	CLASS IV RCP	19								
					I-121	204+13.1	29.75' RT.	6.1	MD-374.31 STANDARD 15' COG INLET	513.11	507.20	507.00
I-121	I-122	18	CLASS IV RCP	43								
					I-122	204+13.11	12.00' LT	5.8	MD-374.31 STANDARD 15' COG INLET	513.47		507.63
MH-103	I-125	18	CLASS IV RCP	60								
					I-125	205+29.58	12.00' LT	4.2	MD-374.31 STANDARD 15' COG INLET	520.84		516.65
					ES-114	203+21.11	111.31' RT		MD-368.01 STANDARD CONCRETE END SECTION		496.03	496.00
ES-114	MH-115	18	CLASS IV RCP	67								
					MH-115	203+07.78	43.85' RT	18.2	MD-383.11 STANDARD DROP MANHOLE	513.25	496.59	496.36
MH-115	MH-116	18	CLASS IV RCP	64								
					MH-116	202+39.53	43.85' RT	11.4	MD-384.01 48" DIA. PRECAST MANHOLE	507.50	497.43	497.23
MH-116	I-117	14x23	HECLASS IV RCP	14								
					I-117	202+39.81	23.00' RT	3.5	MD-374.66 PRECAST 10' SHALLOW COG INLET	500.77		498.00

PIPE					STRUCTURE							
FROM STRUCTURE NO.	TO STRUCTURE NO.	SIZE	TYPE	LENGTH	NO.	STATION	OFFSET	VERTICAL DEPTH	MD STANDARD NO. TYPE	T.C/T.G. OR T.S.	INV. IN	INV. OUT
MH-115	I-118A	18	CLASS IV RCP	13								
					I-118A	203+07.87	24.61' RT	7.0	MD-374.31 STANDARD 15' COG INLET		505.84	499.00	498.80
I-118A	I-118	18	CLASS IV RCP	38								
					I-118	203+08.03	12.00' LT	5.6	MD-374.31 STANDARD 10' COG INLET		506.10		500.50
					EW-100	129+46.80	54.19' LT		MD-354.01 STANDARD TYPE C ENDWALL				427.00
EW-100	MH-104	24	CLASS IV RCP	75								
					MH-104	130+23.30	60.54' LT	21.4	MD-384.01 48" DIA. PRECAST MANHOLE, DRIP STONE (MD-384.13)		451.00	445.83	430.74
MH-104	MH-106	24	CLASS IV RCP	44								
					MH-106	130+34.60	13.55' LT	8.6	MD-384.01 48" DIA. PRECAST MANHOLE		455.46	452.10	448.05
MH-106	MH-107	24	CLASS IV RCP	172								
					MH-107	132+10.91	15.13' LT	6.2	MD-384.01 48" DIA. PRECAST MANHOLE		470.55	465.75	465.55
MH-107	MH-108	24	CLASS IV RCP	247								
					MH-108	134+61.96	15.24' LT	6.2	MD-384.01 48" DIA. PRECAST MANHOLE		493.00	489.00	488.00
MH-108	RS-109	24	ASTM C-361, B25 RCP	108								
MH-104	RS-105	18	ASTM C-361, B25 RCP	63								
					ES-110	131+66.55	52.72' LT		MD-368.01 STANDARD CONCRETE END SECTION			453.06	453.00
ES-110	I-112	18	CLASS IV RCP	106								
					I-112	132+70.02	26.33' LT	20.3	MD-378.05 STANDARD SINGLE TYPE "K" INLET		474.46		454.12
					EW-111	130+95.82	35.03' LT		MD-354.01 STANDARD TYPE C ENDWALL				453.00
EW-111	I-113	18	CLASS IV RCP	52								
					I-113	130+95.82	15.73' RT	7.5	MD-374.31 STANDARD 15' COG INLET		460.98		453.52
MH-129	I-130	18	CLASS IV RCP	64								
					I-130	127+45.48	43.39' LT	3.5	MD-378.05 STANDARD SINGLE TYPE "K" INLET		439.00		435.50

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

DS-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DRAINAGE SCHEDULE

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 76 OF 226

BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 03:00 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\DD-5001.ENG.dgn

DRAINAGE STRUCTURE

PIPE					STRUCTURE							
FROM STRUCTURE NO.	TO STRUCTURE NO.	SIZE	TYPE	LENGTH	NO.	STATION	OFFSET	VERTICAL DEPTH	MD STANDARD NO. TYPE	T.C/T.G. OR T.S.	INV. IN	INV. OUT
					EW-101	128+78.97	68.81' LT		MD-354.01 STANDARD TYPE C ENDWALL			426.00
EW-101	MH-129A	24	CLASS IV RCP	24								
					MH-129A	128+57.33	72.82' LT	4.9	MD-384.03 60" DIA. PRECAST MANHOLE	430.00	426.50	426.30
MH-129A	MH-129	24	CLASS IV RCP	61								
					MH-129	128+05.74	47.11' LT	12.7	MD-384.03 60" DIA. PRECAST MANHOLE	439.00	427.62	427.42
MH-129	RS-132	24	ASTM C-361, B25 RCP	38								
					ES-131	127+65.08	73.37' LT		MD-368.01 STANDARD CONCRETE END SECTION		432.03	432.00
ES-131	MH-133	18	CLASS IV RCP	22								
					MH-133	127+65.47	49.68' LT	11.0	MD-384.01 48" DIA. PRECAST MANHOLE	442.00	432.34	432.14
MH-133	I-134	18	CLASS IV RCP	77								
					I-134	128+06.82	16.05' RT	13.7	MD-374.41 STANDARD 15' COS INLET	446.40	432.93	432.73
I-134	I-135	18	CLASS IV RCP	21								
					I-135	127+97.74	41.30' RT	4.0	MD-378.05 STANDARD SINGLE TYPE "K" INLET	437.00		433.04
					EW-137	121+27.85	22.85' LT		MD-360.01 STANDARD TYPE G ENDWALL		494.18	
EW-137	I-138	14x23	CLASS IV HERCP	52								
					I-138	120+75.26	29.96' LT	3.0	MD-378.05 STANDARD DOUBLE TYPE "K" INLET	497.45	494.54	494.44
I-138	I-139	14x23	CLASS IV HERCP	50								
					I-139	120+67.74	23.00' RT	2.5	MD-378.05 STANDARD SINGLE TYPE "K" INLET	497.29		494.79
					EW-144	116+52.06	29.70' LT		MD-354.01 STANDARD TYPE C ENDWALL			501.00
EW-144	MH-145	24	CLASS IV RCP	13								
					MH-145	116+50.85	16.40' LT	6.5	MD-384.01 48" DIA. PRECAST MANHOLE	506.50	501.46	501.12
MH-145	MH-146	24	CLASS IV RCP	223								
					MH-146	114+21.52	14.91' LT	5.9	MD-384.01 48" DIA. PRECAST MANHOLE	510.67	506.21	505.95
MH-146	I-147	24	CLASS IV RCP	29								
					I-147	114+21.20	17.86' RT	3.9	MD-378.05 STANDARD SINGLE TYPE "K" INLET	510.35		506.50

PIPE					STRUCTURE							
FROM STRUCTURE NO.	TO STRUCTURE NO.	SIZE	TYPE	LENGTH	NO.	STATION	OFFSET	VERTICAL DEPTH	MD STANDARD NO. TYPE	T.C/T.G. OR T.S.	INV. IN	INV. OUT
					ES-140	118+49.31	23.01' RT		MD-369.00 STANDARD CONCRETE END SECTION		504.37	504.27
ES-140	ES-141	12x18	HECLASS IV RCP	26								
					ES-141	118+23.81	22.97' RT		MD-369.00 STANDARD CONCRETE END SECTION		504.87	504.77
					ES-142	115+58.87	19.95' RT		MD-369.00 STANDARD CONCRETE END SECTION		507.11	507.01
ES-142	ES-143	12x18	CLASS IV HERCP	23								
					ES-143	115+35.72	19.96' RT		MD-369.00 STANDARD CONCRETE END SECTION		507.53	507.43
					ES-148	106+46.75	17.07' RT		MD-369.00 STANDARD CONCRETE END SECTION		557.42	557.22
ES-148	ES-149	12x18	CLASS IV HERCP	24								
					ES-149	106+23.33	17.46' RT		MD-369.00 STANDARD CONCRETE END SECTION		558.20	558.00
					ES-150	127+11.81	30.78' RT		MD-369.00 STANDARD CONCRETE END SECTION		444.23	443.46
ES-150	ES-151	12x18	CLASS IV HERCP	22								
					ES-151	126+89.54	26.90' RT		MD-369.00 STANDARD CONCRETE END SECTION		447.73	446.96
					ES-152	126+38.84	25.20' LT		MD-369.00 STANDARD CONCRETE END SECTION		451.64	451.23
ES-152	ES-153	12x18	CLASS IV HERCP	24								
					ES-153	126+17.53	24.03' LT		MD-369.00 STANDARD CONCRETE END SECTION		453.65	453.24
					ES-154	119+35.93	23.01' RT		MD-369.00 STANDARD CONCRETE END SECTION		502.40	502.21
ES-154	ES-155	12x18	CLASS IV HERCP	20								
					ES-155	119+16.29	22.98' RT		MD-369.00 STANDARD CONCRETE END SECTION		503.21	503.02

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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DS-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

DRAINAGE SCHEDULE

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 77 OF 226

BY: BAS -
PLOTTED: Wednesday, October 19, 2022 AT 03:01 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\DD-5002_EWC.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 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.

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Lauterbach
Asst. District Manager

DATE: 1-5-23

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

SEDIMENT AND EROSION CONTROL NOTES

1. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AS APPROVED BY THE COUNTY.
2. ALL DISTURBED AREAS NOT UNDER ACTIVE GRADING TO BE SEEDED WITHIN 7 DAYS OF INITIAL GRADING. FOR TEMPORARY SEEDING SPECIFICATIONS, SEE SECTION BI, '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.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO OR AT THE INITIATION OF GRADING.
4. 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.
5. ELECTRIC POWER, TELEPHONE AND GAS LINES NOT IN ACTIVE GRADING AREAS ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 7 DAYS AFTER INITIAL BACKFILL.
6. 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.
7. 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.)
8. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEDIMENT EROSION CONTROL MEASURES UNTIL DISTURBED AREAS ARE STABILIZED.
9. AFTER FINE GRADING, ALL DISTURBED AREAS ARE TO BE PERMANENTLY MULCHED AND SEEDED (SEE PERMANENT SEEDING & SOD NOTES).
10. NO SLOPE SHALL BE GREATER THAN 2:1.
11. 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".
12. 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.
13. 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.
14. 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

TRIBUTARY TO BUSH CREEK, LOCATED WITHIN THE PROJECT SITE, IS CLASSIFIED AS A USE I WATERWAY (NONTIDAL STREAMS). IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, 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: 02-25-2024.

JOHN J. WEBSTER — DATE: 10/19/22

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 1/4" ON CLAYEY SOILS AND 1/2" 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.

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 PERIMETER 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	15.9	ACRES
AREA DISTURBED	13.1	ACRES
AREA TO BE ROOFED OR PAVED	1.9	ACRES
TOTAL CUT	68,000	CU. YDS.
TOTAL FILL	25,100	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 570,398 SQ. FT. AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 68,000 CU. YDS. OF EXCAVATION AND APPROXIMATELY 25,100 CU. YDS. OF FILL.

JOHN J. WEBSTER — DATE: 10/19/22

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

AMANDA RADCLIFFE, P.E., CHIEF
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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBSTER — No. 24828 — PROFESSIONAL ENGINEER — 10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

EN-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL GENERAL NOTES

DATE: OCTOBER 2022 — SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 — DWG. 78 OF 226

BY: DAW - PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-NOTES.ENC.SCD.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. THE EROSION AND SEDIMENT CONTROL SEQUENCE STAGES MUST BE COMPLETED IN CONJUNCTION WITH THE APPROPRIATE MAINTENANCE OF TRAFFIC STAGE.
5. THE NOTICE OF INTENT (NOI) SHALL BE IN HAND PRIOR TO THE START OF ANY CONSTRUCTION.

INITIAL STAGE (SHEET NOS. ES-1 TO ES-8)

1. CLEAR AND GRUB FOR THE INSTALLATION OF THE HAUL ROADS. INSTALL SCE INIT-1, SCE INIT-2, HR INIT-1, HR INIT-2, SSF INIT-1, SSF INIT-2, SSF INIT-2B, SSF INIT-3, SSF INIT-4, SSF INIT-5, SSF INIT-6, SSF INIT-7, SSF INIT-8(A-U), SSF INIT-9, SSF INIT-11(A-D), SSF INIT-12(A-H), DF INIT-1, DF INIT-2, DF INIT-3, RRP INIT-1, RRP INIT-1B, SB INIT-3, AND PSD INIT-1.
2. INSTALL THE PUMP AROUND MEASURES TO ALLOW THE STREAM DIVERSION TO BE CONSTRUCTED. INSTALL PUMP INIT-3, SB INIT-4, SB INIT-5, PUMP INIT-4, AND FB INIT-3.
3. CLEAR AND GRUB FOR THE INSTALLATION OF THE STOCKPILE AREAS AND BRIDGE.
4. CONSTRUCT THE BRIDGE.
5. WITH WRITTEN APPROVAL OF THE COUNTY INSPECTOR, REMOVE THE PUMP AROUND MEASURES (PUMP INIT-3, SB INIT-4, SB INIT-5, PUMP INIT-4, AND FB INIT-3) AND DIRECT THE STREAM UNDERNEATH THE NEW BRIDGE. STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES.
6. INSTALL PUMP INIT-1, FB INIT-1, AND SB INIT-1 AS SHOWN ON PLANS. INSTALL EW-101 AND CONSTRUCT DOWNSTREAM CHANNEL, REMOVE AND REPLACE SSF INIT-5 AS NEEDED.
7. INSTALL RIPRAP IN DOWNSTREAM CHANNEL OF EW-101.
8. REMOVE STREAM DIVERSION AND ASSIOCIATED DEVICES WEST OF CHANNEL (PUMP INIT-1, FB INIT-1, AND SB INIT-1). STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES. INSTALL PUMP INIT-2, FB INIT-2, AND SB INIT-2 AS SHOWN ON PLANS.
9. INSTALL EW-100 AND CONSTRUCT DOWNSTREAM CHANNEL. INSTALL RIPRAP IN DOWNSTREAM CHANNEL.
10. REMOVE STREAM DIVERSION AND ASSIOCIATED DEVICES EAST OF CHANNEL (PUMP INIT-2, FB INIT-2, AND SB INIT-2). STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES.
11. CONSTRUCT SEDIMENT BASINS #2 AND #3 AND INSTALL STORM DRAINS EW-101 TO RS-132 AND EW-100 TO RS-105. INSTALL STORM DRAIN PIPE AT STA. 130+94 AS SHOWN AND CAP BOTH ENDS OF PIPE. INSTALL DRAW DOWN DEVICES TO RS-132 AND RS-105. INSTALL PDS INIT-1, TP INIT-1, PDS INIT-2, TP INIT-2, GP INIT-1, GP INIT-2, BB INIT-1, AND BB INIT-2. REMOVE SSF INIT-3, SSF INIT-4, SSF INIT-5, SSF INIT-6, AND SSF INIT-7. STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES.
12. CONSTRUCT SEDIMENT BASIN #4 AND INSTALL STORM DRAINS MH-101 TO RS-109. INSTALL DRAW DOWN DEVICE TO RS-109. INSTALL PDS INIT-3, TP INIT-3, GP INIT-3, AND BB INIT-3.
13. INSTALL SSF INIT-10, SP INIT-1, PUMP INIT-5, AND FB INIT-5.

STAGE 1 (SHEET NOS. ES-9 TO ES-16)

1. VERIFY ALL PREVIOUSLY INSTALLED SEDIMENT CONTROLS ARE IN GOOD WORKING CONDITION.
2. INSTALL SSF 1-2, SB 1-1, PUMP 1-1, AND FB 1-1. CONSTRUCT THE PROPOSED OUTFALL CHANNEL RT. STA. 128+00 TO RT. STA. 129+50 BEGINNING AT THE DOWNSTREAM END AND WORKING UPSTREAM, ONLY CONSTRUCTING WHAT CAN BE STABILIZED AT THE END OF EACH DAY.
3. CLEAR AND GRUB THE STAGE 1 WORK AREA.
4. INSTALL STORM DRAINS EW-137 TO 1-139, ES-150 TO ES-151, ES-152 TO ES-153, ES-131 TO 1-135, TEMPORARILY CONNECT MH-133 TO 1-130 WITH TP 1-2, EW-111 TO 1-113 (TEMPORARILY CONNECT 1-113 WITH TP 1-3 TO TEMPORARY INLET 1-113A), ES-110 TO 1-112, ES-114 TO 1-117, MH-115 TO 1-118A, ES-119 TO 1-126, MH-120 TO 1-121. INSTALL STORM DRAIN PIPE FROM 1-118A, 1-121, MH-103, AND 1-126 TO LIMITS OF STAGE 1 PAVEMENT WORK AS SHOWN AND CAP THE END OF EACH STORM DRAIN PIPE.
5. COMPLETE THE STAGE 1 GRADING BEGINNING AT THE BRIDGE AND WORKING OUT. REMOVE PORTION OF PDS INIT-3 AS NEEDED AS SHOWN ON PLANS. ONCE THE STAGE 1 GRADING AND ROADWAY CONSTRUCTION IS COMPLETE AND STABILIZED BETWEEN ED MCCLAIN ROAD AND MD 75, THEN, INSTALL STORM DRAIN PIPE FROM MH-129 TO 1-130 AND REMOVE THE TEMPORARY PIPE.
6. WITH THE WRITTEN APPROVAL OF THE COUNTY INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES, EXCEPT PORTIONS OF DF INIT-1 WHICH IS REQUIRED IN STAGE 2.
7. STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES.
8. AT THE END OF STAGE 1, INSTALL SCE 1-1, SSF 1-1, SF 1-1B, BB 1-1, RRP 1-1, TP 1-1, AND ESTABLISH STAGING AND STOCKPILE AREA. CONSTRUCT SEDIMENT TRAP #1 TO BE USED IN STAGE 2.

STAGE 2 (SHEET NOS. ES-17 TO ES-24)

1. INSTALL SCE 2-1, SSF 2-1, IP 2-1, IP 2-2, PSD 2-1, PSD 2-2, SB 2-1, SB 2-2, MB 2-1, RRP 2-1, RRP 2-2, RRP 2-3, DF 2-1, DF 2-2 AND DF 2-3.
2. CLEAR AND GRUB THE STAGE 2 WORK AREA.
3. COMPLETE THE STAGE 2 GRADING AND ROADWAY CONSTRUCTION FROM STA. 117+50 TO STA. 120+00 WHILE MAINTAINING ACCESS TO RESIDENCE RT. STA. 118+35 AS DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS, AND INSTALL DRIVEWAY CULVERTS ES-140 TO ES-141 AND ES-154 TO ES-155.
4. COMPLETE THE GRADING LT. STA. 102+00 TO LT. STA. 115+50 BEGINNING AT THE DOWNSTREAM END AND WORKING UPSTREAM, DIRECTING THE RUNOFF TO SEDIMENT TRAP #1.
5. STABILIZE ALL THE STAGE 2 WORK AREAS. WITH THE WRITTEN APPROVAL OF THE COUNTY INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES, EXCEPT SCE 1-1, SSF 1-1, SSF 1-2, DF 2-1, DF 2-2, MB 2-1, SB 2-1, PSD 2-1, RRP 2-2, AND PORTIONS OF SSF 2-1 AS SHOWN ON THE PLAN.
6. STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES.

STAGE 3 (SHEET NOS. ES-25 TO ES-32)

1. INSTALL STORM DRAIN SYSTEM EW-144 TO 1-147.
2. CLEAR AND GRUB AND CONSTRUCT THE STAGE 3 GRADING AND ROADWAY FROM STA. 114+20 TO 117+50, INCLUDING DRIVEWAY CULVERT ES-142 TO ES-143. STABILIZE ALL DISTURBED AREAS. USE SAME DAY STABILIZATION FOR THE IMPROVEMENTS ON THE EAST SIDE OF ED MCCLAIN ROAD.
3. INSTALL IP 3-1.
4. CLEAR AND GRUB AND CONSTRUCT REMAINING STAGE 3 GRADING AND ROADWAY IMPROVEMENTS ALONG ED MCCLAIN ROAD, INCLUDING DRIVEWAY CULVERT ES-148 TO ES-149.
5. INSTALL STORM DRAIN INLETS ALONG THE NORTHBOUND SIDE OF MD 75 (1-118, 1-122, 1-125, AND 1-127), UNCAP PREVIOULSY INSTALLED PIPE, AND CONNECT TO THE STORM DRAIN SYSTEM ON THE SOUTHBOUND SIDE OF MD 75 AS SHOWN ON THE PLANS.
6. CLEAR AND GRUB AND CONSTRUCT GRADING AND ROADWAY IMPROVEMENTS ALONG THE NORTHBOUND SIDE OF MD 75 USING SAME DAY STABILIZATION, ONLY CONSTRUCTING WHAT CAN BE STABILIZED BY THE END OF EACH DAY, WORKING FROM THE DOWNHILL TO UPHILL.
7. STABILIZE ALL THE STAGE 3 WORK AREAS. WITH THE WRITTEN APPROVAL OF THE COUNTY INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES, AND STABILIZE ALL AREAS DISTURBED BY THE REMOVAL OF THE SEDIMENT CONTROL DEVICES.
8. INSTALL SCE 3-1, SCE 3-2, AND SCE 3-3. FLUSH ALL STORM DRAINS OF SEDIMENT DRAINING TO THE SEDIMENT BASINS AFTER ALL UPSTREAM CONTRIBUTING AREAS ARE CONSTRUCTED AND STABILIZED. CLEAN OUT SEDIMENT BASINS AND CONVERT TO SWM FACILITIES. CONTRACTOR TO ENSURE NO SEDIMENT ENTERS RELEASE STRUCTURE DURING CONVERSION PROCESS.
9. COMPLETE SWM POND AS-BUILT SURVEY AND CERTIFICATION.

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-1 (PLACE DESIGNATION (A-1, B-3, 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	AB
HORIZONTAL DRAW-DOWN DEVICE	HDDD	TEMPORARY BARRIER DIVERSION	TBD
LIMIT OF CUT	C — C	TEMPORARY GABION OUTLET STRUCTURE	TGOS
LIMIT OF DISTURBANCE	LOD	TEMPORARY SOIL STABILIZATION MATTING-TYPE A	
LIMIT OF FILL	F — F	TEMPORARY SOIL STABILIZATION MATTING-TYPE E	
MEDIAN INLET PROTECTION	MIP	TEMPORARY SOIL STABILIZATION MATTING-TYPE D	
MEDIAN SUMP INLET PROTECTION	MSIP	TEMPORARY STONE OUTLET STRUCTURE	TSOS
MODIFIED SWALE PROTECTION	MSP	TEMPORARY SWALE	A-1 (PLACE DESIGNATION (A-1, B-3, ETC.) ON FLOW CHANNEL SIDE OF SWALE)
MOUNTABLE BERM	MB	WASH RACK OPTION	WR
PERIMETER DIKE/SWALE	PDS-1	DRAINAGE BOUNDARY	DA
PERMANENT SOIL STABILIZATION MATTING-TYPE B		EXISTING CONTOURS	- 100 -
PERMANENT SOIL STABILIZATION MATTING-TYPE C		PROPOSED CONTOURS	100
PIPE OUTLET SEDIMENT TRAP ST I	ST-I	TREE PROTECTION FENCE	TPF
PIPE SLOPE DRAIN	PSD - 12 (DESIGNATION PSD-12 REFERS TO 12 INCH PIPE SLOPE DRAIN)	WETLAND	
PLUNGE POOL	PP	WETLAND BUFFER	B
PORTABLE SEDIMENT TANK	PST	100-YEAR FLOODPLAIN	
REMOVABLE PUMPING STATION	RPS		
RIPRAP INFLOW PROTECTION	RRP		
RIPRAP OUTLET SEDIMENT TRAP ST III	ST-III		

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
Asst. District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

EN-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

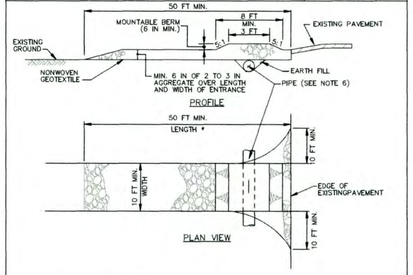
DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 79 OF 226

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-N002-EWC-SCD.dgn

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

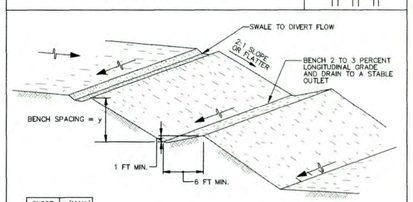
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING 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	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-3-1 BENCHING

STANDARD SYMBOL: BENCHING



SLOPE	y (MAX.)
2:1	20 FT
3:1	30 FT
4:1	40 FT

CONSTRUCTION SPECIFICATIONS

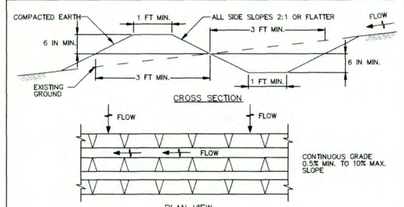
1. USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
2. DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
3. PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
4. COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
5. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
6. MAINTAIN LINE, GRADE, AND CROSS SECTION OF BENCHING. STABILIZE IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION CRITERIA OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF EROSION CONTROL MATTING MAY BE NECESSARY IN BENCH/SWALE INVERTS. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
7. KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.

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

DETAIL C-3 PERIMETER DIKE/SWALE

STANDARD SYMBOL: PDS-1 / PDS-2 — PLACE DESIGNATION (PDS-1 OR 2) ON FLOW CHANNEL SIDE OF DIKE-SWALE



FLOW CHANNEL STABILIZATION

PDS-1 SEED AND MULCH AND TACK (DRAINING < 1 ACRE) (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

PDS-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD (DRAINING BETWEEN 1 AND 2 ACRES)

NOTE: THE MAXIMUM DRAINAGE AREA FOR THIS PRACTICE IS 2 ACRES.

CONSTRUCTION SPECIFICATIONS

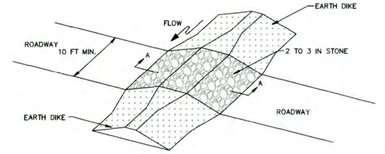
1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF DIKE/SWALE.
2. EXCAVATE OR SHAPE DIKE/SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT DIKE/SWALE ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE DIKE/SWALE WITHIN 3 DAYS OF INSTALLATION. STABILIZE DIKE/SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP PERIMETER DIKE/SWALE AND POINT OF DISCHARGE FREE OF EROSION AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF DIKE/SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

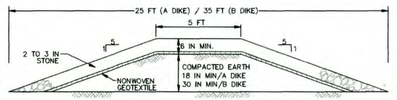
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL: MB



ISOMETRIC VIEW



SECTION A—A

CONSTRUCTION SPECIFICATIONS

1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

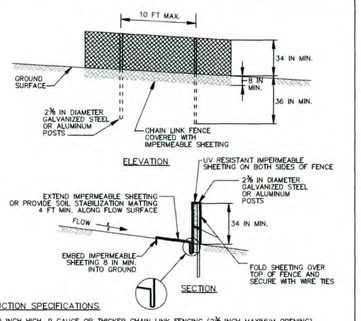
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: DF

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

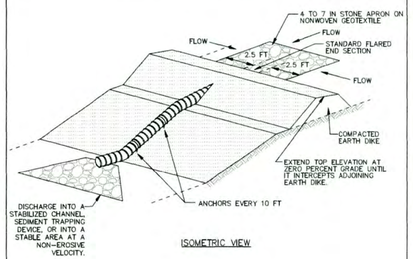
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

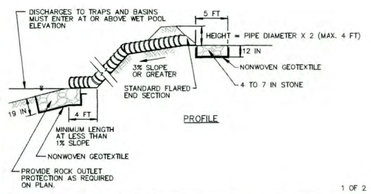
DETAIL D-1 PIPE SLOPE DRAIN

STANDARD SYMBOL: PSD – 12

DESIGNATION PSD-12 REFERS TO 12 IN PIPE SLOPE DRAIN.



ISOMETRIC VIEW



PROFILE

1 OF 2

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

DETAIL D-1 PIPE SLOPE DRAIN

STANDARD SYMBOL: PSD – 12

DESIGNATION PSD-12 REFERS TO 12 IN PIPE SLOPE DRAIN.

CONSTRUCTION SPECIFICATIONS

1. THE HEIGHT OF THE EARTH DIKE MUST BE AT LEAST 2 TIMES THE PIPE DIAMETER MEASURED FROM THE INVERT OF THE PIPE. EXTEND THE TOP ELEVATION OF DIKE AT ZERO PERCENT GRADE UNTIL IT INTERCEPTS THE TOP OF THE ADJOINING EARTH DIKE.
2. FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. ALL CONNECTIONS MUST BE WATERTIGHT.
3. ATTACH A FLARED END SECTION TO THE INLET END OF PIPE WITH A WATERTIGHT CONNECTION. AT THE INLET OF THE PIPE SLOPE DRAIN, INSTALL 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PLACED 12 INCHES IN DEPTH ON NONWOVEN GEOTEXTILE AND EXTEND OUT 5 FEET FROM THE INLET IN ALL DIRECTIONS.
4. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
5. SECURELY ANCHOR THE PIPE SLOPE DRAIN (PSD) TO THE SLOPE. SPACE THE ANCHORS EVERY 10 FEET.
6. HAND TAMP THE SOIL AROUND AND UNDER THE PIPE AND END SECTION IN 4 INCH LIFTS TO THE TOP OF THE EARTH DIKE.
7. UPON COMPLETING INSTALLATION OF THE PSD, STABILIZE ASSOCIATED DISTURBANCES WITH SEED, MULCH, AND TACK.
8. INSTALL OUTLET PROTECTION AS SPECIFIED ON APPROVED PLAN.
9. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REMOVE ACCUMULATED SEDIMENT AND DEBRIS.

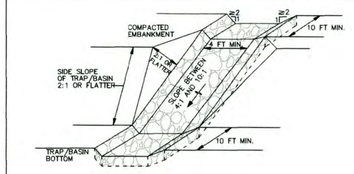
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

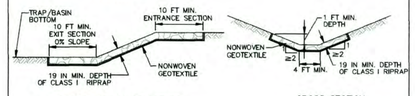
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



ISOMETRIC VIEW



PROFILE ALONG CENTERLINE

CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

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

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.

FREDERICK SOIL CONSERVATION DISTRICT

Approved By: Steve Teathers
Asst. District Manager

Date: 1-5-23

SCD approval for sediment and erosion control is contingent upon of issuance of all applicable regulatory permits.

D.H.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — DONALD JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

ED-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL DETAILS

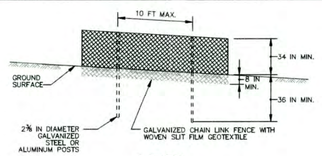
DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 80 OF 226

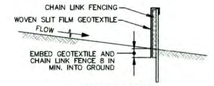
BY: DAW - PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-D001_ENC_SCD.dgn

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



ELEVATION



CROSS SECTION

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.

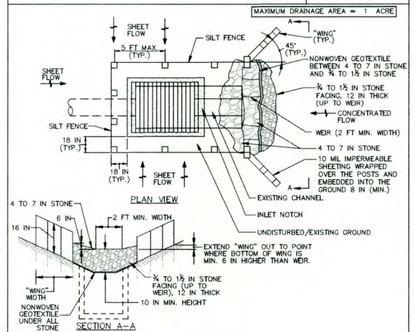
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-4 MEDIAN INLET PROTECTION

STANDARD SYMBOL: MIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E-1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.
3. INSTALL STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C-9.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

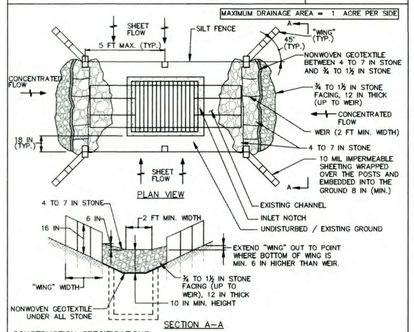
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-5 MEDIAN SUMP INLET PROTECTION

STANDARD SYMBOL: MSIP

MAXIMUM DRAINAGE AREA = 1 ACRE PER SIDE



CONSTRUCTION SPECIFICATIONS

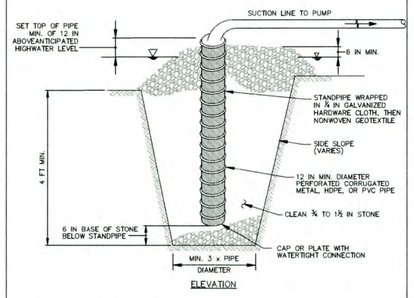
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E-1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.
3. INSTALL EACH STONE STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C-9.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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

DETAIL F-2 SUMP PIT

STANDARD SYMBOL: SP



ELEVATION

CONSTRUCTION SPECIFICATIONS

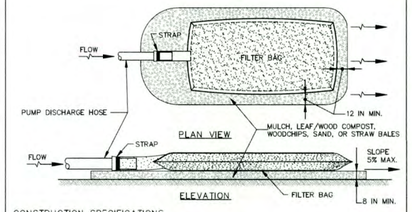
1. USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
2. WRAP PIPE WITH ½ INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
3. EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
4. SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. BACKFILL PIT AROUND THE PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
6. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
7. A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

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

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB



ELEVATION

CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.13–0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSH DICKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

FREDERICK SOIL CONSERVATION DISTRICT
Approved By _____ District Manager
Date: 1-5-23

SCD approval for sediment and erosion control is contingent upon of issuance of all applicable regulatory permits.

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

ED-2

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL DETAILS

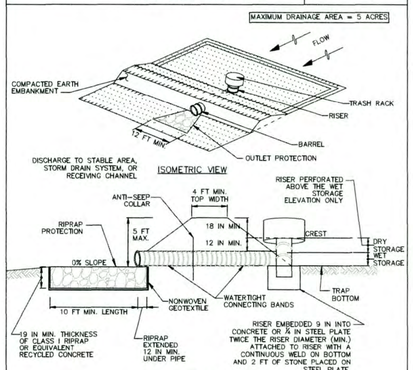
DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 81 OF 226

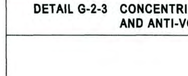
BY: DAW - PLOTTED: 3/10/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ed5-0002_EWC_SCD.dgn

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST-I



¾ INCH GALVANIZED HARDWARE CLOTH WITH NONWOVEN GEOTEXTILE SECURELY FASTENED TO PERFORATED RISER



NOTE:
REFER TO DETAIL G-2-1 – TYPICAL ANTI-SEEP COLLARS
REFER TO DETAIL G-2-2 – RISER BASE
REFER TO DETAIL G-2-3 – CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

1 OF 3

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

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST-I

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. PERFORATE THE RISER WITH 1 INCH DIAMETER HOLES SPACED 6 INCHES ON CENTER WITH THE LOWEST PERFORATIONS AT THE WET STORAGE ELEVATION OR PROVIDE A HORIZONTAL OR VERTICAL DRAW-DOWN DEVICE PERFORATED ACCORDING TO APPROVED PLAN. DO NOT PERFORATE THE RISER WITHIN 6 INCHES OF THE TOP OF THE HORIZONTAL BARREL.
4. SET RISER/BARREL ASSEMBLY PRIOR TO EMBANKMENT CONSTRUCTION. MAKE ALL PIPE CONNECTIONS WATERTIGHT. OFFSET RISER FROM EMBANKMENT TO ACCOMODATE PLACEMENT OF THE TRASH RACK. ANCHOR THE RISER WITH EITHER A REINFORCED CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. MAKE CONCRETE BASES AT LEAST TWICE THE RISER DIAMETER AND 18 INCHES THICK WITH THE RISER EMBEDDED 9 INCHES.
5. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
6. HAND COMPACT IN 4 INCH LAYERS FILL MATERIAL AROUND THE PIPE SPILLWAY. PLACE A MINIMUM OF 2 FEET OF HAND COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
7. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE RISER CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
8. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
9. WRAP THE RISER WITH ¼ INCH GALVANIZED HARDWARE CLOTH THEN WRAP WITH NONWOVEN GEOTEXTILE. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE. EXTEND HARDWARE CLOTH AND GEOTEXTILE AT LEAST 6 INCHES ABOVE THE HIGHEST PERFORATION AND AT LEAST 6 INCHES BELOW THE LOWEST PERFORATIONS. OVERLAP, FOLD AND FASTEN WHERE ENDS OF GEOTEXTILE COME TOGETHER TO PREVENT BYPASS. REPLACE GEOTEXTILE AS NECESSARY TO PREVENT CLOGGING.
10. USE STRAPS OR CONNECTING BANDS AT THE TOP AND BOTTOM OF THE GEOTEXTILE TO HOLD THE GEOTEXTILE AND HARDWARE CLOTH IN PLACE.
11. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
12. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
13. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO THE APPROVED PLAN AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
14. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS INDICATED ON THE PLAN FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.
15. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
16. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

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

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST-I

PIPE OUTLET SEDIMENT TRAP ST–I, TRAP NO._____

DRAINAGE AREA – INTIAL		ACRES
DRAINAGE AREA – INTERIM		ACRES
DRAINAGE AREA – FINAL		ACRES
TOTAL STORAGE REQUIRED		CF
TOTAL STORAGE PROVIDED		CF
WET STORAGE REQUIRED		CF
WET STORAGE PROVIDED		CF
DRY STORAGE REQUIRED		CF
DRY STORAGE PROVIDED		CF
TRAP BOTTOM ELEVATION		FT
TRAP BOTTOM DIMENSIONS		FT x FT
RISER CREST (DRY STORAGE) ELEVATION		FT
OUTLET (WET STORAGE) ELEVATION		FT
CLEANOUT ELEVATION		FT
TOP OF EMBANKMENT ELEVATION		FT
SIDE SLOPE		H:V RATIO
EMBANKMENT TOP WIDTH		FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER, ANTI–SEEP COLLAR)		
RISER DIAMETER		IN
BARREL DIAMETER		IN
TRASH RACK DIAMETER		IN
TRASH RACK HEIGHT		IN
ANTI–SEEP COLLAR DIMENSIONS		FT
OUTLET PROTECTION – LENGTH		FT
OUTLET PROTECTION – WIDTH		FT
OUTLET PROTECTION – DEPTH		IN

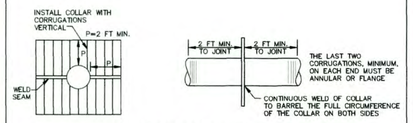
3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

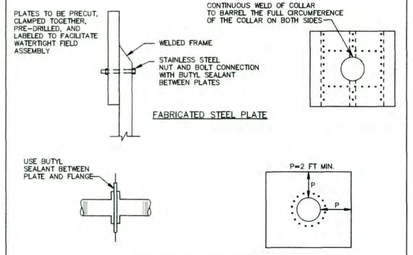
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-2-1 TYPICAL ANTI-SEEP COLLARS

STANDARD SYMBOL:



CORRUGATED COLLAR WELDED IN PLACE ON BARREL SECTION



FABRICATED STEEL PLATE

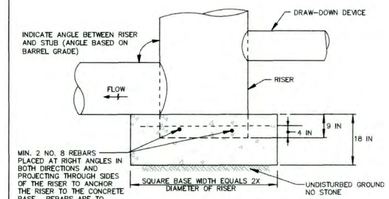
COLLAR FOR FLANGE JOINT PIPE

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

DETAIL G-2-2 CORRUGATED RISER BASE

STANDARD SYMBOL:



CONSTRUCTION SPECIFICATIONS

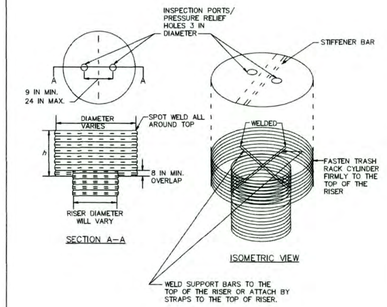
1. BOTTOM OF CONCRETE BASE TO BE PLACED ON UNDISTURBED, NATURAL GROUND.
2. NO STONE IS ALLOWED UNDER BASE. IF NECESSARY, TO ACHIEVE STABILITY INCREASE DEPTH OF CONCRETE BASE.

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

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL: TR



1 OF 2

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

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL: TR

RISER DIAM. (IN)	TRASH RACK CYLINDER DIAM. (IN)	TRASH RACK CYLINDER THICKNESS (GAUGE)	h (IN)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP THICKNESS (GAUGE)	STIFFENER
12	18	16	14	#6 REBAR	16	N/A
15	21	16	15	#6 REBAR	16	N/A
18	27	16	16	#6 REBAR	16	N/A
21	30	16	19	#6 REBAR	16	N/A
24	36	16	21	#6 REBAR	14	N/A
27	42	16	21	#6 REBAR	14	N/A
36	54	14	25	#8 REBAR	12	N/A
42	60	14	27	#8 REBAR	12	N/A
48	72	12	29	1¾ IN PIPE OR 1¾ x 1¾ x ¾ ANGLE	10	N/A
54	78	12	33	1¾ IN PIPE OR 1¾ x 1¾ x ¾ ANGLE	10	N/A
60	90	12	37	1⅞ IN PIPE OR 1⅞ x 1⅞ x ¾ ANGLE	8	N/A
66	96	10	41	2 IN PIPE OR 2 x 2 x ¾ ANGLE	8	2 x 2 x ¾ ANGLE
72	102	10	44	2 IN PIPE OR 2 x 2 x 5/16 ANGLE	8	2½ x 2½ x ¾ ANGLE
78	114	10	47	2⅜ IN PIPE OR 2 x 2 x ¼ ANGLE	8	2½ x 2½ x ¾ ANGLE
84	120	10	50	2⅜ IN PIPE OR 2½ x 2½ x ¼ ANGLE	8	2½ x 2½ x 5/16 ANGLE

NOTE:
THE ABOVE TRASH RACK AND ANTI–VORTEX DEVICE INFORMATION IS FOR CORRUGATED METAL PIPE ONLY. CONCRETE RISERS MUST MEET THE REQUIREMENTS OF MD 378.

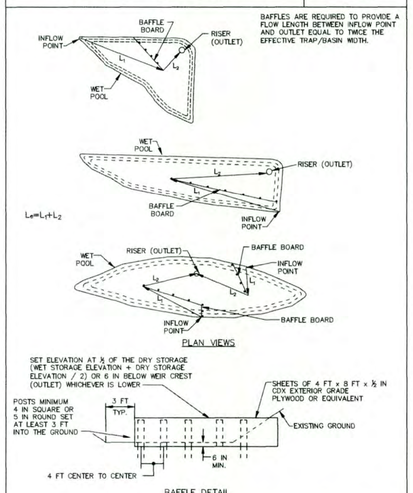
2 OF 2

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

DETAIL G-2-4 BAFFLE BOARDS

STANDARD SYMBOL: BB



BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.

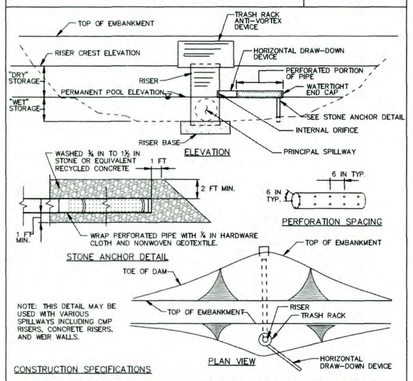
BAFFLE DETAIL

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

DETAIL G-2-6 SEDIMENT BASIN SCHEMATIC HORIZONTAL DRAW-DOWN DEVICE

STANDARD SYMBOL: HDDD



CONSTRUCTION SPECIFICATIONS

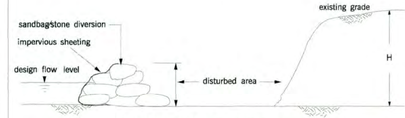
1. PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIALLY OR IN ACCORDANCE WITH APPROVED PLAN.
2. WRAP THE PERFORATED PORTION OF THE DRAW–DOWN DEVICE FIRST WITH ½ INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.
3. AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW–DOWN DEVICE WITH TWO 1 INCH STEEL ANGLES SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW–DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR 12 GAUGE OR HEAVIER WIRE.
4. REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (50% OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.

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

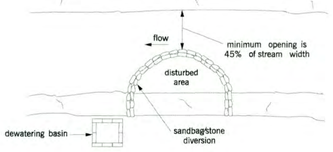
Maryland's Guidelines To Waterway Construction
DETAIL 1.5: SANDBAG/STONE DIVERSION

TRANSVERSE SECTION VIEW



H/2 + 1 ft (0.3 m) for projects of duration < 2 weeks;
2–year flood elevation for projects of longer duration

PLAN VIEW



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.5 – 3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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.

FREDERICK SOIL CONSERVATION DISTRICT

Approved By _____ District Manager

Date: 1-3-25

SCD approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

DH

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN DAVID WEBB — No. 24828 — PROFESSIONAL ENGINEER

10/6/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

ED-3

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

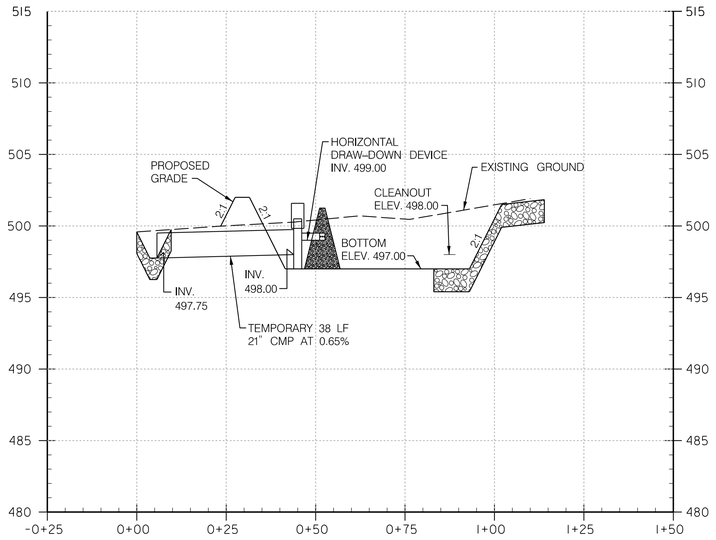
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL DETAILS

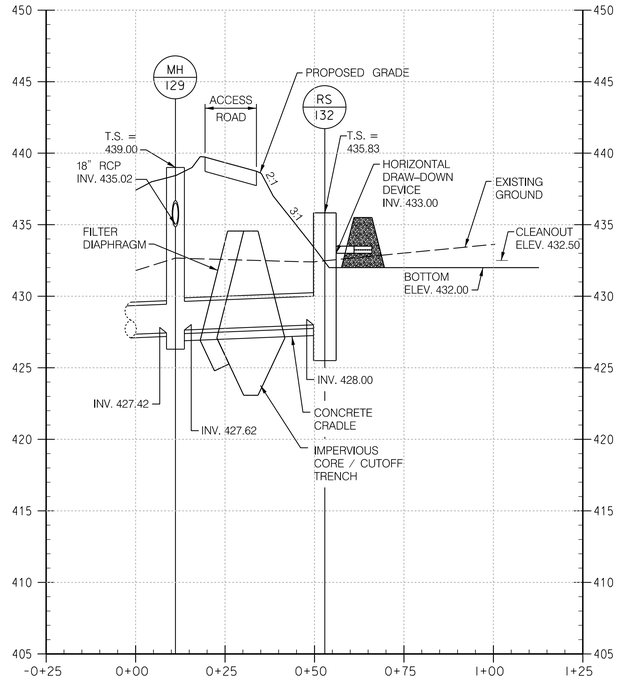
DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 82 OF 226

BY: DAW - PLOTTED: 3/10/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\DES\0003_ENC_SCD.dgn



SEDIMENT TRAP NO. 1



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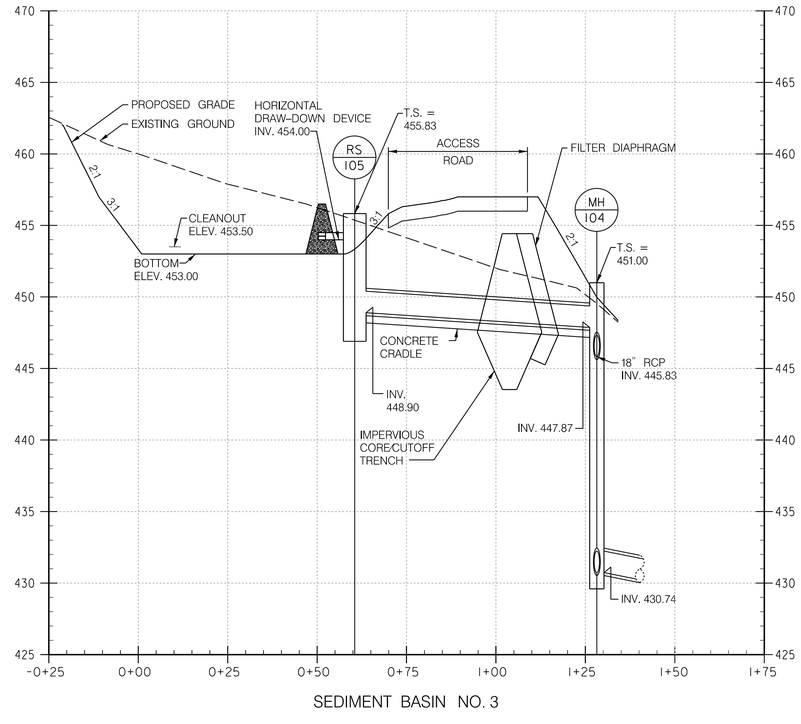

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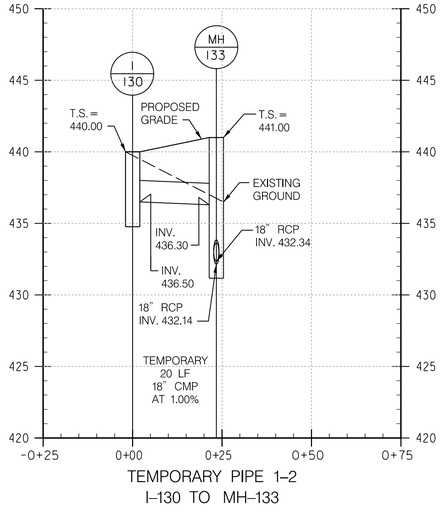

TEMPORARY PIPE 1–2
I–130 TO MH–133

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEIDEL — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

ED-4

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

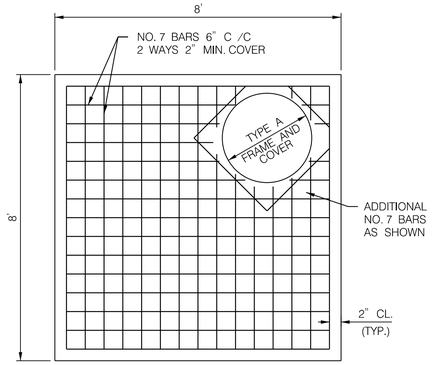
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL DRAINAGE PROFILES AND SCHEDULE

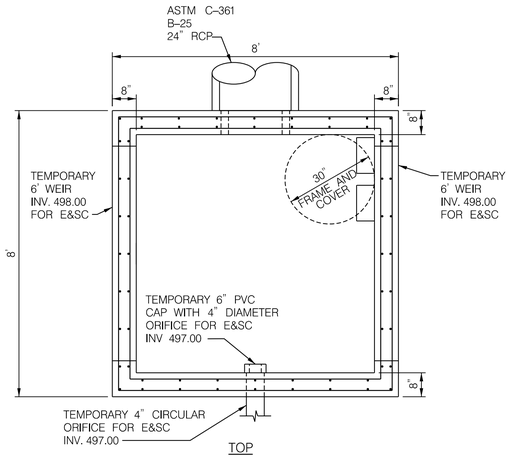
DATE: OCTOBER 2022
SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01
DWG. 83 OF 226

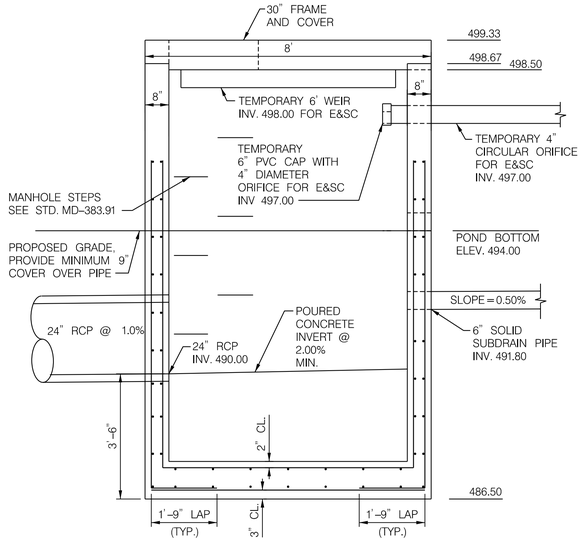
BY: AKR - PLOTTED: 10/20/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-0004.DWG.dgn



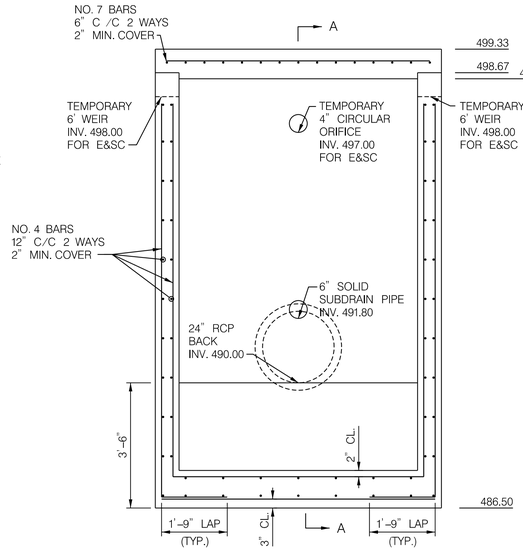
TOP SLAB REINFORCEMENT



TOP

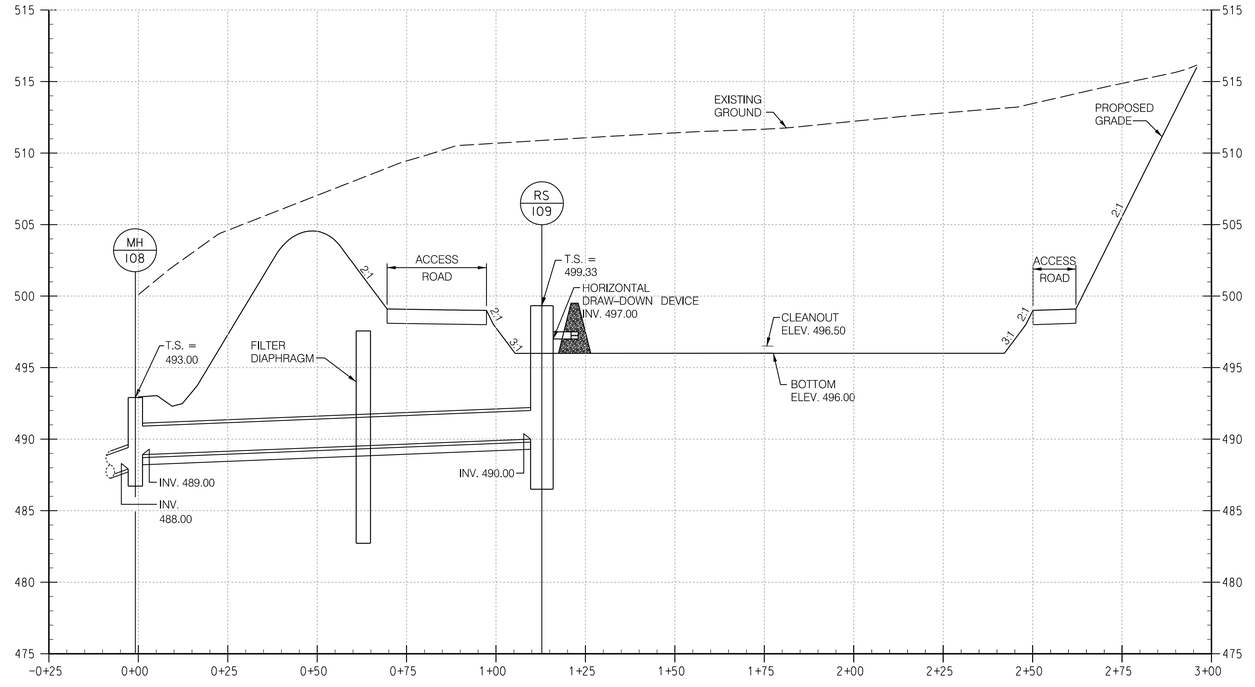


SECTION A–A

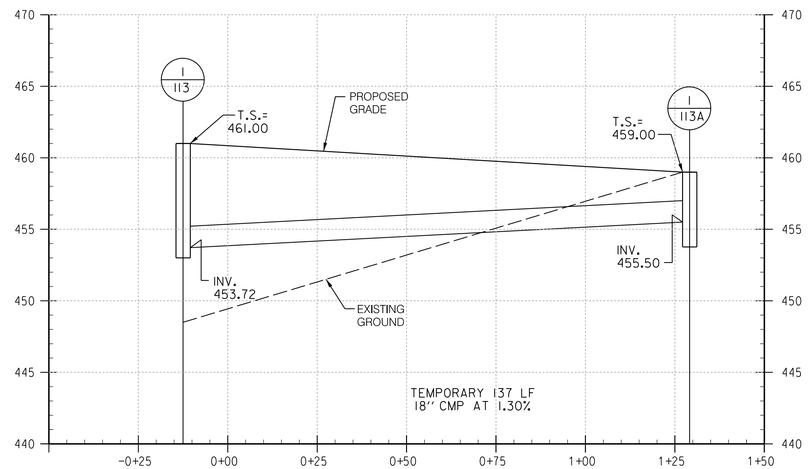


FRONT

BMP #101819 BIORETENTION FACILITY RISER DETAIL
SCALE: ½" = 1'-0"



SEDIMENT BASIN NO. 4



TEMPORARY PIPE 1–3
I–113 TO I–113A

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

ED-5

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

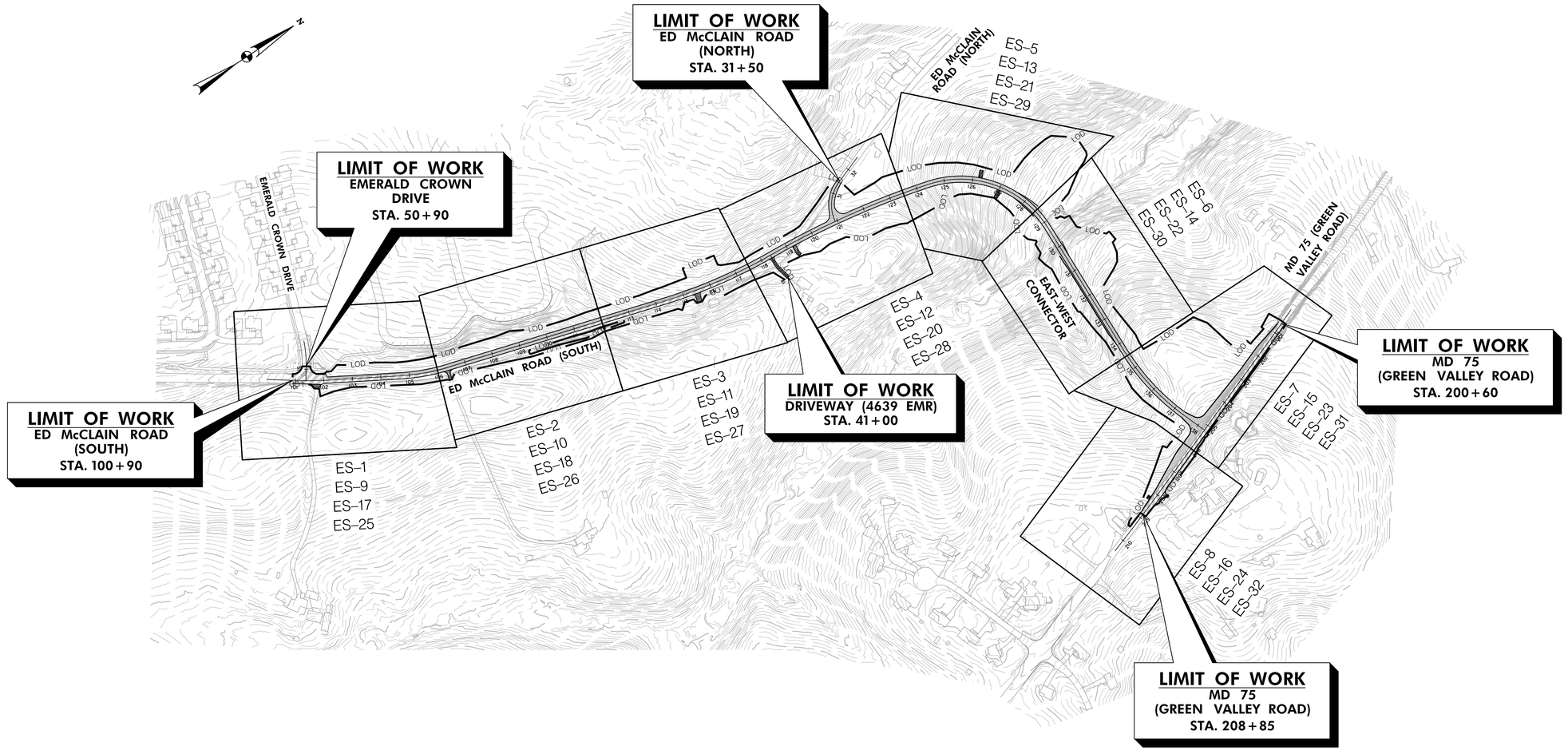
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL DRAINAGE PROFILES AND SCHEDULE

DATE: OCTOBER 2022 SCALE: 1"=20' HORZ. 1"=5' VERT.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 84 OF 226

BY: AKR -
PLOTTED: 10/20/2022
FILE: N:\Frederick County - Monrovia E-W Connector\Design Files\DES-0005.EWC.dgn



EL-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN SHEET LAYOUT

DATE: OCTOBER 2022 SCALE: 1" = 200'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 85 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/20/2022
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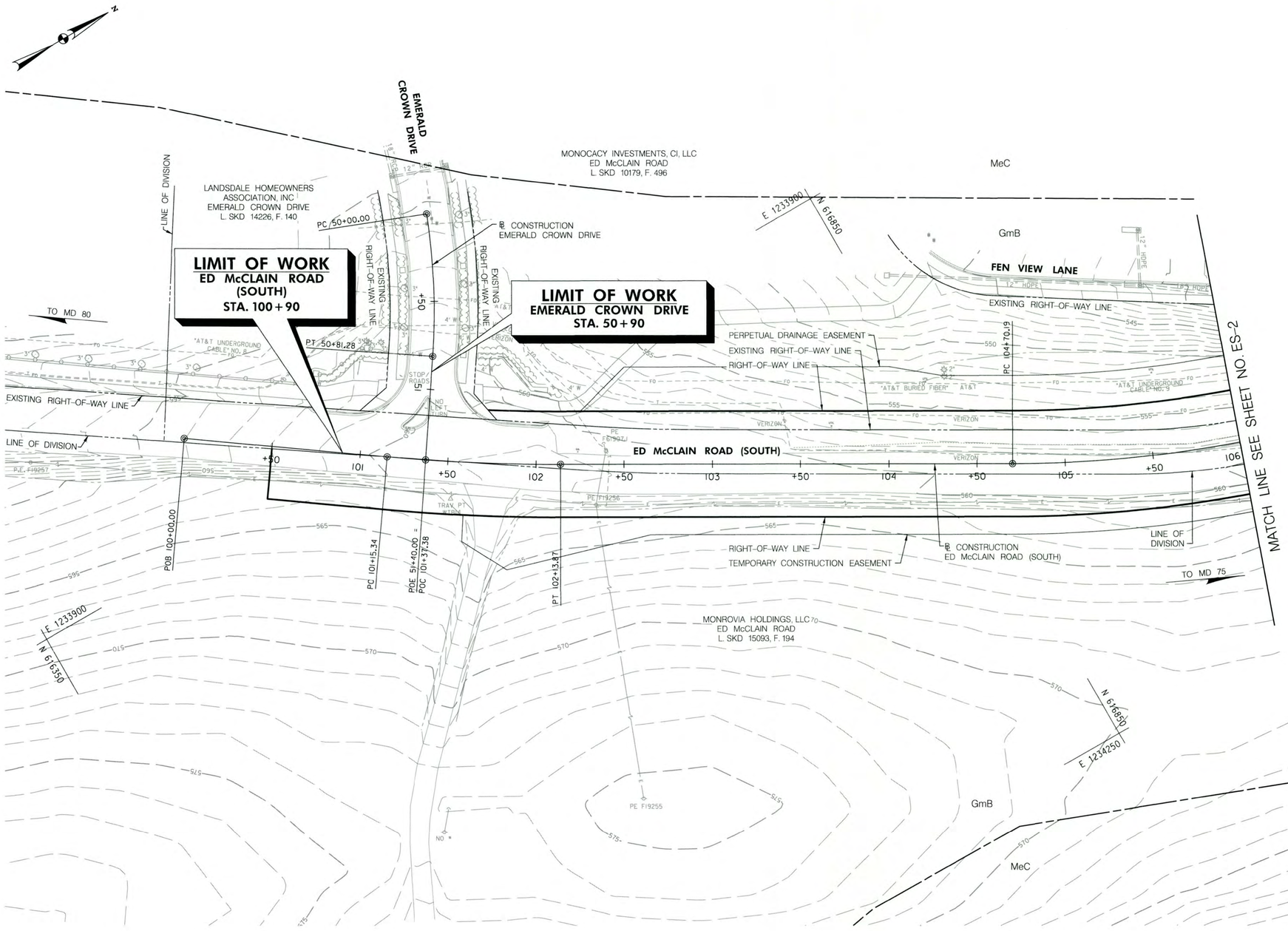

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SNL_EWC_SCD.dgn

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
100% District Manager

DATE: 1-5-23

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

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.

NO GRADING ON THIS SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-1**

FREDERICK COUNTY, MARYLAND

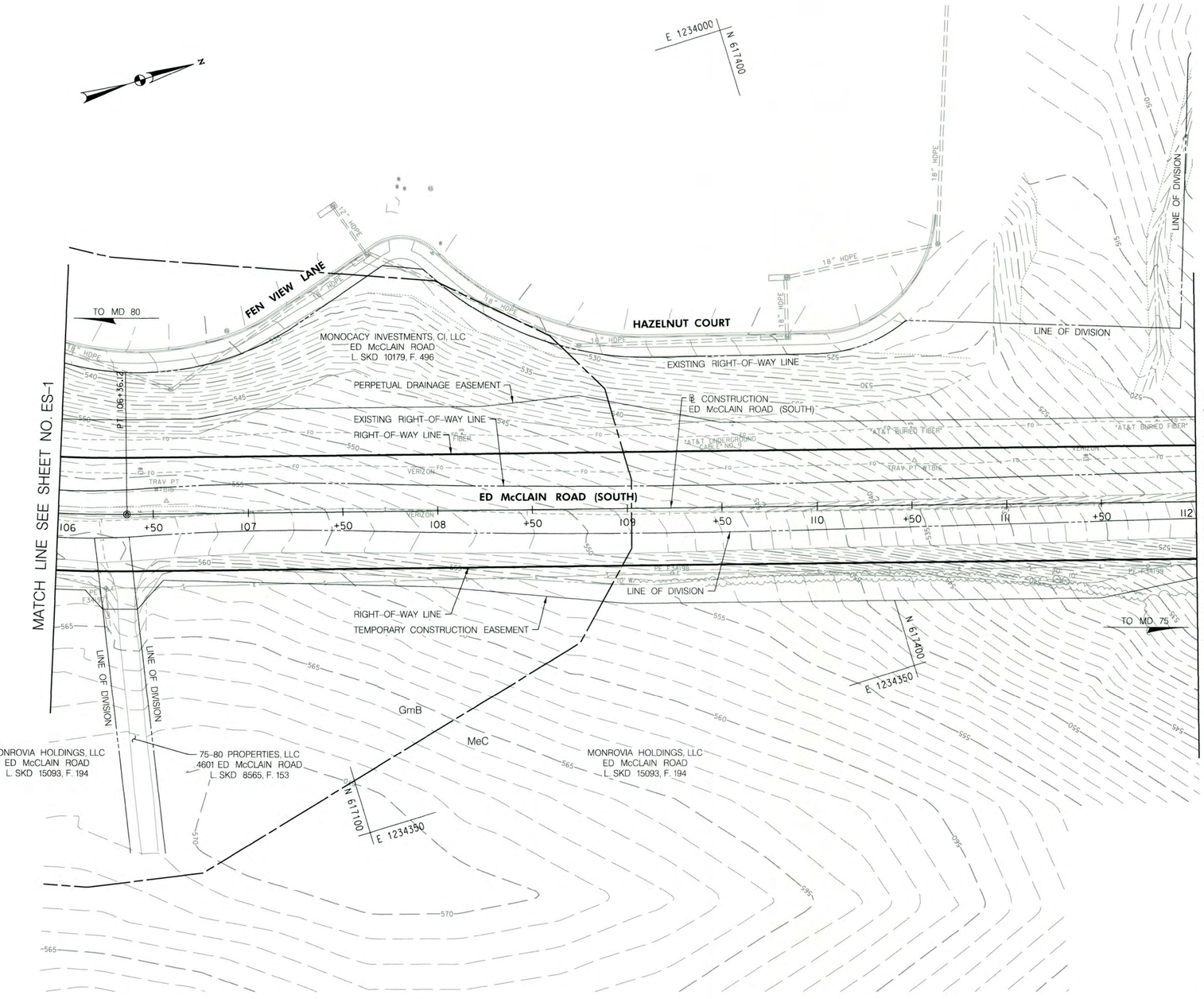
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 100+90 TO STA. 106+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 86 OF 226



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: District Manager

DATE: 1-5-23

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

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.

NO GRADING ON THIS SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSHUA JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-2**

FREDERICK COUNTY, MARYLAND

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

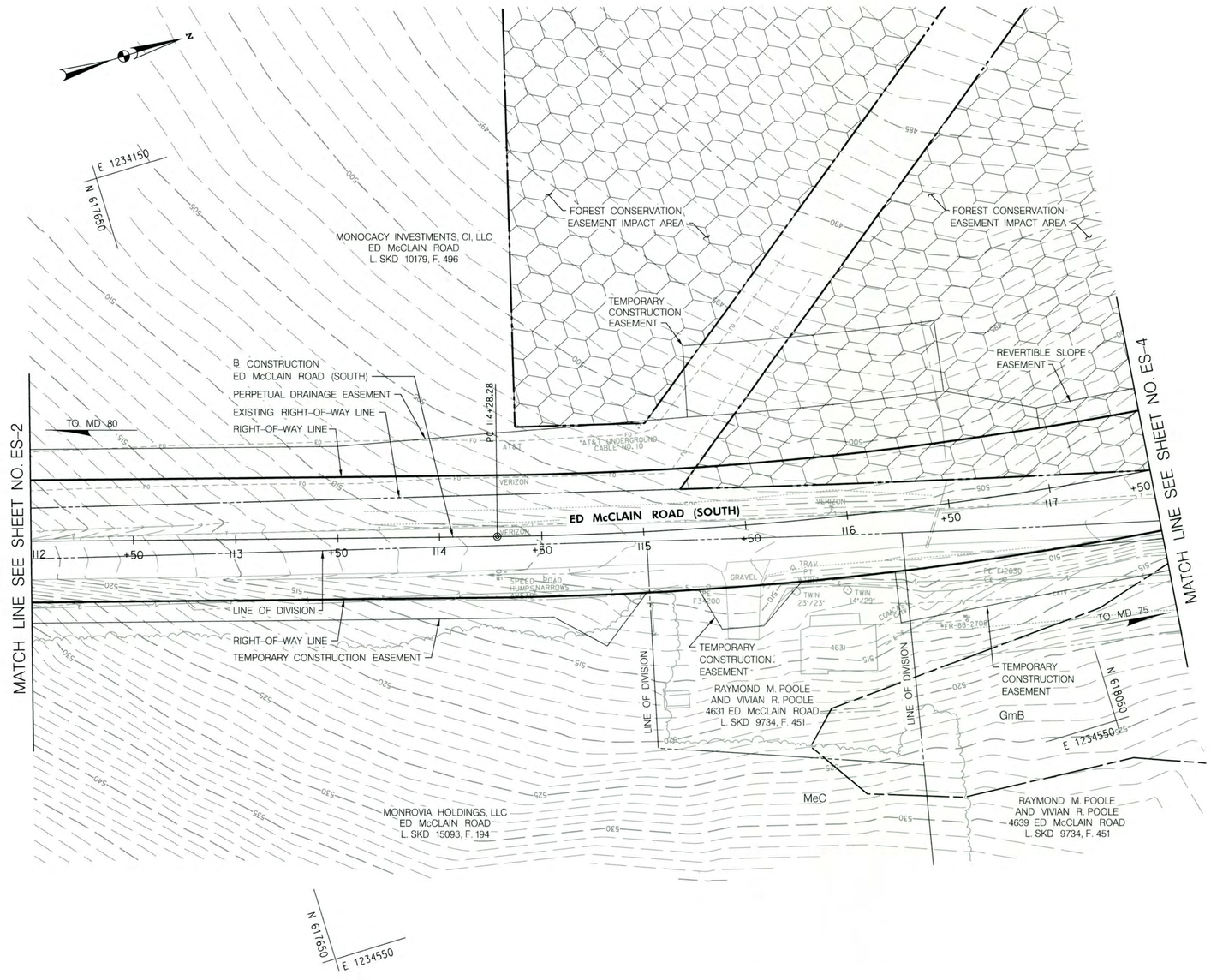
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 106+00 TO STA. 112+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 87 OF 226

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SN2_EWC-SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ **District Manager**

DATE: 1-5-23

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

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.

NO GRADING ON THIS SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
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GEOMETRIC LAYOUT SHEETS	10 TO 11
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-3**

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

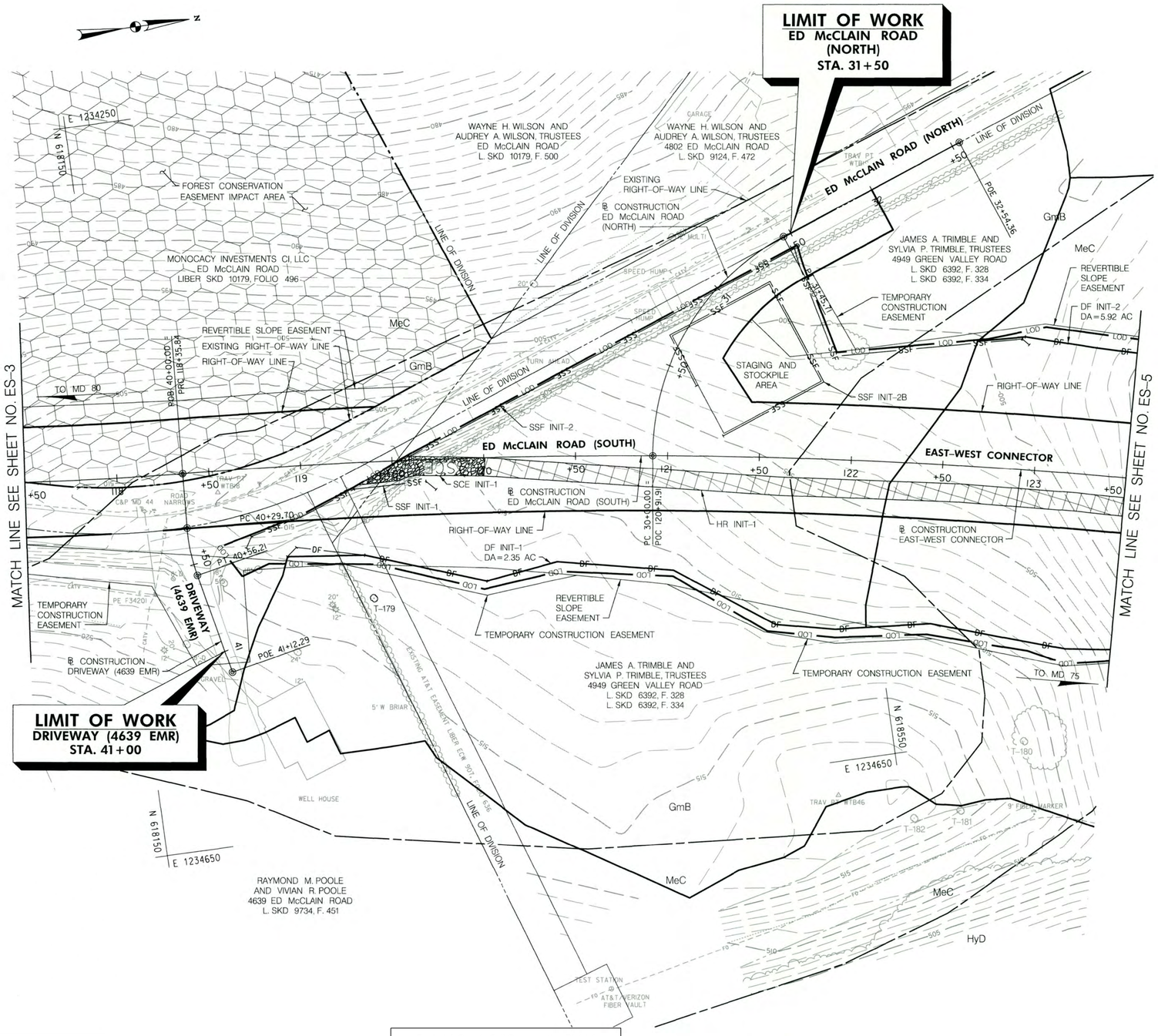
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 112+00 TO STA. 117+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 88 OF 226

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SN3_EWC-SCD.dgn



STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE INIT-1	RT. STA. 119+75	1

DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF INIT-1*	RT. STA. 118+75 TO RT. STA. 123+50	470
DF INIT-2**	LT. STA. 122+95 TO LT. STA. 123+50	65

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF INIT-1	RT. STA. 118+68 TO RT. STA. 119+71	115
SSF INIT-2	LT. STA. 119+63 TO LT. STA. 122+91	405
SSF INIT-2B	LT. STA. 121+01 TO LT. STA. 121+84	218

HAUL ROAD		
ID	LOCATION - STATION	LF
HR INIT-1	RT. STA. 120+00 TO LT. STA. 123+50	350

*NOTE: SOIL STABILIZATION MATTING TO BE INSTALLED ALONGSIDE DF INIT-1 FROM RT. STA. 118+75 TO RT. STA. 123+50 TO ENSURE STABILITY. MATTING IS INCIDENTAL TO COST OF DIVERSION FENCE.

**NOTE: SOIL STABILIZATION MATTING TO BE INSTALLED ALONGSIDE DF INIT-2 FOR ENTIRE LENGTH TO ENSURE STABILITY. MATTING IS INCIDENTAL TO COST OF DIVERSION FENCE.

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
DISTRICT Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-4**

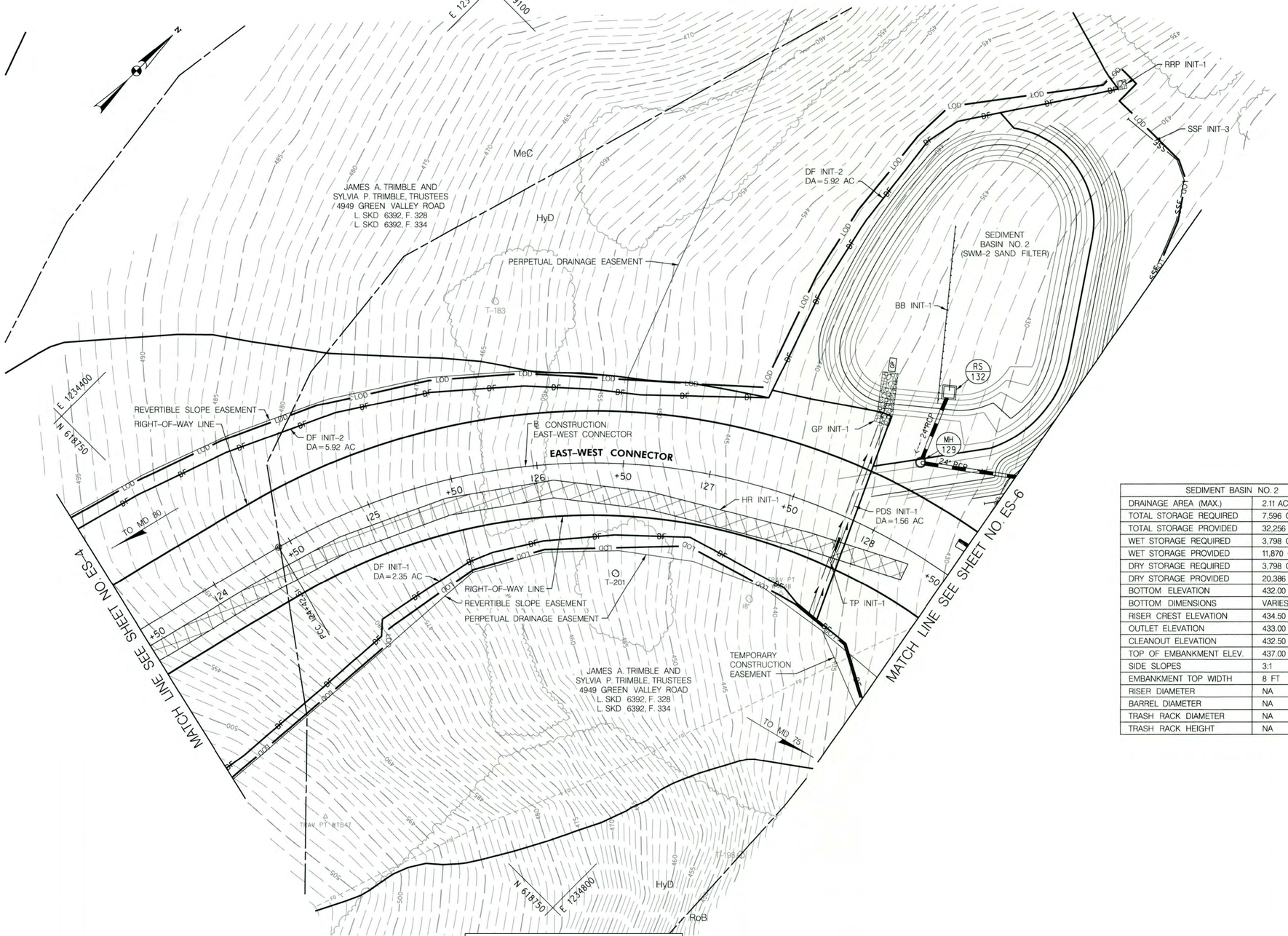
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR
STA. 117+50 TO STA. 123+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 89 OF 226

BY: DAW - 10/07/2025
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5\M4_EWC-SCD.dgn



SEDIMENT BASIN NO. 2	
DRAINAGE AREA (MAX.)	2.11 ACRES
TOTAL STORAGE REQUIRED	7,596 CF
TOTAL STORAGE PROVIDED	32,256 CF
WET STORAGE REQUIRED	3,798 CF
WET STORAGE PROVIDED	11,870 CF
DRY STORAGE REQUIRED	3,798 CF
DRY STORAGE PROVIDED	20,386 CF
BOTTOM ELEVATION	432.00 FT
BOTTOM DIMENSIONS	VARIES
RISER CREST ELEVATION	434.50 FT
OUTLET ELEVATION	433.00 FT
CLEANOUT ELEVATION	432.50 FT
TOP OF EMBANKMENT ELEV.	437.00 FT
SIDE SLOPES	3:1
EMBANKMENT TOP WIDTH	8 FT
RISER DIAMETER	NA
BARREL DIAMETER	NA
TRASH RACK DIAMETER	NA
TRASH RACK HEIGHT	NA

PERIMETER DIKE/SWALE (MDE C-3)		
ID	LOCATION - STATION	LF
PDS INIT-1	RT. STA. 127+88 TO LT. STA. 127+79	125

DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF INIT-1*	RT. STA. 123+50 TO RT. STA. 128+50	450
DF INIT-2**	LT. STA. 123+50 TO LT. STA. 128+06	710

RIPRAP INFLOW PROTECTION (MDE D-3-1)		
ID	LOCATION - STATION	CY
RRP INIT-1	LT. STA. 128+07	11

GABION INFLOW PROTECTION (MDE D-3-2)		
ID	LOCATION - STATION	CY
GP INIT-1	LT. STA. 127+75	30

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF INIT-3	RT. STA. 128+14 TO RT. STA. 128+50	130

BAFFLE BOARD (MDE G-2-4)		
ID	LOCATION - STATION	LF
BB INIT-1	SEDIMENT BASIN NO. 2	105

TEMPORARY PIPE		
ID	LOCATION - STATION	LF
TP INIT-1	RT. STA. 127+84	15

HAUL ROAD		
ID	LOCATION - STATION	LF
HR INIT-1	RT. STA. 123+50 TO RT. STA. 128+28	465

*NOTE: SOIL STABILIZATION MATTING TO BE INSTALLED ALONGSIDE DF INIT-1 FROM RT. STA. 123+50 TO RT. STA. 127+64 TO ENSURE STABILITY. MATTING IS INCIDENTAL TO COST OF DIVERSION FENCE.

**NOTE: SOIL STABILIZATION MATTING TO BE INSTALLED ALONGSIDE DF INIT-2 FOR ENTIRE LENGTH TO ENSURE STABILITY. MATTING IS INCIDENTAL TO COST OF DIVERSION FENCE.

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ Asst. District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-5**

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
EAST-WEST CONNECTOR
STA. 123+50 TO STA. 128+50

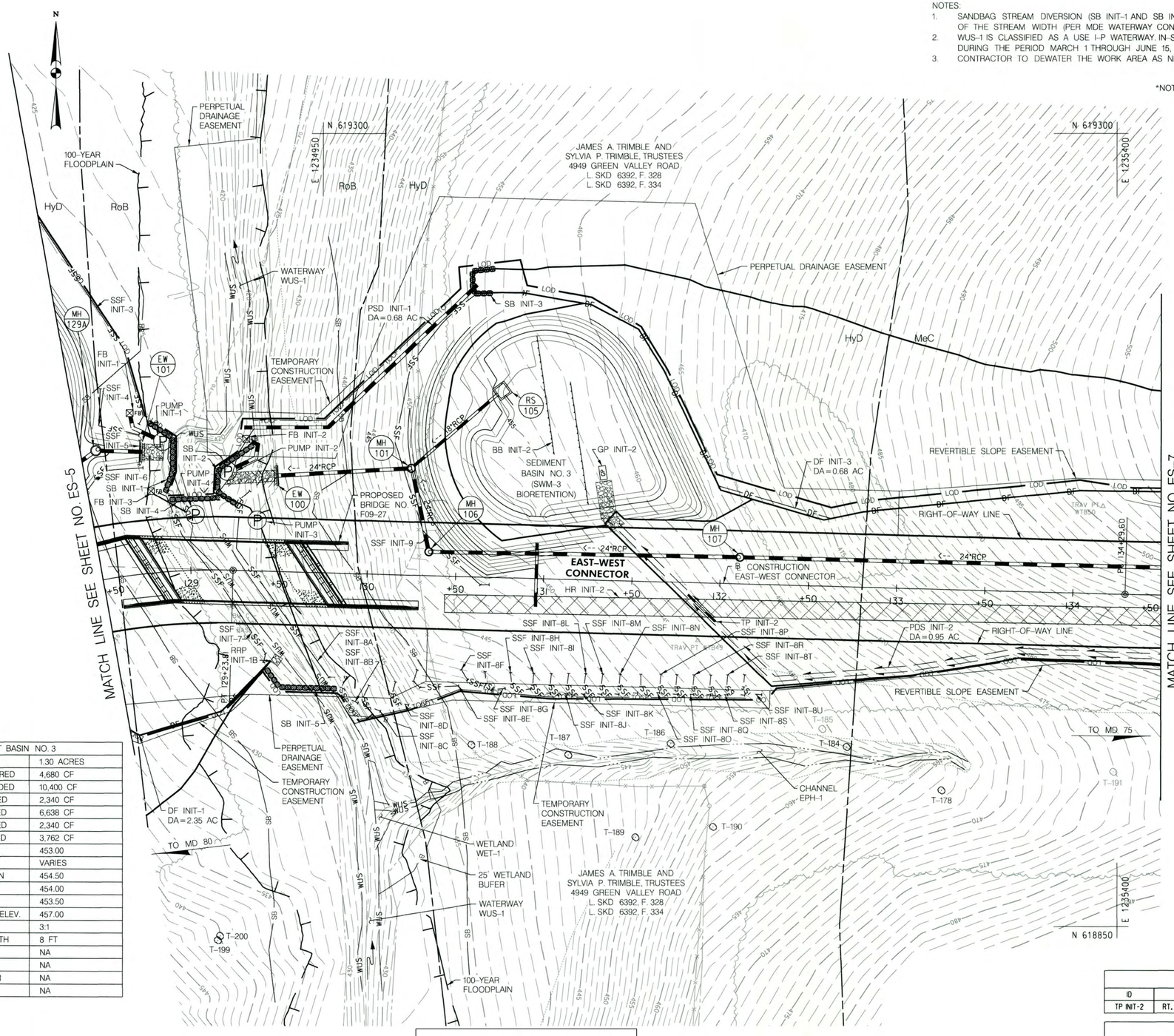
DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 90 OF 226

BY: DAW - PLOTTED: 3/10/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-SNS_EWC_SCD.dgn

NOTES:
1. SANDBAG STREAM DIVERSION (SB INIT-1 AND SB INIT-2) SHALL NOT OBSTRUCT MORE THAN 45% OF THE STREAM WIDTH (PER MDE WATERWAY CONSTRUCTION GUIDELINES).
2. WUS-1 IS CLASSIFIED AS A USE I-P WATERWAY. IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
3. CONTRACTOR TO DEWATER THE WORK AREA AS NECESSARY WITH FILTER BAG.

*NOTE: SOIL STABILIZATION MATTING TO BE INSTALLED ALONGSIDE DF INIT-3 FROM LT. STA. 130+66 TO LT. STA. 131+23 AND LT. STA. 131+98 TO LT. STA. 134+02 TO ENSURE STABILITY. MATTING IS INCIDENTAL TO COST OF DIVERSION FENCE.



SEDIMENT BASIN NO. 3	
DRAINAGE AREA (MAX.)	1.30 ACRES
TOTAL STORAGE REQUIRED	4,680 CF
TOTAL STORAGE PROVIDED	10,400 CF
WET STORAGE REQUIRED	2,340 CF
WET STORAGE PROVIDED	6,638 CF
DRY STORAGE REQUIRED	2,340 CF
DRY STORAGE PROVIDED	3,762 CF
BOTTOM ELEVATION	453.00
BOTTOM DIMENSIONS	VARIES
RISER CREST ELEVATION	454.50
OUTLET ELEVATION	454.00
CLEANOUT ELEVATION	453.50
TOP OF EMBANKMENT ELEV.	457.00
SIDE SLOPES	3:1
EMBANKMENT TOP WIDTH	8 FT
RISER DIAMETER	NA
BARREL DIAMETER	NA
TRASH RACK DIAMETER	NA
TRASH RACK HEIGHT	NA

PERIMETER DIKE/SWALE (MDE C-3)		
ID	LOCATION - STATION	LF
PDS INIT-2	LT. STA. 131+36 TO RT. STA. 134+50	355

DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF INIT-1	RT. STA. 128+50 TO RT. STA. 129+46	110
DF INIT-3*	LT. STA. 130+66 TO LT. STA. 134+50	445

PIPE SLOPE DRAIN (MDE D-1)		
ID	LOCATION - STATION	LF
PSD INIT-1	LT. STA. 129+37 TO LT. STA. 130+58	165

GABION INFLOW PROTECTION (MDE D-3-2)		
ID	LOCATION - STATION	CY
GP-INIT-2	LT. STA. 131+30	27

RIPRAP INFLOW PROTECTION (MDE D-3-1)		
ID	LOCATION - STATION	TON
RRP INIT-1B	RT. STA. 129+50	11

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF INIT-3	LT. STA. 128+50 TO LT. STA. 128+79	85
SSF INIT-4	LT. STA. 128+60 TO LT. STA. 128+78	45
SSF INIT-5	LT. STA. 128+77 TO LT. STA. 128+78	14
SSF INIT-6	LT. STA. 128+45 TO LT. STA. 128+79	46
SSF INIT-7	LT. STA. 128+85 TO RT. STA. 129+43	120
SSF INIT-8A	LT. STA. 129+32 TO RT. STA. 129+89	25
SSF INIT-8B	RT. STA. 129+90	20
SSF INIT-8C	RT. STA. 130+03	35
SSF INIT-8D	RT. STA. 130+18	25
SSF INIT-8E	RT. STA. 130+30	20
SSF INIT-8F	RT. STA. 130+55	20
SSF INIT-8G	RT. STA. 130+68	20
SSF INIT-8H	RT. STA. 130+83	20
SSF INIT-8I	RT. STA. 130+96	20
SSF INIT-8J	RT. STA. 131+06	20
SSF INIT-8K	RT. STA. 131+16	20
SSF INIT-8L	RT. STA. 131+25	20
SSF INIT-8M	RT. STA. 131+35	20
SSF INIT-8N	RT. STA. 131+45	20
SSF INIT-8O	RT. STA. 131+56	20
SSF INIT-8P	RT. STA. 131+68	20
SSF INIT-8Q	RT. STA. 131+77	20
SSF INIT-8R	RT. STA. 131+87	20
SSF INIT-8S	RT. STA. 131+96	20
SSF INIT-8T	RT. STA. 132+06	20
SSF INIT-8U	RT. STA. 132+15	20
SSF INIT-9	LT. STA. 130+57 TO RT. STA. 130+73	205

PUMP (INCIDENTAL TO FILTER BAG)		
ID	LOCATION - STATION	EA
PUMP INIT-1	LT. STA. 128+75	
PUMP INIT-2	LT. STA. 129+25	
PUMP INIT-3	LT. STA. 129+50	
PUMP INIT-4	LT. STA. 129+00	

FILTER BAG (MDE F-4)		
ID	LOCATION - STATION	EA
FB INIT-1	LT. STA. 128+75	1
FB INIT-2	LT. STA. 129+50	1
FB INIT-3	LT. STA. 128+75	1

BAFFLE BOARD (MDE G-2-4)		
ID	LOCATION - STATION	LF
BB INIT-2	SEDIMENT BASIN NO. 3	140

SANDBAGS		
ID	LOCATION - STATION	CY
SB INIT-1	LT. STA. 128+94	20
SB INIT-2	LT. STA. 129+15	20
SB INIT-3	LT. STA. 130+55	15
SB INIT-4	LT. STA. 129+25	10
SB INIT-5	RT. STA. 129+25	20

TEMPORARY PIPE		
ID	LOCATION - STATION	LF
TP INIT-2	RT. STA. 132+00	25

HAUL ROAD		
ID	LOCATION - STATION	LF
HR INIT-2	RT. STA. 130+44 TO RT. STA. 134+50	410

LEGEND
- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT
APPROVED BY: Steve Southern, District Manager
DATE: 1-5-23
SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS CONTINGENT UPON ISSUANCE OF ALL APPLICABLE REGULATORY PERMITS.

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON BREEDEN — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-6**

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN

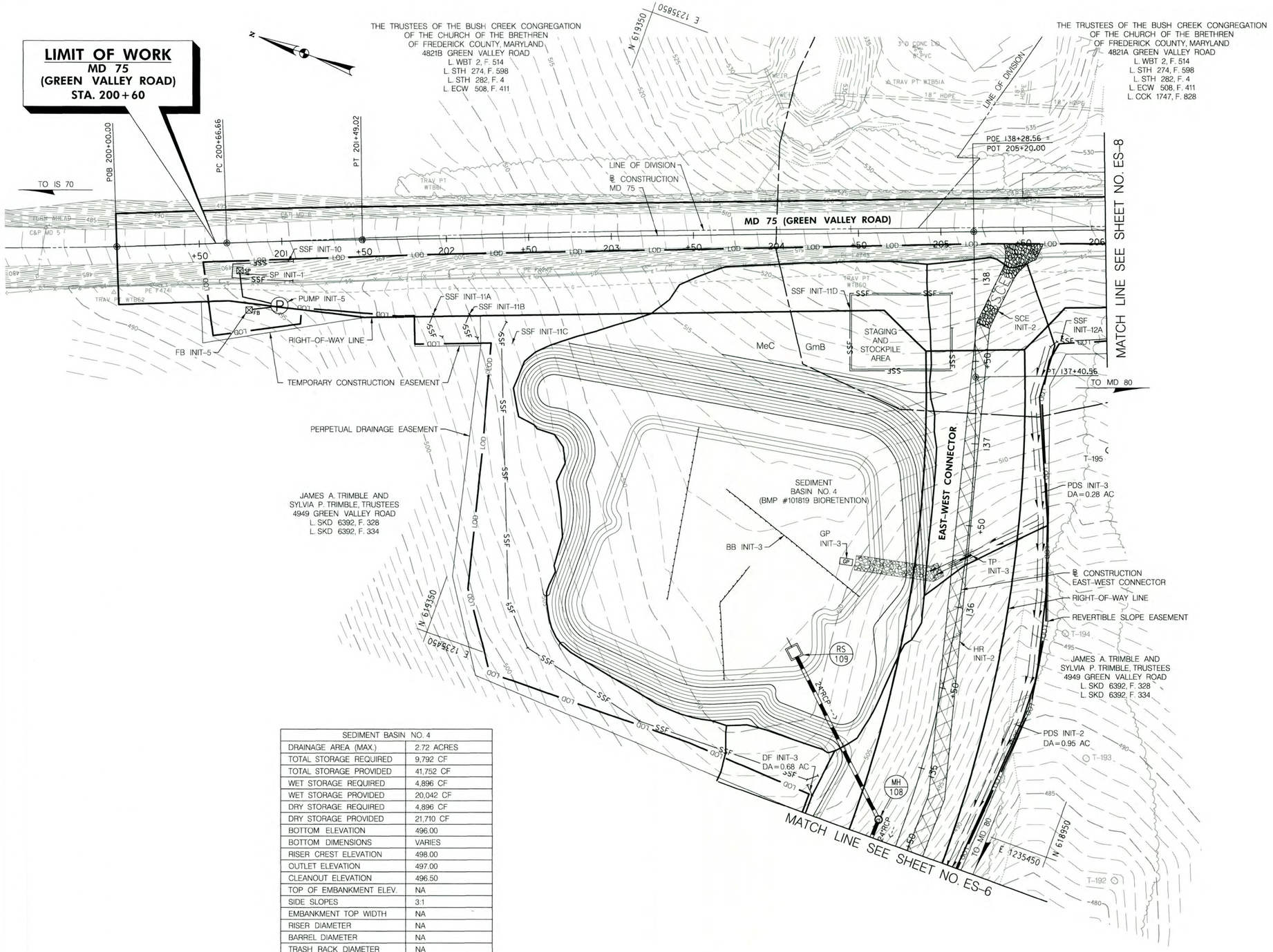
EAST-WEST CONNECTOR

STA. 128+50 TO STA. 134+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 91 OF 226

BY: DAW - PLOTTED: 3/10/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-SWM_EWC_SCD.dgn



SEDIMENT BASIN NO. 4	
DRAINAGE AREA (MAX.)	2.72 ACRES
TOTAL STORAGE REQUIRED	9,792 CF
TOTAL STORAGE PROVIDED	41,752 CF
WET STORAGE REQUIRED	4,896 CF
WET STORAGE PROVIDED	20,042 CF
DRY STORAGE REQUIRED	4,896 CF
DRY STORAGE PROVIDED	21,710 CF
BOTTOM ELEVATION	496.00
BOTTOM DIMENSIONS	VARIES
RISER CREST ELEVATION	498.00
OUTLET ELEVATION	497.00
CLEANOUT ELEVATION	496.50
TOP OF EMBANKMENT ELEV.	NA
SIDE SLOPES	3:1
EMBANKMENT TOP WIDTH	NA
RISER DIAMETER	NA
BARREL DIAMETER	NA
TRASH RACK DIAMETER	NA
TRASH RACK HEIGHT	NA

STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE INIT-2	RT. STA. 205+50	1

PERIMETER DIKE/SWALE (MDE C-3)		
ID	LOCATION - STATION	LF
PDS INIT-2	RT. STA. 134+50 TO RT. STA. 136+50	220
PDS INIT-3	LT. STA. 136+18 TO RT. STA. 137+65	185

DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF INIT-3	LT. STA. 134+50 TO LT. STA. 136+68	20

GABION INFLOW PROTECTION (MDE D-3-2)		
ID	LOCATION - STATION	CY
GP INIT-3	LT. STA. 136+75	55

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF INIT-10	RT. STA. 201+12	85
SSF INIT-11A	RT. STA. 201+91	20
SSF INIT-11B	RT. STA. 202+13	20
SSF INIT-11C	RT. STA. 202+36 TO RT. STA. 204+21	400
SSF INIT-11D	RT. STA. 204+44 TO RT. STA. 205+06	197
SSF INIT-12A	RT. STA. 205+66 TO RT. STA. 206+00	25

PUMP (INCIDENTAL TO FILTER BAG)		
ID	LOCATION - STATION	EA
PUMP INIT-5	RT. STA. 201+00	1

SUMP PIT (MDE F-2)		
ID	LOCATION - STATION	EA
SP INIT-1	RT. STA. 200+74	1

FILTER BAG (MDE F-4)		
ID	LOCATION - STATION	EA
FB INIT-5	RT. STA. 200+79	1

BAFFLE BOARD (MDE G-2-4)		
ID	LOCATION - STATION	LF
BB INIT-3	SEDIMENT BASIN NO. 4	290

TEMPORARY PIPE		
ID	LOCATION - STATION	LF
TP INIT-3	LT. STA. 136+25	15

HAUL ROAD		
ID	LOCATION - STATION	LF
HR INIT-2	RT. STA. 134+50 TO RT. STA. 137+74	325

INITIAL STAGE | **ES-7**

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN MD 75 (GREEN VALLEY ROAD) STA. 200+60 TO STA. 206+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 92 OF 226

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Scatterday District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

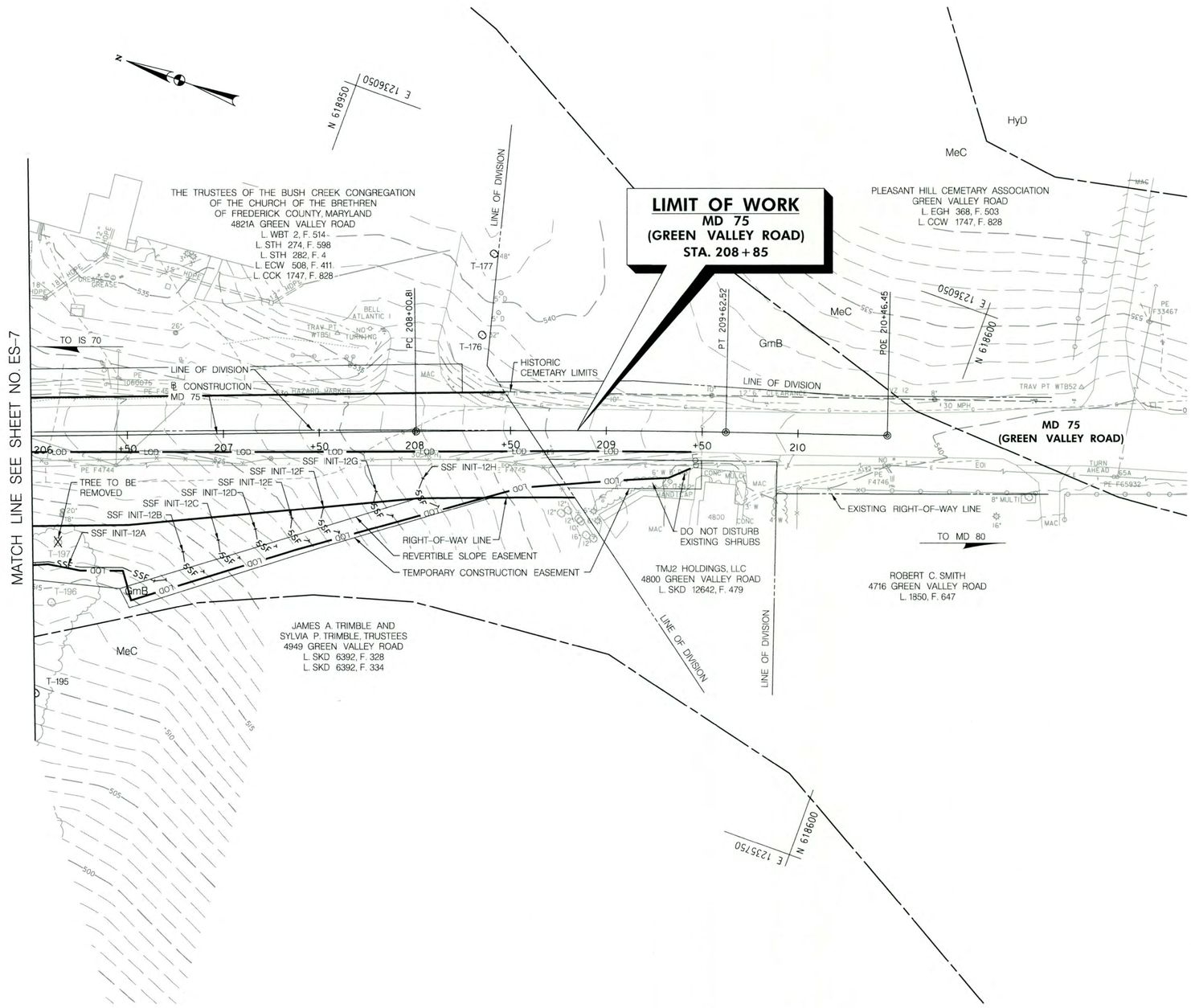
STATE OF MARYLAND JOHN JACKSON TIEDE No. 24828 PROFESSIONAL ENGINEER 10/19/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: DAW - 3/10/2025
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SNT_EWC_SCD.dgn

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF INIT-12A	RT. STA. 206+00 TO RT. STA. 206+69	110
SSF INIT-12B	RT. STA. 206+61	20
SSF INIT-12C	RT. STA. 206+97	20
SSF INIT-12D	RT. STA. 207+16	20
SSF INIT-12E	RT. STA. 207+35	20
SSF INIT-12F	RT. STA. 207+52	20
SSF INIT-12G	RT. STA. 207+80	20
SSF INIT-12H	RT. STA. 208+03	20



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ District Manager

DATE: 1-5-23

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

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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PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN HUDSON BELL — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

INITIAL STAGE | **ES-8**

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN

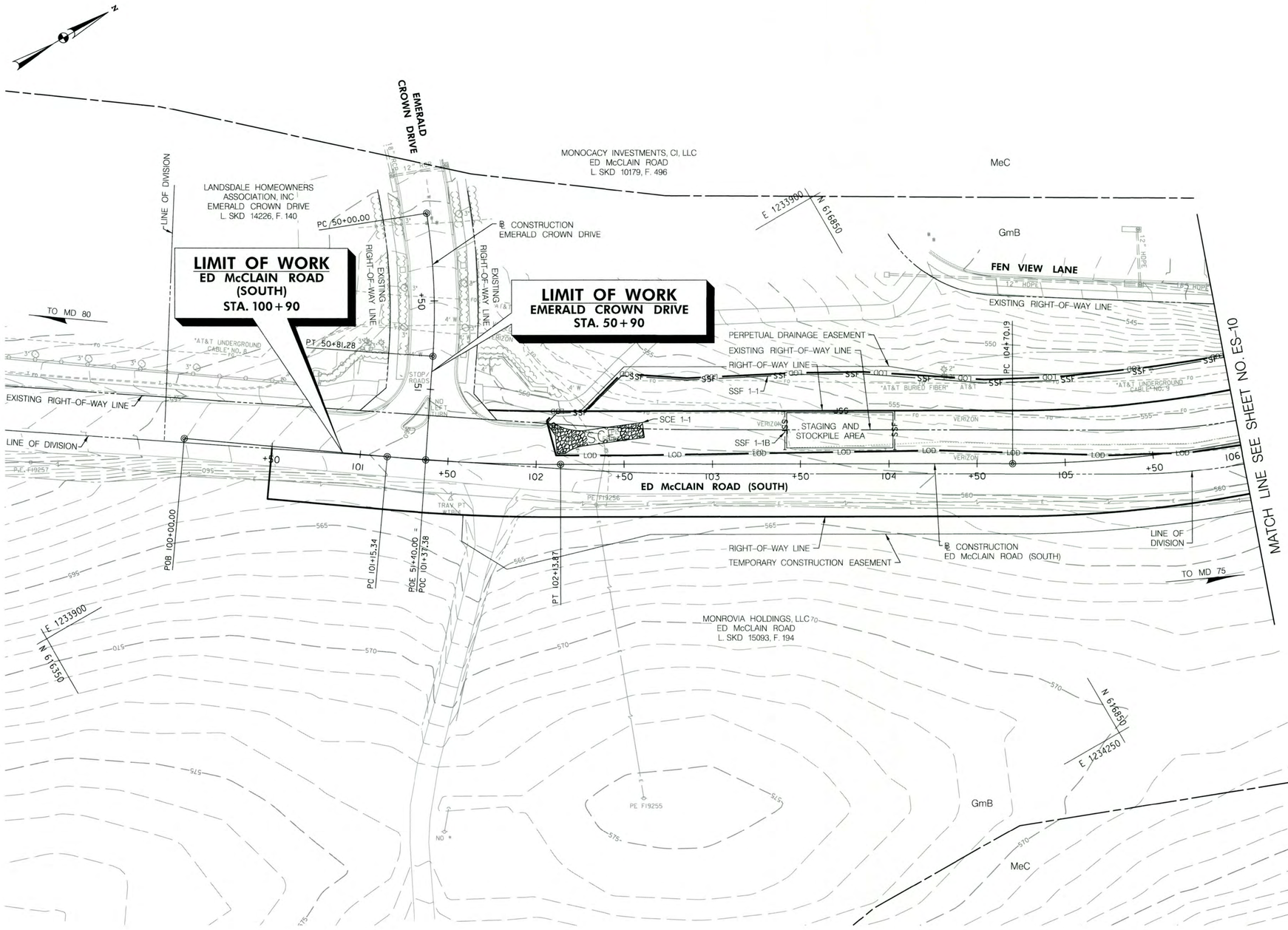
MD 75 (GREEN VALLEY ROAD)

STA. 206+00 TO STA. 208+85

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 93 OF 226

BY: DAW - PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SNB_EMC_SSD.dgn



STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE 1-1	LT. STA. 102+35	1

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 1-1	LT. STA. 102+05 TO LT. STA. 106+00	400
SSF 1-1B	LT. STA. 103+41 TO LT. STA. 104+03	106

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Teathem
District Manager
DATE: 1.5.23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-9**

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

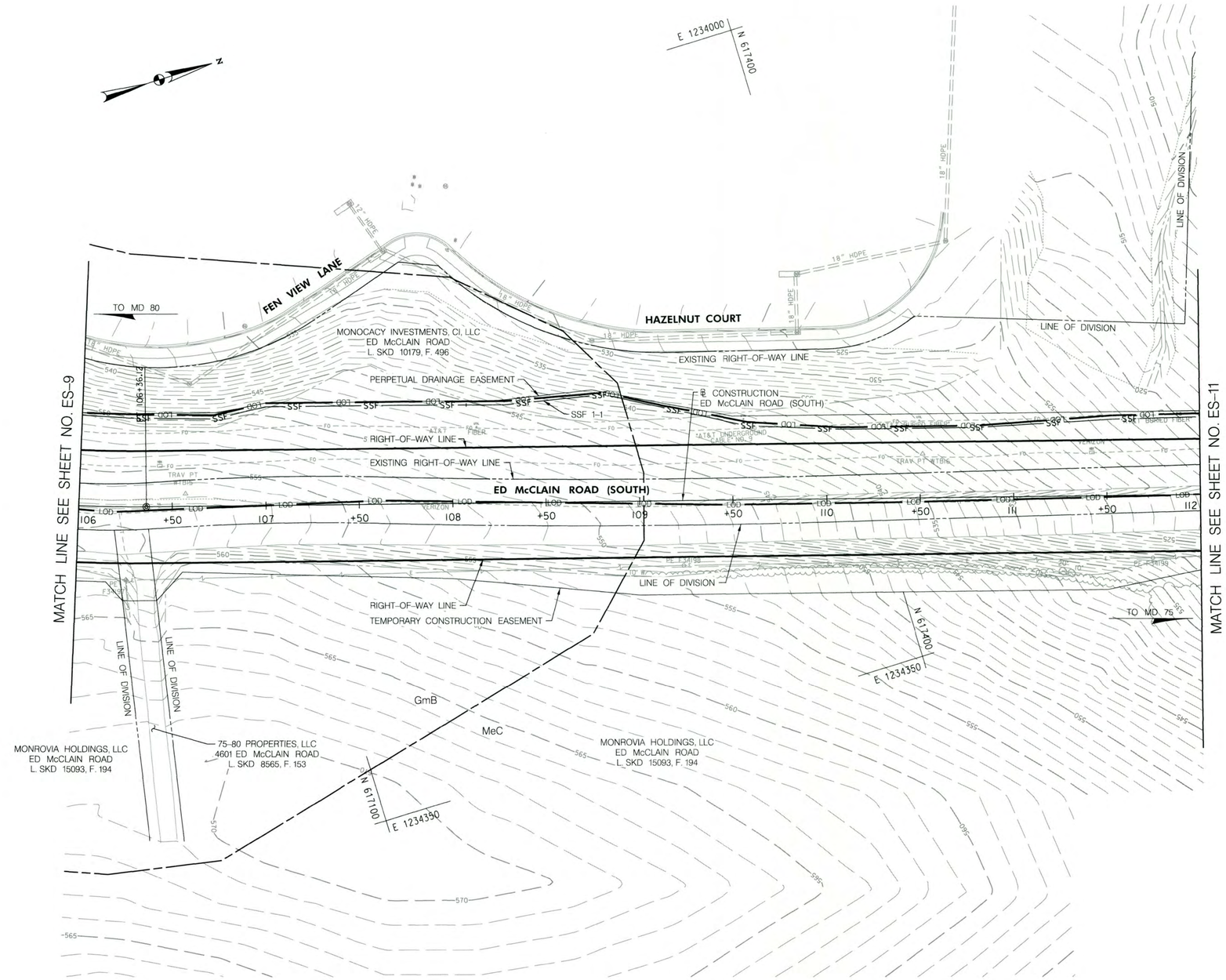
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 100+90 TO STA. 106+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 94 OF 226

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SCD_ENC-SCD.dgn



SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 1-1	LT. STA. 106+00 TO LT. STA. 112+00	600

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
Asst. District Manager

DATE: 1-5-23

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

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.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-10**

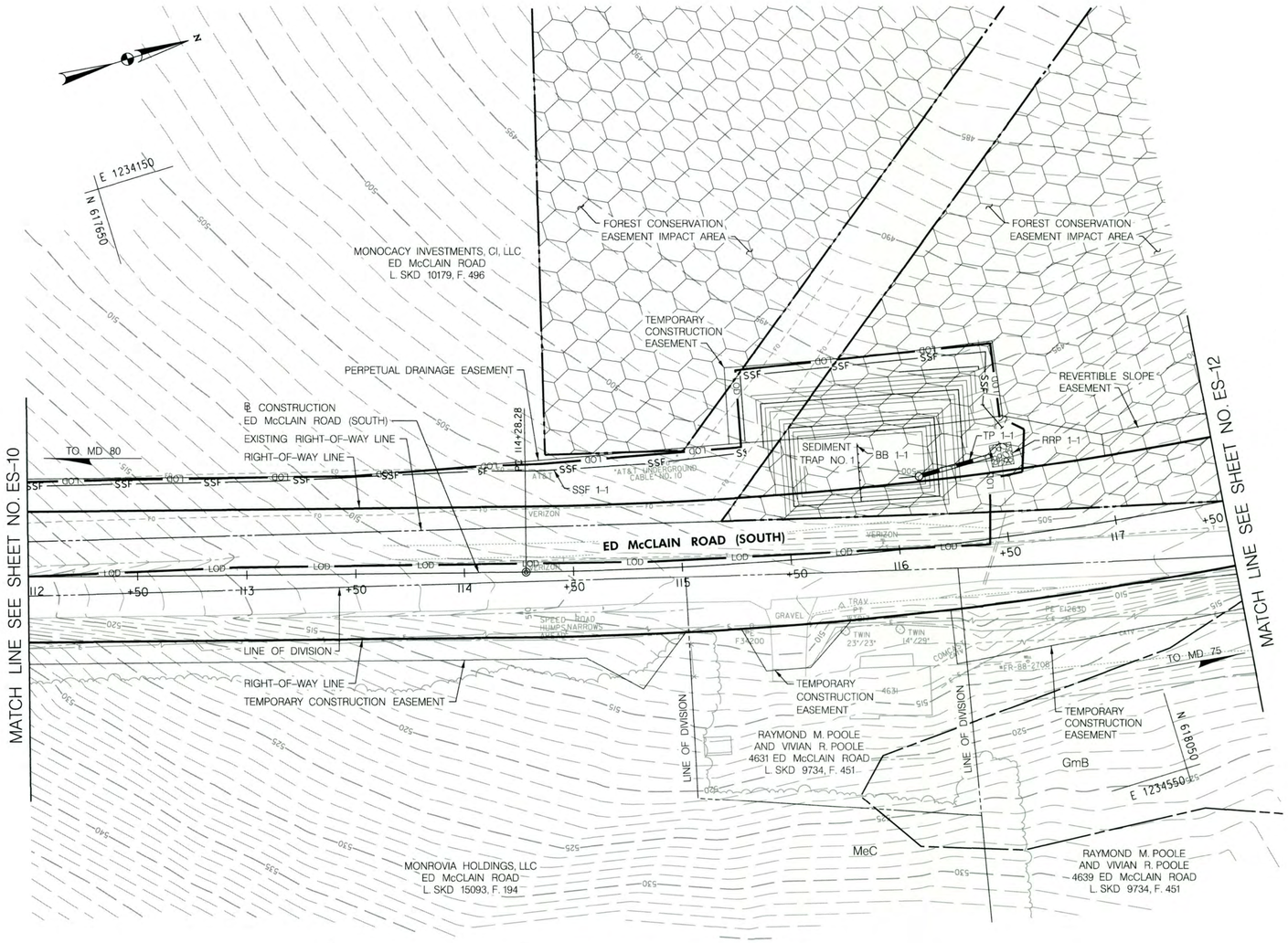
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 106+00 TO STA. 112+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 95 OF 226

BY: DAW -
PLOTTED: 3/10/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES\S102_EWC_SCD.dgn



RIPRAP INFLOW PROTECTION (MDE D-3-1)		
ID	LOCATION - STATION	TON
RRP 1-1	LT. STA. 116+50	11

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 1-1	LT. STA. 112+00 TO LT. STA. 116+54	515

BAFFLE BOARD (MDE G-2-4)		
ID	LOCATION - STATION	LF
BB 1-1	SEDIMENT TRAP NO. 1	30

TEMPORARY PIPE		
ID	LOCATION - STATION	LF
TP 1-1	LT. STA. 116+14 TO LT. STA. 116+48 (21" CMP)	35

SEDIMENT TRAP NO. 1	
DRAINAGE AREA (MAX.)	1.78 ACRES
TOTAL STORAGE REQUIRED	6,408 CF
TOTAL STORAGE PROVIDED	6,794 CF
WET STORAGE REQUIRED	3,204 CF
WET STORAGE PROVIDED	3,320 CF
DRY STORAGE REQUIRED	3,204 CF
DRY STORAGE PROVIDED	3,474 CF
BOTTOM ELEVATION	497.00 FT
BOTTOM DIMENSIONS	55' X 24'
RISER CREST ELEVATION	500.50 FT
OUTLET ELEVATION	499.00 FT
CLEANOUT ELEVATION	498.00 FT
TOP OF EMBANKMENT ELEV.	502.00 FT
SIDE SLOPES	2:1
EMBANKMENT TOP WIDTH	4 FT
RISER DIAMETER	27''
BARREL DIAMETER	21''
TRASH RACK DIAMETER	42''
TRASH RACK HEIGHT	21''

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.

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
DISTRICT Manager

DATE: 1-5-23

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-11**

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

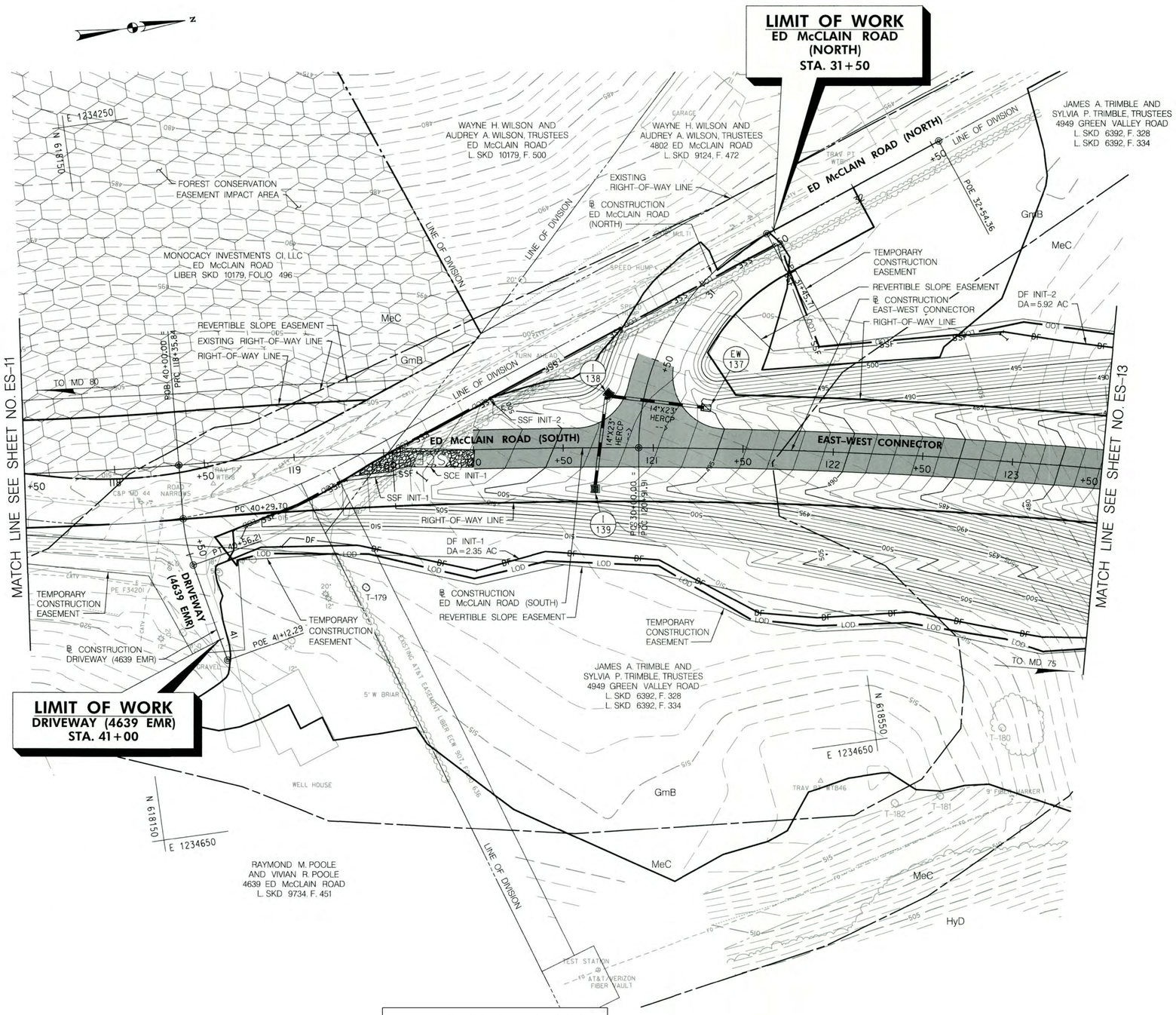
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 112+00 TO STA. 117+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 96 OF 226

BY: DAW - PLOTTED: 3/11/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5103_ENC-SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Southerland
Asst. District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-12**

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

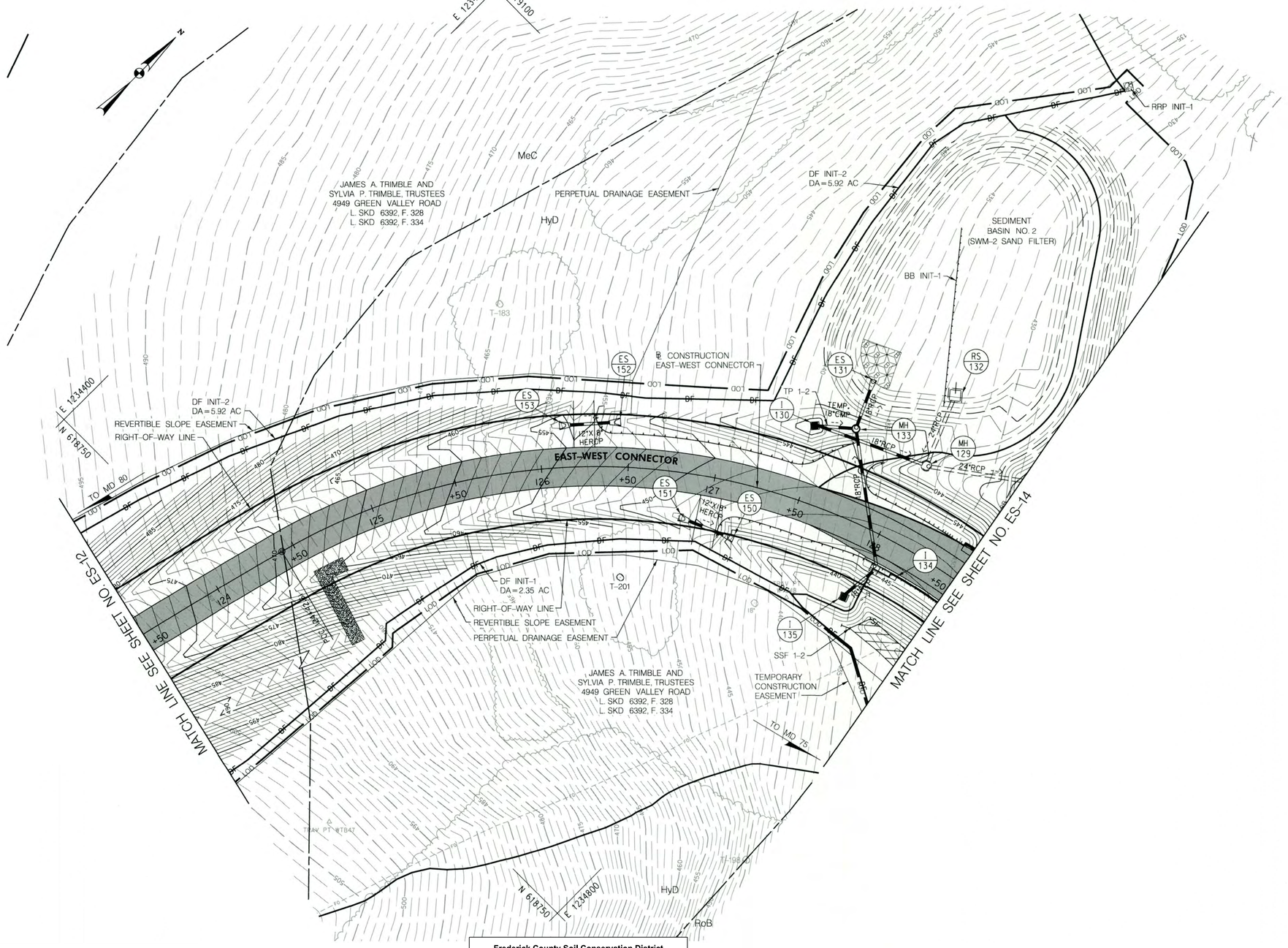
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR
STA. 117+50 TO STA. 123+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 97 OF 226

BY: DAW - 10/18/2022 3:11 PM
PLOTTED: 3/11/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-S104_ENC-SCD.dgn



SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 1-2	RT. STA 128+05 TO RT. STA. 128+50	50

TEMPORARY PIPE		
ID	LOCATION - STATION	LF
TP 1-2	LT. STA 127+47 TO LT. STA. 127+64 (18" CMP)	20

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
District Manager

DATE: 1.5.23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSH JACKSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-13**

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
EAST-WEST CONNECTOR
STA. 123+50 TO STA. 128+50

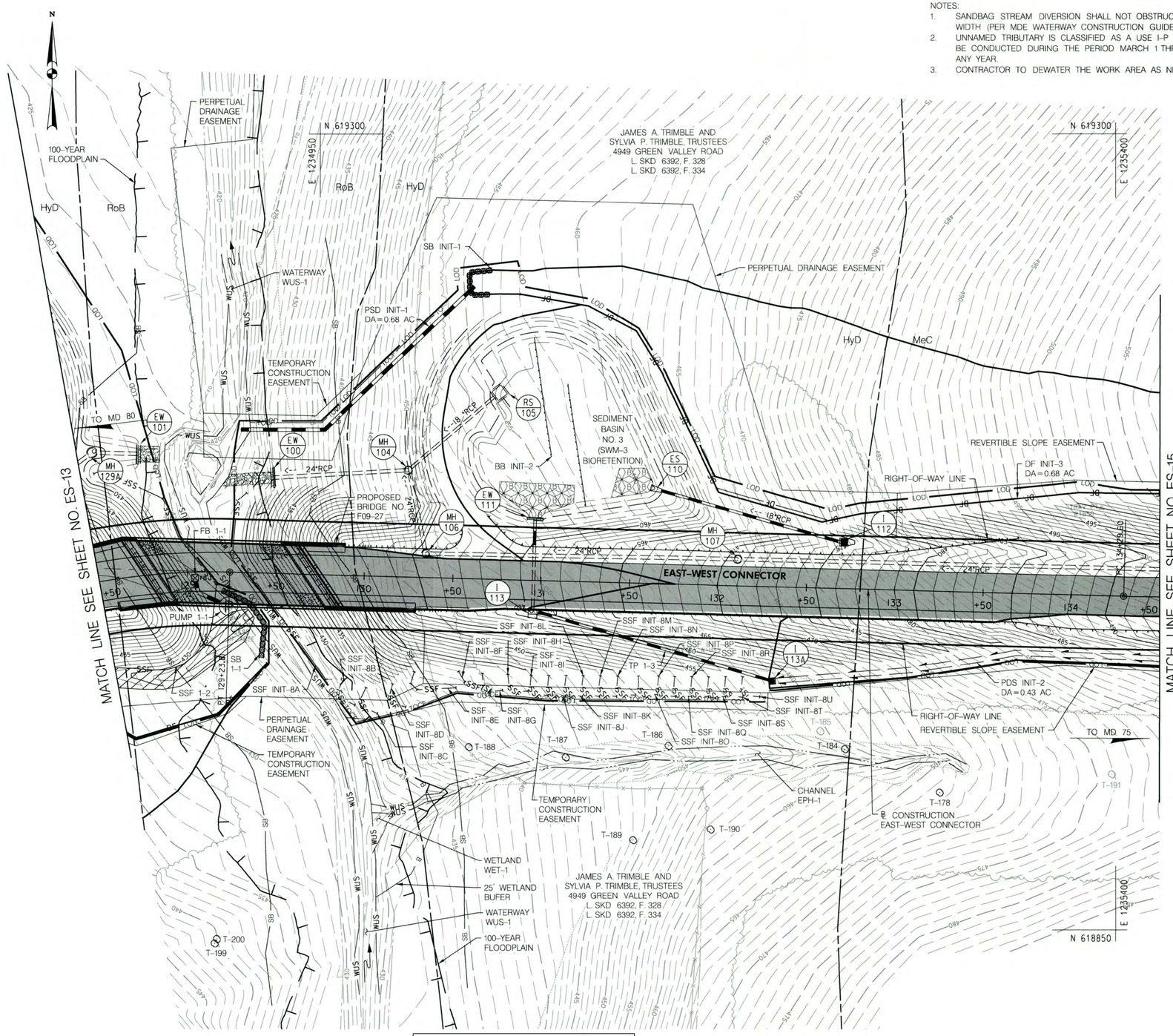
DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 98 OF 226

BY: DAW -
PLOTTED: 3/1/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-SIDS_ENG_SCD.dgn

NOTES:
1. SANDBAG STREAM DIVERSION SHALL NOT OBSTRUCT MORE THAN 45% OF THE STREAM WIDTH (PER MDE WATERWAY CONSTRUCTION GUIDELINES).
2. UNNAMED TRIBUTARY IS CLASSIFIED AS A USE I-P WATERWAY. IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
3. CONTRACTOR TO DEWATER THE WORK AREA AS NECESSARY WITH FILTER BAG.



SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 1-2	RT. STA. 128+50 TO LT. STA. 128+57	200

PUMP (INCIDENTAL TO FILTER BAG)		
ID	LOCATION - STATION	EA
PUMP 1-1	RT. STA. 129+25	1

FILTER BAG (MDE F-4)		
ID	LOCATION - STATION	EA
FB 1-1	RT. STA. 129+00	1

SANDBAGS		
ID	LOCATION - STATION	CY
SB 1-1	RT. STA. 129+25	20

TEMPORARY PIPE		
ID	LOCATION - STATION	LF
TP 1-3	RT. STA. 130+98 TO RT. STA. 132+30	140

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Southern Asst. District Manager

DATE: 1-6-23

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

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.

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSH JACKSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-14**

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

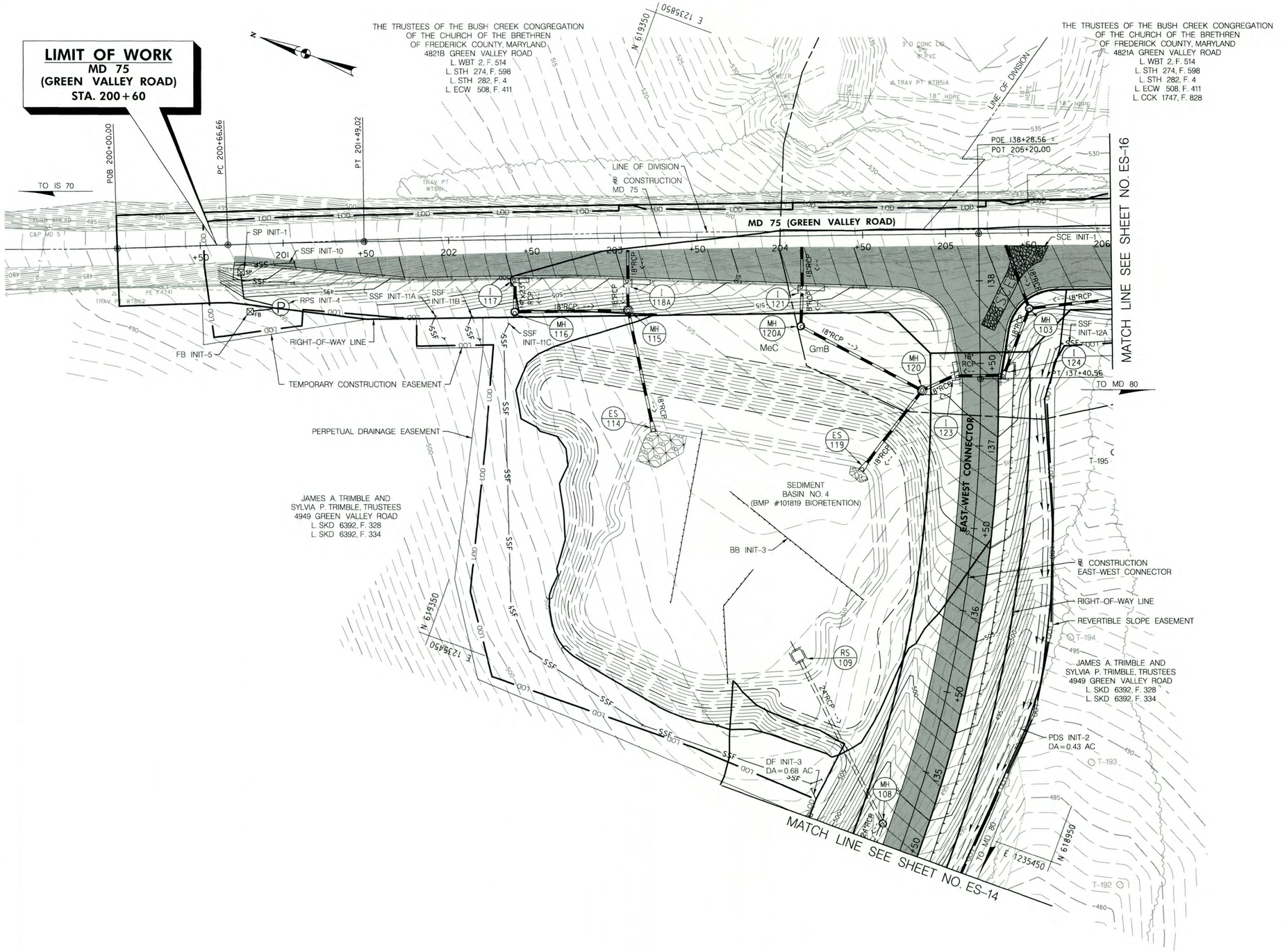
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN EAST-WEST CONNECTOR STA. 128+50 TO STA. 134+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 99 OF 226

BY: DAW - PLOTTED: 3/1/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-S106_ENC_SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
Asst. District Manager

DATE: 1-5-23

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

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.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-15**

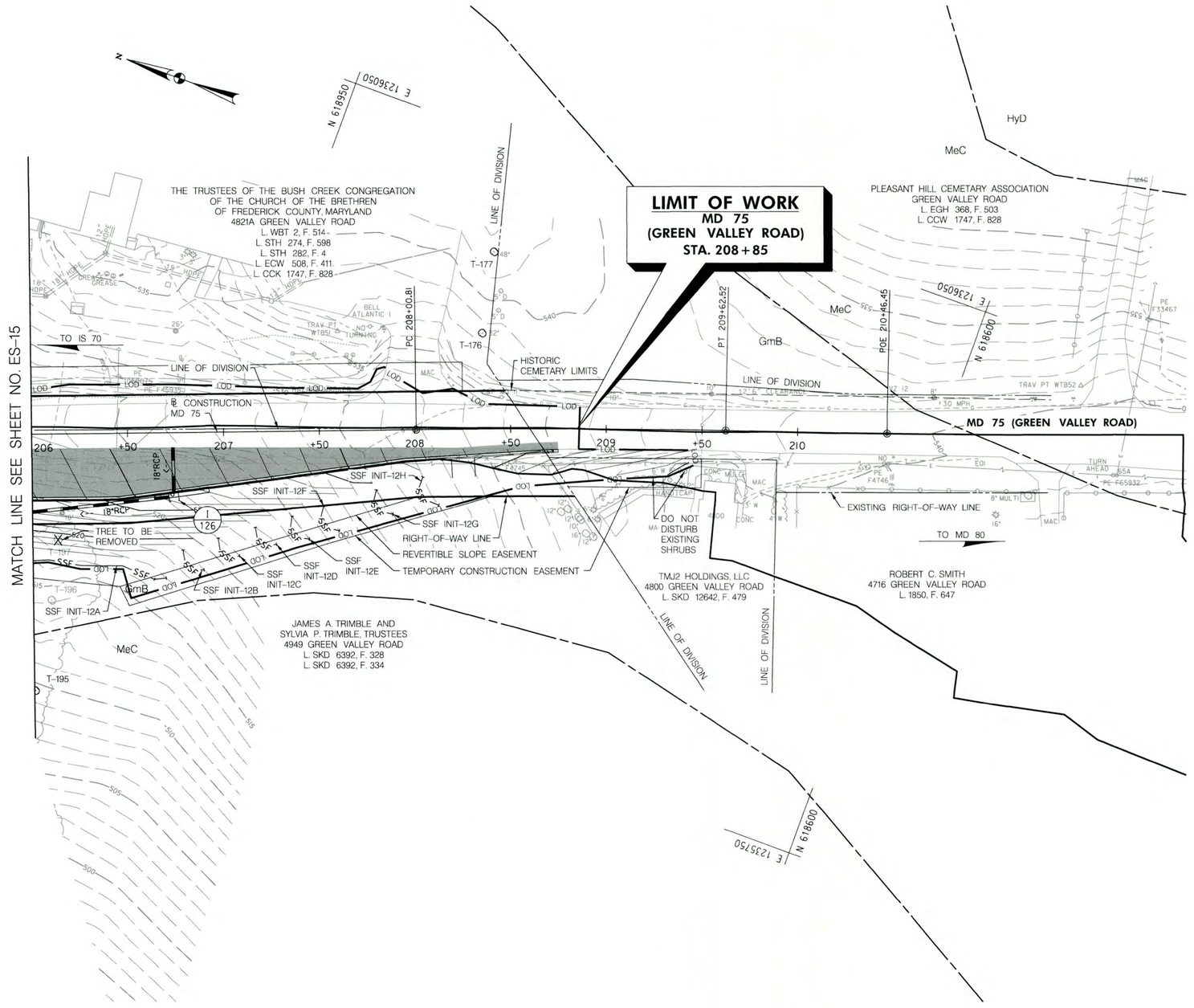
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
MD 75 (GREEN VALLEY ROAD)
STA. 200+60 TO STA. 206+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 100 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5107_EWC_SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Featherman for District Manager

DATE: 1-5-23

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

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: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 1 | **ES-16**

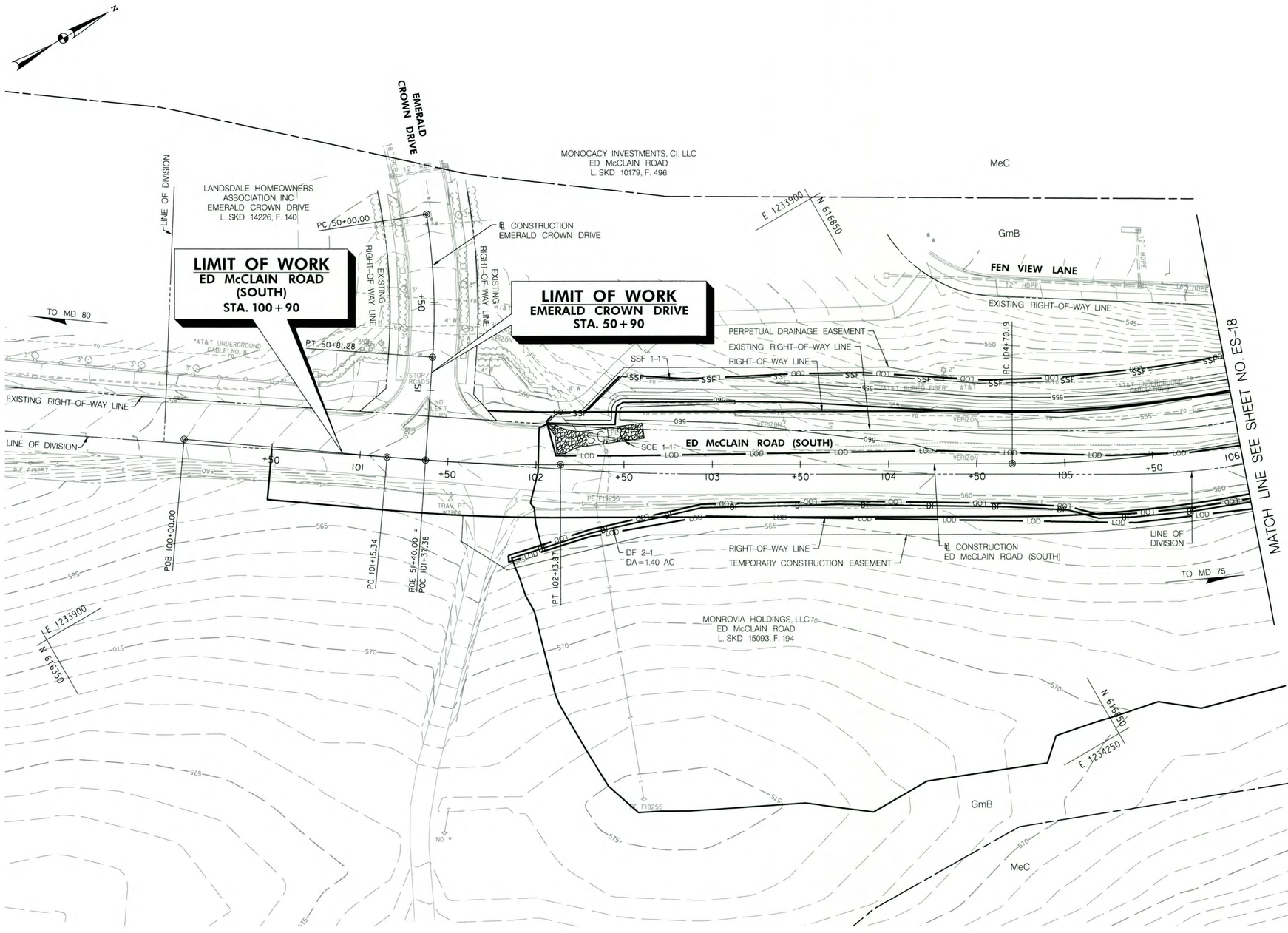
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
MD 75 (GREEN VALLEY ROAD)
STA. 206+00 TO STA. 208+85

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 101 OF 226

BY: DAW - PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-S108_ENC_SCD.dgn



DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF 2-1	RT. STA. 101+87 TO RT. STA. 106+00	430

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Scalfani
Asst. District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-17**

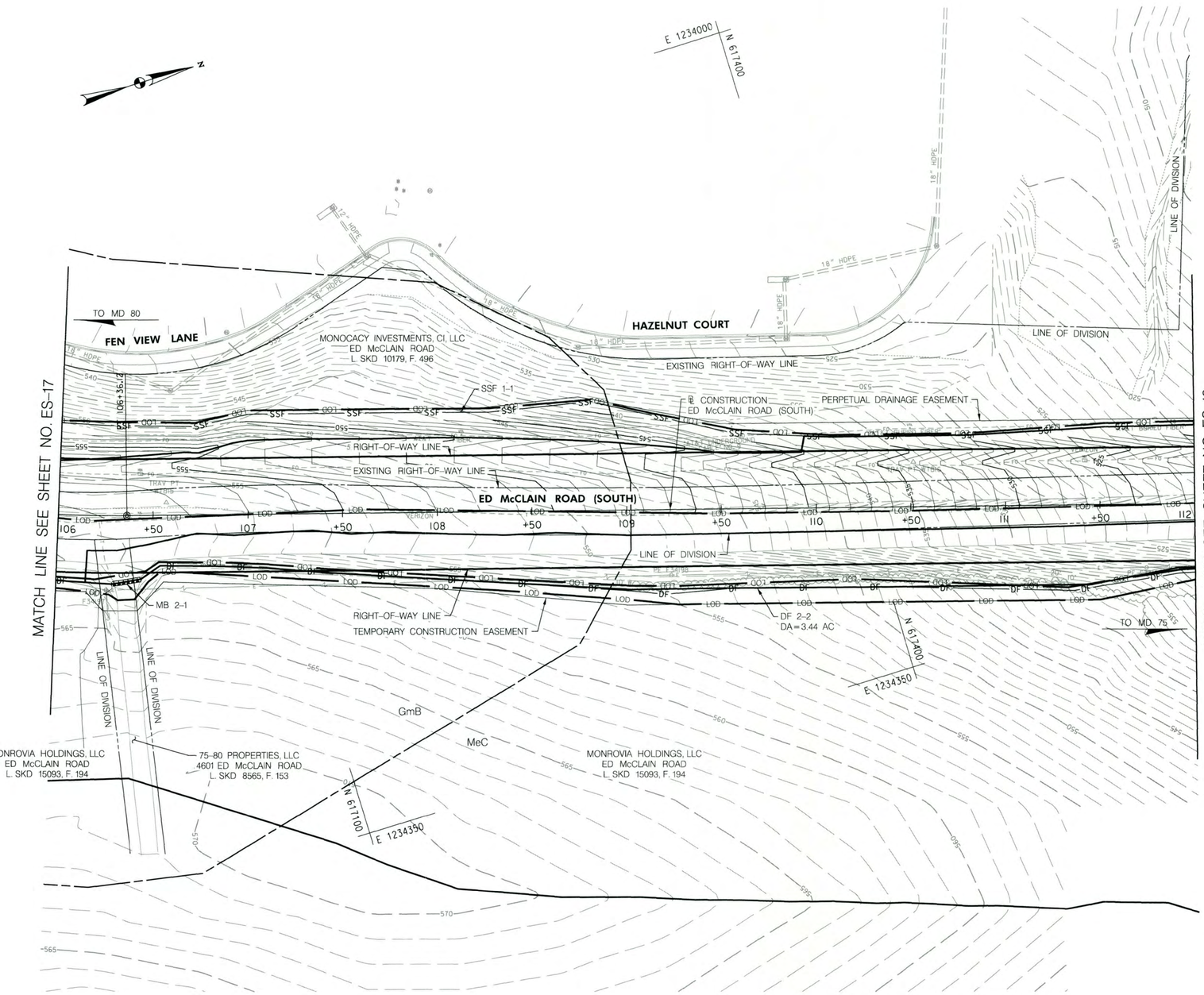
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 100+90 TO STA. 106+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 102 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-520\ENC-SCD.dgn



MOUNTABLE BERM (MDE C-8)		
ID	LOCATION - STATION	EA
MB 2-1	RT. STA. 106+28 TO RT. STA. 106+43	1

DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF 2-1	RT. STA. 106+00 TO RT. STA. 106+28	30
DF 2-2	RT. STA. 106+43 TO RT. STA. 112+00	565

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ District Manager

DATE: 1-5-23

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

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.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-18**

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

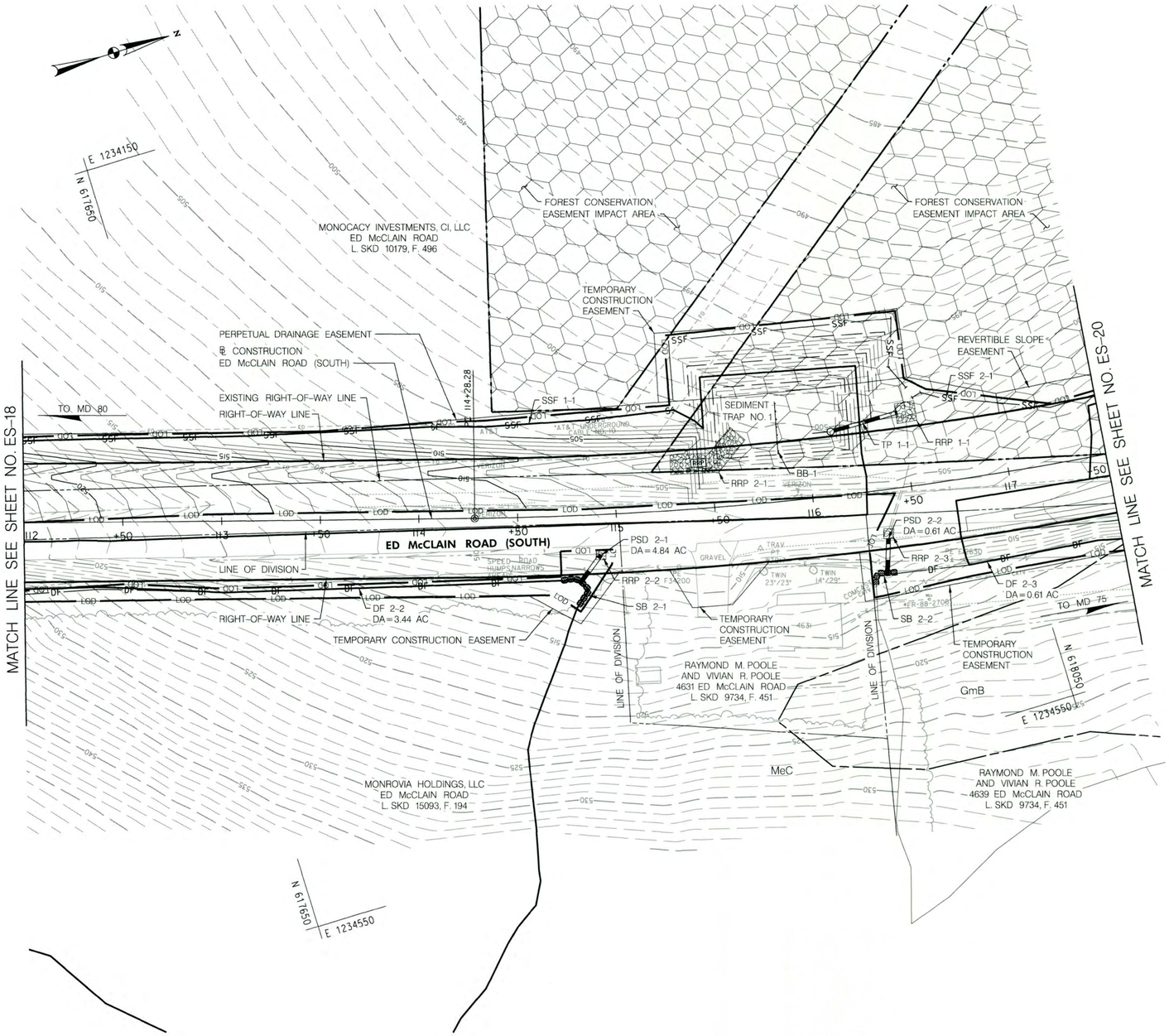
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 106+00 TO STA. 112+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 103 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5202-EWC-SCD.dgn



DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF 2-2	RT. STA. 112+00 TO RT. STA. 114+75	275
DF 2-3	RT. STA. 116+35 TO RT. STA. 117+50	115

PIPE SLOPE DRAIN (MDE D-1)		
ID	LOCATION - STATION	LF
PSD 2-1	RT. STA. 114+85 (24")	20
PSD 2-2	RT. STA. 116+30 (24")	20

RIPRAP FOR SEDIMENT CONTROL		
ID	LOCATION - STATION	TON
RRP 2-1	LT. STA. 115+28 TO LT. STA. 115+65	45
RRP 2-2	RT. STA. 114+91	11
RRP 2-3	RT. STA. 116+35	11

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 2-1	LT. STA. 116+50 TO LT. STA. 117+50	100

SANDBAGS		
ID	LOCATION - STATION	CY
SB 2-1	RT. STA. 114+71 TO RT. STA. 114+79	3
SB 2-2	RT. STA. 116+25 TO RT. STA. 116+35	3

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Southern Asst. District Manager

DATE: 1-5-23

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

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.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBER — No. 24828 — PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
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SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-19**

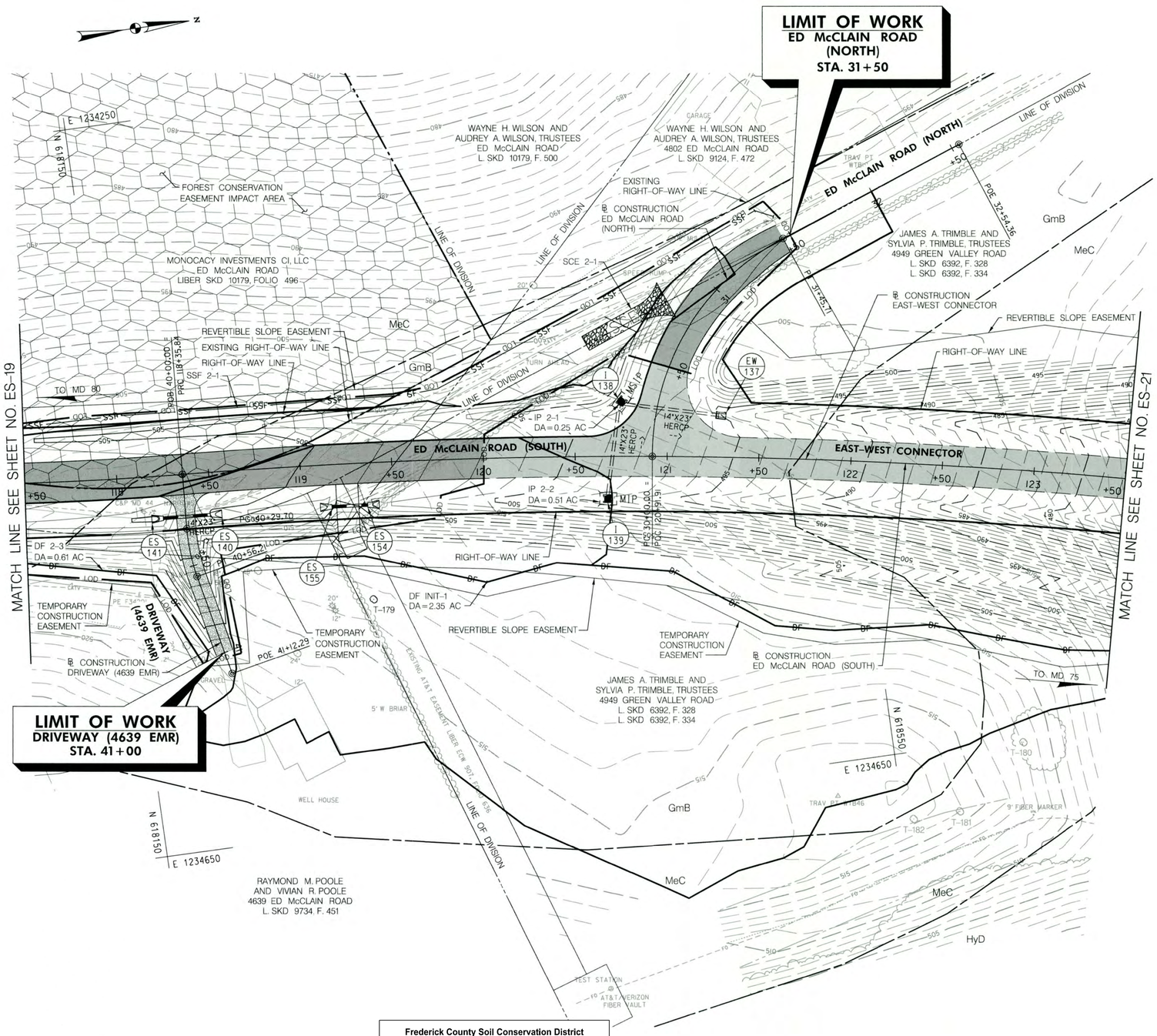
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 112+00 TO STA. 117+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 104 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5203.EWC.SCD.dgn



STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE 2-1	LT. STA. 120+75	1

DIVERSION FENCE (MDE C-9)		
ID	LOCATION - STATION	LF
DF 2-3	RT. STA. 117+50 TO RT. STA. 118+42	130

SUPER SILT FENCE (MDE E-3)		
ID	LOCATION - STATION	LF
SSF 2-1	LT. STA. 117+50 TO LT. STA. 31+45	440

MEDIAN INLET PROTECTION (MDE E-9-4)		
ID	LOCATION - STATION	EA
IP 2-2	RT. STA. 120+65	1

MEDIAN SUMP INLET PROTECTION (MDE E-9-5)		
ID	LOCATION - STATION	EA
IP 2-1	LT. STA. 120+75	1

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman
ASST. District Manager

DATE: 1-5-23

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

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: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-20**

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR
STA. 117+50 TO STA. 123+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 105 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5204_EWC_SCD.dgn

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Leatherman
District Manager

DATE: 1-5-23

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

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.

NO GRADING ON THIS SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN DICKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-21**

FREDERICK COUNTY, MARYLAND

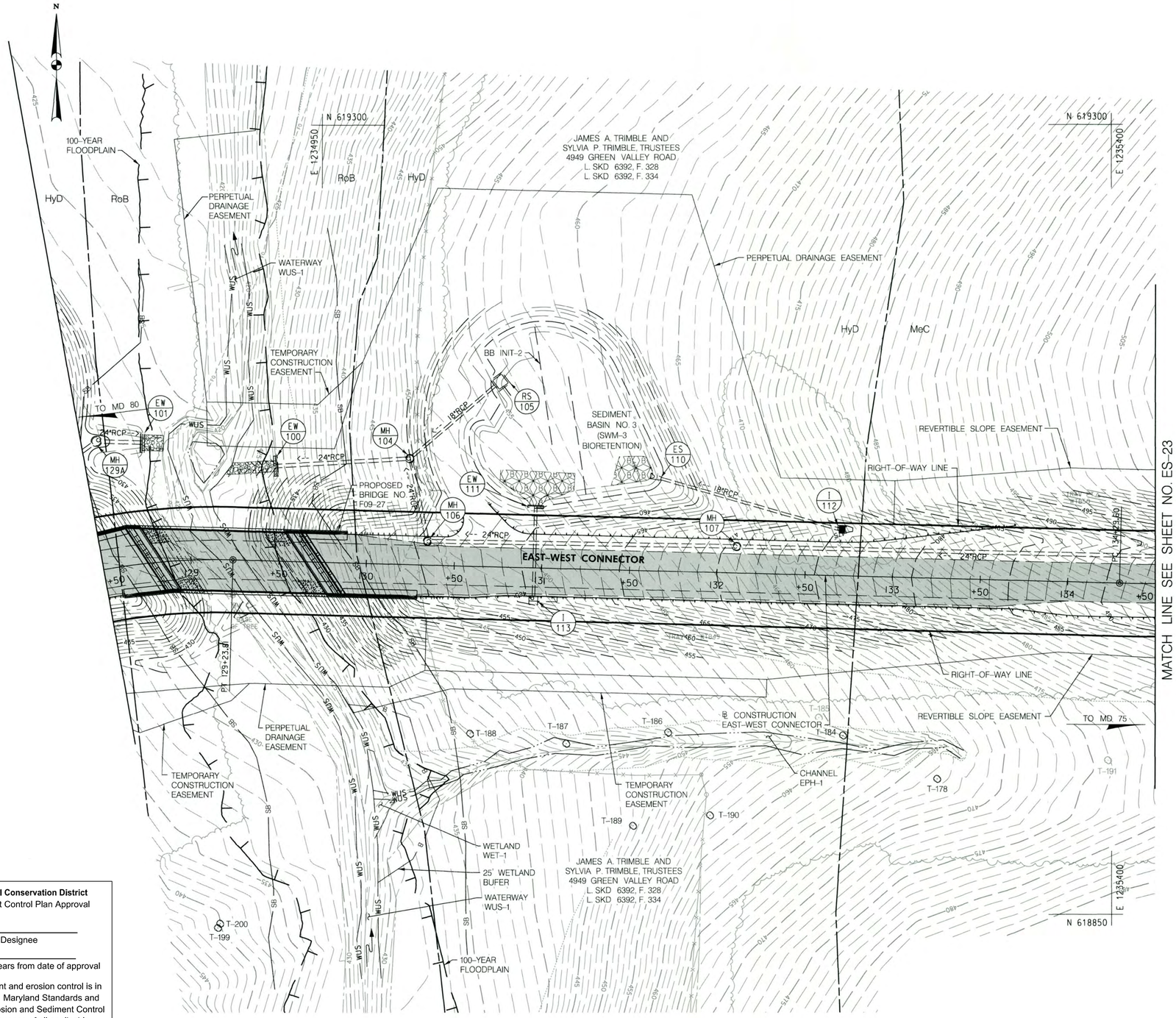
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
EAST-WEST CONNECTOR
STA. 123+50 TO STA. 128+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 106 OF 226

BY: DAW -
PLOTTED: 3/2/2025
FILE: I:\SYS\Frederick County - Monrovia E-W Connector\Design Files\ES-5205_EWC_SCD.dgn



MATCH LINE SEE SHEET NO ES-23

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.

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman AWR District Manager

DATE: 1-5-23

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

NO GRADING ON THIS SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER

10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-22**

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

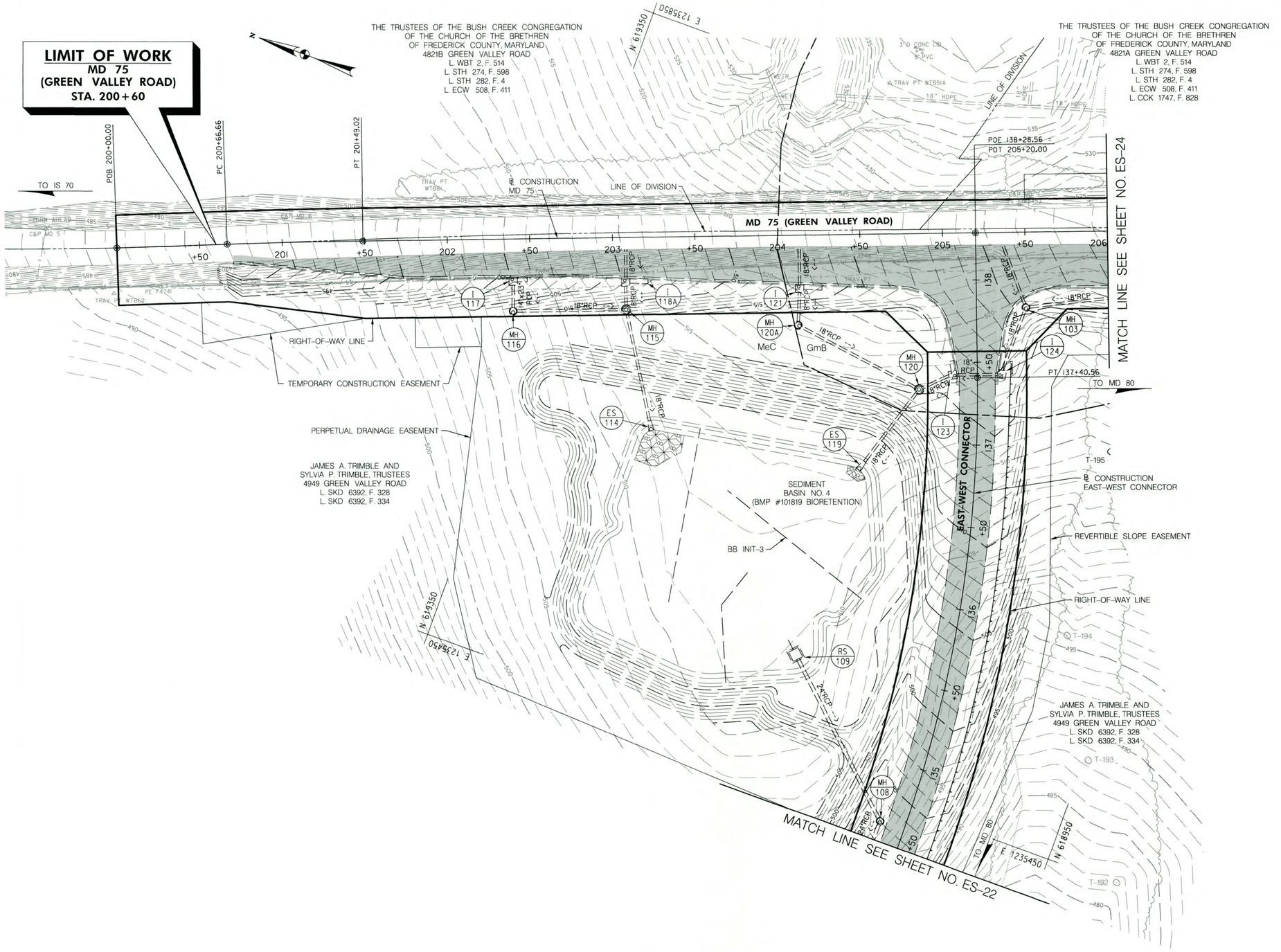
EROSION & SEDIMENT CONTROL PLAN EAST-WEST CONNECTOR STA. 128+50 TO STA. 134+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 107 OF 226

BY: DAW -
PLOTTED: 3/2/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-5206_EWC_SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ District Manager

DATE: 1-5-23

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

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: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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STAGE 2 | **ES-23**

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

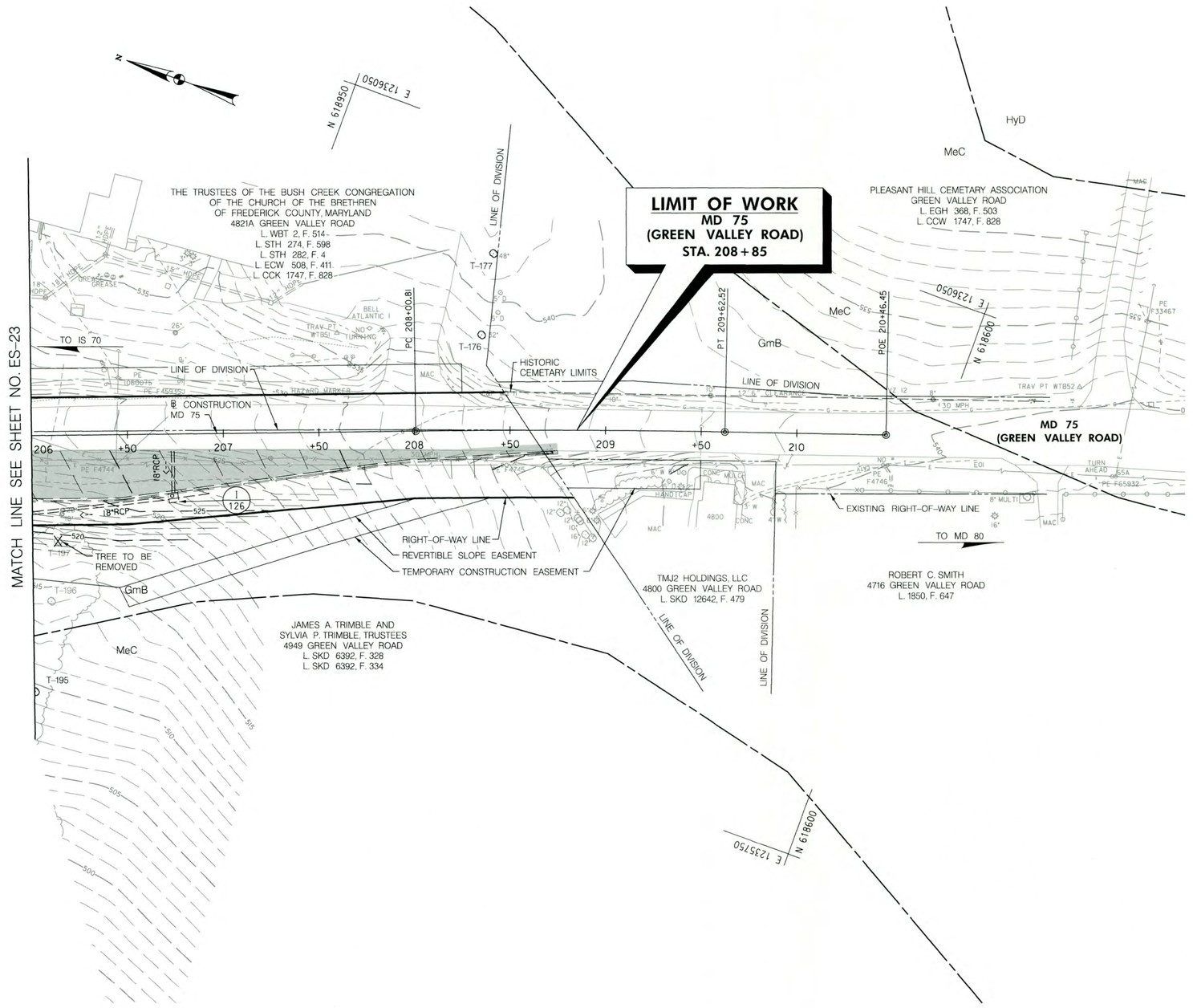
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN MD 75 (GREEN VALLEY ROAD) STA. 200+60 TO STA. 206+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 108 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-S207_EWC_SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ District Manager

DATE: 1-5-23

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

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Erosion and Sediment Control Plan Approval

By: _____
District Manager or Designee

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON BELL — No. 24828 — PROFESSIONAL ENGINEER
10/6/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 2 | **ES-24**

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

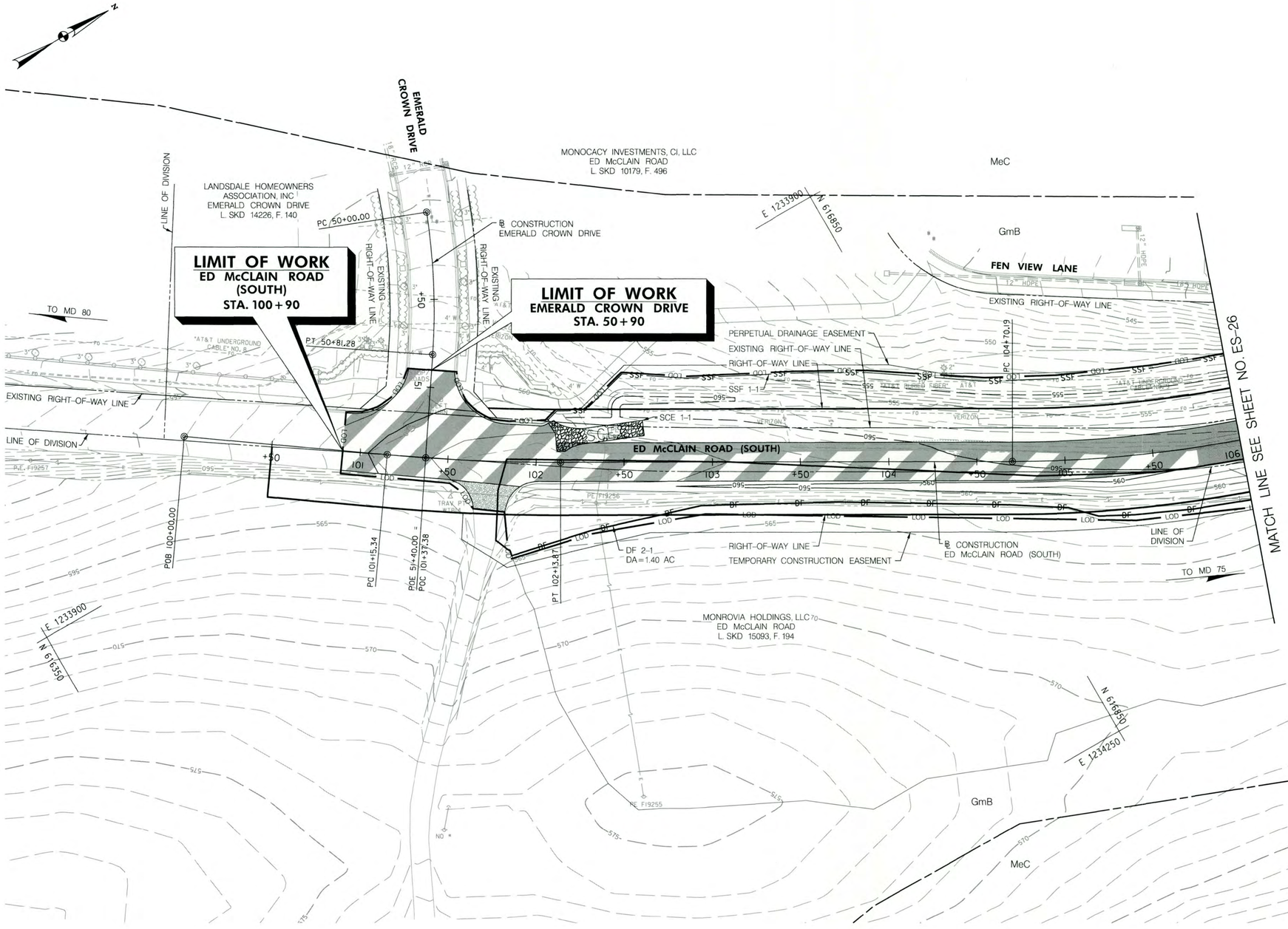
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN MD 75 (GREEN VALLEY ROAD) STA. 206+00 TO STA. 208+85

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 109 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5208_EWC-SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Leatherman
District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSH JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-25**

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

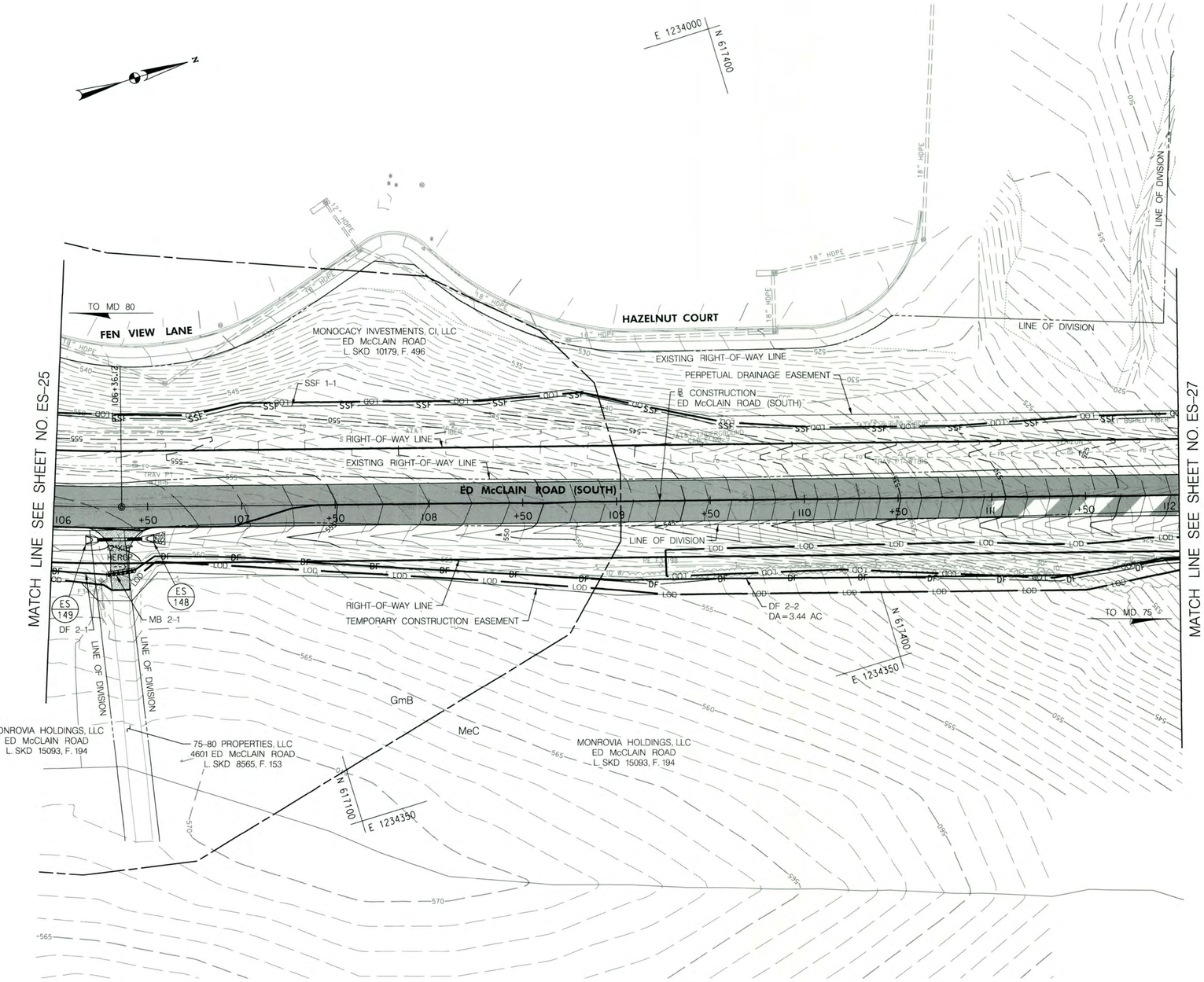
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 100+90 TO STA. 106+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 110 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-530\EWC_SCD.dgn



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Gardner
And District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN DICKSON BEARD — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-26**

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

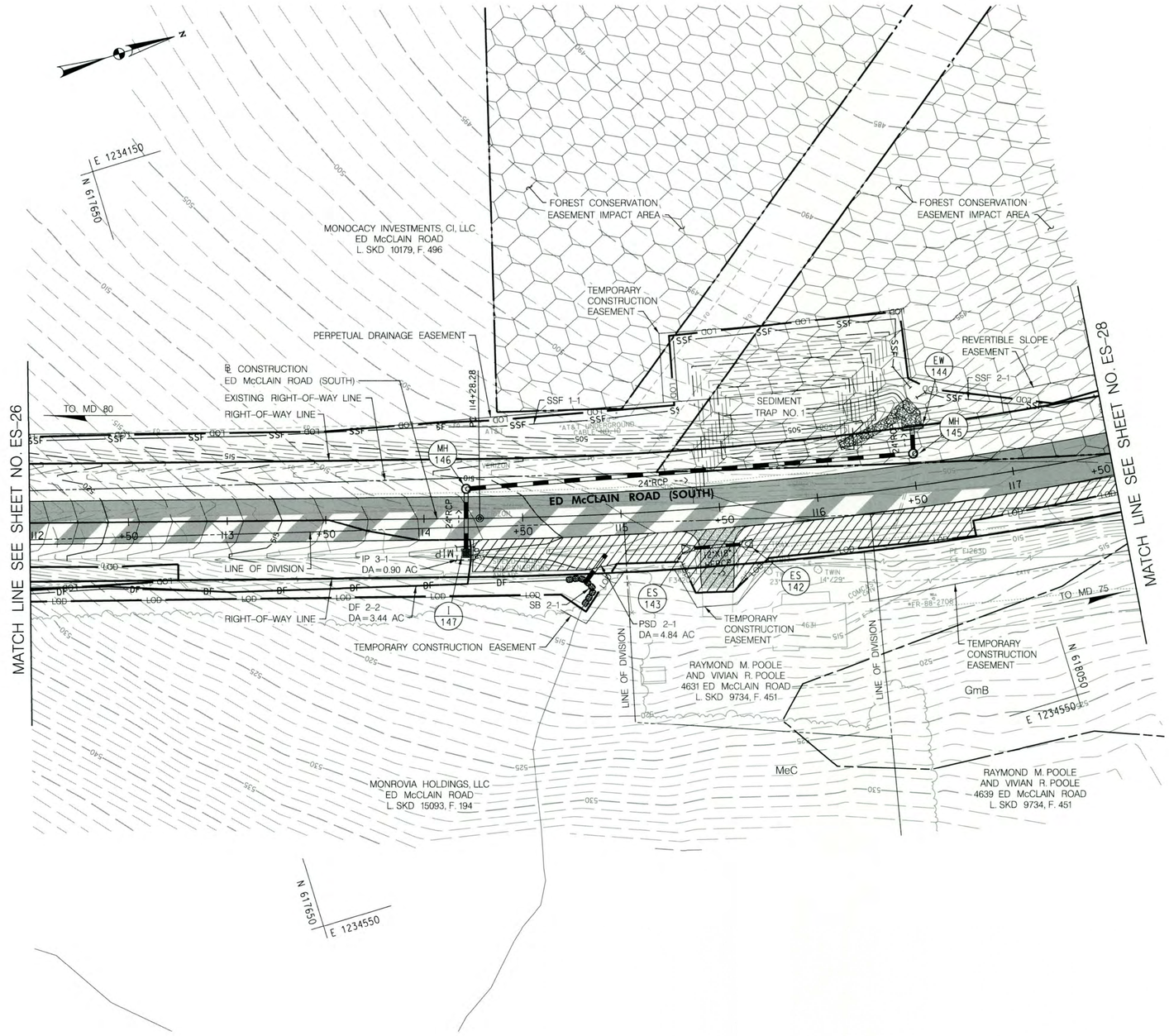
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 106+00 TO STA. 112+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 111 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-5302_EWC_SCD.dgn



MEDIAN INLET PROTECTION (MDE E-9-4)		
ID	LOCATION - STATION	EA
IP 3-1	RT. STA. 114+21	1

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Leatherman, Asst. **District Manager**

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-27**

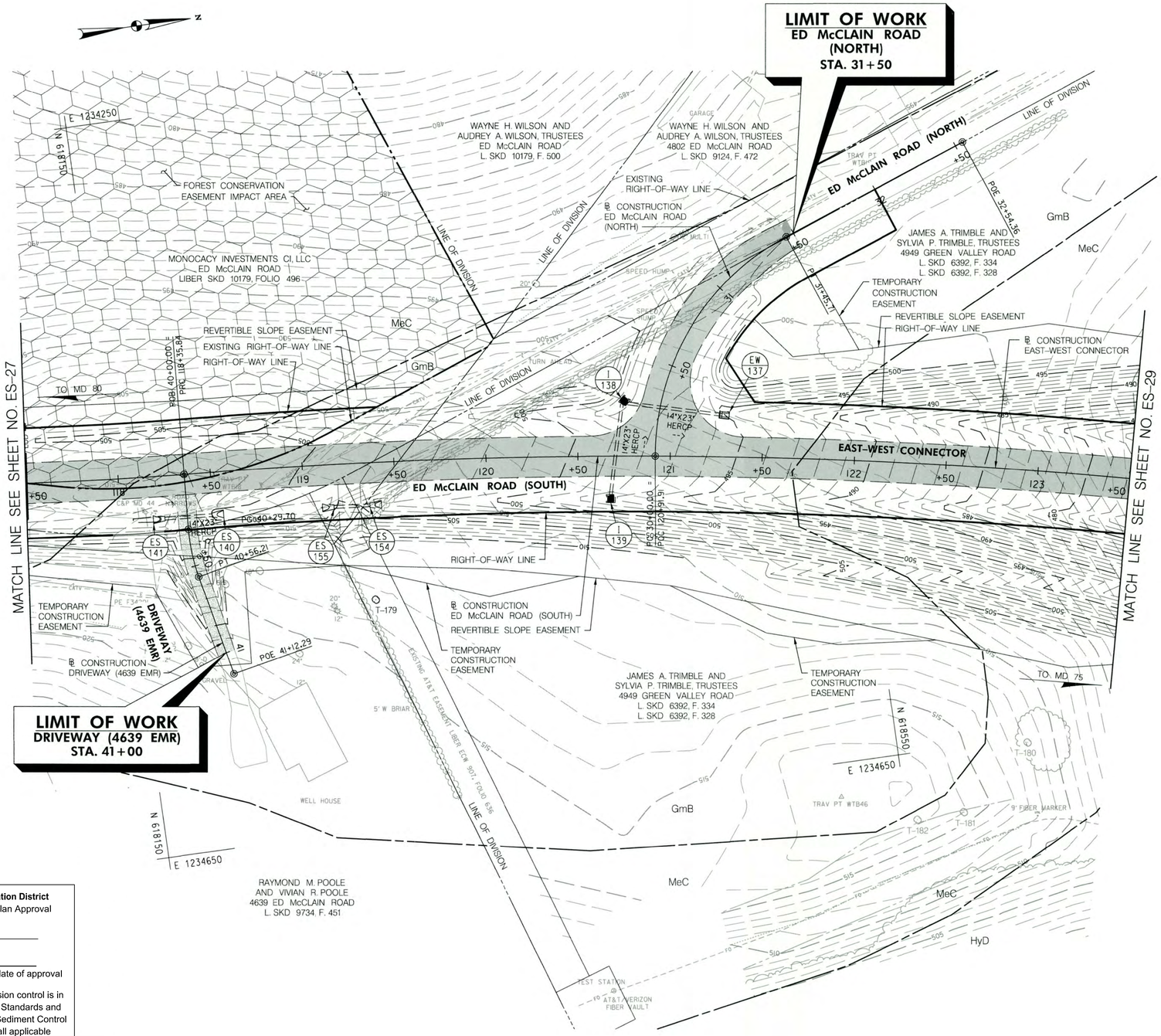
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH)
STA. 112+00 TO STA. 117+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 112 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5303_ENC-SCD.dgn



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.

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Southerland
District Manager

DATE: 1-5-23

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

NO GRADING ON THIS SHEET

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-28**

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

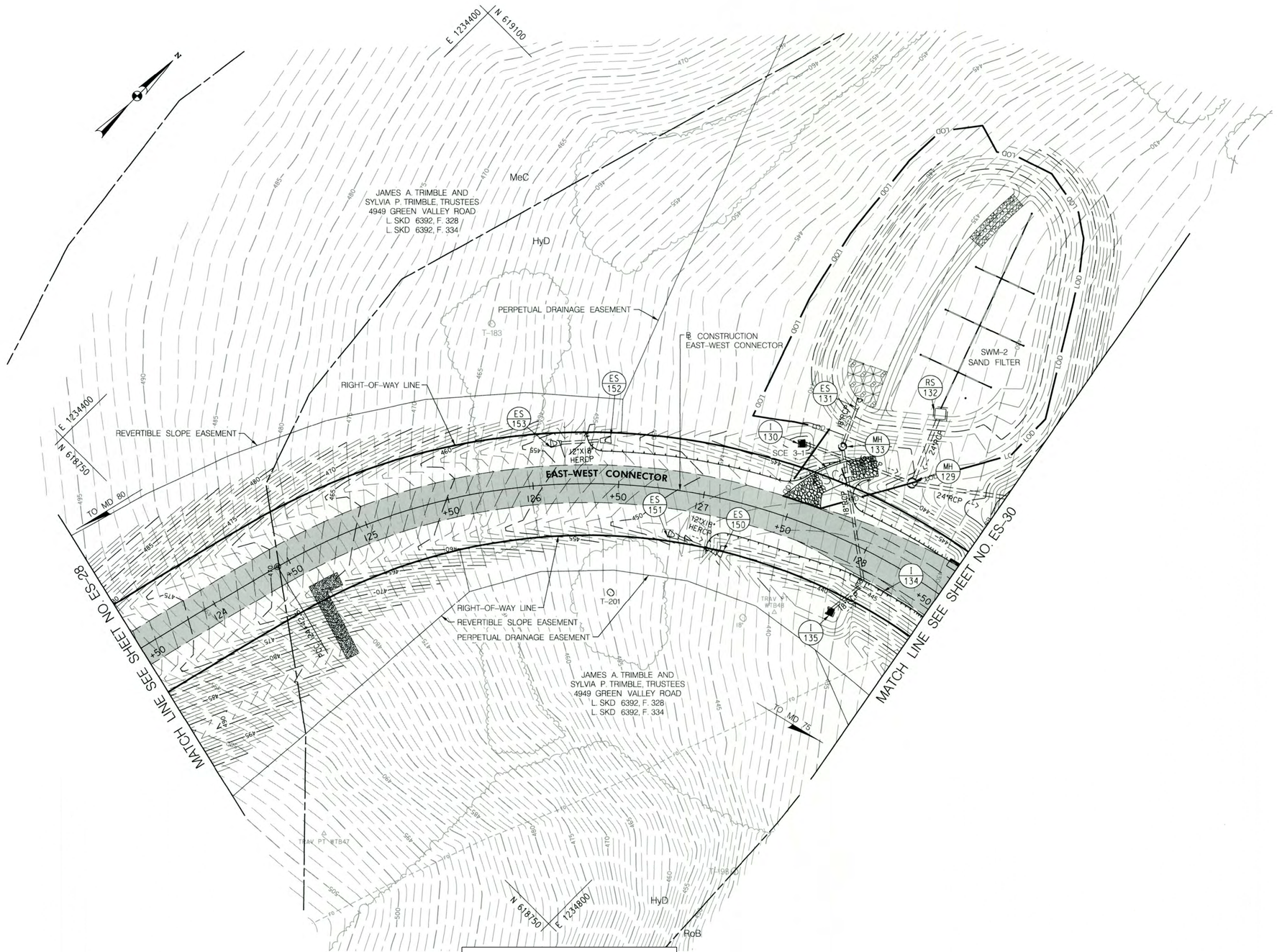
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
ED McCLAIN ROAD (SOUTH) / EAST-WEST CONNECTOR
STA. 117+50 TO STA. 123+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 113 OF 226

BY: DAW - PLOTTED: 3/2/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-5304_EWC_SCD.dgn

STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE 3-1	LT. STA. 127+75	1



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND · JOHN JACKSON WEBB · No. 24828 · PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-29**

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

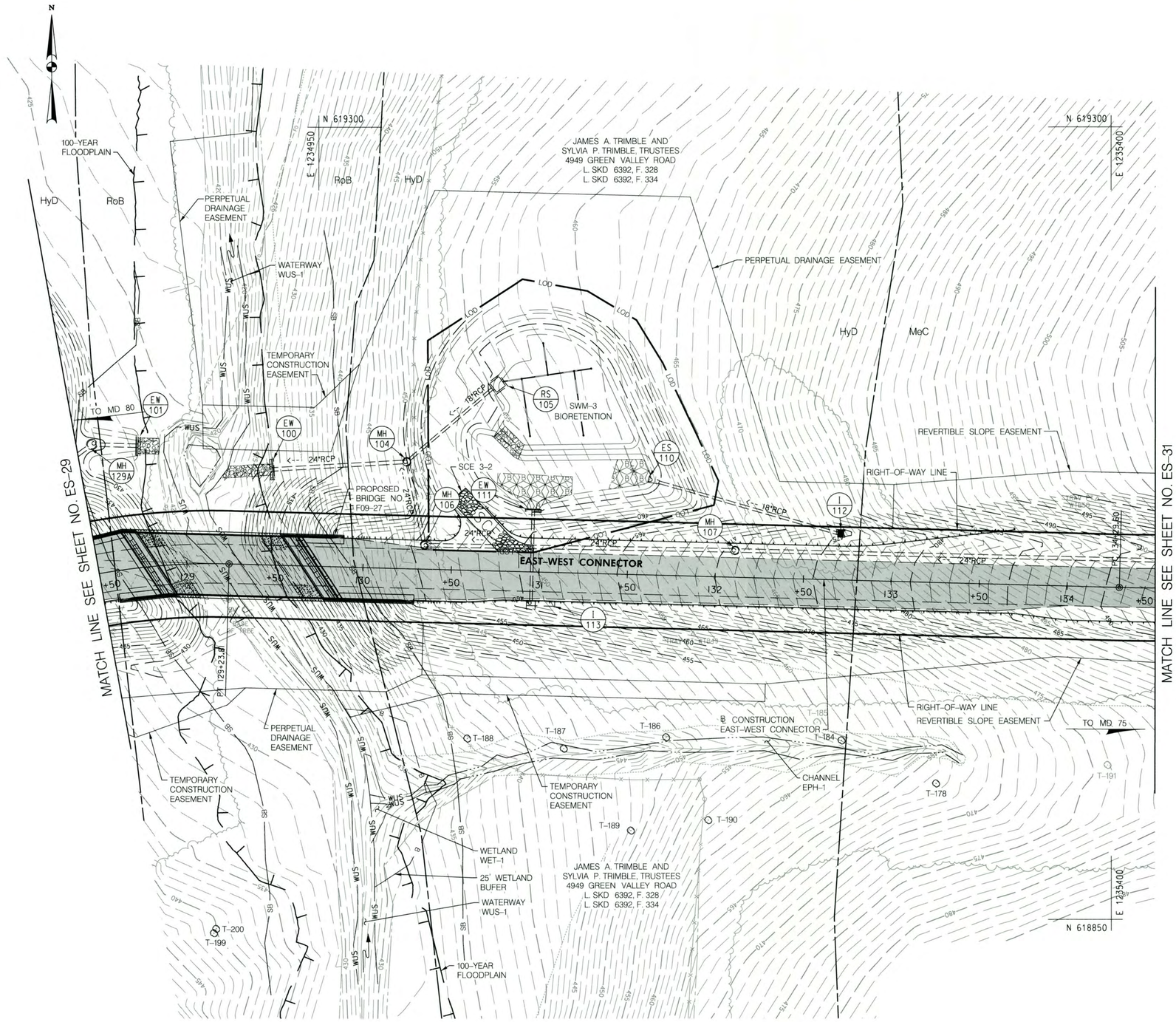
EROSION & SEDIMENT CONTROL PLAN
EAST-WEST CONNECTOR
STA. 123+50 TO STA. 128+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 114 OF 226

BY: DAW - PLOTTED: 3/2/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-5305_EWC_SCD.dgn

STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE 3-2	LT. STA. 130+75	1



LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steven Leather
Asst. District Manager

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND · JOHN JACKSON WEBB · No. 24828 · PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-30**

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

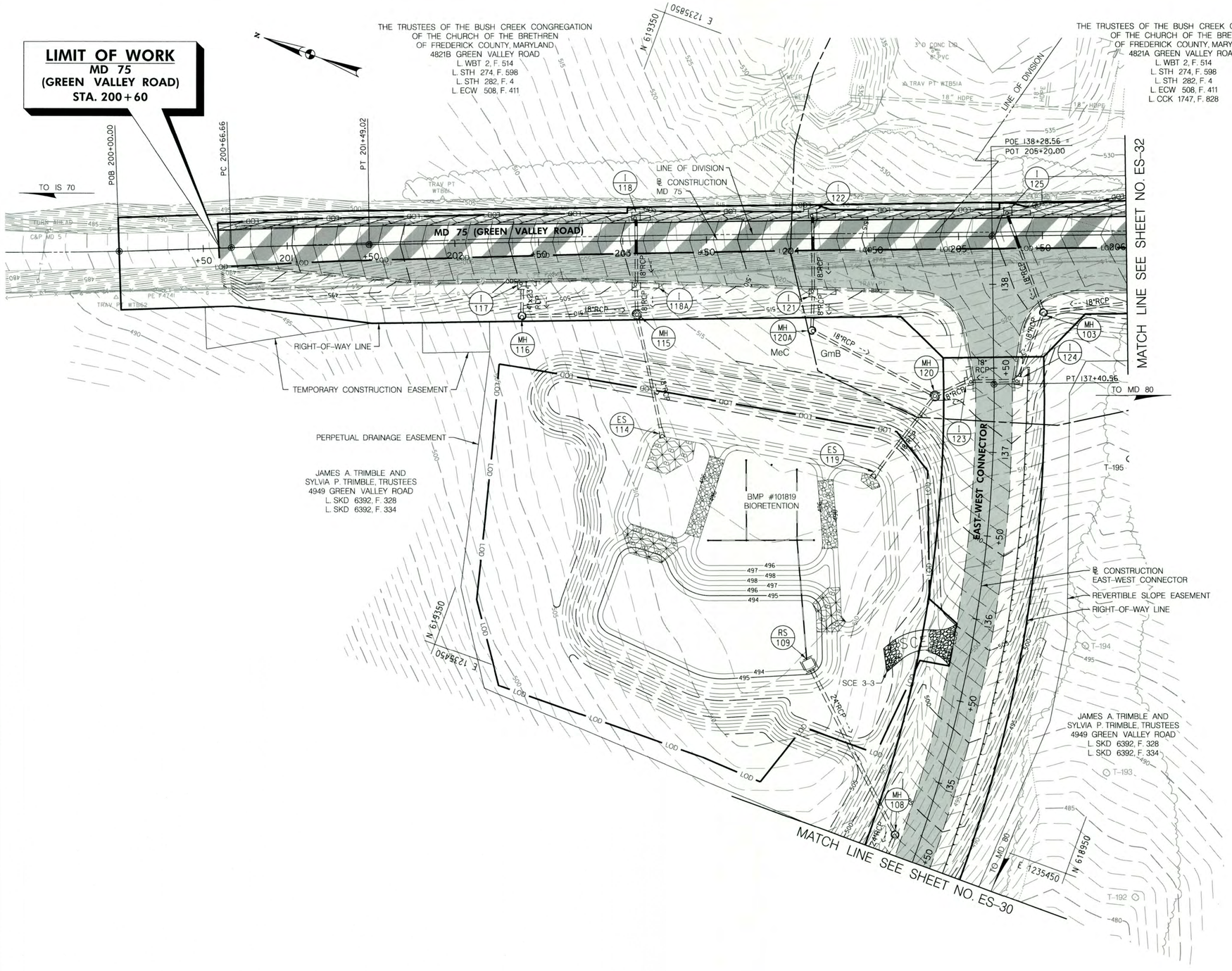
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN
EAST-WEST CONNECTOR
STA. 128+50 TO STA. 134+50

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 115 OF 226

BY: DAW - PLOTTED: 3/2/2025
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\ES-5306_EWC_SCD.dgn



STABILIZED CONSTRUCTION ENTRANCE (MDE B-1)		
ID	LOCATION - STATION	EA
SCE 3-3	LT. STA. 135+75	1

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: Steve Featherstone
Asst. **District Manager**

DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN HICKSON BELT — No. 24828 — PROFESSIONAL ENGINEER
10/6/22

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

CROSS REFERENCE	
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-31**

FREDERICK COUNTY, MARYLAND

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

EROSION & SEDIMENT CONTROL PLAN

MD 75 (GREEN VALLEY ROAD)

STA. 200+60 TO STA. 206+00

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 116 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5307_EWC-SCD.dgn

MATCH LINE SEE SHEET NO. ES-31

N 618950
E 1236050

LIMIT OF WORK
MD 75
(GREEN VALLEY ROAD)
STA. 208+85

THE TRUSTEES OF THE BUSH CREEK CONGREGATION
OF THE CHURCH OF THE BRETHREN
OF FREDERICK COUNTY, MARYLAND
4821A GREEN VALLEY ROAD
L. WBT 2, F. 514
L. STH 274, F. 598
L. STH 282, F. 4
L. ECW 508, F. 411
L. CCK 1747, F. 828

PLEASANT HILL CEMETARY ASSOCIATION
GREEN VALLEY ROAD
L. EGH 368, F. 503
L. CCW 1747, F. 828

LINE OF DIVISION
CONSTRUCTION
MD 75

HISTORIC
CEMETARY LIMITS

PC 208+00.81
PT 209+62.52
POE 210+46.45

TO IS 70

I 127

I 126

MeC
GmB
HyD

206 +50 207 +50 208 +50 209 +50 210

LOD

18"RCP

TREE TO BE
REMOVED

RIGHT-OF-WAY LINE
REVERTIBLE SLOPE EASEMENT
TEMPORARY CONSTRUCTION EASEMENT

EXISTING RIGHT-OF-WAY LINE

TO MD 80

MD 75
(GREEN VALLEY ROAD)

TMJ2 HOLDINGS, LLC
4800 GREEN VALLEY ROAD
L. SKD 12642, F. 479

ROBERT C. SMITH
4716 GREEN VALLEY ROAD
L. 1850, F. 647

JAMES A. TRIMBLE AND
SYLVIA P. TRIMBLE, TRUSTEES
4949 GREEN VALLEY ROAD
L. SKD 6392, F. 328
L. SKD 6392, F. 334

N 618600
E 1235150

LEGEND

- CURRENT STAGE CONSTRUCTION
- PREVIOUS STAGE CONSTRUCTION
- SAME-DAY STABILIZATION
- SOIL BOUNDARY
- GmB SOIL TYPE

FREDERICK SOIL CONSERVATION DISTRICT
APPROVED BY: Steven Lechtman
Asst. District Manager
DATE: 1-5-23

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

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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON BEALL — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

STAGE 3 | **ES-32**

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

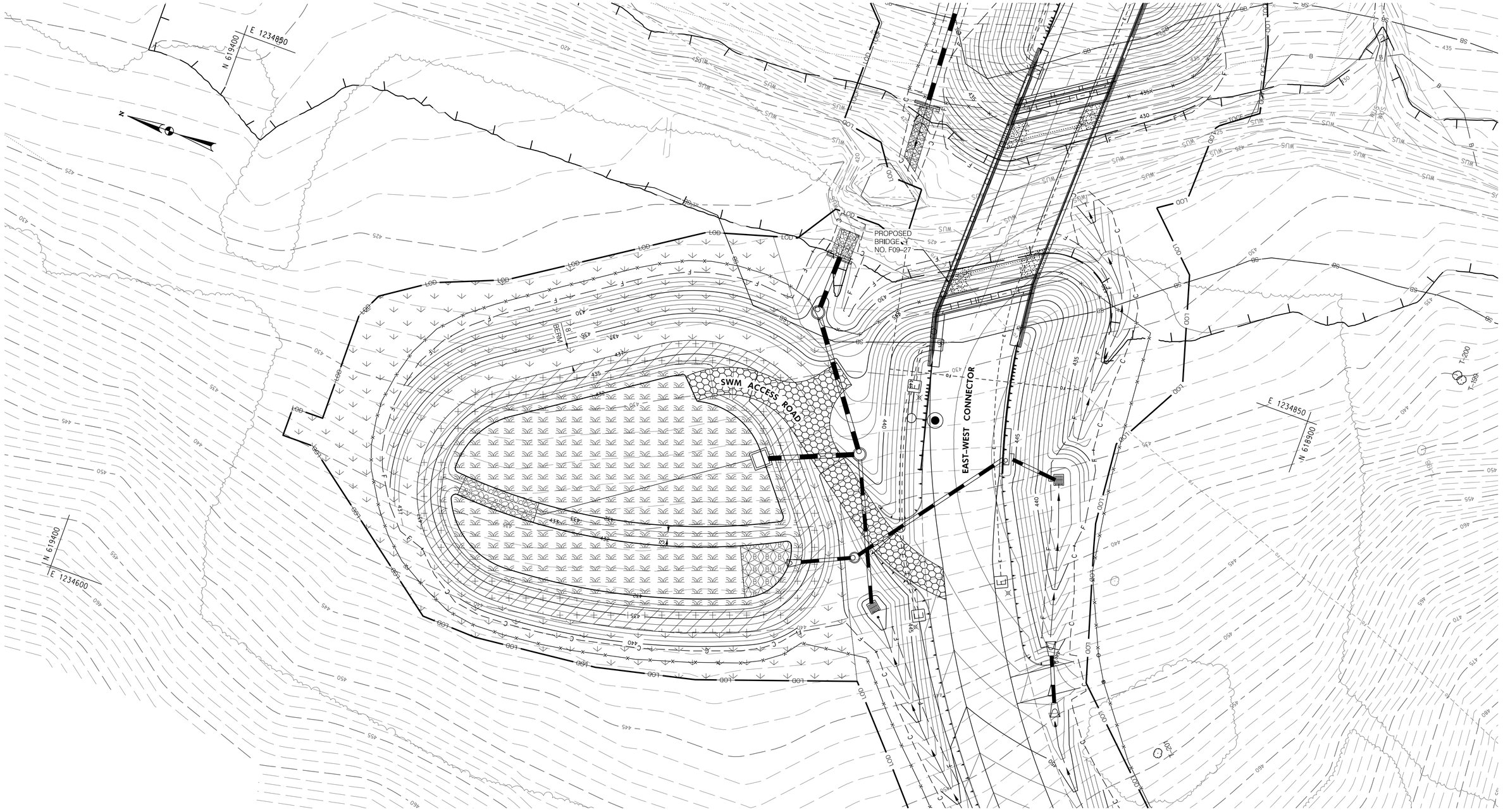
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75
EROSION & SEDIMENT CONTROL PLAN
MD 75 (GREEN VALLEY ROAD)
STA. 206+00 TO STA. 208+85

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 117 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\ES-5309_EWC_SCD.dgn



SURFACE SAND FILTER (SWM-2)

LS-1

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- SOIL STABILIZATION MATTING TYPE B
- RIPRAP
- SWM ACCESS ROAD

NOTE:
REFER TO STANDARD ROADSIDE LANDSCAPING NOTE ON SHEETS TS-1 TO TS-4 FOR TOPSOIL AND SOIL STABILIZATION MATTING REQUIREMENTS.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEPHEN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

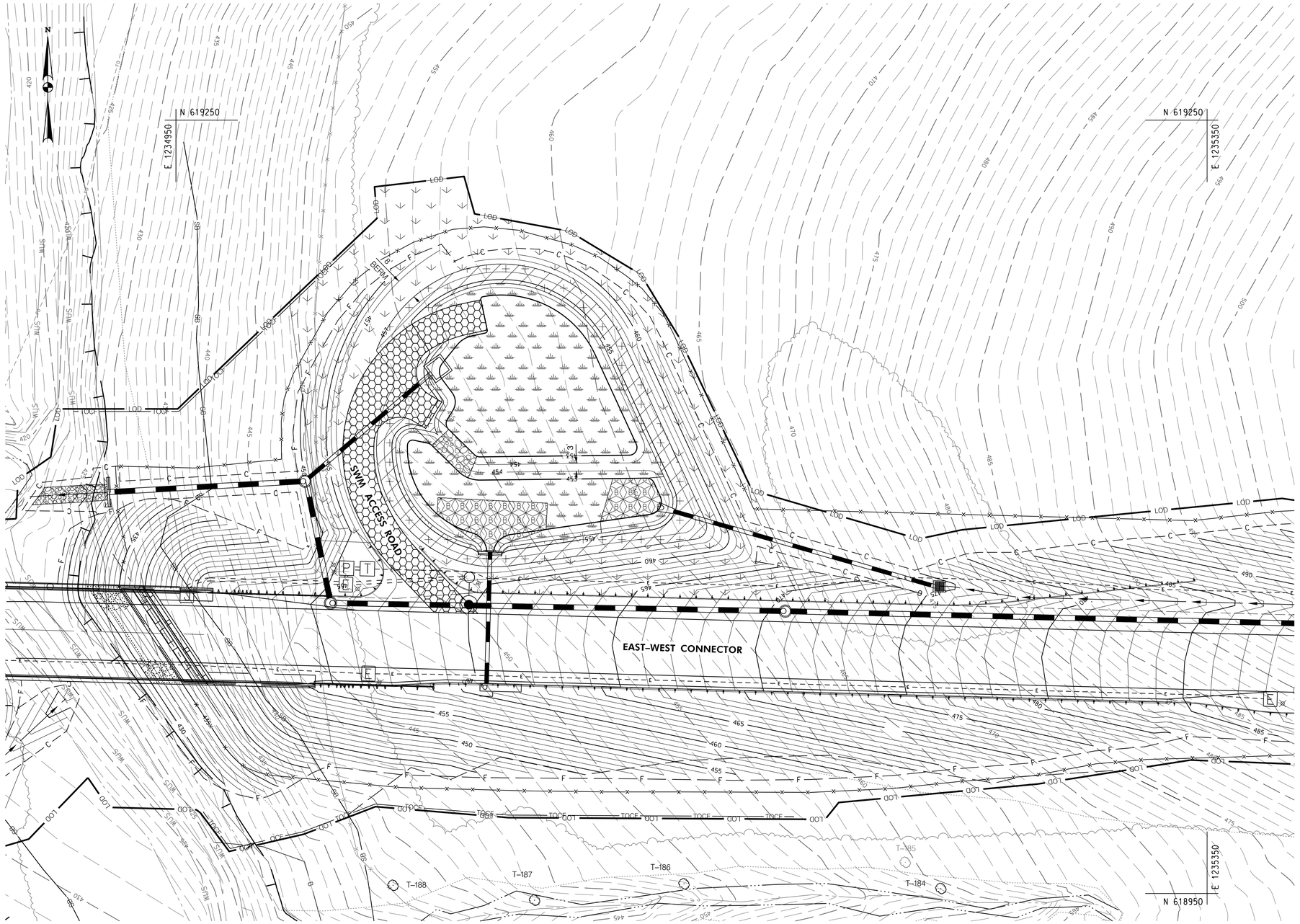
SWM-2 LANDSCAPE PLAN

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 118 OF 226

BY: DAW -
PLOTTED: 10/20/2022
FILE: \Share1209\Julia\Frederick County - Monrovia E-W Connector\Design Files\LD-P002.EWC.dgn



BIORETENTION (SWM–3)

PLAN VIEW

20' 0 20' 40'

SCALE: 1"=20'

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- SOIL STABILIZATION MATTING TYPE B
- RIPRAP
- SWM ACCESS ROAD

NOTE:
REFER TO STANDARD ROADSIDE LANDSCAPING NOTE ON SHEETS TS–1 TO TS–4 FOR TOPSOIL AND SOIL STABILIZATION MATTING REQUIREMENTS.

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER

10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

LS-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

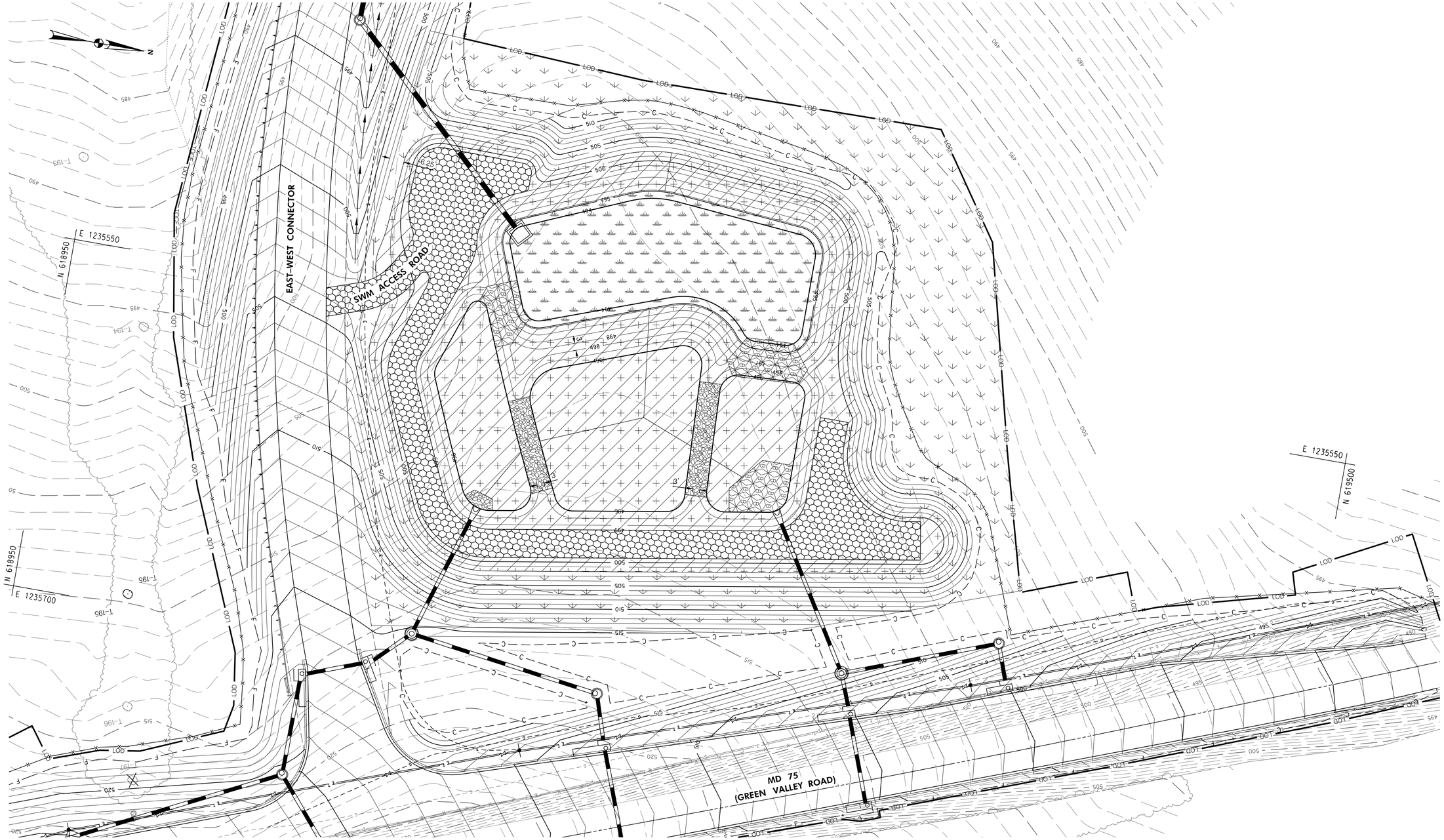
SWM-3 LANDSCAPE PLAN

DATE: OCTOBER 2022 SCALE: 1"–20'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 119 OF 226

BY: DAW -
PLOTTED: 10/20/2022
FILE: \Operations\Subdrive\Frederick County - Monrovia E-W Connector\Design Files\SLD-P003_EWC.dgn



BIORETENTION (BMP #101819)
PLAN VIEW

20' 0 20' 40'
SCALE: 1"=20'

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- SOIL STABILIZATION MATTING TYPE B
- RIPRAP
- SWM ACCESS ROAD

NOTE:
REFER TO STANDARD ROADSIDE LANDSCAPING NOTE ON SHEETS TS-1 TO TS-4 FOR TOPSOIL AND SOIL STABILIZATION MATTING REQUIREMENTS.

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WHEELER — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

LS-3

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BMP #101819 LANDSCAPE PLAN

DATE: OCTOBER 2022 SCALE: 1"=20'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 120 OF 226

BY: DAW -
PLOTTED: 10/20/2022
FILE: \Gpdrive\2019\Gpdrive\Frederick County - Monrovia E-W Connector\Design Files\pLD-P004_EWC.dgn

ZONE 1 - BIORETENTION BOTTOM MIX (SWM 3)				
	AREA (AC)	0.29		
COMMON NAME	SCIENTIFIC NAME	SIZE	QTY (EA)	SPACING
BROOMSEDGE	*Andropogon virginicus*	PLUG	580	Maximum Spacing 2' OC
JOE PYE WEED	*Eupatorium perpurea*	PLUG	580	
BLUE FLAG	*Iris versicolor*	PLUG	580	
CARDINAL FLOWER	*Lobelia cardinalis*	PLUG	580	
SWITCH GRASS	*Panicum virgatum*	PLUG	580	
TALL CONEFLOWER	*Rudbeckia laciniata*	PLUG	580	
NEW YORK IRONWEED	*Vernonia noveboracensis*	PLUG	580	

ZONE 1 - BIORETENTION BOTTOM MIX (BMP #101819)				
	AREA (AC)	0.15		
COMMON NAME	SCIENTIFIC NAME	SIZE	QTY (EA)	SPACING
BROOMSEDGE	*Andropogon virginicus*	PLUG	300	Maximum Spacing 2' OC
JOE PYE WEED	*Eupatorium perpurea*	PLUG	300	
BLUE FLAG	*Iris versicolor*	PLUG	300	
CARDINAL FLOWER	*Lobelia cardinalis*	PLUG	300	
SWITCH GRASS	*Panicum virgatum*	PLUG	300	
TALL CONEFLOWER	*Rudbeckia laciniata*	PLUG	300	
NEW YORK IRONWEED	*Vernonia noveboracensis*	PLUG	300	

ZONE 1 - BIORETENTION BOTTOM MIX (PROJECT TOTAL)				
	AREA (AC)	0.44		
COMMON NAME	SCIENTIFIC NAME	SIZE	QTY (EA)	SPACING
BROOMSEDGE	*Andropogon virginicus*	PLUG	880	Maximum Spacing 2' OC
JOE PYE WEED	*Eupatorium perpurea*	PLUG	880	
BLUE FLAG	*Iris versicolor*	PLUG	880	
CARDINAL FLOWER	*Lobelia cardinalis*	PLUG	880	
SWITCH GRASS	*Panicum virgatum*	PLUG	880	
TALL CONEFLOWER	*Rudbeckia laciniata*	PLUG	880	
NEW YORK IRONWEED	*Vernonia noveboracensis*	PLUG	880	

BMP Water Surface Elevations						
BMP	Facility Bottom Elev.	2 YR WSE	10 YR WSE	100 YR WSE	ESDv WSE	Embankment Top Elev.
SWM 2	432.00	433.64	434.56	434.99	432.70	437.00
SWM 3	453.00	454.51	454.70	454.97	454.00	457.00
BMP #101819	494.00	495.16	496.08	496.50	497.00	502.00

Planting Zones		
Zone 1	Bioretention Facility/Forebay Bottom to 2 YR WSE	Bioretention Bottom Mix
Zone 2	Bioretention/Surface Sand Filter 2 YR WSE to Embankment Top	Floodplain Mix
Zone 3	Riparian Area	Native Upland Wildlife Forage & Cover Meadow Mix
Zone 4	Sand Filter Facility/Forebay Bottom to 2 YR WSE	Turfgrass Establishment

ZONE 2 - FLOODPLAIN MIX (20 lb/ac)		
AREA (AC)	0.78	
COMMON NAME	SCIENTIFIC NAME	% of MIX
INDIANGRASS, PA ECOTYPE	*Sorghastrum nutans, PA Ecotype*	23.80%
VIRGINIA WILDRYE, PA ECOTYPE	*Elymus virginicus, PA Ecotype*	20.00%
BIG BLUESTEM, 'NIAGARA'	*Andropogon gerardii, 'Niagara'*	15.50%
FOX SEDGE, PA ECOTYPE	*Carex vulpinoidea, PA Ecotype*	12.00%
LURID SEDGE, PA ECOTYPE	*Carex lurida, PA Ecotype*	5.00%
BLUNT BROOM SEDGE, PA ECOTYPE	*Carex scoparia, PA Ecotype*	5.00%
HOP SEDGE, PA ECOTYPE	*Carex lupulina, PA Ecotype*	4.50%
BLUE VERVAIN, PA ECOTYPE	*Verbena hastata, PA Ecotype*	4.00%
OXEYE SUNFLOWER, PA ECOTYPE	*Heliopsis helianthoides, PA Ecotype*	2.00%
WILD BROMEGRASS	*Bromus altissimus*	1.50%
SWAMP MILKWEED, PA ECOTYPE	*Asclepias incarnata, PA Ecotype*	1.00%
SOFT RUSH	*Juncus effusus*	1.00%
BONESET, PA ECOTYPE	*Eupatorium perfoliatum, PA Ecotype*	0.50%
COMMON SNEEZEWEED, PA ECOTYPE	*Helenium autumnale, PA Ecotype*	0.50%
GOLDEN ALEXANDERS, PA ECOPTYPE	*Zizia aurea, PA Ecotype*	0.50%
NEW ENGLAND ASTER, PA ECOTYPE	*Aster novae-angliae, PA Ecotype*	0.40%
PURPLESTEM ASTER, PA ECOTYPE	*Aster puniceus, PA Ecotype*	0.40%
FLAT TOPPED WHITE ASTER, PA ECOTYPE	*Aster umbellatus, PA Ecotype*	0.40%
WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE	*Monarda fistulosa, Fort Indiantown Gap-PA Ecotype*	0.40%
DITCH STONECROP, PA ECOTYPE	*Penthorum sedoides, PA Ecotype*	0.40%
NARROWLEAF MOUNTAINMINT	*Pycnanthemum tenuifolium*	0.40%
WOOLGRASS, PA ECOTYPE	*Scirpus cyperinus, PA Ecotype*	0.40%
GREAT BLUE LOBELIA, PA ECOTYPE	*Lobelia siphilitica, PA Ecotype*	0.30%
WRINKLELEAF GOLDENROD, PA ECOTYPE	*Solidago rugosa, PA Ecotype*	0.10%
TOTAL (LB) - SWM 2		2.18
TOTAL (LB) - SWM 3		2.48
TOTAL (LB) - BMP #101819		10.99
TOTAL (LB) - PROJECT		**15.65**

ZONE 3 - NATIVE UPLAND WILDLIFE FORAGE & COVER MEADOW MIX (20 lb/ac)		
AREA (AC)	1.22	
COMMON NAME	SCIENTIFIC NAME	% of MIX
BIG BLUESTEM, 'NIAGARA'	*Andropogon gerardii, 'Niagara'*	34.90%
SWITCHGRASS, 'SHAWNEE'	*Panicum virgatum, 'Shawnee'*	27.00%
VIRGINIA WILDRYE, PA ECOTYPE	*Elymus virginicus, PA Ecotype*	21.00%
INDIANGRASS, 'SOUTHLOW'-MI ECOTYPE	*Sorghastrum nutans, 'Southlow'-MI Ecotype*	9.00%
BLACKEYED SUSAN	*Rudbeckia hirta*	3.00%
PARTRIDGE PEA, PA ECOTYPE	*Chamaecrista fasciculata, PA Ecotype*	2.00%
OXEYE SUNFLOWER, PA ECOTYPE	*Heliopsis helianthoides, PA Ecotype*	1.50%
PLAINS COREOPSIS	*Coreopsis tinctoria*	1.00%
SHOWY TICKTREFOIL, PA ECOTYPE	*Desmodium canadense, PA Ecotype*	0.40%
COMMON MILKWEED	*Asclepias syriaca*	0.10%
WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE	*Monarda fistulosa, Fort Indiantown Gap-PA Ecotype*	0.10%
TOTAL (LB) - SWM 2		8.10
TOTAL (LB) - SWM 3		4.55
TOTAL (LB) - BMP #101819		11.71
TOTAL (LB)		**24.36**

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

LD-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

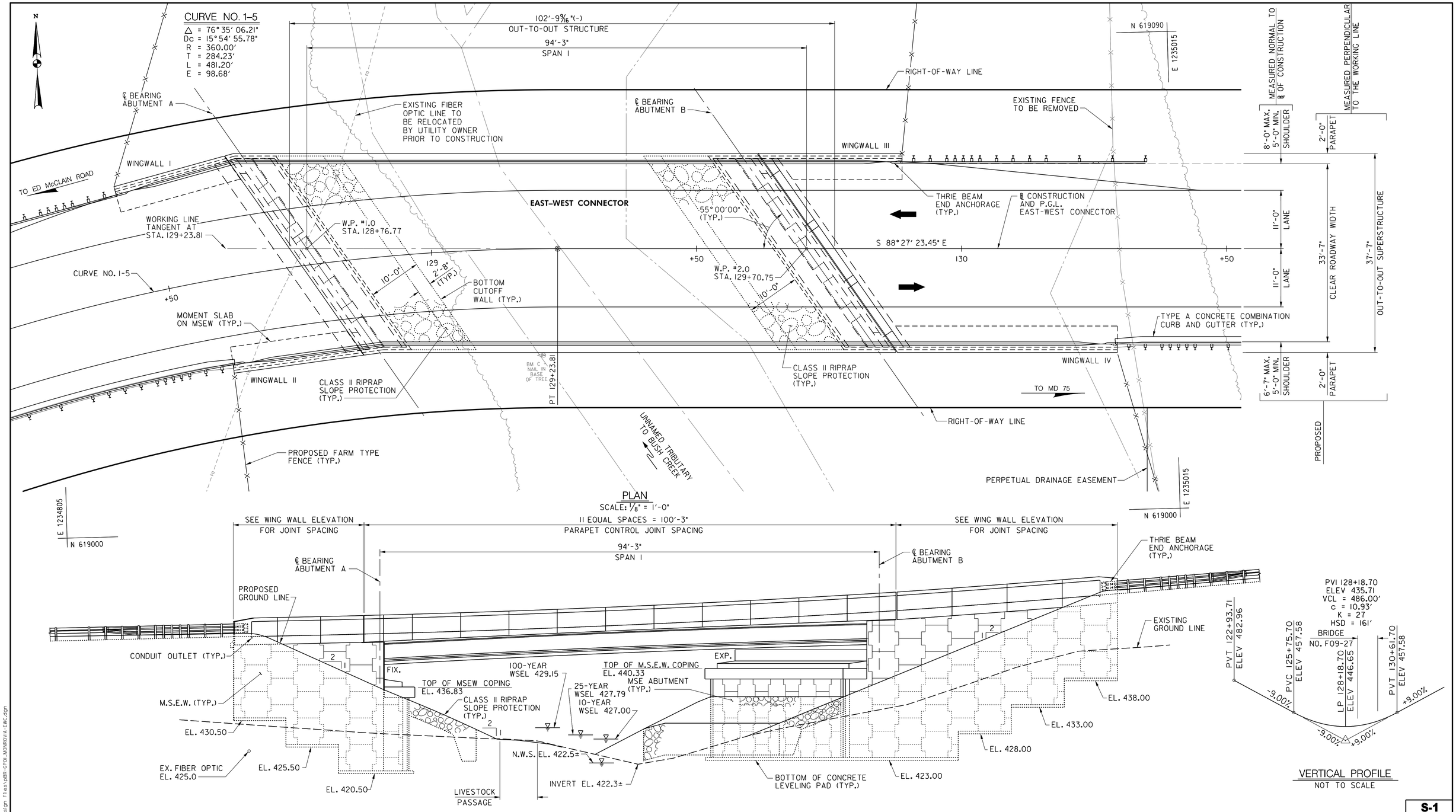
LANDSCAPE DETAILS

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 121 OF 226

BY: DAW -
PLOTTED: 10/20/2022
FILE: \\prem1209\Users\Frederick County - Monrovia E-W Connector\Design Files\LD-D001.ENC.dgn



PLAN
SCALE: ⅛" = 1'-0"

ELEVATION
SCALE: ⅛" = 1'-0"

VERTICAL PROFILE
NOT TO SCALE

CROSS REFERENCE NOTES

1. FOR ROADWAY PLANS, SEE SHEET NOS. PS-4 THRU PS-7.
2. FOR ROADWAY TYPICAL SECTION, SEE SHEET NO. TS-2.
3. FOR ROADWAY PROFILE, SEE SHEET NOS. PR-1 THRU PR-5.
4. FOR GENERAL NOTES, SEE SHEET NO. S-2.
5. FOR BOTTOM CUTOFF WALL DETAIL, SEE SHEET NO. S-10.

NOTES:
1. M.S.E.W. = MECHANICALLY STABILIZED EARTH WALL
2. W.S.EL = WATER SURFACE ELEVATION
3. N.W.S. = NORMAL WATER SURFACE

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · LEWIS RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 11742

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

S-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

GENERAL PLAN AND ELEVATION

DATE: OCTOBER 2022 SCALE: 1/8" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 122 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:39 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pBR-GPD_MONROVIA-EWC.dgn

GENERAL NOTES

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

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2020.

LOADING: HL-93 WITH PROVISIONS FOR A FUTURE 2" WEARING SURFACE AND 15 LBS/SQ. FT. FOR USE OF STEEL BRIDGE DECK FORMS WHICH REMAIN IN PLACE.

LOAD RESTRICTIONS: THERE ARE RESTRICTIONS FOR PLACING EQUIPMENT AND MATERIALS 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, PARAPET AND BARRIER-MOMENT SLAB SYSTEM ON M.S.E.W AND ENTIRE SUPERSTRUCTURE(S) SHALL BE MIX NO. 6 (4,500 psi) CONTAINING SYNTHETIC FIBERS (SEE SECTION 902.15.01)

ALL CONCRETE FOR EXPANSION JOINT CROSS BEAM(S) AND TOP PORTION OF EXPANSION JOINT CROSS BEAM SUPPORT COLUMN(S) SHALL BE MIX NO. 6 (4,500 psi).

ALL OTHER STRUCTURE CONCRETE EXCEPT PRESTRESSED CONCRETE SHALL BE MIX NO. 3 (3,500 psi).

PRESTRESSED CONCRETE: CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE f'c = 7,000 psi, WHILE THE MINIMUM COMPRESSIVE STRENGTH AT TRANSFER SHALL BE f'ci = 5,950 psi.

ALL PRESTRESSED CONCRETE SHALL BE SELF-CONSOLIDATING WITH A 28-DAY COMPRESSIVE STRENGTH OF f'c = 8,000 psi.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A 615 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.

REINFORCING STEEL SHALL BE EPOXY COATED WHEN NOTED WITH AN EP IN THE PLANS.

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

LOCATION	CLEAR COVER
Bottom of bridge deck slabs.	1 IN.
Top of bridge deck slabs Bottom flange of prestressed concrete girders	2½ IN.
Top of piers. Bottom and sides of all footings.	3 IN.

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

PRETENSIONING STEEL: PRETENSIONING STEEL SHALL CONSIST OF 0.6" DIAMETER SPECIAL 7-WIRE BRIGHT LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF M 203 GRADE 270. EACH STRAND SHALL BE PRETENSIONED TO 44,000 lb (0.75 fpu). HAVE AN ULTIMATE STRENGTH OF 58,600 lb (fpu) AND A YIELD STRENGTH OF 52,700 lb (0.90 fpu).

HYDROLOGIC AND HYDRAULIC DATA: FOR HYDROLOGIC AND HYDRAULIC DATA, SEE SHEET TITLED - "HYDROLOGIC AND HYDRAULIC DATA"

RATINGS: RATINGS ARE BASED ON AASHTO LOAD AND RESISTANCE FACTOR (LRFR) METHOD UTILIZING THE LOADINGS AS SHOWN. RATINGS PROVIDED ARE IN ACCORDANCE WITH MDOT SHA GPM D-97-47(4) DATED AUGUST 10, 2018 INCLUDING REVISIONS THEREOF.

DESIGN LOAD RATING:

TRUCK	G.V.W. (TONS)	LRFD INVENTORY RATING FACTOR	LRFD OPERATING RATING FACTOR
HL-93	36	X.XX	X.XX

LEGAL LOAD RATING:

TRUCK	G.V.W. (TONS)	LRFD RATING (TONS)
H-15	15	XX.X
MD TYPE 4	35	XX.X
MD TYPE 3S2	40	XX.X

PERMIT LOAD RATING:

TRUCK	G.V.W. (TONS)	LRFD RATING (TONS)
150K	75	XX.X
90K COMBO	45	XX.X
90K CRANE	45	XX.X
90K CARGO	45	XX.X
80K CARGO	40	XX.X
120K COMBO	60	XX.X
108K CRANE	54	XX.X
120K CRANE	60	XX.X

MECHANICALLY STABILIZED EARTH WALL (M.S.E.W.) NOTES:

WALL SYSTEM: THE CONTRACTOR HAS THE OPTION TO SELECT THE TYPE OF PROPRIETARY WALL FROM THE MDOT SHA APPROVED PROPRIETARY RETAINING WALL LIST. ONCE SELECTED, THIS TYPE OF WALL MUST BE USED THROUGHOUT THE PROJECT.

THE CONTRACTOR CAN ADJUST THE STEPS IN THE LEVELING PAD TO ACCOMODATE THE PANEL TYPE SELECTED. THE LEVELING PADS CAN BE LOWERED IN ELEVATION, BUT NOT RAISED FOR THE ABUTMENTS. THE LEVELING PADS CAN BE LOWERED OR RAISED IN ELEVATION FOR THE WING WALLS.

STEPPING AND ELEVATIONS OF THE LEVELING PADS SHALL BE SET BY THE M.S.E.W. DESIGNER AS PART OF THE M.S.E.W. DESIGN. THE LOCATION AND STEPPING OF THE LEVELING PADS SHOWN IN THESE PLANS ARE SCHEMATIC ONLY.

THE ANTICIPATED MINIMUM FACTORED BEARING RESISTANCE IS 38.5 KSF. HOWEVER, THE FINAL DESIGN CALCULATIONS SHALL INCLUDE THE ACTUAL FACTORED BEARING RESISTANCE, AS CALCULATED BY THE M.S.E.W. DESIGNER. THE M.S.E.W. SHALL HAVE A REINFORCEMENT LENGTH REQUIRED FOR DESIGN AND A MINIMUM LENGTH, AS SHOWN IN THESE PLANS, WHICHEVER IS GREATER.

SERVICE LIFE: ALL RETAINING WALL COMPONENTS SHALL BE DESIGNED FOR A MINIMUM SERVICE LIFE OF 100 YEARS.

REINFORCED BACKFILL: THE BACKFILL WITHIN THE REINFORCING ZONE FOR THE M.S.E.W. SHALL BE IN CONFORMANCE WITH THE SPECIAL PROVISIONS.

RETAINED BACKFILL: THE BACKFILL BEHIND THE REINFORCED SOIL ZONE SHALL BE PLACED FOR A DISTANCE EQUAL TO 50 PERCENT OF THE DESIGN HEIGHT AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2025

STATE OF MARYLAND · RICHARD T. TETEAK · NO. 16558 · REGISTERED PROFESSIONAL ENGINEER
3/7/25

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

S-2

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

GENERAL NOTES

DATE: MARCH 2025 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 123 OF 226

BY: DAW -
PLOTTED: 3/12/2025
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\xBR-0NO1_MONROVIA-EWC.dgn

HYDROLOGIC DATA

I. SOURCE: HYDROLOGIC AND HYDRAULIC ANALYSIS REPORT
PREPARED BY: ☐ SHA ☒ CONSULTANT: THE WILSON T. BALLARD CO. DATE: NOV. 2021
II. FILE LOCATION: _____
III. DRAINAGE AREA: 307 ACRES 0.48 SQUARE MILES

METHOD(S) OF ANALYSIS: _____

_____ USGS GAGE DATA ANALYSIS
- GAGING STATION NO. _____
- LOCATION _____
- DRAINAGE AREA _____
- YEARS OF CONTINUOUS RECORD _____

X USGS REGRESSION EQUATIONS
REFERENCE _____

_____ SCS TR – 20 METHOD – VERSION USED (DATE) _____
- RCN (EXISTING–HOMOGENEOUS WATERSHED)[1] _____
- RCN (ULTIMATE HOMOGENEOUS WATERSHED)[1] _____
- T_C (HOMOGENEOUS WATERSHED)[1] _____

_____ FEMA BASE FLOOD (100–YEAR) DISCHARGE _____ (CFS) METHOD USED BY FEMA _____

_____ OTHER (DESCRIBE) _____

HAS FLOOD ROUTING BEEN USED IN DETERMINING FLOOD DISCHARGES? YES _____ NO _____
METHOD SELECTED _____

IV. COMPUTED FLOOD DISCHARGES

RETURN PERIOD (YEARS)	FLOOD DISCHARGE (CFS)	
	BASED ON EXISTING WATERSHED DEVELOPMENT	BASED ON ULTIMATE WATERSHED DEVELOPMENT
2	–	158
10	–	452
25	–	689
50	–	923
100	–	1,214
500	–	2,160

V. HISTORIC FLOODS

YEAR	MAGNITUDE (CFS)	HIGH WATER ELEVATION	WHERE MEASURED	SOURCE OF DATA

VI. STREAM MORPHOLOGY

STREAM TYPE NOT AVAILABLE VALLEY TYPE _____
STREAM BED MATERIAL:
DESCRIPTION _____ D16 _____ D50 _____ D04 _____

BANK FULL CHARACTERISTICS:
Q _____ AREA _____ WIDTH _____ DEPTH _____
SLOPE _____ MANNINGS 'N' VALUE _____ SINUOSITY _____

VII. TIDAL FLOWS

100–YEAR STORM TIDE ELEVATION (FT) _____ CORRESPONDING VOLUME OF TIDAL PRISM (CU. FT) _____
500–YEAR STORM TIDE ELEVATION (FT) _____ CORRESPONDING VOLUME OF TIDAL PRISM (CU. FT) _____
SOURCE OF INFORMATION _____

DESIGN DISCHARGE _____ (CFS) RETURN PERIOD _____ YEARS TIDAL PERIOD (HRS) _____
HOW DETERMINED? (EXPLAIN) _____
WATER SURFACE–ELEVATION FOR DESIGN CONDITION (FT)
(IF TIDAL FLOW GOVERNS HYDRAULIC DESIGN) _____

VII. COMMENTS: _____

HYDRAULIC DATA

I. SOURCE: HYDROLOGIC AND HYDRAULIC ANALYSIS REPORT
PREPARED BY: ☐ SHA ☒ CONSULTANT: THE WILSON T. BALLARD CO. DATE: NOV. 2021
FILE LOCATION: _____ ITEM 71 RATING [2] _____
METHOD(S) OF ANALYSIS: HEC–RAS 5.0.7

II. HYDRAULIC DATA

FLOW CONDITIONS [3]	CHANNEL CROSS–SECTION	STRUCTURE WATERWAY AREA [4]	ENERGY SLOPE [4]	WATER SURFACE ELEVATION [4]	CHANNEL [5] Q	W	V	D	LEFT OVERBANK LOOKING DOWNSTREAM [5] Q	W	V	D	RIGHT OVERBANK LOOKING DOWNSTREAM [5] Q	W	V	D	DISCHARGE OVER ROAD
Q_{100} DESCRIBE APPROACH RIVER STATION 520.76	APPROACH (DESCRIBE LOCATION BELOW) [8]	–	0.003617	431.02	1101.78	58.26	4.84	3.90	112.22	59.12	1.21	1.57	0.0	0.16	0.05	0.01	
	UPSTREAM AT STRUCTURE	1361	0.006355	429.15	1214.0	53.6	6.13	3.70	–	–	–	–	–	–	–	–	
	DOWNSTREAM AT STRUCTURE	1361	0.02039	426.80	1213.55	35.33	10.23 [6]	3.36 [7]	0.45	8.24	0.49	0.11	0	0.2	0.25	0.04	
Q_{500} DESCRIBE APPROACH RIVER STATION 520.76	APPROACH (DESCRIBE LOCATION BELOW) [8]	–	0.003801	432.37	1851.59	58.29	6.05	5.25	304.68	74.56	1.66	2.45	3.73	7.68	0.71	0.69	
	UPSTREAM AT STRUCTURE	1361	0.005894	430.89	2157.13	58.03	7.29	5.10	–	–	–	–	2.87	3.23	0.95	0.93	
	DOWNSTREAM AT STRUCTURE	1361	0.01728	428.37	2115.37	35.33	12.15	4.93	39.55	91.37	2.43	1.43	5.08	3.77	1.62	0.83	
DESCRIBE _____	APPROACH (DESCRIBE LOCATION BELOW) [8]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	UPSTREAM AT STRUCTURE	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	DOWNSTREAM AT STRUCTURE	–	–	–	–	–	–	– [7]	–	–	–	–	–	–	–	–	

III. BRIDGE SCOUR DATA

A. SCOUR EVALUATION STUDY TITLE: SCOUR ANALYSIS REPORT
PREPARED BY: ☐ SHA ☒ CONSULTANT: THE WILSON T. BALLARD CO. DATE: FEB. 2022
FILE LOCATION: _____ ITEM 113 RATING [2] _____

B. SCOUR ESTIMATES:

	DESIGN CONDITIONS (DESCRIBE SPECIAL CONDITIONS SUCH AS OVERTOPPING, LOW TAILWATER, INFLUENCE OF CONFLUENCES, ETC.)	FLOOD DISCHARGE RETURN PERIOD (YEARS)	FLOOD DISCHARGE MAGNITUDE (CFS)	LONG TERM DEGRADATION / AGGRADATION (FT)	CONTRACTION SCOUR DEPTH (LOOKING DOWNSTREAM) (FT) LT OVERBANK	MAIN CHANNEL	RT OVERBANK	CHANNEL BED LOAD (DESCRIBE)	TYPE OF SCOUR (LIVE BED/CLEAR WATER)
DESIGN FLOOD FOR SCOUR	100 YEAR	100	1,214	0	1.28	1.90	0.37	.	LIVE BED
CHECK FLOOD FOR SCOUR	500 YEAR	500	2,160	0	4.08	2.03	2.78	.	LIVE BED
OTHER									

TOTAL SCOUR: ESTIMATED TOTAL SCOUR AT SUBSTRUCTURE/ CHANNEL ELEMENTS (INCLUDES LONG TERM DEGRADATION/AGGRADATION PLUS CONTRACTION SCOUR, PLUS LOCAL SCOUR)

LOCATION OF CHANNEL OR SUBSTRUCTURE ELEMENT	ELEVATION OF BOTTOM OF SCOUR HOLE OR STREAM CHANNEL BED (FT) DESIGN FLOOD	CHECK FLOOD	SCOUR COUNTER MEASURES EXISTING ☐ NEW ☒
CHANNEL THALWEG			
ABUTMENT: A	424.98	422.18	CLASS II RIPRAP
ABUTMENT: B	426.38	424.76	CLASS II RIPRAP
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
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PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			
PIER NO.			

NOTES:
BLANK SPACES INDICATE THAT DATA IS NOT AVAILABLE OR IS NOT APPLICABLE

1. PARAMETERS COMPUTED ASSUMING THE WATERSHED IS HOMOGENEOUS WITHOUT SUBDIVISIONS
2. ITEM 71 RATING AND ITEM 113 RATING REFER TO FEDERAL BRIDGE INVENTORY ITEMS
3. RECORD FLOW CONDITIONS USED IN ANALYSIS: DISCHARGE (Q), TAILWATER CONDITION AND WHY SELECTED, ETC. FOR DEPRESSED CULVERTS, RECORD IN THE ASSUMPTIONS MADE AS TO WHETHER SEDIMENT WILL REMAIN DURING FLOODS
4. FOR CULVERTS, USE THESE THREE COLUMNS TO RECORD:
   - DEPTH OF FLOW AT CULVERT INLET AND OUTLET
   - WATER–SURFACE ELEVATION AT CULVERT INLET AND OUTLET
   - ENERGY SLOPE FOR CULVERT BARREL
5. SYMBOLS USED:
   Q = FLOW OR DISCHARGE (CFS)
   W = CHANNEL WIDTH OR FLOODPLAIN WIDTH (FT)
   V = FLOW VELOCITY (FPS)
   D = DEPTH OF FLOW (FT)
6. FOR CULVERTS, RECORD OUTLET VELOCITY HERE
7. FOR CULVERTS , RECORD TAILWATER DEPTH HERE
8. APPROACH SECTION SHOULD BE NEAR POINT OF MAXIMUM BACKWATER (TYPICALLY ONE BRIDGE LENGTH UPSTREAM)
9. DESCRIBE FLOW CONDITION THROUGH STRUCTURE AT INCIPIENT OVERTOPPING AS "P" (PRESSURE FLOW) OR "O" (OPEN CHANNEL FLOW/FREEBOARD)
10. VERTICAL DIFFERENCE IN ELEVATION BETWEEN WATER SURFACE FOR DESIGN Q (AT UPSTREAM FACE OF BRIDGE) AND LOW CHORD
11. TOTAL UPSTREAM FACE FLOW AREA THROUGH STRUCTURE FOR 100/500 YEAR FLOODS
12. FOR BRIDGES:
    ENTER TYPE, SPAN LENGTH AND MAXIMUM VERTICAL CLEARANCE
    FOR CULVERTS:
    ENTER SIZE, NUMBER OF CELLS, AND LENGTH;
    DESCRIBE ANY SPECIAL FEATURES UNDER COMMENTS
13. DESCRIBE TYPE OF INLET/OUTLET AND EROSION PROTECTION
14. COMPOSITE "N" VALUE OF STRUCTURE

IV. ROADWAY AND STRUCTURE DATA

ITEM	EXISTING STRUCTURE	PROPOSED STRUCTURE
NAME OF WATERWAY	UNNAMED TRIBUTARY TO BUSH CREEK	
DATE BUILT	N.A.	N.A.
OVERTOPPING ELEVATION	N.A.	447.38
OVERTOPPING LOCATION (DESCRIBE)	N.A.	WEST OF THE BRIDGE
OVERTOPPING FLOW CONDITION [9] (OVERTOPPING Q ≥ 100 YR FLOOD)	N.A.	16,000 CFS
FREEBOARD [10]	N.A.	14.29'
TOTAL STRUCTURE WATERWAY AREA [11]	N.A.	1361 SF
STRUCTURE DESCRIPTION [12]	N.A.	SINGLE SPAN SPAN LENGTH 94'–3" BULB TEE BEAMS
INLET TREATMENT [13]	N.A.	RIPRAP
OUTLET TREATMENT [13]	N.A.	RIPRAP
MANNINGS "N" VALUE [14]	N.A.	0.045

V. SURVEY BOOK NUMBERS
REFERENCE DATUM FOR ELEVATIONS _____

VI. FLOOD PLAIN MANAGEMENT DATA

DATE OF FLOOD INSURANCE STUDY SEPT. 19, 2007 COMMUNITY PANEL NO. 24021C0460D

PROJECT LOCATION (CHECK BELOW):

X BEYOND FEMA PROGRAM LIMITS (NOT IN "A" HAZARD ZONE)

_____ FEMA HAZARD ZONE "A"; NO BASE FLOOD ELEVATIONS ESTABLISHED

_____ FEMA HAZARD ZONE "A"; BASE FLOOD ELEVATIONS ESTABLISHED

REGULATORY FLOODWAY YES _____ NO X
MAXIMUM CHANGE IN WATER SURFACE ELEVATION UPSTREAM OF BRIDGE DUE TO HIGHWAY PROJECT (MAX. BACKWATER) _____ FT.

LOCATION OF MAX. BACKWATER FROM UPSTREAM FACE OF BRIDGE _____ FT.

DESCRIBE TYPE OF STUDY DONE TO DETERMINE CONSISTENCY WITH NFIP STANDARDS _____
DATE COMMUNITY ACKNOWLEDGEMENT FORM ISSUED: _____

IS THE PROJECT CONSISTENT WITH THE CODE OF FEDERAL REGULATIONS, PART 650 A, LOCATION AND HYDRAULIC DESIGN OF ENCROACHMENTS ON FLOOD PLAINS (23 CFR 650 A). Y/N _____

IS THE PROJECT CONSISTENT WITH THE ANNOTATED CODE OF MARYLAND (COMAR 08. 05. 03)? Y/N _____

VII. COMMENTS: RECOMMENDED MINIMUM TOP OF LEVELING PAD AT ABUTMENT A IS 421.0 AND AT ABUTMENT B IS 423.5, BASED ON THE CRITERIA FROM CHAPTER 11 OF THE MANUAL FOR HYDROLOGIC AND HYDRAULIC DESIGN.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JEFFREY RICHARD BETTEN · REG. NO. 16558 · PROFESSIONAL ENGINEER
11/14/22

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

S-3

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

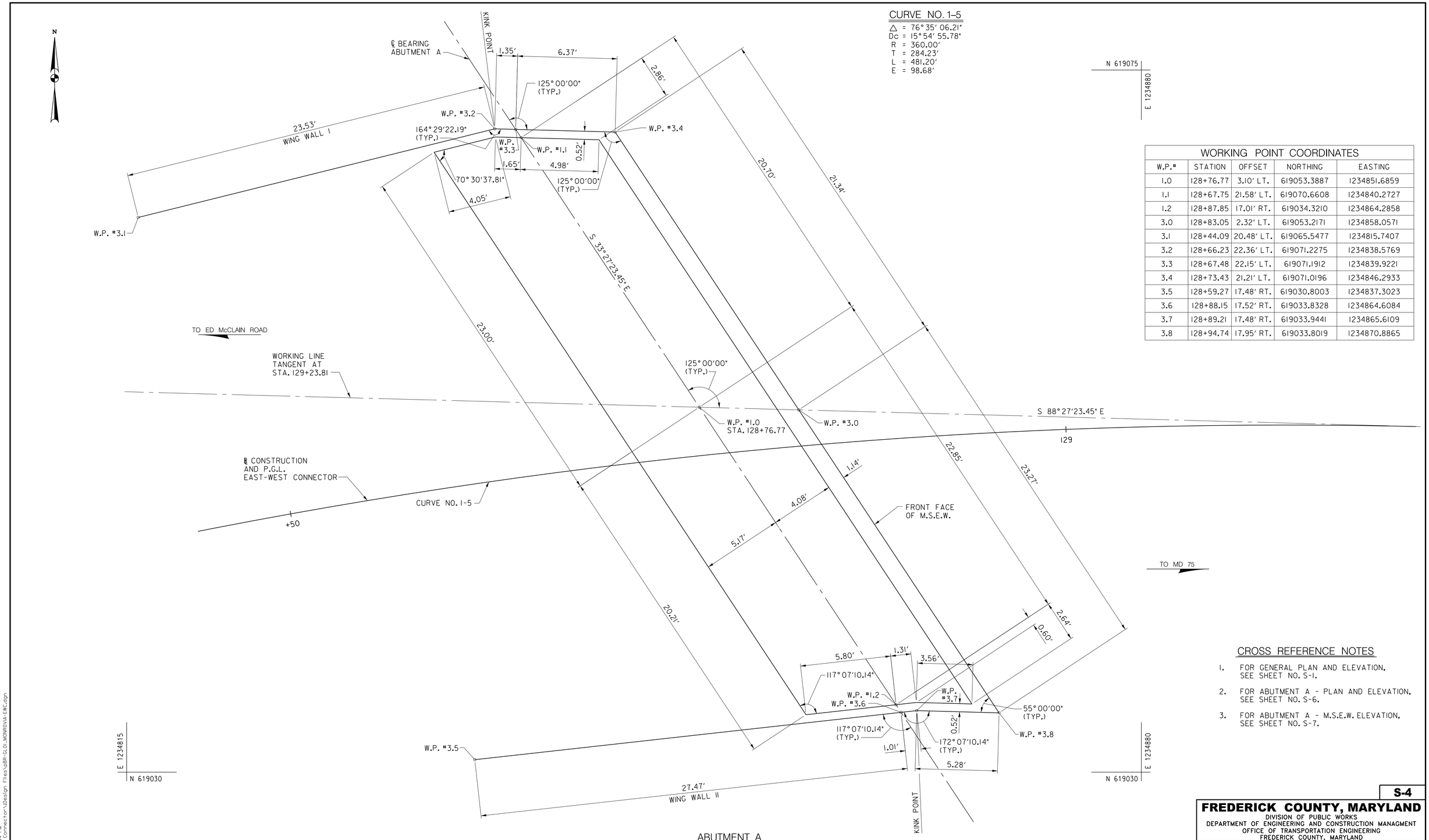
BRIDGE NO. F09-27

HYDROLOGIC AND HYDRAULIC DATA

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 124 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:43 PM
FILE LOC: Frederick County - Monrovia E-W Connector\Design Files\BR-HH00_MONROVIA-E-W.dgn



CURVE NO. 1-5

△ = 76°35′ 06.21"
Dc = 15°54′ 55.78"
R = 360.00′
T = 284.23′
L = 481.20′
E = 98.68′

WORKING POINT COORDINATES

W.P.#	STATION	OFFSET	NORTHING	EASTING
1.0	128+76.77	3.10′ LT.	619053.3887	1234851.6859
1.1	128+67.75	21.58′ LT.	619070.6608	1234840.2727
1.2	128+87.85	17.01′ RT.	619034.3210	1234864.2858
3.0	128+83.05	2.32′ LT.	619053.2171	1234858.0571
3.1	128+44.09	20.48′ LT.	619065.5477	1234815.7407
3.2	128+66.23	22.36′ LT.	619071.2275	1234838.5769
3.3	128+67.48	22.15′ LT.	619071.1912	1234839.9221
3.4	128+73.43	21.21′ LT.	619071.0196	1234846.2933
3.5	128+59.27	17.48′ RT.	619030.8003	1234837.3023
3.6	128+88.15	17.52′ RT.	619033.8328	1234864.6084
3.7	128+89.21	17.48′ RT.	619033.9441	1234865.6109
3.8	128+94.74	17.95′ RT.	619033.8019	1234870.8865

CROSS REFERENCE NOTES

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S-1.
2. FOR ABUTMENT A - PLAN AND ELEVATION, SEE SHEET NO. S-6.
3. FOR ABUTMENT A - M.S.E.W. ELEVATION, SEE SHEET NO. S-7.

ABUTMENT A
GEOMETRIC LAYOUT
SCALE: 3/8" = 1′-0"

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · STEVEN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 11/4/22

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

S-4

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

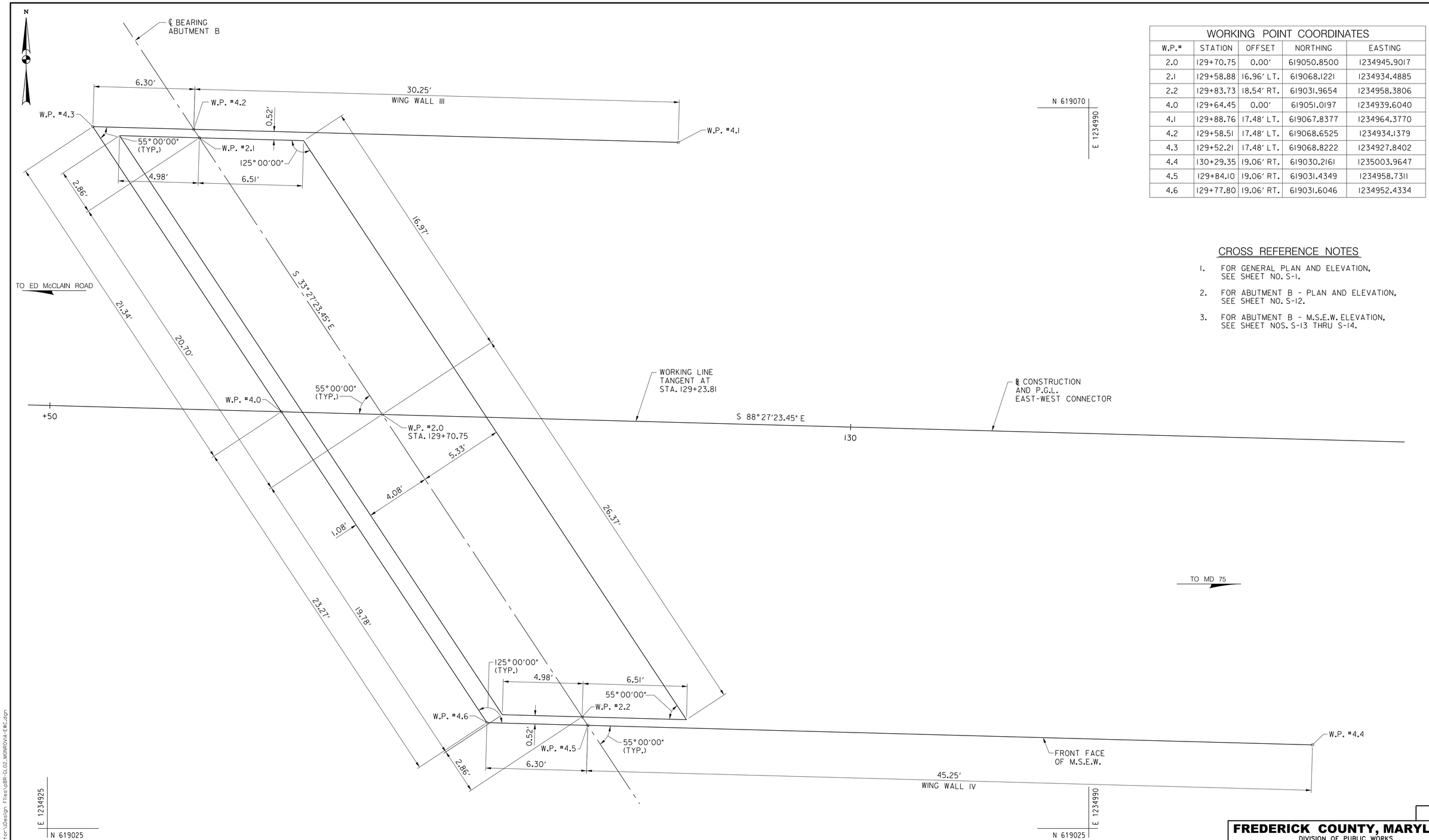
BRIDGE NO. F09-27

GEOMETRIC LAYOUT
ABUTMENT A

DATE: OCTOBER 2022 SCALE: 3/8"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 125 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:44 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-GLO_MONROVIA ENC.dgn



WORKING POINT COORDINATES				
W.P.#	STATION	OFFSET	NORTHING	EASTING
2.0	129+70.75	0.00'	619050.8500	1234945.9017
2.1	129+58.88	16.96' LT.	619068.1221	1234934.4885
2.2	129+83.73	18.54' RT.	619031.9654	1234958.3806
4.0	129+64.45	0.00'	619051.0197	1234939.6040
4.1	129+88.76	17.48' LT.	619067.8377	1234964.3770
4.2	129+58.51	17.48' LT.	619068.6525	1234934.1379
4.3	129+52.21	17.48' LT.	619068.8222	1234927.8402
4.4	130+29.35	19.06' RT.	619030.2161	1235003.9647
4.5	129+84.10	19.06' RT.	619031.4349	1234958.7311
4.6	129+77.80	19.06' RT.	619031.6046	1234952.4334

CROSS REFERENCE NOTES

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S-1.
2. FOR ABUTMENT B - PLAN AND ELEVATION, SEE SHEET NO. S-12.
3. FOR ABUTMENT B - M.S.E.W. ELEVATION, SEE SHEET NOS. S-13 THRU S-14.

ABUTMENT B
GEOMETRIC LAYOUT
SCALE: ⅜" = 1'-0"

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND — MATTHEW RICHARD GETTEN — REGISTERED PROFESSIONAL ENGINEER — 11/14/22

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

S-5

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

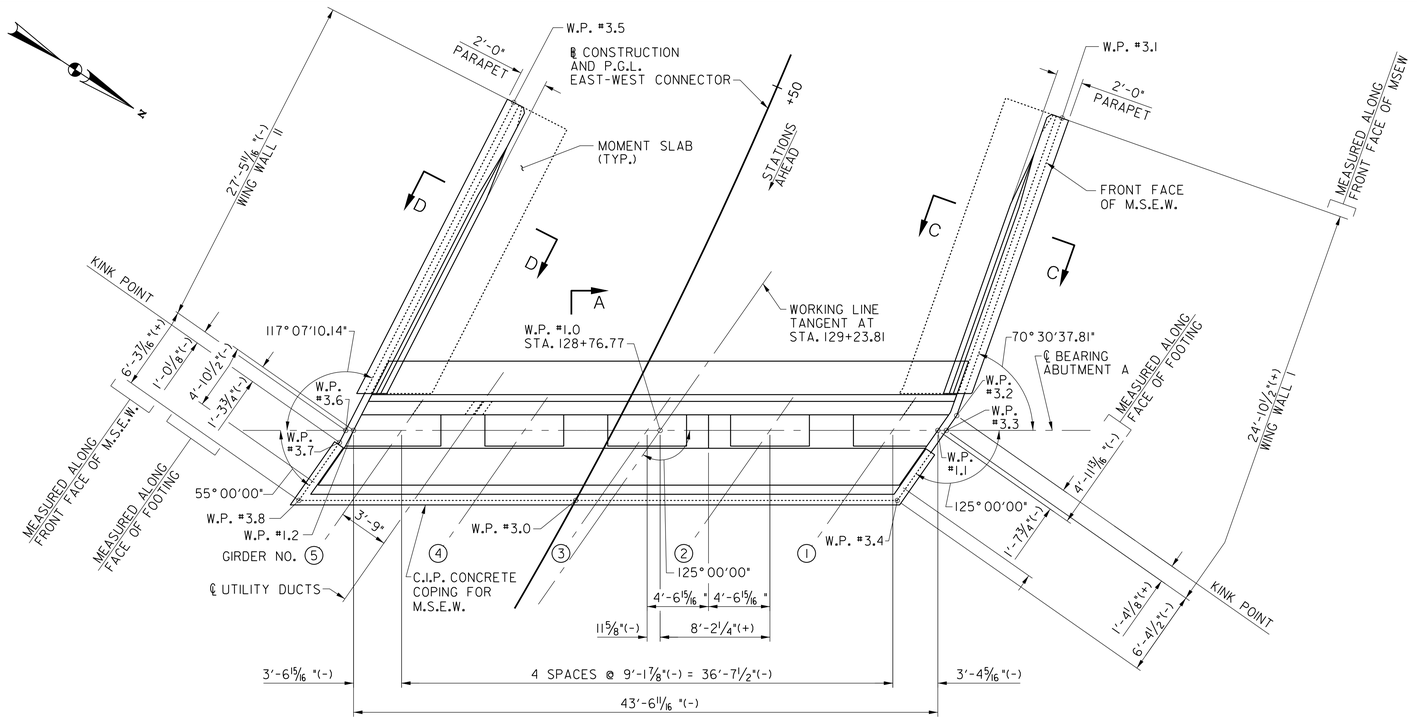
BRIDGE NO. F09-27

GEOMETRIC LAYOUT
ABUTMENT B

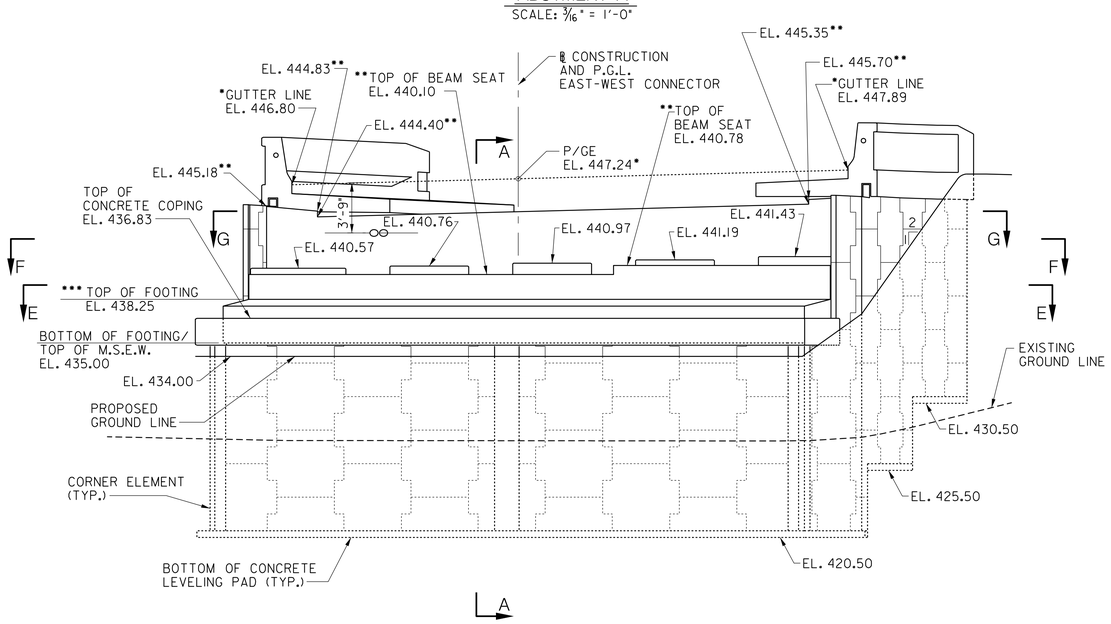
DATE: OCTOBER 2022 SCALE: 3/8"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 126 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:45 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-01-02_MONROVIA-EWC.dgn



A PLAN
ABUTMENT A
SCALE: 3/16" = 1'-0"



DATUM EL. 405.00

ELEVATION
ABUTMENT A
SCALE: 3/16" = 1'-0"

NOTE:
BEARING PAD ELEVATION SHOWN IS BASED ON AN ESTIMATED BEARING HEIGHT. ACTUAL BEARING HEIGHT TO BE CONFIRMED BY THE CONTRACTOR. TOP OF BEARING PAD SHALL BE MODIFIED TO ACCOMODATE BEARING PAD ASSEMBLY.

CROSS REFERENCE NOTES

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S-1.
2. FOR GEOMETRIC LAYOUT, SEE SHEET NO. S-4.
3. FOR ABUTMENT A TYPICAL SECTION A-A, SEE SHEET NO. S-8.
4. FOR SECTIONS E-E, F-F AND G-G, SEE SHEET NO. S-11.
5. FOR WING WALL TYPICAL SECTIONS C-C AND D-D, SEE SHEET NO. S-22.
6. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE SHEET NO. S-30.

NOTES:

* ELEVATIONS SHOWN TAKEN AT END OF DECK AT JOINT.

** ELEVATIONS SHOWN TAKEN AT FRONT FACE OF BACKWALL.

*** ELEVATION SHOWN TAKEN AT FRONT FACE OF ABUTMENT STEM.

M.S.E.W. = MECHANICALLY STABILIZED EARTH WALL

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 2022

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

S-6

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

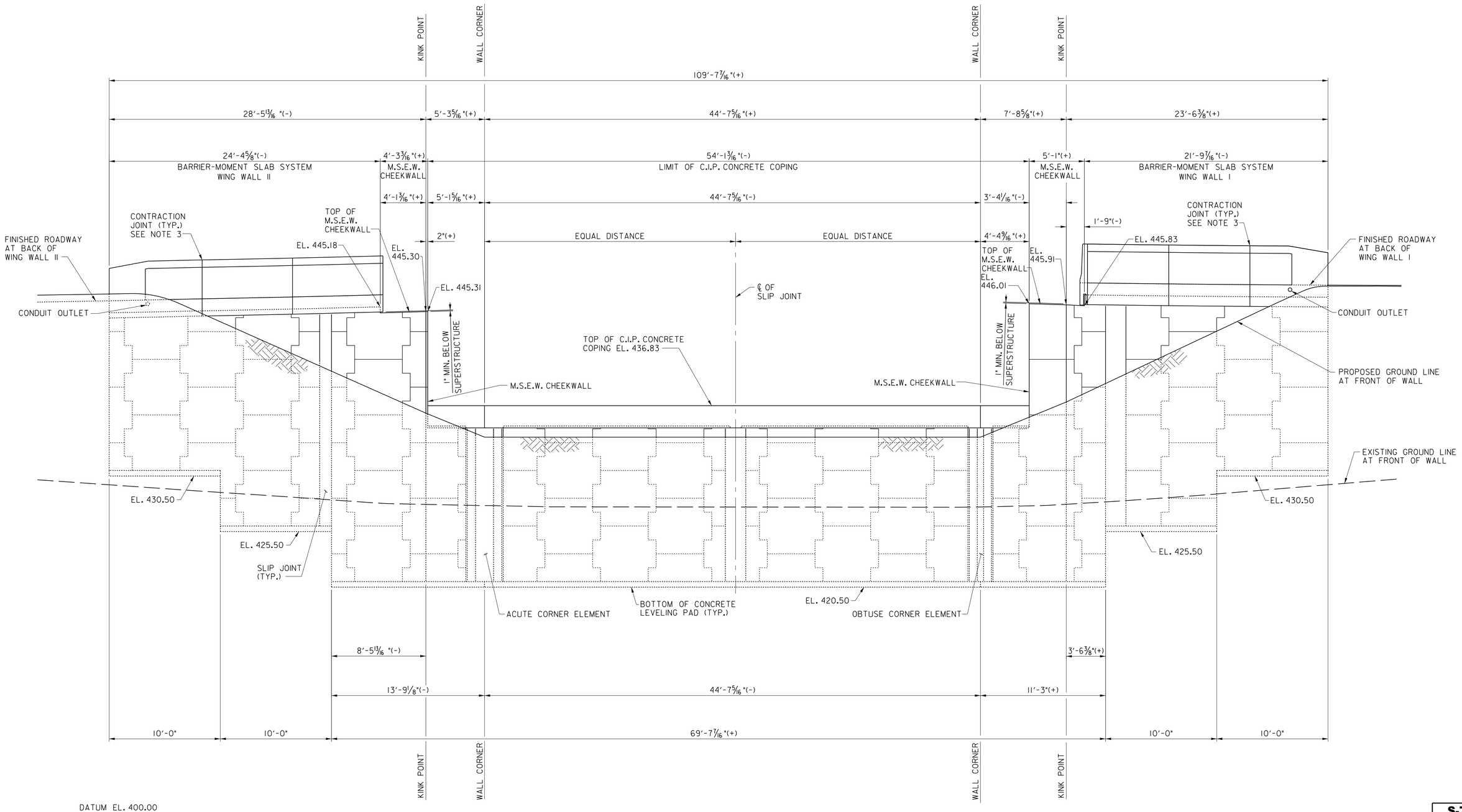
BRIDGE NO. F09-27

ABUTMENT A PLAN AND ELEVATION

DATE: OCTOBER 2022 SCALE: 3/16" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 127 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:11 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SBR-4802 MONROVIA-ENC.dgn



ABUTMENT A
M.S.E.W. ELEVATION
SCALE: 1/4" = 1'-0"

NOTES:

1. ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE FRONT FACE OF THE M.S.E.W., UNLESS NOTED OTHERWISE.
2. IF SLIP JOINTS ARE REQUIRED, SLIP JOINT LOCATIONS SHALL BE DETERMINED BY M.S.E.W. DESIGNER.
3. CONTRACTION JOINTS SHALL BE PLACED IN THE PARAPET ONLY AND SPACED AT A MAXIMUM SPACING OF 10'-0". SEE SHEET NO. S-26 FOR DETAIL OF CONTRACTION JOINTS.

CROSS REFERENCE NOTES

1. FOR CONTRACTION JOINT DETAIL, 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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · MATTHEW RICHARD BETTLER · REGISTERED · PROFESSIONAL ENGINEER
7/11/22

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

S-7

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

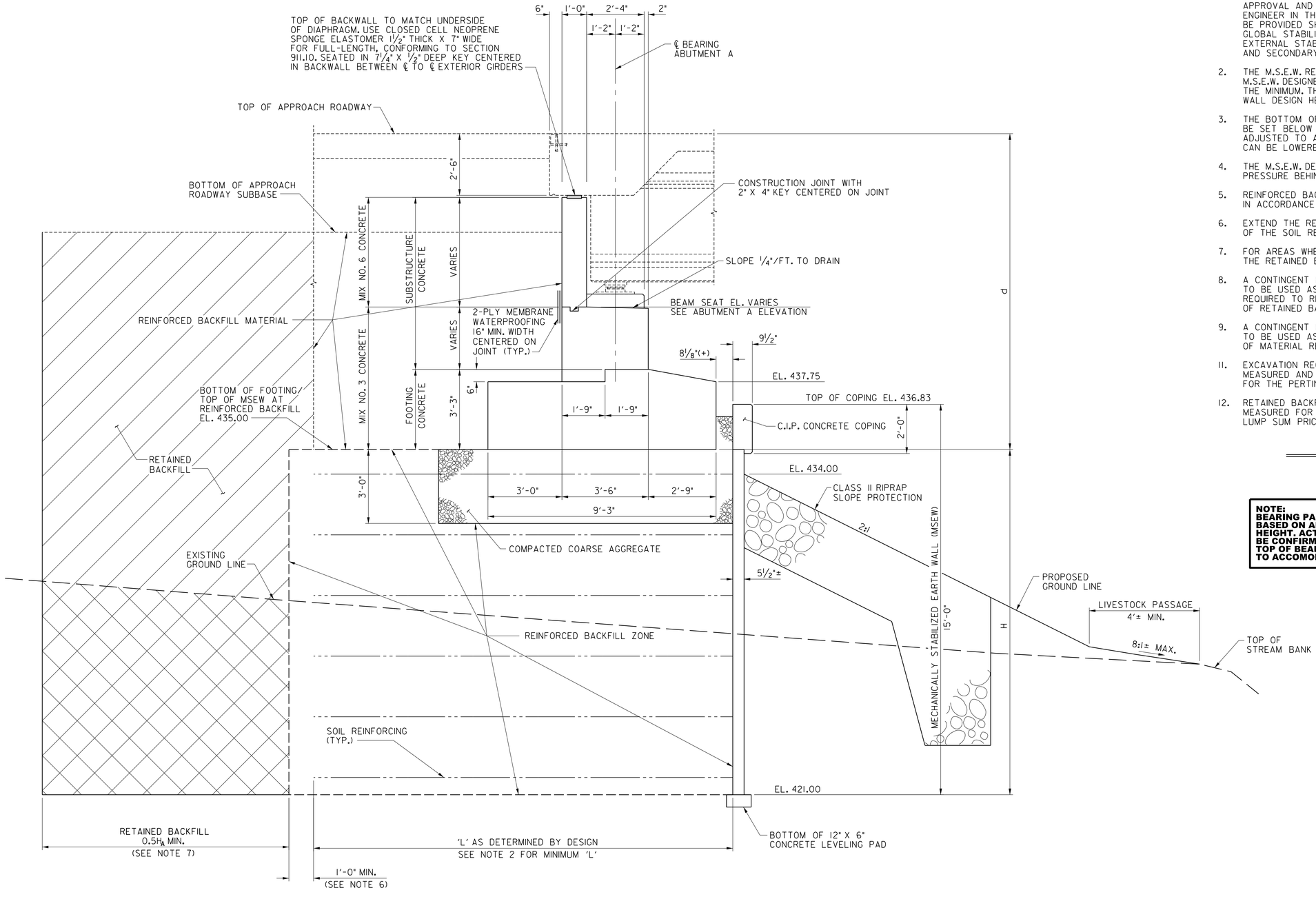
BRIDGE NO. F09-27

ABUTMENT A
M.S.E.W. ELEVATION

DATE: OCTOBER 2022 SCALE: 1/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 128 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:55 PM
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\BR-#803_MONROVIA-EWC.dgn



IN-SITU MATERIAL TO BE TESTED. IF IN-SITU MATERIAL DOES NOT MEET THE MINIMUM REQUIREMENTS OF "RETAINED BACKFILL MATERIAL" IN THE SPECIAL PROVISIONS, AREA TO BE EXCAVATED AND REPLACED WITH RETAINED BACKFILL MATERIAL MEETING THESE REQUIREMENTS.

SECTION A–A
ABUTMENT A – TYPICAL SECTION
SCALE: ½" = 1'-0"

NOTES:

1. THE CONTRACTOR SHALL SUBMIT DETAILS AND CALCULATIONS FOR THE SELECTED M.S.E.W. SYSTEM TO THE COUNTY AND THE ENGINEER FOR APPROVAL AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MARYLAND. THE DESIGN CALCULATIONS TO BE PROVIDED SHALL INCLUDE, BUT NOT LIMITED TO, CALCULATIONS FOR GLOBAL STABILITY, COMPOUND STABILITY, INTERNAL STABILITY AND EXTERNAL STABILITY ANALYSES, AND ANALYSIS OF TOTAL, DIFFERENTIAL, AND SECONDARY SETTLEMENTS.
2. THE M.S.E.W. REINFORCEMENT LENGTH , 'L', SHALL BE DETERMINED BY THE M.S.E.W. DESIGNER. THE REINFORCEMENT LENGTH SHALL NOT BE SHORTER THAN THE MINIMUM. THE MINIMUM SHALL BE 0.6(H + d) + 6.5 FT., WHERE THE WALL DESIGN HEIGHT IS H = (H + d).
3. THE BOTTOM OF THE CONCRETE LEVELING PAD, FOR THE ABUTMENTS, SHALL BE SET BELOW THE SCOUR DEPTH. THE CONCRETE LEVELING PAD MAY BE ADJUSTED TO ACCOMMODATE THE PANEL TYPE SELECTED. THE LEVELING PADS CAN BE LOWERED IN ELEVATION, BUT NOT RAISED.
4. THE M.S.E.W. DESIGNER SHALL PROVIDE A MEANS TO RELIEVE HYDROSTATIC PRESSURE BEHIND THE M.S.E.W.
5. REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
6. EXTEND THE REINFORCED BACKFILL ZONE 1'-0" MIN. BEYOND THE FREE END OF THE SOIL REINFORCING.
7. FOR AREAS WHERE THE WING WALL REINFORCED BACKFILL ZONE OVERLAPS THE RETAINED BACKFILL MATERIAL, USE REINFORCED BACKFILL MATERIAL.
8. A CONTINGENT PAY ITEM FOR "CLASS 3 EXCAVATION" HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER AND FOR ADDITIONAL EXCAVATION REQUIRED TO REMOVE IN-SITU MATERIAL NOT MEETING THE REQUIREMENTS OF RETAINED BACKFILL IN THE SPECIAL PROVISIONS.
9. A CONTINGENT PAY ITEM FOR "RETAINED BACKFILL" HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER AND FOR THE REPLACEMENT OF MATERIAL REMOVED.
11. EXCAVATION REQUIRED FOR THE REINFORCED BACKFILL ZONE SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR THE PERTINENT "CLASS 3 EXCAVATION" ITEM.
12. RETAINED BACKFILL MATERIAL, ABOVE THE EXISTING GROUND LINE, WILL NOT BE MEASURED FOR PAYMENT. THE COST SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM PRICE FOR THE "MECHANICALLY STABILITY EARTH WALL (M.S.E.W)" ITEM.

═══ DENOTES 2-PLY MEMBRANE WATERPROOFING 16" MIN. WIDTH CENTERED ON JOINT.

NOTE:
BEARING PAD ELEVATION SHOWN IS BASED ON AN ESTIMATED BEARING HEIGHT. ACTUAL BEARING HEIGHT TO BE CONFIRMED BY THE CONTRACTOR. TOP OF BEARING PAD SHALL BE MODIFIED TO ACCOMODATE BEARING PAD ASSEMBLY.

CROSS REFERENCE NOTES

1. FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. S-6.
2. FOR SECTION A-A - TYPICAL REINFORCING, SEE SHEET NO. S-10.
3. FOR DETAILS OF RIPRAP SLOPE PROTECTION, SEE SHEET NO. S-10.
4. FOR LIMITS OF REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL AT ABUTMENT A, SEE SHEET NO. S-28.
5. FOR ADDITIONAL FIXED JOINT DETAILS, SEE SHEET NO. S-35.
6. FOR ABUTMENT A DIAPHRAGM DETAILS, SEE SHEET NOS. S-37 THRU S-38.
7. FOR BEARING PAD DETAILS, SEE SHEET NO. S-47.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 11/4/22

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

S-8

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

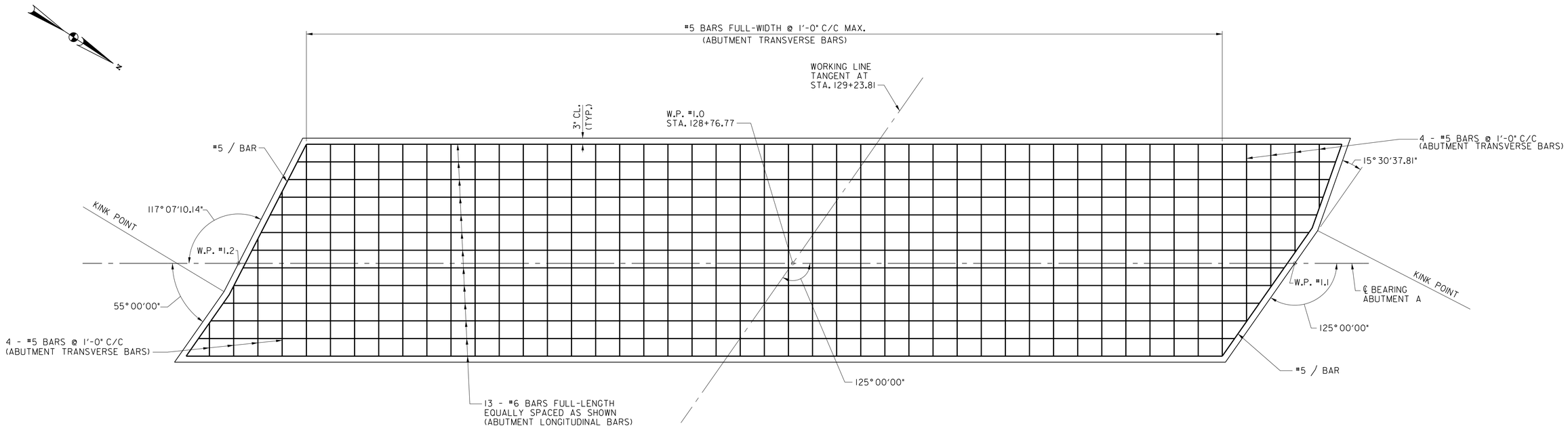
BRIDGE NO. F09-27

ABUTMENT A TYPICAL SECTION

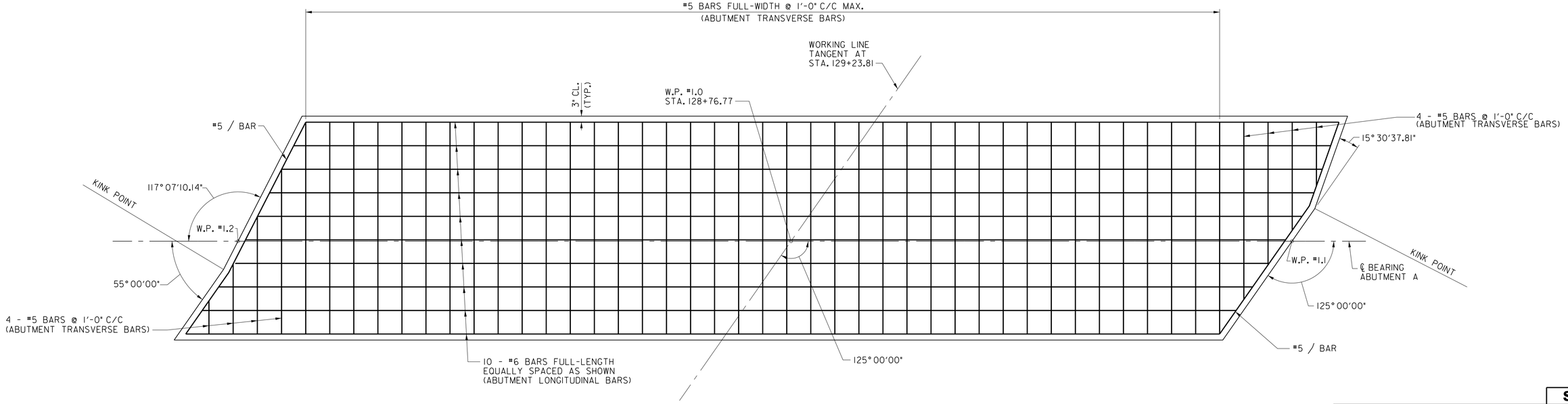
DATE: OCTOBER 2022 SCALE: 1/2" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 129 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:56 PM
FILE: I:\AST\Frederick County - Monrovia E-W Connector\Design Files\BR-4009_MONROVIA-EWC.dgn



TOP MAT



BOTTOM MAT

PLAN
ABUTMENT A FOOTING REINFORCING
SCALE: 1/2" = 1'-0"

CROSS REFERENCE NOTES

1. FOR GEOMETRIC LAYOUT, SEE SHEET NO. S-4.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · ELLEN RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER

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

S-9

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

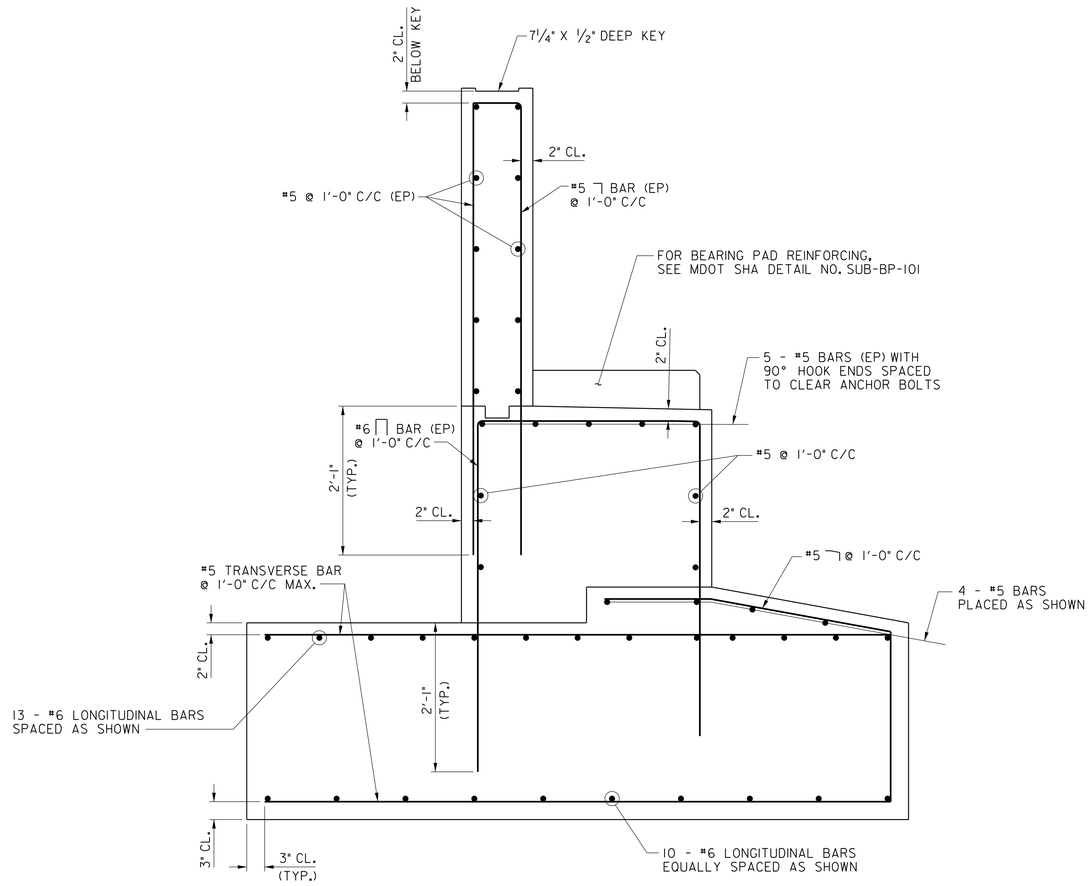
BRIDGE NO. F09-27

ABUTMENT A
FOOTING REINFORCEMENT

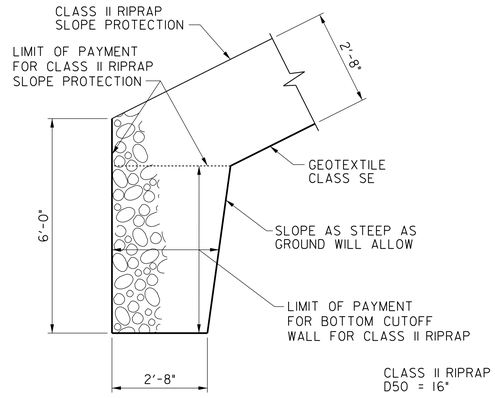
DATE: OCTOBER 2022 SCALE: 1/2"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 130 OF 226

By: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:57 PM
FILE LAY: Frederick County - Monrovia E-W Connector\Design Files\BR-F09_MONROVIA-ENG.dgn



SECTION A–A
ABUTMENT A – TYPICAL REINFORCING SECTION
SCALE: 1" = 1'-0"



BOTTOM CUTOFF WALL
SCALE: ½" = 1'-0"

CROSS REFERENCE NOTES

1. FOR ABUTMENT A - PLAN AND ELEVATION, SEE SHEET NO. S-6.
2. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE SHEET NO. S-11.
3. FOR BEARING PAD DETAILS, SEE SHEET NO. S-47.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 2022

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

S-10

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

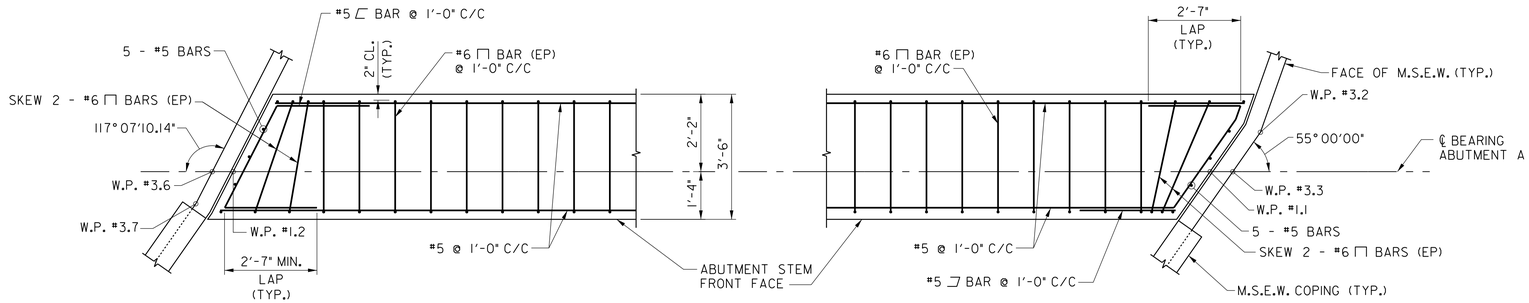
BRIDGE NO. F09-27

ABUTMENT A
TYPICAL REINFORCING SECTION

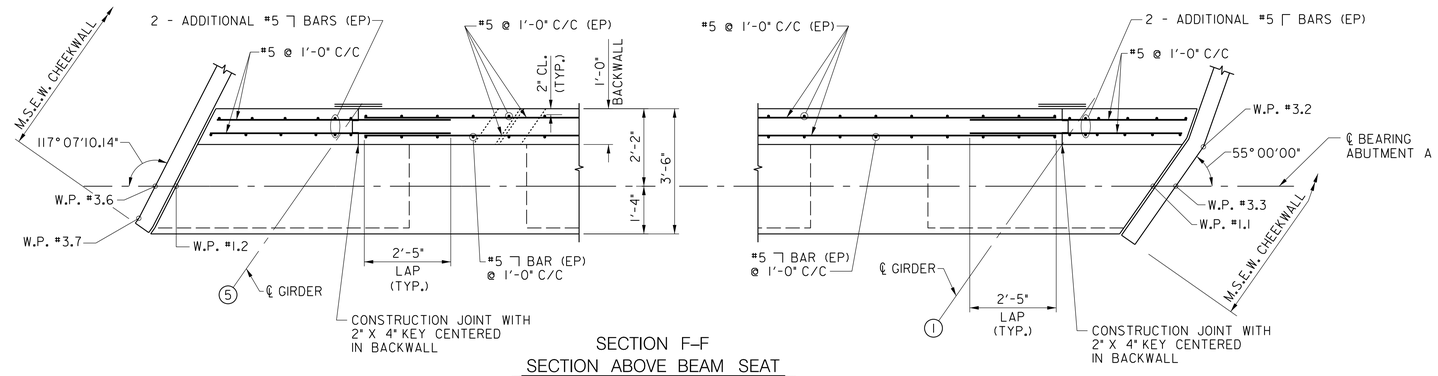
DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 131 OF 226

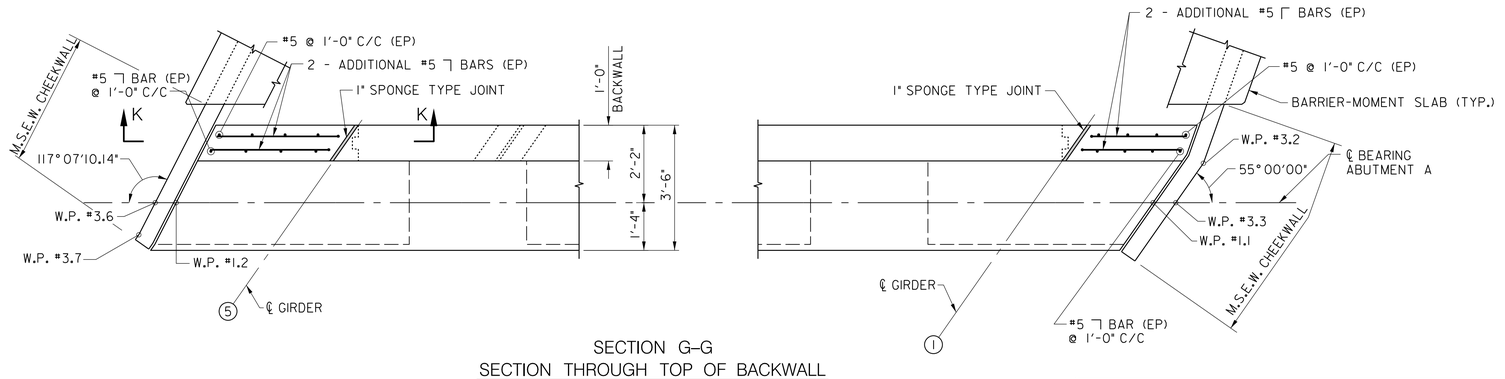
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 01:58 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SBR-ADD\ MONROVIA-EWC.dgn



SECTION E–E
SECTION BELOW BEAM SEAT
SCALE: ½" = 1'-0"



SECTION F–F
SECTION ABOVE BEAM SEAT
SCALE: ½" = 1'-0"



SECTION G–G
SECTION THROUGH TOP OF BACKWALL
SCALE: ½" = 1'-0"

NOTES:

1. SPONGE TYPE EXPANSION MATERIAL SHALL BE FASTENED TO CONCRETE ABUTMENT WITH COPPER NAILS.

═══ DENOTES 2-PLY WATERPROOFING MEMBRANE 16" MIN. WIDTH, CENTERED ON JOINT.

CROSS REFERENCE NOTES

1. FOR ADDITIONAL REINFORCEMENT DETAILS AT SECTION THROUGH TOP OF BACKWALL, SECTION K-K, SEE SHEET NO. S-19.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · ANDREW RICHARD BETTINI · REGISTERED PROFESSIONAL ENGINEER · 07/13/2022

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

S-11

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

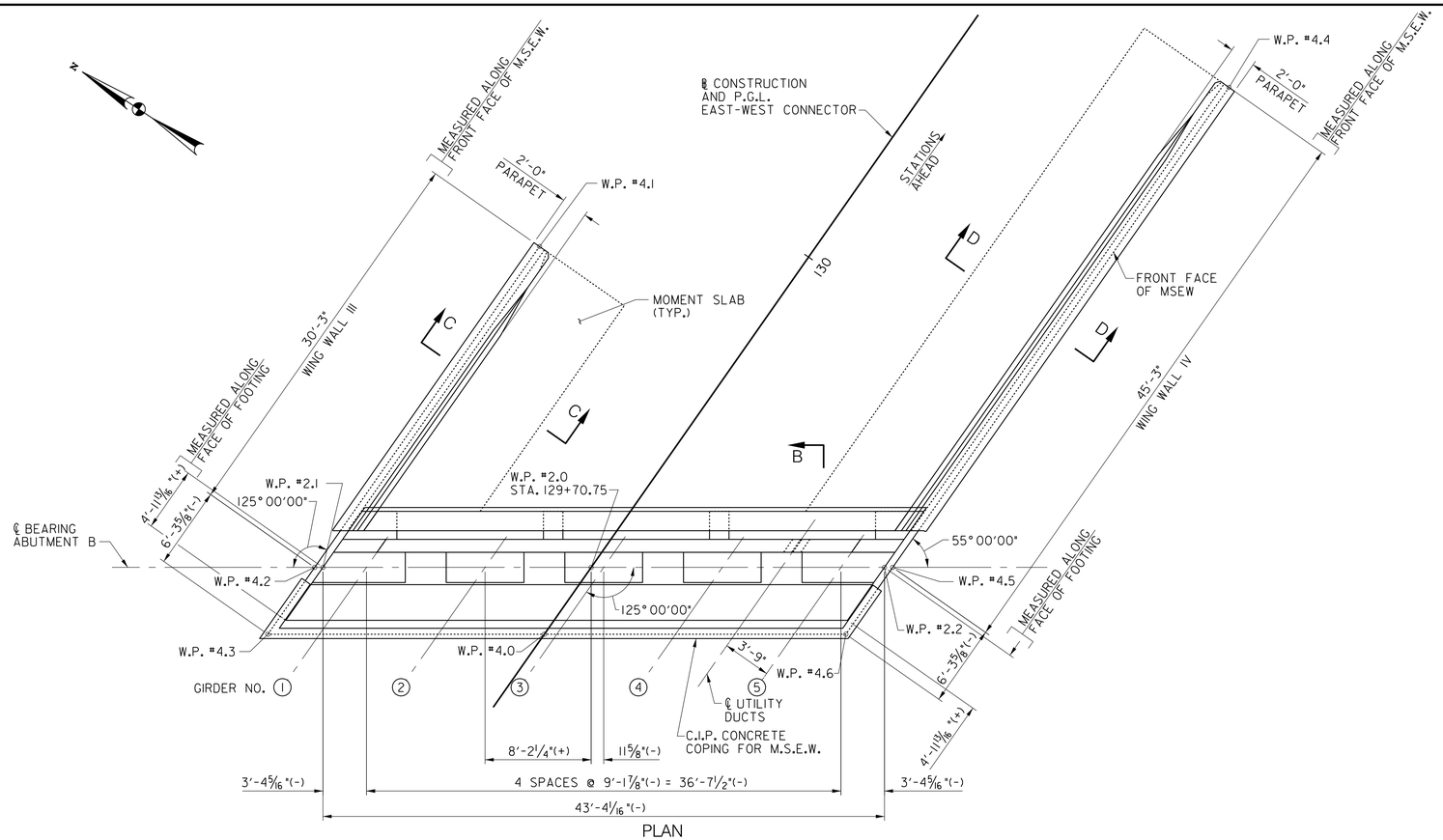
BRIDGE NO. F09-27

ABUTMENT A
REINFORCEMENT DETAILS

DATE: OCTOBER 2022 SCALE: 1/2"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 132 OF 226

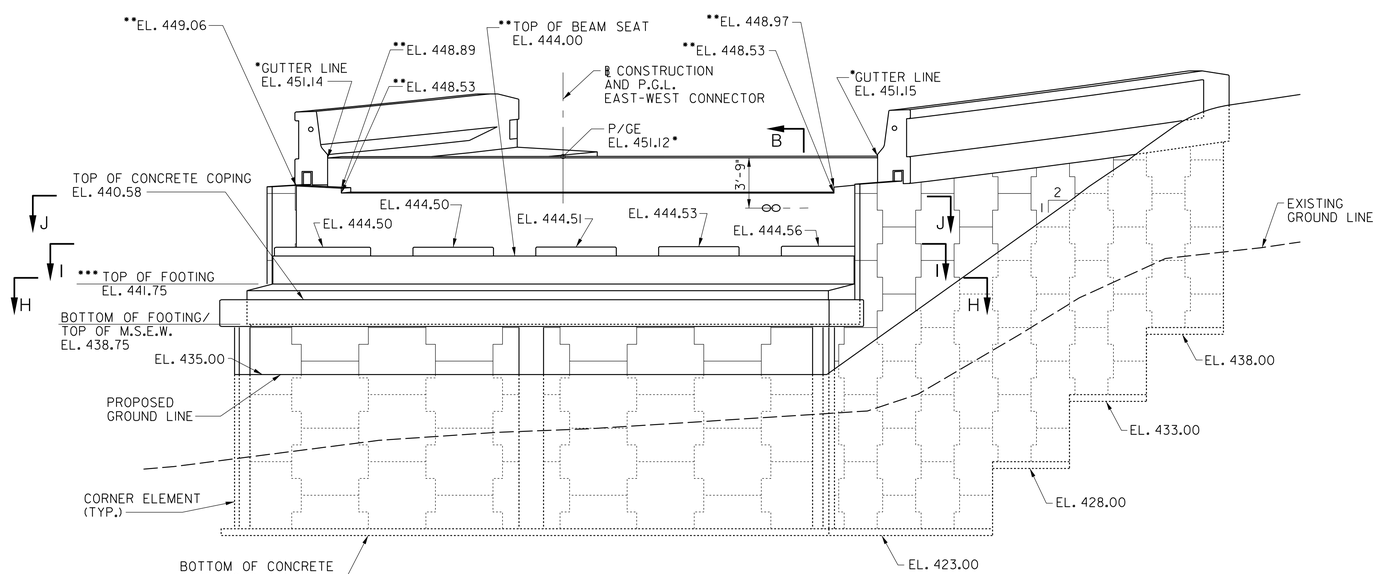
BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:13 AM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\eBR-4003_MONROVIA-EWC.dgn



PLAN
ABUTMENT B
SCALE: 3/16" = 1'-0"

B

NOTE:
BEARING PAD ELEVATION SHOWN IS BASED ON AN ESTIMATED BEARING HEIGHT. ACTUAL BEARING HEIGHT TO BE CONFIRMED BY THE CONTRACTOR. TOP OF BEARING PAD SHALL BE MODIFIED TO ACCOMODATE BEARING PAD ASSEMBLY.



B

DATUM EL. 415.00

ELEVATION
ABUTMENT B
SCALE: 3/16" = 1'-0"

NOTES:

• ELEVATIONS SHOWN TAKEN AT END OF DECK AT JOINT.

•• ELEVATIONS SHOWN TAKEN AT FRONT FACE OF BACKWALL.

••• ELEVATION SHOWN TAKEN AT FRONT FACE OF ABUTMENT STEM.

M.S.E.W. = MECHANICALLY STABILIZED EARTH WALL

CROSS REFERENCE NOTES

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S-1.
2. FOR GEOMETRIC LAYOUT, SEE SHEET NO. S-5.
3. FOR ABUTMENT B TYPICAL SECTION B-B, SEE SHEET NO. S-15.
4. FOR SECTIONS H-H AND I-I, SEE SHEET NO. S-18.
5. FOR SECTION J-J, SEE SHEET NO. S-19.
6. FOR WING WALL TYPICAL SECTIONS C-C AND D-D, SEE SHEET NO. S-22.
7. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE SHEET NO. S-30.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · STEVEN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 7/14/22

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

S-12

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

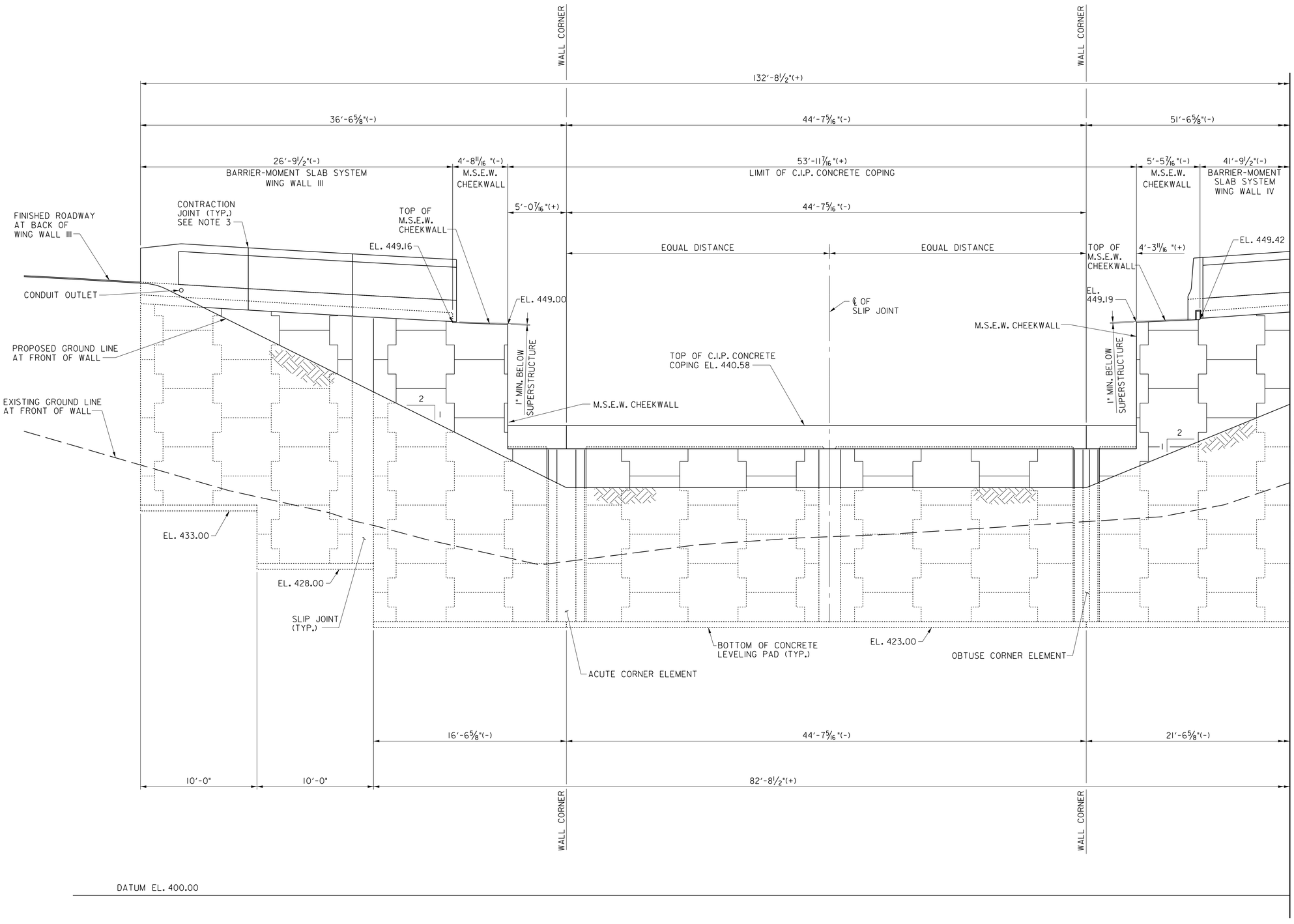
BRIDGE NO. F09-27

ABUTMENT B PLAN AND ELEVATION

DATE: OCTOBER 2022 SCALE: 3/16" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 133 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:25 AM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SBR-ABD_MONROVIA-E-W.dgn



ABUTMENT B
M.S.E.W. ELEVATION
SCALE: ¼" = 1'-0"

NOTES:

1. ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE FRONT FACE OF THE M.S.E.W., UNLESS NOTED OTHERWISE.
2. IF SLIP JOINTS ARE REQUIRED, SLIP JOINT LOCATIONS SHALL BE DETERMINED BY M.S.E.W. DESIGNER.
3. CONTRACTION JOINTS SHALL BE PLACED IN THE PARAPET ONLY AND SPACED AT A MAXIMUM SPACING OF 10'-0". SEE SHEET NO. S-26 FOR DETAIL OF CONTRACTION JOINTS.

CROSS REFERENCE NOTES

1. FOR CONTRACTION JOINT DETAIL, 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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JEFFREY RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 7/14/22

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

S-13

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

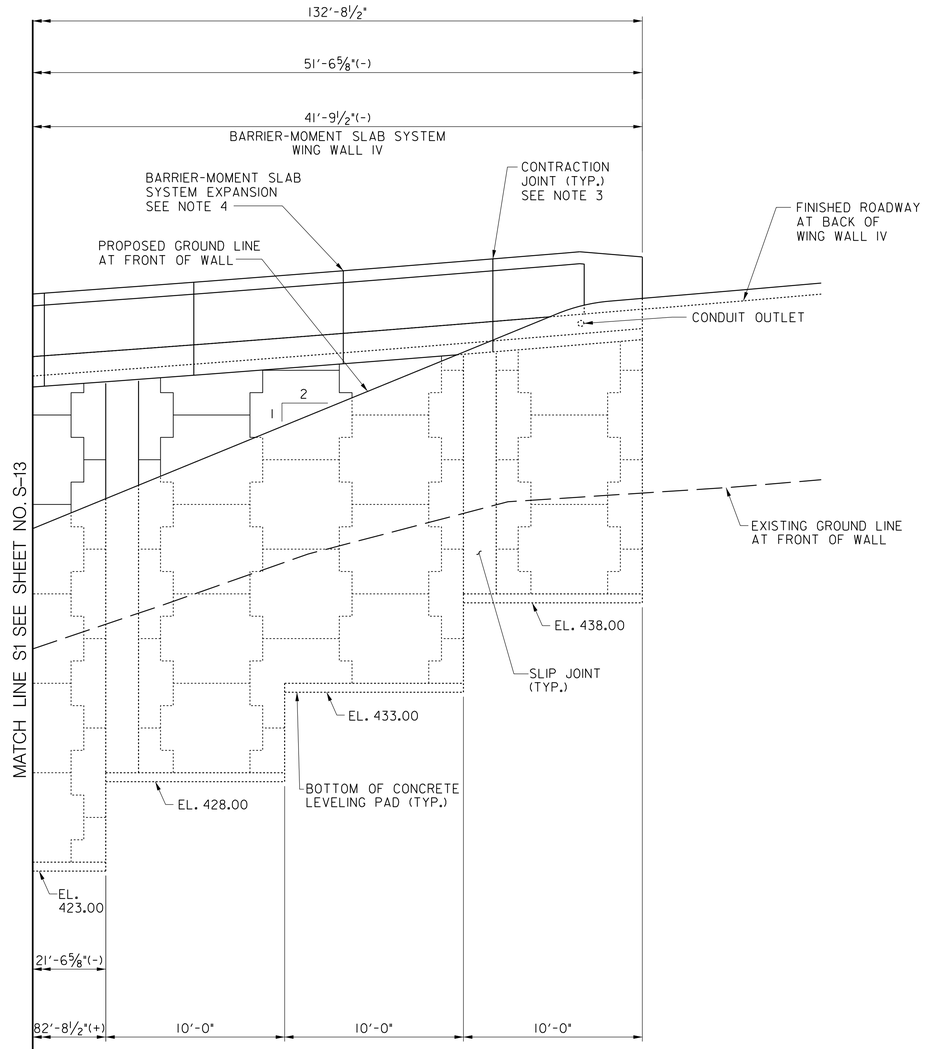
BRIDGE NO. F09-27

ABUTMENT B
M.S.E.W. ELEVATION

DATE: OCTOBER 2022 SCALE: 1/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 134 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:00 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\DBR-ABB4.MONROVIA-EWC.dgn



ABUTMENT B
M.S.E.W. ELEVATION
SCALE: 1/4" = 1'-0"

NOTES:

1. ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE FRONT FACE OF THE M.S.E.W., UNLESS NOTED OTHERWISE.
2. IF SLIP JOINTS ARE REQUIRED, SLIP JOINT LOCATIONS SHALL BE DETERMINED BY M.S.E.W. DESIGNER.
3. CONTRACTION JOINTS SHALL BE PLACED IN THE PARAPET ONLY AND SPACED AT A MAXIMUM SPACING OF 10'-0". SEE SHEET NO. S-26 FOR DETAIL OF CONTRACTION JOINTS.
4. EXPANSION JOINT IN WING WALL IV BARRIER-MOMENT SLAB SYSTEM SHALL BE PLACED AT APPROXIMATELY EQUAL DISTANCE. MINIMUM DISTANCE BETWEEN END OF BARRIER-MOMENT SLAB SYSTEM AND EXPANSION JOINT SHALL BE 20'-0" IN BOTH DIRECTIONS.

CROSS REFERENCE NOTES

1. FOR CONTRACTION AND EXPANSION JOINT DETAIL, 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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · STEVEN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 9/14/22

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

S-14

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

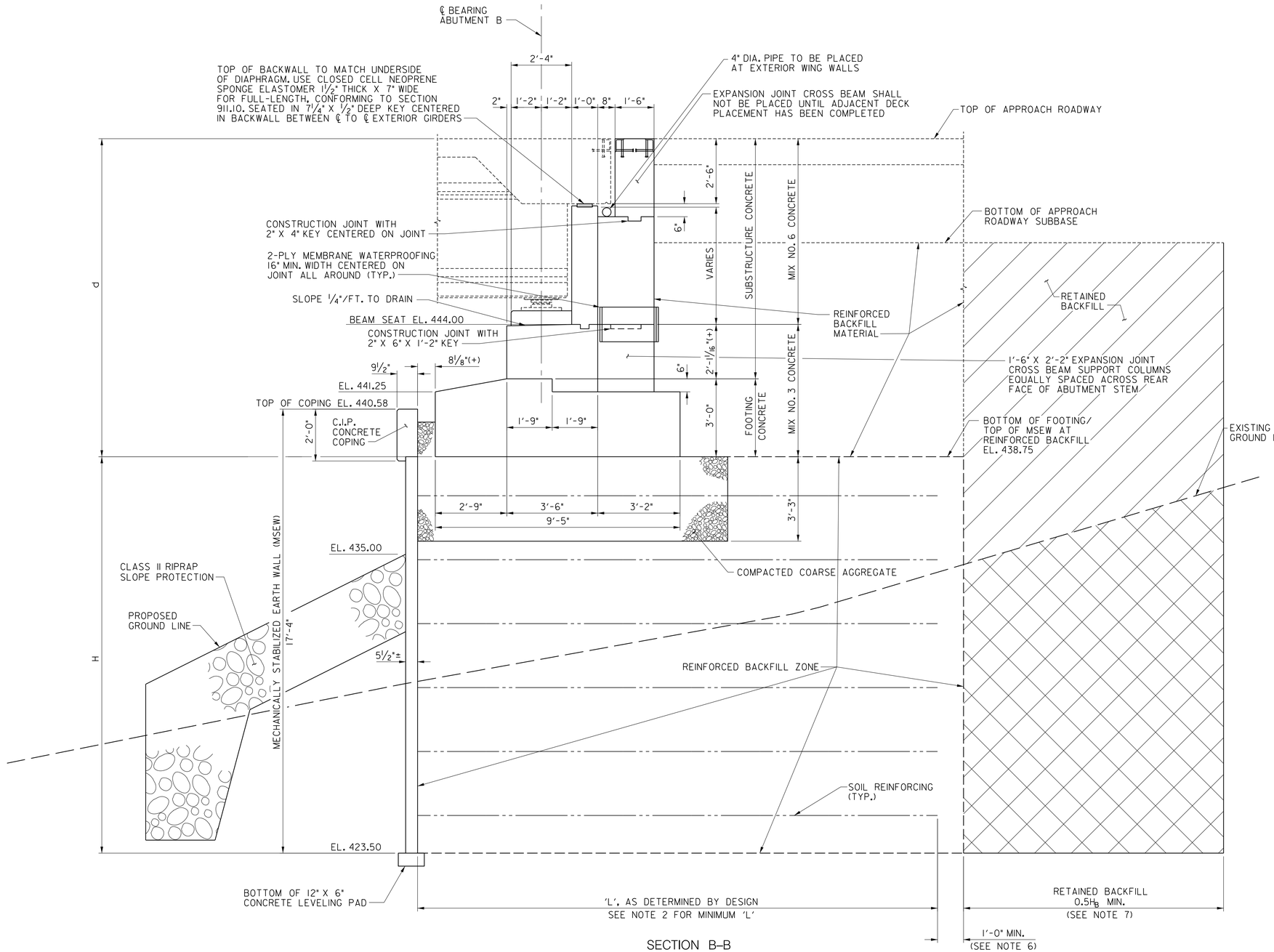
BRIDGE NO. F09-27

ABUTMENT B
M.S.E.W. ELEVATION

DATE: OCTOBER 2022 SCALE: 1/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 135 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:01 PM
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\GBR-ABDS_MONROVIA-EWC.dgn



SECTION B–B
ABUTMENT B – TYPICAL SECTION
SCALE: ½" = 1'-0"

NOTES:

1. THE CONTRACTOR SHALL SUBMIT DETAILS AND CALCULATIONS FOR THE SELECTED M.S.E.W. SYSTEM TO THE COUNTY AND THE ENGINEER FOR APPROVAL AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE DESIGN CALCULATIONS TO BE PROVIDED SHALL INCLUDE, BUT NOT LIMITED TO, CALCULATIONS FOR GLOBAL STABILITY, COMPOUND STABILITY, INTERNAL STABILITY AND EXTERNAL STABILITY ANALYSES, AND ANALYSIS OF TOTAL, DIFFERENTIAL, AND SECONDARY SETTLEMENTS.
2. THE M.S.E.W. REINFORCEMENT LENGTH, 'L' SHALL BE DETERMINED BY THE M.S.E.W. DESIGNER. THE REINFORCEMENT LENGTH SHALL NOT BE SHORTER THAN THE MINIMUM. THE MINIMUM SHALL BE 0.6(H + d) + 6.5 FT., WHERE THE WALL DESIGN HEIGHT IS H_B = (H + d).
3. THE BOTTOM OF THE CONCRETE LEVELING PAD, FOR THE ABUTMENTS, SHALL BE SET BELOW THE SCOUR DEPTH. THE CONCRETE LEVELING PAD MAY BE ADJUSTED TO ACCOMMODATE THE PANEL TYPE SELECTED. THE LEVELING PADS CAN BE LOWERED IN ELEVATION, BUT NOT RAISED.
4. THE M.S.E.W. DESIGNER SHALL PROVIDE A MEANS TO RELIEVE HYDROSTATIC PRESSURE BEHIND THE M.S.E.W.
5. REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
6. EXTEND THE REINFORCED BACKFILL ZONE 1'-0" MIN. BEYOND THE FREE END OF THE SOIL REINFORCING.
7. FOR AREAS WHERE THE WING WALL REINFORCED BACKFILL ZONE OVERLAPS THE RETAINED BACKFILL MATERIAL, USE REINFORCED BACKFILL MATERIAL.
8. A CONTINGENT PAY ITEM FOR "CLASS 3 EXCAVATION" HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER AND FOR ADDITIONAL EXCAVATION REQUIRED TO REMOVE IN-SITU MATERIAL NOT MEETING THE REQUIREMENTS OF RETAINED BACKFILL IN THE SPECIAL PROVISIONS.
9. A CONTINGENT PAY ITEM FOR "RETAINED BACKFILL" HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER AND FOR THE REPLACEMENT OF MATERIAL REMOVED.
10. EXCAVATION REQUIRED FOR THE REINFORCED BACKFILL ZONE SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR THE PERTINENT "CLASS 3 EXCAVATION" ITEM.
11. RETAINED BACKFILL MATERIAL, ABOVE THE EXISTING GROUND LINE, WILL NOT BE MEASURED FOR PAYMENT. THE COST SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM PRICE FOR THE "MECHANICALLY STABILITY EARTH WALL (M.S.E.W)" ITEM.

═══ DENOTES 2-PLY MEMBRANE WATERPROOFING 16" MIN. WIDTH CENTERED ON JOINT.

NOTE:
BEARING PAD ELEVATION SHOWN IS BASED ON AN ESTIMATED BEARING HEIGHT. ACTUAL BEARING HEIGHT TO BE CONFIRMED BY THE CONTRACTOR. TOP OF BEARING PAD SHALL BE MODIFIED TO ACCOMODATE BEARING PAD ASSEMBLY.

CROSS REFERENCE NOTES

1. FOR DETAILS OF RIPRAP SLOPE PROTECTION, SEE SHEET NO. S-10.
2. FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. S-12.
3. FOR SECTION B-B - TYPICAL REINFORCING, SEE SHEET NO. S-17.
4. FOR LIMITS OF THE REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL AT ABUTMENT B, SEE SHEET NO. S-29.
5. FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE SHEET NO. S-35.
6. FOR ABUTMENT B DIAPHRAGM DETAILS, SEE SHEET NOS. S-37 THRU S-38.
7. FOR BEARING PAD DETAILS, SEE SHEET NO. S-47.

IN-SITU MATERIAL TO BE TESTED. IF IN-SITU MATERIAL DOES NOT MEET THE MINIMUM REQUIREMENTS OF "RETAINED BACKFILL MATERIAL" IN THE SPECIAL PROVISIONS, AREA TO BE EXCAVATED AND REPLACED WITH RETAINED BACKFILL MATERIAL MEETING THESE REQUIREMENTS.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JEFFREY RICHARD DEITZ · 16558 · REGISTERED PROFESSIONAL ENGINEER · 9/7/22

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

S-15

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

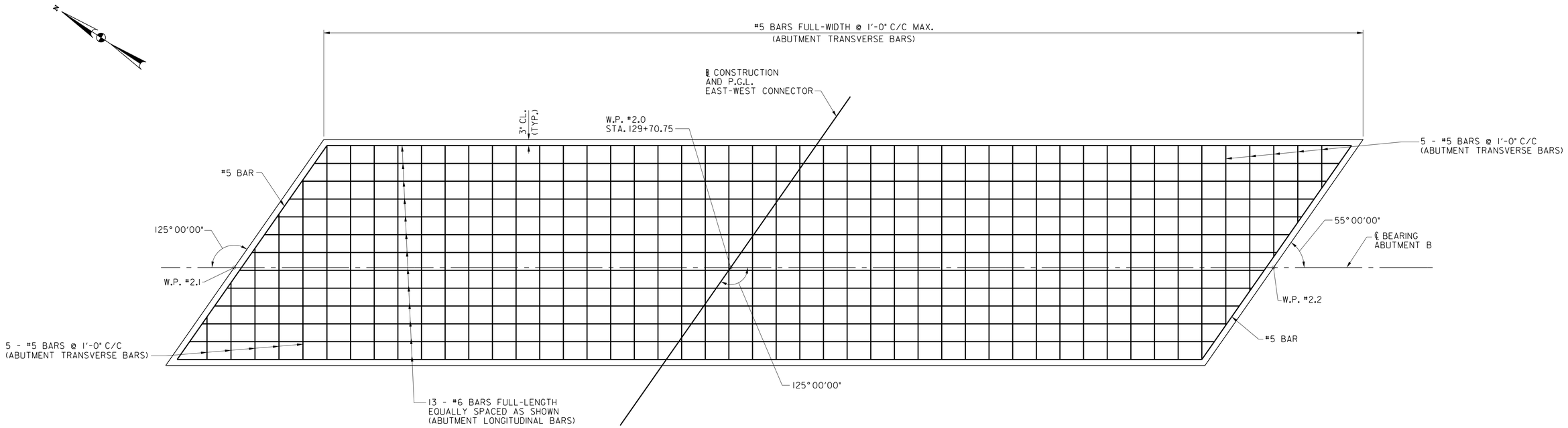
BRIDGE NO. F09-27

ABUTMENT B TYPICAL SECTION

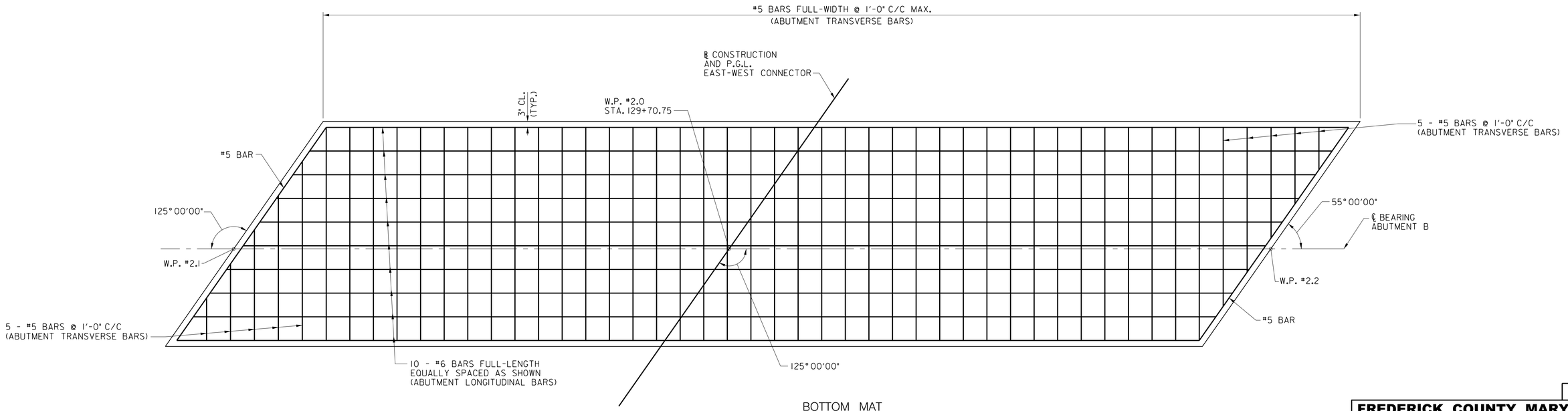
DATE: OCTOBER 2022 SCALE: 1/2" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 136 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:03 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\BR-A002_MONROVIA-EWC.dgn



TOP MAT



BOTTOM MAT

PLAN
ABUTMENT B FOOTING REINFORCING
SCALE: 1/2" = 1'-0"

CROSS REFERENCE NOTES

1. FOR GEOMETRIC LAYOUT, SEE SHEET NO. S-4.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · MARK RICHARD BETTS · REGISTERED PROFESSIONAL ENGINEER · 7/14/22

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

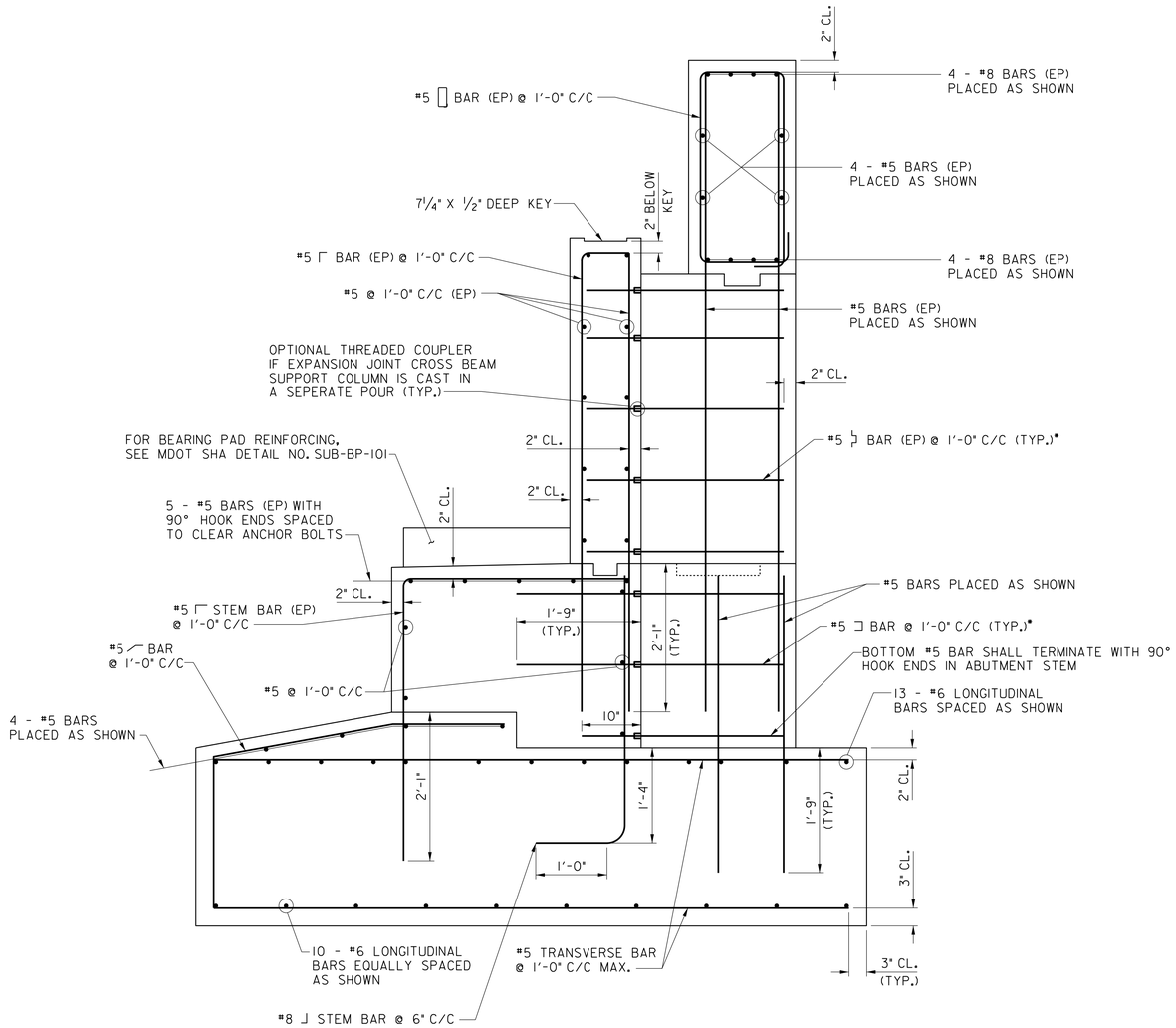
BRIDGE NO. F09-27

ABUTMENT B
FOOTING REINFORCEMENT

DATE: OCTOBER 2022 SCALE: 1/2"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 137 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:07 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\dBR-R002_MONROVIA-EW.dgn



SECTION B-B
ABUTMENT B – TYPICAL REINFORCING SECTION
SCALE: 1" = 1'-0"

NOTES:

1. AT THE CONTRACTOR'S OPTION, THE EXPANSION JOINT CROSS BEAM SUPPORT COLUMN MAY BE CAST MONOLITHICALLY WITH THE ABUTMENT STEM AND BACKWALL OR CAST IN SEPERATE POURS. VERTICAL CONSTRUCTION JOINTS, THREADED COUPLERS AND THREADED BARS WILL ONLY BE NECESSARY IF THEY ARE CAST IN SEPERATE POURS. HOWEVER, NO ADDITIONAL COMPENSATION TO THE CONTRACTOR WILL BE ALLOWED FOR WHICHEVER ALTERNATIVE IS SELECTED.

*USE STRAIGHT THREADED BARS LAPPED TO A ⊏ BAR IF THREADED COUPLERS ARE USED.

CROSS REFERENCE NOTES

1. FOR ABUTMENT B - PLAN AND ELEVATION, SEE SHEET NO. S-12.
2. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE SHEET NOS. S-18 THRU S-19.
3. FOR BEARING PAD DETAILS, SEE SHEET NO. S-47.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · MATTHEW RICHARD GETTEN · REGISTERED PROFESSIONAL ENGINEER · 11/14/22

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

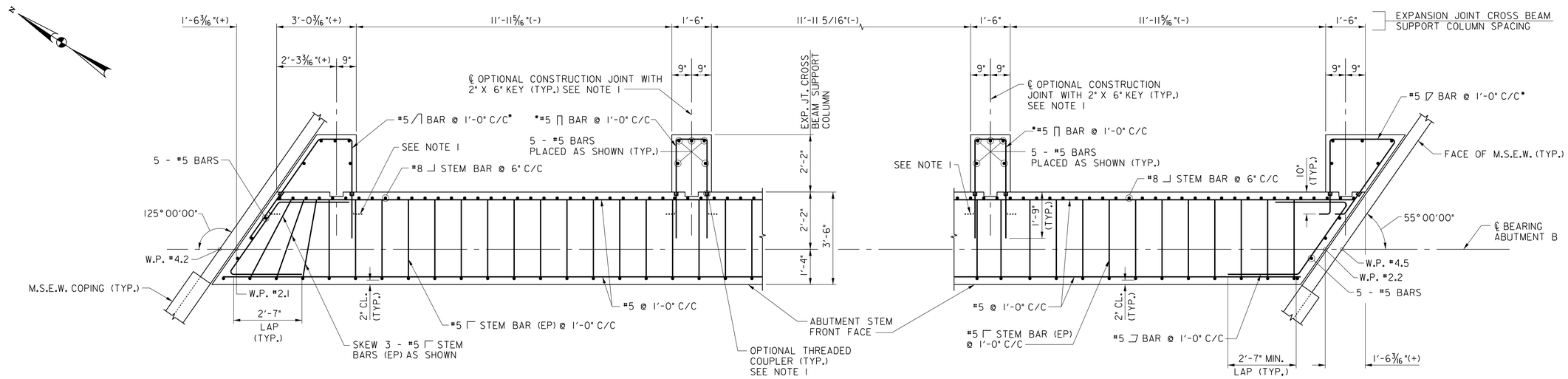
BRIDGE NO. F09-27

ABUTMENT B
TYPICAL REINFORCING SECTION

DATE: OCTOBER 2022 SCALE: 1" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 138 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:07 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\BR-A004_MONROVIA-EWC.dgn



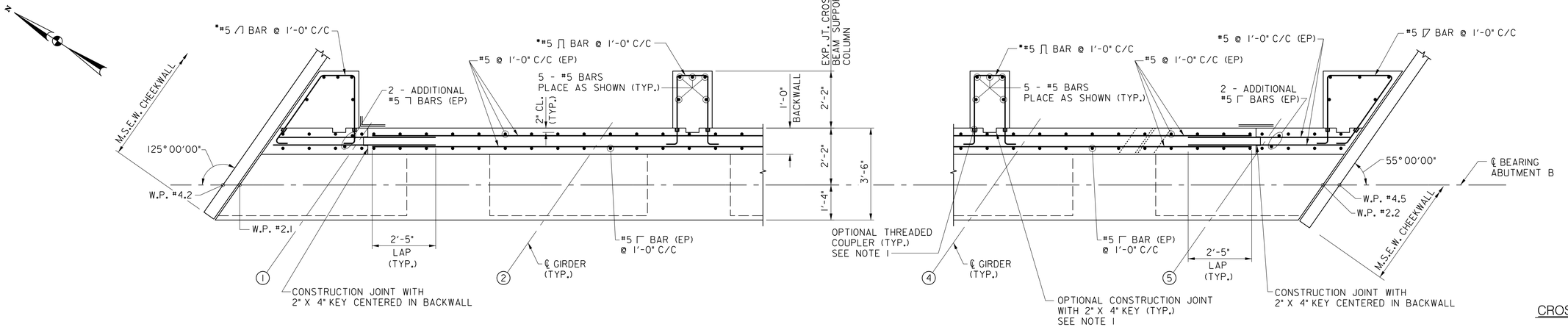
NOTES:

1. AT THE CONTRACTOR'S OPTION, THE EXPANSION JOINT CROSS BEAM SUPPORT COLUMN MAY BE CAST MONOLITHICALLY WITH THE ABUTMENT STEM AND BACKWALL OR CAST IN SEPERATE POURS. VERTICAL CONSTRUCTION JOINTS, THREADED COUPLERS AND THREADED BARS WILL ONLY BE NECESSARY IF THEY ARE CAST IN SEPERATE POURS. HOWEVER, NO ADDITIONAL COMPENSATION TO THE CONTRACTOR WILL BE ALLOWED FOR WHICHEVER ALTERNATIVE IS SELECTED.

*USE STRAIGHT THREADED BARS LAPPED TO A ⊏ BAR IF THREADED COUPLES ARE USED.

═══ DENOTES 2-PLY WATERPROOFING MEMBRANE 16" MIN. WIDTH CENTERED ON JOINT.

SECTION H–H
SECTION BELOW BEAM SEAT
SCALE: 1/2" = 1'-0"



SECTION I–I
SECTION ABOVE BEAM SEAT
BELOW EXPANSION JOINT CROSS BEAM
SCALE: 1/2" = 1'-0"

CROSS REFERENCE NOTES

1. FOR ADDITIONAL REINFORCEMENT DETAILS AT SECTION THROUGH TOP OF BACKWALL, SEE SHEET NO. S-19.

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:28 AM
FILE LOC: Frederick County - Monrovia E-W Connector\Design Files\BR-4005_MONROVIA-EWC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER · 16558

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

S-18

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

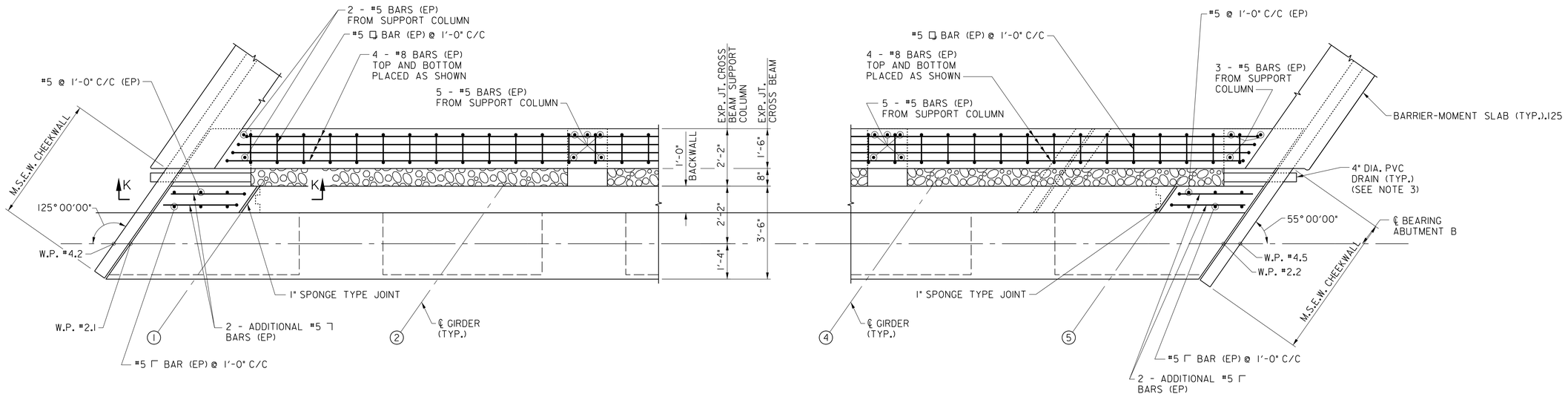
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

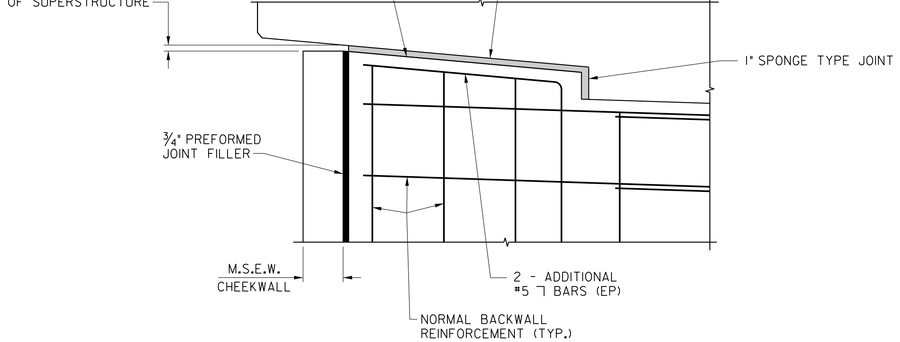
ABUTMENT B
REINFORCEMENT DETAILS

DATE: OCTOBER 2022 SCALE: 1/2"=1'-0"

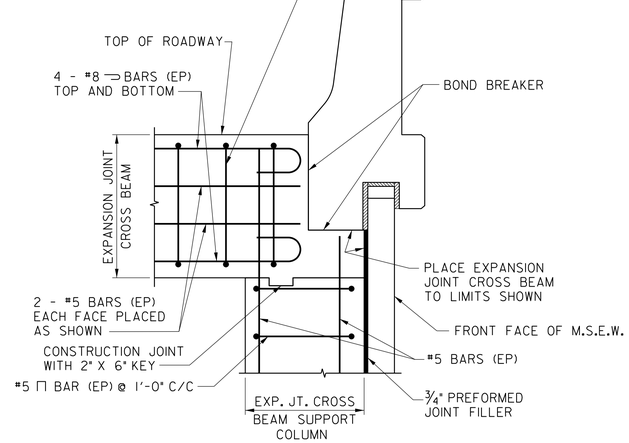
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 139 OF 226



SECTION J–J
SECTION ABOVE BEAM SEAT
THROUGH EXPANSION JOINT CROSS BEAM
SCALE: 1/2" = 1'-0"



SECTION K–K
SCALE: 1" = 1'-0"



DETAIL
EXPANSION JOINT CROSS BEAM
AT PARAPET ON M.S.E.W.
SCALE: 3/4" = 1'-0"

NOTES:

1. SPONGE TYPE EXPANSION MATERIAL SHALL BE FASTENED TO CONCRETE ABUTMENT WITH COPPER NAILS.
2. 3/4" PREFORMED JOINT FILLER TO BE FASTENED TO CONCRETE ABUTMENT WITH COPPER NAILS.
3. 4" DIA. PVC PIPE TO BE PLACED ABOVE SUPPORT COLUMN.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · STEVEN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 9/14/22

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

S-19

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

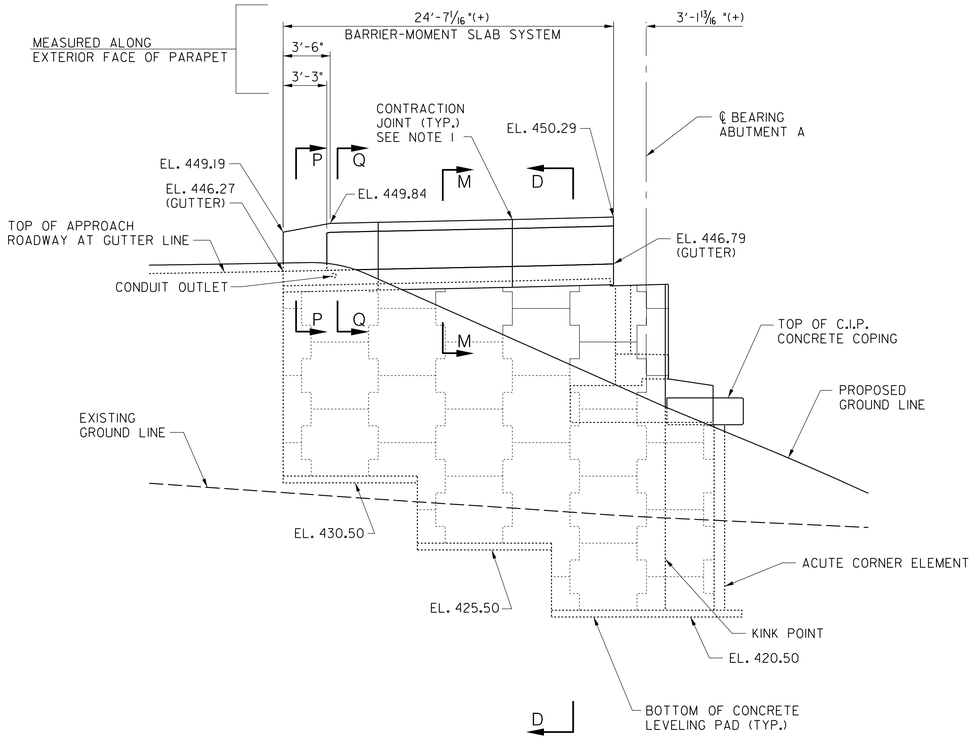
BRIDGE NO. F09-27

ABUTMENT B
REINFORCEMENT DETAILS

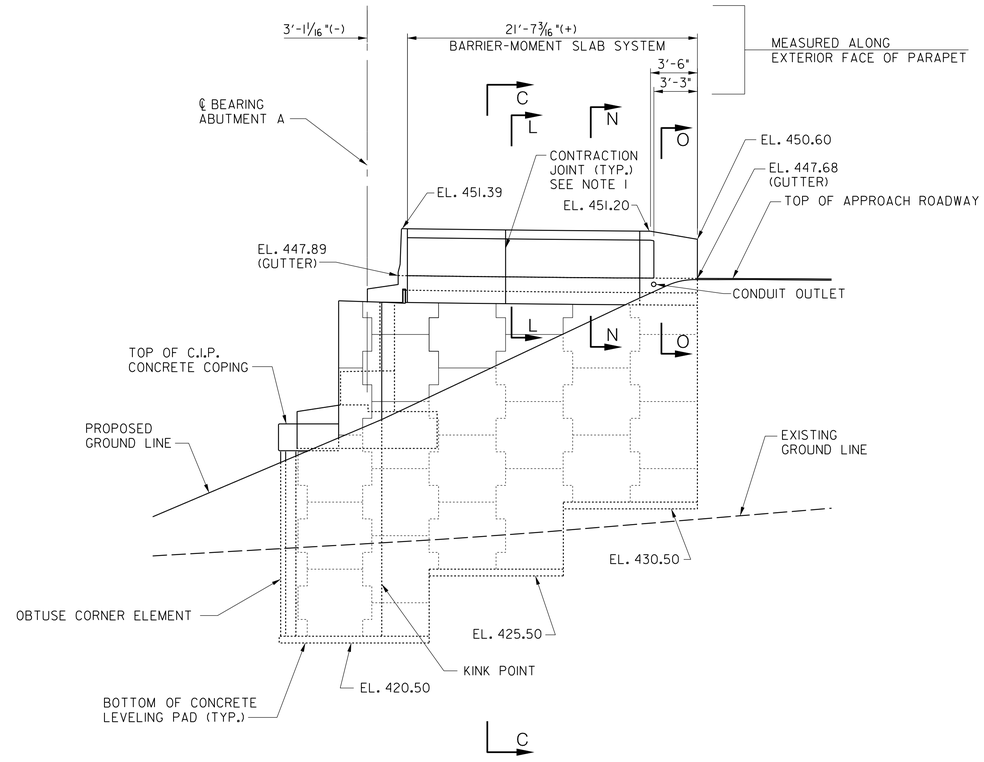
DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 140 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:31 AM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\sBR-ABDS-MONROVIA-EW1.dgn



ELEVATION
WING WALL II
SCALE: 3/16" = 1'-0"



ELEVATION
WING WALL I
SCALE: 3/16" = 1'-0"

NOTES:

M.S.E.W. = MECHANICALLY STABILIZED EARTH WALL

1. CONTRACTION JOINTS SHALL BE PLACED IN THE PARAPET ONLY AND SPACED AT A MAXIMUM SPACING OF 10'-0". SEE SHEET NO. S-25 FOR DETAIL OF CONTRACTION JOINTS.
2. NO EXPANSION JOINTS SHALL BE PLACED IN WING WALLS I AND II BARRIER-MOMENT SLAB SYSTEM.

CROSS REFERENCE NOTES

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S-1.
2. FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. S-6.
3. FOR ABUTMENT A - M.S.E.W. ELEVATION, SEE SHEET NO. S-7.
4. FOR WING WALL TYPICAL SECTIONS C-C AND D-D, SEE SHEET NO. S-22.
5. FOR BARRIER-MOMENT SLAB SYSTEM TYPICAL SECTIONS L-L AND M-M, SEE SHEET NO. S-23 AND S-24.
6. FOR ADDITIONAL BARRIER-MOMENT SLAB SYSTEM DETAILS, SEE SHEET NOS. S-25 THRU S-26.
7. FOR CONDUIT DETAILS, SEE SHEET NO. S-27.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER · 11/4/22

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 MANAGMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

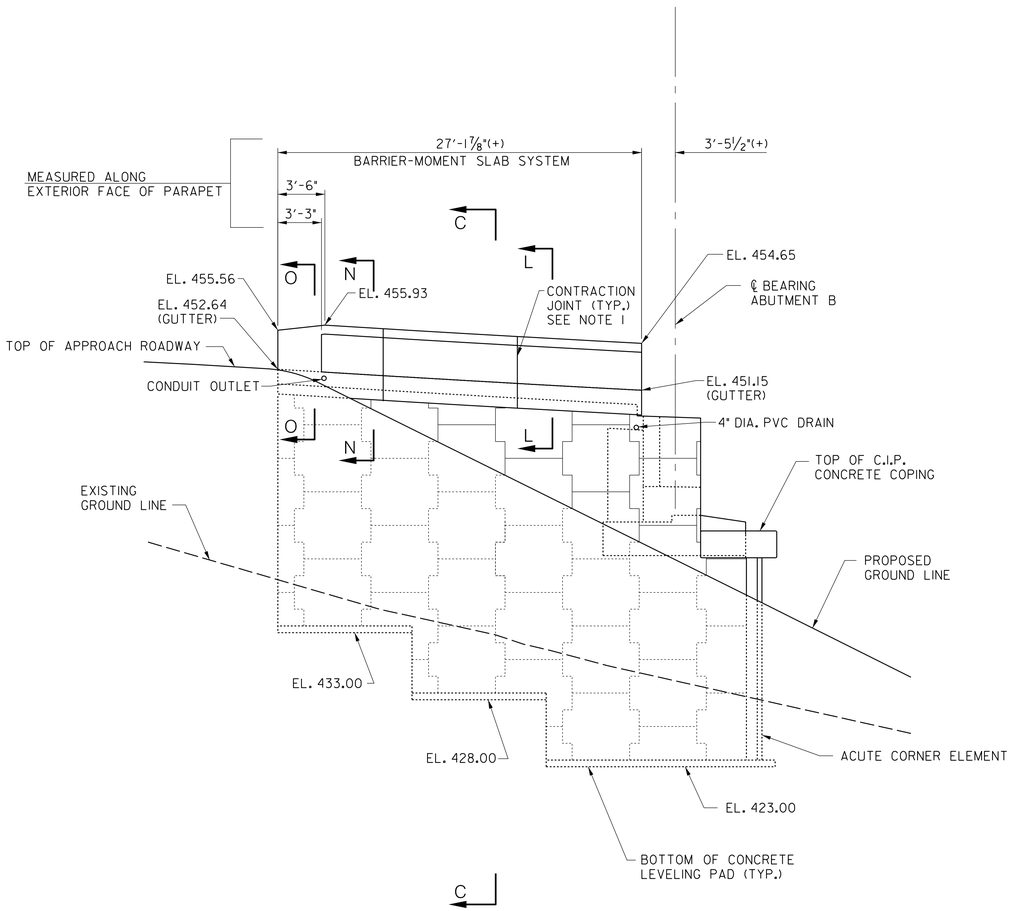
BRIDGE NO. F09-27

WING WALL I AND II ELEVATIONS

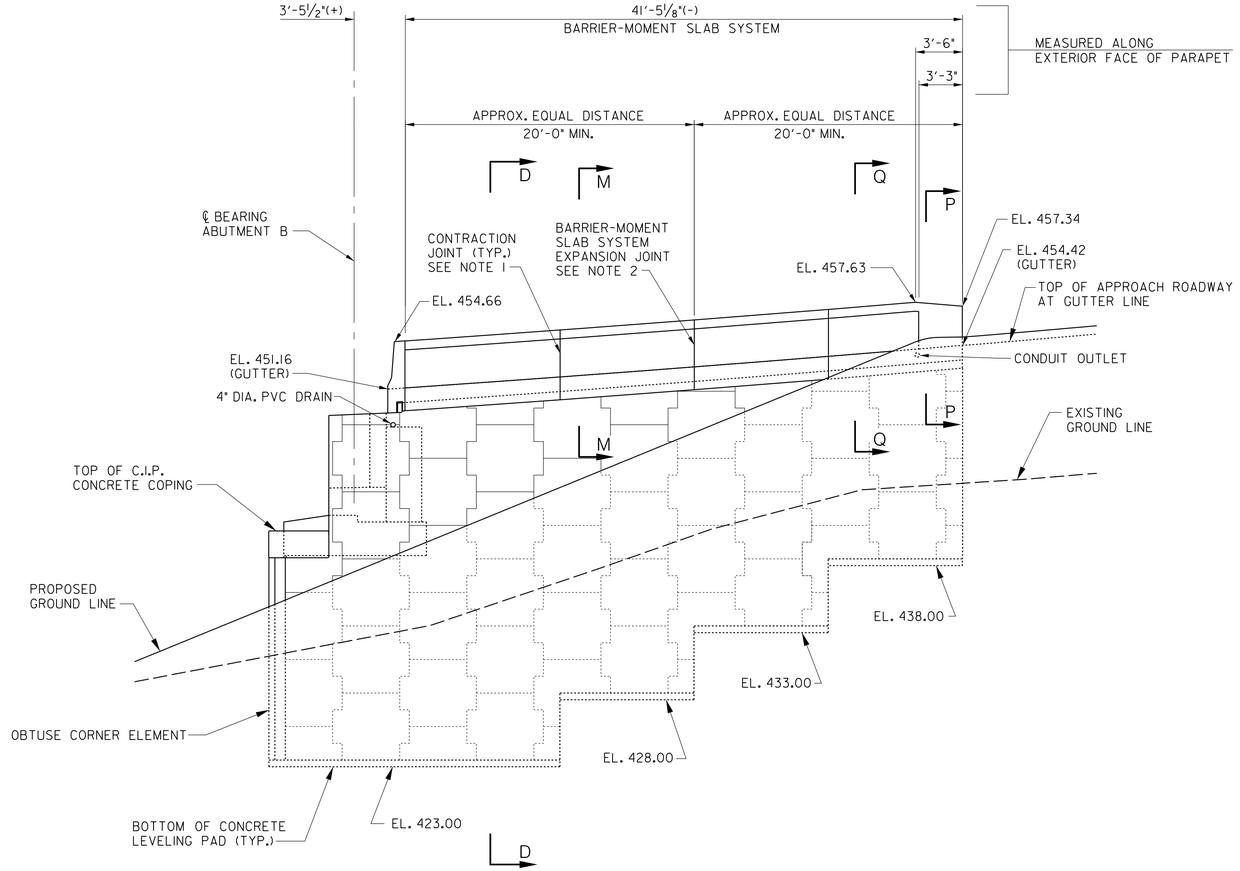
DATE: OCTOBER 2022 SCALE: 3/16" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 141 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:10 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sBR-WWO_MONROVIA-EWC.dgn



ELEVATION
WING WALL III
SCALE: 3/16" = 1'-0"



ELEVATION
WING WALL IV
SCALE: 3/16" = 1'-0"

NOTES:

M.S.E.W. = MECHANICALLY STABILIZED EARTH WALL

1. CONTRACTION JOINTS SHALL BE PLACED IN THE PARAPET ONLY AND SPACED AT A MAXIMUM SPACING OF 10'-0". SEE SHEET NO. S-25 FOR DETAIL OF CONTRACTION JOINTS.
2. EXPANSION JOINT IN WING WALL IV BARRIER-MOMENT SLAB SYSTEM SHALL BE PLACED AT APPROXIMATELY EQUAL DISTANCE. MINIMUM DISTANCE BETWEEN END OF BARRIER-MOMENT SLAB SYSTEM AND EXPANSION JOINT SHALL BE 20'-0" IN BOTH DIRECTIONS.
3. NO EXPANSION JOINTS SHALL BE PLACED IN WING WALL III BARRIER-MOMENT SLAB SYSTEM.

CROSS REFERENCE NOTES

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S-1.
2. FOR ABUTMENT B - PLAN AND ELEVATION, SEE SHEET NO. S-12.
3. FOR ABUTMENT B - M.S.E.W. ELEVATION, SEE SHEET NOS. S-13 THRU S-14.
4. FOR WING WALL TYPICAL SECTIONS C-C AND D-D, SEE SHEET NO. S-22.
5. FOR BARRIER-MOMENT SLAB SYSTEM TYPICAL SECTIONS L-L AND M-M, SEE SHEET NO. S-23 AND S-24.
6. FOR ADDITIONAL BARRIER-MOMENT SLAB SYSTEM DETAILS, SEE SHEET NOS. S-25 THRU S-26.
7. FOR CONDUIT DETAILS, SEE SHEET NO. S-27.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JOHN RICHARD DETTER · REG. NO. 16558 · PROFESSIONAL ENGINEER
9/14/22

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 MANAGMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

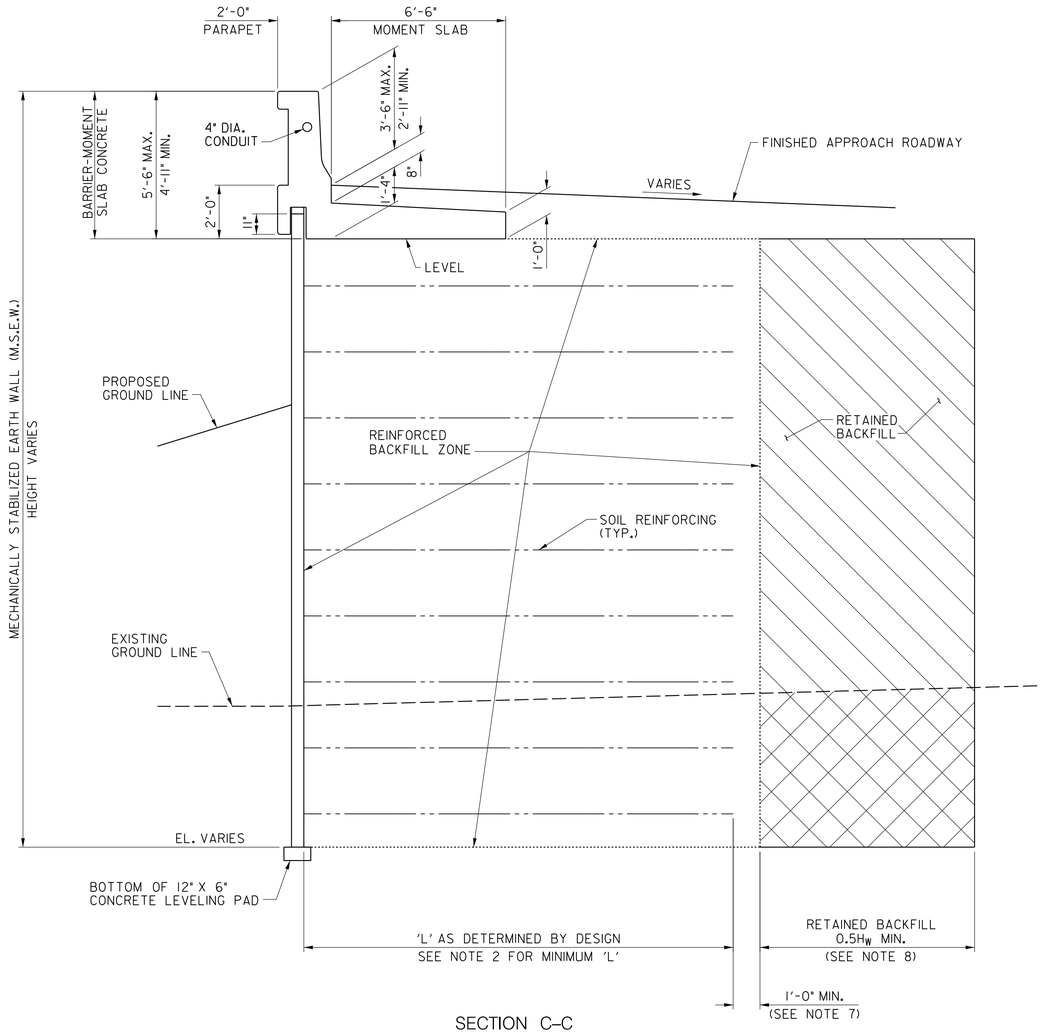
BRIDGE NO. F09-27

WING WALL III AND IV ELEVATIONS

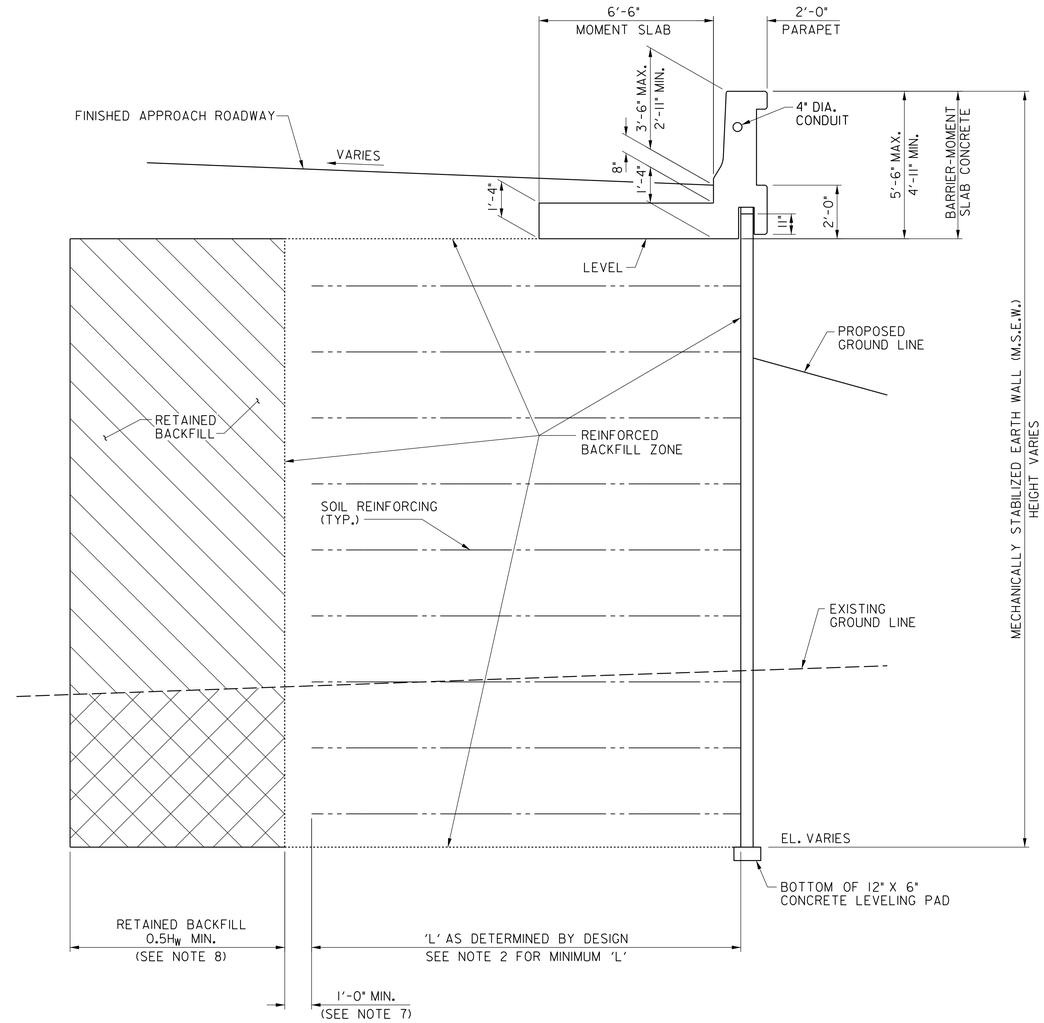
DATE: OCTOBER 2022 SCALE: 3/16" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 142 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:10 PM
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\GBR-WW02_MONROVIA-ENG.dgn



SECTION C–C
WING WALLS I AND III – TYPICAL SECTION
SCALE: 3/8" = 1'-0"



SECTION D–D
WING WALLS II AND IV – TYPICAL SECTION
SCALE: 3/8" = 1'-0"

NOTES:

1. THE CONTRACTOR SHALL SUBMIT DETAILS AND CALCULATIONS FOR THE SELECTED M.S.E.W. SYSTEM TO THE COUNTY AND THE ENGINEER FOR APPROVAL AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MARYLAND. THE DESIGN CALCULATIONS TO BE PROVIDED SHALL INCLUDE, BUT NOT LIMITED TO, CALCULATIONS FOR GLOBAL STABILITY, COMPOUND STABILITY, INTERNAL STABILITY AND EXTERNAL STABILITY ANALYSES, AND ANALYSIS OF TOTAL, DIFFERENTIAL, AND SECONDARY SETTLEMENTS.
2. THE M.S.E.W. REINFORCEMENT LENGTH 'L', SHALL BE DETERMINED BY THE M.S.E.W. DESIGNER. THE M.S.E.W. REINFORCEMENT LENGTH SHALL NOT BE LESS THAN THE MINIMUM. THE MINIMUM SHALL BE 0.7H OR 8'-0", WHICHEVER IS GREATER.
3. THE DESIGN HEIGHT OF THE WALL, H_W, IS DEFINED AS THE DIFFERENCE IN ELEVATION BETWEEN FINISHED GRADE AT TOP OF WALL AND TOP OF LEVELING PAD.
4. THE BOTTOM OF THE CONCRETE LEVELING PAD, FOR THE WING WALLS, MAY BE LOWERED OR RAISED TO ACCOMMODATE THE PANEL TYPE SELECTED. THE DESIGN HEIGHT OF THE M.S.E.W. SHALL BE BASED ON THE LOCATION OF THE LEVELING PAD.
5. THE M.S.E.W. DESIGNER SHALL PROVIDE A MEANS TO RELIEVE HYDROSTATIC PRESSURE BEHIND THE M.S.E.W.
6. REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
7. EXTEND THE REINFORCED BACKFILL ZONE 1'-0" MIN. BEYOND THE FREE END OF THE SOIL REINFORCING.
8. FOR AREAS WHERE THE REINFORCED BACKFILL ZONE OVERLAP, USE REINFORCED BACKFILL MATERIAL. FOR BACK-TO-BACK WALLS WHEREIN THE FREE ENDS OF THE SOIL REINFORCEMENT OF THE TWO WALLS ARE SPACED APART LESS THAN OR EQUAL TO $1/2$ THE DESIGN HEIGHT OF THE TALLER WALL, REINFORCED BACKFILL MATERIAL SHALL BE USED FOR THE SPACE BETWEEN THE FREE ENDS OF THE SOIL REINFORCEMENT AS WELL.
9. A CONTINGENT PAY ITEM FOR "CLASS 3 EXCAVATION" HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER AND FOR ADDITIONAL EXCAVATION REQUIRED TO REMOVE IN-SITU MATERIAL NOT MEETING THE REQUIREMENTS OF RETAINED BACKFILL IN THE SPECIAL PROVISIONS.
10. A CONTINGENT PAY ITEM FOR "RETAINED BACKFILL" HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER AND FOR THE REPLACEMENT OF MATERIAL REMOVED.
11. EXCAVATION REQUIRED FOR THE REINFORCED BACKFILL ZONE SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR THE PERTINENT "CLASS 3 EXCAVATION" ITEM.
12. RETAINED BACKFILL MATERIAL, ABOVE THE EXISTING GROUND LINE, WILL NOT BE MEASURED FOR PAYMENT. THE COST SHALL BE CONSIDERED INCIDENTAL TO THE LUM SUM PRICE FOR THE "MECHANICALLY STABILITY EARTH WALL (M.S.E.W)" ITEM.

IN-SITU MATERIAL TO BE TESTED. IF IN-SITU MATERIAL DOES NOT MEET THE REQUIREMENTS OF "RETAINED BACKFILL MATERIAL" IN THE SPECIAL PROVISIONS, AREA TO EXCAVATED AND REPLACED WITH RETAINED BCAKFILL MATERIAL MEETING THESE REQUIREMENTS.

CROSS REFERENCE NOTES

1. FOR ADDITIONAL BARRIER-MOMENT SLAB SYSTEM DETAILS, SEE SHEET NOS. S-24 THRU S-26.
2. FOR LIMITS OF REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL FOR ABUTMENT A AND ABUTMENT B, SEE SHEET NOS. S-28 AND S-29.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND — MARK RICHARD BETTEN — REGISTERED — PROFESSIONAL ENGINEER — 11/14/22

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

S-22

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

WING WALL TYPICAL SECTIONS

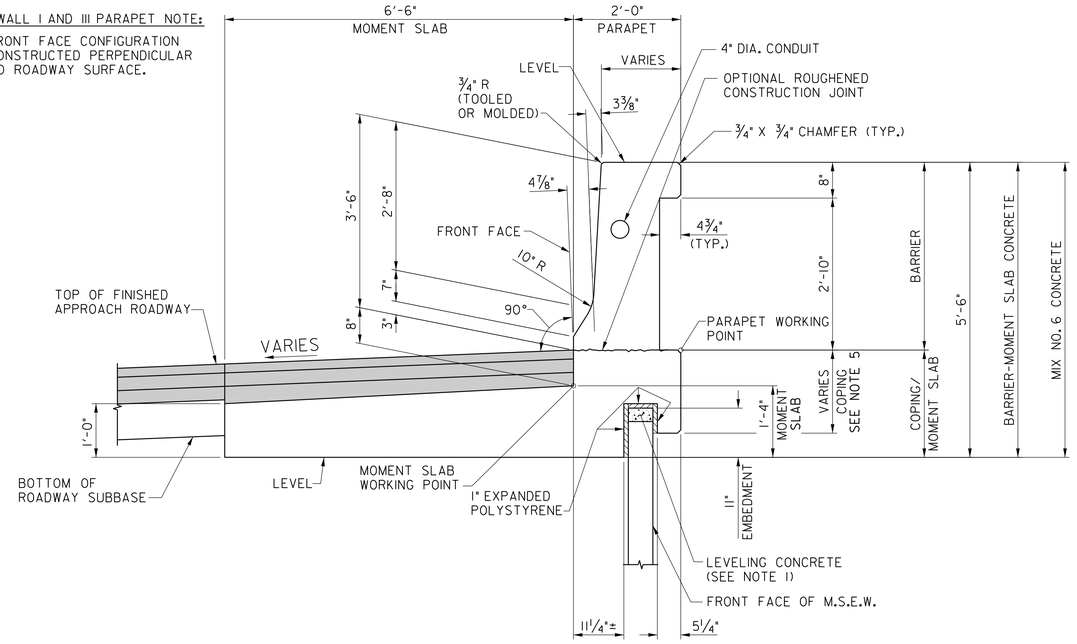
DATE: OCTOBER 2022 SCALE: 3/8" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 143 OF 226

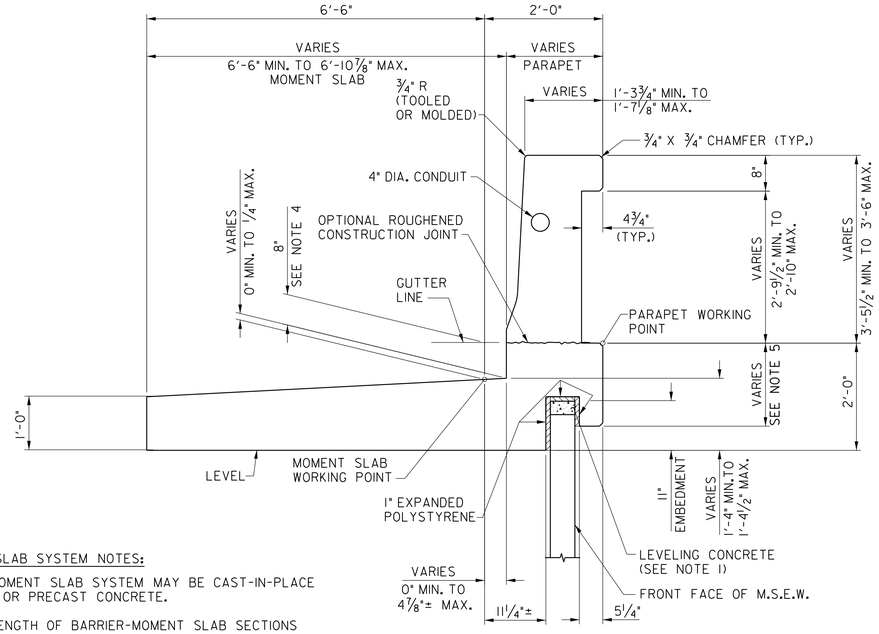
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:11 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\gBR-WOD_MONROVIA-EWC.dgn

WING WALL I AND III PARAPET NOTE:

FRONT FACE CONFIGURATION CONSTRUCTED PERPENDICULAR TO ROADWAY SURFACE.



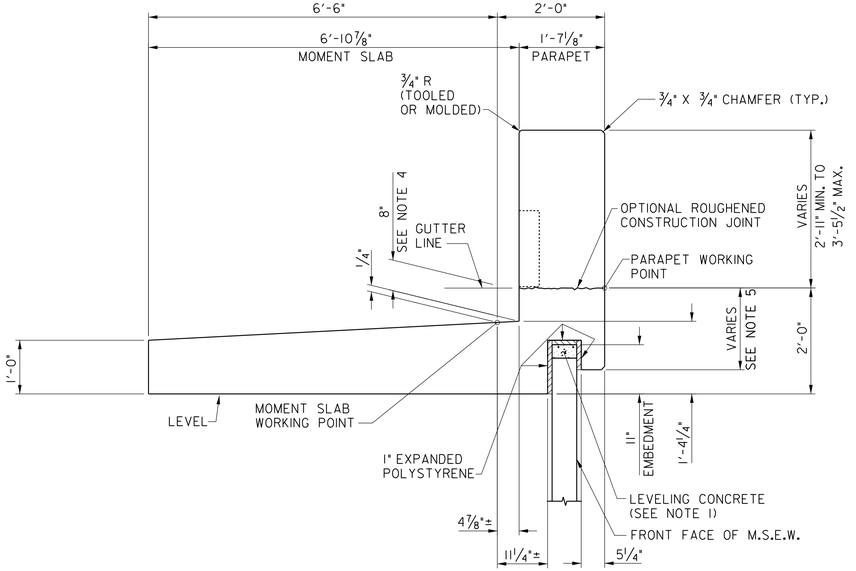
SECTION L–L
BARRIER–MOMENT SLAB – TYPICAL SECTION
WING WALLS I AND III
SCALE: 3/4" = 1'-0"



SECTION N–N
TRANSITION FROM F–SHAPE TO PLUMB FACE
WING WALLS I AND III
SCALE: 3/4" = 1'-0"

BARRIER-MOMENT SLAB SYSTEM NOTES:

1. BARRIER-MOMENT SLAB SYSTEM MAY BE CAST-IN-PLACE CONCRETE OR PRECAST CONCRETE.
2. MINIMUM LENGTH OF BARRIER-MOMENT SLAB SECTIONS SHALL BE 20'-0".
3. USE LEVELING CONCRETE AS REQUIRED TO ACHIEVE DESIGN PROFILE.
4. 8" SHOWN IS MEASURED VERTICALLY, FROM A PLUMB LINE, FROM MOMENT SLAB WORKING POINT TO PARAPET WORKING POINT.
5. DEPTH OF COPING SHALL MATCH THE FASCIA DEPTH OF THE SUPERSTRUCTURE AT THE JOINT. DEPTH OF COPING SHALL BE CONSTANT THROUGHOUT THE LENGTH OF THE RESPECTIVE WING WALL.



SECTION O–O
INSIDE FACE PLUMB
WING WALLS I AND III
SCALE: 3/4" = 1'-0"

S-23

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BARRIER-MOMENT SLAB
TYPICAL SECTIONS - I

DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 144 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

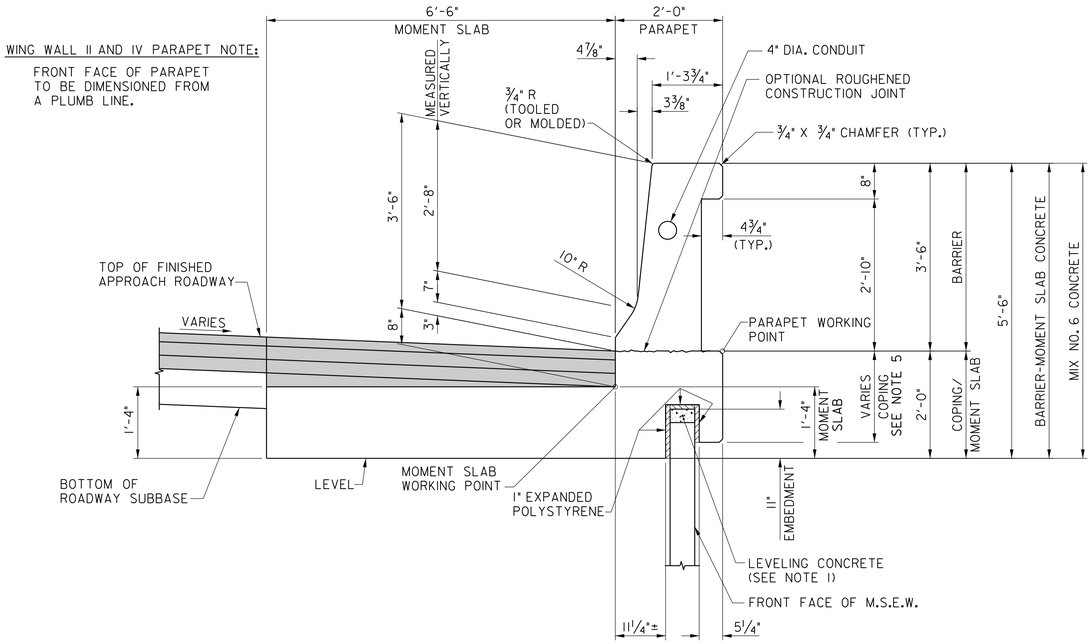
STATE OF MARYLAND · KEVIN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 7/22

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

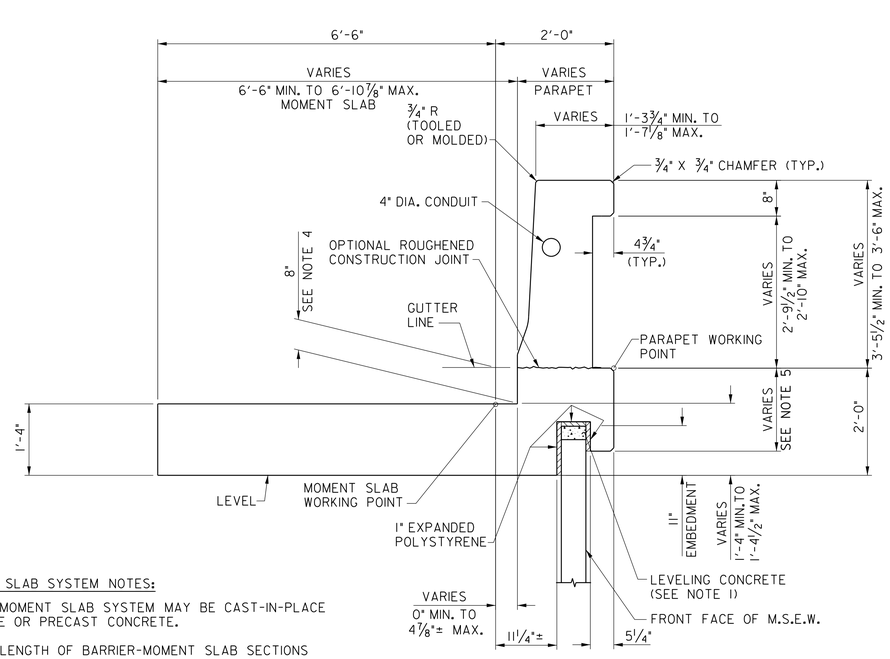
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:12 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SBR-#002_MONROVIA-ENC.dgn

WING WALL II AND IV PARAPET NOTE:

FRONT FACE OF PARAPET TO BE DIMENSIONED FROM A PLUMB LINE.



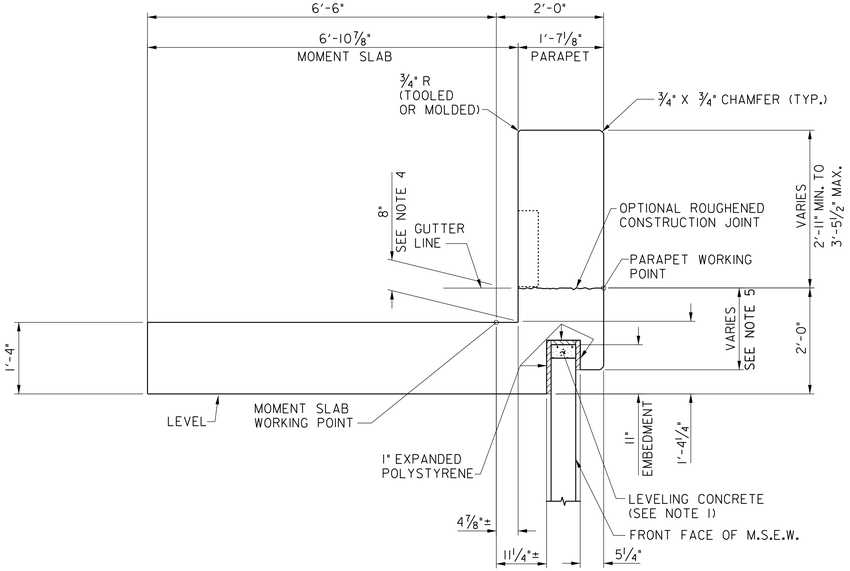
SECTION M–M
BARRIER–MOMENT SLAB – TYPICAL SECTION
WING WALLS II AND IV
SCALE: 3/4" = 1'-0"



SECTION Q–Q
TRANSITION FROM F–SHAPE TO PLUMB FACE
WING WALLS II AND IV
SCALE: 3/4" = 1'-0"

BARRIER-MOMENT SLAB SYSTEM NOTES:

1. BARRIER-MOMENT SLAB SYSTEM MAY BE CAST-IN-PLACE CONCRETE OR PRECAST CONCRETE.
2. MINIMUM LENGTH OF BARRIER-MOMENT SLAB SECTIONS SHALL BE 20'-0".
3. USE LEVELING CONCRETE AS REQUIRED TO ACHIEVE DESIGN PROFILE.
4. 8" SHOWN IS MEASURED VERTICALLY, FROM A PLUMB LINE, FROM MOMENT SLAB WORKING POINT TO PARAPET WORKING POINT.
5. DEPTH OF COPING SHALL MATCH THE FASCIA DEPTH OF THE SUPERSTRUCTURE AT THE JOINT. DEPTH OF COPING SHALL BE CONSTANT THROUGHOUT THE LENGTH OF THE RESPECTIVE WING WALL.



SECTION P–P
INSIDE FACE PLUMB
WING WALLS II AND IV
SCALE: 3/4" = 1'-0"

S-24

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BARRIER-MOMENT SLAB TYPICAL SECTIONS - II

DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 145 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · KEVIN RICHARD DETTER · REG. NO. 16558 · PROFESSIONAL ENGINEER · 11/22

THE WILSON T. BALLARD CO.
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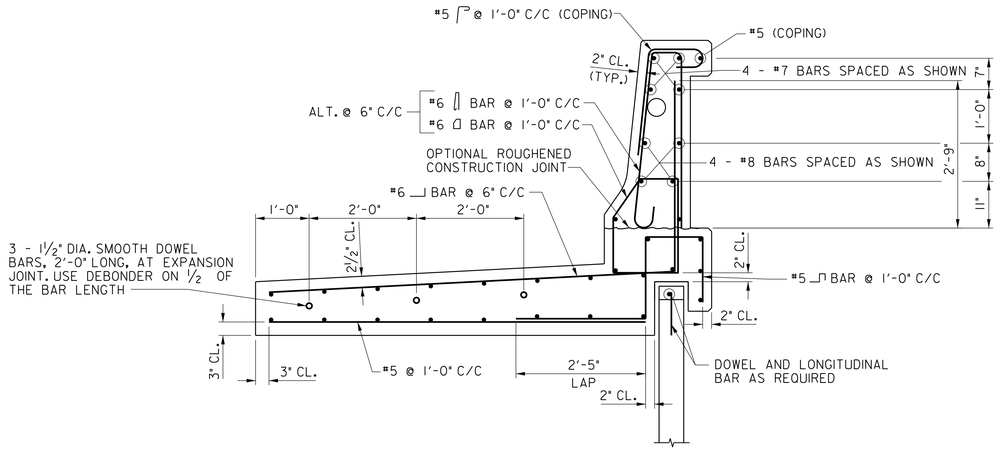
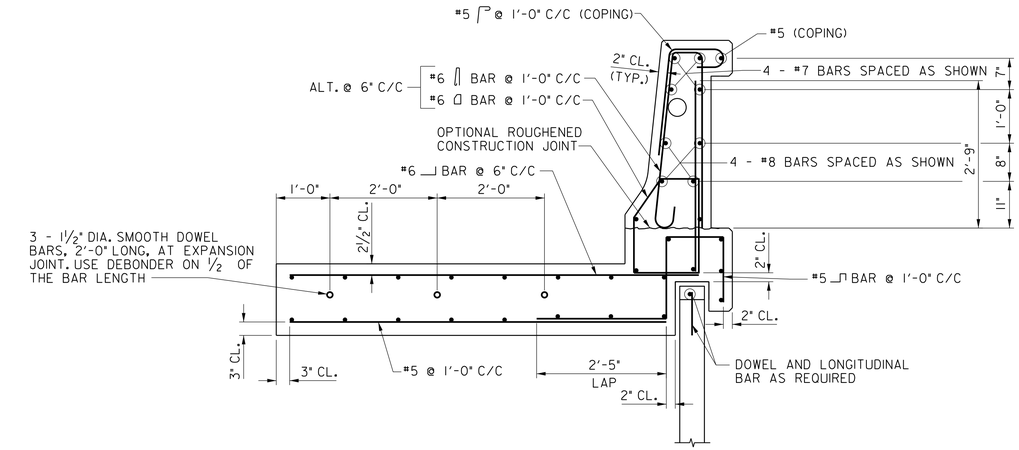
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SBR-MDDE-MONROVIA-EWC.dgn



SECTION L–L

BARRIER–MOMENT SLAB – TYPICAL REINFORCING SECTION

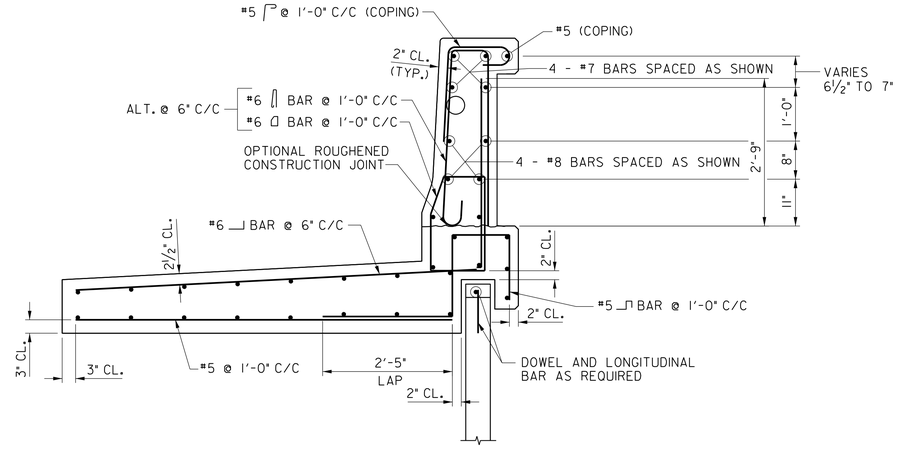
SCALE: ¾" = 1'-0"



SECTION M–M

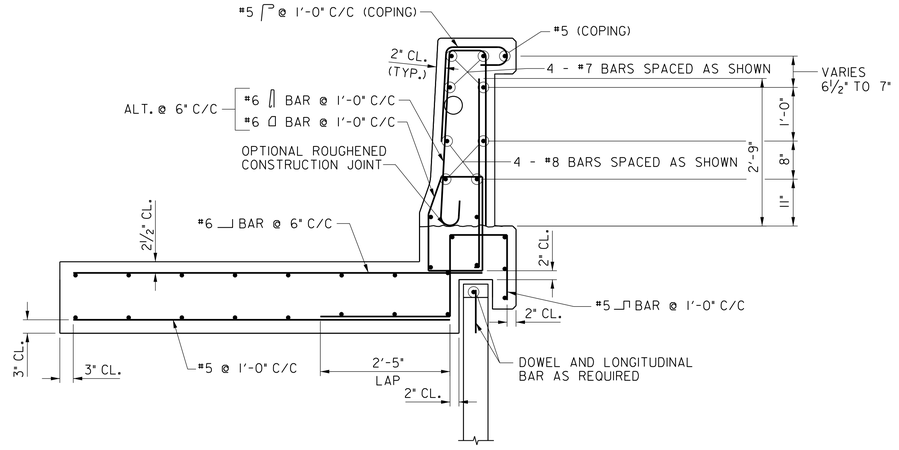
BARRIER–MOMENT SLAB – TYPICAL REINFORCING SECTION

SCALE: ¾" = 1'-0"



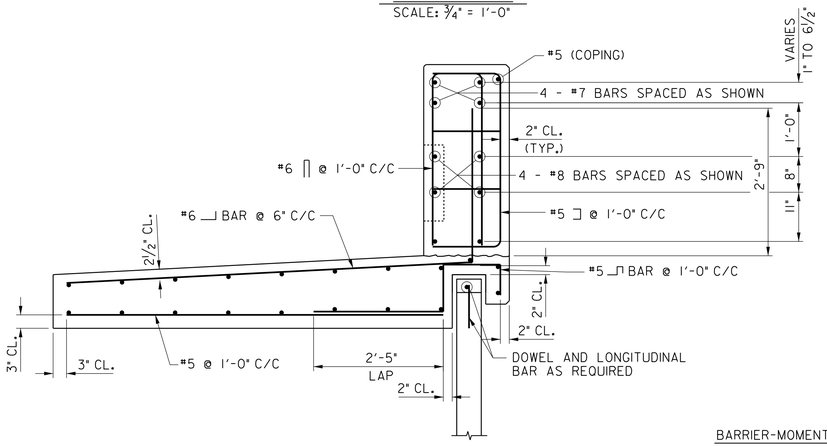
SECTION N–N

SCALE: ¾" = 1'-0"



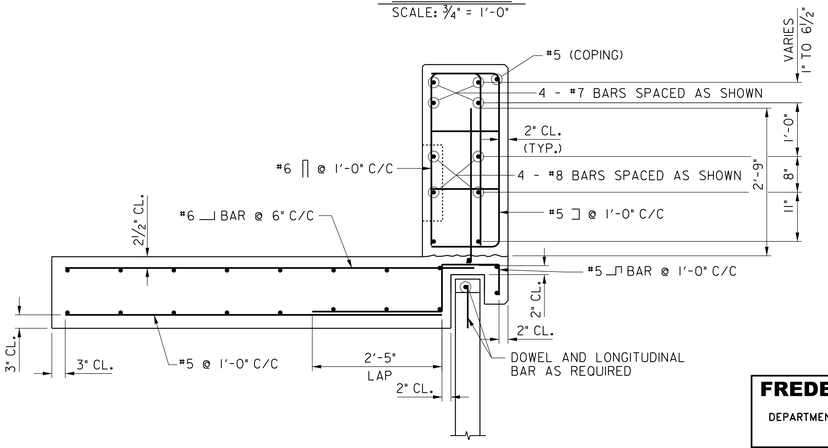
SECTION Q–Q

SCALE: ¾" = 1'-0"



SECTION O–O

SCALE: ¾" = 1'-0"



SECTION P–P

SCALE: ¾" = 1'-0"

BARRIER-MOMENT SLAB REINFORCING NOTES:

1. ALL REINFORCEMENT SHALL BE EPOXY COATED.
2. ALL LONGITUDINAL BARS ARE #5 BARS SPACED AS SHOWN, MAX. 1'-0" C/C, UNLESS NOTED OTHERWISE.
3. DO NOT RUN LONGITUDINAL BARS THROUGH EXPANSION JOINT, EXCEPT FOR DOWEL BARS. PROVIDE 2" CL. FROM EITHER END.
4. LONGITUDINAL REINFORCEMENT SHALL RUN THRU CONTRACTION JOINTS, AND BE CONTINUOUS FROM END TO END OR TO EXPANSION OPENING.

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LICENSE NO. 16558
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STATE OF MARYLAND · GLENN RICHARD PETTER · REGISTERED PROFESSIONAL ENGINEER · 07/13/2022

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

S-25

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

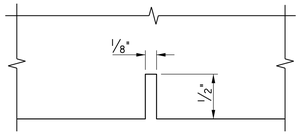
BRIDGE NO. F09-27

BARRIER-MOMENT SLAB TYPICAL REINFORCING SECTIONS

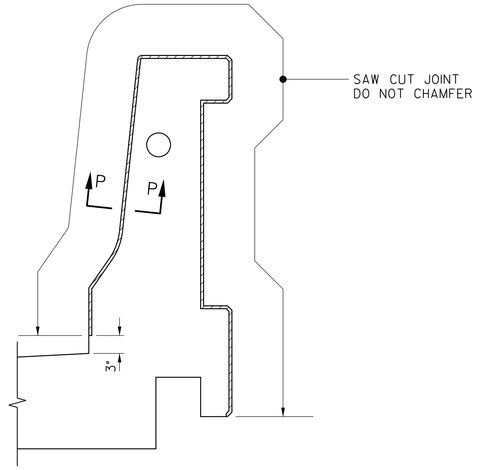
DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 146 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:14 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-#D03_MONROVIA-EWC.dgn



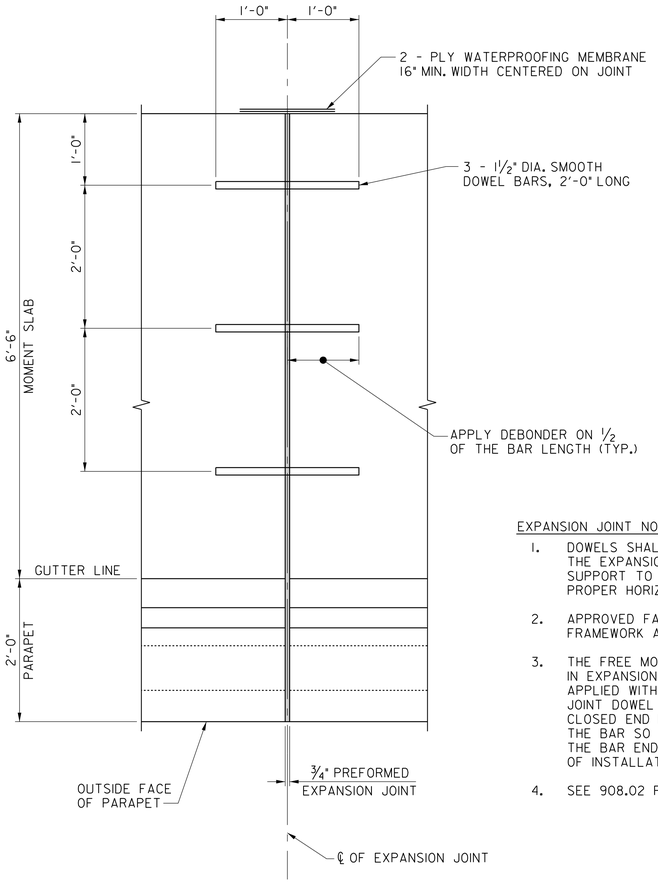
SECTION P–P
SCALE: NONE



SECTIONS L–L AND M–M
CONTRACTION JOINT
SCALE: 1" = 1'-0"

CONTRACTION JOINT NOTES:

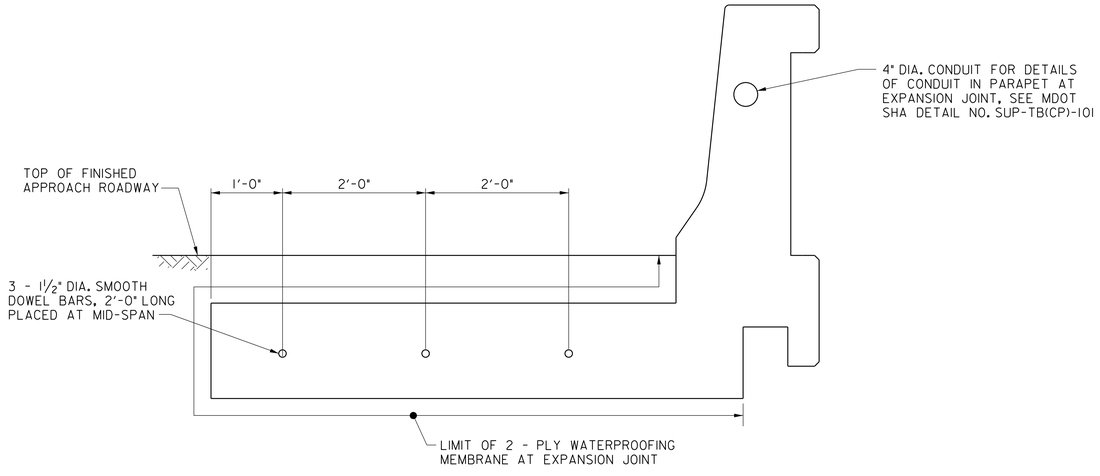
1. BARRIER-MOMENT SLAB IS PLACED CONTINUOUSLY.
2. CONTRACTION JOINT TO BE SAW CUT SAME DAY AS CONCRETE IS POURED.



PLAN
BARRIER–MOMENT SLAB AT EXPANSION JOINT
WING WALL IV
SCALE: 1" = 1'-0"

EXPANSION JOINT NOTES:

1. DOWELS SHALL BE ASSEMBLED IN A RIGID FRAMEWORK. THE EXPANSION JOINT FRAMEWORK SHALL PROVIDE ADEQUATE SUPPORT TO MAINTAIN THE PREMOLD JOINT FILLER IN THE PROPER HORIZONTAL AND VERTICAL ALIGNMENT.
2. APPROVED FASTENERS SHALL BE USED TO SECURE THE FRAMEWORK AGAINST ANY MOVEMENT ALONG THE SUBGRADE.
3. THE FREE MOVING OR UNANCHORED END OF ALL DOWEL BARS IN EXPANSION JOINTS SHALL BE COATED WITH APPROVED LUBRICANT APPLIED WITH A GLOVED HAND. THIS SAME END OF ALL EXPANSION JOINT DOWEL BARS SHALL BE CAPPED WITH A SNUG FITTING CLOSED END METAL EXPANSION SLEEVE TEMPORARILY SECURED TO THE BAR SO AS TO PROVIDE A 1" LONG OPEN SOCKET BEYOND THE BAR END AND TO LAP BACK 2" ON THE BAR AT THE TIME OF INSTALLATION.
4. SEE 908.02 FOR DOWEL BAR MATERIAL SPECIFICATIONS.



SECTION M–M
WING WALL IV
EXPANSION JOINT
SCALE: 1" = 1'-0"

CROSS REFERENCE NOTES

1. FOR ADDITIONAL CONDUIT DETAILS, SEE SHEET NO. S-49.
2. FOR LOCATION OF SECTIONS L-L AND M-M. SEE SHEET NOS. S-20 AND S-21.

S-26

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BARRIER-MOMENT SLAB DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 147 OF 226

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · ELMER RICHARD GETTIER · REGISTERED PROFESSIONAL ENGINEER · 11/4/22

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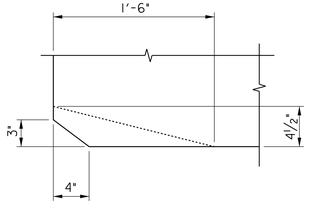
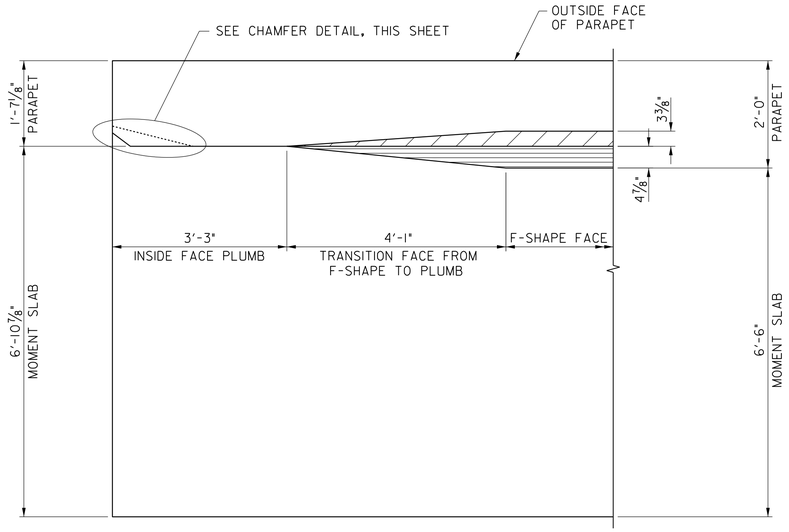
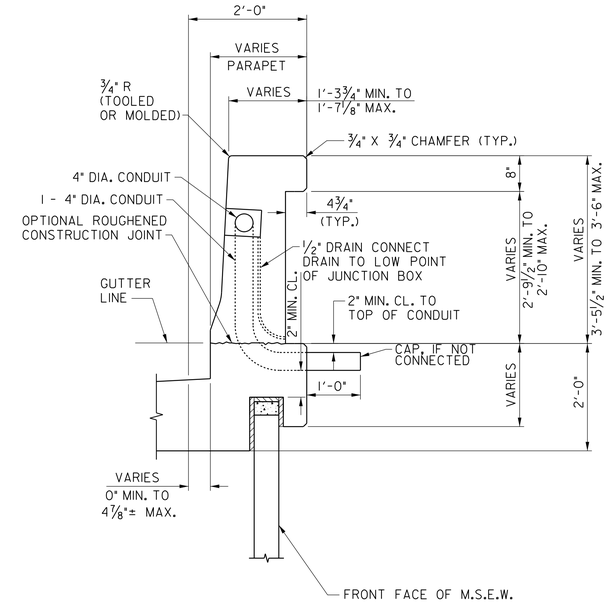
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\SBR-MD04_MONROVIA-EWC.dgn



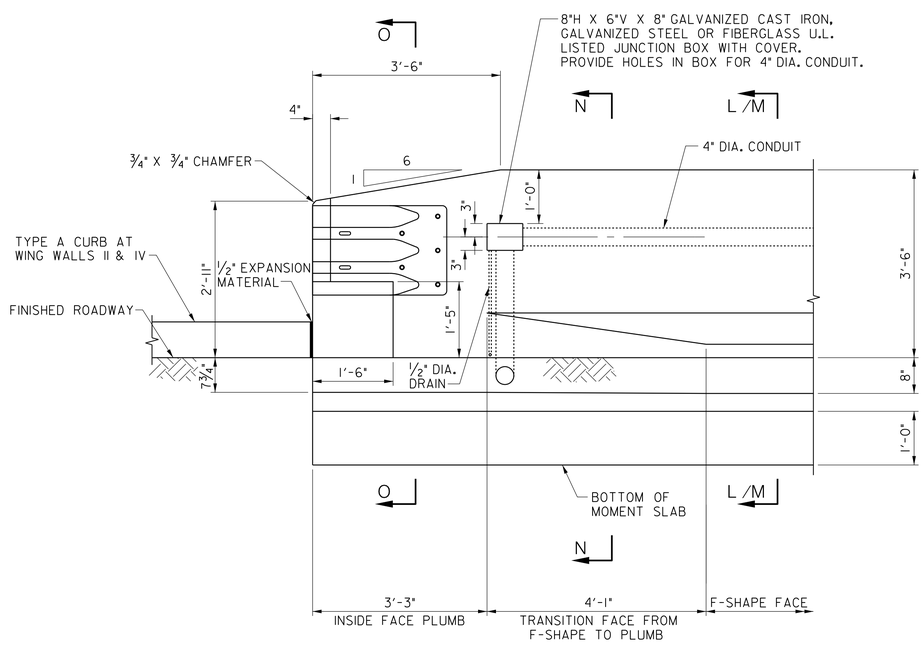
CHAMFER DETAIL
SCALE: 1 1/2" = 1'-0"



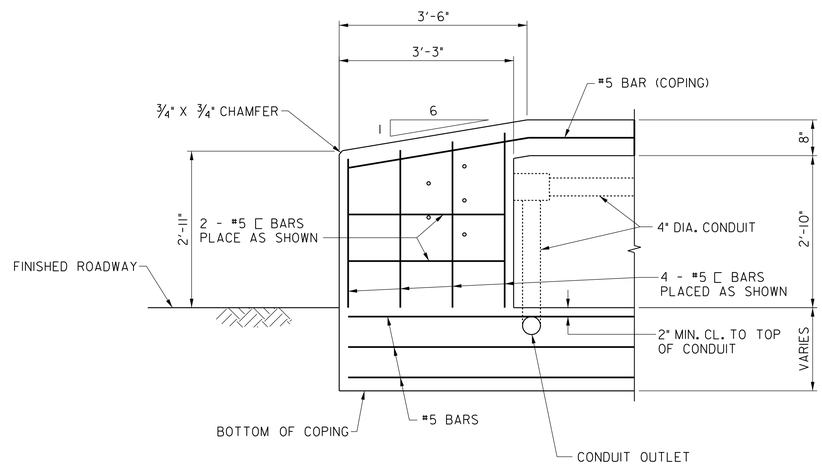
PLAN
SCALE: 3/4" = 1'-0"



CONDUIT PLACEMENT DETAILS
SCALE: 3/4" = 1'-0"



ELEVATION
SCALE: 3/4" = 1'-0"



REINFORCING END POST SECTION
SCALE: 3/4" = 1'-0"

CROSS REFERENCE NOTES

1. FOR ADDITIONAL CONDUIT DETAILS, SEE SHEET S-49.

S-27

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BARRIER-MOMENT SLAB END POST DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 148 OF 226

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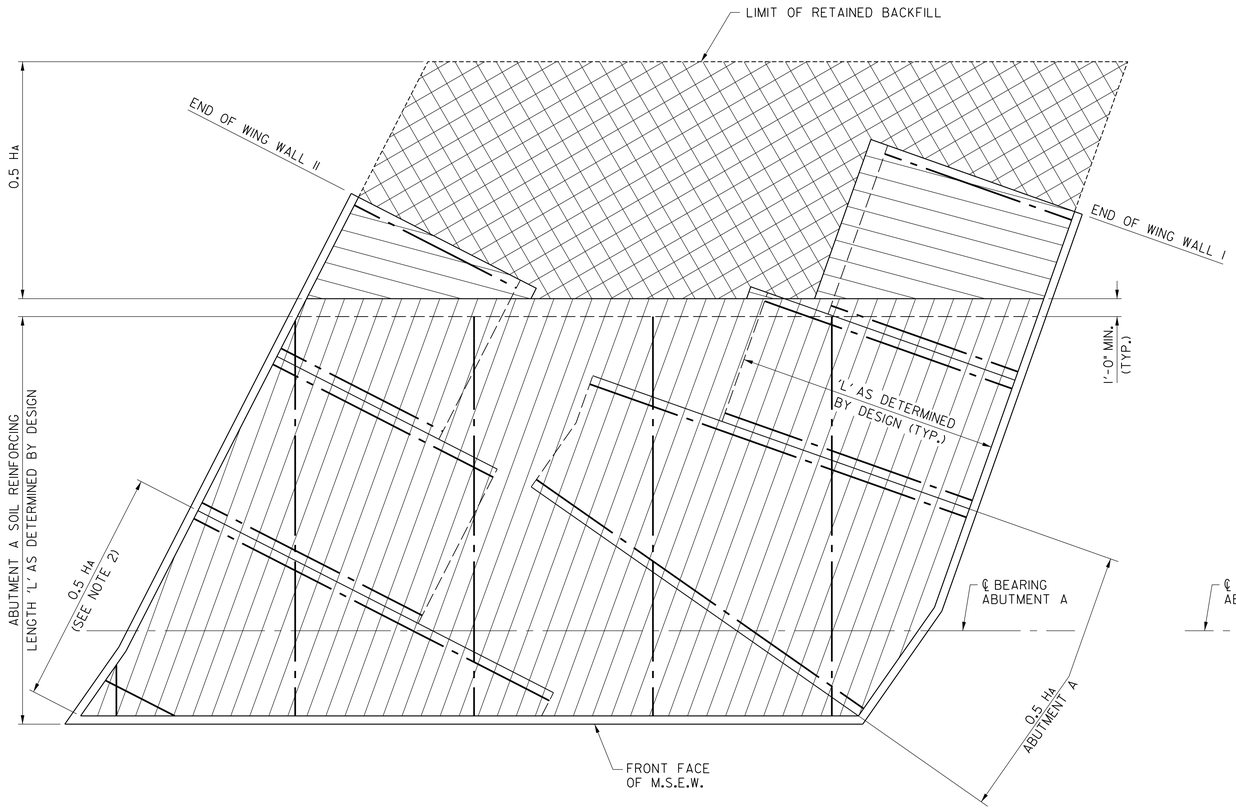
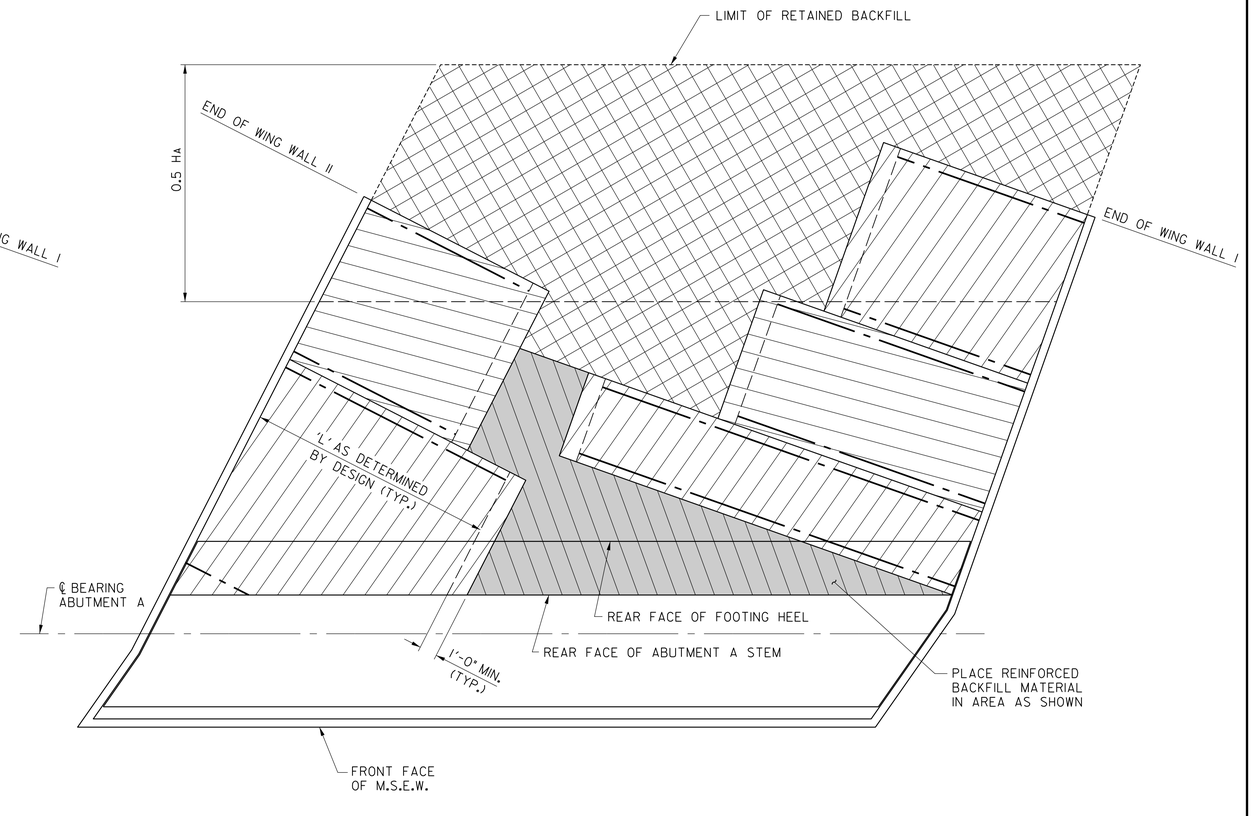


EARTHWORK PLAN
ABUTMENT A
SCALE: 1/4" = 1'-0"

FROM BOTTOM OF M.S.E.W. TO B.O.F.



EARTHWORK PLAN
ABUTMENT A
SCALE: 1/4" = 1'-0"

FROM B.O.F. TO BOTTOM OF ROADWAY SUBBASE

LEGEND

- DENOTES SOIL REINFORCING
- DENOTES LIMIT OF SOIL REINFORCING
- REINFORCED BACKFILL ZONE
- RETAINED BACKFILL AREA
- REINFORCED BACKFILL MATERIAL

NOTES:

1. SOIL REINFORCING LENGTH AND SPACING AND LIMITS OF REINFORCED BACKFILL MATERIAL AND RETAINED BACKFILL MATERIAL. FOR IMFORMATION PURPOSES ONLY.
2. THE DENSITY, LENGTH AND CROSS-SECTION OF THE SOIL REINFORCEMENTS DESIGNED FOR SUPPORT OF ABUTMENT SHALL BE CARRIED ON THE WING WALLS FOR A MINIMUM HORIZONTAL DISTANCE EQUAL TO 50 PERCENT OF THE ABUTMENT DESIGN HEIGHT, Ha.

M.S.E.W. = MECHANICALLY STABILIZED EARTH WALL

B.O.F. = BOTTOM OF FOOTING

PROFESSIONAL CERTIFICATION.
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STATE OF MARYLAND · MATTHEW RICHARD GETTEN · REGISTERED PROFESSIONAL ENGINEER · 37422

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

S-28

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

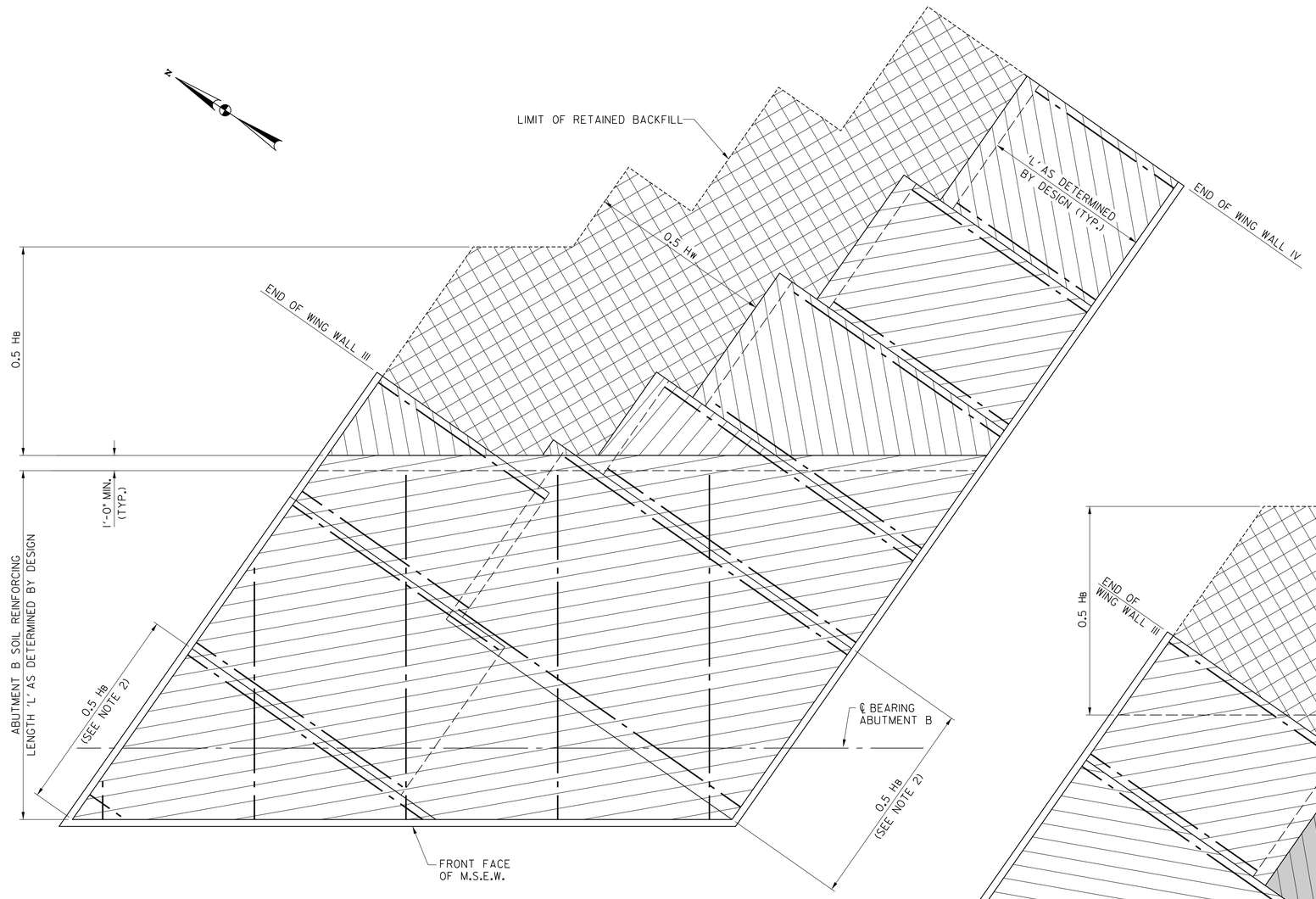
BRIDGE NO. F09-27

ABUTMENT A EARTHWORK

DATE: OCTOBER 2022 SCALE: 1/4"=1'-0"

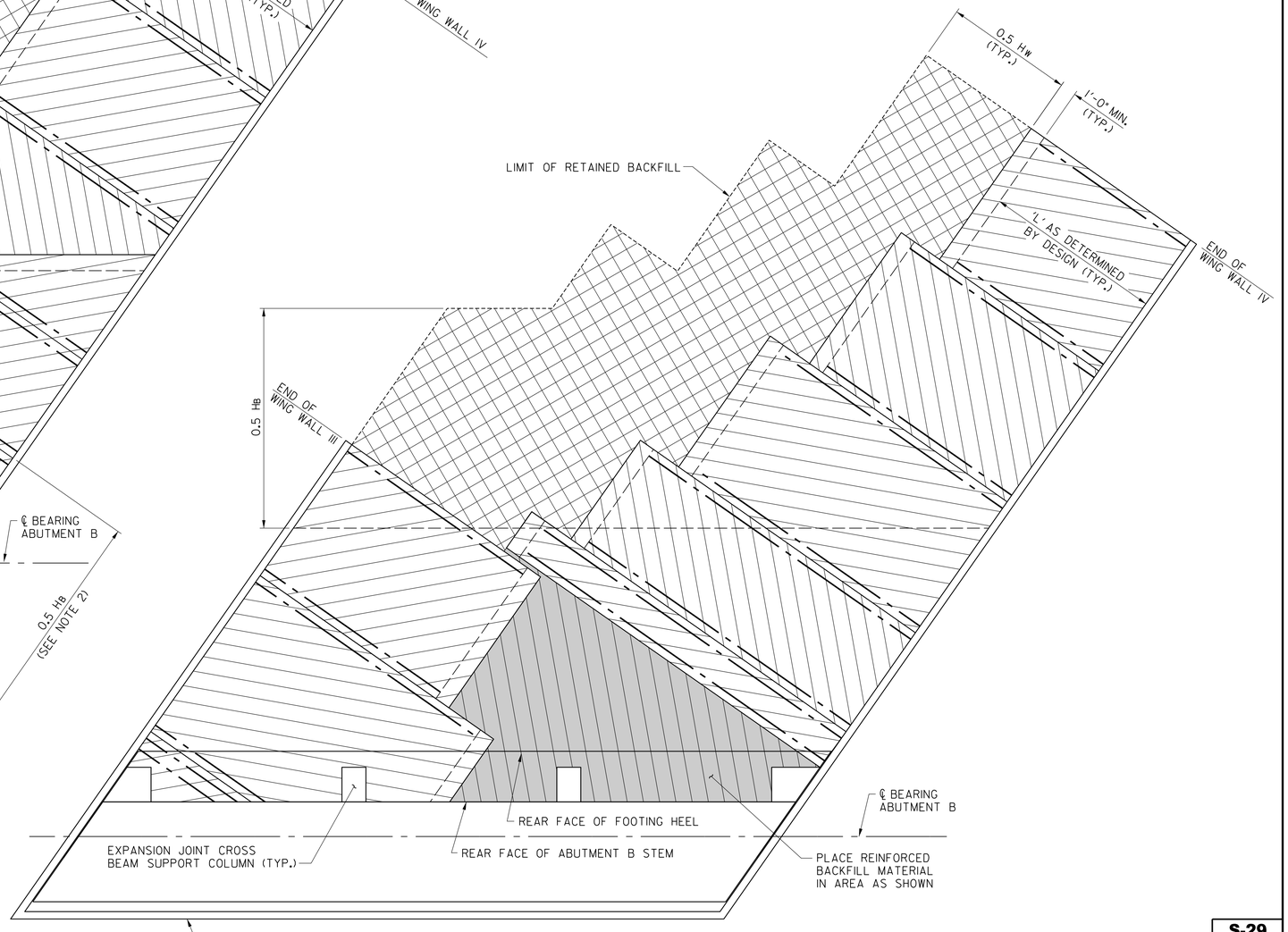
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 149 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:18 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\GBR-A007_MONROVIA-EWC.dgn



EARTHWORK PLAN
ABUTMENT B
SCALE: 1/4" = 1'-0"

FROM BOTTOM OF M.S.E.W. TO B.O.F.



EARTHWORK PLAN
ABUTMENT B
SCALE: 1/4" = 1'-0"

FROM B.O.F. TO BOTTOM OF ROADWAY SUBBASE

LEGEND

- DENOTES SOIL REINFORCING
- DENOTES LIMIT OF SOIL REINFORCING
- REINFORCED BACKFILL ZONE
- RETAINED BACKFILL AREA
- REINFORCED BACKFILL MATERIAL

NOTES:

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B.O.F. = BOTTOM OF FOOTING

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JOSEPH RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 22

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

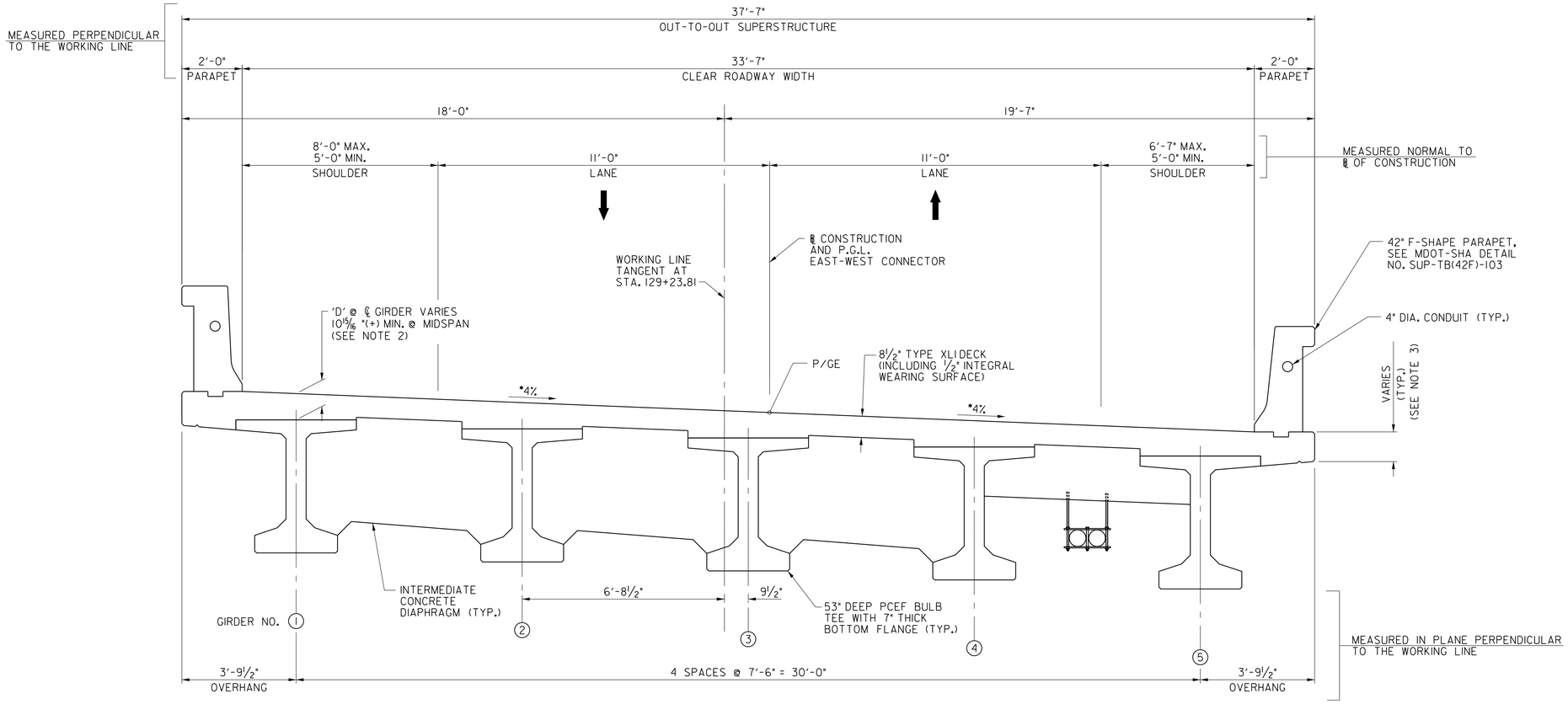
BRIDGE NO. F09-27

ABUTMENT B EARTHWORK

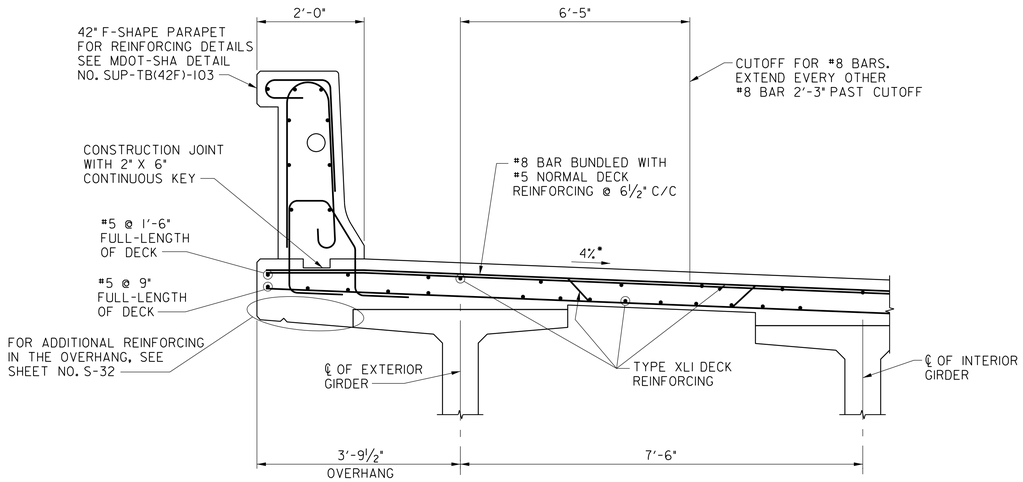
DATE: OCTOBER 2022 SCALE: 1/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 150 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:19 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SBR-4008_MONROVIA-ENC.dgn



SUPERSTRUCTURE
TYPICAL SECTION
SCALE: 1/2" = 1'-0"



OVERHANG REINFORCING
SCALE: 3/4" = 1'-0"

NOTES:

1. 'D' IS MEASURE FROM THE TOP OF DECK SLAB TO TOP OF GIRDER.
2. THE HAUNCH DEPTH WILL VARY OVER THE TOP FLANGE DUE TO THE CROSS SLOPE IN THE DECK. THE HAUNCH DEPTH SHALL BE NO LESS THAN 1" AT THE EDGE OF THE TOP FLANGE. THE MINIMUM HAUNCH WILL BE AT MIDSPAN AND THE MAXIMUM HAUNCH WILL BE @ ℄ OF BEARINGS.
3. THE BOTTOM OF THE DECK OVERHANG SHALL FOLLOW THE SLOPE OF THE BOTTOM OF THE TOP FLANGE.
4. SLIP-FORMING OF PARAPET WILL NOT BE ALLOWED.
5. ALL REINFORCEMENT SHALL BE EPOXY COATED.

*CROSS SLOPE MEASURED NORMAL TO ℄ OF CONSTRUCITON.

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · MATTHEW RICHARD BETTEN · REGISTERED · PROFESSIONAL ENGINEER
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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

SUPERSTRUCTURE TYPICAL SECTION

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 151 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 1255 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\dBR-TPD_MONROVIA-EWC.dgn

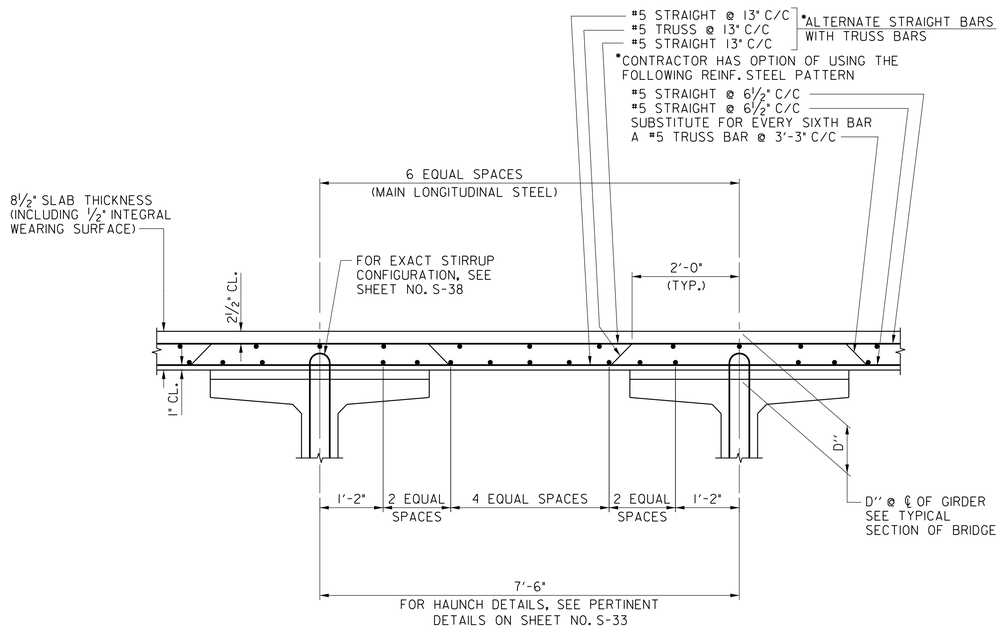
TRANSVERSE REINFORCEMENT
(SEE NOTE 6)

	LAP LENGTH
#5 TOP REINFORCEMENT	1'-10"
#5 BOTTOM REINFORCEMENT	2'-8"

LONGITUDINAL REINFORCEMENT

	LAP LENGTH
#5 TOP REINFORCEMENT	2'-5"
#5 BOTTOM REINFORCEMENT	3'-6"

LAP LENGTHS FOR DECK REINFORCING



HL-93 TYPE XLI SLAB
SCALE: ¾" = 1'-0"

NOTES

DESIGN:
1. LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. f'c = 4000 PSI.
3. DESIGN INCLUDES PROVISION FOR 2" FUTURE WEARING SURFACE.

GENERAL:
1. TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE SKEW.
2. ALL REINFORCING STEEL IN THE DECK SLABS SHALL BE EPOXY COATED.
3. THE BRIDGE DECK SLAB DETAILS ARE FOR PCEF BULB TEES WITH A TOP FLANGE WIDTH OF 4'-0" ONLY.
4. ALL STEEL SIZES AND SPACING BASED ON ASTM A-615, GRADE 60.
5. ALL LONGITUDINAL BARS ARE TO BE #5 BARS PLACED AS SHOWN.
6. AN EXCESS REINFORCEMENT FACTOR OF 0.75 WAS APPLIED TO THE TRANSVERSE REINFORCEMENT LAP LENGTHS. AN EXCESS REINFORCEMENT FACTOR OF 1.00 WAS APPLIED TO THE LONGITUDINAL REINFORCEMENT LAP LENGTHS.

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

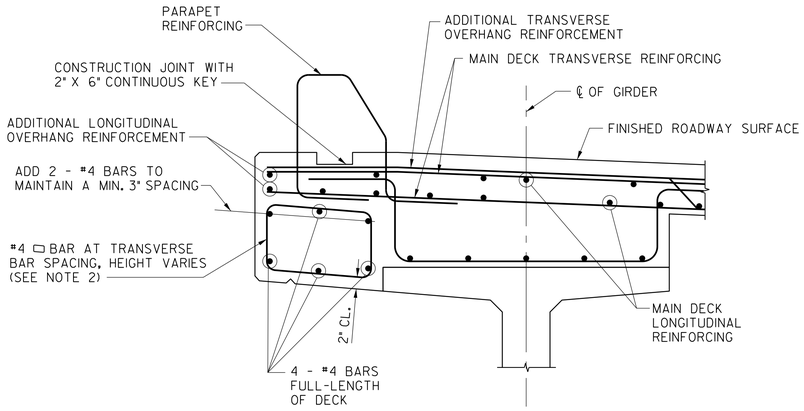
BRIDGE NO. F09-27

TYPE XLI BRIDGE DECK SLAB DETAILS

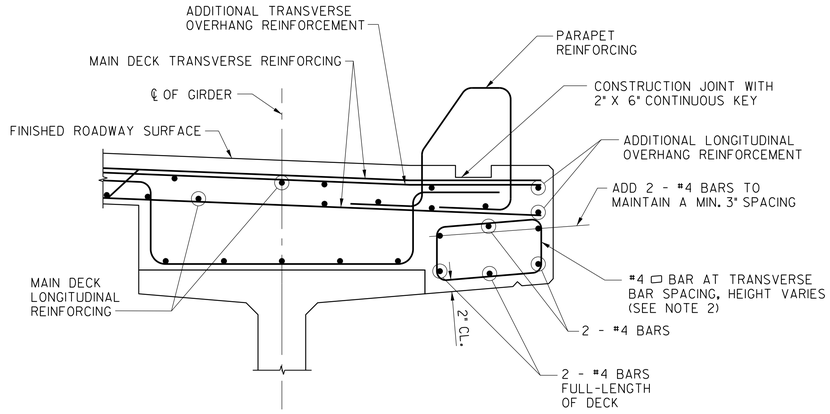
DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 152 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:21 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\BR-S30_MONROVIA-EWC.dgn



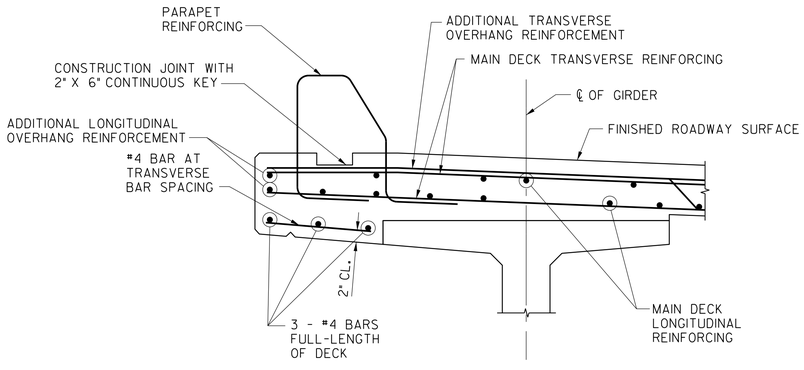
MAXIMUM HAUNCH
HIGH SIDE



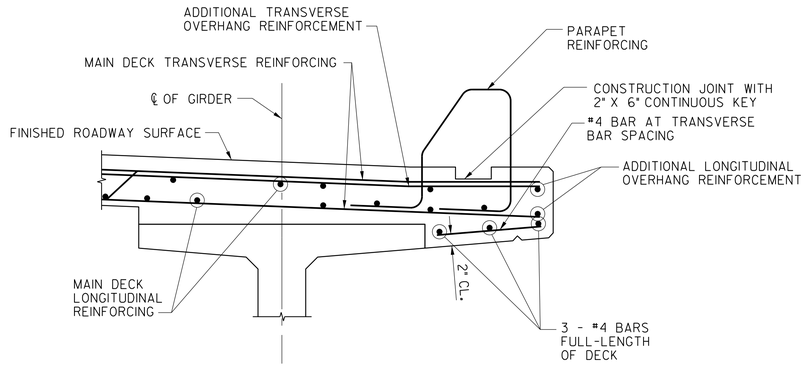
MAXIMUM HAUNCH
LOW SIDE

NOTES:

1. ALL REINFORCEMENT SHALL BE EPOXY COATED.
2. #4 ⬭ BAR AND ▭ BAR HEIGHT WILL VARY. ADJUST HEIGHT TO ACCOMODATE VARYING OVERHANG THICKNESS.
3. ALL TRANSVERSE BARS IN DECK AND DECK OVERHANG SHALL BE PLACED PARALLEL TO THE SKEW.
4. PARAPET NOT SHOWN FOR CLARITY.
5. ADDITIONAL PARAPET REINFORCING NOT SHOWN FOR CLARITY.



MINIMUM HAUNCH
HIGH SIDE



MINIMUM HAUNCH
LOW SIDE

ADDITIONAL OVERHANG REINFORCING DETAILS
SCALE: 1" = 1'-0"

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

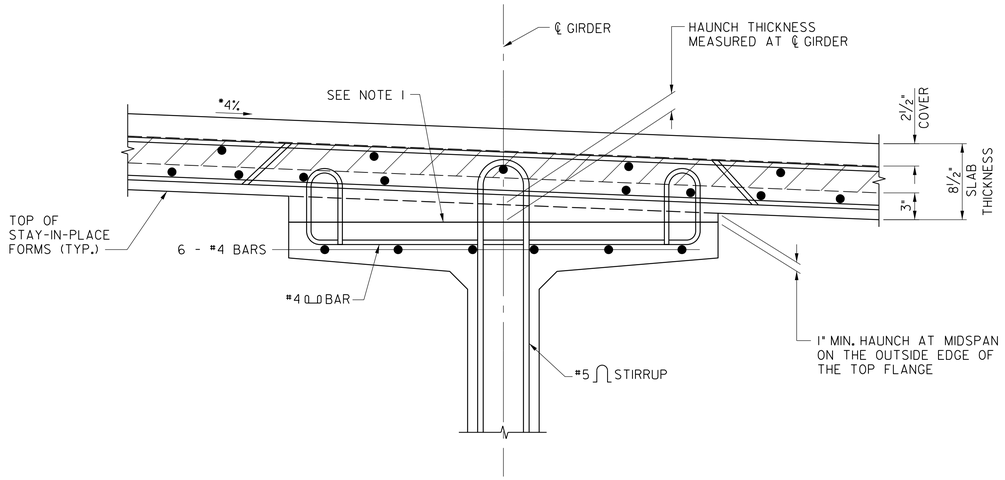
BRIDGE NO. F09-27

ADDITIONAL OVERHANG REINFORCING DETAILS

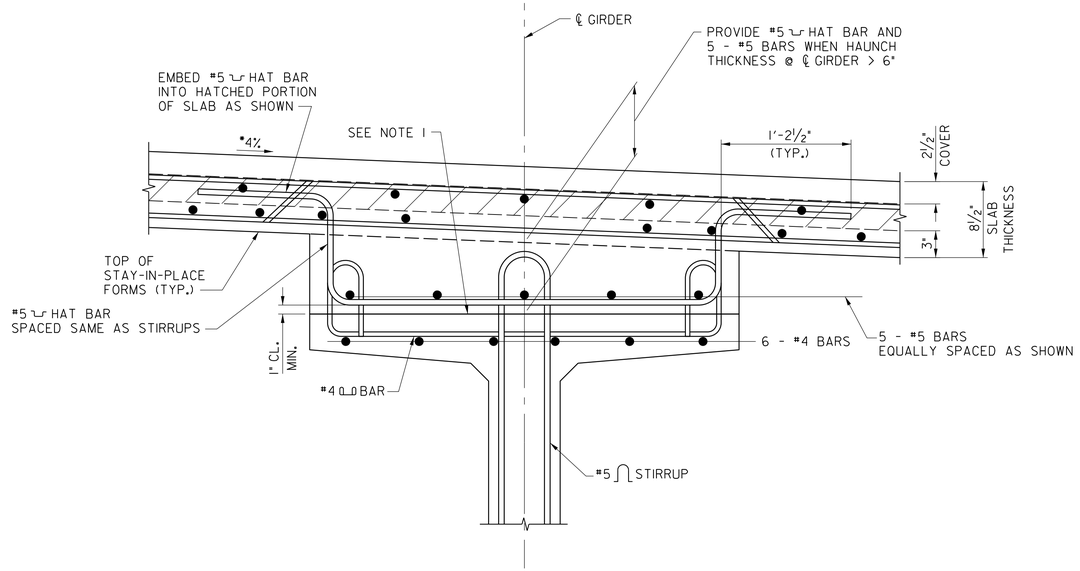
DATE: OCTOBER 2022 SCALE: 1"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 153 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:22 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sBR-SS02_MONROVIA-EWC.dgn



HAUNCH ≤6"
SCALE: 1½" = 1'-0"



HAUNCH >6"
SCALE: 1½" = 1'-0"

NOTES:

1. TOP SURFACE OF ALL GIRDERS SHALL BE ROUGH FINISHED TO A FULL AMPLITUDE OF ¼" AND SCRUBBED TRANSVERSELY WITH A COURSE WIRE BRUSH TO REMOVE ALL LAITANCE TO PRODUCE A ROUGHENED SURFACE FOR BONDING.
2. ALL REINFORCEMENT SHALL BE EPOXY COATED.
3. PRESTRESSING STEEL IN GIRDERS NOT SHOWN FOR CLARITY.
4. THE COST OF #5 HAT BARS AND 5 - #5 BARS IN HAUNCH SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THE "SUPERSTRUCTURE CONCRETE" ITEM.

*CROSS SLOPE MEASURED NORMAL TO ℄ OF CONSTRUCTION.

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JOHN RICHARD BETTIS · 16558 · REGISTERED PROFESSIONAL ENGINEER
07/14/22

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

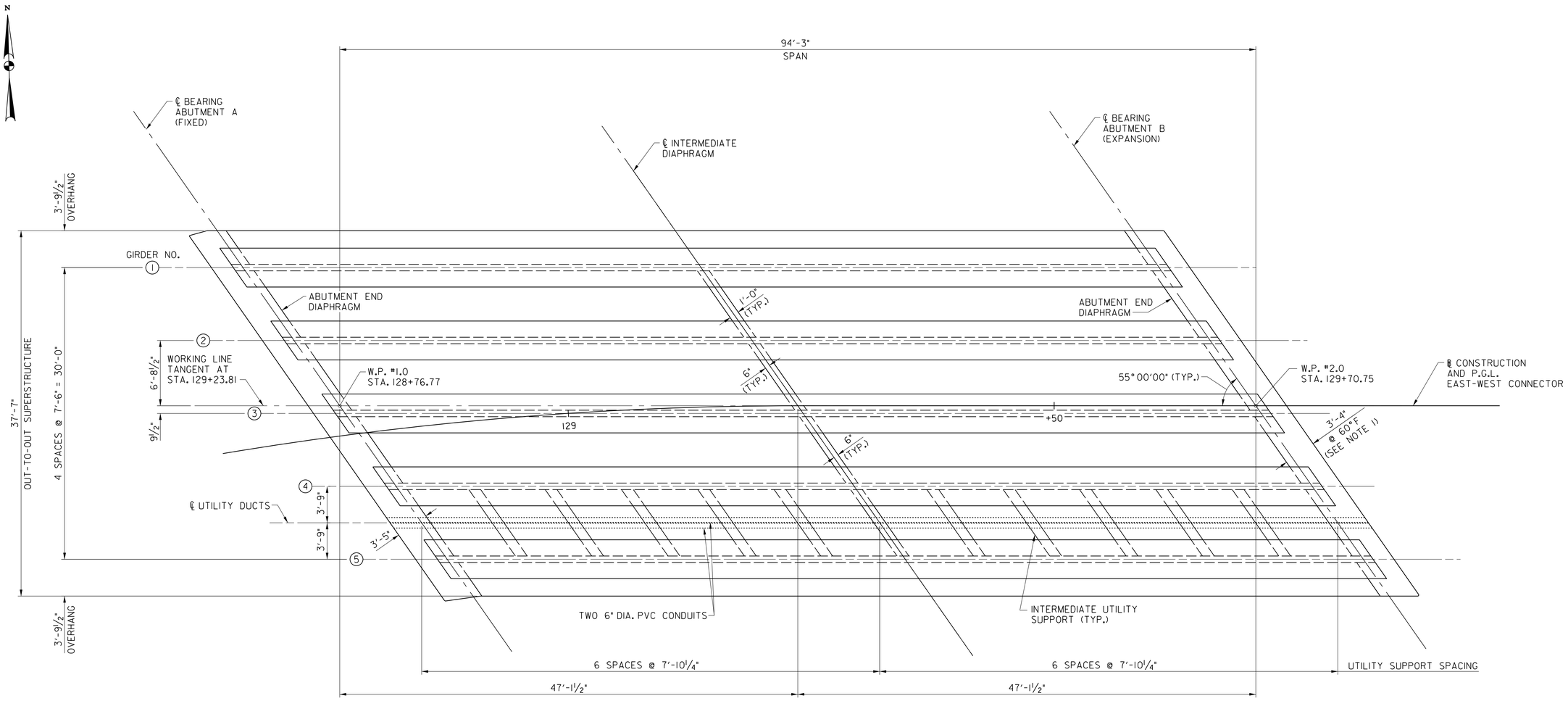
BRIDGE NO. F09-27

HAUNCH DETAILS

DATE: OCTOBER 2022 SCALE: 1 1/2"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 154 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:23 PM
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\BR-S503_MONROVIA-EWC.dgn



FRAMING PLAN
SCALE: 3/16" = 1'-0"

NOTES:
1. DIMENSION BASED ON 60°F TEMPERATURE.
SEE COMPRESSION SEAL TABLE ON SHEET NO. S-51.

CROSS REFERENCE NOTES

1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE SHEET NO. S-30.
2. FOR ABUTMENT END DIAPHRAGM DETAILS, SEE SHEET NOS. S-37 THRU S-38.
3. FOR BEARING DETAILS, SEE SHEET NOS. S-42 THRU S-43.
4. FOR DECK POURING SEQUENCE, SEE SHEET NO. S-45.
5. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE MDOT SHA DETAIL NO. SUP-CG(DIA.)-104 ON SHEET NO. S-50.
6. FOR INTERMEDIATE UTILITY SUPPORT DETAILS, SEE SHEET NO. S-47.

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JOHN RICHARD DETTER
REGISTERED
PROFESSIONAL ENGINEER
11/14/22

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

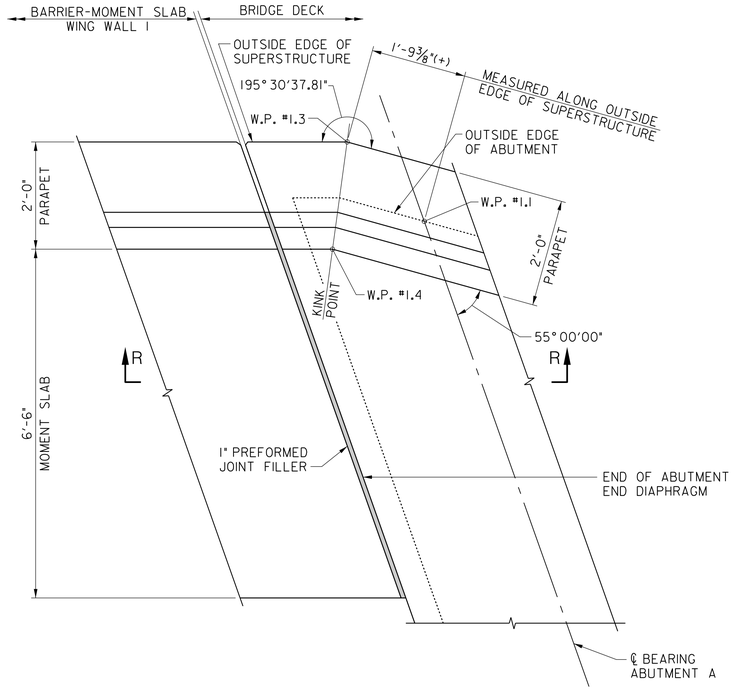
BRIDGE NO. F09-27

FRAMING PLAN

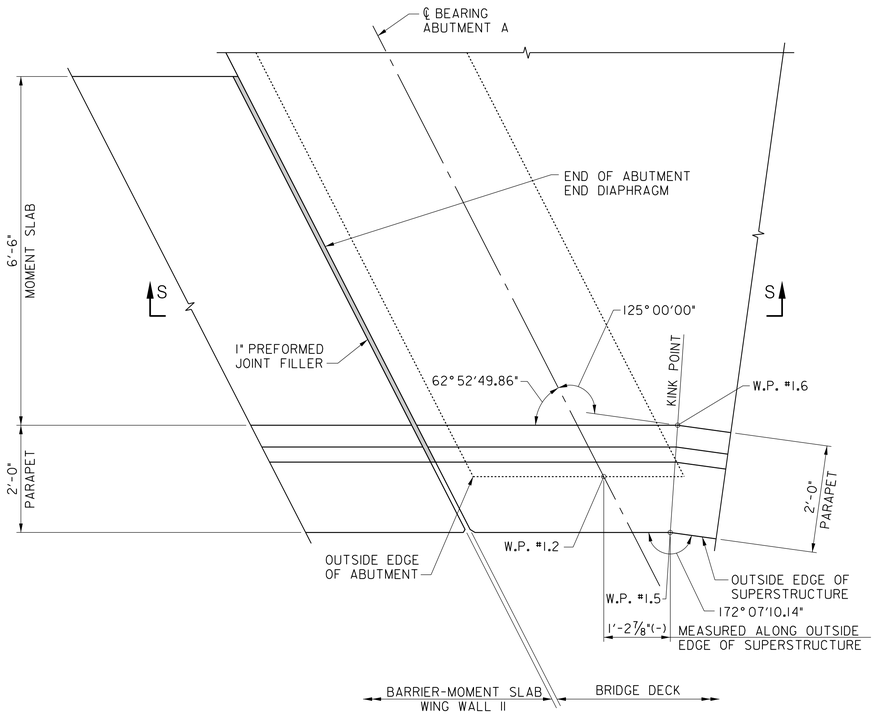
DATE: OCTOBER 2022 SCALE: 3/16"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 155 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 12:58 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sBR-FP01_MONROVIA-EWC.dgn

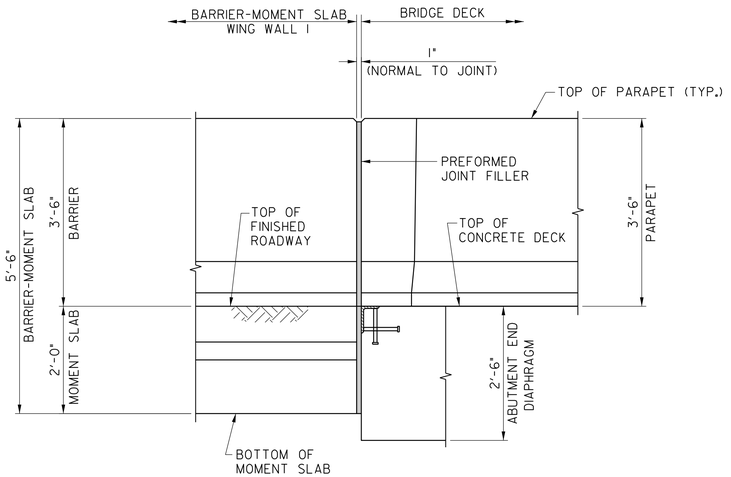


PLAN
SCALE: 3/4" = 1'-0"

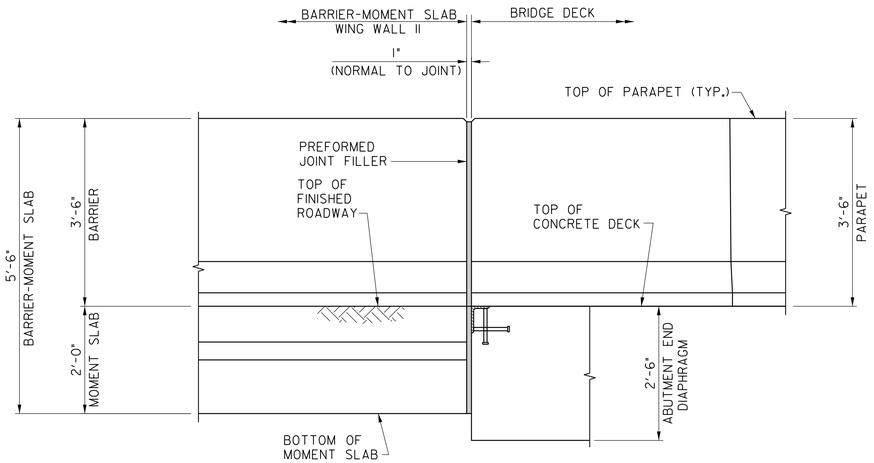


PLAN
SCALE: 3/4" = 1'-0"

NOTES:
1. FOR ADDITIONAL FIXED JOINT DETAILS, SEE MDOT SHA DETAIL NO. SUP-JT(FIX)-301



VIEW R-R
SCALE: 3/4" = 1'-0"



VIEW S-S
SCALE: 3/4" = 1'-0"

WORKING POINT COORDINATES				
W.P.#	STATION	OFFSET	NORTHING	EASTING
1.3	128+66.24	22.88' LT.	619071.7500	1234838.5201
1.4	128+66.20	20.87' LT.	619069.7434	1234838.7385
1.5	128+89.20	18.00' RT.	619033.4225	1234865.6327
1.6	128+89.26	16.00' RT.	619035.4255	1234865.5489

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · STEVEN RICHARD DETTLING · REGISTERED PROFESSIONAL ENGINEER · 37422

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

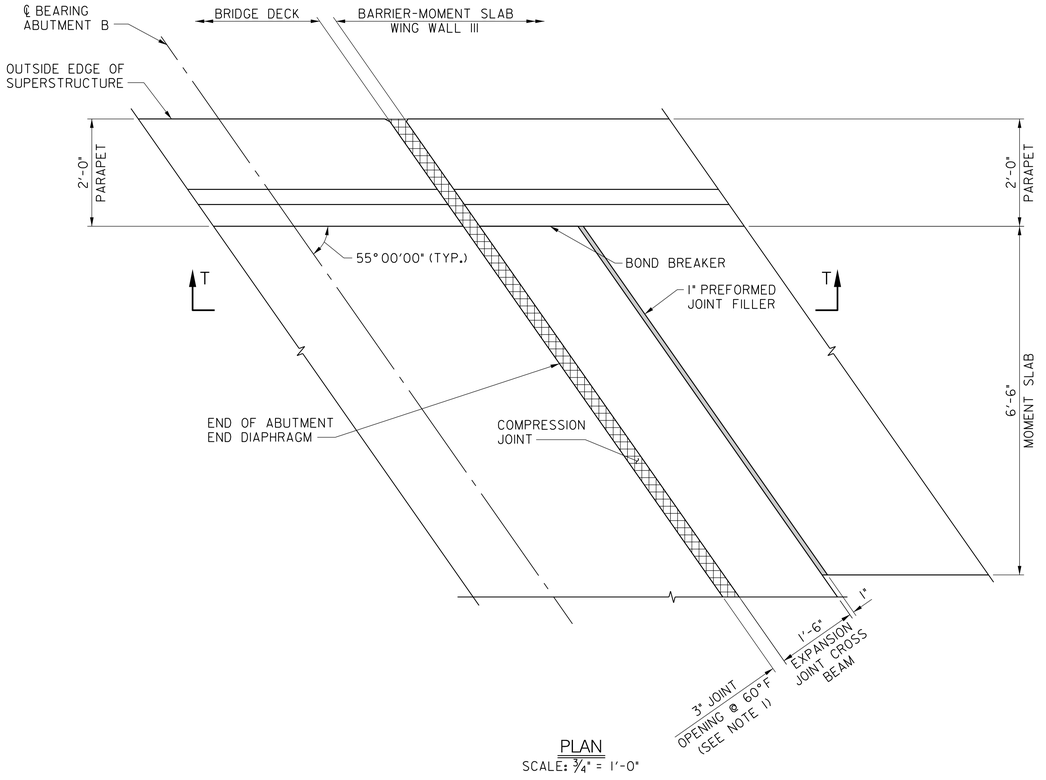
BRIDGE NO. F09-27

FIXED JOINT DETAILS

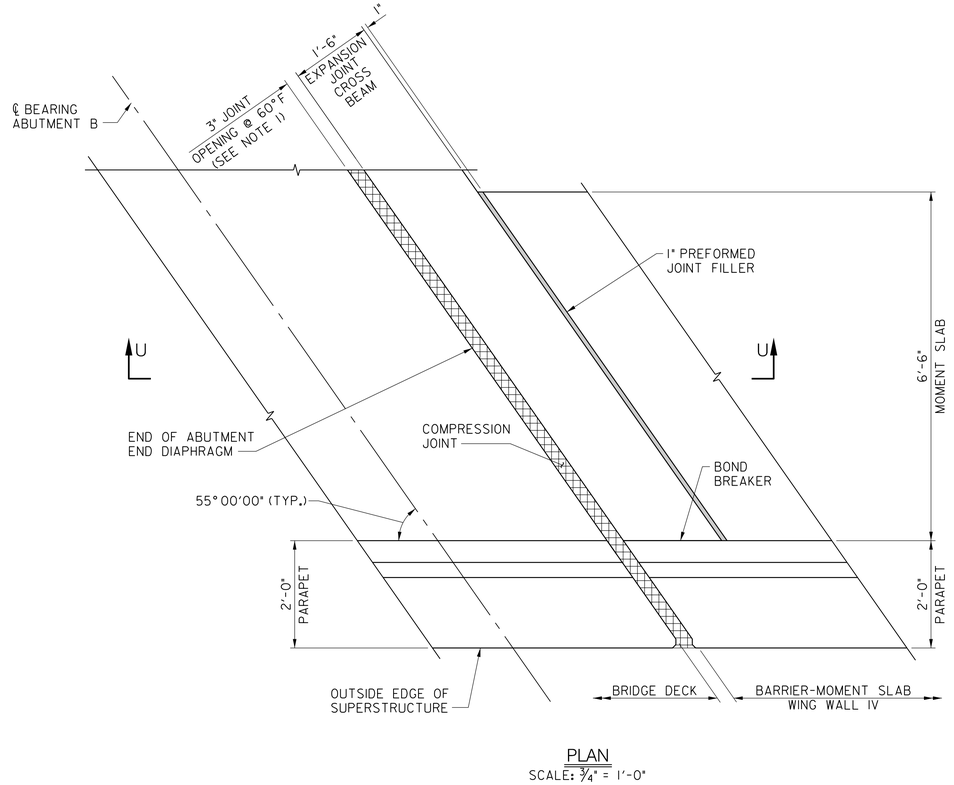
DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 156 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:32 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\sBR-FXDJ_MONROVIA-EWC.dgn



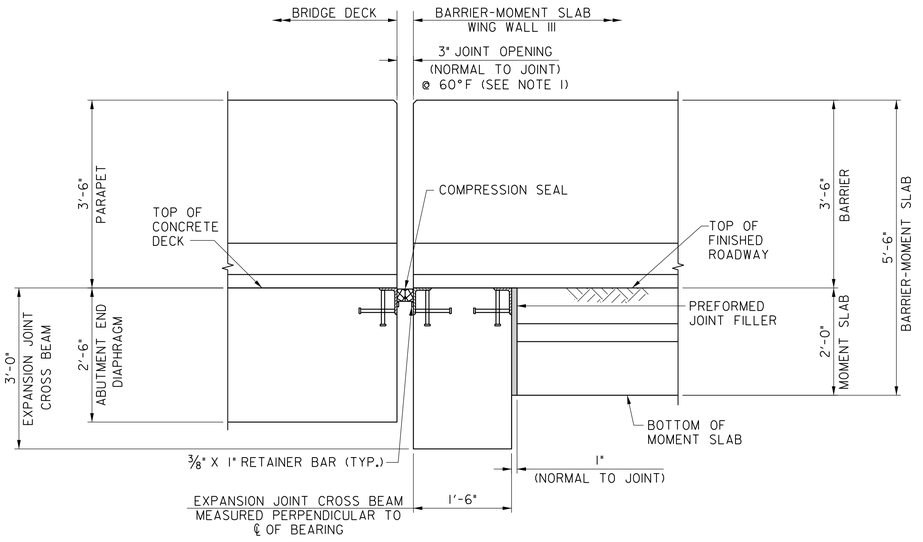
PLAN
SCALE: 3/4" = 1'-0"



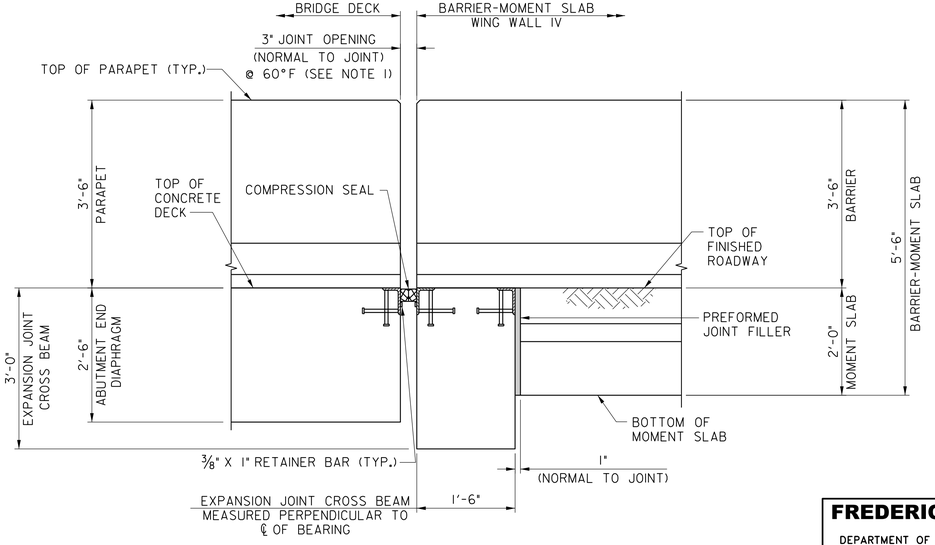
PLAN
SCALE: 3/4" = 1'-0"

NOTES:

1. DIMENSION BASED ON 60°F TEMPERATURE. SEE COMPRESSION DETAILS AND SEAL TABLE ON SHEET NO. S-51.
2. FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE MDOT SHA DETAIL NO. SUP-JT(EXP)-301.



VIEW T–T
SCALE: 3/4" = 1'-0"



VIEW U–U
SCALE: 3/4" = 1'-0"

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

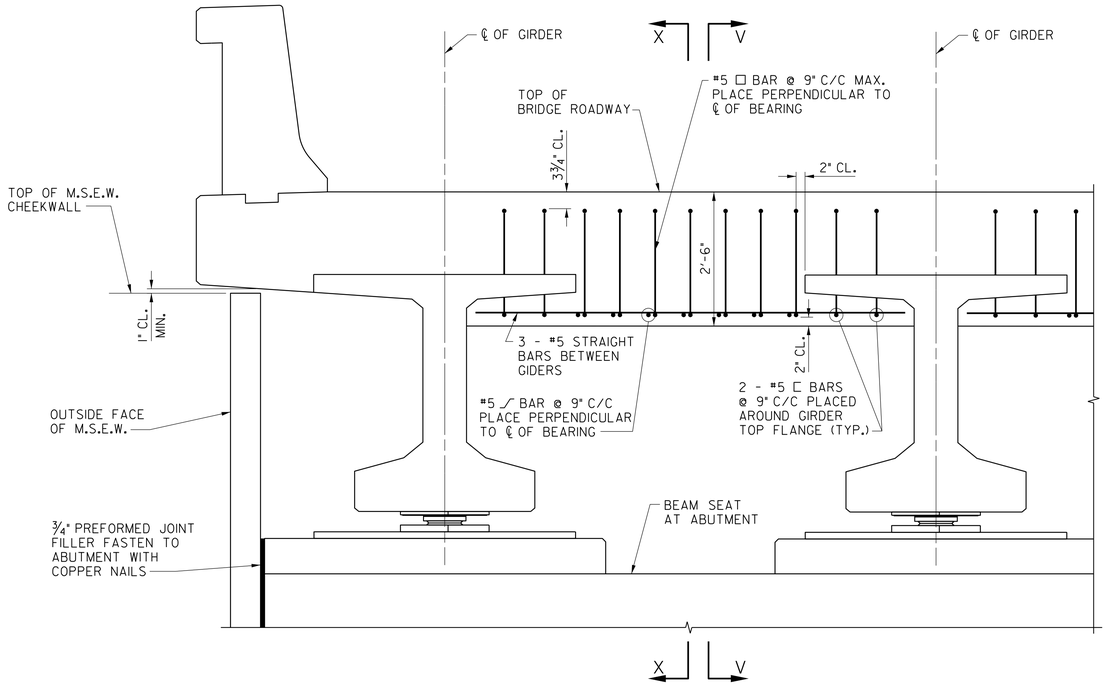
BRIDGE NO. F09-27

EXPANSION JOINT DETAILS

DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

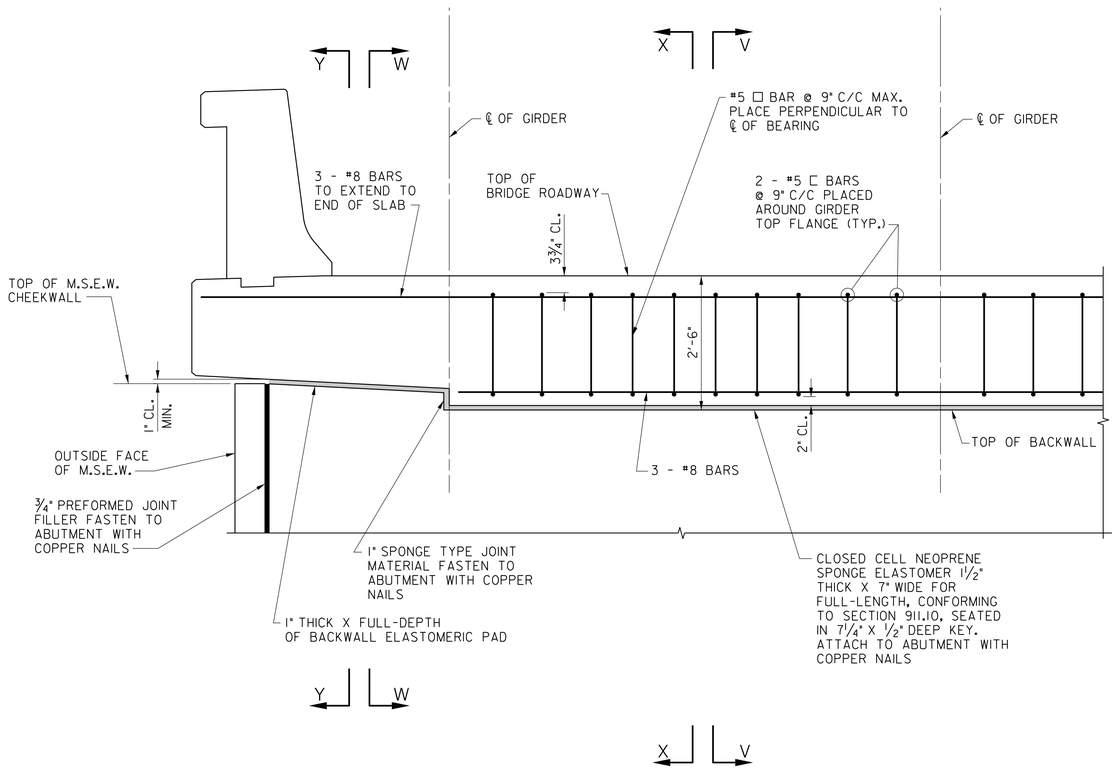
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 157 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:36 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pBR-EDD\MONROVIA-EWC.dgn



ELEVATION AT BEAM SEAT AREA OVER GIRDERS

SCALE: ¾" = 1'-0"



ELEVATION AT BEAM SEAT AREA OVER BACKWALL

SCALE: ¾" = 1'-0"

CROSS REFERENCE NOTES

1. FOR SECTIONS V-V, W-W, X-X AND Y-Y, SEE SHEET S-38.

NOTES:

1. ALL REINFORCEMENT SHOWN SHALL BE EPOXY COATED.
2. NORMAL DECK REINFORCING NOT SHOWN FOR CLARITY.
3. ELASTOMERIC PAD SHALL BE ATTACHED TO ABUTMENT BACKWALL IN ACCORDANCE WITH SECTION 423.03.04

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · JAMES RICHARD BETTEN · REG. NO. 16558 · REGISTERED PROFESSIONAL ENGINEER
11/4/22

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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

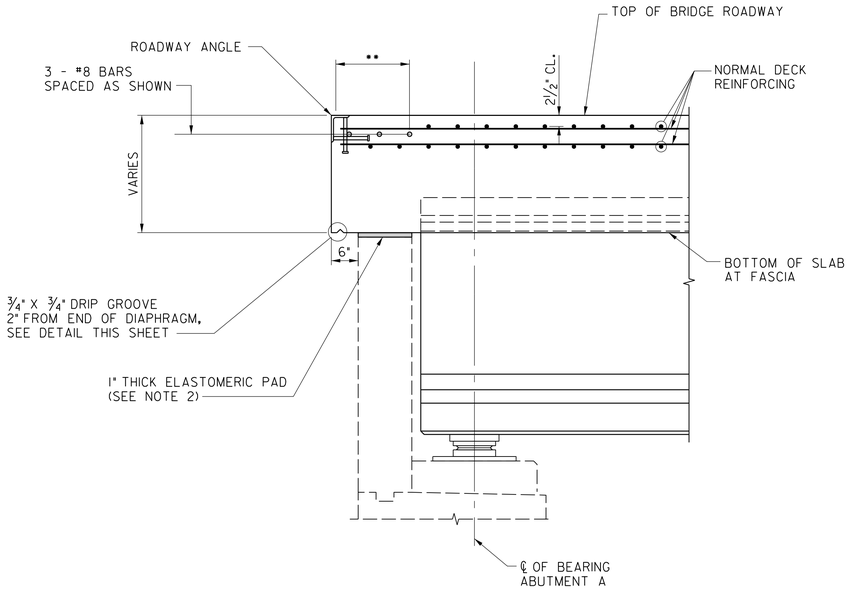
BRIDGE NO. F09-27

ABUTMENT END DIAPHRAGM DETAILS I

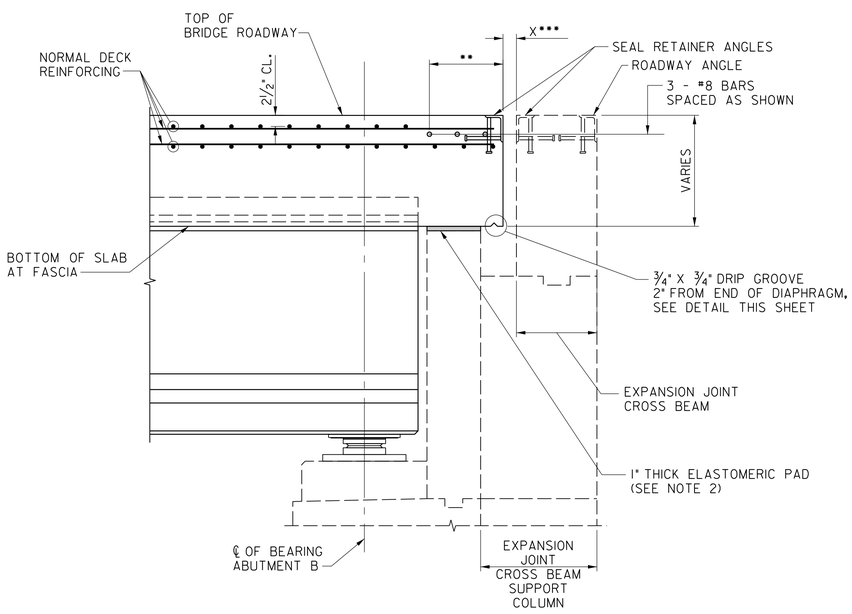
DATE: OCTOBER 2022 SCALE: 3/4"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 158 OF 226

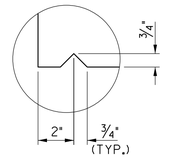
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:38 PM
FILE LOC: Frederick County - Monrovia E-W Connector\Design Files\gBR-0001_MONROVIA-EWC.dgn



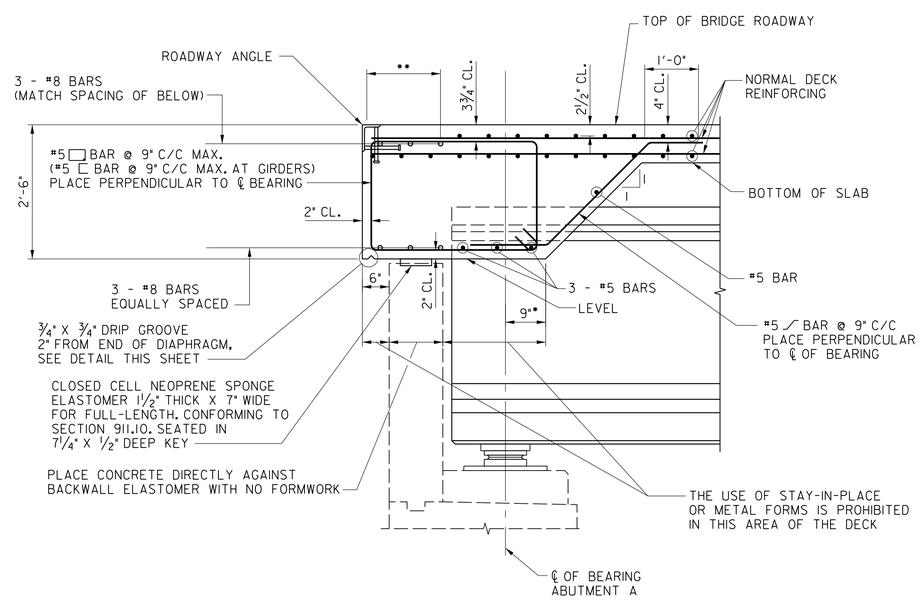
SECTION W–W
SCALE: ¾" = 1'-0"



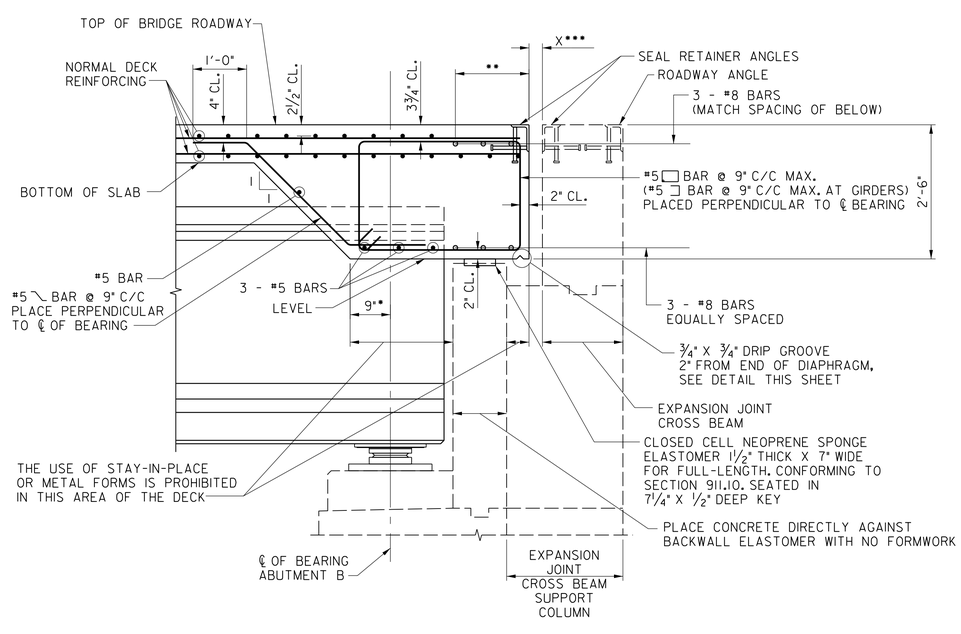
SECTION Y–Y
SCALE: ¾" = 1'-0"



DRIP GROOVE DETAIL
SCALE: 3" = 1'-0"



SECTION V–V
SCALE: ¾" = 1'-0"



SECTION X–X
SCALE: ¾" = 1'-0"

NOTES:

1. ALL REINFORCEMENT STEEL SHALL BE EPOXY COATED.
2. ELASTOMERIC PAD SHALL BE ATTACHED TO ABUTMENT BACKWALL IN ACCORDANCE WITH SECTION 432.03.04.

* MEASURED ⊥ TO ℄ OF BEARING.

** DO NOT PLACE TOP MAT TRANSVERSE DECK REINFORCING IN THIS AREA.

X*** = JOINT OPENING DIMENSION

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · LEWIS RICHARD BETTEN · REGISTERED · PROFESSIONAL ENGINEER
7/14/22

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

S-38

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

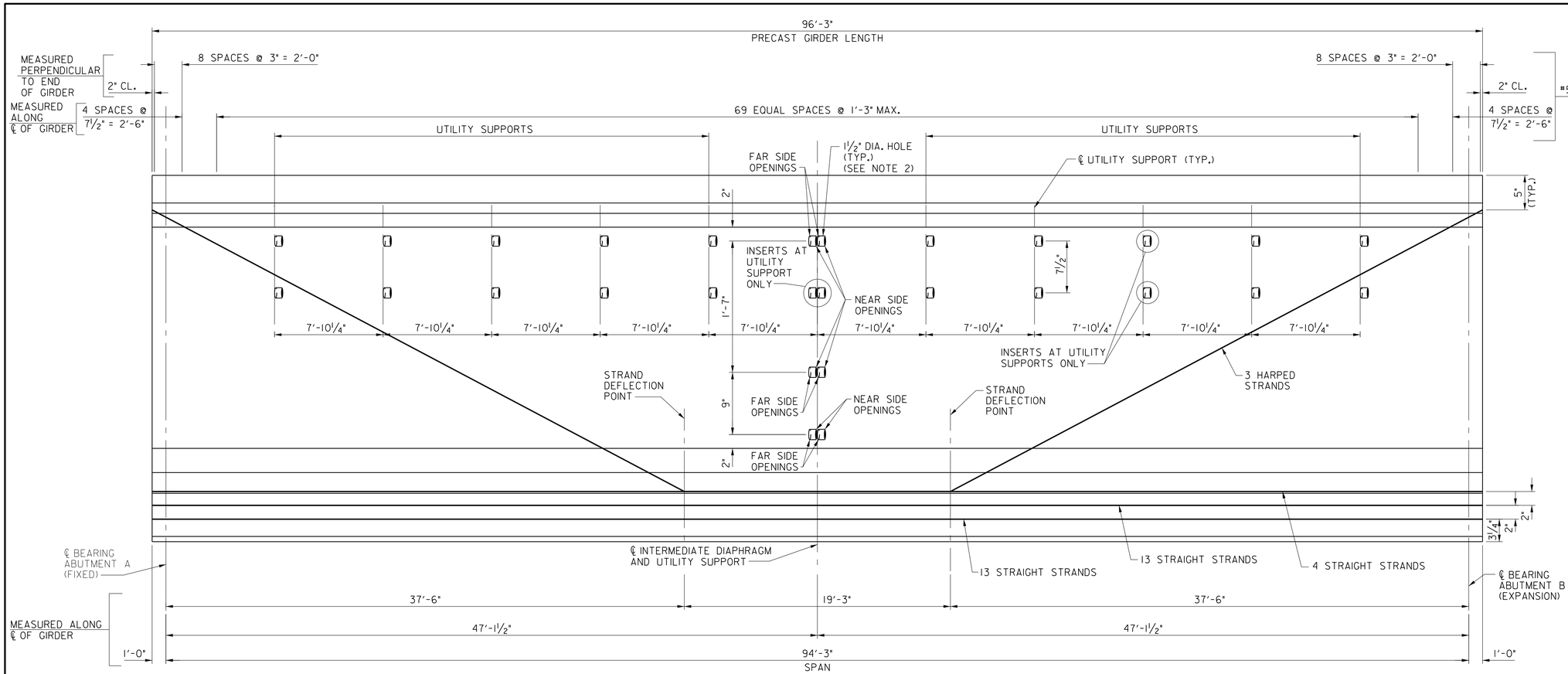
BRIDGE NO. F09-27

ABUTMENT END DIAPHRAGM DETAILS II

DATE: OCTOBER 2022 SCALE: AS SHOWN

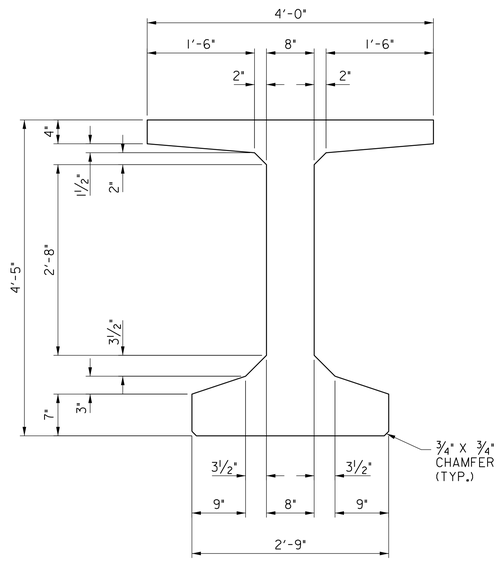
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 159 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:39 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\dBR-0002_MONROVIA-EWC.dgn

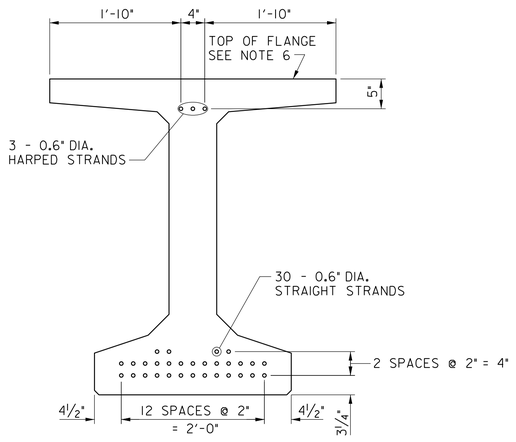


GIRDER ELEVATION

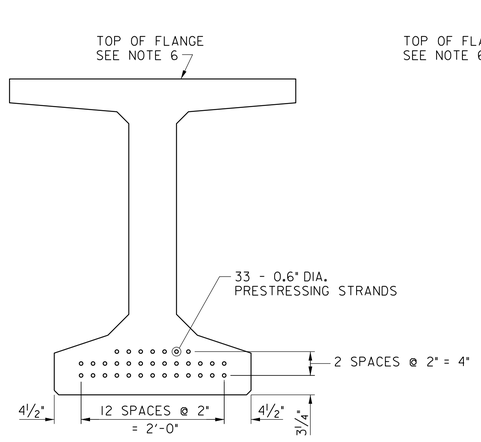
SCALE: ¼" = 1'-0" HORZ.
1½" = 1'-0" VERT.



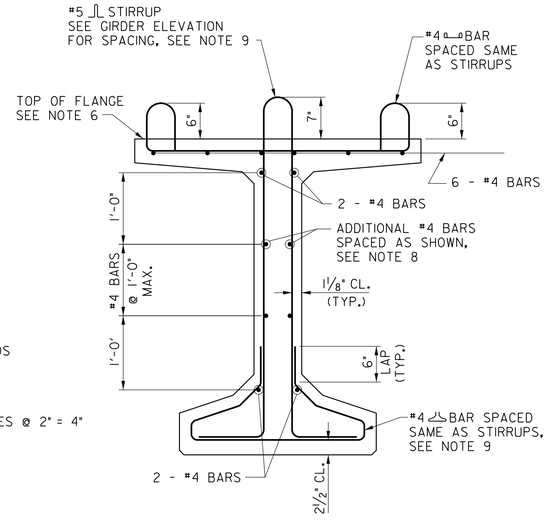
GIRDER
TYPICAL SECTION
SCALE: 1" = 1'-0"



SECTION AT ENDS



SECTION AT MID-SPAN



TYPICAL MILD REINFORCING DETAIL

SCALE: 1" = 1'-0"

GIRDER
TYPICAL SECTION
SCALE: 1" = 1'-0"

PCEF BULB TEE NOTES

1. ALL GIRDERS ARE 53" PCEF BULB TEES.
2. FOR EXTERIOR GIRDERS, USE THREADED INSERTS ONLY ON THE INSIDE FACE.
3. ALL MILD REINFORCEMENT IN GIRDERS SHALL BE EPOXY COATED.
4. FOR PERMANENT STEEL BRIDGE DECK FORM DETAILS, SEE SHEET NO S-47.
5. GIRDER LENGTHS IN CASTING BED SHALL BE DETERMINED AND DEPICTED IN THE SHOP DRAWINGS TO COMPENSATE FOR GRADE SHORTENING DUE TO PRESTRESS EFFECT.
6. TOP SURFACE OF ALL GIRDERS SHALL BE ROUGHENED TO A FULL AMPLITUDE OF ¼" AND SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGHENED SURFACE FOR BONDING.
7. UNLESS OTHERWISE NOTED, ALL CLEAR COVER SHALL BE 2".
8. THE LONGITUDINAL BARS IN THE WEB MAY BE DISCONTINUOUS TO ALLOW FOR THE PASSAGE OF DRAPED STRANDS IN THE GIRDER WEB.
9. MILD REINFORCING STEEL SHALL BE SPACED TO MISS HOLES AND THREADED INSERTS IN THE WEB.
10. A 180 DEGREE OR 90 DEGREE HOOK THAT CONFORMS TO MDOT SHA DETAIL NO. REBAR-DL-203 MUST BE USED ON THE BOTTOM OF EVERY MAIN STIRRUP. THIS HOOK CAN BE PLACED EITHER TRANSVERSELY OR LONGITUDINALLY TO THE BEAM. MAIN SHEAR STIRRUP BARS WITHOUT HOOKS AT THE BOTTOM ARE PROHIBITED.
11. THE MAIN SHEAR STIRRUPS CANNOT FLARE OUT TO THE SIDES OF THE FLANGES EXCEPT FOR THE HOOK AT THE BOTTOM OF THE GIRDER.
12. A HOOK OF 180 DEGREES IS REQUIRED FOR ANY BAR THAT PROTRUDES OUT OF THE GIRDER.
13. VERTICAL SPLICES ARE PROHIBITED IN THE MAIN SHEAR STIRRUPS.
14. HORIZONTAL SPLICES ARE ALLOWED FOR THE TRANSVERSE BARS IN THE TOP AND BOTTOM FLANGES.
15. THE GIRDERS HAVE BEEN DESIGNED USING A DRAPED STRAND PATTERN AS SHOWN ON THE PLANS. THE ADMINISTRATION WILL NOT CONSIDER ANY PROPOSALS FROM THE CONTRACTOR WHICH INVOLVE THE USE OF STRAIGHT STRANDS IN LIEU OF DRAPED STRANDS.
16. LOSSES ARE ESTIMATED AT 12.58% OF THE INITIAL PRESTRESSED FORCE FOR THE INTERIOR GIRDERS, RESULTING IN A FINAL EFFECTIVE PRESTRESS FORCE PER STRAND OF 51.22 LBS.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER

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

S-39

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

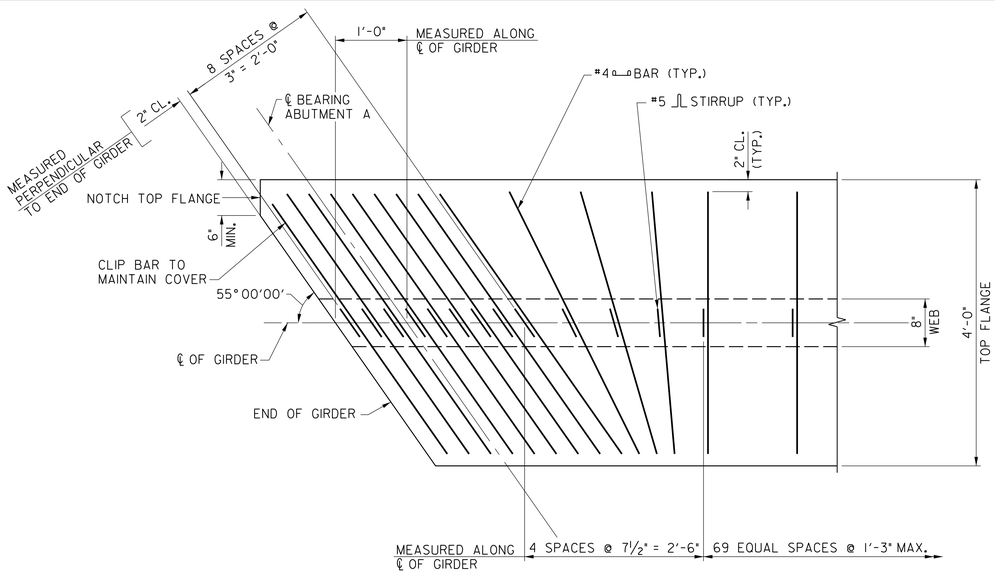
GIRDER ELEVATION AND TYPICAL SECTIONS

DATE: OCTOBER 2022 SCALE: AS SHOWN

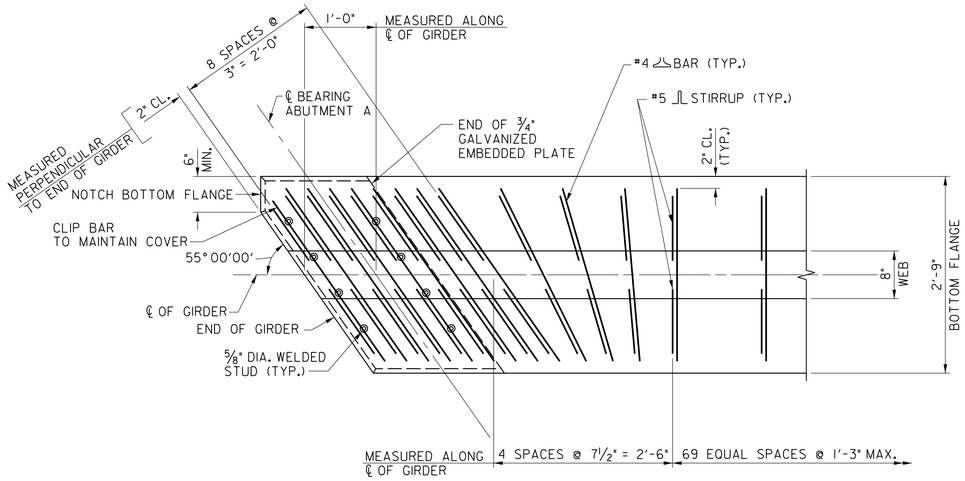
FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 160 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:52 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pBR-GEO_MONROVIA-EWC.dgn

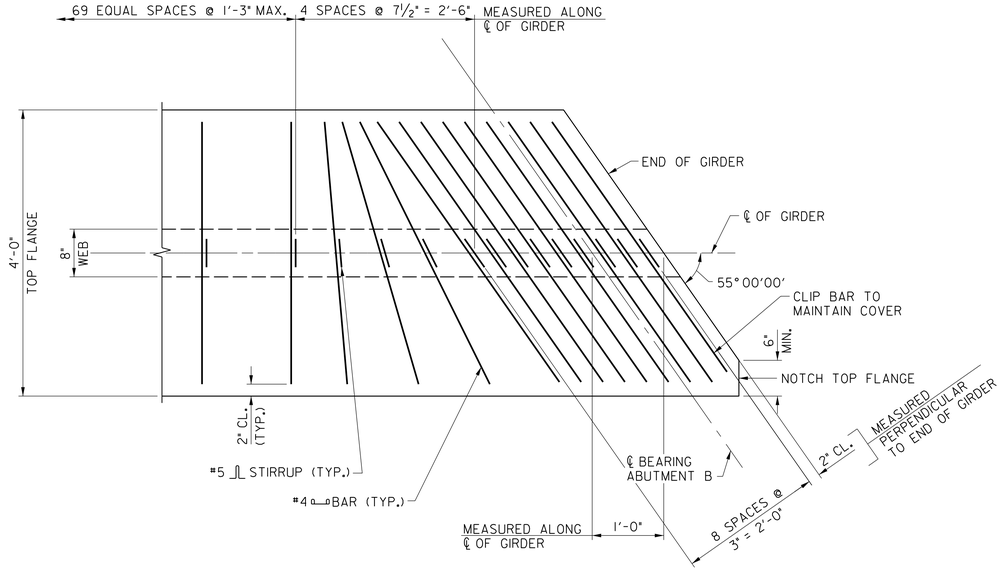


TOP FLANGE

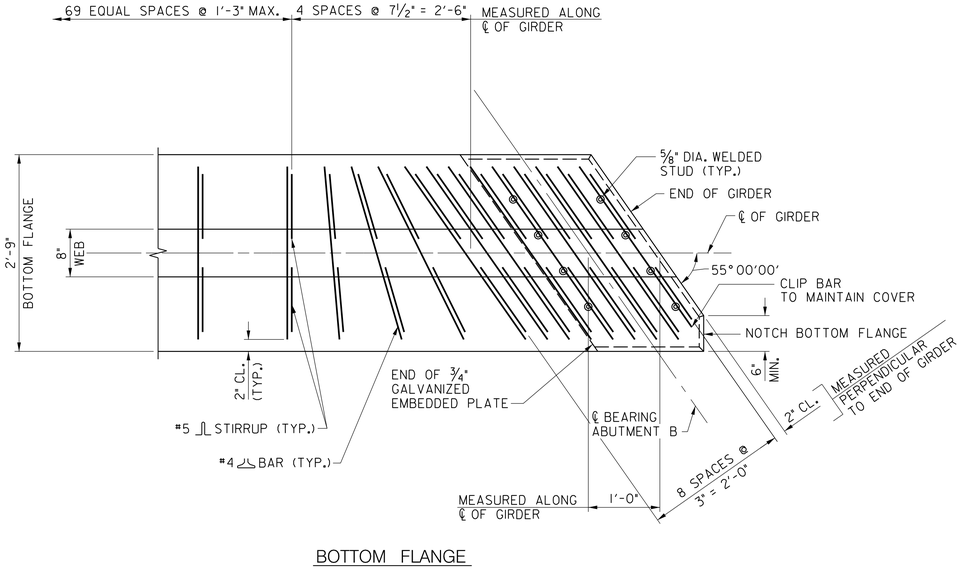


BOTTOM FLANGE

ABUTMENT A
GIRDER END DETAILS
SCALE: 1" = 1'-0"



TOP FLANGE



BOTTOM FLANGE

ABUTMENT B
GIRDER END DETAILS
SCALE: 1" = 1'-0"

NOTES:

1. ALL REINFORCEMENT SHALL BE EPOXY COATED.
2. LONGITUDINAL BARS AND PRESTRESSING STEEL NOT SHOWN FOR CLARITY.
3. ADJUST #4 BARS IN BOTTOM FLANGE TO CLEAR ⅝" DIA. WELDED STUDS.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · BRIAN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 21422

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

S-40

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

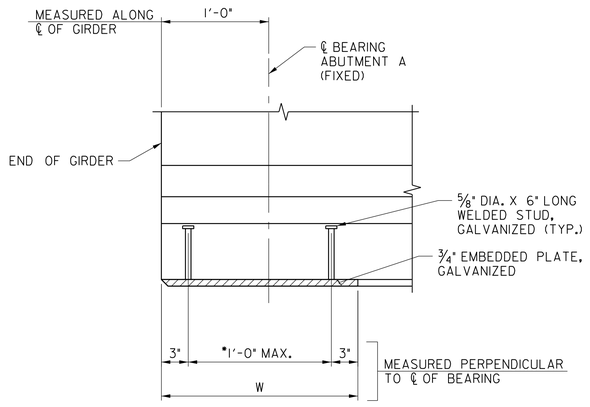
BRIDGE NO. F09-27

GIRDER END DETAILS

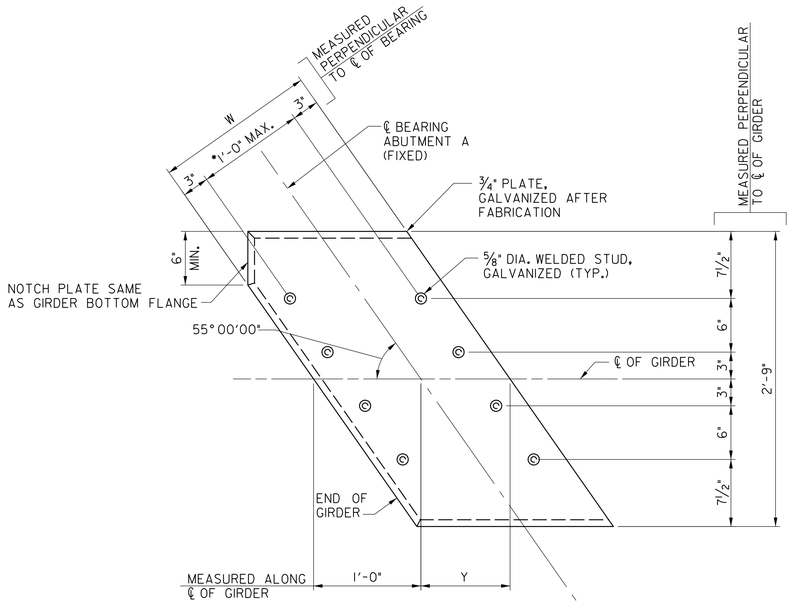
DATE: OCTOBER 2022 SCALE: 1" = 1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 161 OF 226

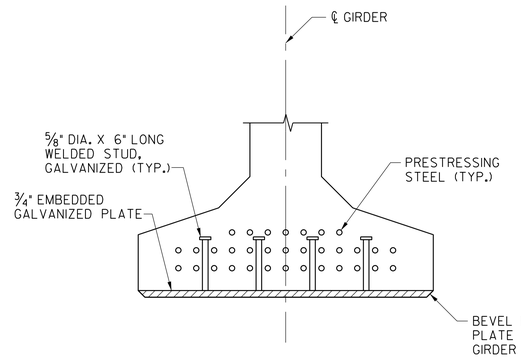
By: MAB - PLOTTED: Tuesday, October 18, 2022 AT 02:43 PM
FILE LOC: Frederick County - Monrovia E-W Connector\Design Files\BR-F09_MONROVIA-END.dgn



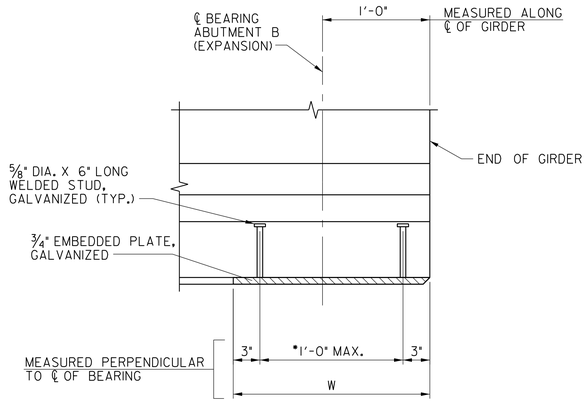
ABUTMENT A
SIDE VIEW



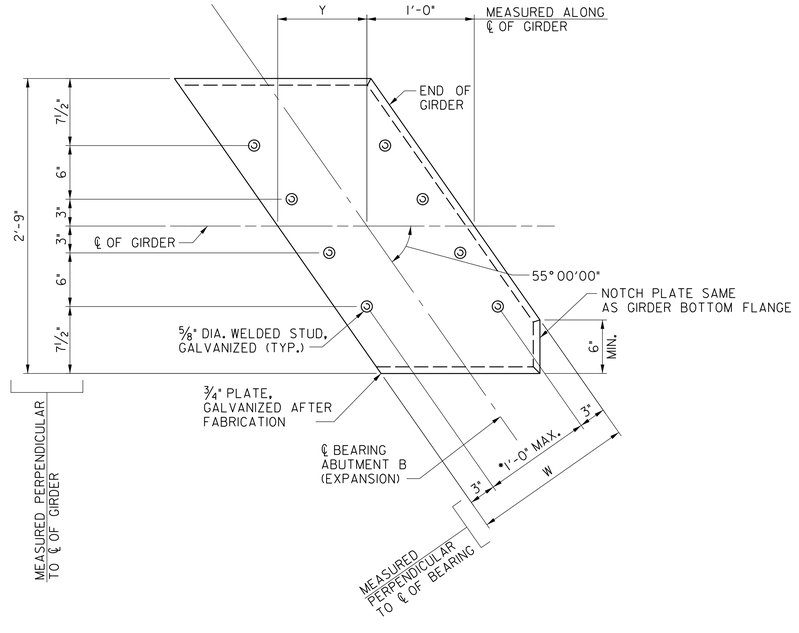
ABUTMENT A
PLAN



ELEVATION



ABUTMENT B
SIDE VIEW



ABUTMENT B
PLAN

EMBEDDED PLATE DETAILS
SCALE: 1 1/2" = 1'-0"

EBEDDED PLATE NOTES:

1. WIDTH, 'W', OF EMBEDDED PLATE AND DIMENSION 'Y' TO BE DETERMINED BY BEARING MANUFACTURER.

*PROVIDE ADDITIONAL ROW(S) OF STUDS FOR SPACING LARGER THAN 12"

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · STEVEN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 7/14/22

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 MANAGMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

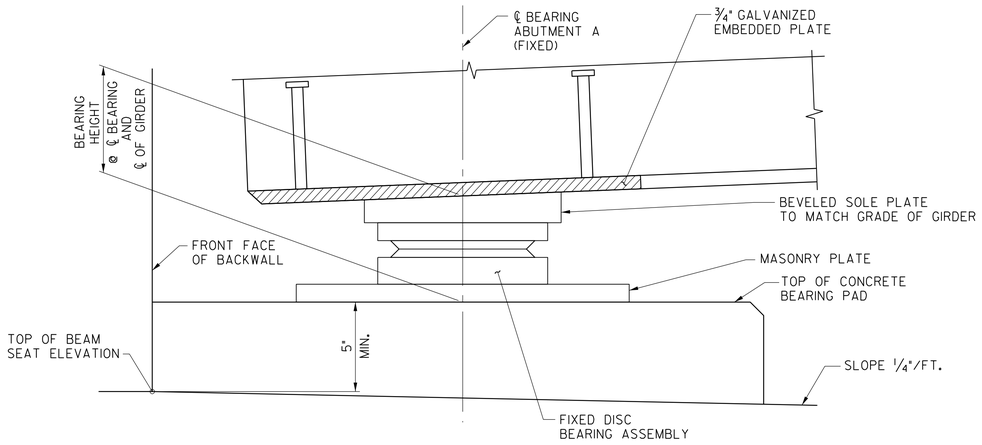
BRIDGE NO. F09-27

EMBEDDED PLATE DETAILS

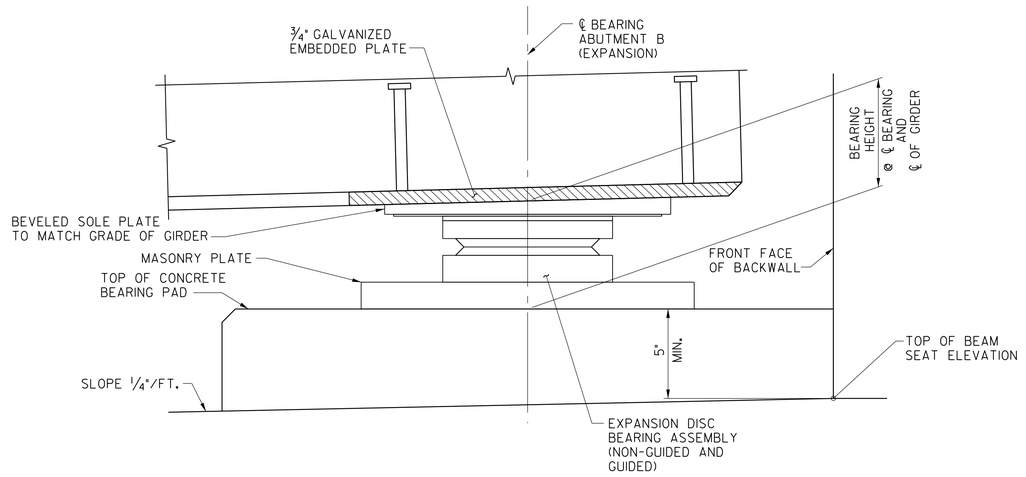
DATE: OCTOBER 2022 SCALE: 1 1/2"=1'-0"

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 162 OF 226

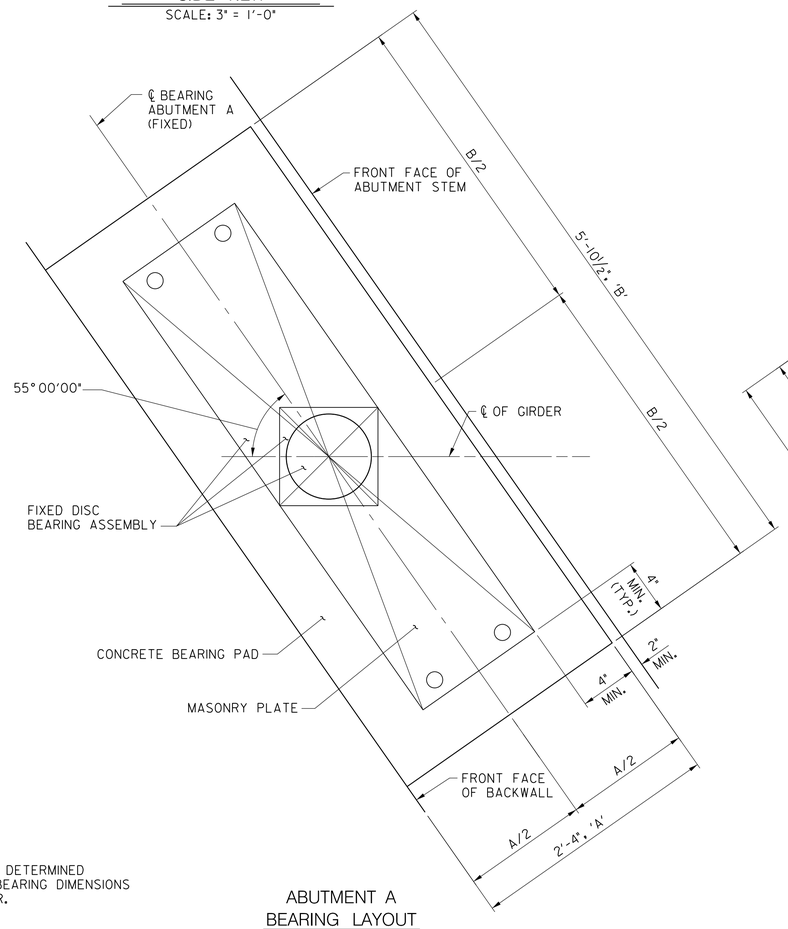
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:44 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\BR-C002_MONROVIA-EW1.dgn



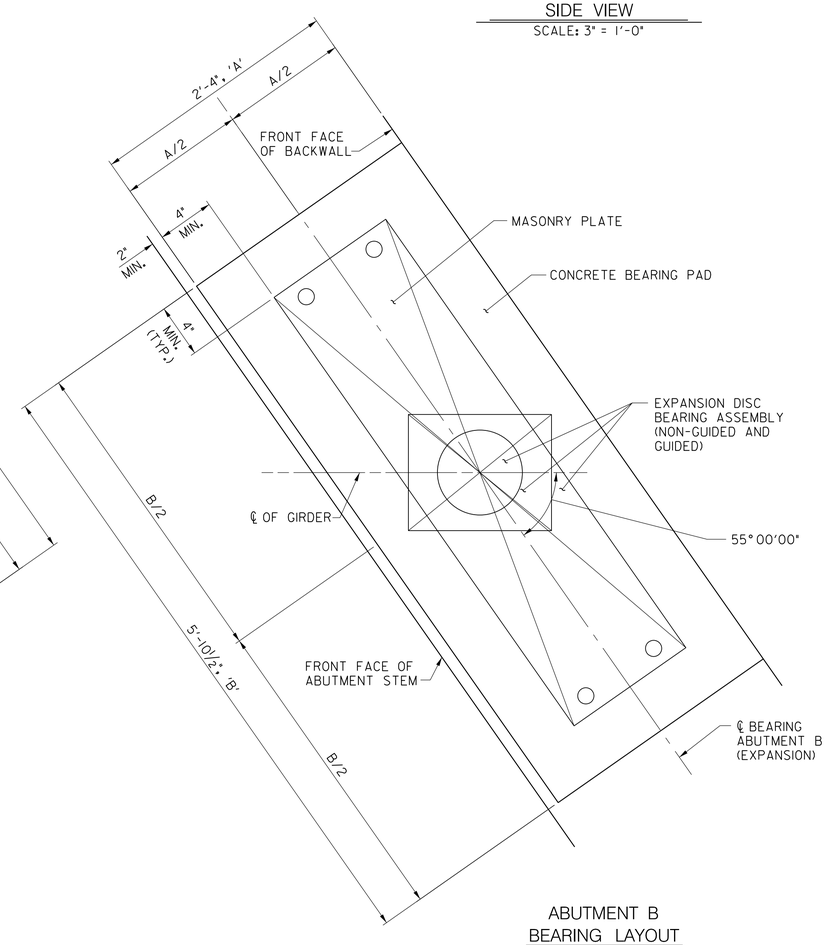
ABUTMENT A BEARING
SIDE VIEW
SCALE: 3" = 1'-0"



ABUTMENT B BEARING
SIDE VIEW
SCALE: 3" = 1'-0"



ABUTMENT A
BEARING LAYOUT
SCALE: 1½" = 1'-0"



ABUTMENT B
BEARING LAYOUT
SCALE: 1½" = 1'-0"

NOTE:
BEARING ASSEMBLY AND LAYOUT SHOWN FOR INFORMATIONAL PURPOSES ONLY. ACTUAL BEARING DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR.

CONCRETE BEARING PAD NOTES:

1. DIMENSIONS 'A' AND 'B' TO BE DETERMINED BY CONTRACTOR, BASED ON BEARING DIMENSIONS FROM BEARING MANUFACTURER.

CROSS REFERENCE NOTES

1. FOR BEARING DESIGN DATA, SEE SHEET NO. S-43.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · MATTHEW RICHARD BETTEN · REG. NO. 16558 · PROFESSIONAL ENGINEER
11/4/22

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

S-42

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BEARING DETAILS I

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 163 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:45 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pBR-BDD_MONROVIA-EWC.dgn

DISC BEARING DESIGN LOADING					
LOCATION(S)			ABUT. A (FIXED)	ABUT. B (EXPANSION)	
GIRDERS			I THRU 5	I AND 5	2 THRU 4
BEARING TYPE			FIXED	MULTIDIRECTIONAL	UNIDIRECTIONAL
SERVICE I LIMIT STATE (MAX.)	VERTICAL LOAD	DEAD	134.8 k	134.8 k	134.8 k
		LIVE	101.7 k	101.7 k	101.7 k
		TOTAL	236.5 k	236.5 k	236.5 k
	UPLIFT LOAD		-	-	-
	HORIZONTAL LOAD	LONGITUDINAL	8.71 k	-	-
		TRANSVERSE	2.46 k	-	-
STRENGTH I LIMIT STATE (MAX.)	VERTICAL LOAD	DEAD	170.1 k	170.1 k	170.1 k
		LIVE	178.0 k	178.0 k	178.0 k
		TOTAL	348.1 k	348.1 k	348.1 k
	UPLIFT LOAD		-	-	-
	HORIZONTAL LOAD	LONGITUDINAL	12.6 k	-	-
		TRANSVERSE	-	-	-
	ROTATION (+/-)	DUE TO ALL LOADS	0.0109 rad.	0.0109 rad.	0.0109 rad.
		UNCERTAINTIES ALLOWANCE*	0.005 rad.	0.005 rad.	0.005 rad.
		TOTAL	0.0159 rad.	0.0159 rad.	0.0159 rad.
	MOVEMENT (+/-)	LONGITUDINAL	-	2.44 in.	2.44 in.
		TRANSVERSE	-	0.76 in.	0.76 in.
EXTREME EVENT LIMIT STATE (MAX.)	VERTICAL LOAD	DEAD	134.8 k	134.8 k	134.8 k
		EQ, IC, CT, CV	-	-	-
		TOTAL	134.8 k	134.8 k	134.8 k
	UPLIFT LOAD		-	-	-
	HORIZONTAL LOAD	LONGITUDINAL	12.6 k	-	-
		TRANSVERSE	-	-	-
	MOVEMENT (+/-)	LONGITUDINAL	-	2.3 in.	2.3 in.
		TRANSVERSE	-	0.72 in.	0.72 in.

DISC BEARING AS-BUILT DATA						
GIRDER NO.		1	2	3	4	5
ABUTMENT A	BEARING MODEL NO.					
	BEARING PAD HEIGHT					
	BOTTOM OF GIRDER ELEVATION	441.92	441.19	441.46	441.25	441.06
	BEARING PAD ELEVATION					
	TOP OF BEAM SEAT ELEVATION					
ABUTMENT B	BEARING MODEL NO.					
	BEARING PAD HEIGHT					
	BOTTOM OF GIRDER ELEVATION	445.02	445.01	445.02	445.04	445.08
	BEARING PAD ELEVATION					
	TOP OF BEAM SEAT ELEVATION					

NOTES:

1. NON-GUIDED (MULTIDIRECTIONAL) EXPANSION BEARINGS SHALL BE PLACED AT THE EXTERIOR GIRDERS ONLY.
2. GUIDED (UNIDIRECTIONAL) EXPANSION BEARINGS SHALL BE PLACED AT THE INTERIOR GIRDERS ONLY.
3. FOR MORE INFORMATION ON THE DESIGN OF HIGH LOAD MULTIROTATIONAL (HLMR) DISC BEARINGS, SEE SPECIAL PROVISIONS.

BY: JDM -
PLOTTED: Thursday, October 20, 2022 AT 10:31 AM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-BD02_MONROVIA-EWC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · No. 16558 · REGISTERED PROFESSIONAL ENGINEER

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

S-43

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BEARING DETAILS II

DATE: OCTOBER 2022 SCALE: NONE

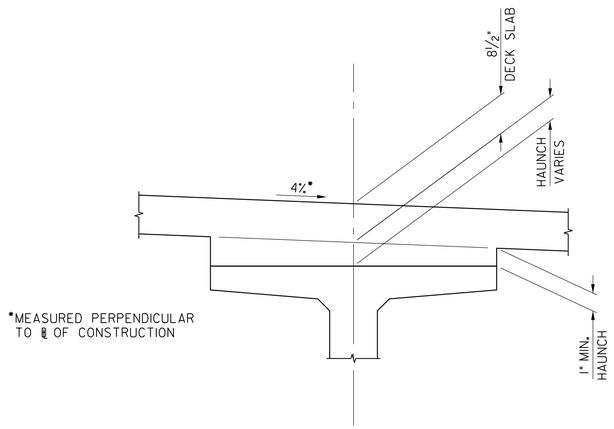
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 164 OF 226

NOTES FOR DEFLECTION

1. POSITIVE DEFLECTION IS IN THE DOWNWARD DIRECTION.
2. SUPERIMPOSED DEAL LOAD (S.D.L.) INCLUDES THE EFFECTS OF THE CONCRETE PARAPETS. IT DOES NOT INCLUDE THE EFFECT OF THE FUTURE WEARING SURFACE.

NOTES FOR CAMBER

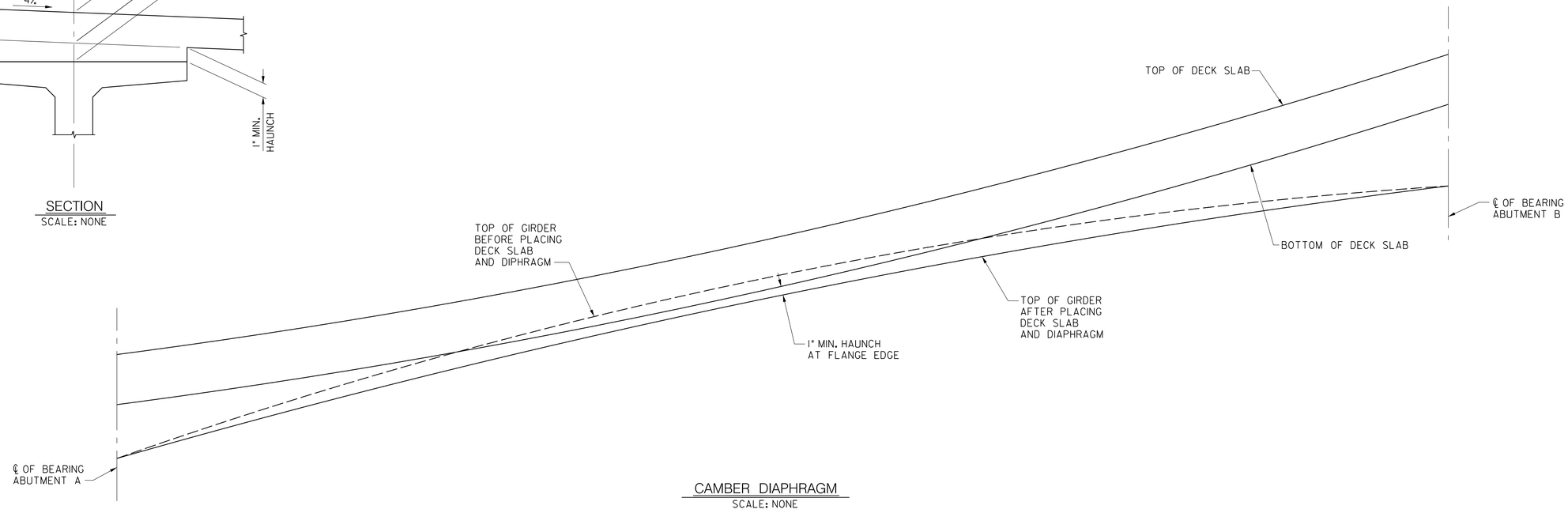
1. THE CONTRACTOR/FABRICATIOR IS RESPONSIBLE FOR CALCULATING THE PREDICTED CAMBER, PROVIDING A CAMBER MITIGATION PLAN AND CHECKING THE ACTUAL CAMBER OF THE 53" DEEP P.C.E.F. BULB TEES AT SET INTERVALS.
2. THE SHOP DRAWINGS SHALL INCLUDE CALCULATIONS FOR THE PREDICTED CAMBER AND A CAMBER MITIGATION PLAN.
3. THE CONTRACTOR/FABRICATOR SHALL CALCULATE THE DECK THICKNESS, AT THE INTERVALS SHOWN AND AT EACH EDGE AND ℄ OF THE 53" DEEP P.C.E.F. BULB TEES, BASED ON THE CONTRACTOR'S/FABRICATOR'S PREDICTED CAMBER. ANY LOCATION WHERE THE DECK THICKNESS IS BELOW THE REQUIRED MINIMUM OF 8½", AND WHERE THE MINIMUM HAUNCH THICKNESS IS BELOW 1" AT THE EDGE OF THE FLANGE, THE 36" P.C.E.F. BULB TEES SHALL FOLLOW THE APPROVED CAMBER MITIGATION PLAN.



SECTION
SCALE: NONE

DEFLECTION FOR SPAN 1									
	℄ BRG. ABUT. A	1/8	2/8	3/8	4/8	5/8	6/8	7/8	℄ BRG. ABUT. B
A) DEFLECTION DUE TO DECK SLAB	0	3/8	5/8	13/16	7/8	13/16	5/8	3/8	0
B) DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0
C) TOTAL DEFLECTION DUE TO A AND B	0	7/16	3/4	15/16	1	15/16	3/4	7/16	0

NOTE: ALL DIMENSIONS ARE IN INCHES.



CAMBER DIAPHRAGM
SCALE: NONE

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

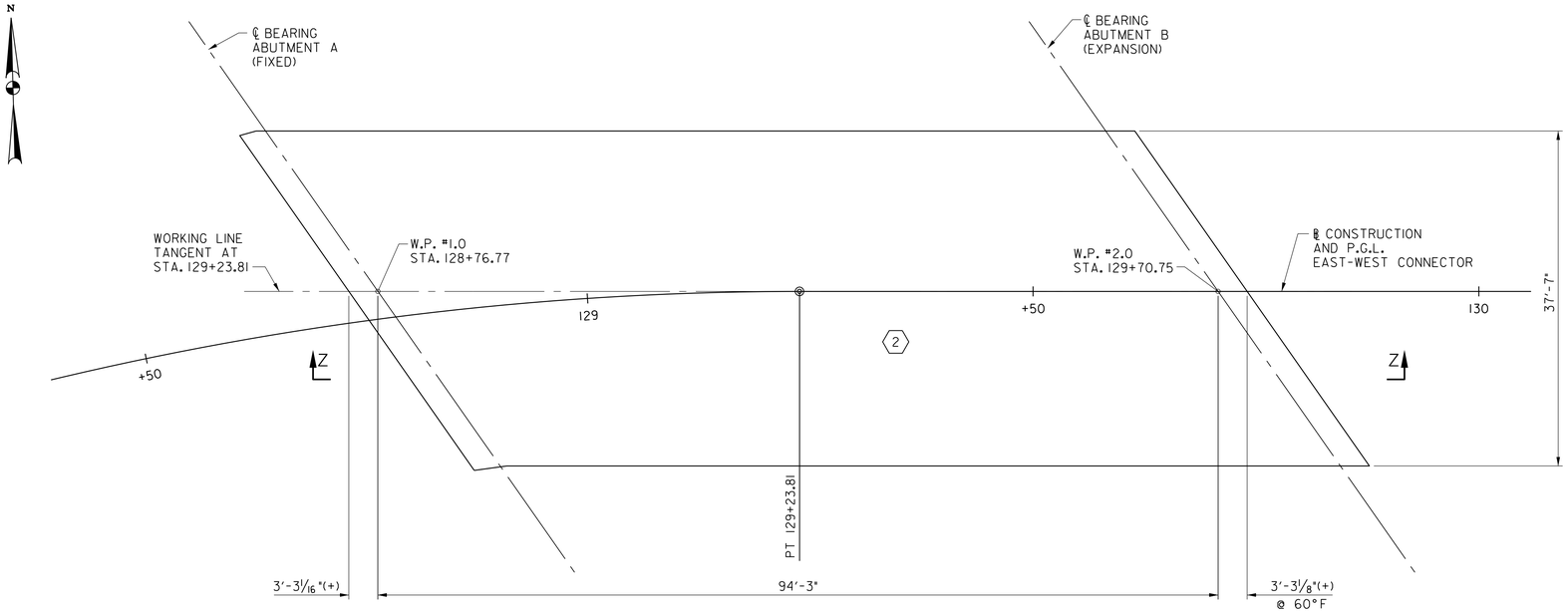
BRIDGE NO. F09-27

CAMBER AND DEFLECTION DETAILS

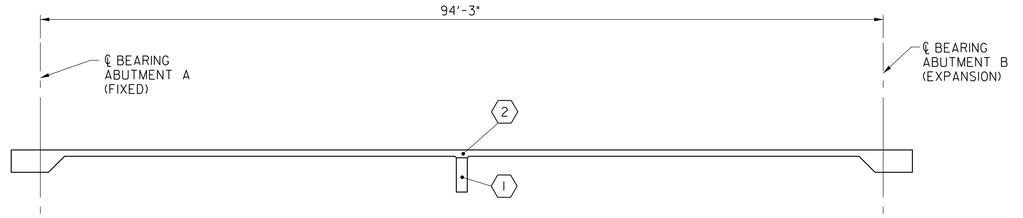
DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 165 OF 226

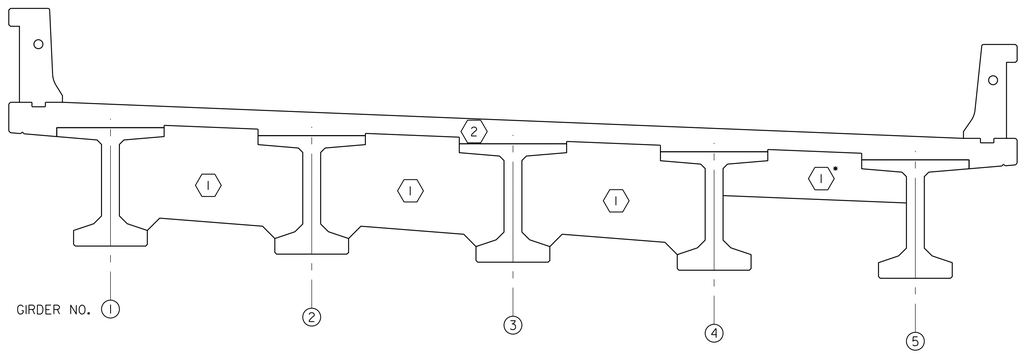
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:46 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-C003_MONROVIA-EWC.dgn



PLAN
DECK POURING SEQUENCE
SCALE: 1/8" = 1'-0"



LONGITUDINAL SECTION Z-Z
SCALE: 1/8" = 1'-0"



SUPERSTRUCTURE
TYPICAL SECTION
SCALE: 3/8" = 1'-0"

*UTILITY SUPPORTS BETWEEN GIRDERS (4) AND (5) SHALL BE POURED WITH POUR NO. (1)

LEGEND

(1) FIRST DECK POWER

(2) SECOND DECK POUR

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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

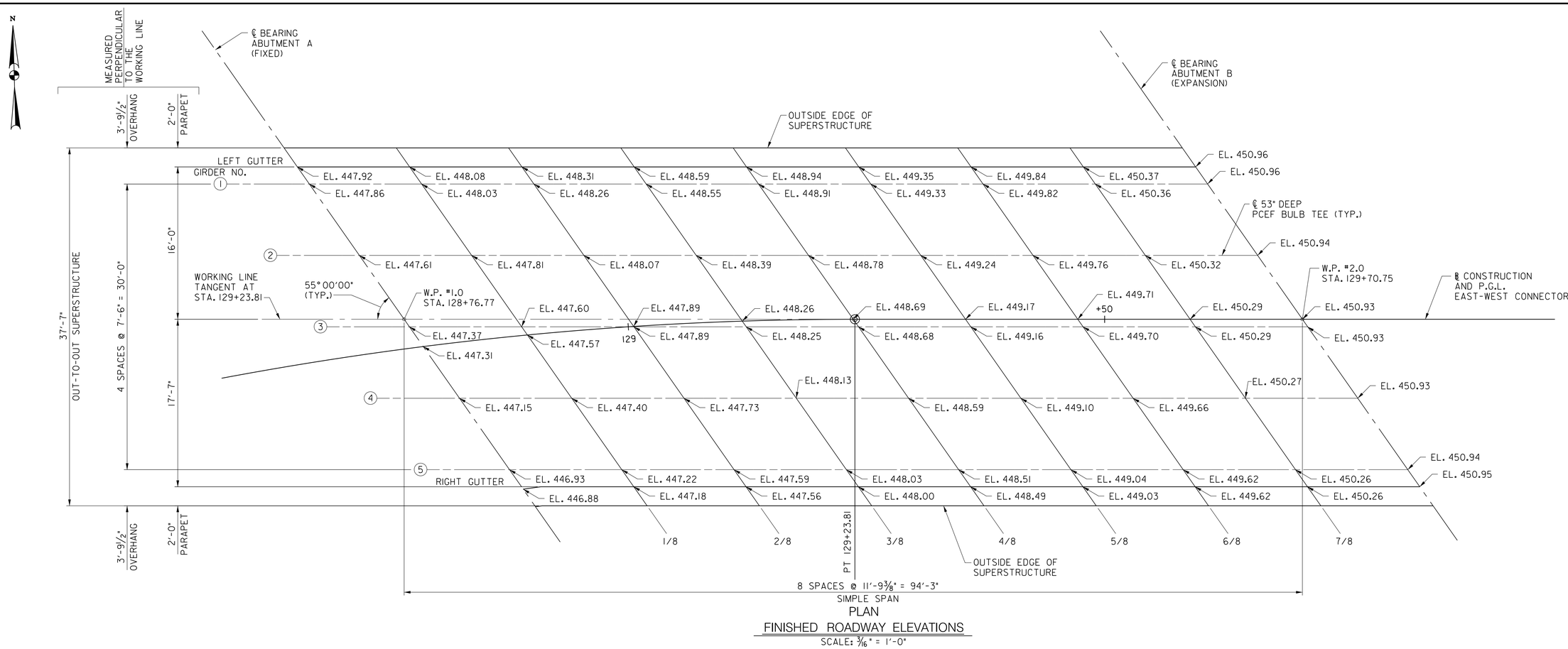
BRIDGE NO. F09-27

DECK POURING SEQUENCE

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 166 OF 226

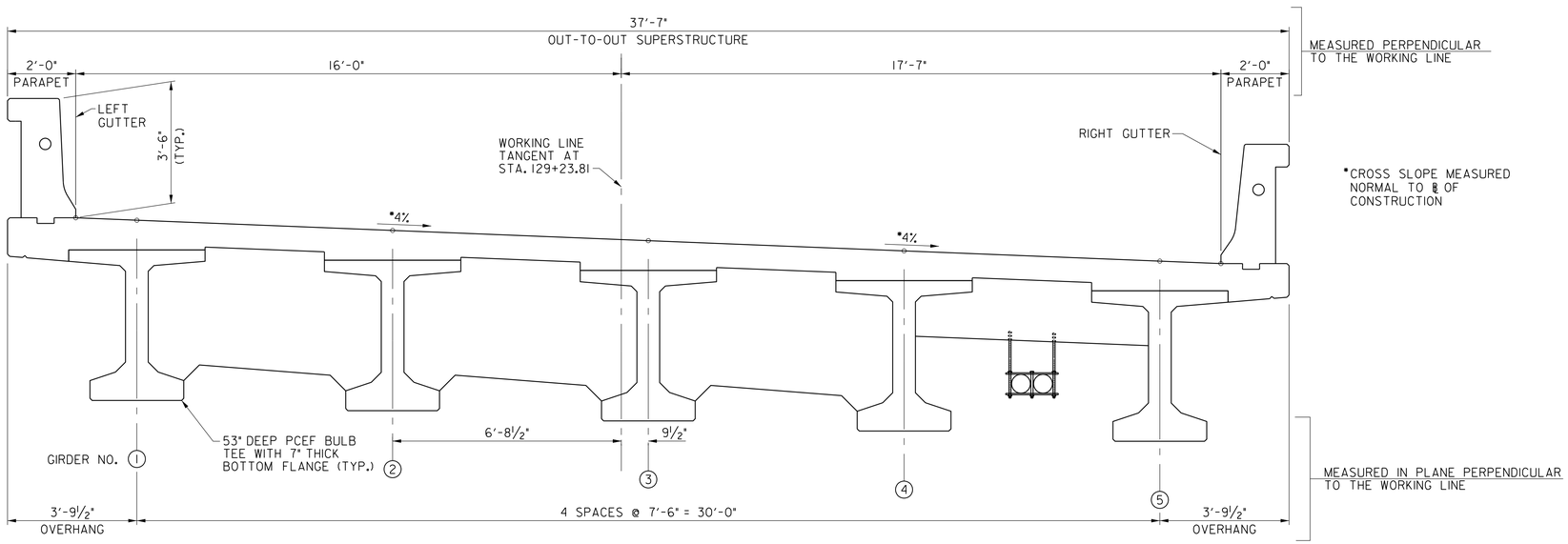
BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 11:56 AM
FILE: I:\AST\Frederick County - Monrovia E-W Connector\Design Files\SBR-PSQ1_MONROVIA E-W C.dgn



PLAN

FINISHED ROADWAY ELEVATIONS

SCALE: ⅜" = 1'-0"



SUPERSTRUCTURE TYPICAL SECTION

SCALE: ½" = 1'-0"

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

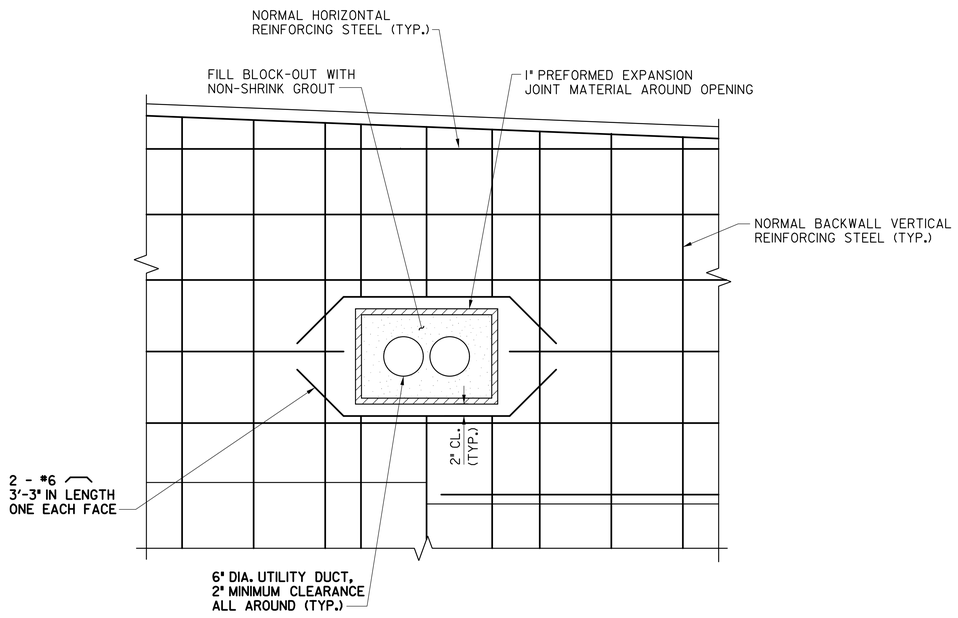
FINISHED ROADWAY ELEVATIONS

DATE: OCTOBER 2022 SCALE: AS SHOWN

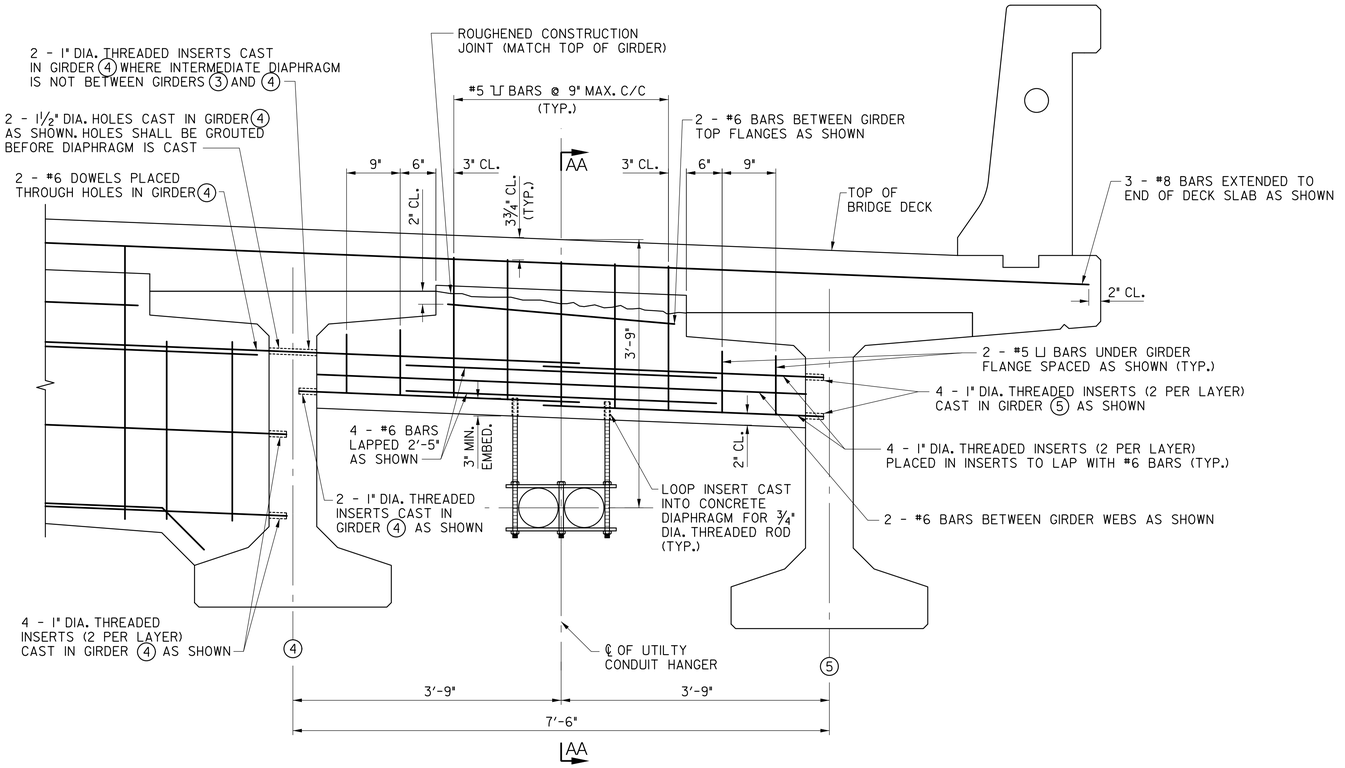
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 167 OF 226

BY: MAB -
PLOTTED: Wednesday, October 19, 2022 AT 01:01 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\gBR-PROJ_MONROVIA-EWC.dgn

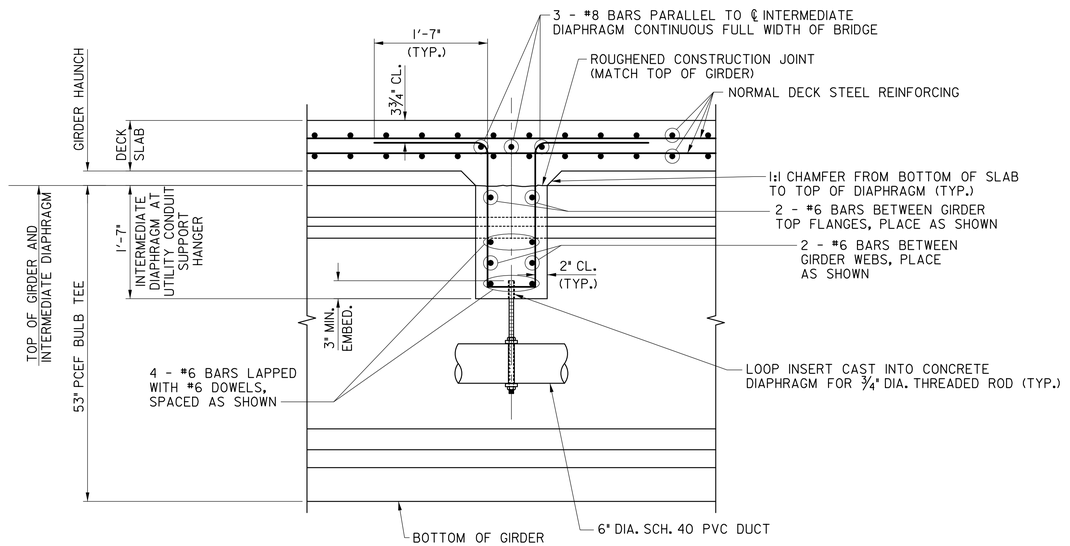
NOTE:
1. UTILITY DUCT OPENING BETWEEN GIRDERS 4 AND 5.
2. ADJUST ADJACENT VERTICAL AND HORIZONTAL STEEL PATTERN SO THAT THE NEAREST BARS TO THE OPENING ARE PLACED AT MIMINUM DISTANCES.



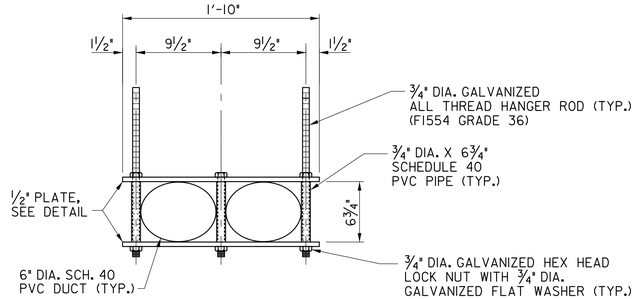
REINFORCEMENT ADJUSTMENT
AT CONDUIT DUCT AT BACKWALL
SCALE: 1" = 1'-0"



INTERMEDIATE DIAPHRAGM AT
UTILITY CONDUIT SUPPORT HANGER
SCALE: 1" = 1'-0"



SECTION AA-AA
SCALE: 1" = 1'-0"



BRIDGE HANGER SUPPORT DETAIL
SCALE: 1½" = 1'-0"

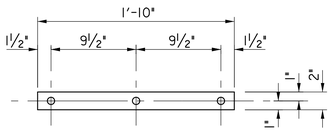


PLATE DETAIL
SCALE: 1½" = 1'-0"

NOTE: BRIDGE HANGER SUPPORT IS ALONG THE INTERMEDIATE DIAPHRAGM, WHICH IS SKEWED FROM THE WORKING LINE.

NOTES:
1. NORMAL CONCRETE GIRDER, SLAB AND PARAPET REINFORCING NOT SHOWN.
2. ALL REINFORCING STEEL THREADED BARS AND THREADED SHALL BE EPOXY COATED.
3. ALL REINFORCING STELL IN INTERMEDIATE DIAPHRAMS SHALL BE SPACED TO MISS UTILITY CONDUIT SUPPORT HANGER.
4. ALL STEEL PLATES SHALL CONFORM TO ASTM A36.
5. ALL THREADED INSERTS SHALL DEVELOP THE FULL STRENGTH OF THE THREADED BOLTS.
6. ALL STEEL MEMBERS SHALL BE HOT-DIP GALVANIZED AS PER ASTM A-123 AFTER FABRICATION.

BY: JDM
PLOTTED: Thursday, October 20, 2022 AT 02:30 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\sBR-DE01-MONROVIA-EWC.dgn

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

UTILITY CONDUIT SUPPORT DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 168 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

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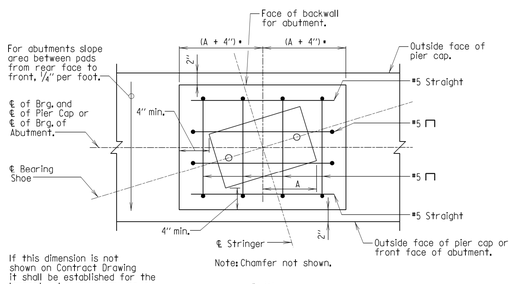
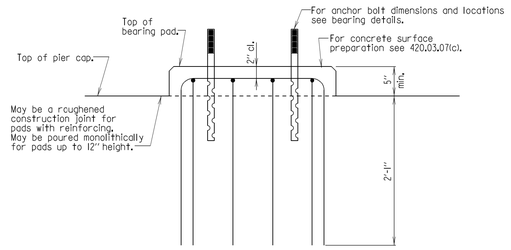


Note: Chamfer not shown.

If this dimension is not shown on Contract Drawing it shall be established for the largest value necessary on a support to the nearest higher inch, and the same dimension used for every pad on that support.

PLAN

Scale: 1" = 1'-0"



ELEVATION

Scale: 1" = 1'-0"

Notes:
1. Anchor bolts shall be set in round holes drilled or cored into the masonry.
2. The drilled or cored holes shall have a diameter of at least 1" larger than the diameter of the bolts.
3. Holes shall be filled with nonshrink grout conforming to 902.11(c).
4. For size of pad see pertinent substructure sheets. If not available see note in plan above.
5. Space reinforcing steel to clear anchor bolts.

APPROVAL DIRECTOR OFFICE OF STRUCTURES DATE: 05/07/2018	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
VERSION 1.01	BEARING PAD WHERE ONLY A SINGLE SHOE IS REQUIRED ON A SUPPORT
	DETAIL NO. SUB-BP-101 SHEET 1 OF 1

SUBSTRUCTURE BEARING PAD

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

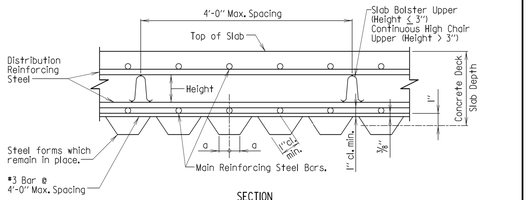
BRIDGE NO. F09-27

SUBSTRUCTURE DETAILS

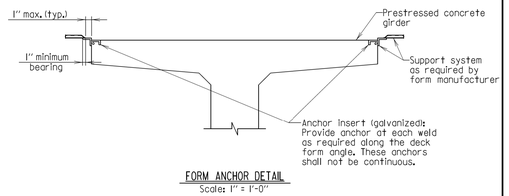
DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 169 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:55 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sBR-S001_MONROVIA-E-W.dgn



SECTION
Scale: None

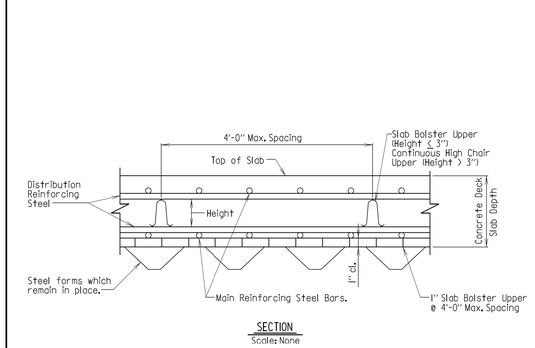


FORM ANCHOR DETAIL
Scale: 1" = 1'-0"

Notes:
1. Permanent steel deck forms and supports shall conform to 90%U. Design Span shall be the clear distance between girder flanges less two (2) inches.
2. These forms shall be vertically adjusted to attain line and grade as required.
3. Any permanently exposed form metal where the galvanized coating has been damaged shall be thoroughly cleaned, wire brushed and painted with two coats of zinc-oxide dust primer, Federal Specification TT-P-641d, Type II, no color added, to the satisfaction of the Engineer. Minor heat discoloration in areas of welds need not be touched up.
4. Contractor has option of using this detail or that shown on 2 of 2, except for bridge decks with a flared rebar pattern. For bridges with a flared rebar pattern only the detail shown on sheet 2 of 2 can be used.
5. Supports for rebar shall be provided by Contractor.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
Glen Richard Dettinger, DIRECTOR OFFICE OF STRUCTURES DATE: 12/18/2019	STEEL FORMS WHICH REMAIN IN PLACE FOR CONCRETE SLABS ON CONCRETE GIRDERS RE-BARS ALIGNED WITH TROUGH
VERSION: 1.0	DETAIL NO. SUP-BD(CG)-501 SHEET 1 OF 2

SUPER - BRIDGE DECK

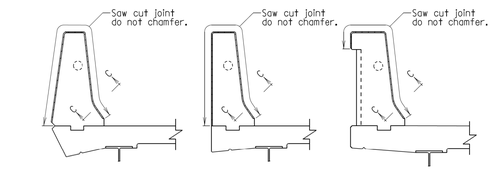


SECTION
Scale: None

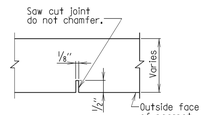
Notes:
1. For notes see sheet 1 of 2.
2. This detail is acceptable only on structures where the General Notes under "Loading" states "and 15 pounds per square foot for use of steel bridge deck forms which remain in place".
3. Supports for rebar shall be provided by Contractor.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
Glen Richard Dettinger, DIRECTOR OFFICE OF STRUCTURES DATE: 12/18/2019	STEEL FORMS WHICH REMAIN IN PLACE FOR CONCRETE SLABS ON CONCRETE GIRDERS RE-BARS INDEPENDENT WITH TROUGH
VERSION: 1.0	DETAIL NO. SUP-BD(CG)-501 SHEET 2 OF 2

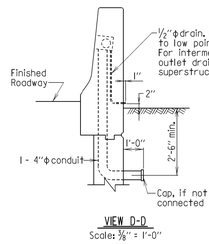
SUPER - BRIDGE DECK



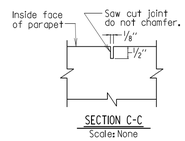
SECTION B-B
Scale: 3/8" = 1'-0"



SECTION A-A
Scale: None



VIEW D-D
Scale: 3/8" = 1'-0"



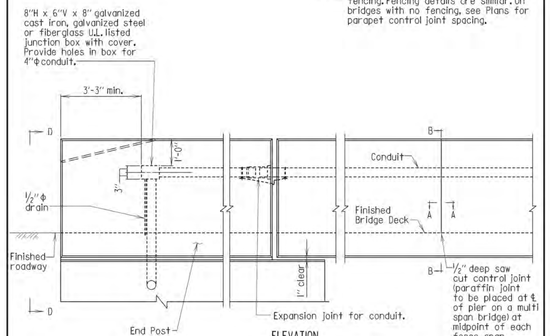
SECTION C-C
Scale: None

Notes:
1. Parapet is placed continuously.
2. Saw cut control joint to be sawed same day as concrete is poured.
3. Fencing not shown.
4. F-Shape barrier is shown for illustrative purposes only. See plans for barrier type.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
Glen Richard Dettinger, DIRECTOR OFFICE OF STRUCTURES DATE: 12/17/2019	PARAPET CONTROL JOINT AND SINGLE CONDUIT PLACEMENT WITH 42" F-SHAPE AND SINGLE SLOPE PARAPET
VERSION: 3.0	DETAIL NO. SUP-TB(CP)-201 SHEET 2 OF 3

SUPER - TRAFFIC BARRIER

Note: Detail shown is for parapet without fencing. Fencing details are similar. On bridges with no fencing, see Plans for parapet control joint spacing.



ELEVATION
Scale: 3/8" = 1'-0"

Note: For Section A-A and B-B see sheets 2 & 3 of 3. For View D-D see sheet 2 of 3.

Notes:
1. The conduit and junction box are to be placed only when indicated in the Superstructure "Typical Section." If ¢ to ¢ of end junction boxes exceed 200', then additional junction boxes shall be placed in parapet, between control joints, so that the maximum distance between boxes is 200'. Junction boxes for light standards, may be utilized. All junction boxes to have 1/2"ϕ drain at low point of box.
2. Conduit may be either PVC or galvanized pipe.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
Glen Richard Dettinger, DIRECTOR OFFICE OF STRUCTURES DATE: 12/17/2019	PARAPET CONTROL JOINT AND SINGLE CONDUIT PLACEMENT WITH 42" F-SHAPE AND SINGLE SLOPE PARAPET
VERSION: 3.0	DETAIL NO. SUP-TB(CP)-201 SHEET 1 OF 3

SUPER - TRAFFIC BARRIER

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:57 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-5002_MONROVIA-E-W.dgn

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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

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

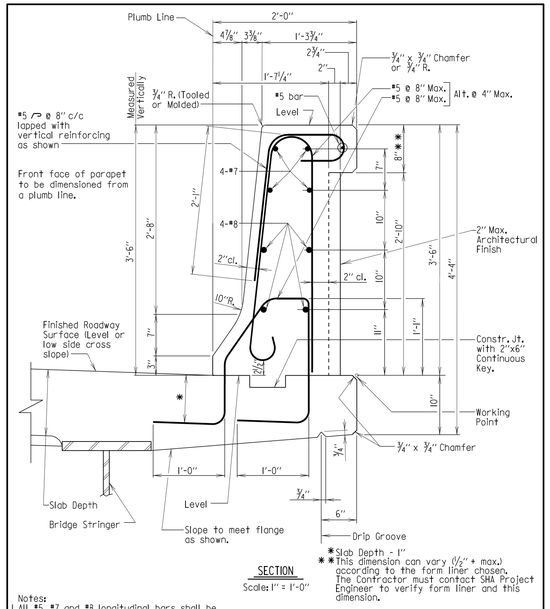
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

DECK AND PARAPET DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 170 OF 226



SECTION
Scale: 1" = 1'-0"

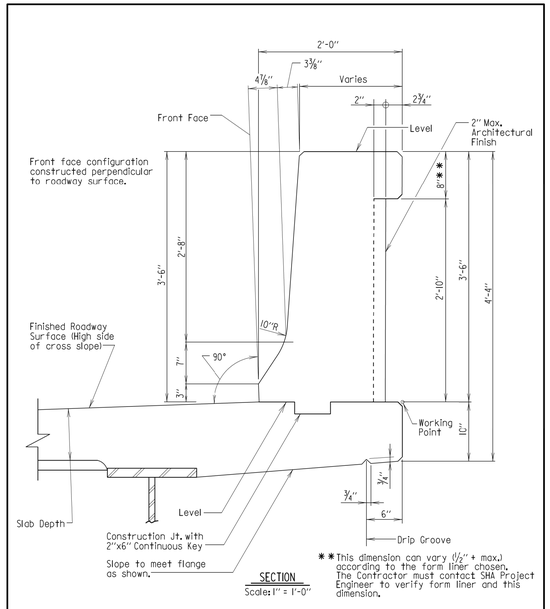
* Slab Depth - 1"
** This dimension can vary (½" + max.) according to the form liner chosen. The Contractor must contact SHA Project Engineer to verify form liner and this dimension.

Notes:
1. All #5, #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 ARCHITECTURAL FINISH
VERSION 1.01	DETAIL NO. SUP-TB(42F)-103 SHEET 1 OF 2

SUPER - TRAFFIC BARRIER



SECTION
Scale: 1" = 1'-0"

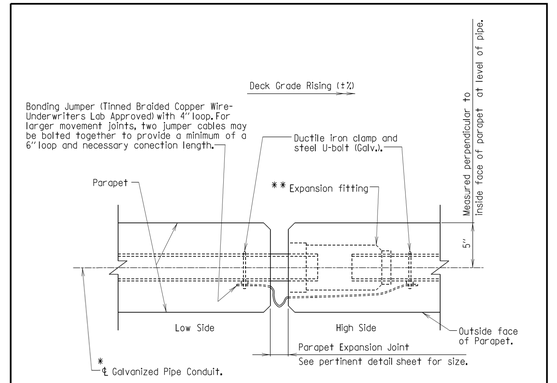
** This dimension can vary (½" + max.) according to the form liner chosen. The Contractor must contact SHA Project Engineer to verify form liner and this dimension.

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 ARCHITECTURAL FINISH
VERSION 1.01	DETAIL NO. SUP-TB(42F)-103 SHEET 2 OF 2

SUPER - TRAFFIC BARRIER



SECTION
Scale: 1½" = 1'-0"

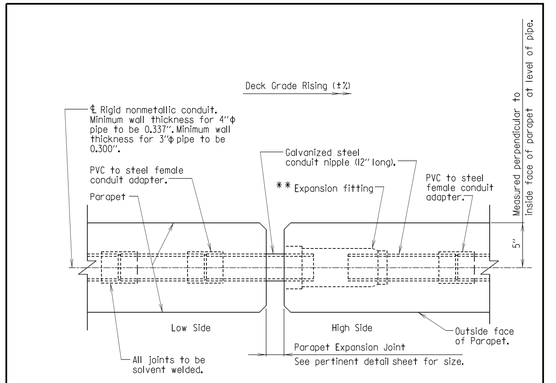
* For conduit size see Superstructure "Typical Section" sheet. Vertical location of ℄ of this conduit shall be at least 4" below bottom of railing or fencing anchorage systems.

** Expansion fittings for use with rigid galvanized steel conduit shall consist of a malleable iron head and steel sleeve which shall be hot-dipped galvanized and assembled with a watertight packing gland, an insulated bushing, pressure ring and gasket and a tinned-copper bond to assure continuity of ground. The fitting shall provide, unless otherwise noted on the plans: 4" of movement for all compression seal roadway joints and 8" of movement for all other roadway joints, such as steel finger joints.

Notes:
1. Place expansion joint in pipe conduit and parapet at every expansion joint at supports in bridge deck.
2. #10 galvanized pull wire to be provided for full length of conduit and left in place.
3. Contractor may furnish either PVC conduit as shown on sheet 2 of 2 or material shown on this detail. However only one type can be used throughout a structure.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	EXPANSION JOINT FOR CONDUIT IN PARAPET
VERSION 1.0	DETAIL NO. SUP-TB(CP)-101 SHEET 1 OF 2

SUPER TRAFFIC BARRIER



SECTION
Scale: 1½" = 1'-0"

Note: No bonding jumper cable is required.

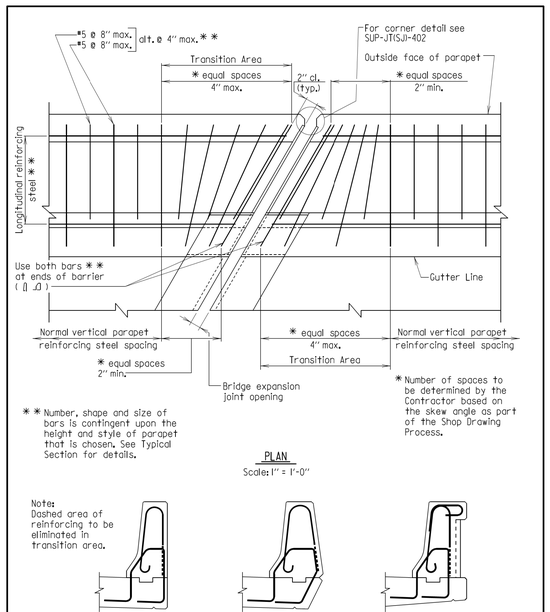
* For conduit size see Superstructure "Typical Section" sheet. Vertical location of ℄ of this conduit shall be at least 4" below bottom of railing or fencing anchorage systems.

** Expansion fittings for use with rigid galvanized steel conduit shall consist of a malleable iron head and steel sleeve which shall be hot-dipped galvanized and assembled with a watertight packing gland, an insulated bushing, pressure ring and gasket and a tinned-copper bond to assure continuity of ground. The fitting shall provide, unless otherwise noted on the plans: 4" of movement for all compression seal roadway joints and 8" of movement for all other roadway joints, such as steel finger joints.

Notes:
1. Place expansion joint in pipe conduit and parapet at every expansion joint at supports in bridge deck.
2. #10 galvanized pull wire to be provided for full length of conduit and left in place.
3. All pipe and expansion joint must be U.L. approved for encasement in concrete.
4. Fittings to be PVC, except for expansion joint.
5. Nonmetallic conduit shall conform to 921.07.02.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	EXPANSION JOINT FOR CONDUIT IN PARAPET
VERSION 1.0	DETAIL NO. SUP-TB(CP)-101 SHEET 2 OF 2

SUPER TRAFFIC BARRIER



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-TBIMISCI-201 SHEET 1 OF 1

SUPER TRAFFIC BARRIER

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · BRIAN RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER · 07/14/22

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

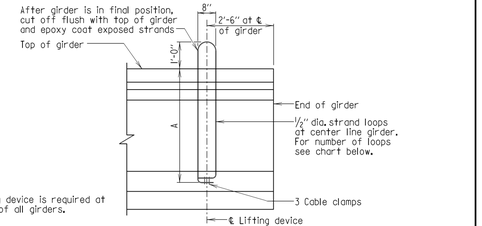
BRIDGE NO. F09-27

PARAPET DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 171 OF 226

BY: MAB - Tuesday, October 18, 2022 AT 02:58 PM
PLOTTED:
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\eBR-5003_MONROVIA-EWC.dgn



Note:
One lifting device is required at each end of all girders.

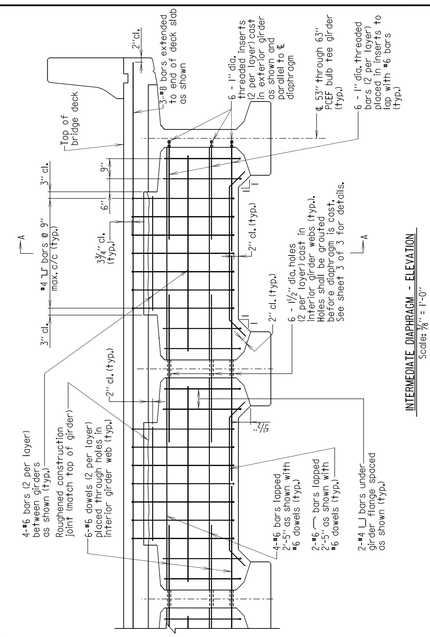
GIRDER LIFTING DEVICE DETAIL
Scale: ⅜" = 1'-0"

GIRDER LIFTING DETAIL CHART		
Type of Girder	Number of Loops	Dimension "A"
AASHTO III (45")	3	3'-0"
AASHTO IV (54")	4	3'-6"
AASHTO V (63")	4	4'-3"
AASHTO VI (70")	4	4'-10"
PCEF 29"	3	2'-3"
PCEF 31"	3	2'-5"
PCEF 37" & 39"	3	2'-11"
PCEF 45" & 47"	3	3'-11"
PCEF 53" & 55"	4	3'-5"
PCEF 61" & 63"	4	4'-1"
PCEF 69" & 71"	4	4'-9"
PCEF 77" & 79"	4	5'-5"
PCEF 85" & 87"	4	6'-1"
PCEF 93" & 95"	4	6'-9"

Notes:
1. The lifting devices shown are designed with a minimum factor of safety of 2 for an assumed 180 ft. maximum girder length.
2. At the Contractor's option, alternate lifting details with a minimum factor of safety of 2 will be considered subject to the approval of the Engineer, before use.
3. All loops shall consist of ½" diameter 7-wire low relaxation strands conforming to the requirements of ASTM A416 grade 270.
4. The exact location of the lifting device may be altered to avoid all prestressing strands, stirrups, mild reinforcing steel and studs on plates as long as the embedment depth of the lifting device and a clear cover of 2" on each face of the web is maintained.

SUPERSTRUCTURE CONCRETE GIRDER

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 05/04/2017	LIFTING DEVICE DETAILS FOR PRESTRESSED CONCRETE GIRDERS
VERSION 1.0	DETAIL NO. SUP-CG(GEN)-501 SHEET 1 OF 1

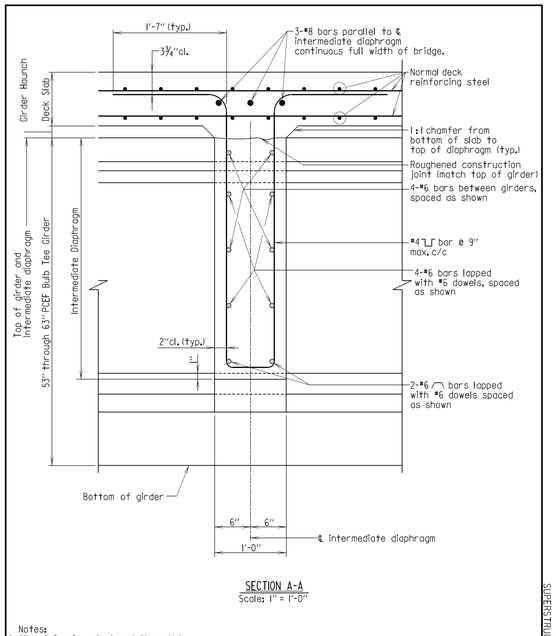


INTERMEDIATE DIAPHRAGM - ELEVATION
Scale: ⅜" = 1'-0"

Notes:
1. For Section A-A see sheet 2 of 3.
2. Normal concrete girder, slab and parapet reinforcing not shown.
3. All reinforcing steel, threaded bars and threaded inserts shall be epoxy coated.
4. F-Shape barrier is for illustrative purposes only. See plans for barrier type.

SUPERSTRUCTURE CONCRETE GIRDER

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 07/25/2019	INTERMEDIATE DIAPHRAGM FOR 53" THROUGH 63" PCEF BULB TEE GIRDERS
VERSION 1.01	DETAIL NO. SUP-CG(DIA)-104 SHEET 1 OF 3

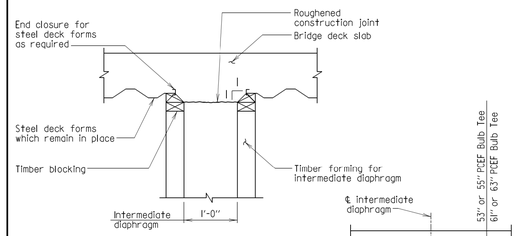


SECTION A-A
Scale: 1" = 1'-0"

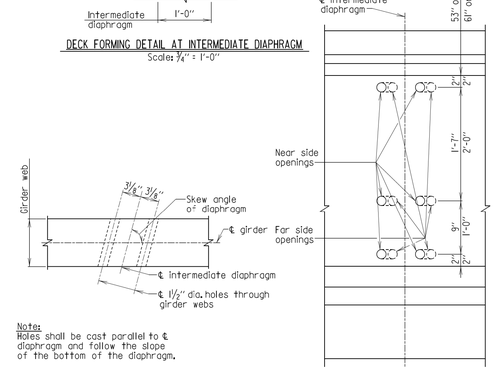
Notes:
1. All reinforcing steel and threaded bars shall be epoxy coated.
2. All reinforcing steel in girders shall be spaced to miss holes and threaded inserts in web.
3. Intermediate diaphragms shall be in place at least 40 hours prior to placement of deck.

SUPERSTRUCTURE CONCRETE GIRDER

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 07/25/2019	INTERMEDIATE DIAPHRAGM FOR 53" THROUGH 63" PCEF BULB TEE GIRDERS
VERSION 1.01	DETAIL NO. SUP-CG(DIA)-104 SHEET 2 OF 3



DECK FORMING DETAIL AT INTERMEDIATE DIAPHRAGM
Scale: ¾" = 1'-0"



Notes:
Holes shall be cast parallel to ℄ diaphragm and follow the slope of the bottom of the diaphragm.

PLAN

ELEVATION

DIAPHRAGM HOLE DETAIL
Scale: 1" = 1'-0"

SUPERSTRUCTURE CONCRETE GIRDER

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 07/25/2019	INTERMEDIATE DIAPHRAGM FOR 53" THROUGH 63" PCEF BULB TEE GIRDERS
VERSION 1.01	DETAIL NO. SUP-CG(DIA)-104 SHEET 3 OF 3

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 02:59 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-5004_MONROVIA-E-W.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER

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

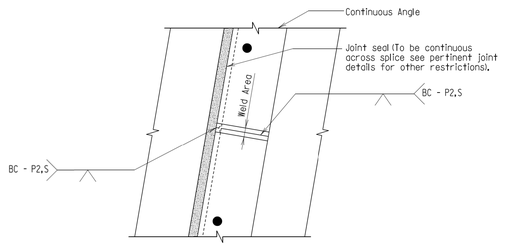
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

GIRDER DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

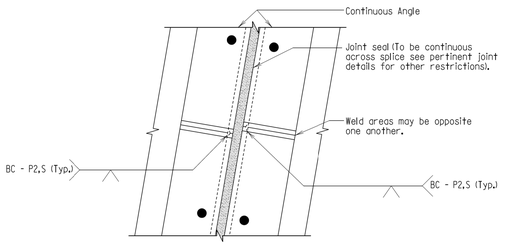
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 172 OF 226



PLAN

JOINT AT ABUTMENTS - WHERE ONE SIDE OF JOINT IS ARMORED

Scale: None



PLAN

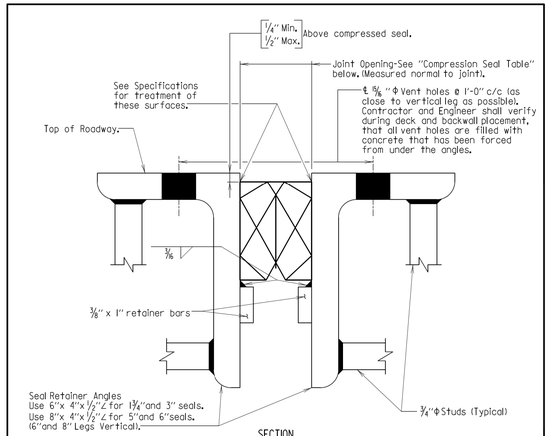
JOINT AT PIERS AND ABUTMENTS - WHERE BOTH SIDES OF JOINTS ARE ARMORED

Scale: None

Note:
Whenever possible the need for this splice should be limited. Preferably, the minimum spacing between joints shall be 40'. If there are breaks in the crown or if the joint is skewed, splices may be made at all breaks in slope and may follow the direction of centerline of bridge instead of being perpendicular to center line of bearing.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 09/16/2011	ROADWAY JOINT ANGLE SHOP SPLICES FOR NON-SEQUENTIAL CONSTRUCTION
VERSION 1.0	DETAIL NO. SUP-JT(JC)-102 SHEET __ OF __

SUPER-JOINTS



SECTION

Scale: 3"=1'-0"

COMPRESSION SEAL TABLE

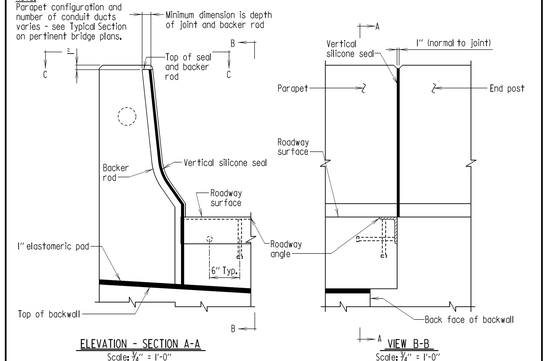
Location	Uncompressed Seal Width	Joint Opening ⌀ 40°F	50°F	60°F	70°F	80°F	90°F	Movement Rating
	1 3/4"			1 1/8"				0.66"
	3"			1 15/16"				1.25"
ABUTMENT B	5"	3.21"	3.10"	3"	2.89"	2.79"	2.68"	2.50"
	6"			3 5/8"				2.85"

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

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

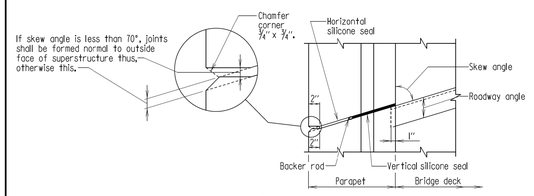


ELEVATION - SECTION A-A

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

VIEW B-B

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



VIEW C-C

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

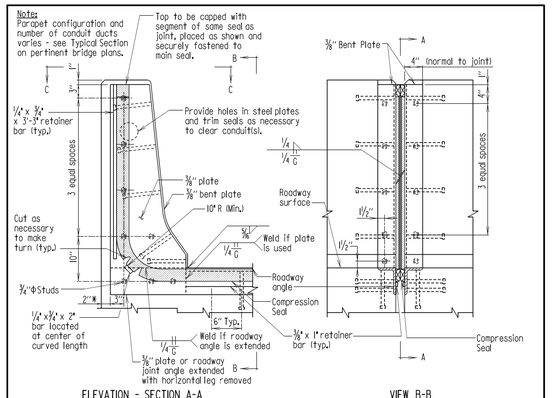
Note:
1. All studs shall 3/4"Φ-8" long.
2. Section A-A & B-B shown 90° skew.
3. Roadway angle to be pointed ASTM A 709 Grade 36.
4. Joint area to be thoroughly cleaned in accordance with joint manufacturer's recommendations just prior to placing of seal.
5. F-Shape barrier is for illustrative purposes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

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 08/16/2019	FULL HEIGHT ROADWAY JOINT FOR 42" F-SHAPE AND SINGLE SLOPE PARAPET FOR BRIDGES WITH FIXED BEARINGS OR EXPANSION BEARINGS WITH LENGTH CONTRIBUTING TO EXPANSION ≤ 70 FT.
VERSION 1.02	DETAIL NO. SUP-JT(FIX)-301 SHEET __ OF __

42'' PARAPET

SUPER - ROADWAY JOINTS

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

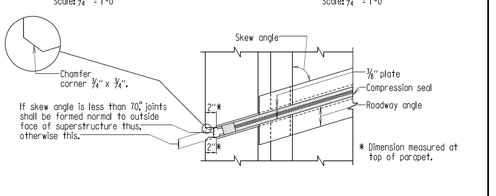


ELEVATION - SECTION A-A

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

VIEW B-B

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



VIEW C-C

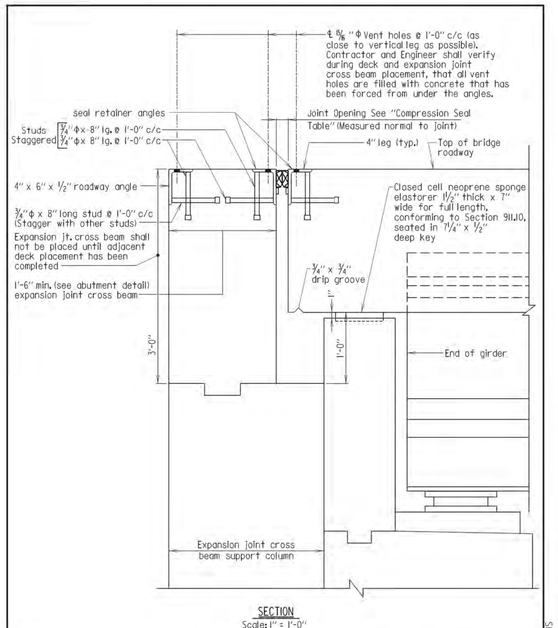
Scale: 3/4" = 1'-0"

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.

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 __

42'' PARAPET

SUPER - ROADWAY JOINTS



SECTION

Scale: 1" = 1'-0"

Notes:
1. New bridge details shown.
2. See Det. No. SUP-JT(JS)-101 for additional details.
3. Joint area to be thoroughly cleaned in accordance with joint manufacturer's recommendations just prior to placing of seal.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 04/03/2018	ROADWAY JOINTS AT ABUTMENTS CARRYING PRESTRESSED CONCRETE GIRDERS WITH ELASTOMERIC EXPANSION BEARINGS WITH LENGTH CONTRIBUTING TO EXPANSION > 70 FEET
VERSION 1.01	DETAIL NO. SUP-JT(EXP)-201 SHEET __ OF __

SUPER BRIDGE DECK JOINTS

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · KENNETH RICHARD DETTER · REGISTERED PROFESSIONAL ENGINEER · 9/7/22

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

JOINT DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 173 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:04 PM
FILE: S:\Frederick County - Monrovia E-W Connector\Design Files\BBR-5905_MONROVIA-EWC.dgn

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: Director, Office of Structures — DATE: 03/21/2017 — VERSION: 1.0

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

BAR LAP DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.3 (3500 P.S.I.) CONCRETE

DETAIL NO. REBAR-BL-101 — SHEET __ OF __

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: Director, Office of Structures — DATE: 03/21/2017 — VERSION: 1.0

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

BAR LAP DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.6 (4500 P.S.I.) CONCRETE

DETAIL NO. REBAR-BL-103 — SHEET __ OF __

REBAR - BAR LAP

LOCATION CATEGORY A								
BAR SIZE	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'-6''	6'-0''	4'-6''	5'-11''
#10	-	-	9'-0''	11'-9''	7'-2''	9'-5''	6'-8''	8'-8''
#11	-	-	11'-0''	14'-3''	8'-10''	11'-5''	8'-2''	10'-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.

LOCATION CATEGORY B								
BAR SIZE	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'-9''	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: 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 __ OF __

REBAR - DEVELOPMENT LENGTH

LOCATION CATEGORY A								
BAR SIZE	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.

LOCATION CATEGORY B								
BAR SIZE	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.

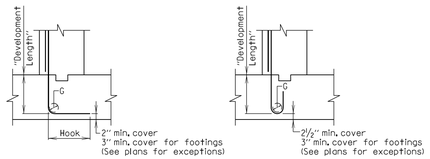
APPROVAL: Director, Office of Structures — DATE: 03/21/2017 — VERSION: 1.0

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

DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.6 (4500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-103 — SHEET __ OF __

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.

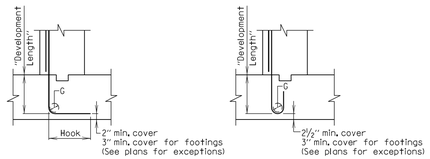
APPROVAL: Director, Office of Structures — DATE: 05/10/2011 — VERSION: 1.0

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 __ OF __

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: 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 __ OF __

REBAR - DEVELOPMENT LENGTH

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:01 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\DBR-SD06_MONROVIA-EWC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND — KENNETH RICHARD DETTER — REGISTERED PROFESSIONAL ENGINEER — 10/17/22

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

S-53

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BAR SPLICE AND DEVELOPMENT DETAILS

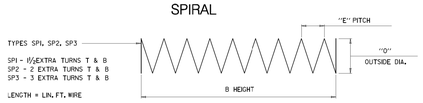
DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 174 OF 226

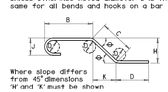
TYPICAL BAR BENDS

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

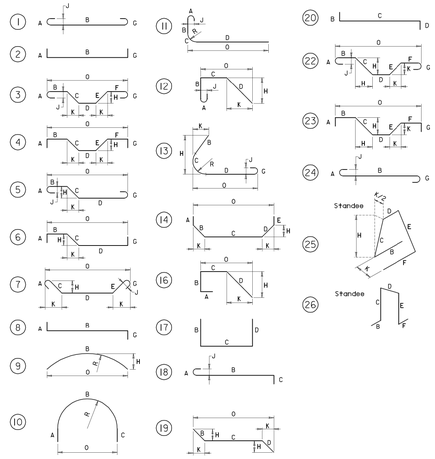
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	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

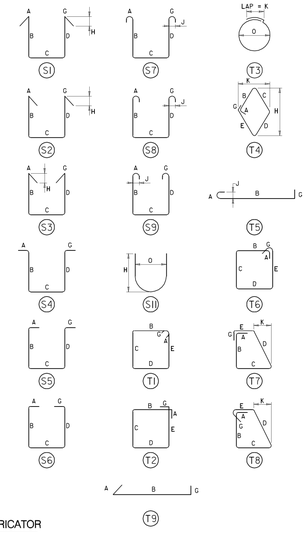
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	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

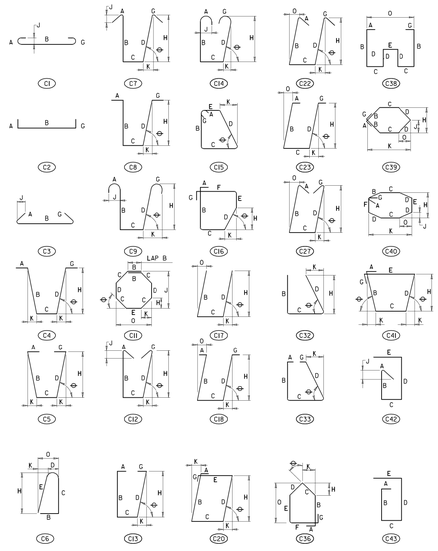
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	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

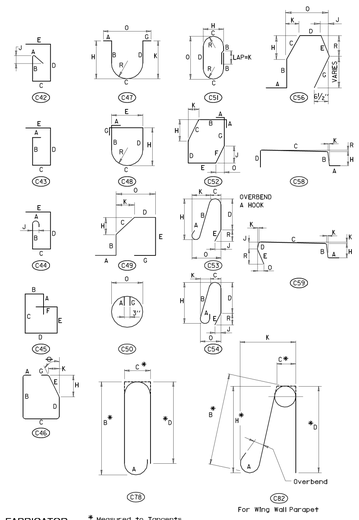
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	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



NOTE TO FABRICATOR

* Measured to Tangents of Curves.

BENDING TOLERANCE NOTE

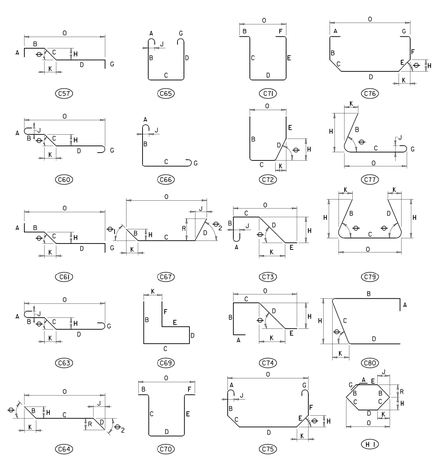
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	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: 02/01/1994	BAR BEND TYPES SHA - STANDARD PIN BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 6 OF 8

REBAR BAR BENDS

S-54

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BAR BEND DETAILS I

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 175 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

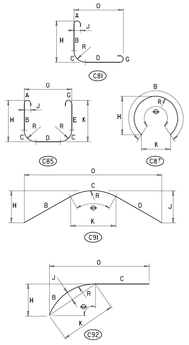
STATE OF MARYLAND · KEVIN RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER · 21422

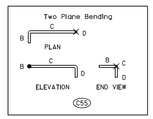
THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

By: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:02 PM
FILE LAY: Frederick County - Monrovia E-W Connector\Design Files\BR-S907_MONROVIA-EWC.dgn

SHA TYPICAL BAR BENDS

RADIUS BENDING





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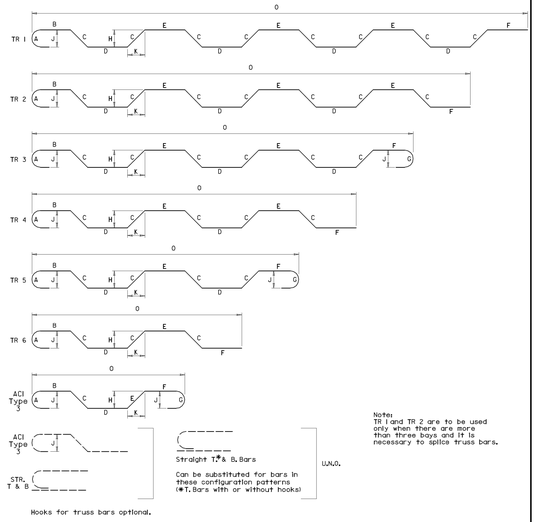
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - RADIUS BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 7 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TRUSS BAR CONFIGURATIONS



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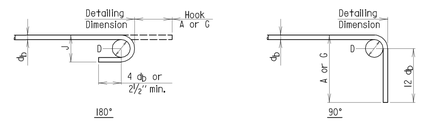
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES TRUSS BAR CONFIGURATIONS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 8 OF 8

REBAR BAR BENDS

HOOKS TABLE I REFERENCES

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



RECOMMENDED END HOOKS, ALL GRADES

BAR SIZE	Finished bend diameter D, in.	180 - deg hook A or G in	180 - deg hook J, in.	90 - deg hook 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

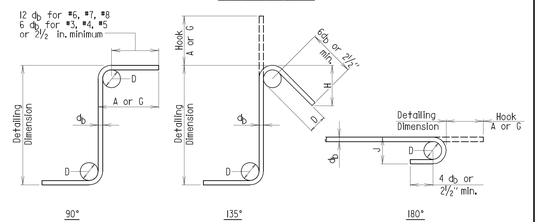
REBAR BAR BENDS

HOOKS TABLE II REFERENCES

1. ACI Types SI thru SII
2. ACI Types TI 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 A or G	135 - deg hook A or G	135 - deg hook 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 D, in.	180 - deg hook A or G in	180 - deg hook 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

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER

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

S-55

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

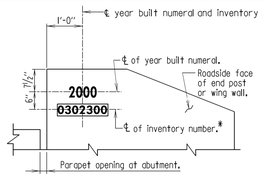
BRIDGE NO. F09-27

BAR BEND DETAILS II

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 176 OF 226

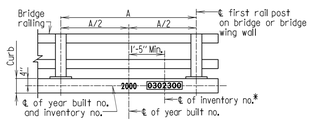
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:03 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-5008_MONROVIA-E-W.dgn



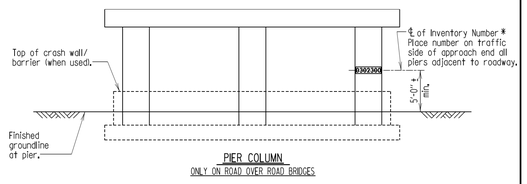
Note:
If end post has a form liner finish, place year built and structure inventory numbers in curb area as shown for bridges with railing and no parapets. ℄ of year built to be located 1'-0" from parapet opening at abutment.

BRIDGES WITH PARAPET

Location: Dual Bridges-Each Approach End (Outside Shoulder). Single Bridge - Approach End - North or East corner. Where bridge has a concrete parapet and no definitive end post, place year built marking and structure inventory number on face of parapet as close to center line of bearing at abutment as practical.



BRIDGES WITH RAILING AND NO PARAPETS



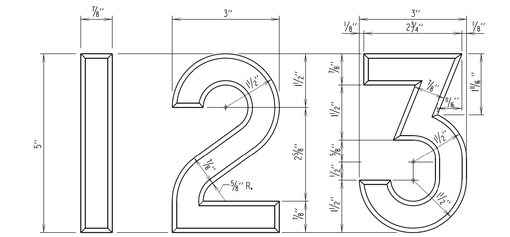
PIER COLUMN
ONLY ON ROAD OVER ROAD BRIDGES

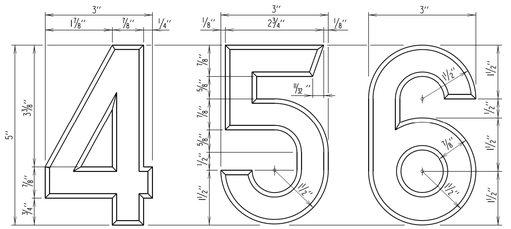
*Black numbers 3" high on a painted white background, 15" x 17".

Notes:
1. For existing structures, where a year built is shown on the structure and structure is to be rehabilitated, the marking should read 1942-2000 (old year first - new year).
2. For existing structures with no year built contact the Office of Structures for old year.
3. For Year Built Numerals refer to Detail No. SI-201.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 10/17/2013	LOCATION OF YEAR BUILT MARKING AND STRUCTURE INVENTORY NUMBER ON BRIDGES
VERSION 1.0	DETAIL NO. SI-101 SHEET 1 OF 1

STRUCTURE INVENTORY

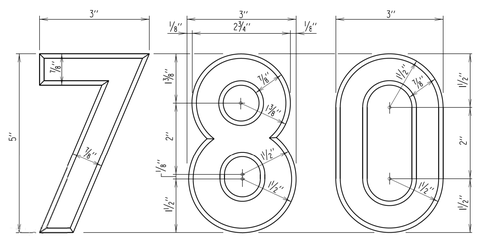


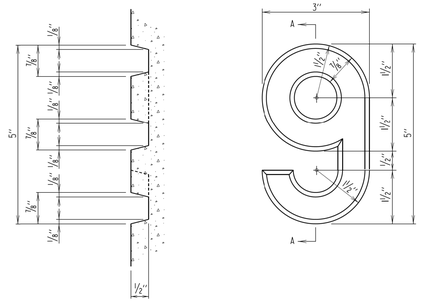


Note:
Year built numerals to be indented into concrete (unpainted) - as indicated on Detail Nos. SI-101, SI-103 and SI-104.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 11/15/2019	NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
VERSION 1.01	DETAIL NO. SI-201 SHEET 1 OF 2

STRUCTURE INVENTORY





SECTION A-A

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 11/15/2019	NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
VERSION 1.01	DETAIL NO. SI-201 SHEET 2 OF 2

STRUCTURE INVENTORY

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND · GLENN RICHARD DETTER · No. 16558 · REGISTERED PROFESSIONAL ENGINEER

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

S-56

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

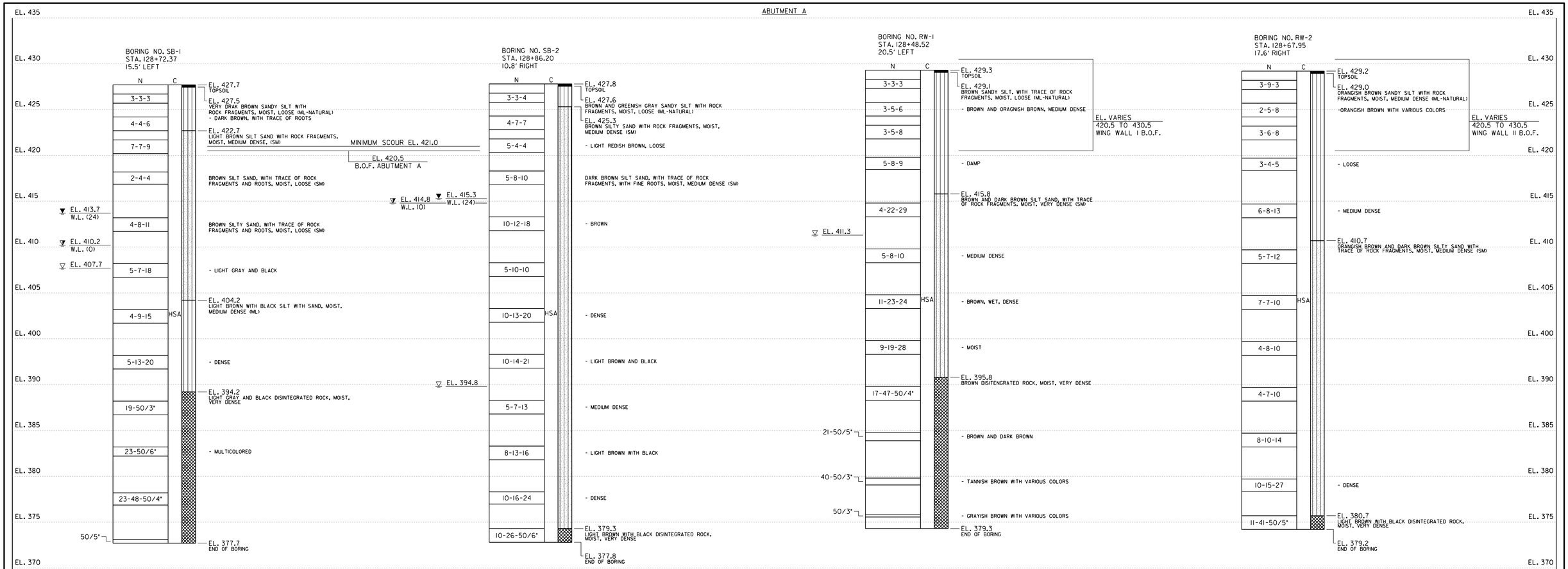
STRUCTURAL INVENTORY DETAILS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 177 OF 226

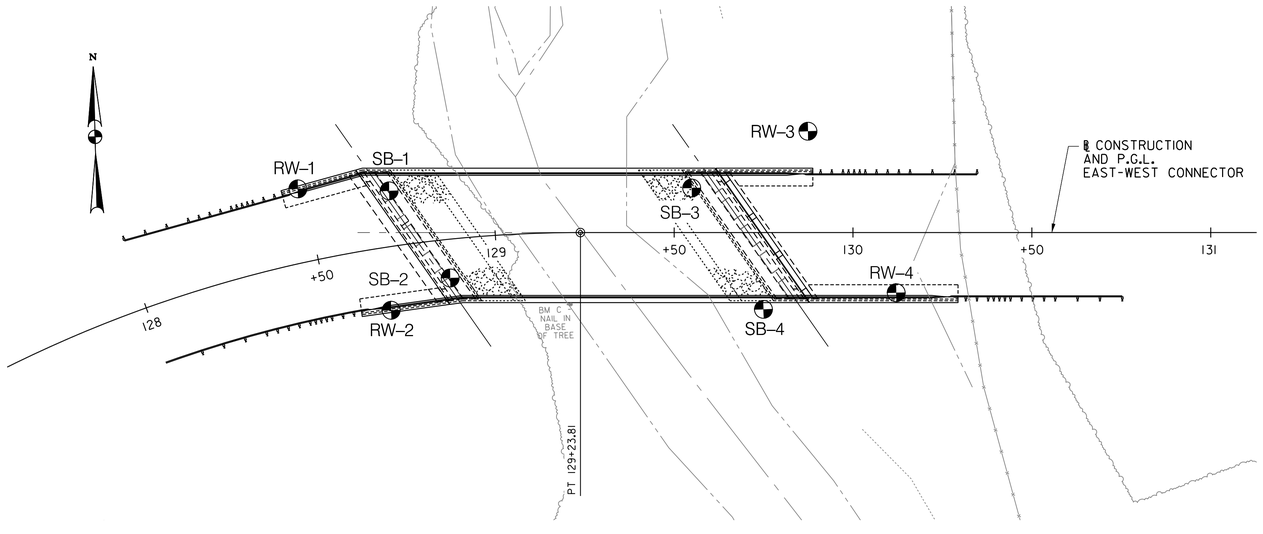
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:05 PM
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\BR-5009_MONROVIA E-W.dgn

ABUTMENT A



BORINGS AND DRIVE TESTS

SCALE: 1" = 5'-0"



BORINGS AND DRIVE TEST LOCATIONS

SCALE: 1" = 20'-0"

NOTES:

1. THE BORINGS AND DRIVE TESTS WERE TAKEN BETWEEN 12/16/2021 AND 12/21/2021 BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
2. THE SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT. FOR MORE COMPLETE SOIL CHARACTERISTIC REFER TO THE SOIL DESCRIPTIVE TEXT.
3. THE FIELD BORING LOGS RECORD SAMPLE SPOON RECOVERY. THE LOGS ARE AVAILABLE UPON REQUEST. THE MATERIAL RECOVERED FROM THE SITE INVESTIGATION IS AVAILABLE FOR REVIEW. CONTACT THE COUNTY.
4. BORINGS AND SAMPLINGS CONFORM TO AASHTO DESIGNATIONS T-206 AND T-306.
5. THE SOIL HAS BEEN CLASSIFIED VISUALLY BY THE DRILLER.
6. N = BLOWS ON A 2 INCH OD SAMPLING SPOON BY 140 LB. DRIVE-WEIGHT FALLING 30 INCHES INDICATING SUCCESSIVE 6 INCH INCREMENTS OF PENETRATION IN LIEU OF BLOWS PER FOOT.
7. C = DEPTH OF HOLLOW-STEM CONTINUOUS FLIGHT AUGERS WITH 3.25 INCH ID.
8. B.O.F. = BOTTOM OF FOOTING/BOTTOM OF CONCRETE LEVELING PAD.
9. WATER LEVEL OBSERVATIONS:
   - ▽ WATER LEVEL AT TIME OF DRILLING, OR AS SHOWN.
   - ▼ WATER LEVEL AT END OF DRILLING, OR AS SHOWN.
   - ▼ WATER LEVEL AFTER 24 HOURS, OR AS SHOWN.

   THE FIGURE IN THE PARENTHESES INDICATES THE READING IN HOURS AFTER COMPLETION.
10. ROD = ROCK QUALITY DESIGNATION
11. REC = ROCK CORE RECOVERY
12. HSA = HOLLOW STEM AUGER
13. ALL STATIONS AND OFFSETS SHOWN ON LOGS ARE BASED ON THE ℄ CONSTRUCTION EAST-WEST CONNECTOR.

PROFESSIONAL CERTIFICATION.
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STATE OF MARYLAND · RICHARD DETTER · REGISTERED · PROFESSIONAL ENGINEER · 2022

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

S-57

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

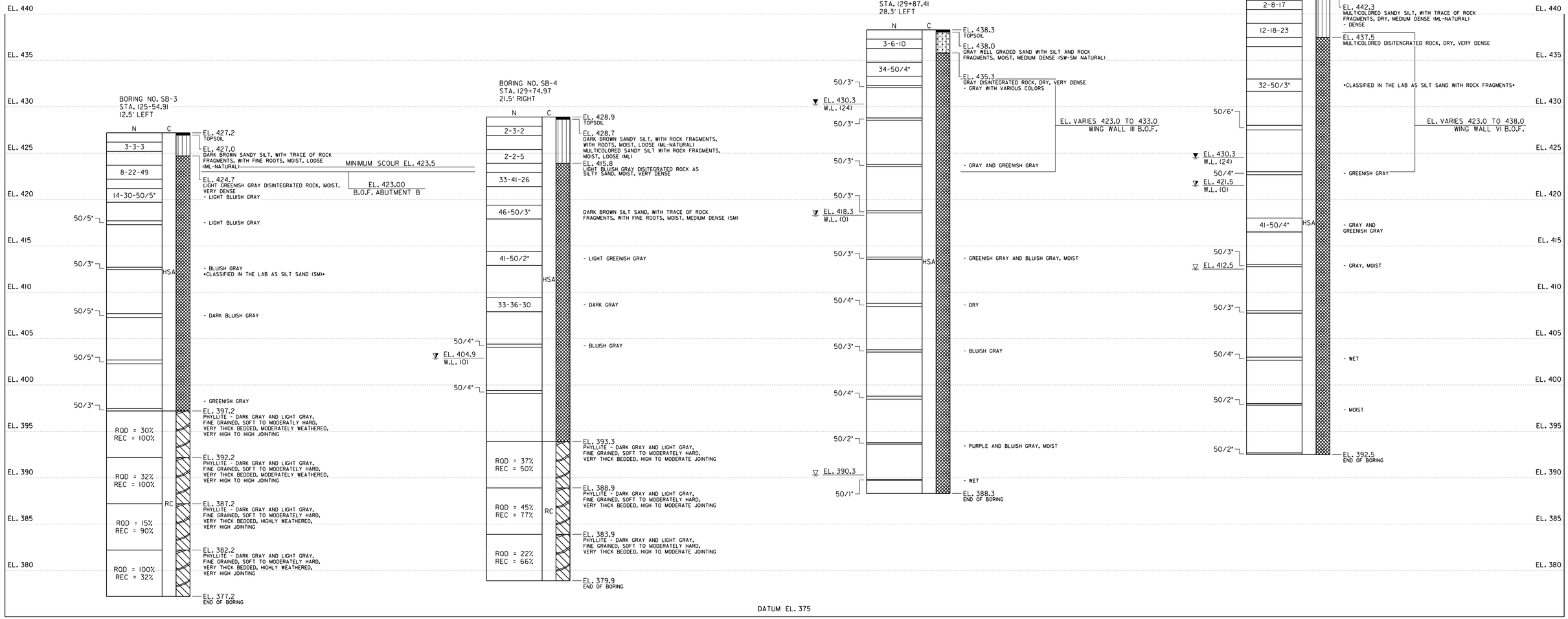
BORINGS AND DRIVE TESTS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 178 OF 226

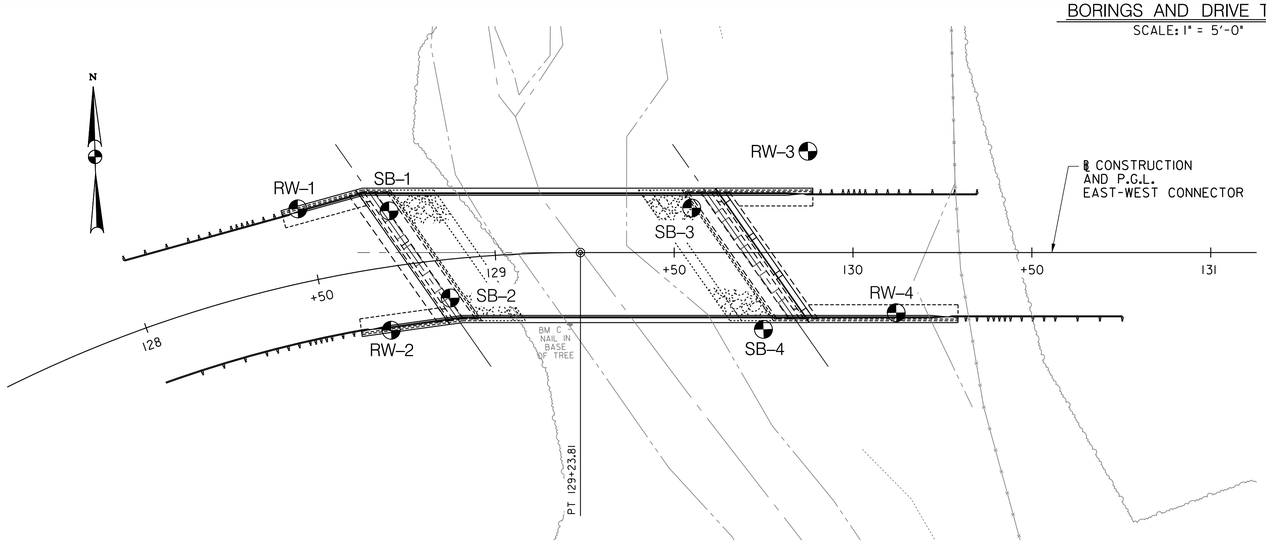
BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:07 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SBR-BLO_MONROVIA-EWC.dgn

ABUTMENT B



BORINGS AND DRIVE TESTS

SCALE: 1" = 5'-0"



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S-58

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 16558
EXPIRATION DATE: 07-13-2023

STATE OF MARYLAND — JOHN RICHARD DETTER — REGISTERED PROFESSIONAL ENGINEER — 10/19/22

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

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

BRIDGE NO. F09-27

BORINGS AND DRIVE TESTS

DATE: OCTOBER 2022 SCALE: AS SHOWN

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 179 OF 226

BY: MAB -
PLOTTED: Tuesday, October 18, 2022 AT 03:08 PM
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\GBR-BL02_MONROVIA-EWC.dgn

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", 2001 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

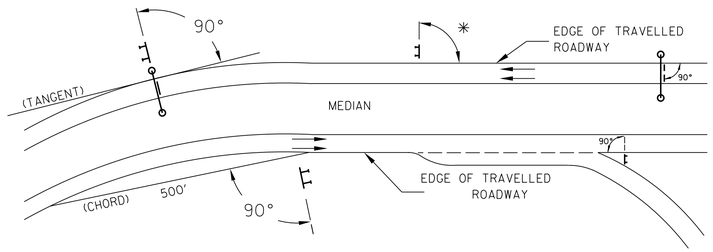
STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
- R - REGULATORY
- W - WARNING
- M - ROUTE MARKERS AND ACCESSORIES
- D - DESTINATION AND MILEAGE PANELS
- S - SCHOOL

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 2017 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 PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN HUDSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SN-1

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

GENERAL NOTES & PROPOSALS

DATE: OCTOBER 2022 SCALE: N.T.S.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 180 OF 226

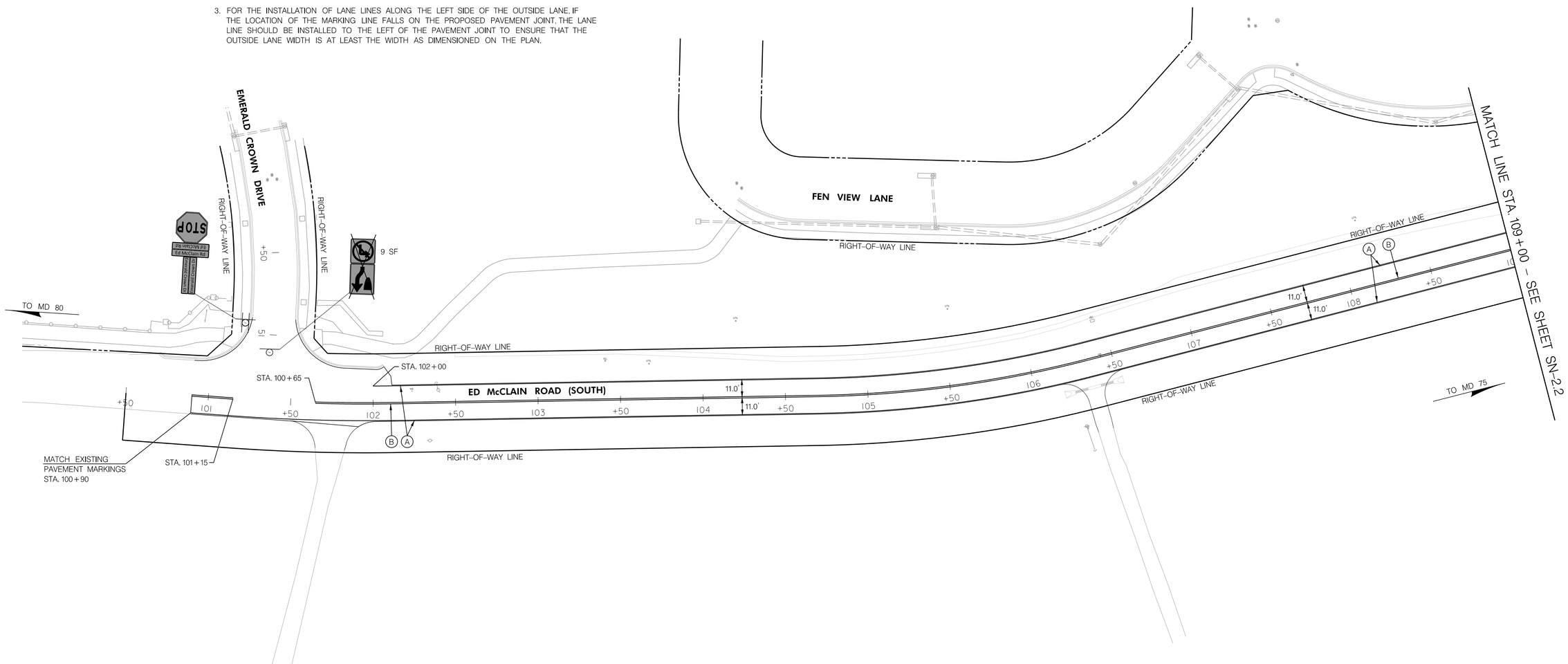
BY: AKR -
PLOTTED:10/19/2022
FILE:U:\Frederick County - Monrovia E-W Connector\Design Files\SN-1000_ENG.dgn

GENERAL NOTES (ALL SIGNING & MARKING PLANS):

1. PAVEMENT MARKING LANE WIDTHS ARE MEASURED FROM CENTER OF PAVEMENT MARKING TO CENTER OF PAVEMENT MARKING FOR INSIDE LANES. OUTSIDE LANES ARE MEASURED FROM CENTER OF PAVEMENT MARKING TO EDGE OF SHOULDER IN OPEN SECTION ROADWAYS AND MEASURED TO THE GUTTER PAN WHERE CURB IS PRESENT.

2. OUTSIDE LANE LINES ADJACENT TO THE EDGE OF SHOULDER OR GUTTER PAN SHOULD BE INSTALLED JUST INSIDE THE EDGE OF SHOULDER OR GUTTER PAN SUCH THAT THE OUTSIDE EDGE OF THE PAVEMENT MARKING HAS A 2" BUFFER FROM THE EDGE OF SHOULDER OR A 1" BUFFER FROM THE GUTTER PAN.

3. FOR THE INSTALLATION OF LANE LINES ALONG THE LEFT SIDE OF THE OUTSIDE LANE, IF THE LOCATION OF THE MARKING LINE FALLS ON THE PROPOSED PAVEMENT JOINT, THE LANE LINE SHOULD BE INSTALLED TO THE LEFT OF THE PAVEMENT JOINT TO ENSURE THAT THE OUTSIDE LANE WIDTH IS AT LEAST THE WIDTH AS DIMENSIONED ON THE PLAN.



SPECIAL NOTE:

STREET NAME SIGNS WILL BE REVISED WHEN THE NAMING CONVENTION FOR ED McCLAIN ROAD AND EAST–WEST CONNECTOR ARE DETERMINED.

SIGNING LEGEND

- SPEED LIMIT 30 — PROPOSED SIGN AND SUPPORT
- SPEED LIMIT 30 — EXISTING SIGN AND SUPPORT TO REMAIN
- SPEED LIMIT 30 — 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 THERMOPLASTIC PAVEMENT MARKINGS – 3' LINE, 9' GAP
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP BAR
- (G) 15" YELLOW THERMOPLASTIC PAVEMENT MARKINGS – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
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STATE OF MARYLAND — JOHNSON THEO — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SN-2.1

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

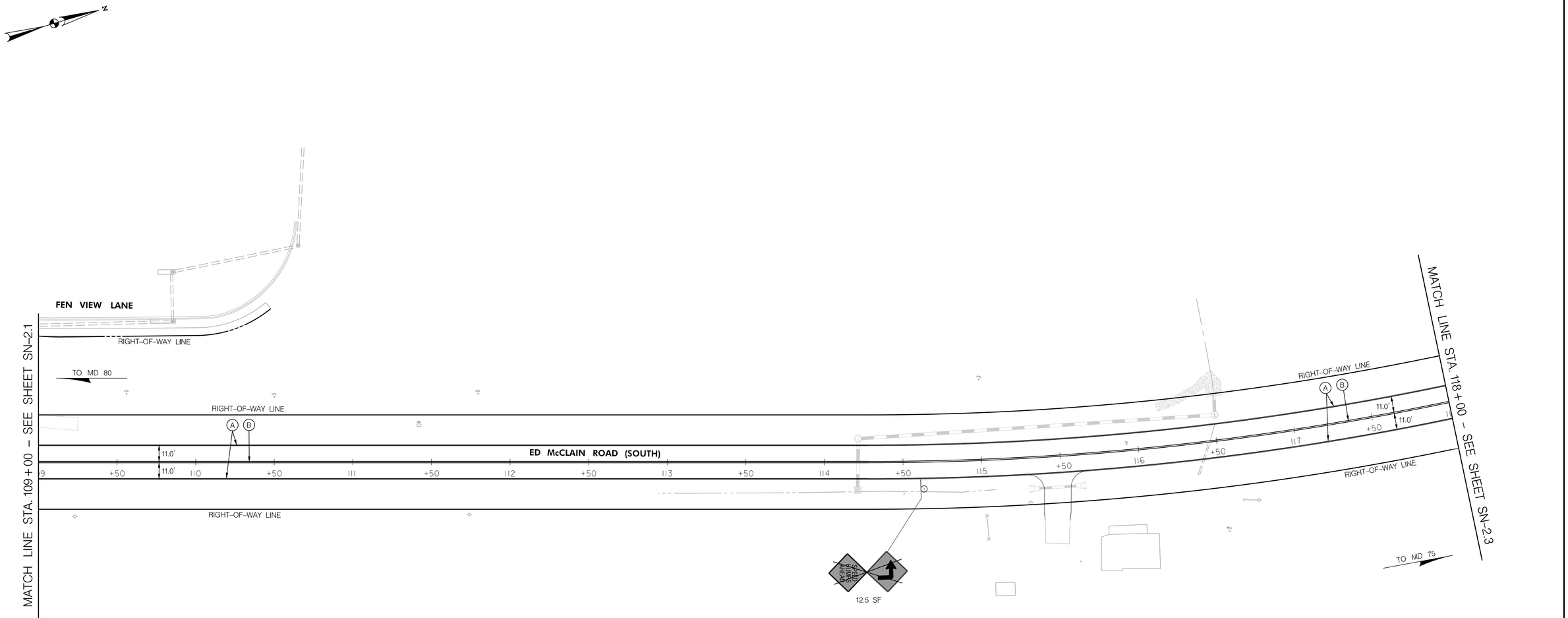
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SIGNING & MARKING PLAN

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 181 OF 226

By: AKR - PLOTTED:10/19/2022
FILE LAY:Frederick County - Monrovia E-W Connector\Design Files\SN-200_EWC.dgn



30' 0 30' 60'

SCALE: 1" = 30'

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

PAVEMENT MARKING LEGEND

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- (C) 5" WHITE THERMOPLASTIC PAVEMENT MARKINGS – 3' LINE, 9' GAP
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP BAR
- (G) 15" YELLOW THERMOPLASTIC PAVEMENT MARKINGS – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SN-2.2

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

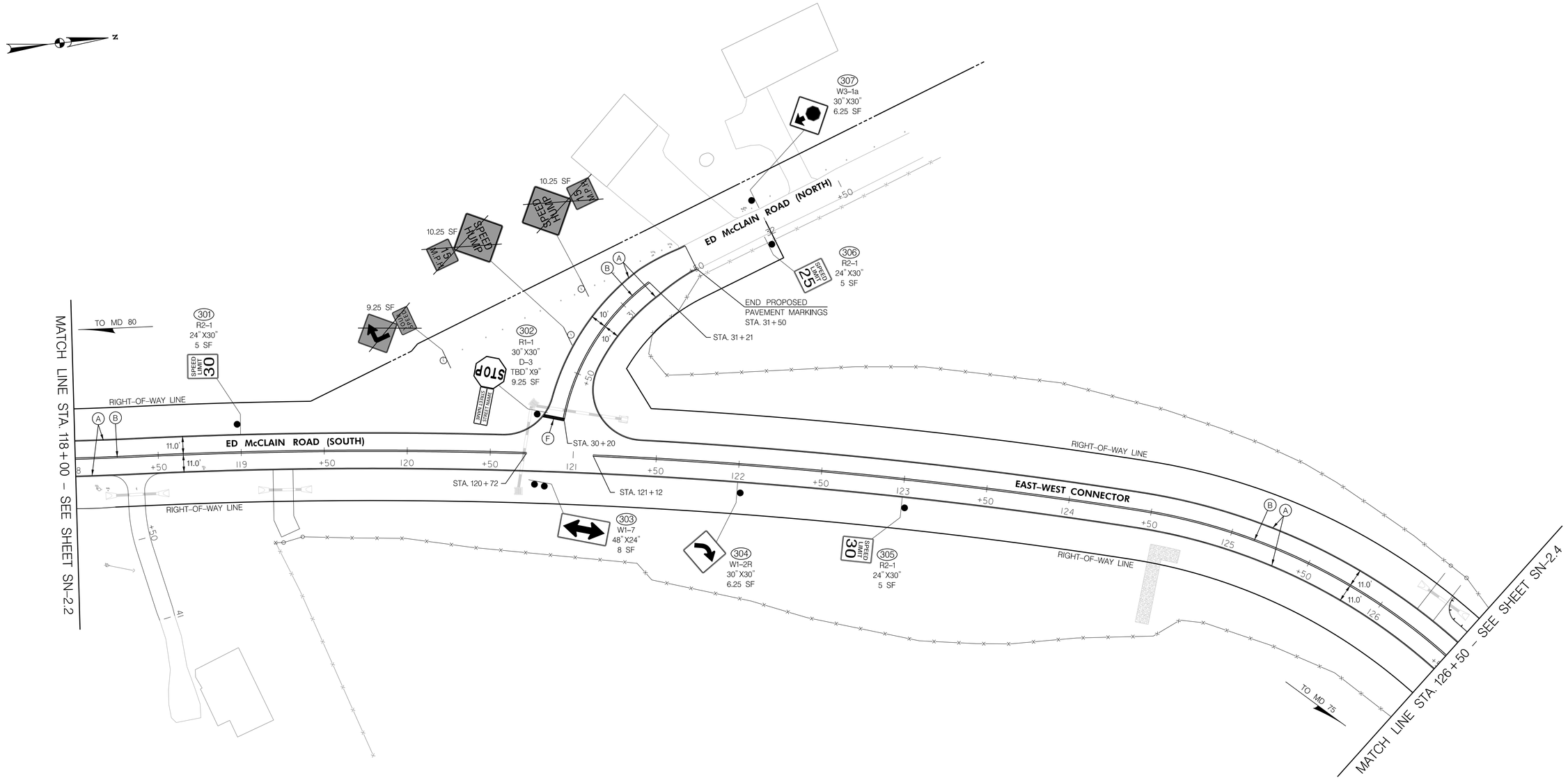
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SIGNING & MARKING PLAN

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 182 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SN-2002_ENC.dgn



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

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

PAVEMENT MARKING LEGEND

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — STEVEN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT–OF–WAY PLATS	SEE TITLE SHEET

SN-2.3

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

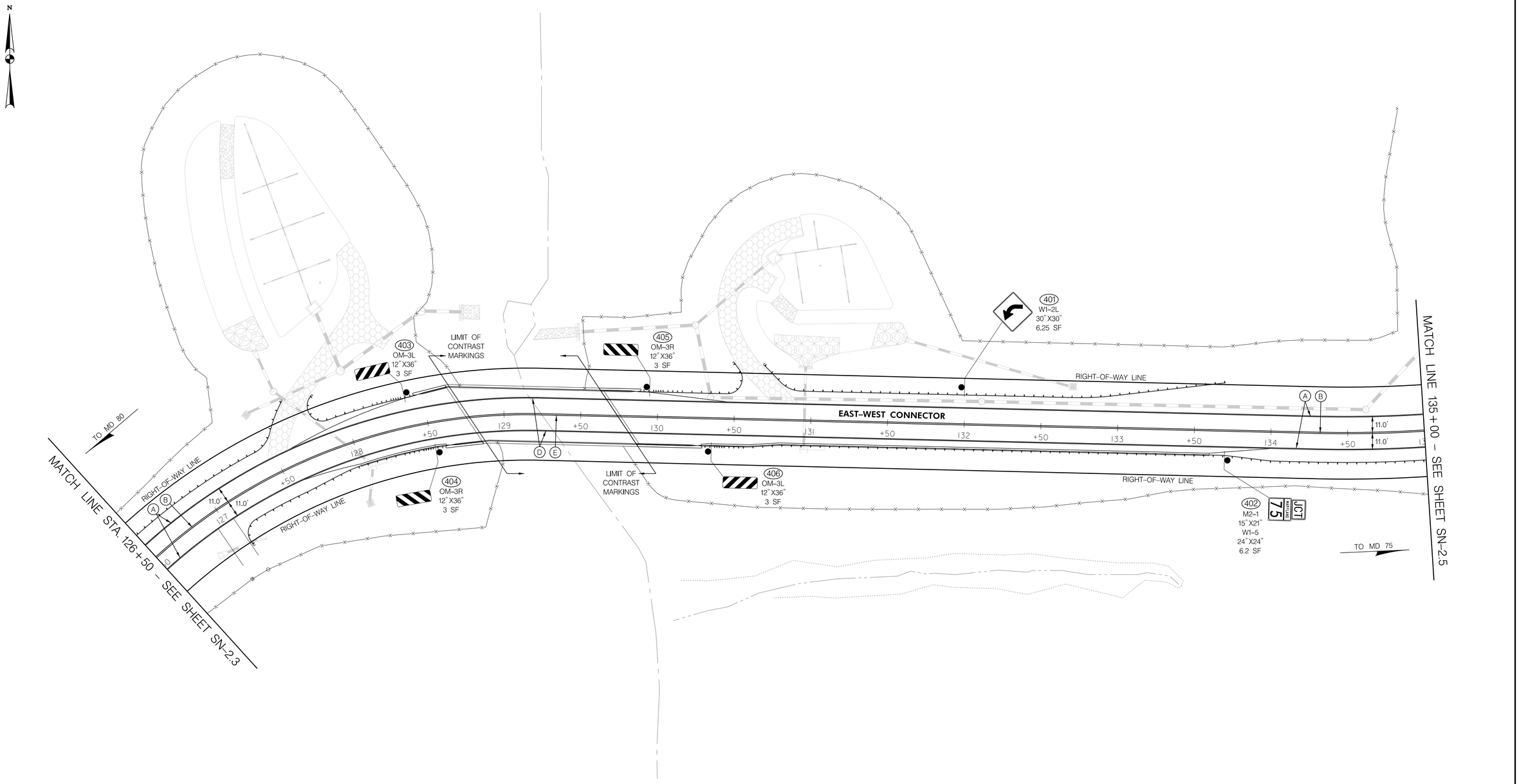
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

SIGNING & MARKING PLAN

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 183 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SN-2003.E-W.dgn



30' 0 30' 60'

SCALE: 1" = 30'

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

PAVEMENT MARKING LEGEND

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- (G) 15" YELLOW THERMOPLASTIC PAVEMENT MARKINGS – SOLID

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON REED — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SN-2.4

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

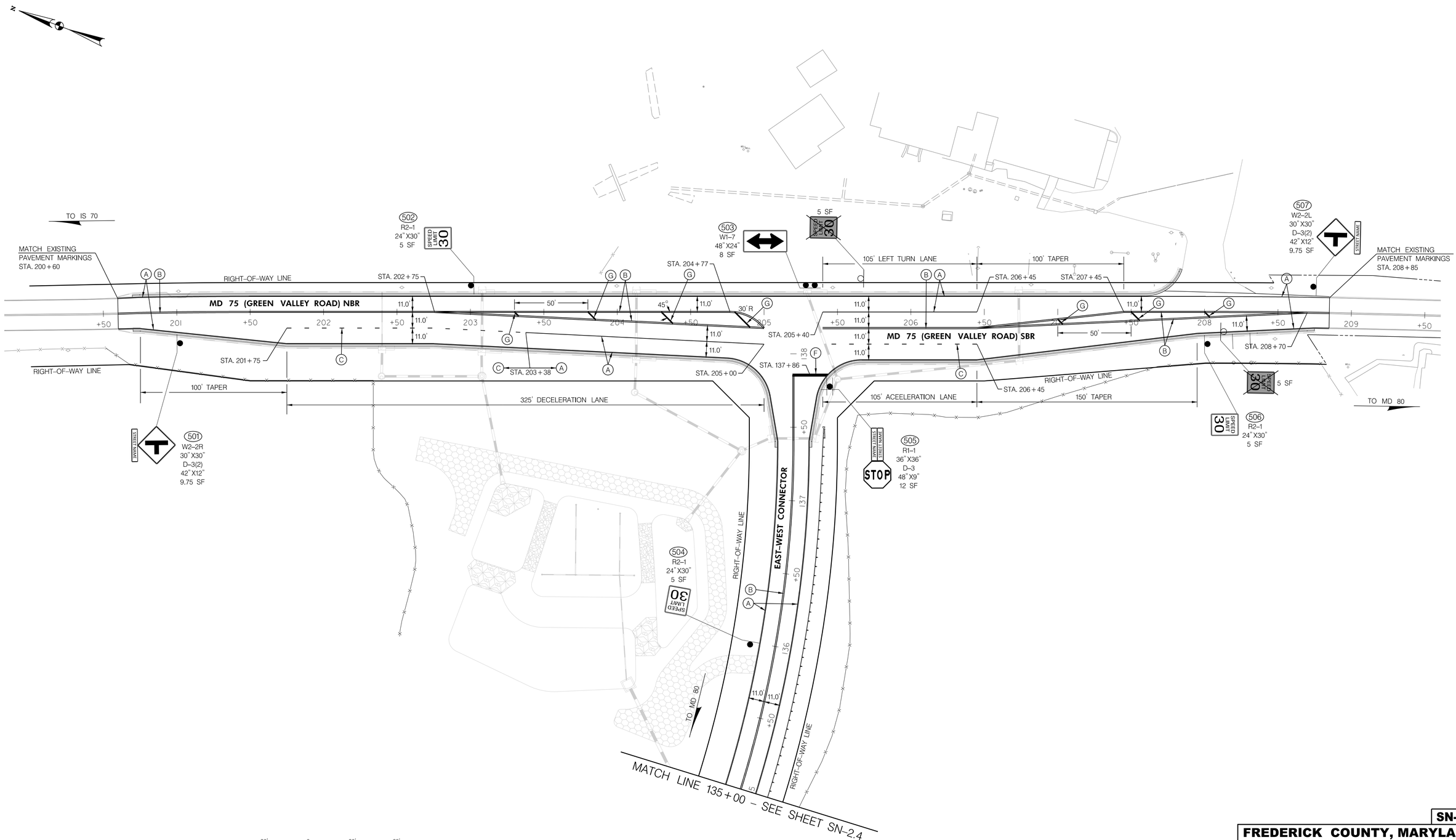
MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SIGNING & MARKING PLAN

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 184 OF 226

BY: AKR -
PLOTTED: 10/19/2022
FILE: I:\Frederick County - Monrovia E-W Connector\Design Files\SN-2004.EWC.dgn



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

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

PAVEMENT MARKING LEGEND

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- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP BAR
- (G) 15" YELLOW THERMOPLASTIC PAVEMENT MARKINGS – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JASON T. WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SN-2.5

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

SIGNING & MARKING PLAN

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 185 OF 226

BY: AKR -
PLOTTED:10/19/2022
FILE:U:\Frederick County - Monrovia E-W Connector\Design Files\SN-2005.EWC.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
SN-2.1		REMOVE EX. GROUND MOUNTED SIGNS AND SUPPORTS			9																		
		SN-2.1 SUBTOTAL		0	9	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
SN-2.2		REMOVE EX. GROUND MOUNTED SIGNS AND SUPPORTS			12.5																		
		SN-2.2 SUBTOTAL		0	12.5	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
SN-2.3	301	R2-1 (24"X30")	SQUARE PERFORATED STEEL SIGN POST	5		1	1																
	302	R1-1 (30"X30"), D-3 (TBD"X9")	SQUARE PERFORATED STEEL SIGN POST	9.25		1	1																
	303	W1-7 (48"X24")	TWO SQUARE PERFORATED STEEL SIGN POSTS	8		2	2																
	304	W1-2R (30"X30")	SQUARE PERFORATED STEEL SIGN POST	6.25		1	1																
	305	R2-1 (24"X30")	SQUARE PERFORATED STEEL SIGN POST	5		1	1																
	306	R2-1 (24"X30")	SQUARE PERFORATED STEEL SIGN POST	5		1	1																
	307	W3-1a (30"X30")	SQUARE PERFORATED STEEL SIGN POST	6.25		1	1																
		REMOVE EX. GROUND MOUNTED SIGNS AND SUPPORTS			29.75																		
		SN-2.3 SUBTOTAL		44.75	29.75	8	8	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
SN-2.4	401	W1-2L (30"X30")	SQUARE PERFORATED STEEL SIGN POST	6.25		1	1																
	402	M2-1 (15"X21"), W1-5 (24"X24")	SQUARE PERFORATED STEEL SIGN POST	6.2		1	1																
	403	OM-3L (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
	404	OM-3R (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
	405	OM-3R (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
	406	OM-3L (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
		SN-2.4 SUBTOTAL		24.45	0	6	6	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
SN-2.5	501	W2-2R (30"X30"), D-3(2) (36"X12")	ONE 4"X6" WOOD SIGN SUPPORT	9.75					16.5														
	502	R2-1 (24"X30")	ONE 4"X4" WOOD SIGN SUPPORT	5				14.5															
	503	W1-7 (48"X24")	TWO 4"X4" WOOD SIGN SUPPORTS	8				28															
	504	R2-1 (24"X30")	SQUARE PERFORATED STEEL SIGN POST	5		1	1																
	505	R1-1 (36"X36"), D-3 (TBD"X9")	ONE 4"X6" WOOD SIGN SUPPORT	12					15.75														
	506	R2-1 (24"X30")	ONE 4"X4" WOOD SIGN SUPPORT	5				14.5															
	507	W2-2L (30"X30"), D-3(2) (36"X12")	ONE 4"X6" WOOD SIGN SUPPORT	9.75					16.5														
		REMOVE EX. GROUND MOUNTED SIGNS AND SUPPORTS			10																		
		SN-2.5 SUBTOTAL		54.5	10	1	1	57	48.75	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												
		PAVEMENT MARKINGS FOR SN-2.3								2160	2000			15		1							
		PAVEMENT MARKINGS FOR SN-2.4								1650	1650	220	220			26							
		PAVEMENT MARKINGS FOR SN-2.5								2815	3350			30	65	5							
		TOTAL		124	62	15	15	57	49	10270	10875	220	220	45	65	32	0	0	0	0	0	0	0

CODE NO.	DESCRIPTION	UNIT	CATEGORY CODE
1	SHEET ALUMINUM SIGNS	SF	801605
2	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS	SF	801711
3	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	EA	801130
4	SQUARE TUBULAR STEEL ANCHOR BASES	EA	801135
5	WOOD SIGN SUPPORTS 4 INCH X 4 INCH	LF	801104
6	WOOD SIGN SUPPORTS 4 INCH X 6 INCH	LF	801106
7	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	549401
8	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	549403
9	5 INCH WHITE CONTRAST PAVEMENT MARKING TAPE	LF	549101
10	5 INCH YELLOW CONTRAST PAVEMENT MARKING TAPE	LF	549103
11	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	549617
12	15 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	549415

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

SN-11

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

INDEX OF QUANTITIES

DATE: OCTOBER 2022 SCALE: N.T.S.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 186 OF 226

BY: AKR -
PLOTTED:10/19/2022
FILE:S:\Frederick County - Monrovia E-W Connector\Design Files\gSN-IND1.EWC.dgn

GENERAL NOTES:

1. THIS PROJECT CONSISTS OF THE INSTALLATION OF LIGHT POLES TO ILLUMINATE THE PROPOSED BRIDGE AREA ON EAST–WEST CONNECTOR. A BASE MOUNTED METERED SERVICE PEDESTAL IS PROPOSED WITH AN OPERATING VOLTAGE OF 240V, THAT SHALL BE INSTALLED AS PART OF THIS PROJECT.

2. ALL PROPOSED LIGHTING EQUIPMENT SHALL BE INSTALLED TO THE FINAL GRADE ELEVATIONS. THE CONTRACTOR SHALL VERIFY THE NOMINAL LIGHTING POLE HEIGHT TO CONFIRM THAT THE LUMINAIRES ARE MOUNTED GENERALLY 40–FEET ABOVE THE FINAL GRADE.

3. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY AT (800) 257–7777 PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE LIGHTING EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEADIATELY SO THAT THE CONFLICT MAY BE RESOLVED. ANY DAMAGE TO UTILITIES OCCURRED BY THE CONTRACTOR SHALL BE REPAIRED IMMEADIATELY AT THE CONTRACTOR'S EXPENSE.

4. ALL PROPOSED LIGHT POLE LOCATIONS SHALL BE MARKED IN THE FIELD AND TEST PITS COMPLETED PRIOR TO INSTALLATION. THE CONTRACTOR MUST VERIFY THE LOCATION OF ALL UTILITIES AND FINAL GRADE ELEVATIONS PRIOR TO INSTALLATION OF THE LIGHTING EQUIPMENT. THE CONTRACTOR SHALL CONTACT THE TRAFFIC CONTROL DEVICES INSPECTION SECTION (TCDIS) AT (410) 787–7643 TO COORDINATE THE STAKE OUT OF THE LIGHT POLES.

5. THE INSTALLATION OF THE PROPOSED ELECTRICAL SERVICE FEED IS SUBJECT TO FIRST ENERGY INSPECTION AND WRITTEN APPROVAL BEFORE CONCEALMENT. FAILURE TO OBTAIN SUCH INSPECTION AND APPROVAL WILL RESULT IN UNCOVERING THE FACILITIES AT THE CONTRACTOR'S EXPENSE.

6. ALL CONDUITS SHALL BE INSTALLED AS PER THE CONTRACT DOCUMENTS. THE CONTRACTOR MAY USE AN ALTERNATE SHA STANDARD INSTALLATION METHOD WITH THE APPROVAL OF THE ENGINEER.

7. ONLY THE CONDUCTORS THAT SERVE THE LIGHTING STRUCTURES SHALL ENTER THE FOUNDATION OF THE LIGHT STRUCTURES. ALL OTHER CONDUCTORS SHALL REMAIN UN–SPLICED AND BYPASS THE FOUNDATION.

8. ALL CONDUIT ROUTING IS SCHEMATIC. THE CONTRACTOR SHALL VERIFY ACTUAL CONDUIT ROUTING PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH UTILITIES AND STRUCTURES.

9. GROUND MOUNTED LIGHTING STRUCTURES AND MANHOLES SHALL BE CONNECTED TO A GROUND ROD AND SHALL BE ELECTRICALLY CONNECTED BY A CONTINUOUS BARE COPPER GROUND WIRE TO THE SERVICE GROUND.

10. ALL CONNECTIONS TO GROUND RODS SHALL BE BY EXOTHERMIC WELD.

11. ALL ELECTRICAL MANHOLES SHALL BE INSTALLED WITH 10–FEET OF SLACK COILED CABLE AND A PULL ROPE.

12. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRICITY SAFETY CODE (NESC) AND ALL LOCAL CODES AND REGULATIONS.

13. ALL MATERIAL, ELECTRICAL DEVICES AND EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AND SHALL BE UL APPROVED AND LABELED UNLESS OTHERWISE SPECIFIED.

GENERAL NOTES (CONTINUED):

14. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION SPECIFICATION, ENTITLED STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS DATED 2020 REVISIONS THEREOF OR ADDITIONS THERETO, SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK, THE ADMINISTRATION'S BOOK OF STANDARDS AND THE LATEST MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MD MUTCD).

15. ALL PROPOSED LIGHTING EQUIPMENT INCLUDING FOUNDATIONS SHALL COMPLY WITH THE LATEST STANDARDS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS.

16. ALL ELECTRICAL MANHOLES SHALL BE EQUIPPED WITH A CONCRETE COLLAR AND A 6–INCH UNDERDRAIN PER STANDARDS NO. MD 811.04 AND MD 811.04–01. THE UNDERDRAIN SHALL BE INSTALLED TO THE NEAREST OUTFALL AS DIRECTED BY THE ENGINEER. CONCRETE, REBAR AND UNDERDRAINS SHALL BE INCIDENTAL TO THE ELECTRICAL MANHOLE ITEM.

17. ALL SOIL REMOVED FOR THE INSTALLATION OF LIGHTING EQUIPMENT SHOWN ON THESE PLANS MUST BE COVERED WITH EROSION CONTROL MATTING TO PREVENT EROSION. SOIL NOT USED FOR BACKFILL MUST BE DISPOSED OF TO THE ENGINEER'S SATISFACTION ON THE SAME WORKING DAY. ALL TRENCHING MUST BE BACKFILLED AND RESTORED TO ITS ORIGINAL CONDITION ON THE SAME WORKING DAY ON WHICH IT WAS OPENED. AREAS WHICH ARE NOT RESEEDED, MULCHED, OR SODDED MUST BE COVERED WITH EROSION CONTROL MATTING TO PREVENT EROSION.

18. THE NEW LED ROADWAY LUMINAIRES SHALL BE SUPPLIED WITH TWO (2) 1–CONDUCTOR NO. 10 AWG THWN/THHN WIRES FROM THE LUMINAIRE DOWN TO THE BASE OF THE POLE. PROVIDE AN ADDITIONAL 1–CONDUCTOR NO. 10 AWG (GREEN WIRE) FROM THE GROUNDING TERMINAL IN THE LUMINAIRE DOWN TO THE GROUNDING LUG INSIDE THE POLE BASE. THERE SHALL BE A TOTAL OF THREE (3) RUNS OF WIRE FOR EACH LUMINAIRE.

GENERAL NOTES (CONTINUED):

19. CONDUCTORS SHALL NOT BE SPLICED EXCEPT IN LIGHTING STRUCTURES AND MANHOLES. IN–GROUND SPLICES ARE NOT ALLOWED. ALL SPLICES IN MANHOLES SHALL BE SUBMERSIBLE.

20. ALL LIGHT POLES LOCATED BEHIND GUARDRAIL SHALL PROVIDE A MINIMUM OF 6–FEET FROM THE FACE OF THE W–BEAM TO THE CENTER OF THE LIGHT POLE FOR DEFLECTION.21. ALL SHA LIGHT POLES SHALL HAVE AN IDENTIFICATION TAG INSTALLED PER STANDARD NO. MD 808.03.

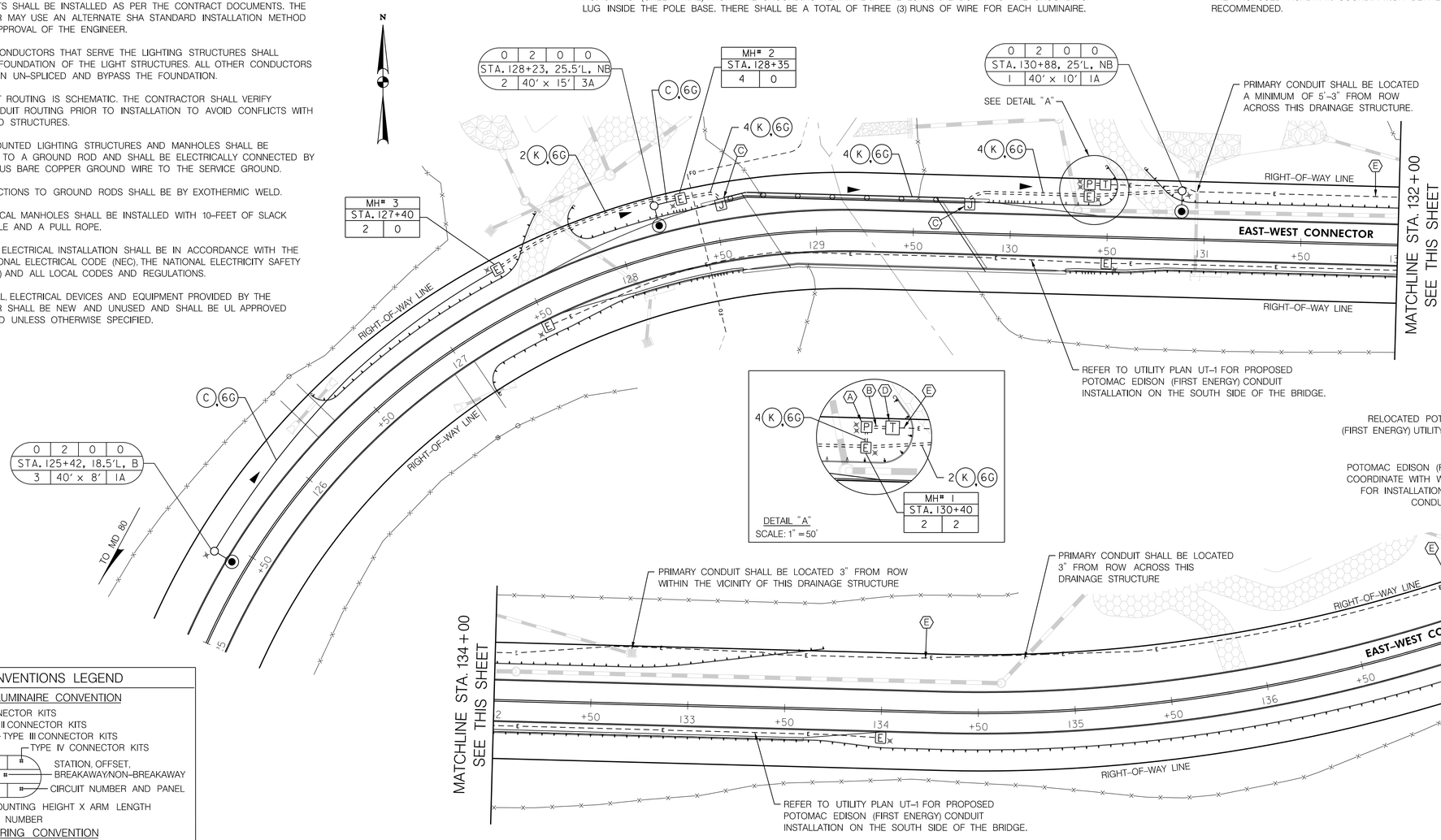
21. PROVIDE CABLE DUCT END SEALS AT EVERY INGRESS–EGRESS OF 2–CONDUCTOR DUCT CABLE TO ELECTRICAL MANHOLES AND LIGHT STRUCTURES. THE CABLE DUCT END SEALS SHALL BE INCIDENTAL TO THE 2–CONDUCTOR DUCT CABLE ITEM.

22. AS–BUILT LIGHTING INVENTORY DATA SHALL BE PROVIDED TO FREDERICK COUNTY IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AT THE COMPLETION OF THE BURN TEST. LIGHTING SYSTEMS WILL NOT BE ACCEPTED FOR MAINTENANCE UNTIL AS–BUILT LIGHTING INVENTORY DATA HAS BEEN RECEIVED BY FREDERICK COUNTY.

23. GROUND WIRE SHALL BE CONNECTED TO A GROUNDING LUG IN ALL JUNCTION BOXES.

24. THE CONTRACTOR SHALL CONTACT FIRST ENERGY TO COORDINATE SERVICE DROP LOCATION AND TO ENSURE PROPOSED SERVICE FEED IS APPROVED PRIOR TO INSTALLATION OF PEDESTAL AND ELECTRICAL UTILITY SERVICE EQUIPMENT. THE CONTRACTOR SHALL ARRANGE A MEETING WITH FIRST ENERGY AND THE PROJECT ENGINEER TO ENSURE POWER IS AVAILABLE WHEN REQUIRED.

25. ON PROPOSED ALIGNMENTS, THE CONTRACTOR SHALL TRENCH CONDUITS PRIOR TO THE CONSTRUCTION OF THE PROPOSED ROADWAY. COORDINATION BETWEEN LIGHTING CONTRACTOR AND ROADWAY CONTRACTOR IS RECOMMENDED.



CONSTRUCTION DETAILS:

(A) FURNISH AND INSTALL CONCRETE FOUNDATION, BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTO CONTROL, METER, DISCONNECT AND 1–PHASE, 120/240V LIGHTING CONTROL PANEL PER MDOT SHA TYPICALS NO. 807.06–01, 807.06–02, 807.06–03, 807.06–04, 807.06–05 AND 870.06–06. (STA. 131+40, 27' LT.)

(B) FURNISH AND INSTALL 4–INCH SCHEDULE 80 RIGID PVC CONDUIT FROM PROPOSED PADMOUNT TRANSFORMER TO THE BASE MOUNTED METERED SERVICE PEDESTAL. POTOMAC EDISON (FIRST ENERGY) SHALL MAKE FINAL SERVICE CONNECTIONS.

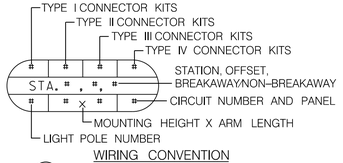
(C) REFER TO BRIDGE PLANS FOR LOCATIONS OF JUNCTION BOXES EMBEDDED IN THE PARAPET WALL.

(D) POTOMAC EDISON (FIRST ENERGY) TO INSTALL NEW PADMOUNT TRANSFORMER TO PROVIDE SECONDARY SERVICE FEED FOR PROPOSED LIGHTING.

(E) POTOMAC EDISON (FIRST ENERGY) TO INSTALL 3" PRIMARY CONDUIT FROM PROPOSED PADMOUNT TRANSFORMER TO RELOCATED UTILITY POLE #F4743 ALONG SOUTHBOUND MD 75. PROPOSED ROUTING OF PRIMARY CONDUIT, AS SHOWN ON THIS PLAN, MEETS THE MINIMUM CLEARANCE REQUIREMENT FROM ALL DRAINAGE STRUCTURES.

CONVENTIONS LEGEND

LUMINAIRE CONVENTION



WIRING CONVENTION

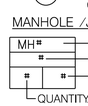
#(#) – TYPE AND SIZE OF CABLE(S) IN CONDUIT, SEE CONVENTION BELOW
TOTAL NUMBER OF CABLE(S) IN CONDUIT

(C) – 2C #6 AWG DUCT CABLE, 600V

(K) – 1C #6 AWG TYPE USE, 600V

(6G) – NO. 6 AWG STRANDED BARE COPPER GROUND WIRE

MANHOLE /JUNCTION BOX CONVENTION



UTILITY LEGEND

T – TELEPHONE CABLES
E – AERIAL CABLES
FO – FIBER OPTIC CABLES
G – GAS MAIN
E – ELECTRIC CABLES

SYMBOL LEGEND

– PROPOSED 4" SCHEDULE 80 PVC CONDUIT IN PARAPET (SEE BRIDGE PLANS)
– PROPOSED 4" SCHEDULE 80 PVC CONDUIT TRENCHED
– PROPOSED DIRECT BURIED DUCT CABLE
– PROPOSED SINGLE BRACKET ARM MOUNTED LED ROADWAY LUMINAIRE ON GALVANIZED STEEL GROUND MOUNTED LIGHTING STRUCTURE
– DIRECTION OF CIRCUIT RUN
+ – PROPOSED GROUND ROD
(E) – PROPOSED ELECTRICAL MANHOLE (MD STANDARD 811.04)
(J) – PROPOSED JUNCTION BOX IN PARAPET (REFER TO BRIDGE PLANS)
(P) – PROPOSED BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTO CONTROL

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND – JOHN JACKSON WEBB – No. 24828 – PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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LT-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

LIGHTING PLAN AND GENERAL NOTES

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 187 OF 226

BY: MMM
PLOTTED: 10/20/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pl_T-P001_ENC.dgn

SCHEDULE OF PROPOSED METERED SERVICE PEDESTAL - (LT-1)

SERVICE: 200 AMP 120/240 VOLTS, 1-PHASE, 3-WIRE		LUMINAIRE VOLTAGE, 120 VOLTS			BREAKERS 200 AMP M.C.B. 200 AMP METER SOCKET			NEMA 3R GALVANIZED PEDESTAL
CIRCUIT NUMBER	EQUIPMENT SERVED	CONNECTED LOADS		PHASE AND VOLTS	BRANCH CIRCUIT BREAKERS			REMARKS
		KW	AMPS		NUMBER OF POLES	FRAME SIZE	TRIP SIZE	
1 A	PROPOSED LIGHT STRUCTURES: 1, 3	0.65	2.92	1/240	2	200	20	(2)-LED ROADWAY LUMINAIRES
2 A	SPARE	0.00	0.00	1/240	2	200	20	
3 A	PROPOSED LIGHT STRUCTURE: 2	0.33	1.46	1/240	2	200	20	(1)-LED ROADWAY LUMINAIRE
4 A	SPARE	0.00	0.00	1/240	2	200	20	
5 A	SPACE	0.00	0.00	-	-	-	-	
6 A	SPACE	0.00	0.00	-	-	-	-	
	TOTAL	0.98	4.38					

SCHEDULE OF POLES

POLE NUMBER	TYPE OF POLE	MAST ARM LENGTH	SETBACK	* LUMINAIRE WATTAGE / TYPE	TYPE OF BASE	POLE LOCATION
1	ROUND/STEEL	10'	4.5', FACE OF BARRIER	175W LED	NON-BREAKAWAY	STA. 130+88, 25' LT
2	ROUND/STEEL	15'	6.5', FACE OF BARRIER	175W LED	NON-BREAKAWAY	STA. 128+23, 25.5' LT
3	ROUND/STEEL	8'	7.5', EDGE OF PAVEMENT	175W LED	BREAKAWAY	STA. 125+42, 18.5' LT

* THE LUMINAIRE WATTAGE SHOWN IS THE MAXIMUM ALLOWED. REFER TO THE CONTRACT SPECIFICATIONS FOR THE LUMINAIRE REQUIREMENTS.

SCHEDULE OF ENCLOSURES

ENCLOSURE NO.	TYPE	CONNECTOR KITS		LOCATION
		TYPE I	TYPE IV	
1	MANHOLE	2	2	STA. 130+40, 21' LT
2	MANHOLE	4	0	STA. 128+35, 25.5' LT
3	MANHOLE	2	0	STA. 127+40, 24' LT

EQUIPMENT LIST

CATEGORY CODE	DESCRIPTION	UNITS	QUANTITY TOTAL
203030	TEST PIT EXCAVATION	CY	2
801003	CONCRETE FOR LIGHT FOUNDATION	CY	7
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	675
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	LF	275
806025	LED ROADWAY LUMINAIRE	EA	3
807203	UP TO 200 AMP BASE MOUNTED METERED SERVICE PEDESTAL	EA	1
808031	40 FOOT LIGHT STRUCTURE - 15 FOOT BRACKET ARM	EA	1
808033	40 FOOT LIGHT STRUCTURE - 10 FOOT BRACKET ARM	EA	1
808034	40 FOOT LIGHT STRUCTURE - 8 FOOT BRACKET ARM	EA	1
811003	FURNISH AND INSTALL ELECTRICAL MANHOLE	EA	3
821002	BREAKAWAY BASE SUPPORT SYSTEM FOR LIGHTING STRUCTURE	EA	1
832001	DUCT CABLE - 2 CONDUCTOR, NO 6 AWG, 600 V	LF	245
832016	CABLE - 1 CONDUCTOR, NO 6 AWG, TYPE USE, 600V	LF	1330
832019	CABLE - 1 CONDUCTOR, NO 10 AWG, TYPE THWN/THHN, 600V	LF	505
834001	CONNECTOR KIT - TYPE I	EA	8
834002	CONNECTOR KIT - TYPE II	EA	6
834004	CONNECTOR KIT - TYPE IV	EA	2
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	EA	7

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH THOMSON BERRY — No. 24828 — PROFESSIONAL ENGINEER
10/26/22

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

CROSS REFERENCE

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TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

LT-2

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

LIGHTING SCHEDULES AND EQUIPMENT LIST

DATE: OCTOBER 2022 SCALE: N.T.S.

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 188 OF 226

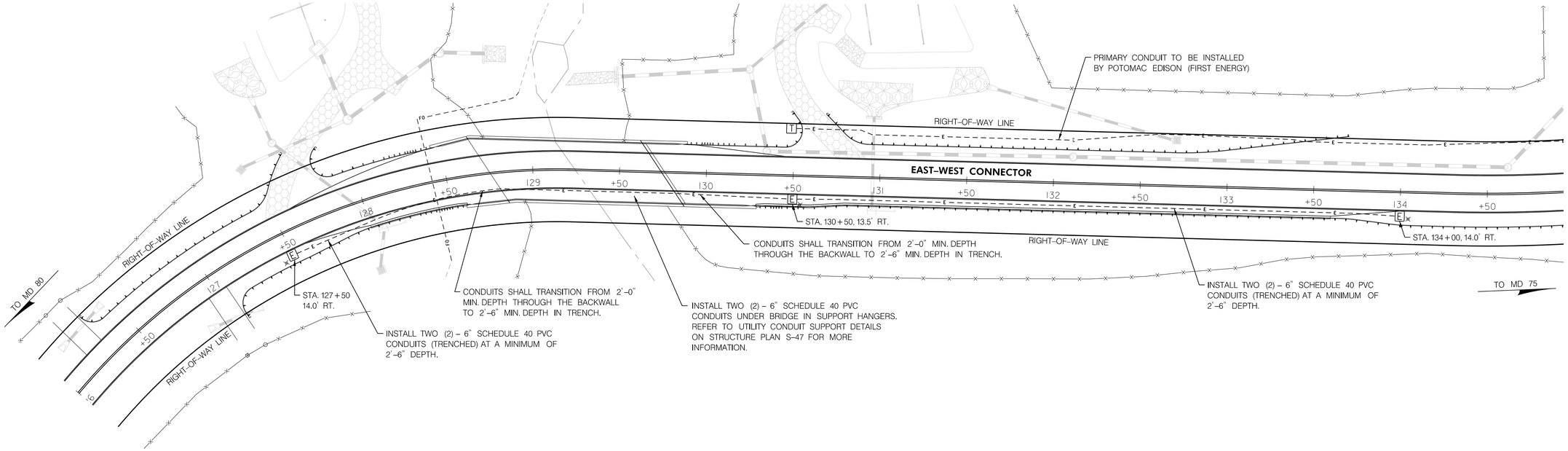
BY: MMM -
PLOTTED:10/20/2022
FILE:U:\Frederick County - Monrovia E-W Connector\Design Files\pLT-S002_EWC.dgn

GENERAL NOTES:

1. ALL CONDUITS SHALL BE INSTALLED AS PER THE CONTRACT DOCUMENTS. THE CONTRACTOR MAY USE AN ALTERNATE INSTALLATION METHOD WITH APPROVAL FROM POTOMAC EDISON (FIRST ENERGY).
2. ALL CONDUIT ROUTING IS SCHEMATIC. THE CONTRACTOR SHALL VERIFY ACTUAL CONDUIT ROUTING PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH UTILITIES AND STRUCTURES.
3. ALL CONNECTIONS TO GROUND RODS SHALL BE BY EXOTHERMIC WELD.
4. ALL ELECTRICAL MANHOLES SHALL BE INSTALLED WITH 10-FEET OF SLACK COILED CABLE AND A PULL ROPE.
5. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRICITY SAFETY CODE (NESC) AND ALL LOCAL CODES AND REGULATIONS.
6. ALL MATERIAL, ELECTRICAL DEVICES AND EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AND SHALL BE UL APPROVED AND LABELED UNLESS OTHERWISE SPECIFIED.

GENERAL NOTES (CONTINUED):

7. ON PROPOSED ALIGNMENTS, THE CONTRACTOR SHALL TRENCH CONDUITS PRIOR TO THE CONSTRUCTION OF THE PROPOSED ROADWAY. COORDINATION BETWEEN THE ELECTRICAL CONTRACTOR AND ROADWAY CONTRACTOR IS RECOMMENDED.
8. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION SPECIFICATION, ENTITLED STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS DATED 2020 REVISIONS THEREOF OR ADDITIONS THERETO, AND SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK.
9. ALL ELECTRICAL MANHOLES SHALL BE EQUIPPED WITH A CONCRETE COLLAR AND A 6-INCH UNDERDRAIN PER STANDARDS NO. MD 811.04 AND MD 811.04-01. THE UNDERDRAIN SHALL BE INSTALLED TO THE NEAREST OUTFALL AS DIRECTED BY THE ENGINEER. CONCRETE, REBAR AND UNDERDRAINS SHALL BE INCIDENTAL TO THE ELECTRICAL MANHOLE ITEM.



SYMBOL LEGEND

- ✦ – PROPOSED GROUND ROD
- E – PROPOSED ELECTRICAL MANHOLE (MD STANDARD 811.04)
- T – PROPOSED TRANSFORMER (TO BE INSTALLED BY OTHERS)

UTILITY LEGEND

- FO – FIBER OPTIC CABLES
- G – GAS MAIN
- E – PROPOSED ELECTRICAL CABLES

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH ANDERSON HEIL — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

UT-1

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

MONROVIA EAST-WEST CONNECTOR ED McCLAIN ROAD TO MD 75

UTILITY PLAN

DATE: OCTOBER 2022 SCALE: 1"=30'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 189 OF 226

BY: AKR - PLOTTED: 10/21/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\UT-P000_EWC.dgn

GRADING TABLE

STAGE	ROADWAY FROM (1)	ROADWAY TO (2)	EXCAVATION: CLASS 1: CUT FROM XSECTS (3)	TOPSOIL: CUT (4)	TOPSOIL: FILL (5)	ROOTMAT: CUT (6)	ROOTMAT: FILL (7)	CLASS 1: TOTAL (8)	SUITABLE FOR EMBANK. (9)	SHRINK / SWELL FACTOR (15%) (10)	AVAIL. FOR EMBANK. (11)	CLASS 2: TOTAL FROM XSECS (12)	CLASS 2: LOSS DUE TO HANDLING (13)	CLASS 2: AVAIL. FOR EMBANK. (14)	EROSION & SEDIMENT: ORIGINAL EXCAVATION (15)	EROSION & SEDIMENT: CLEAN-OUT EXCAVATION (16)	EMBANKMENT: FILL: FROM XSECT (17)	FILL: TOT. REQ. BEFORE DENSIFICATION (18)	CAPPING BORROW: CAPPING (19)	CAPPING BORROW: TOT. REQ. AFTER DENSIFICATION (20)	SELECT BORROW: FROM XSECT (21)	SELECT BORROW: TOT. REQ. AFTER DENSIFICATION (22)
STAGE 1	EMR (S) - E-W CONN.		29,456	1,807	1,190	0	0	30,646	27,649	4,147	23,502	0	0	0	0	0	13,318	14,508	0	0	0	0
	MD 75 (GVR)		4,194	425	164	0	4	4,362	3,769	565	3,204	0	0	0	0	0	564	732	0	0	0	0
	ED McCLAIN RD (N)		223	32	0	0	0	223	191	29	162	0	0	0	0	0	0	0	0	0	0	0
	DRIVEWAY (4639 EMR)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	E&SC AND SWM*		22,442	1,271	479	0	0	22,921	21,171	3,176	17,995	0	0	0	156	695	3,726	4,205	0	0	0	0
	STAGE 1 TOTAL		56,315	3,535	1,833	0	4	58,152	52,780	7,917	44,863	0	0	0	156	695	17,608	19,445	0	0	0	0
STAGE 2	EMR (S) - E-W CONN.		2,422	395	747	0	0	3,169	2,027	304	1,723	0	0	0	0	0	2,625	3,372	0	0	0	0
	MD 75 (GVR)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ED McCLAIN RD (N)		94	19	0	0	0	94	75	11	64	0	0	0	0	0	20	20	0	0	0	0
	DRIVEWAY (4639 EMR)		50	9	0	0	0	50	41	6	35	0	0	0	0	0	0	0	0	0	0	0
	E&SC AND SWM*		0	0	0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0	0	0
	STAGE 2 TOTAL		2,566	423	747	0	0	3,313	2,143	321	1,822	0	0	0	0	53	2,645	3,392	0	0	0	0
STAGE 3	EMR (S) - E-W CONN.		1,027	26	43	0	0	1,070	1,001	150	851	0	0	0	0	0	1,195	1,238	0	0	0	0
	MD 75 (GVR)		81	2	29	0	0	110	79	12	67	0	0	0	0	0	93	122	0	0	0	0
	ED McCLAIN RD (N)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DRIVEWAY (4639 EMR)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	E&SC AND SWM*		3,292	0	0	0	0	3,292	3,292	494	2,798	0	0	0	0	0	170	170	0	0	0	0
	STAGE 3 TOTAL		4,400	28	72	0	0	4,472	4,372	656	3,716	0	0	0	0	0	1,458	1,530	0	0	0	0

*EROSION & SEDIMENT CONTROL AND STORMWATER MANAGEMENT EARTHWORK:

STAGE 1: GRADING FOR INSTALLATION OF SEDIMENT TRAP AND BASINS, AND CLEANOUT EXCAVATION (EST). FOR SEDIMENT BASINS TO BE CONVERTED TO SWM FACILITIES. EARTHWORK EXCLUDES INSTALLATION OF SWM FACILITY WEIRS, BOTTOM MEDIA, AND ACCESS ROAD SECTION.

STAGE 2: CLEANOUT EXCAVATION (EST).

STAGE 3: REMOVAL OF SEDIMENT TRAP AND CONVERSION OF SEDIMENT BASINS TO SWM FACILITIES, AND FINAL CLEANOUT EXCAVATION (EST). INCLUDES INSTALLATION OF SWM FACILITY WEIRS, BOTTOM MEDIA, AND ACCESS ROAD SECTION.

SUMMARY OF EARTHWORK

EXCAVATION

		STAGE 1		STAGE 2		STAGE 3	
Ⓐ	TOTAL CLASS 1 EXCAVATION (COL. 8)	58,152	C.Y.	3,313	C.Y.	4,472	C.Y.
Ⓑ	TOTAL CLASS 2 EXCAVATION (COL. 12)	0	C.Y.	0	C.Y.	0	C.Y.
Ⓒ	TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT (COL. 11 + COL. 14)	44,863	C.Y.	1,822	C.Y.	3,716	C.Y.
Ⓓ	TOTAL EROSION & SEDIMENT CONTROL EXCAVATION (COL. 15 + COL. 16)	851	C.Y.	53	C.Y.	0	C.Y.

EMBANKMENT

		STAGE 1		STAGE 2		STAGE 3	
Ⓔ	TOTAL COMMON BORROW REQUIRED (COL. 18) (COLS. 17 + 5 + 7)	19,445	C.Y.	3,392	C.Y.	1,530	C.Y.
Ⓕ	TOTAL CAPPING BORROW REQUIRED (COL. 20)	0	C.Y.	0	C.Y.	0	C.Y.
Ⓖ	TOTAL SELECT BORROW REQUIRED (COL. 22)	0	C.Y.	0	C.Y.	0	C.Y.
Ⓗ	WASTE	25,418••	C.Y.	0	C.Y.	2,186	C.Y.
Ⓘ	COMMON BORROW REQUIRED	0	C.Y.	0••	C.Y.	0	C.Y.
Ⓙ	BORROW DENSIFIED (15 %)	0	C.Y.	0••	C.Y.	0	C.Y.
Ⓚ	TOTAL COMMON BORROW REQUIRED	0	C.Y.	0••	C.Y.	0	C.Y.

PROPOSAL QUANTITIES

	STAGE 1		STAGE 2		STAGE 3		PROJECT TOTAL	
CLASS 1 EXCAVATION	58,300	C.Y.	3,400	C.Y.	4,550	C.Y.	66,250	C.Y.
CLASS 1-A EXCAVATION	140	C.Y.	30	C.Y.	30	C.Y.	200	C.Y.
CLASS 2 EXCAVATION	0	C.Y.	0	C.Y.	0	C.Y.	0	C.Y.
CLASS 3 EXCAVATION	1,350	C.Y.	0	C.Y.	0	C.Y.	1,350	C.Y.
COMMON BORROW	0	C.Y.	0••	C.Y.	0	C.Y.	0••	C.Y.
CAPPING BORROW	0	C.Y.	0	C.Y.	0	C.Y.	0	C.Y.
SELECT BORROW	130	C.Y.	10	C.Y.	10	C.Y.	150	C.Y.
GEOSYNTHETIC STABILIZED SUBGRADE USING G.A.B.	10	C.Y.	20	C.Y.	20	C.Y.	50	C.Y.
EROSION & SEDIMENT CONTROL ORIGINAL EXCAVATION	170	C.Y.	0	C.Y.	0	C.Y.	170	C.Y.
EROSION & SEDIMENT CONTROL CLEAN-OUT EXCAVATION	720	C.Y.	60	C.Y.	0	C.Y.	780	C.Y.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER — 10/18/22

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

CROSS REFERENCE

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GT-1

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

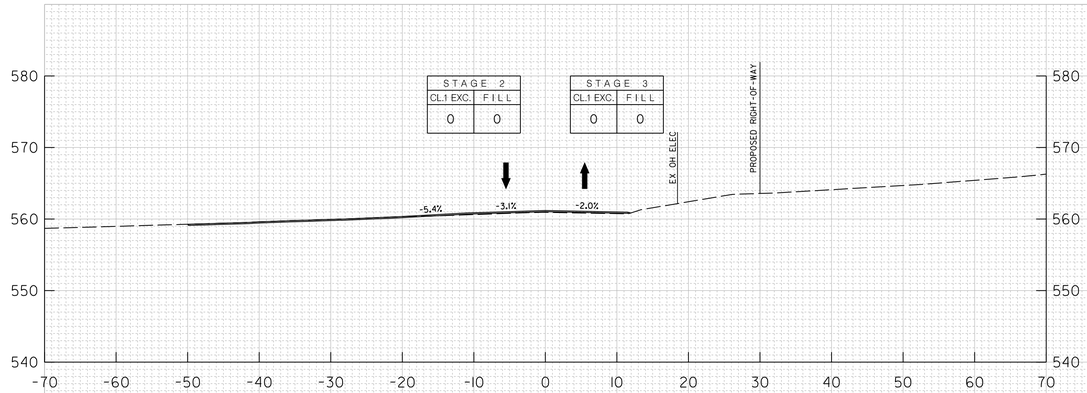
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

GRADING TABLE AND SUMMARY OF EARTHWORK

DATE: OCTOBER 2022 SCALE: NONE

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 190 OF 226

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\pGR-500.EWC.dgn



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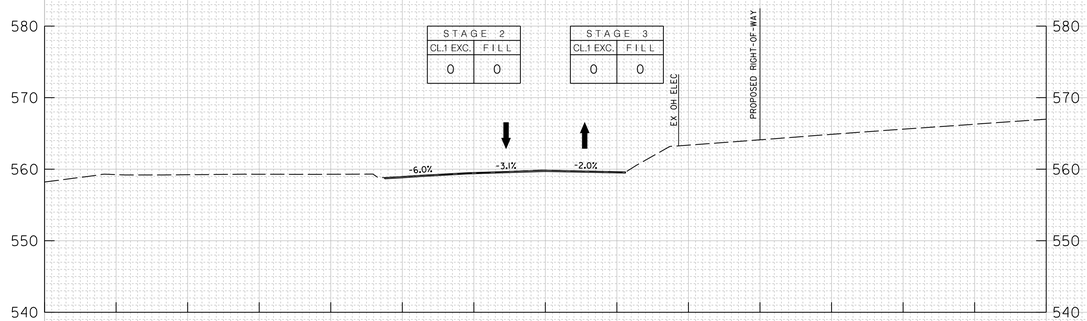

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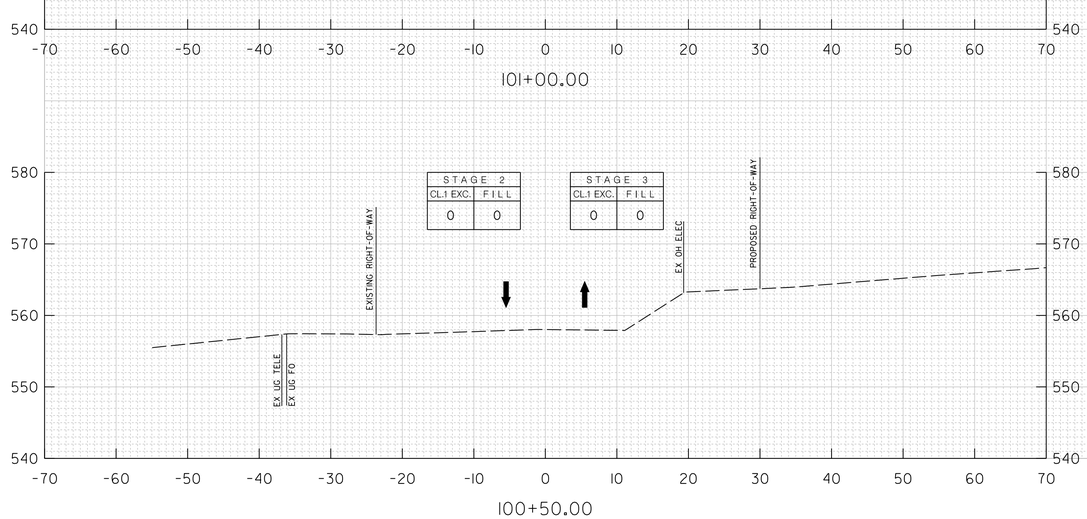

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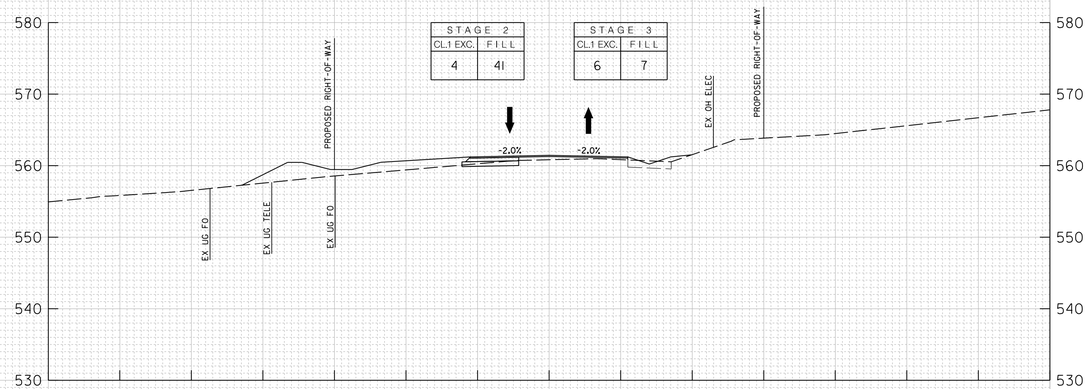

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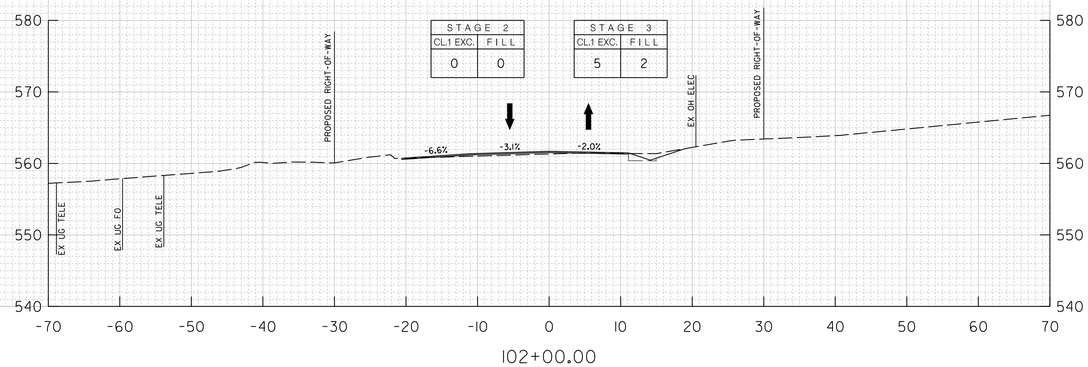

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

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CS-1

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

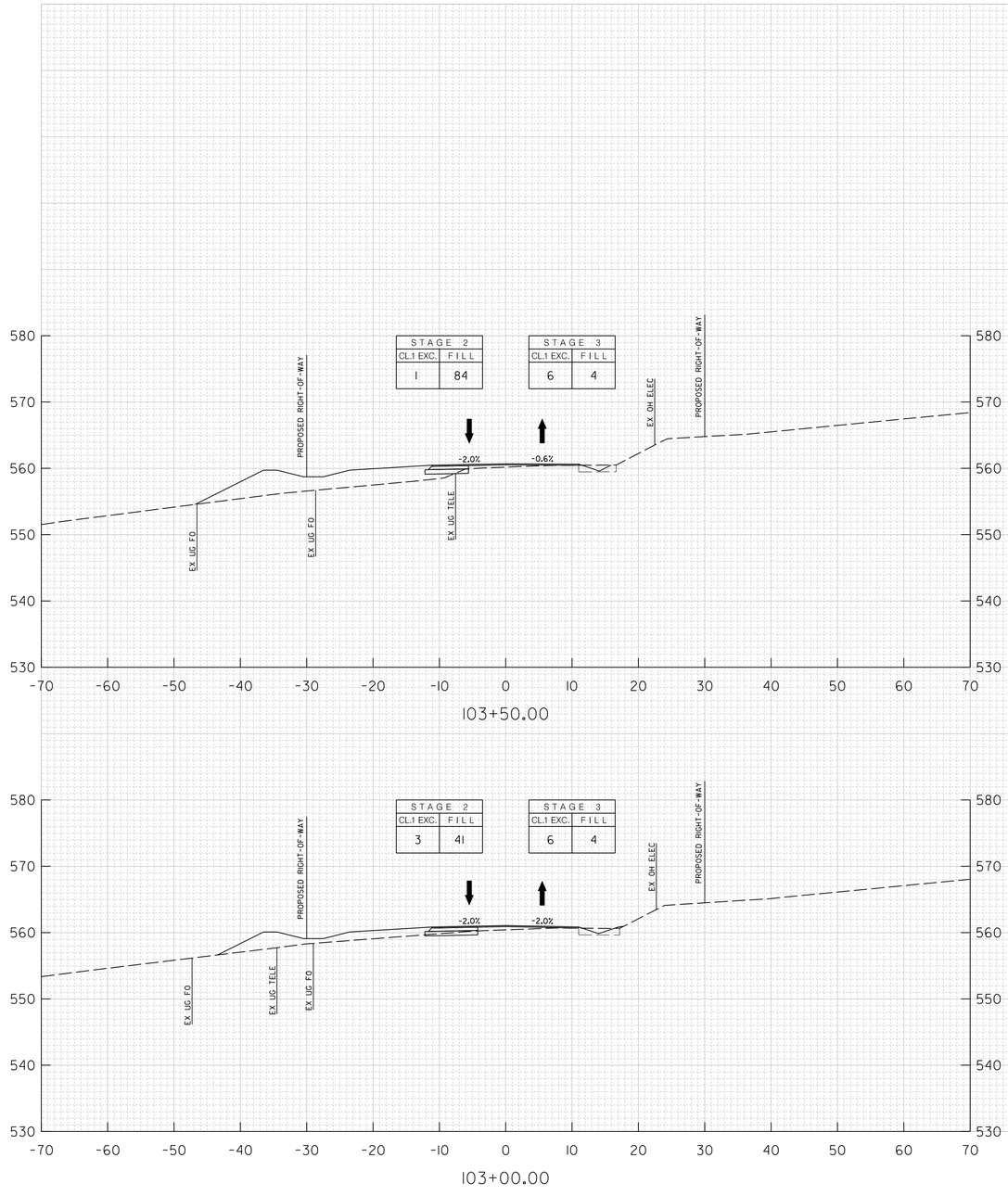
CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

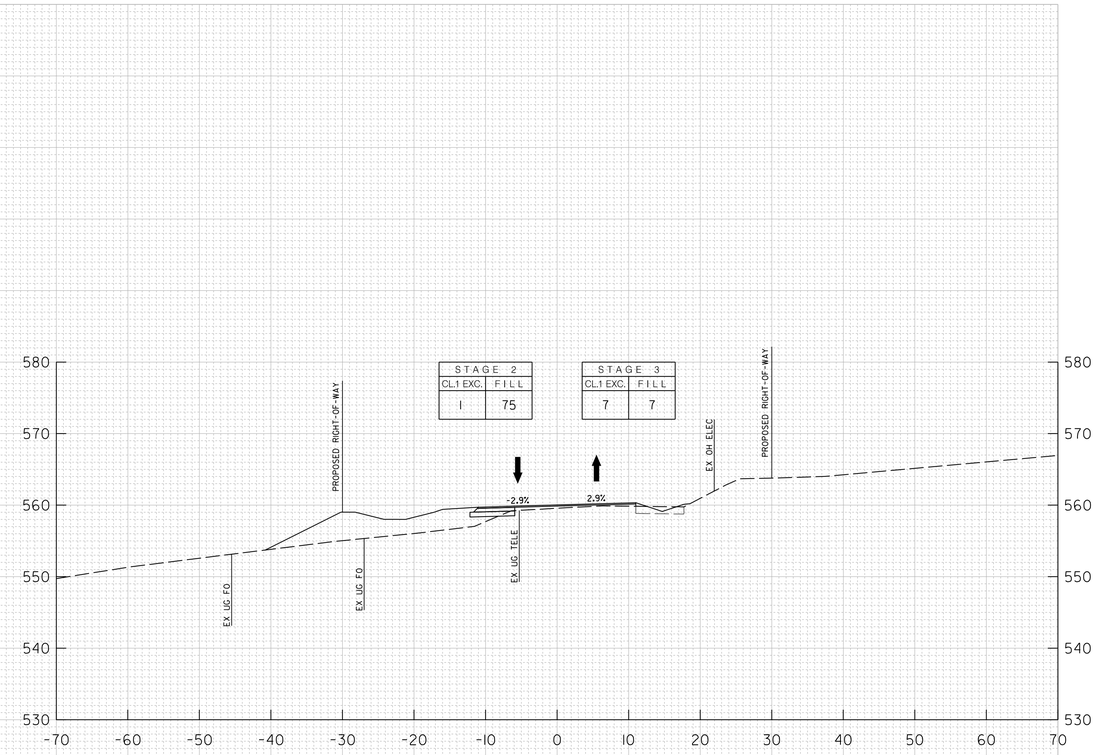
DATE: OCTOBER 2022 SCALE: 1" = 10'

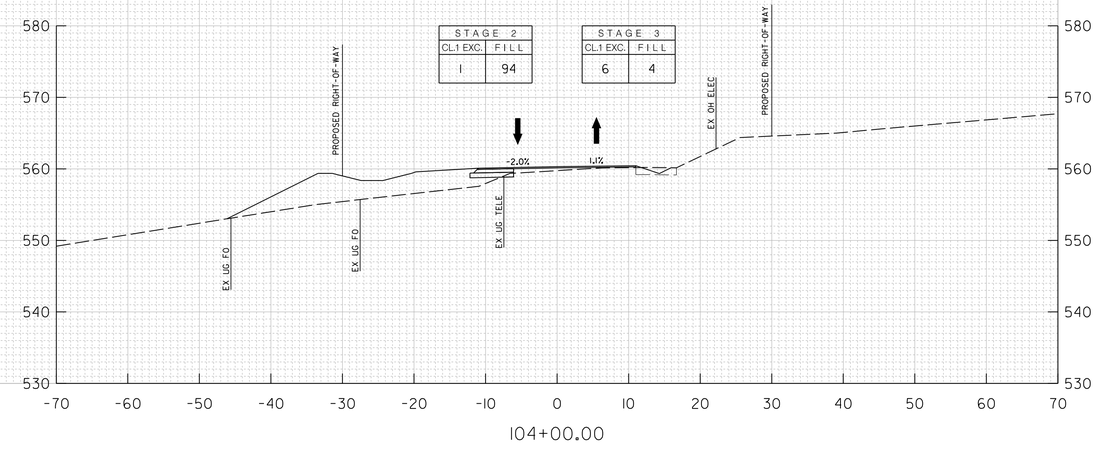
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 191 OF 226

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-XS01_ENC-ENC.dgn







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PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND
KEITH JACKSON WILLIS
No. 24828
PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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CS-2

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

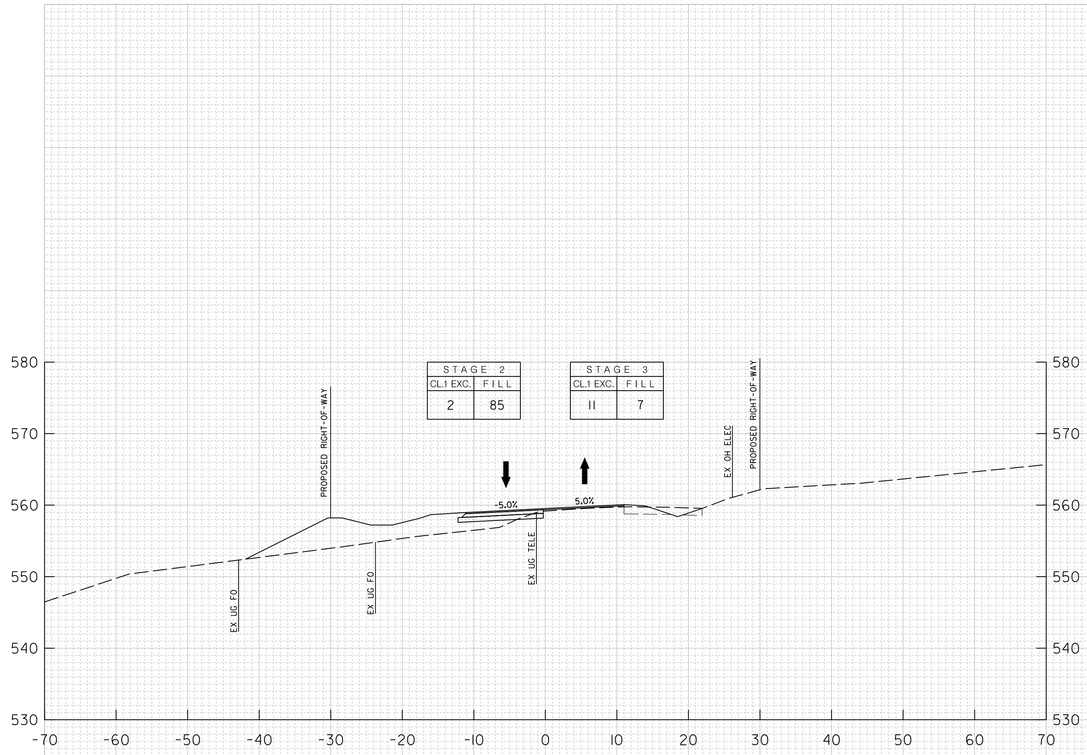
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

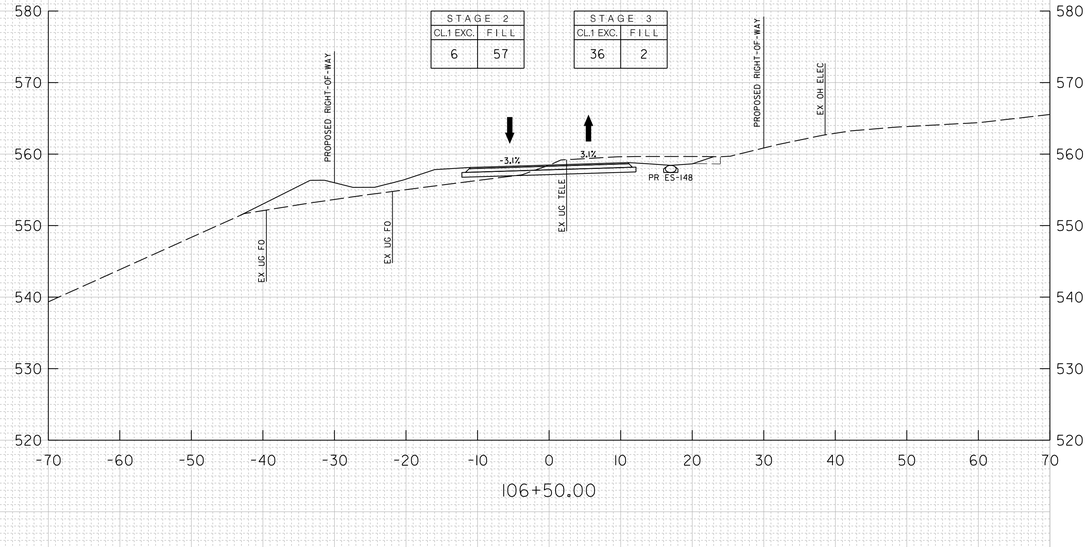
CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

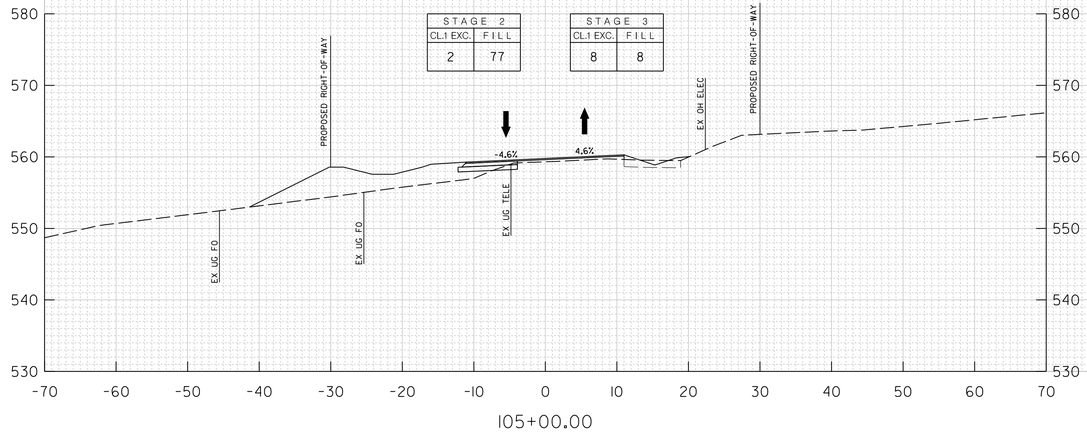
DATE: OCTOBER 2022 SCALE: 1" = 10'

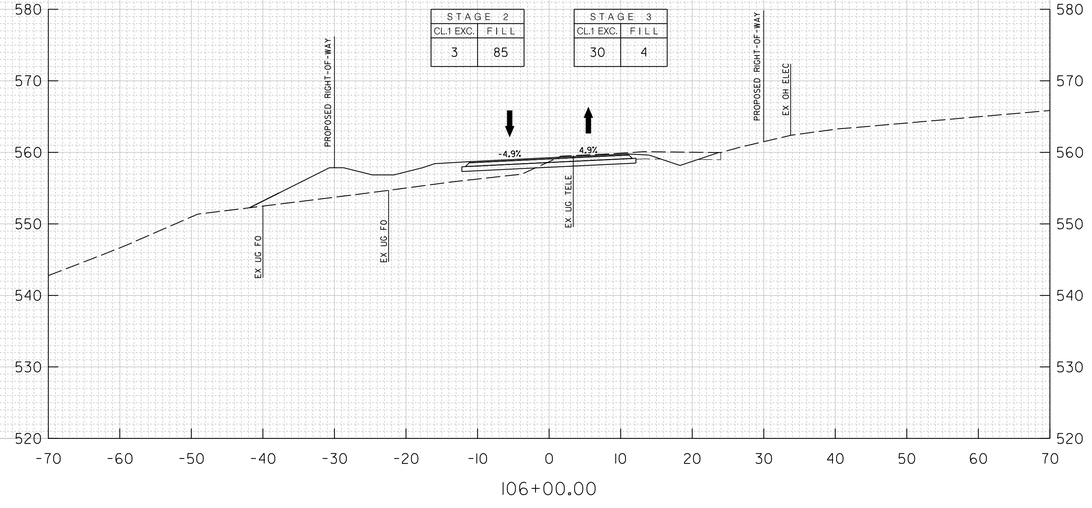
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 192 OF 226









BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sHEET\001_ENC-ENC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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CS-3

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

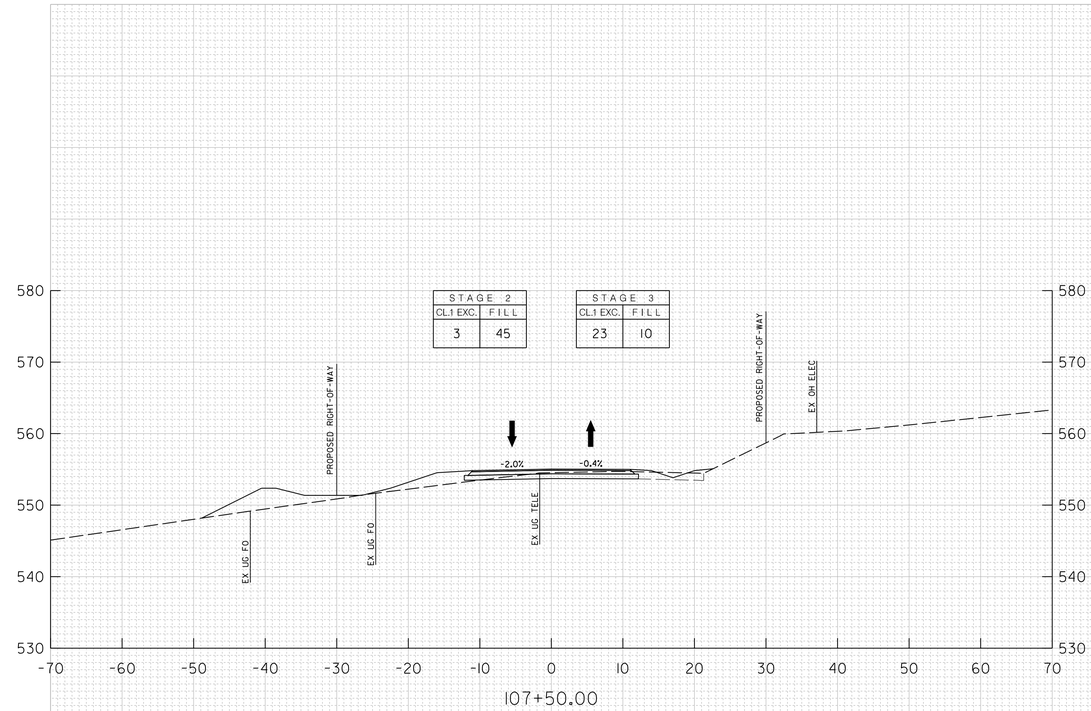
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

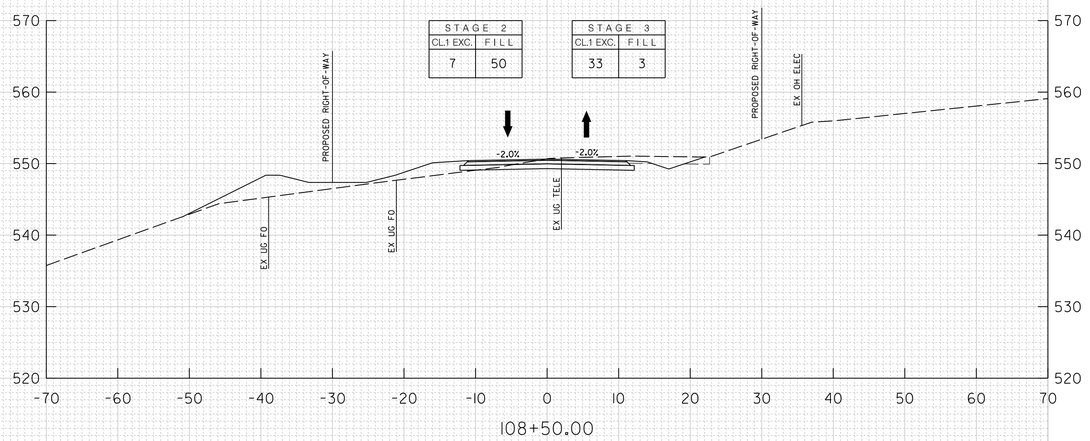
CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

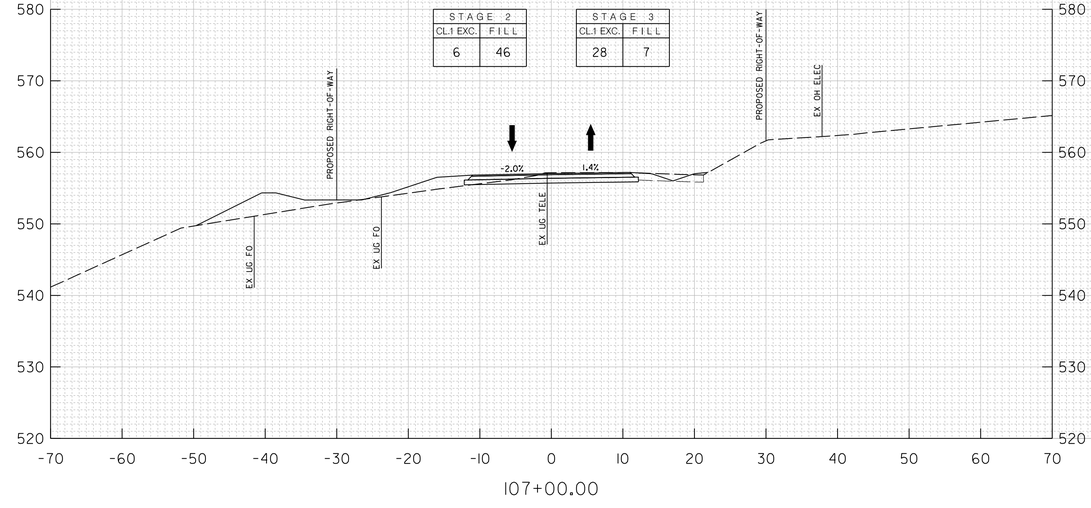
DATE: OCTOBER 2022 SCALE: 1" = 10'

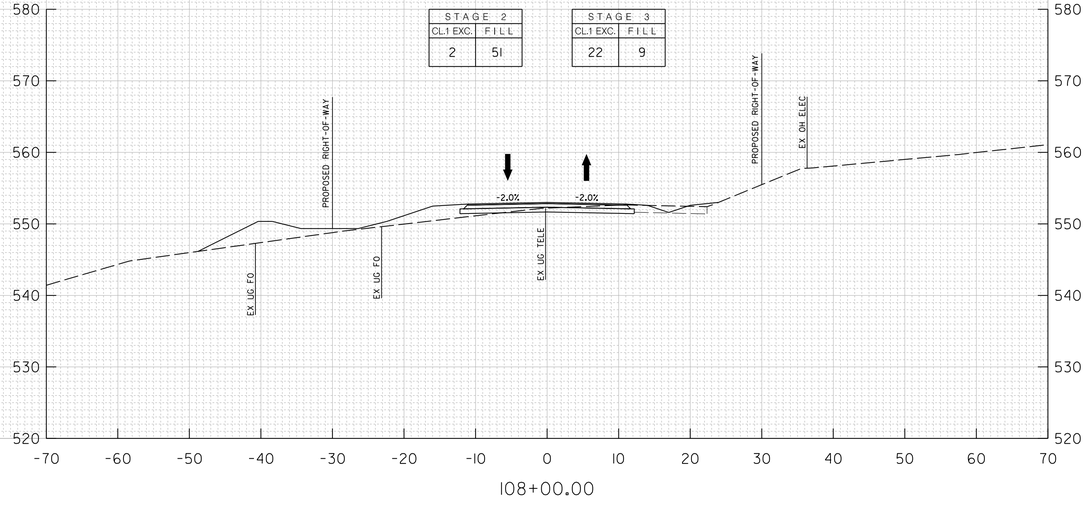
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 193 OF 226









BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-XXOI_ENC-ENC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-4

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

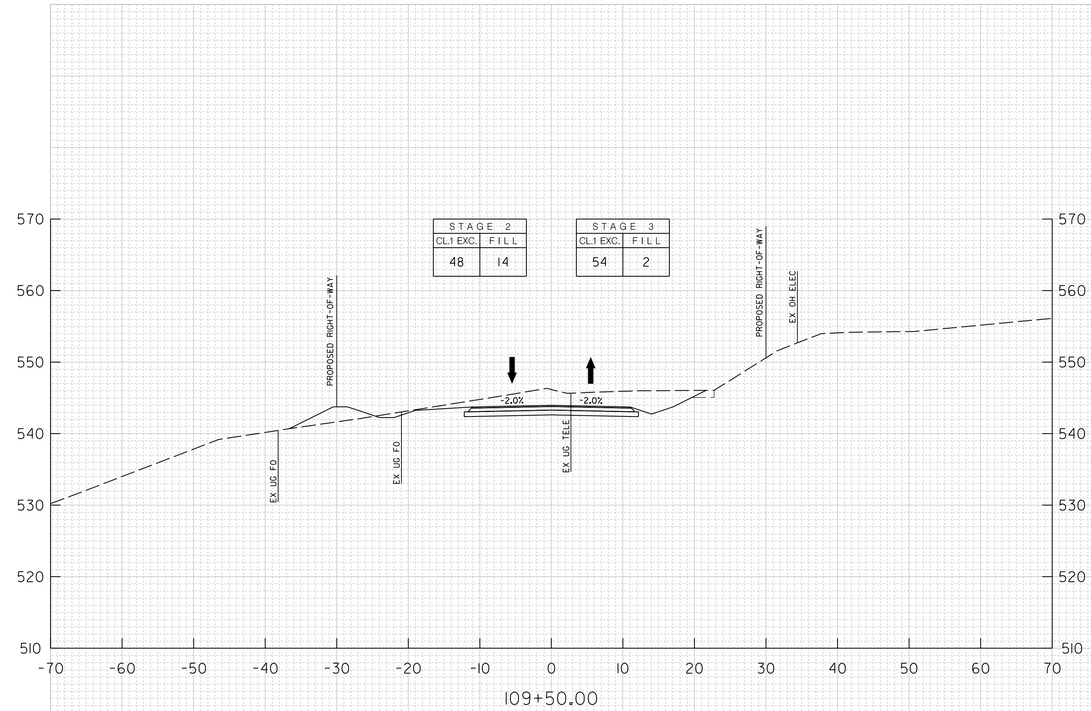
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

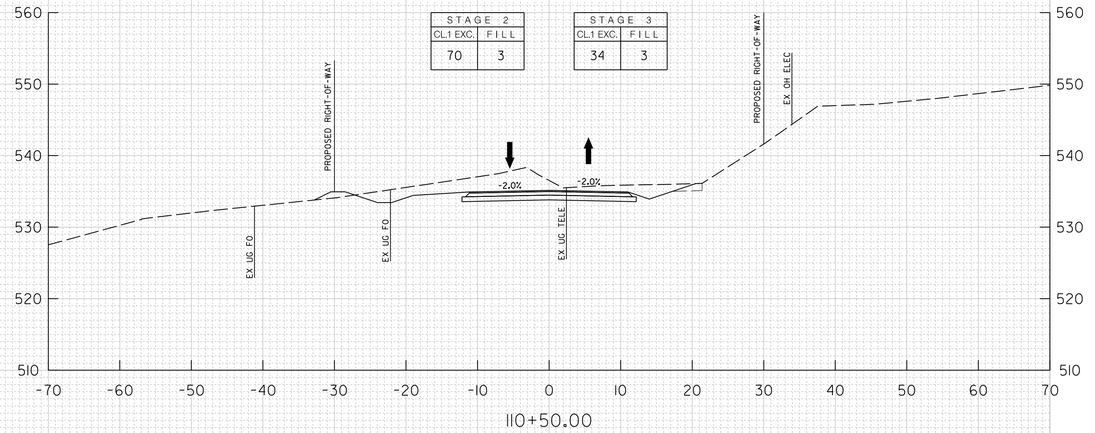
CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

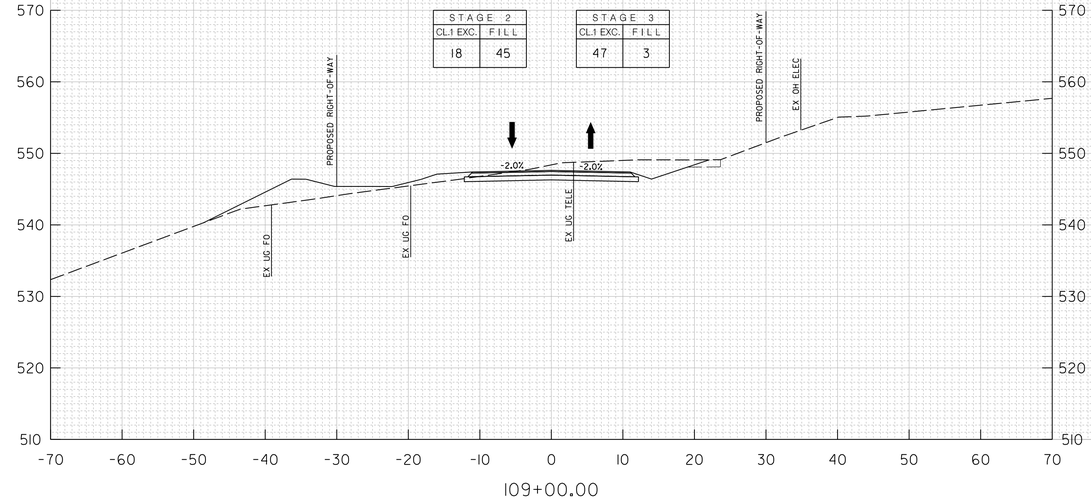
DATE: OCTOBER 2022 SCALE: 1" = 10'

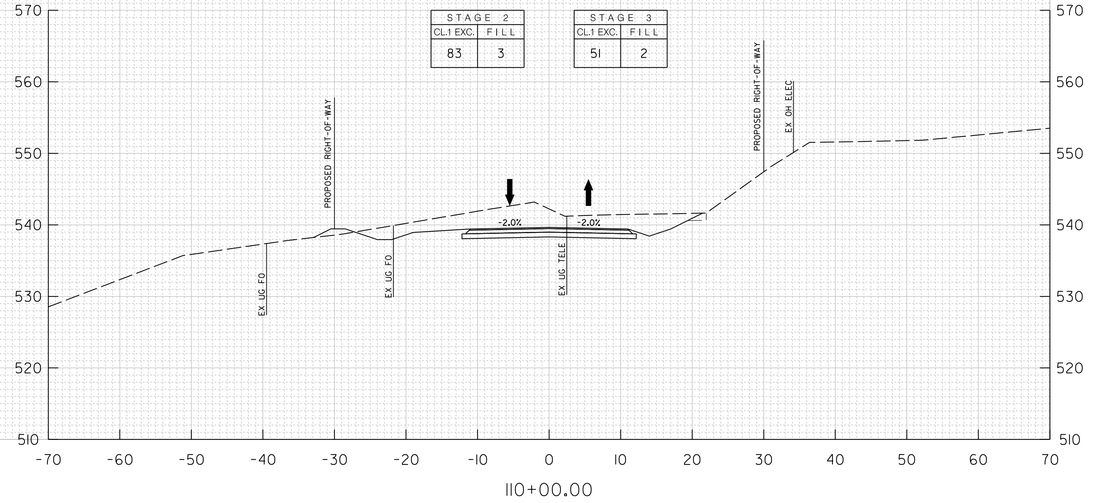
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 194 OF 226









BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sHC-X001-ENC-ENC.dgn

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — KEITH JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-5

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

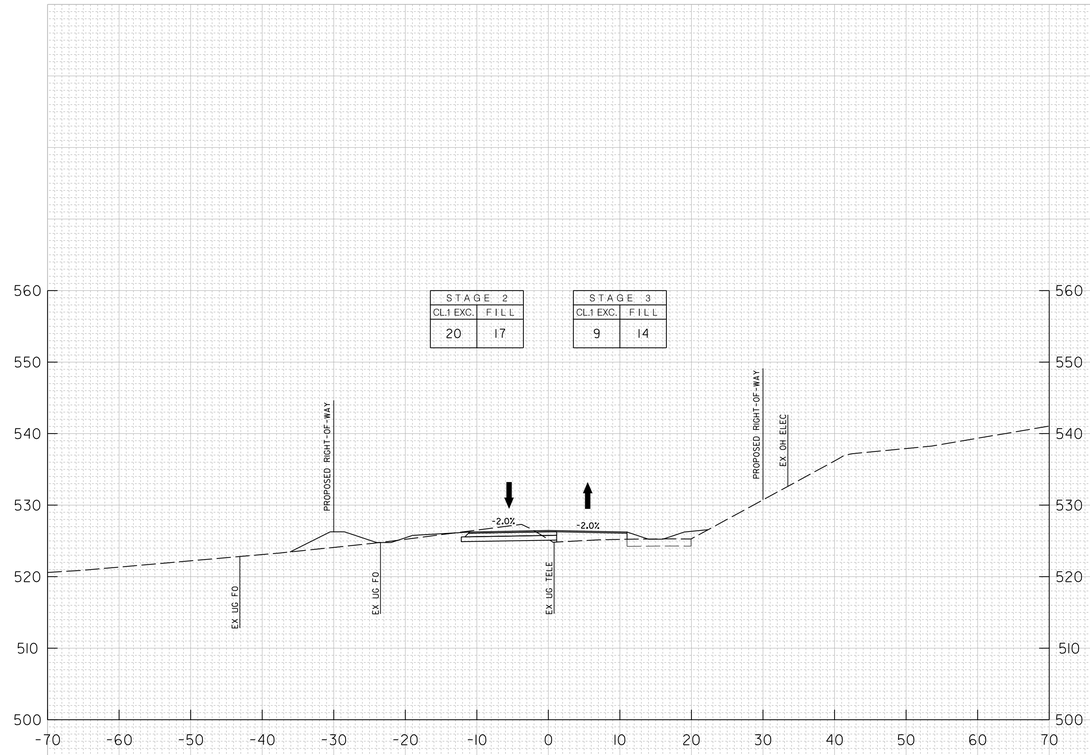
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 195 OF 226



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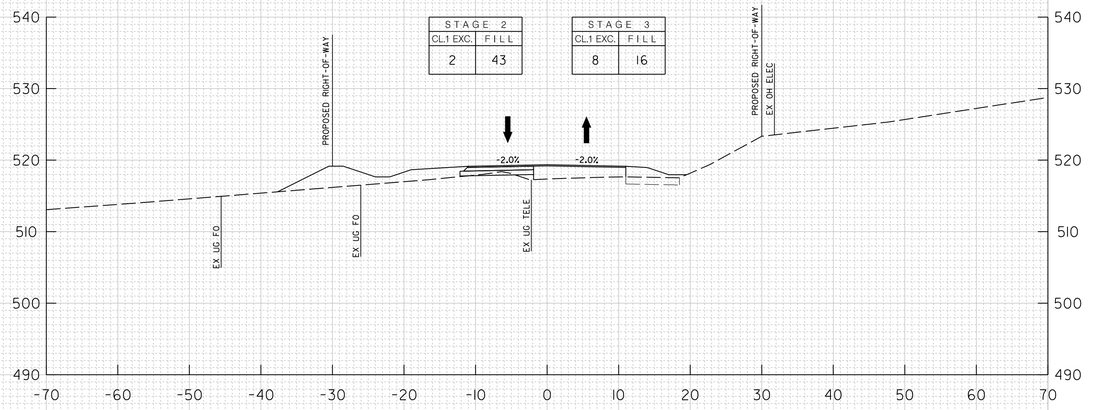

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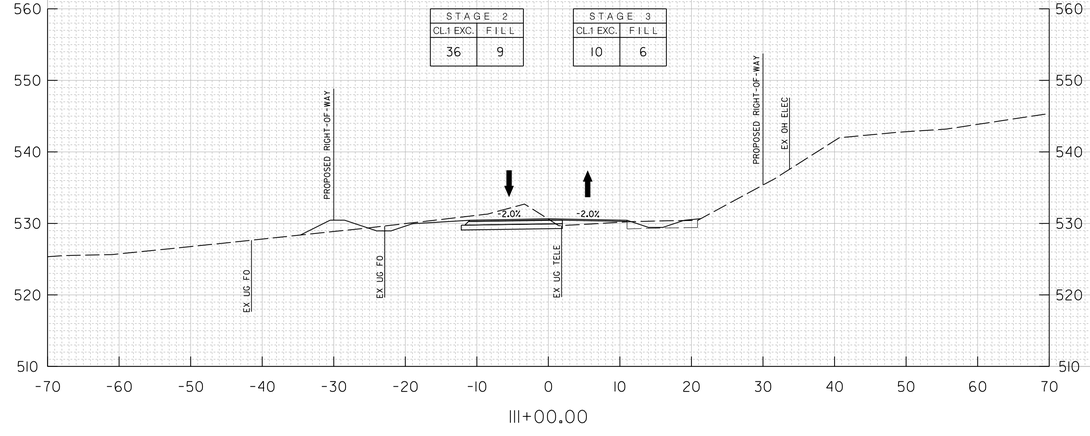

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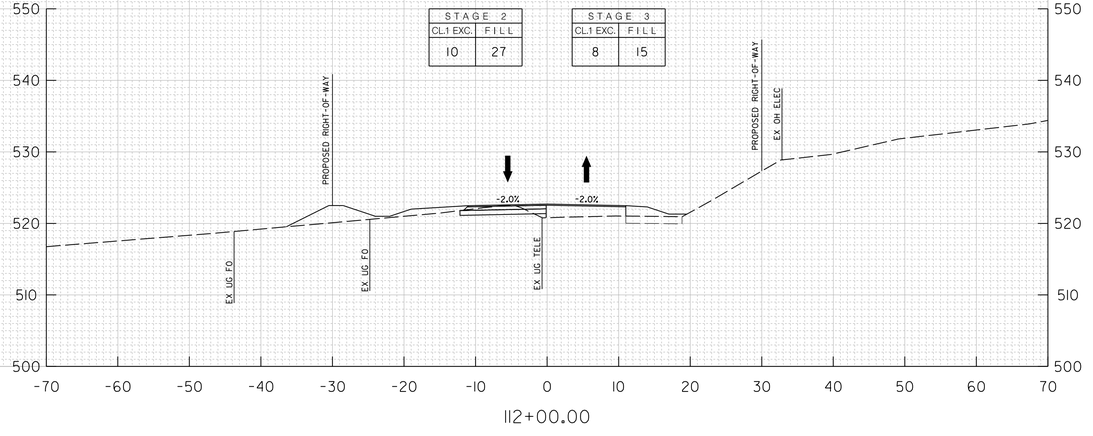

112+00.00

CS-6

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 196 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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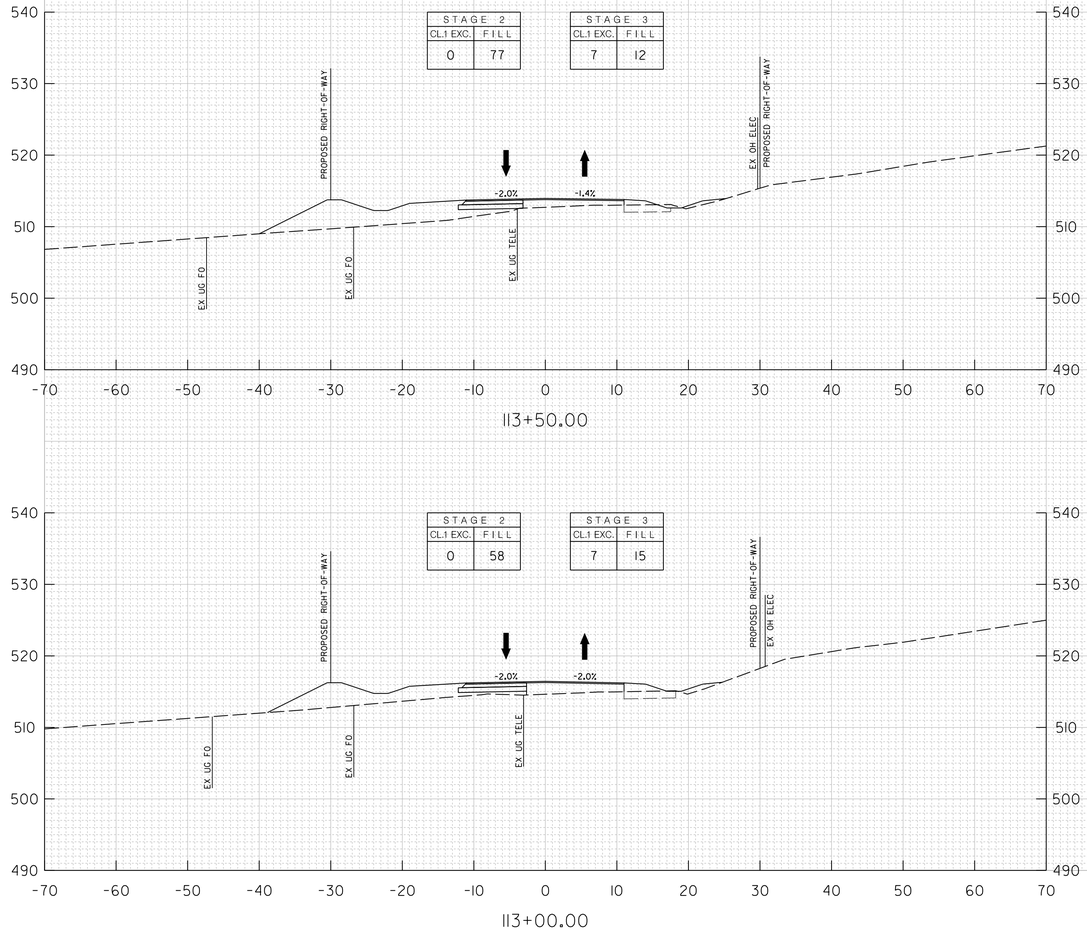
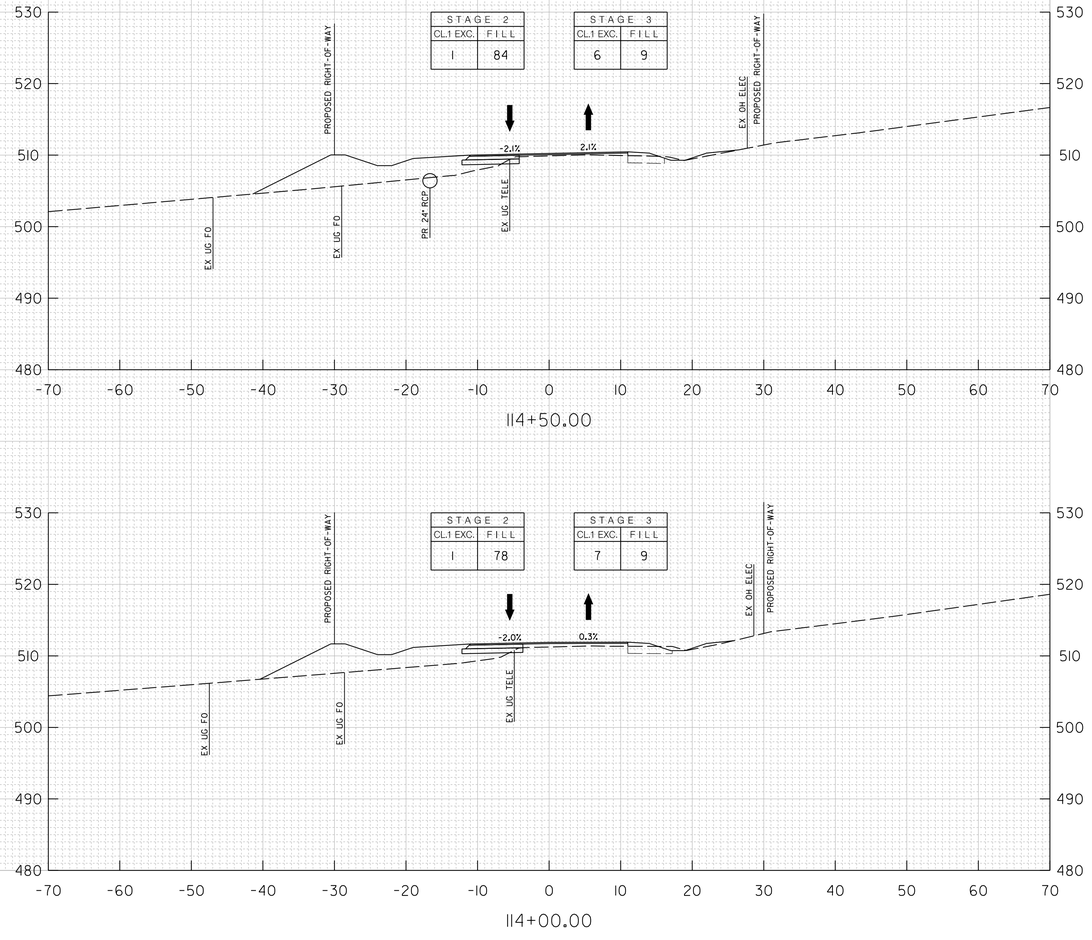
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-XXOI_ENC-ENC.dgn





BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sht\C-XOD1_ENC-ENC.dgn

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — KEITH JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-7

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

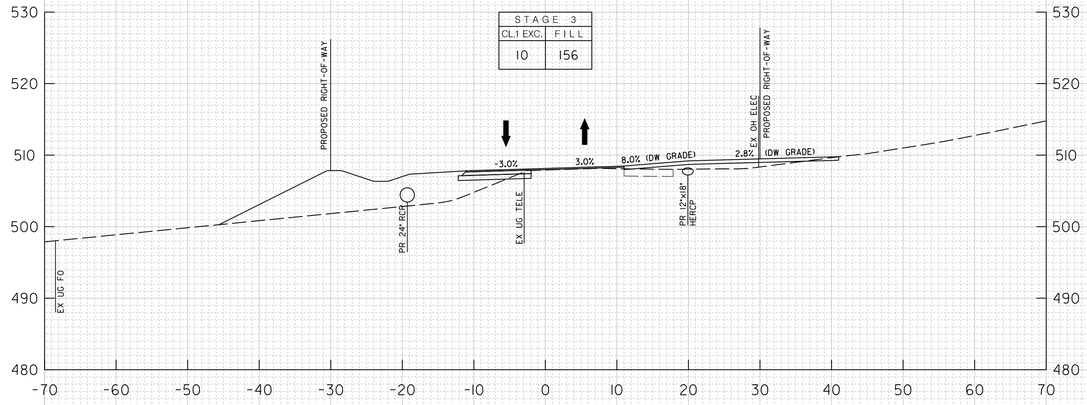
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

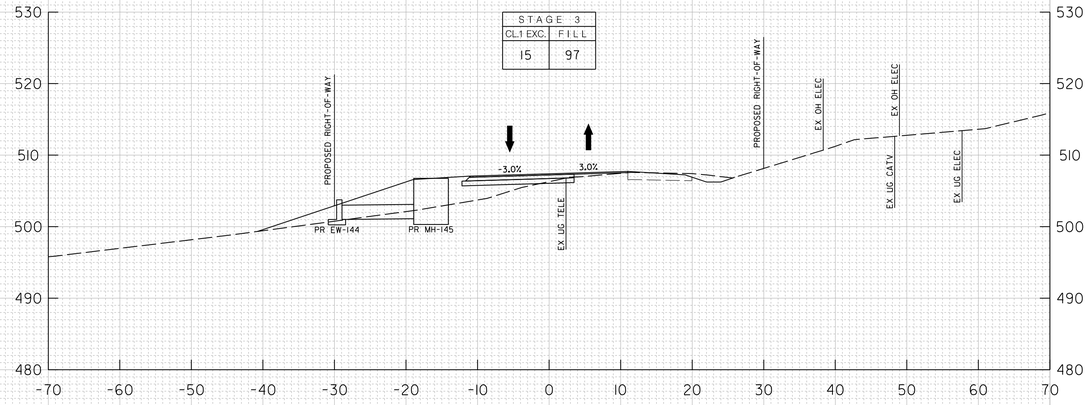
CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

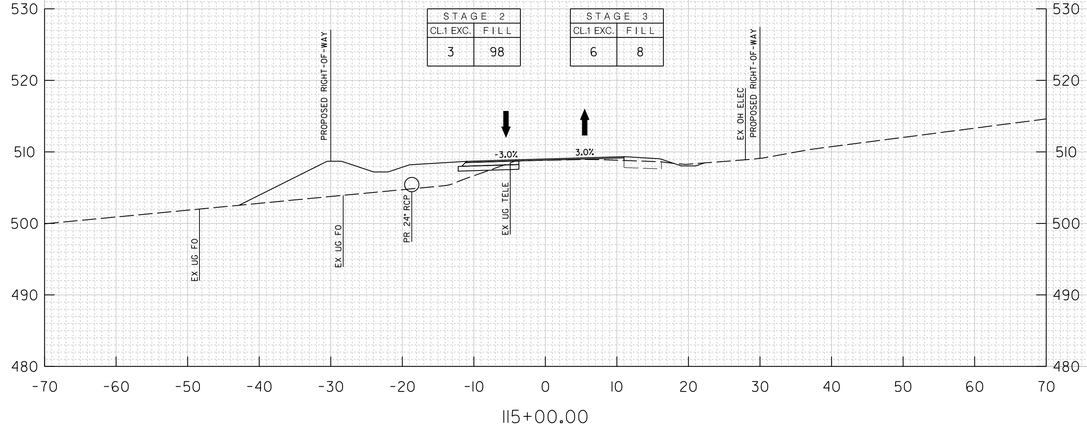
DATE: OCTOBER 2022 SCALE: 1" = 10'

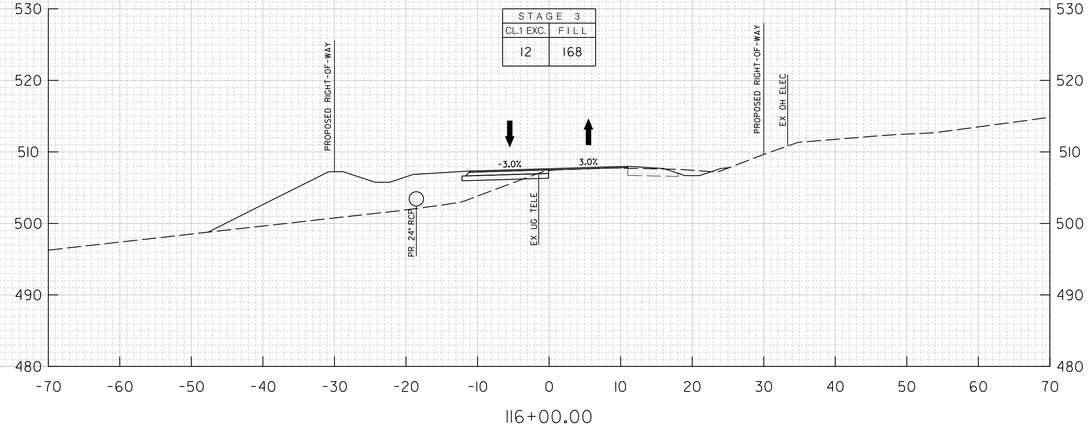
FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 197 OF 226









BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sHEET\00LENC-ENC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — ANTHONY KARL JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-8

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

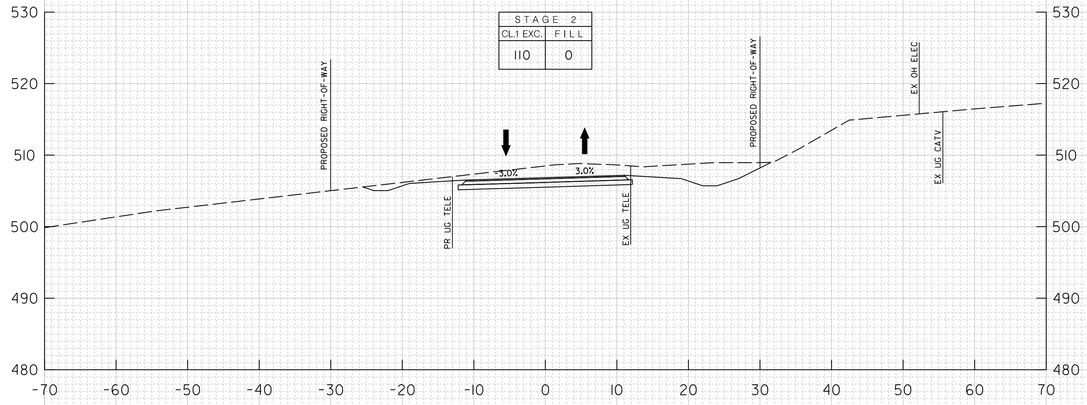
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 198 OF 226



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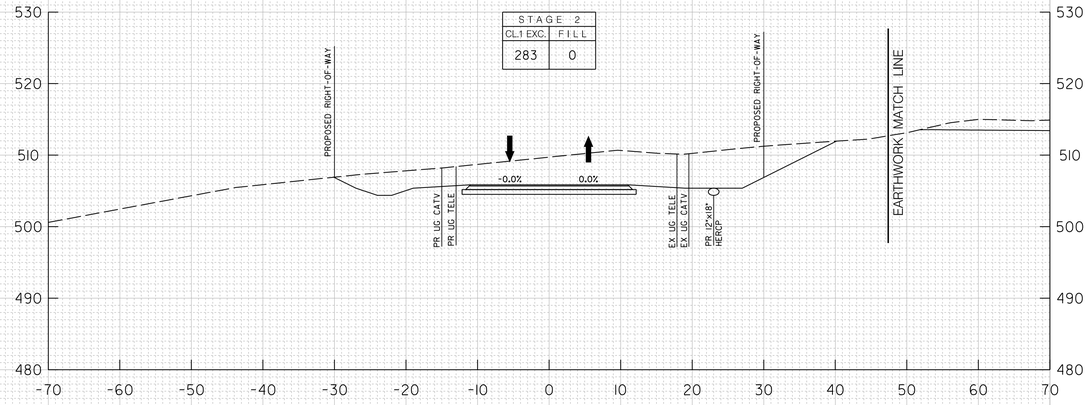

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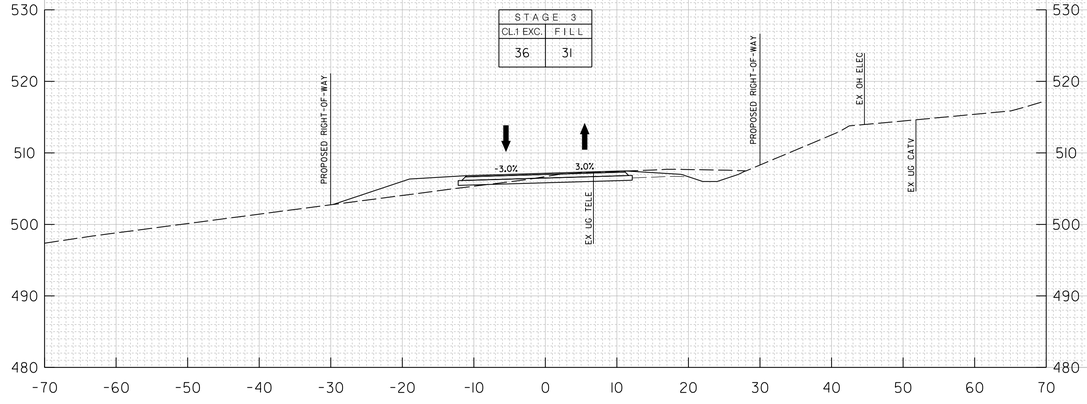

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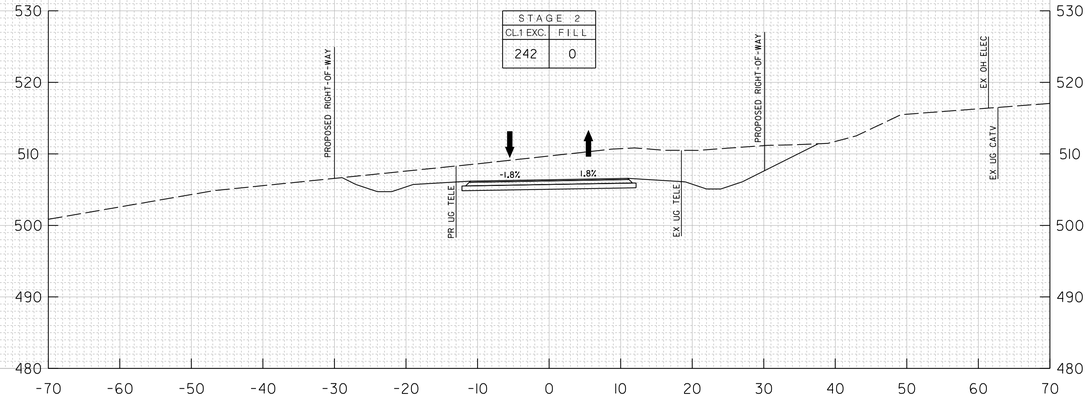

118+00.00

CS-9

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 199 OF 226

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

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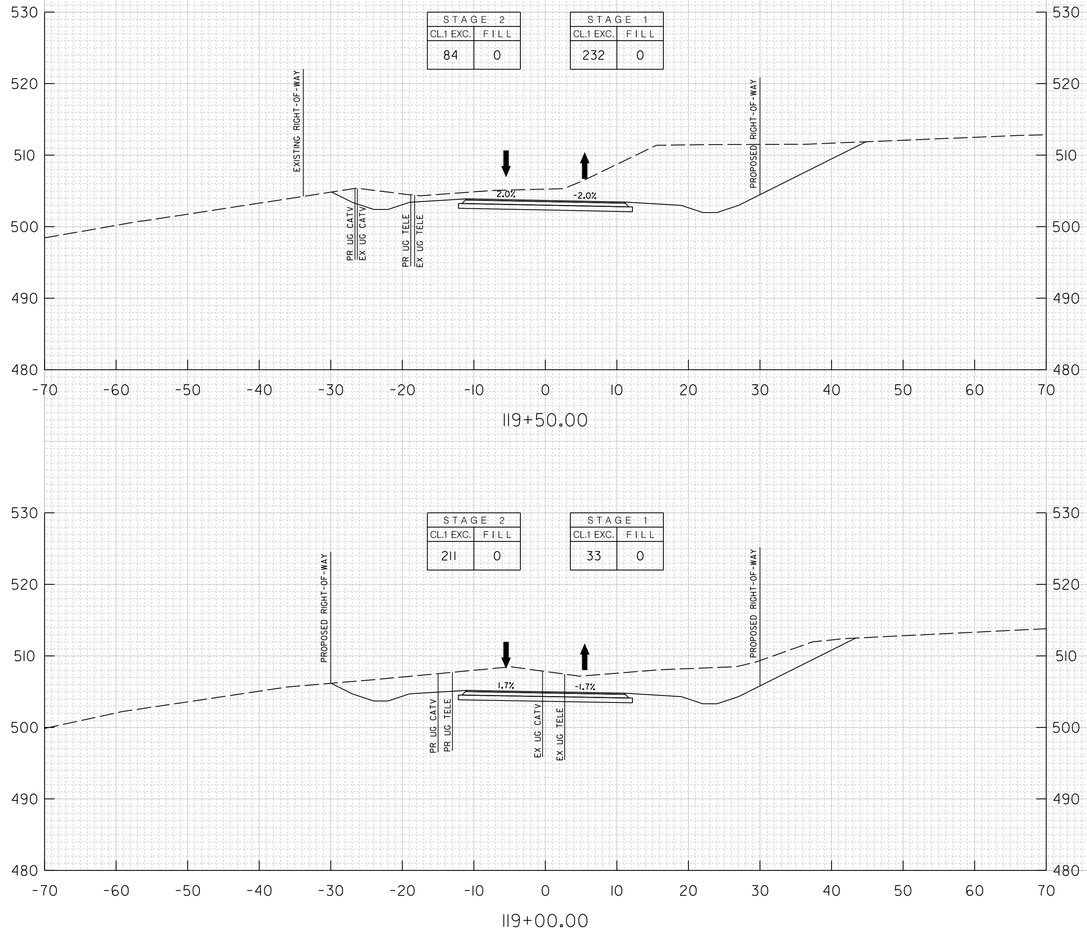
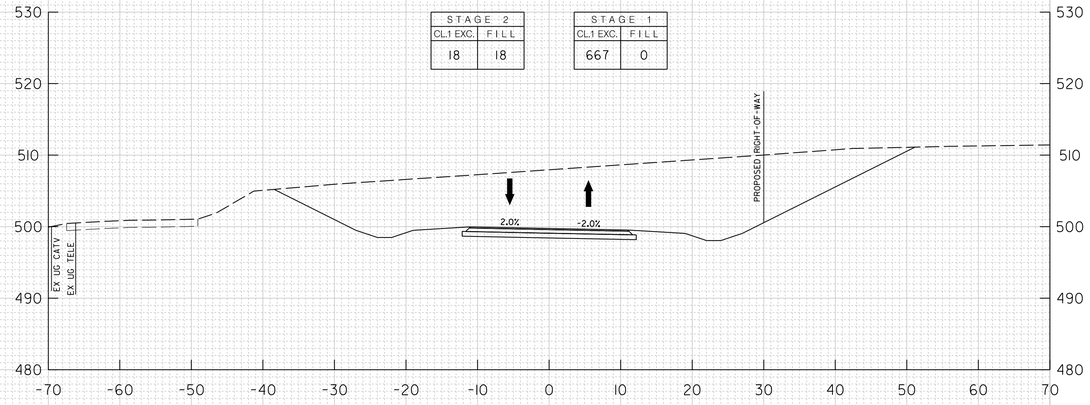
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

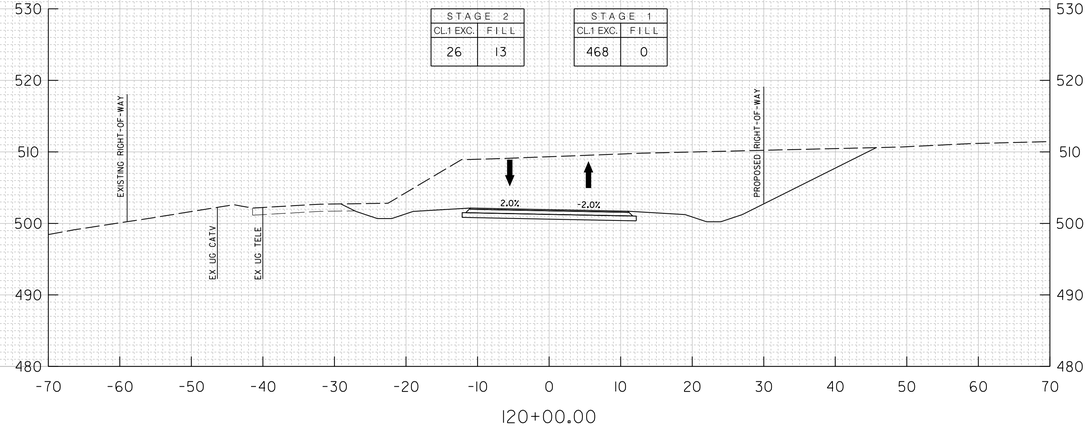
STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sht\C-XOD1_ENC-ENC.dgn







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PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sHEET\001_ENC-ENC.dgn

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — KEITH JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-10

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

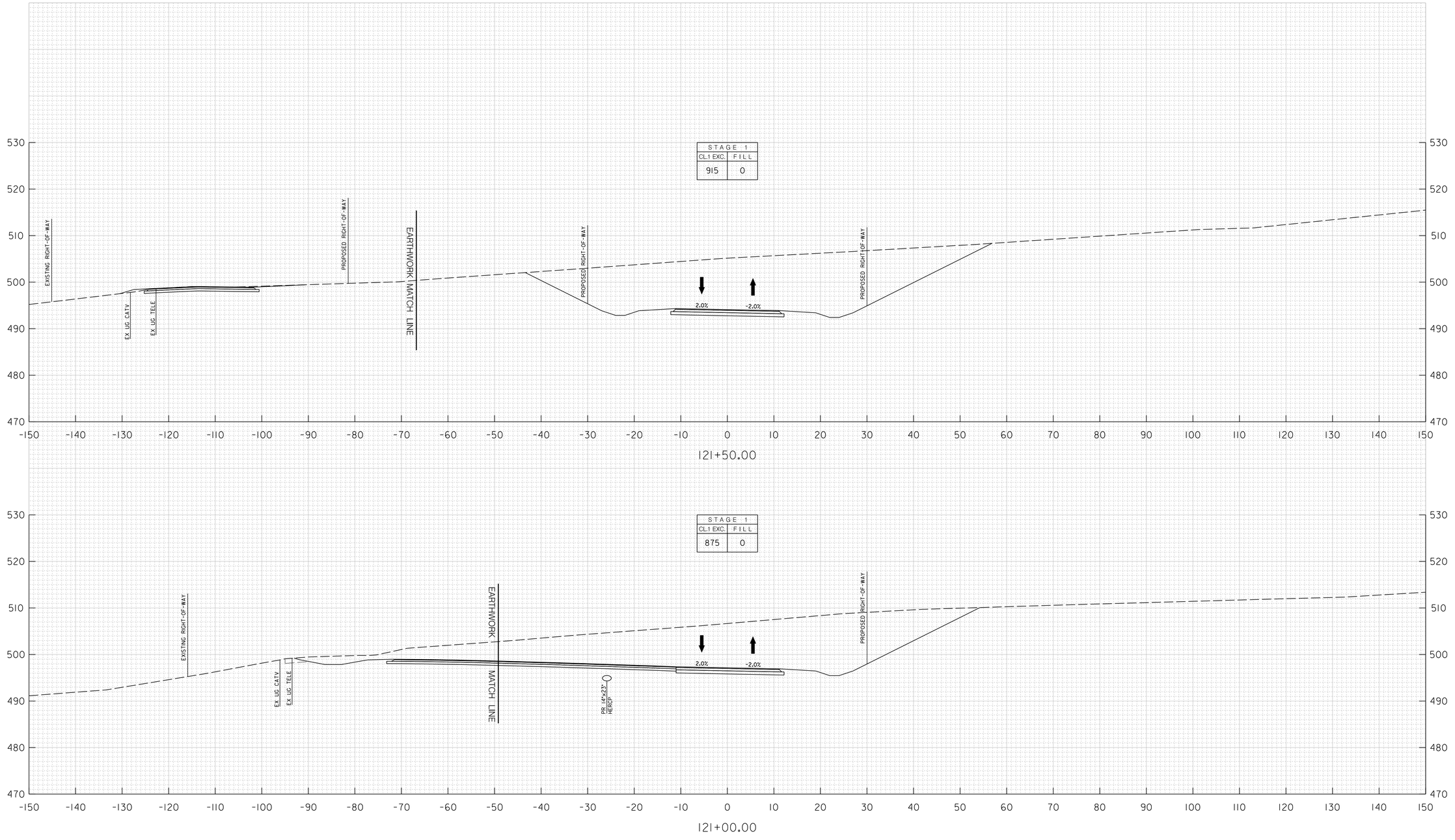
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
ED McCLAIN ROAD (SOUTH)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01

DWG. 200 OF 226



BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-XXOI-ENC-ENC.dgn

CS-11

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 201 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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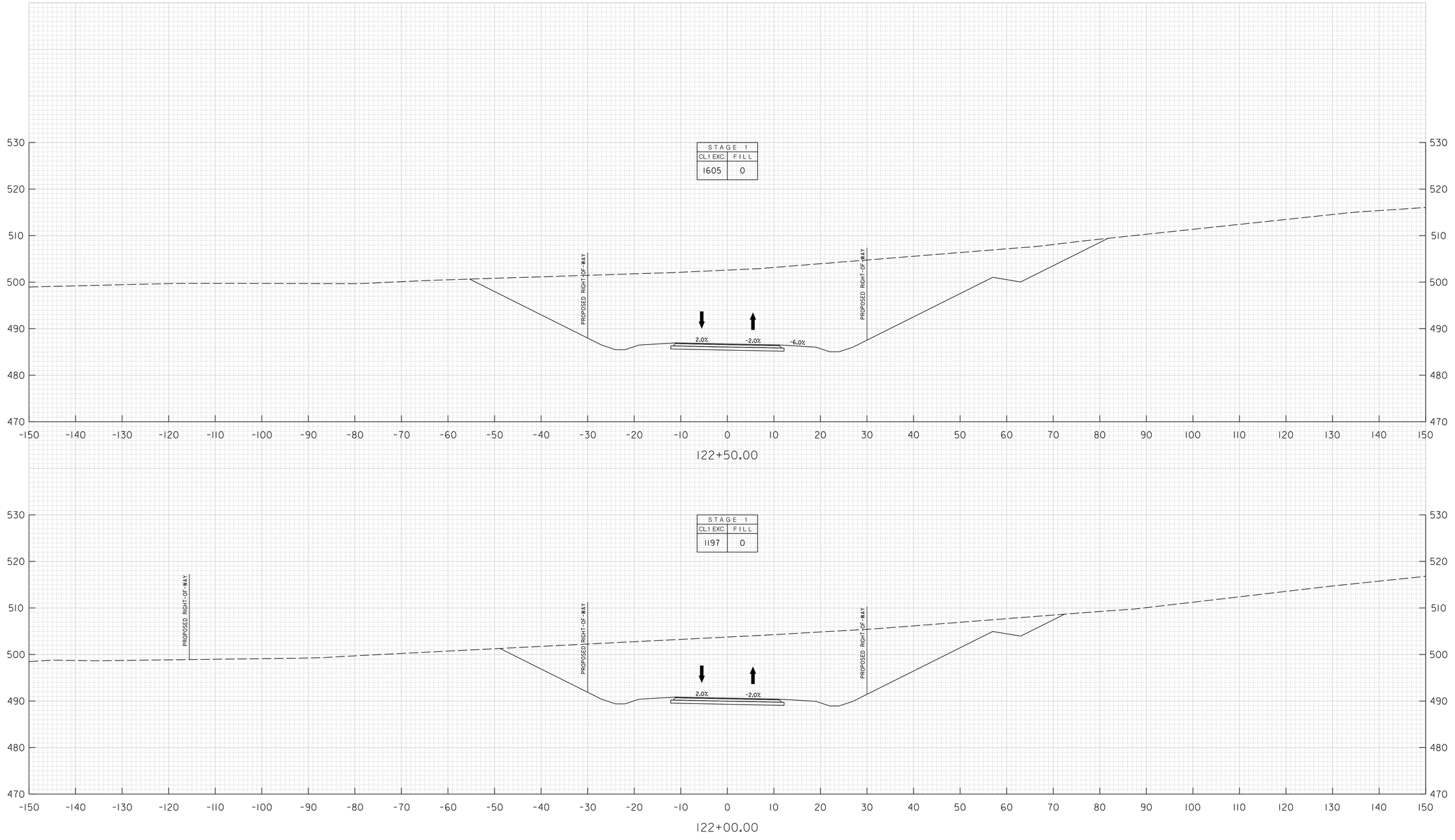

BY: AKR -
PLOTTED: 10/18/2022
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CS-12

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 202 OF 226

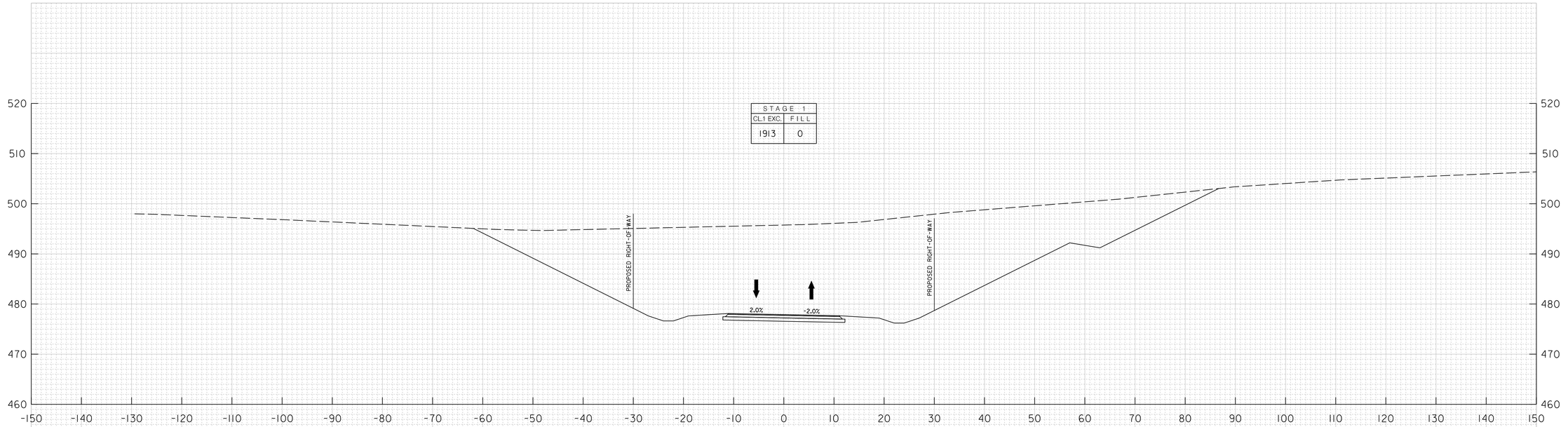
PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

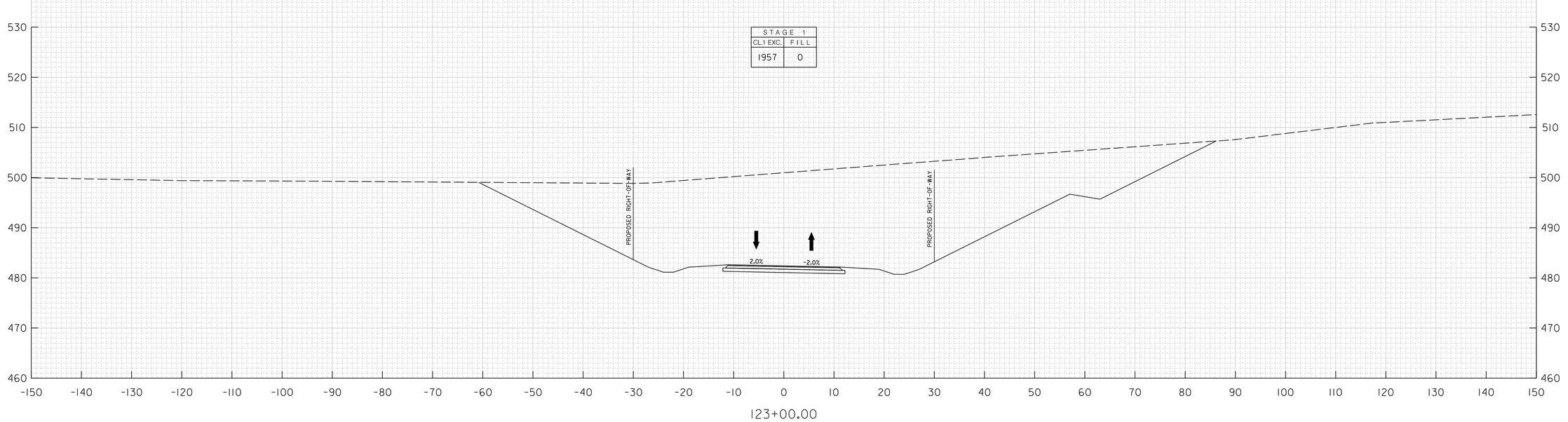
STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET





CS-13

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01 DWG. 203 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
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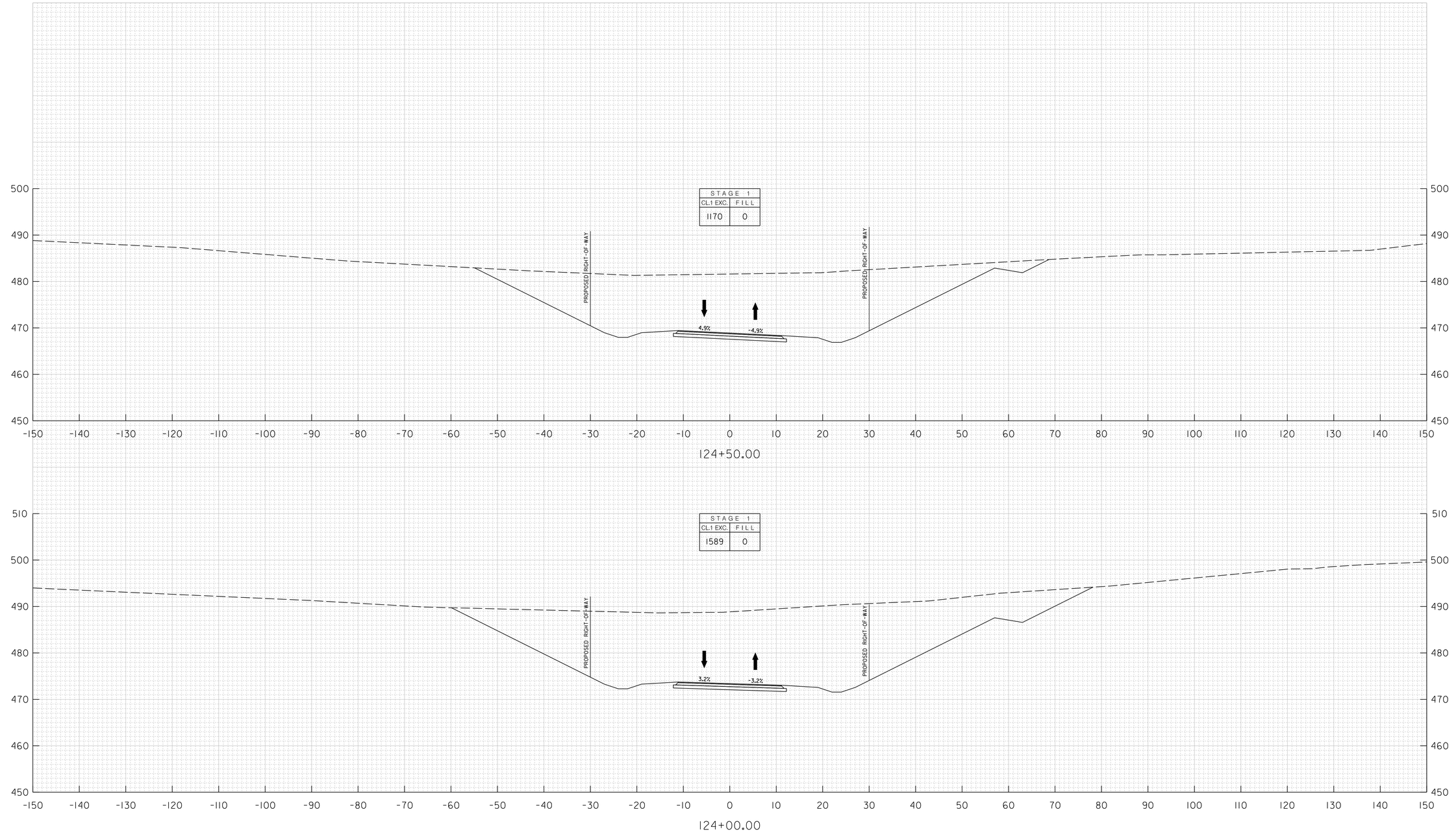

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STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
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CS-14

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

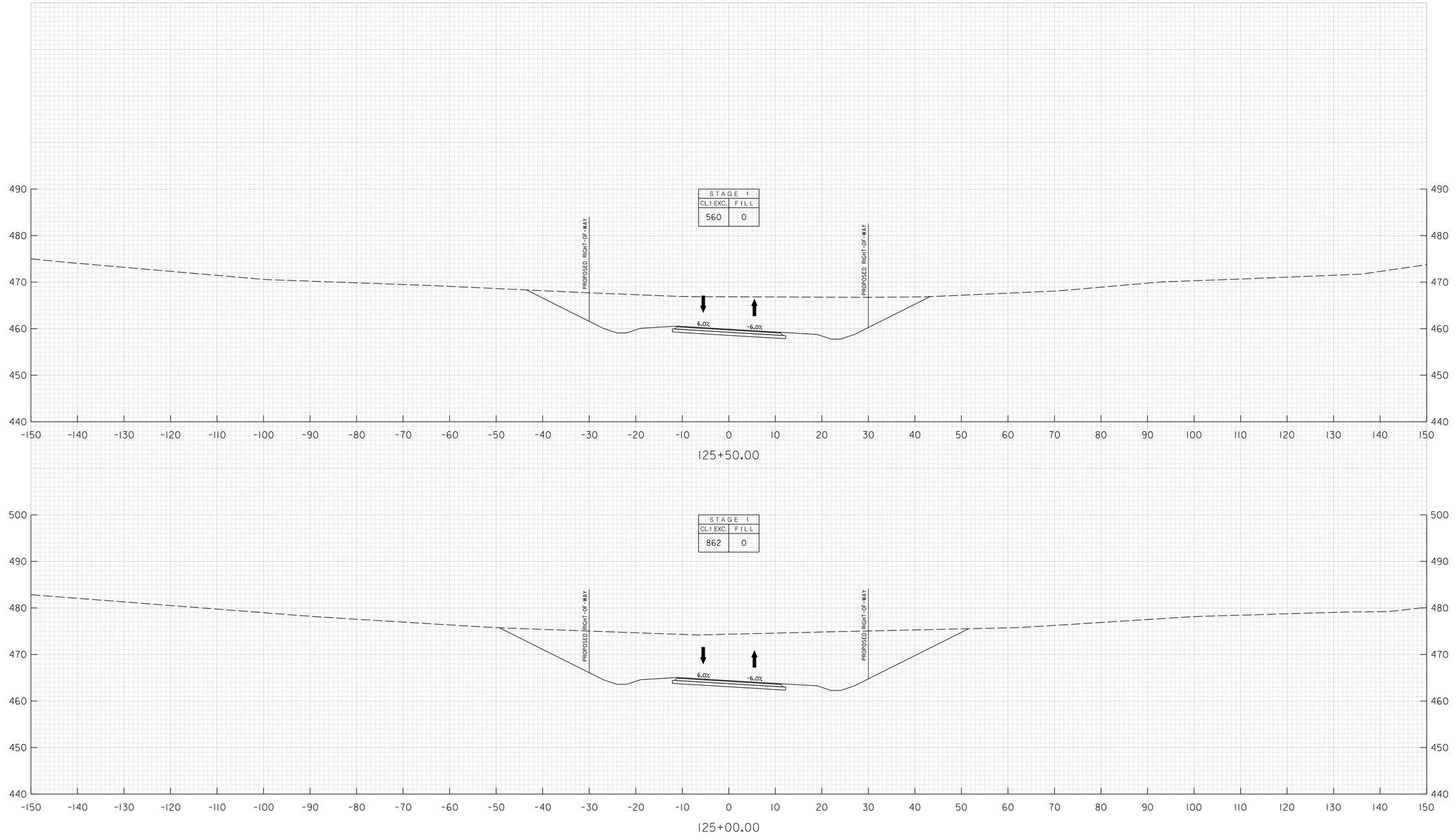
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 204 OF 226



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PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-XXOI_ENC-ENC.dgn

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-15

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

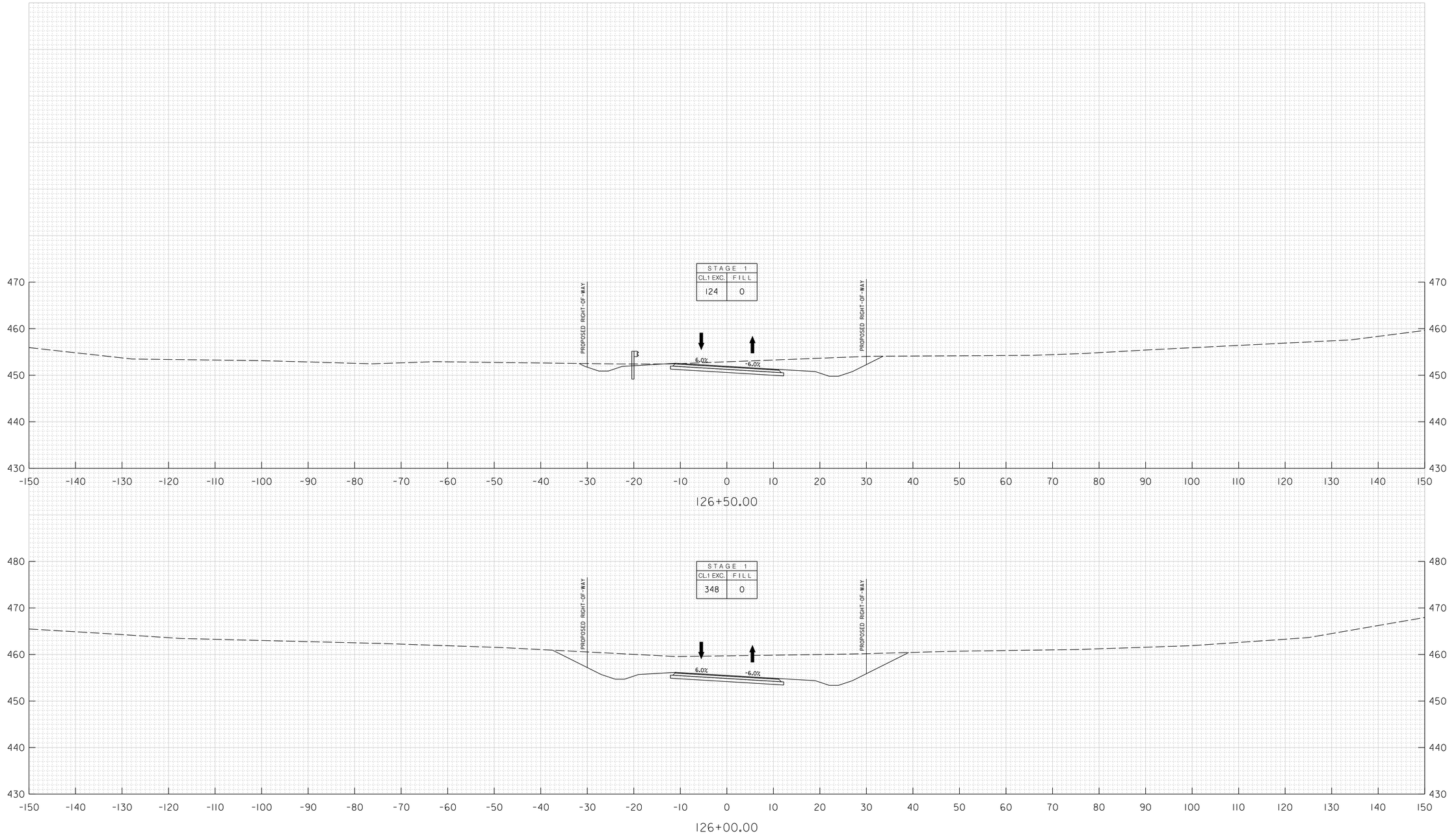
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 205 OF 226



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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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CS-16

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

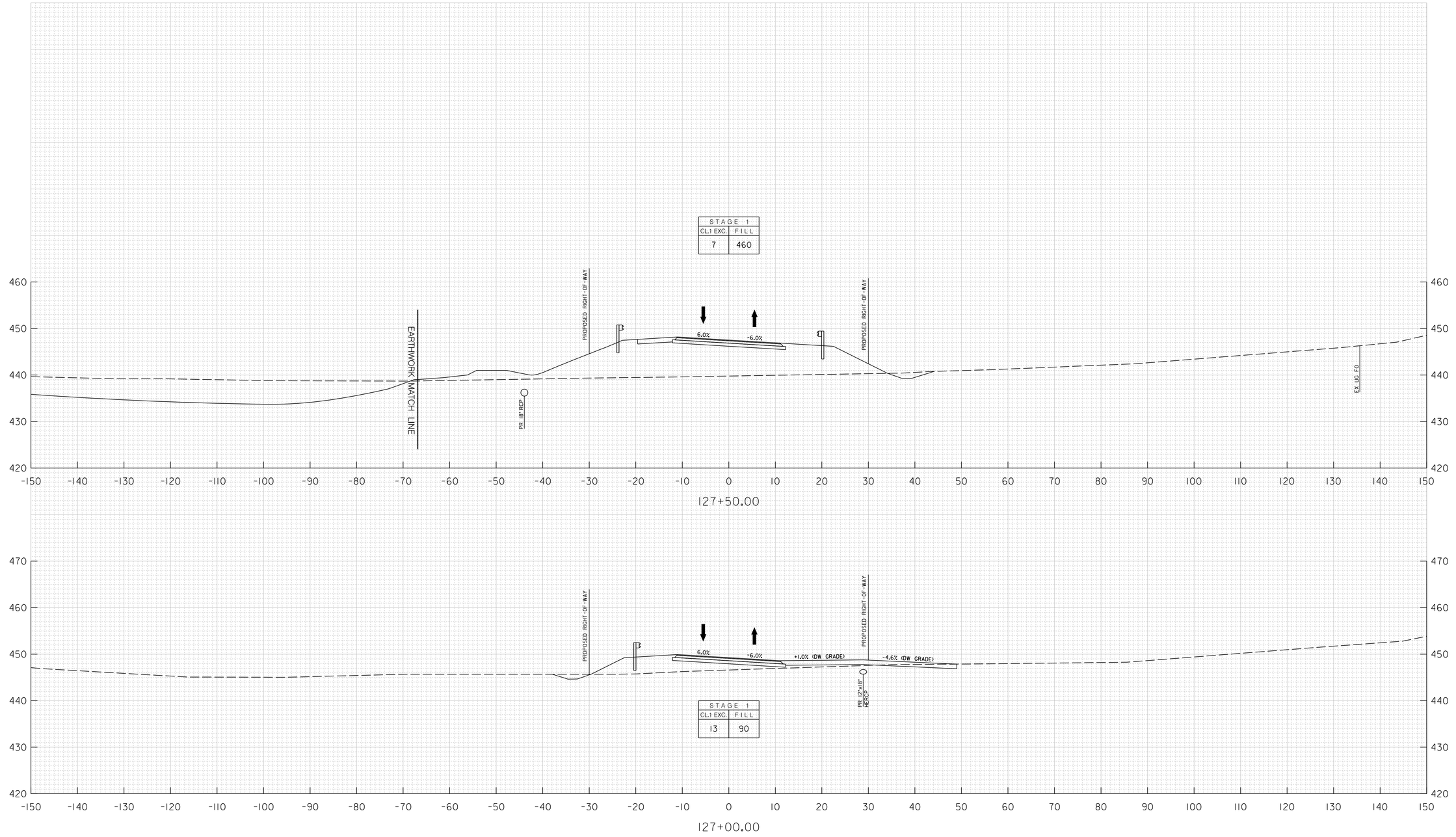
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 206 OF 226



BY: AKR -
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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CS-17

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

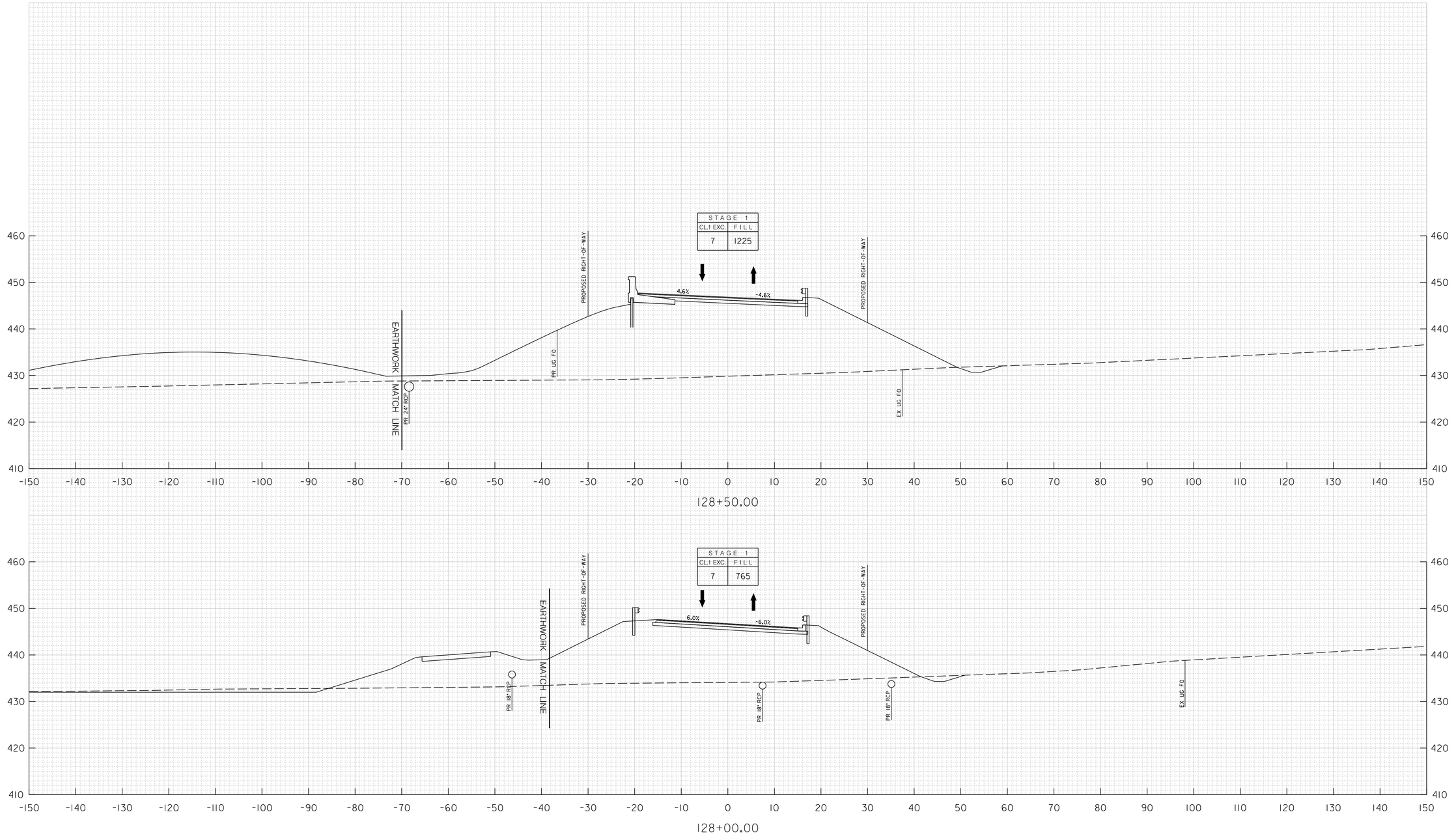
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 207 OF 226



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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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CS-18

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

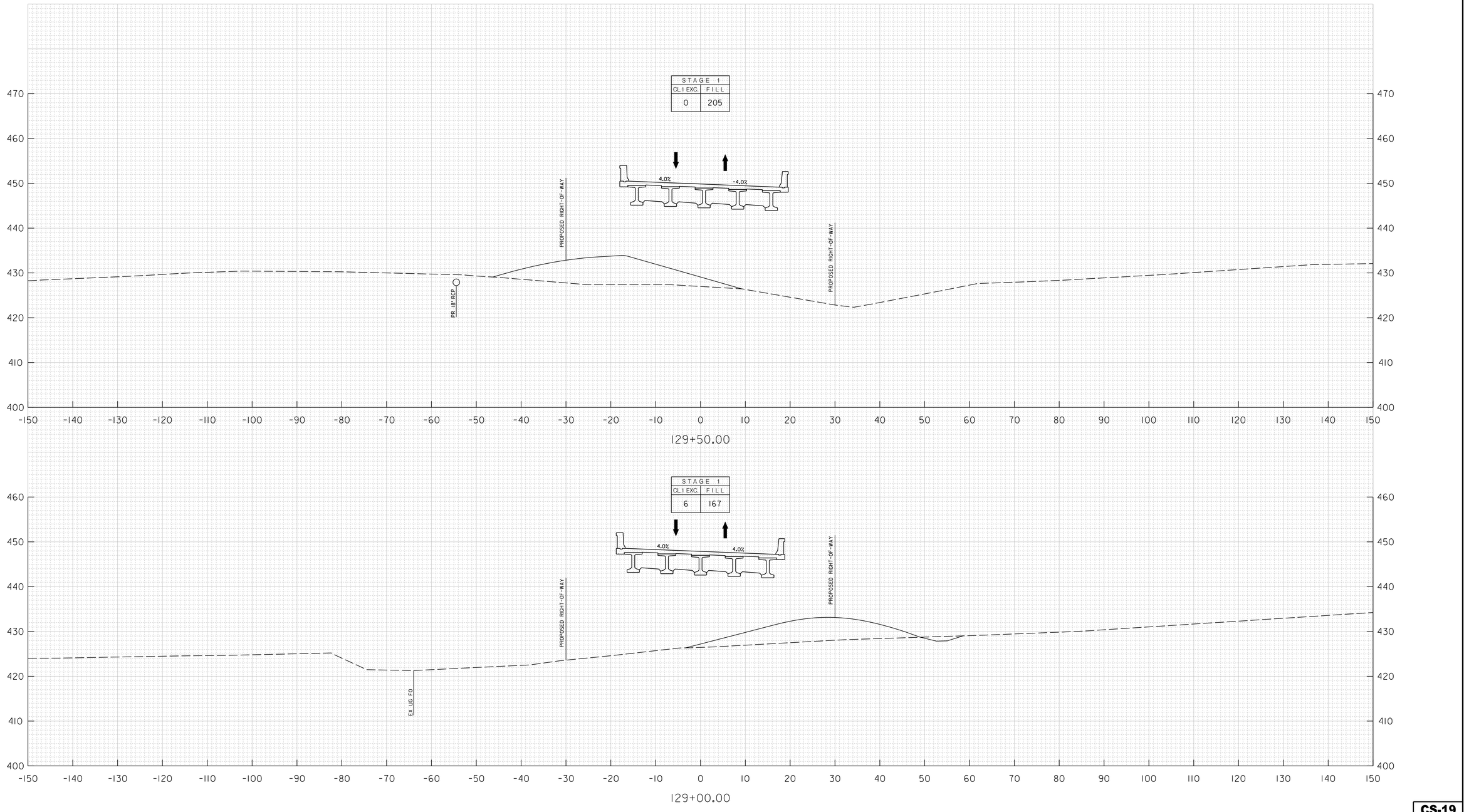
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 208 OF 226



BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sht\C-X001_ENC-ENC.dgn

CS-19

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 209 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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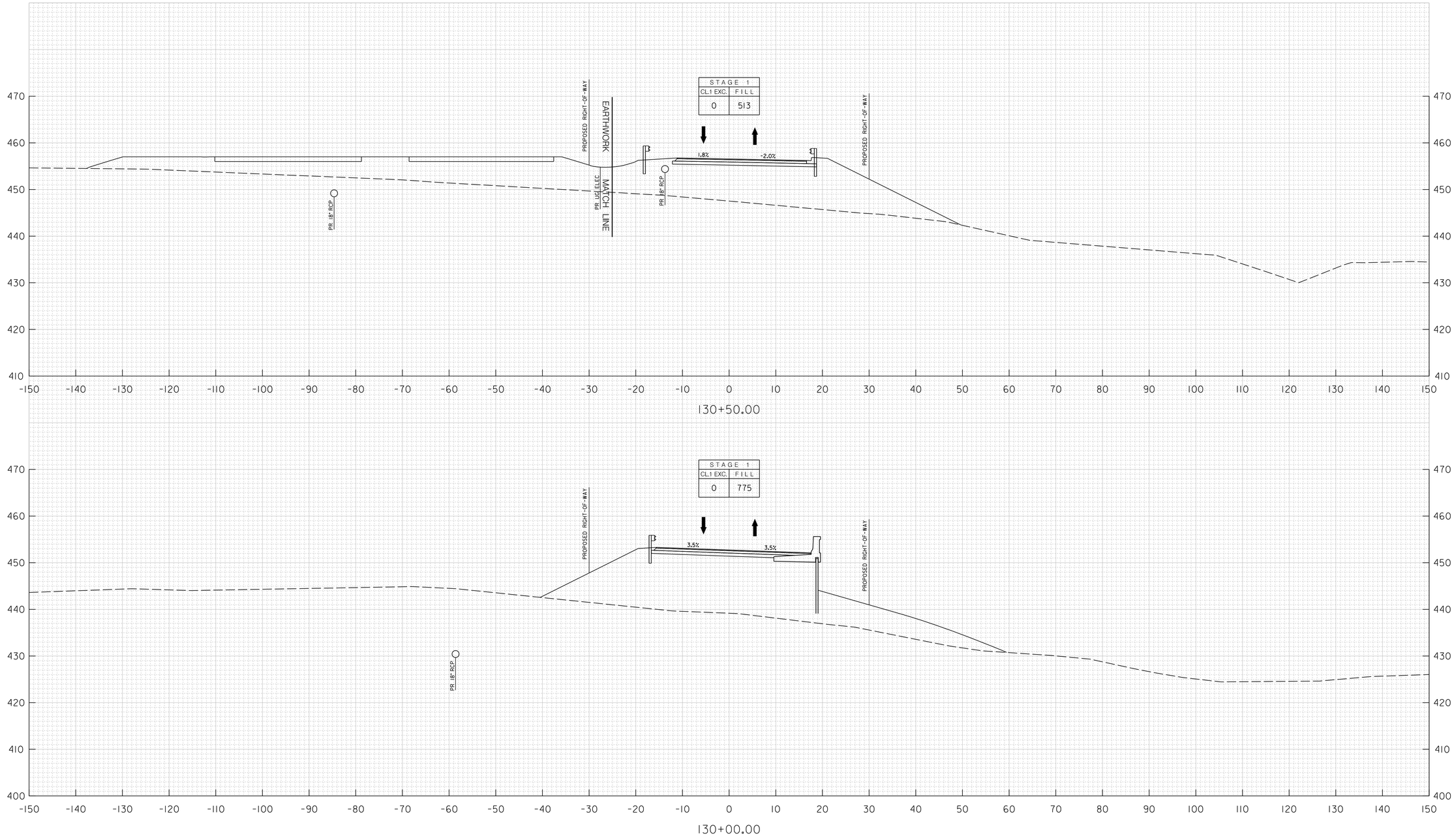
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET



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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON REED — No. 24828 — PROFESSIONAL ENGINEER
10/19/22

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

CROSS REFERENCE

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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-20

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

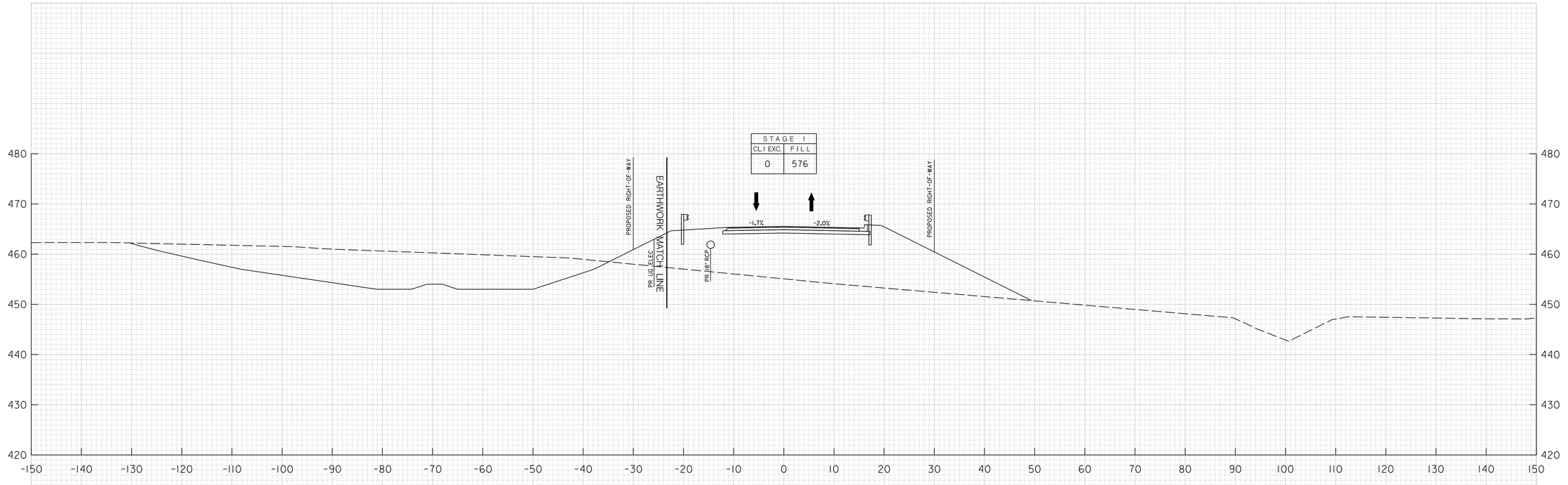
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

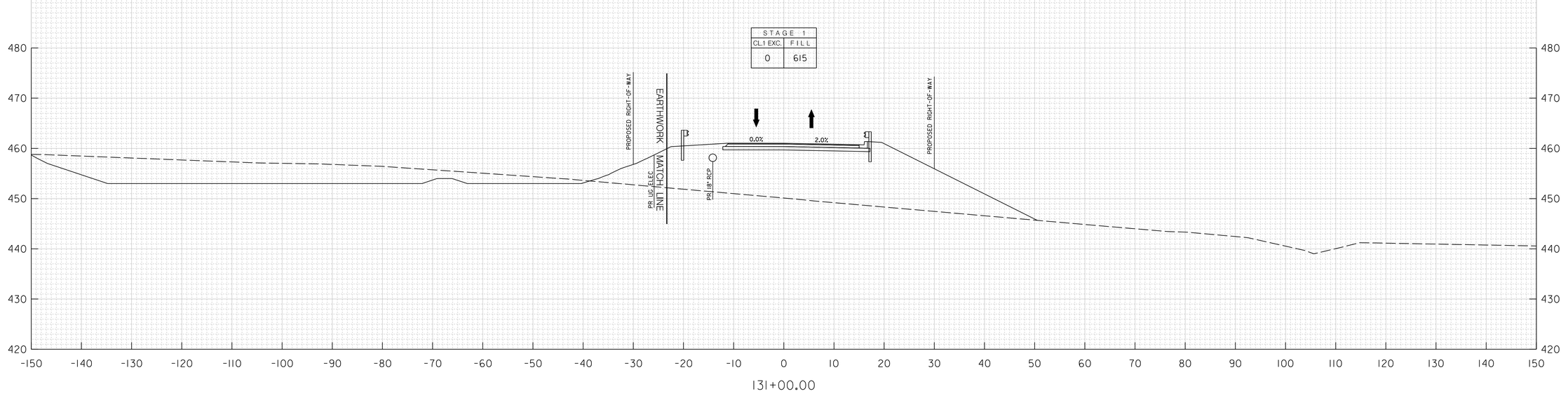
CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 210 OF 226





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PLOTTED: 10/19/2022
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CS-21

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 211 OF 226

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — ANDREW KENNETH RICHARDSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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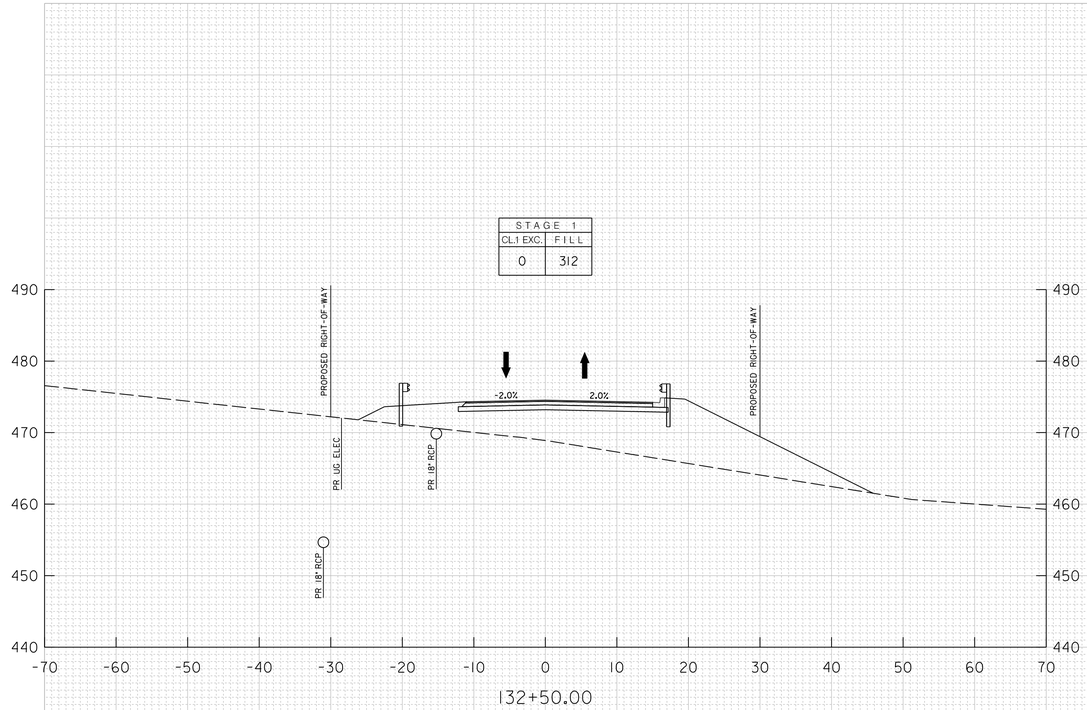

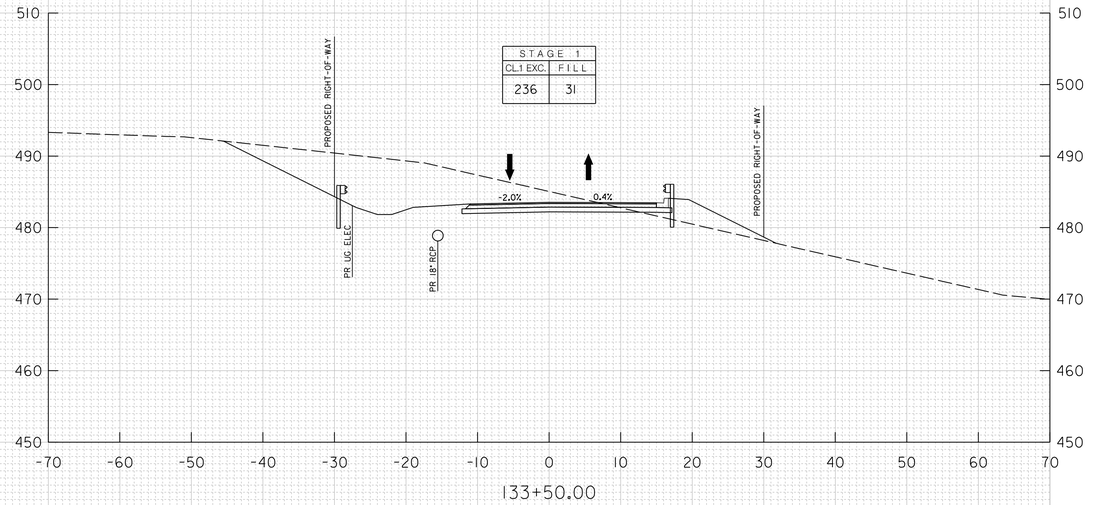

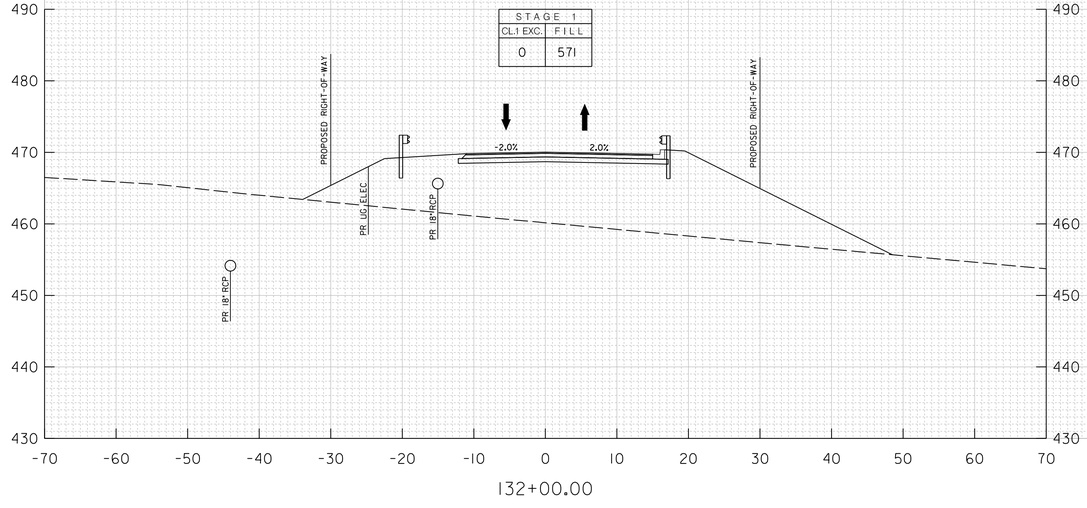

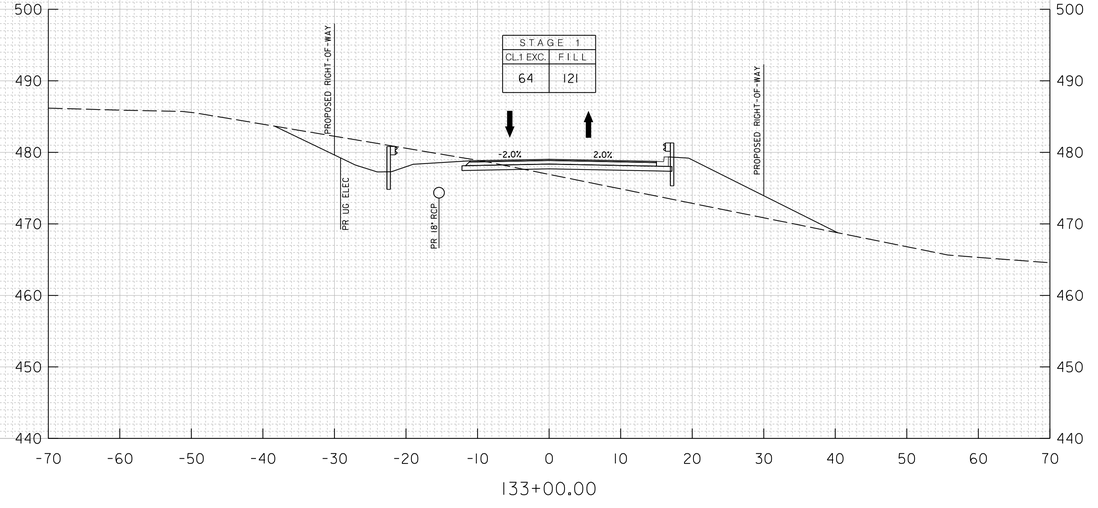

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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

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CS-22

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

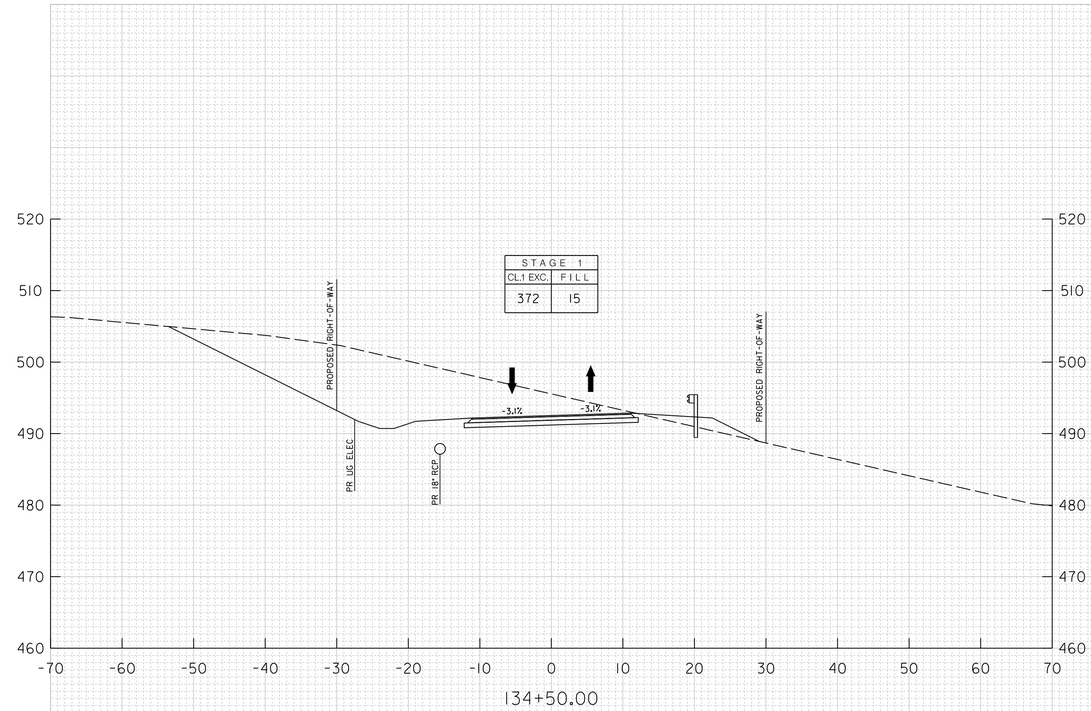
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

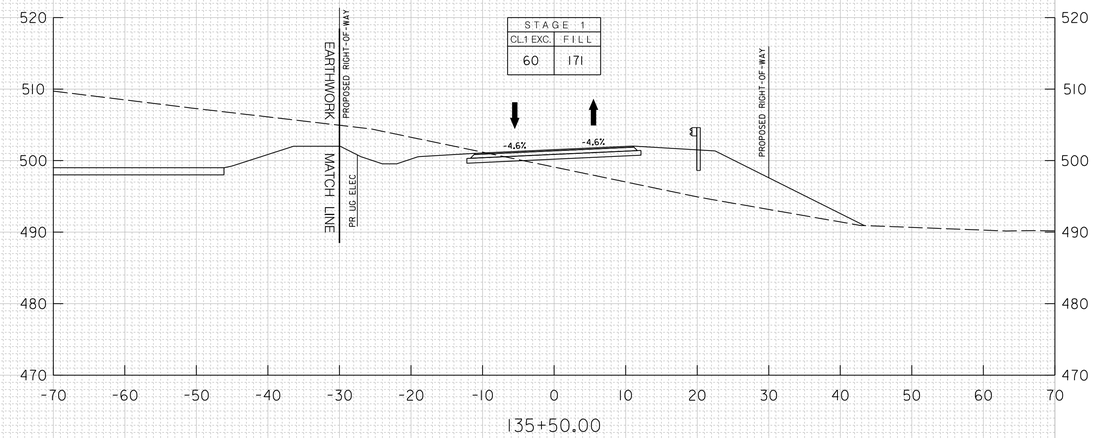
CROSS SECTIONS
EAST-WEST CONNECTOR

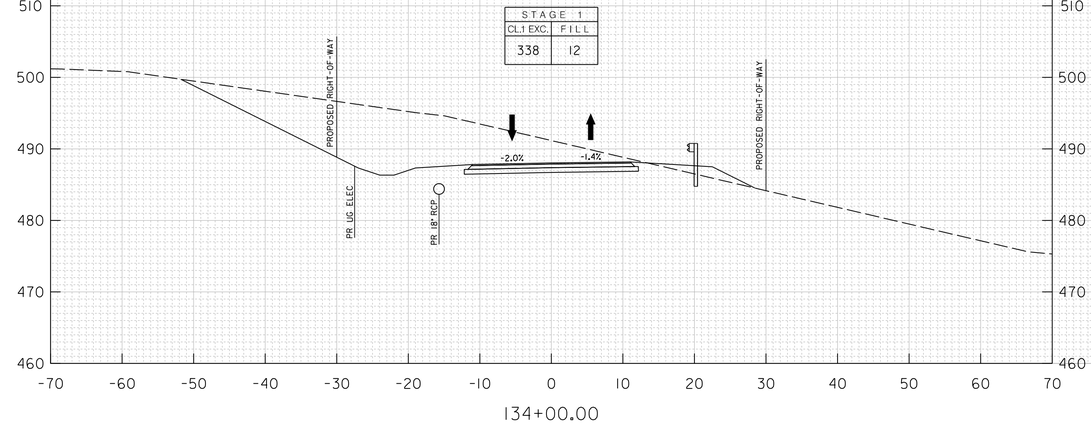
DATE: OCTOBER 2022 SCALE: 1" = 10'

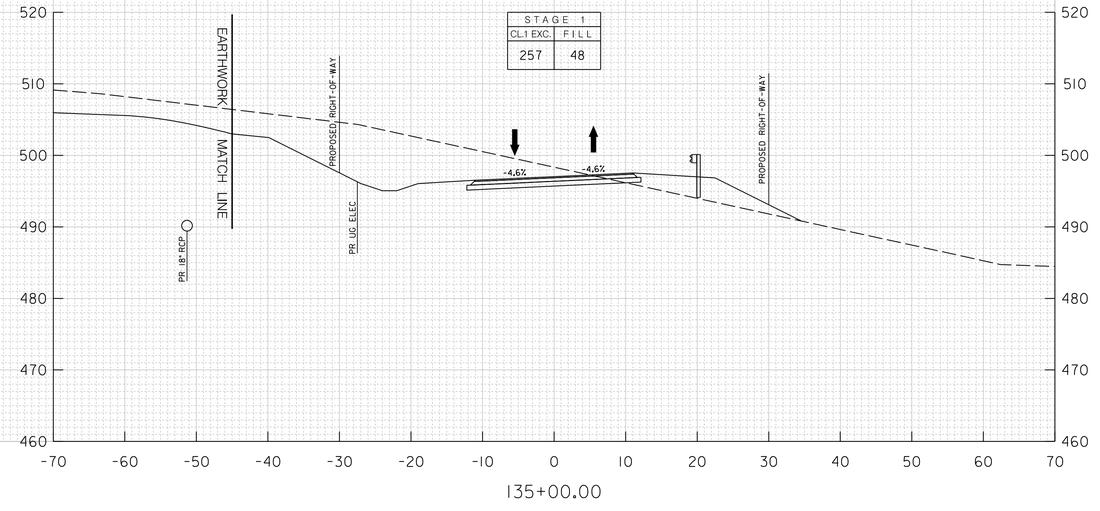
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 212 OF 226









BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sht\C-XSDL-EWC-EWC.dgn

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — CHRISTOPHER JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-23

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

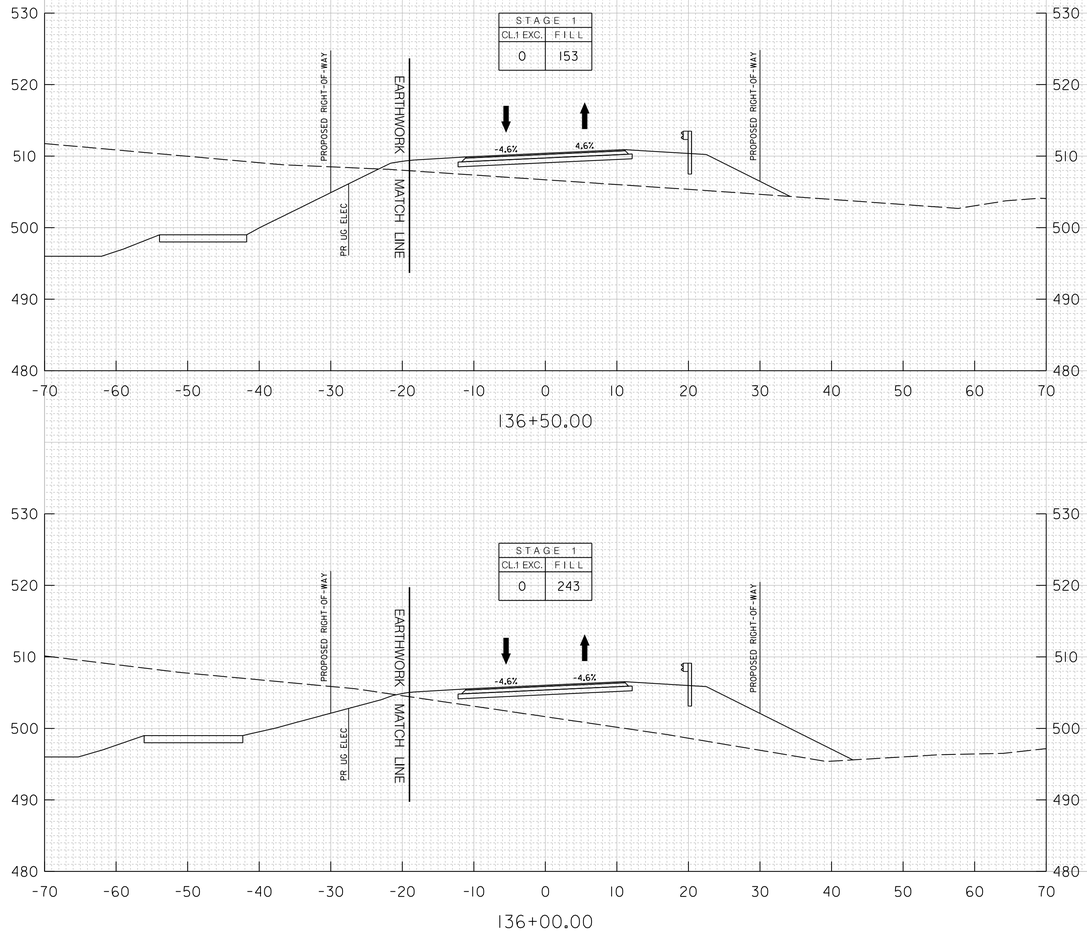
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

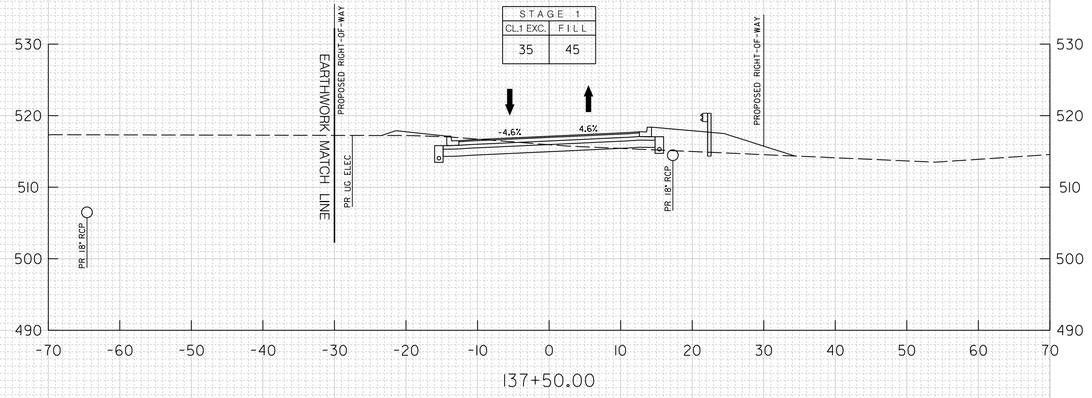
CROSS SECTIONS
EAST-WEST CONNECTOR

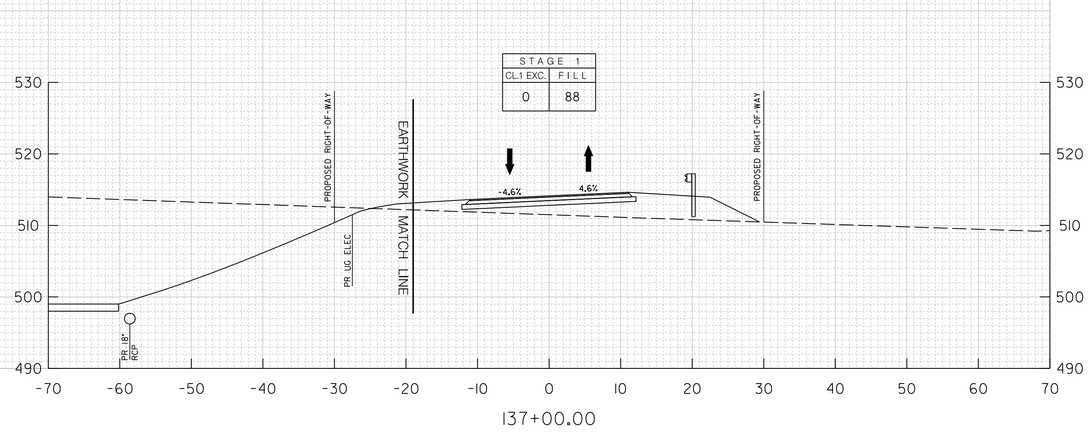
DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 213 OF 226







CS-24

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
EAST-WEST CONNECTOR

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01 DWG. 214 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WEBB — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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ROADWAY PROFILE SHEETS	22 TO 27
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
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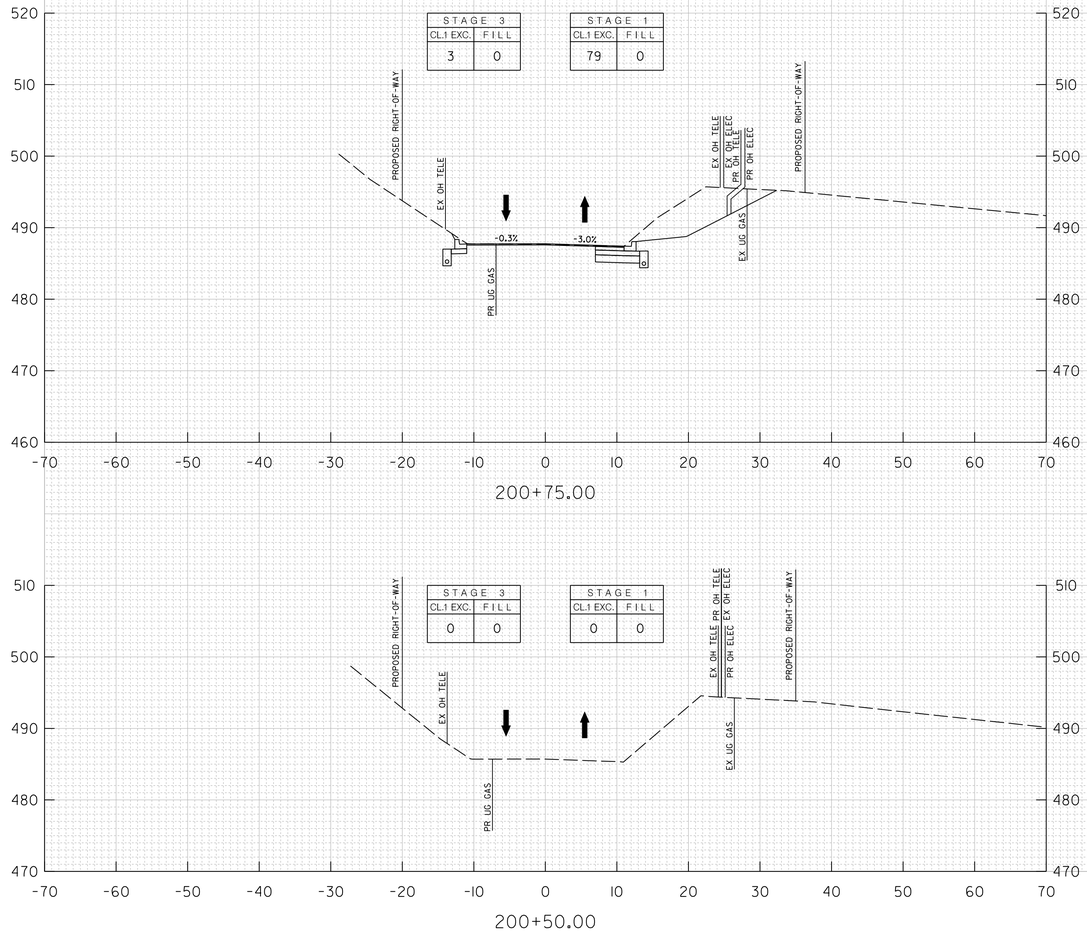

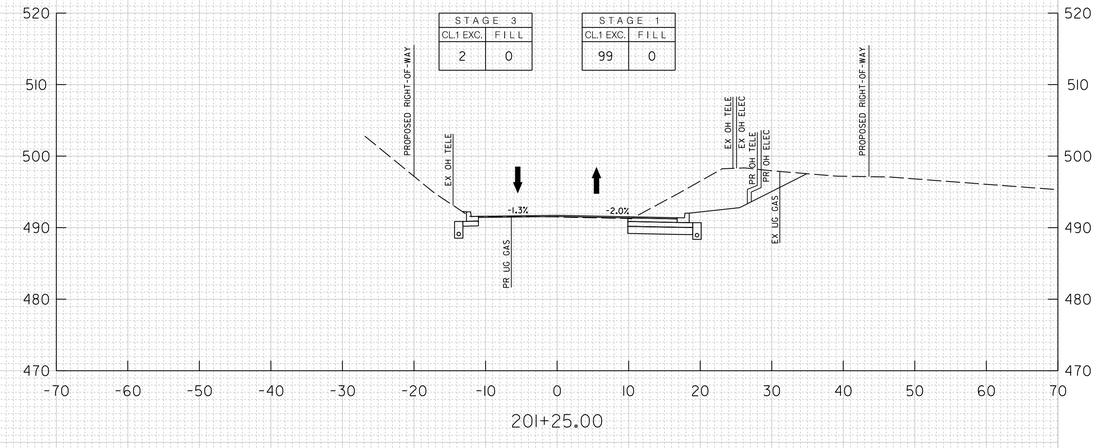

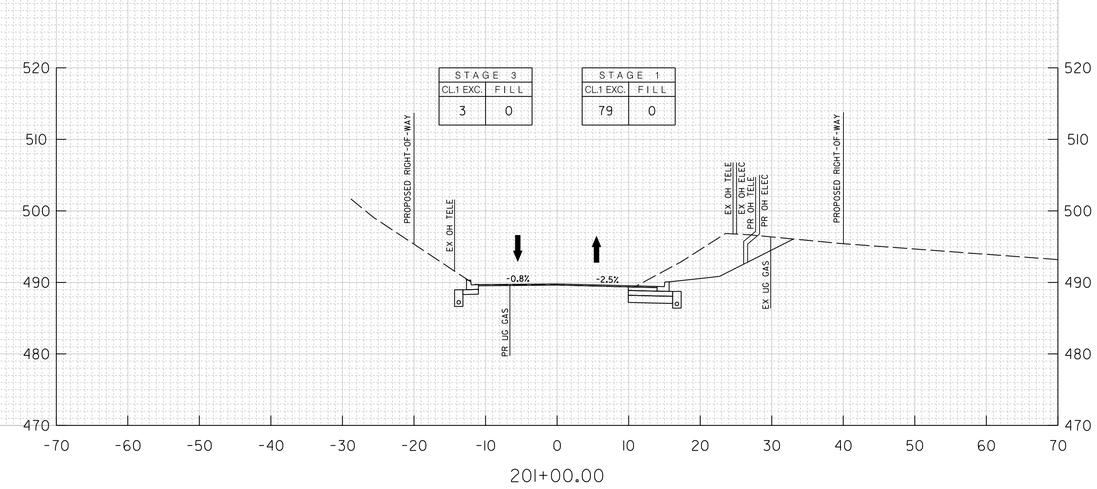

CS-25

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 215 OF 226

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

BY: AKR -
PLOTTED: 3/22/2023
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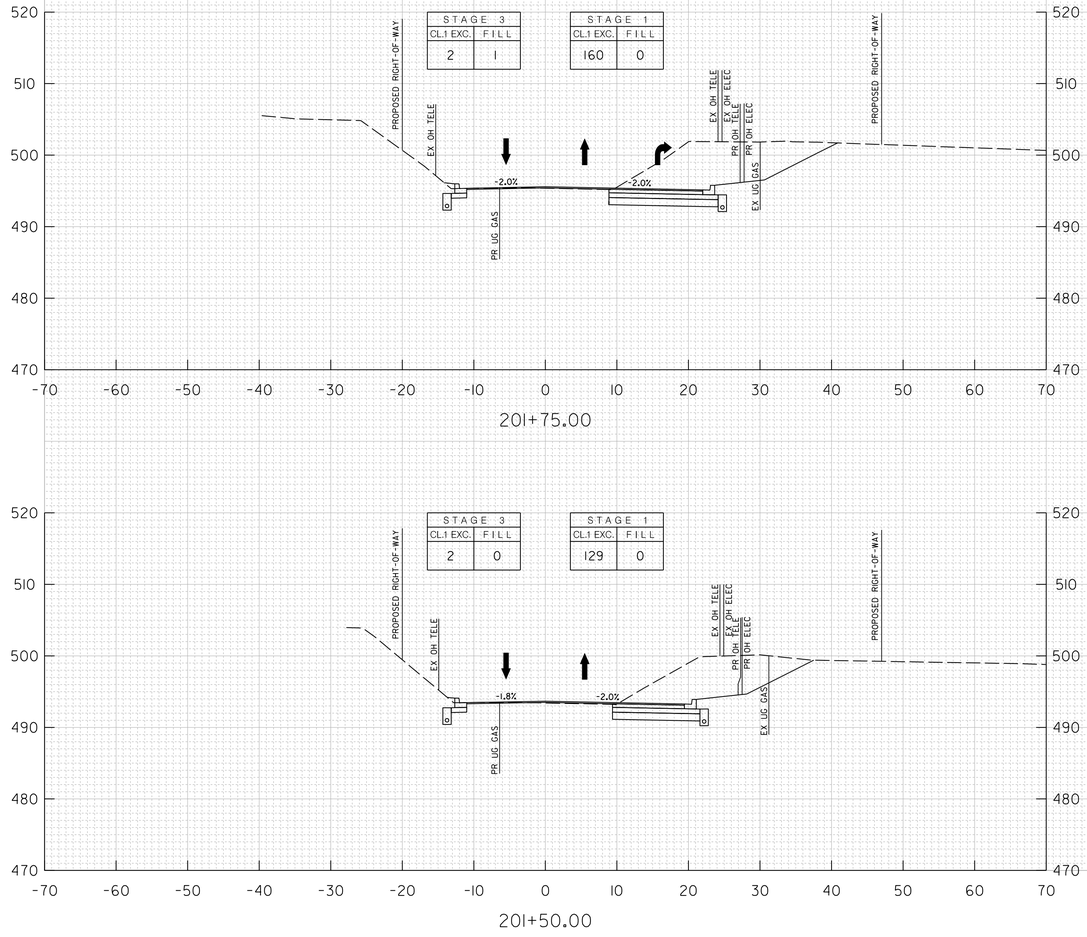

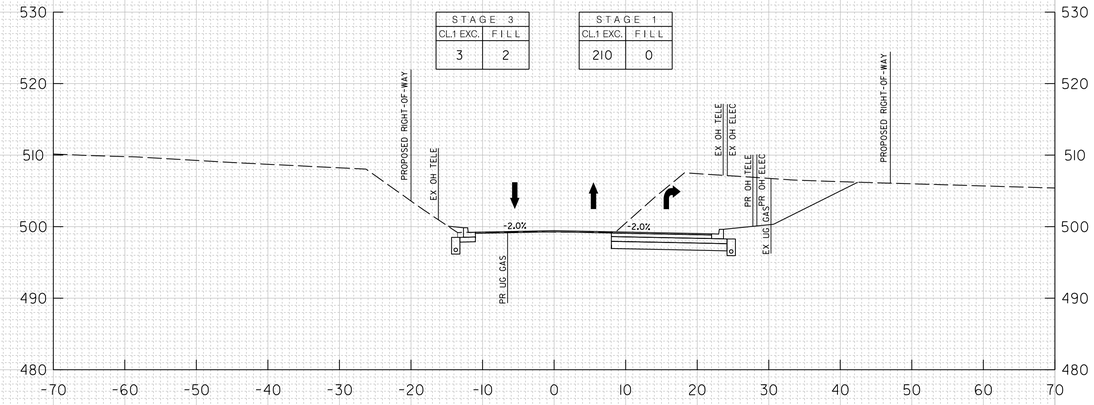

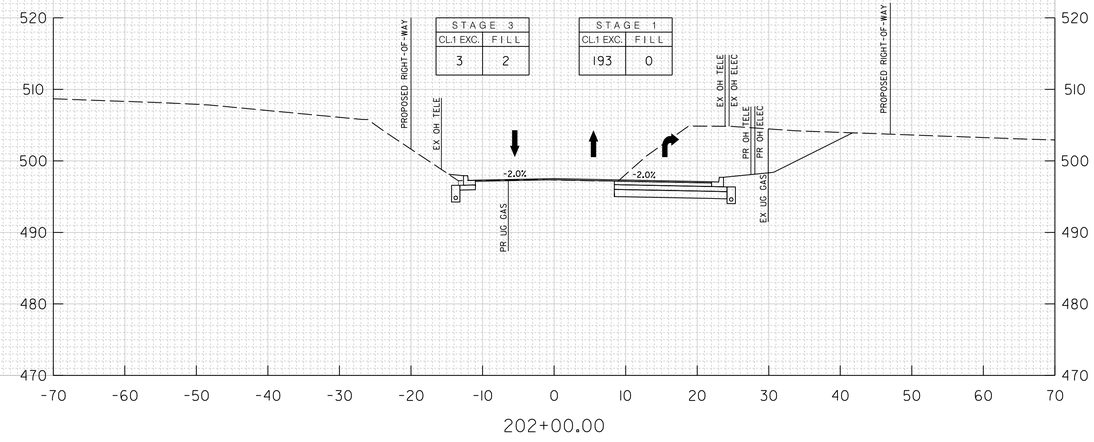

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-26

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

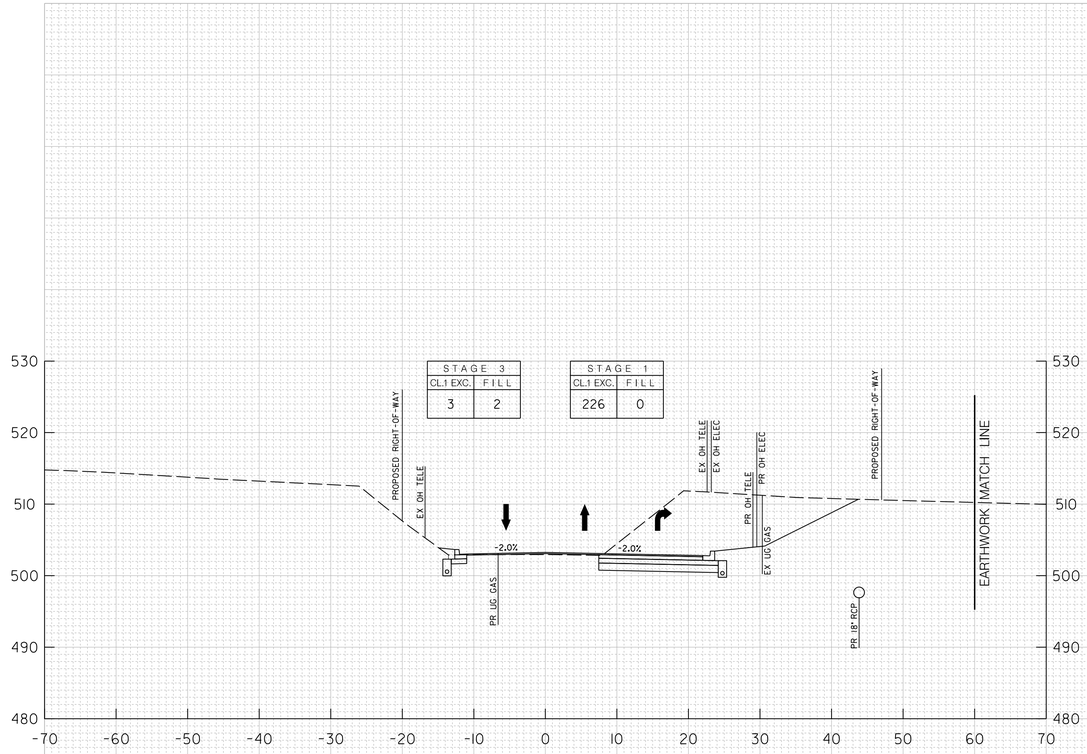
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

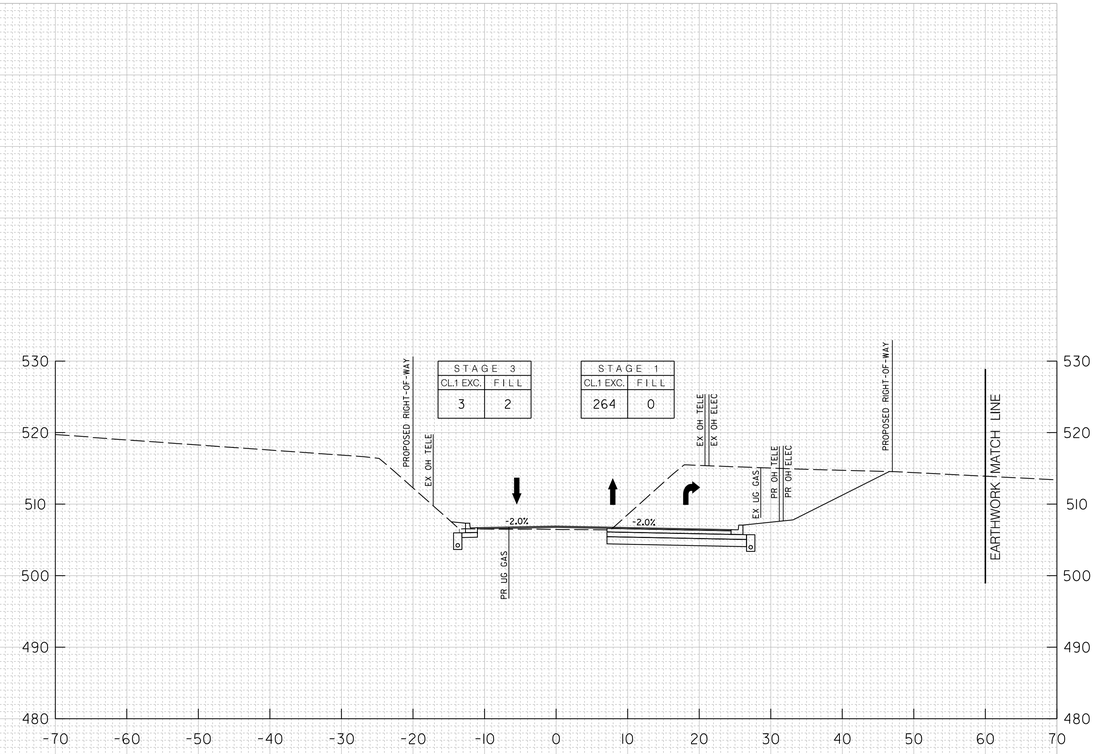
CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

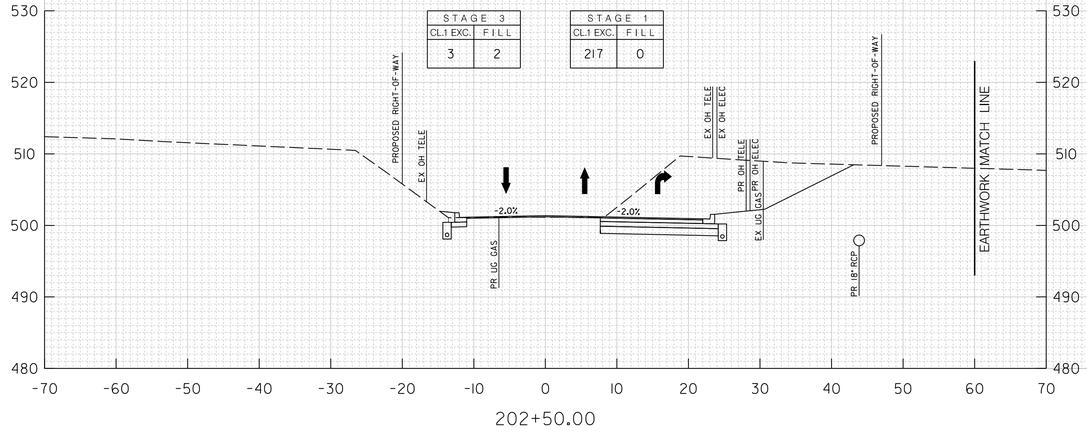
DATE: OCTOBER 2022 SCALE: 1" = 10'

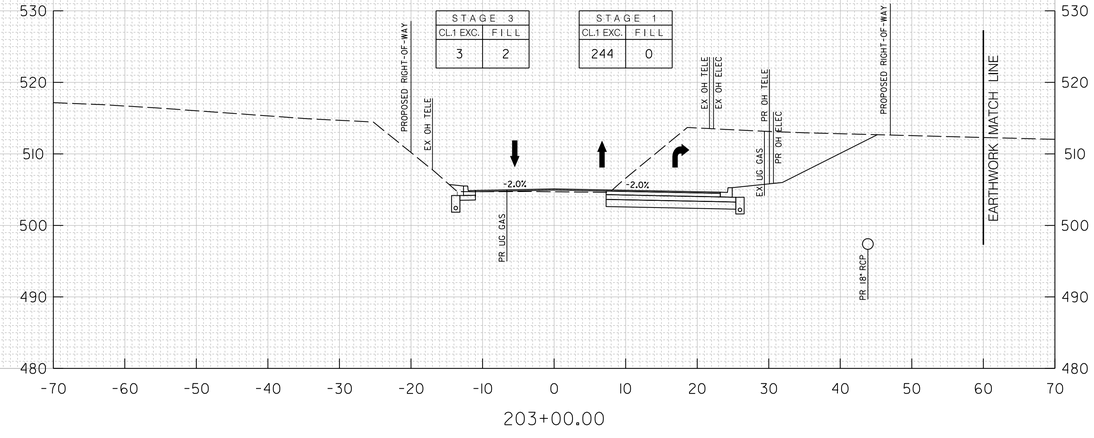
FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 216 OF 226

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X002-EWC-MD75.dgn









CS-27

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 217 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
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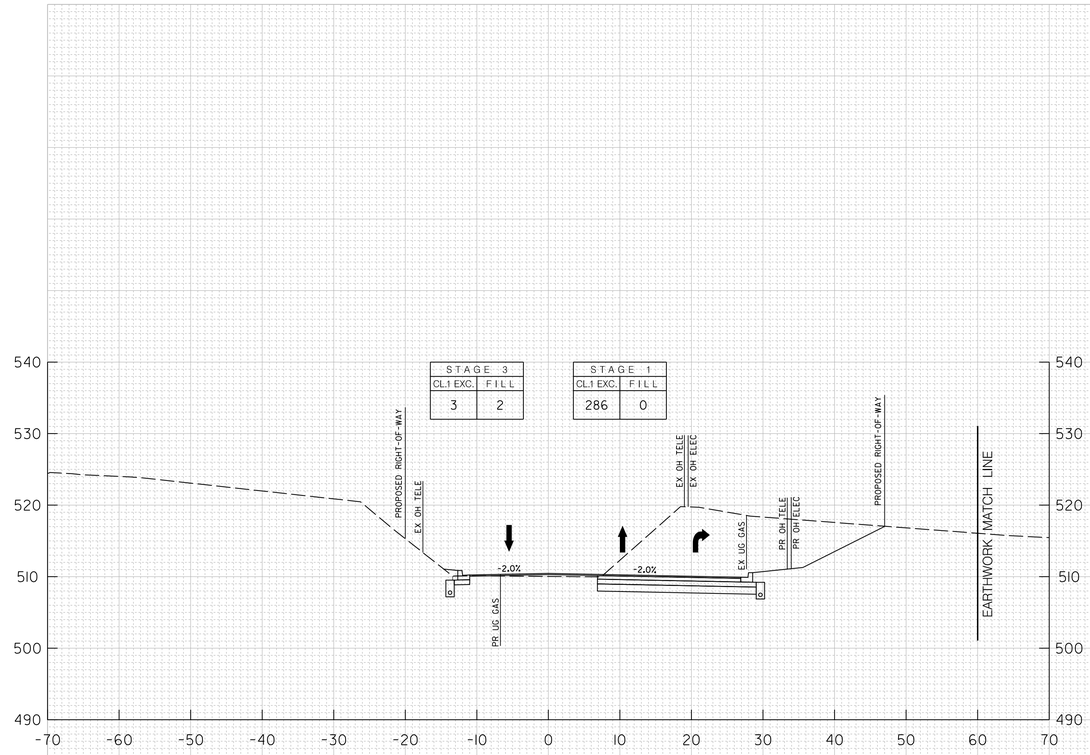
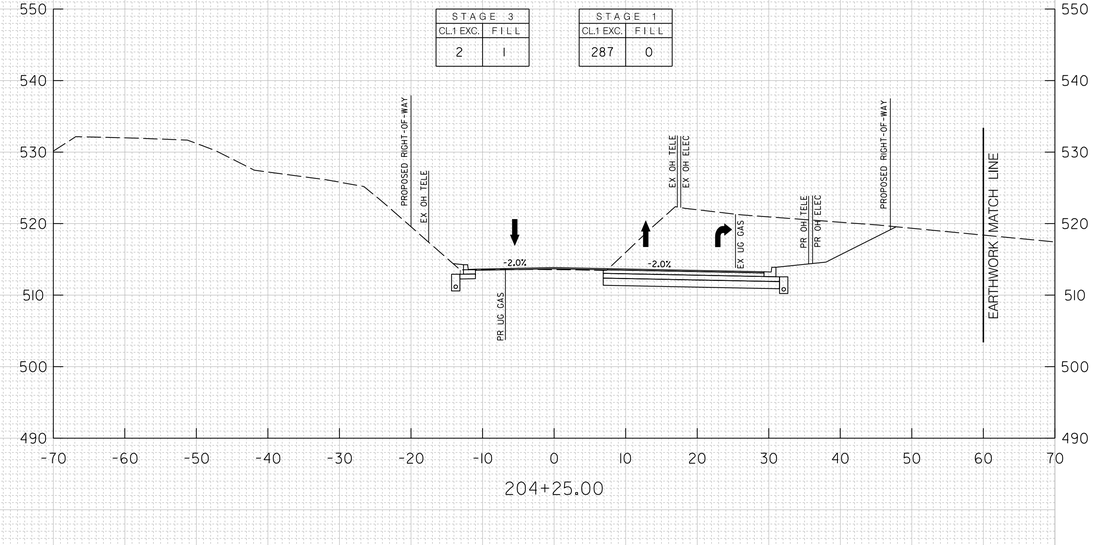
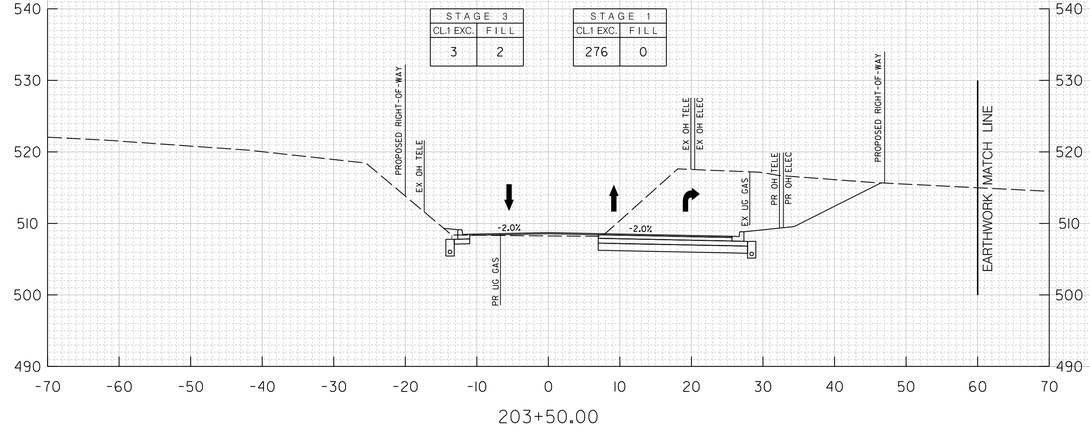
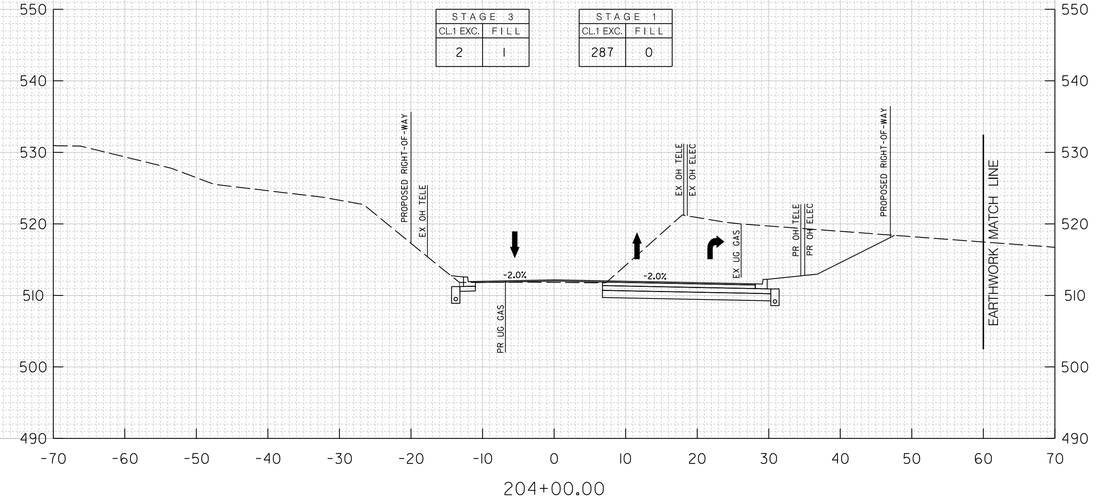
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X002-EWC-MD75.dgn









BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X002-EWC-MD75.dgn

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
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SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-28

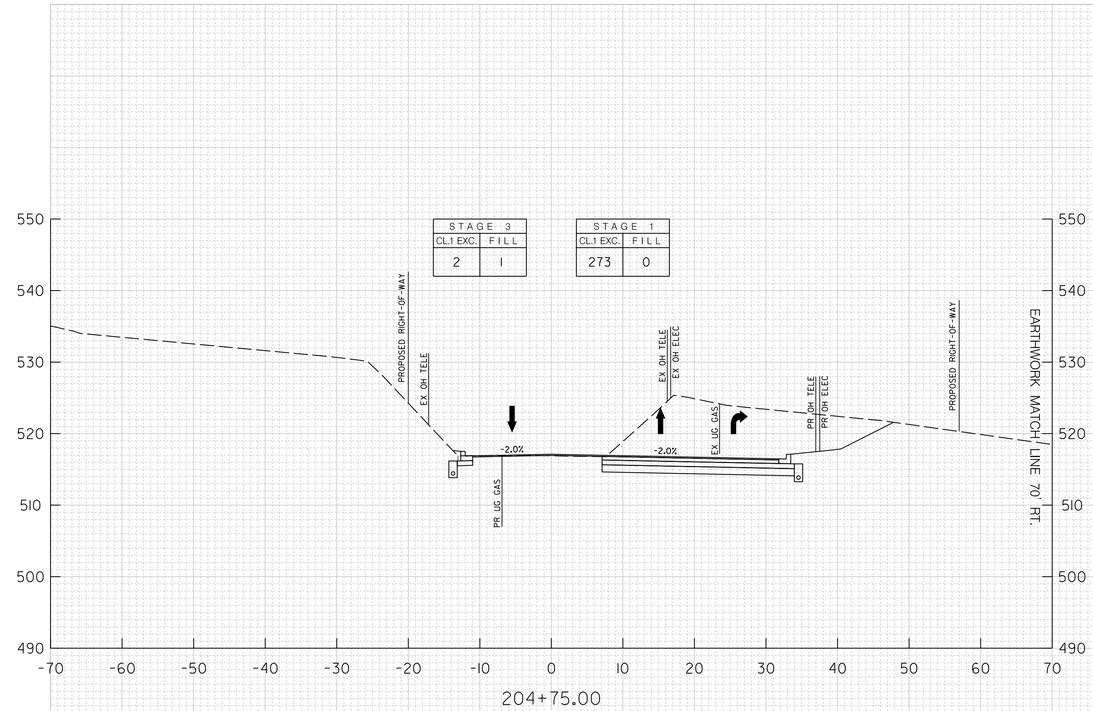
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

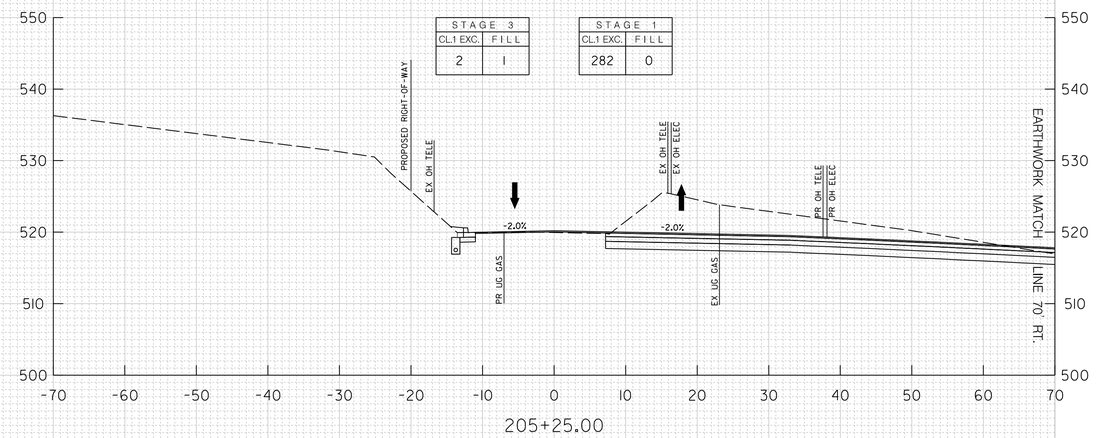
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

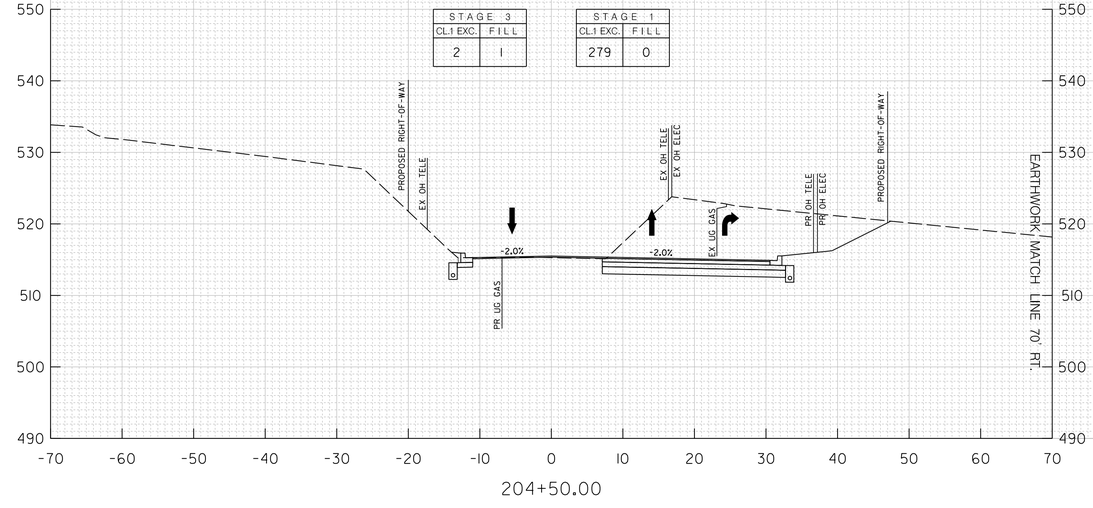
CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

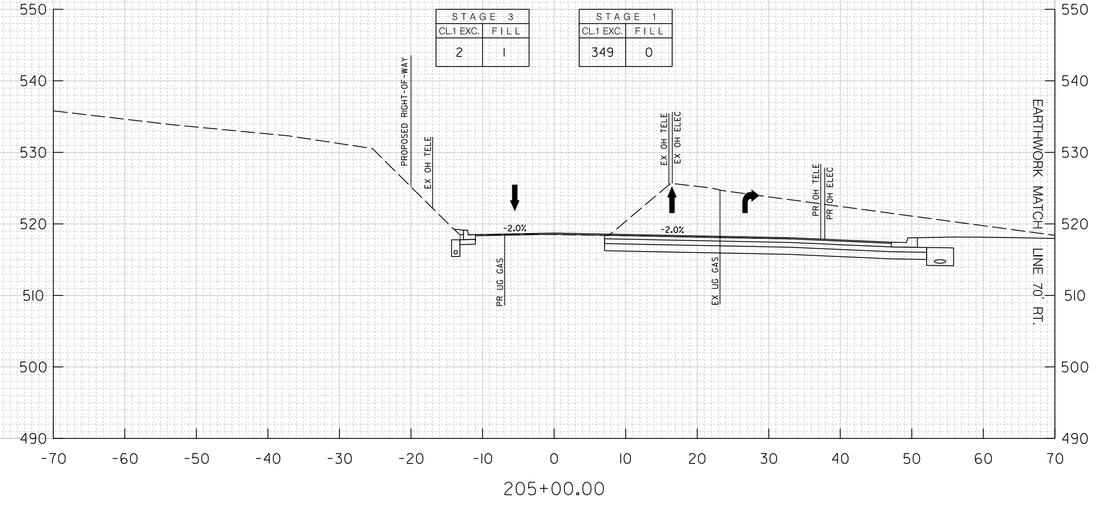
DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01









BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X002-EWC-MD75.dgn

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-29

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

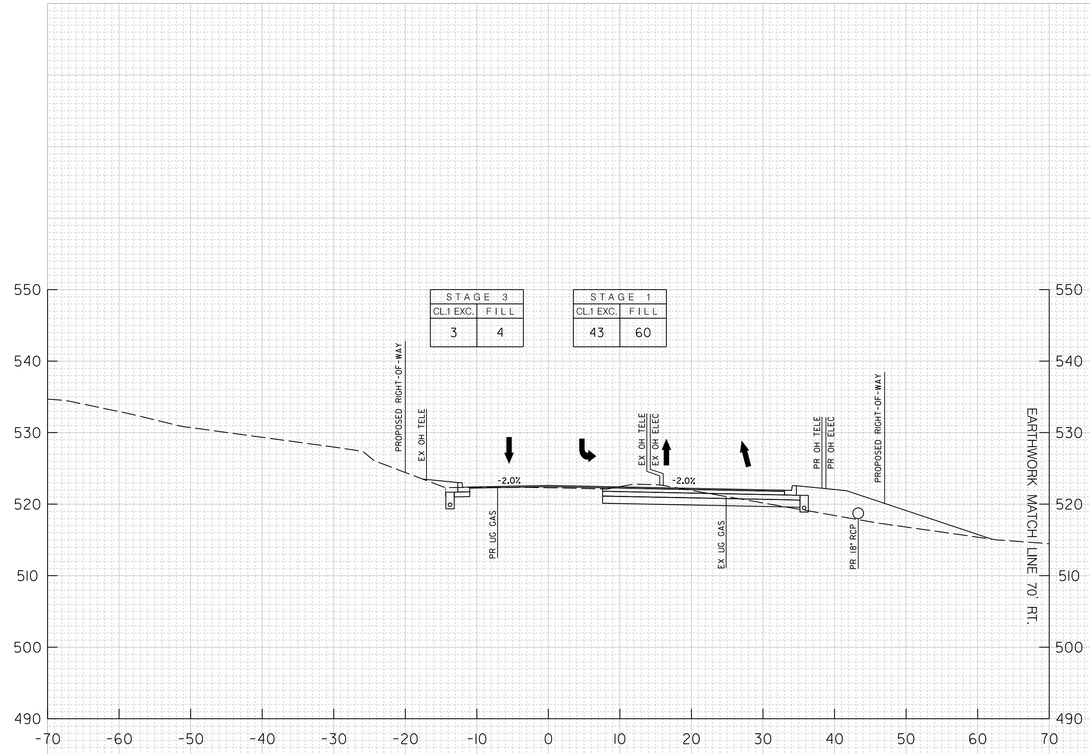
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

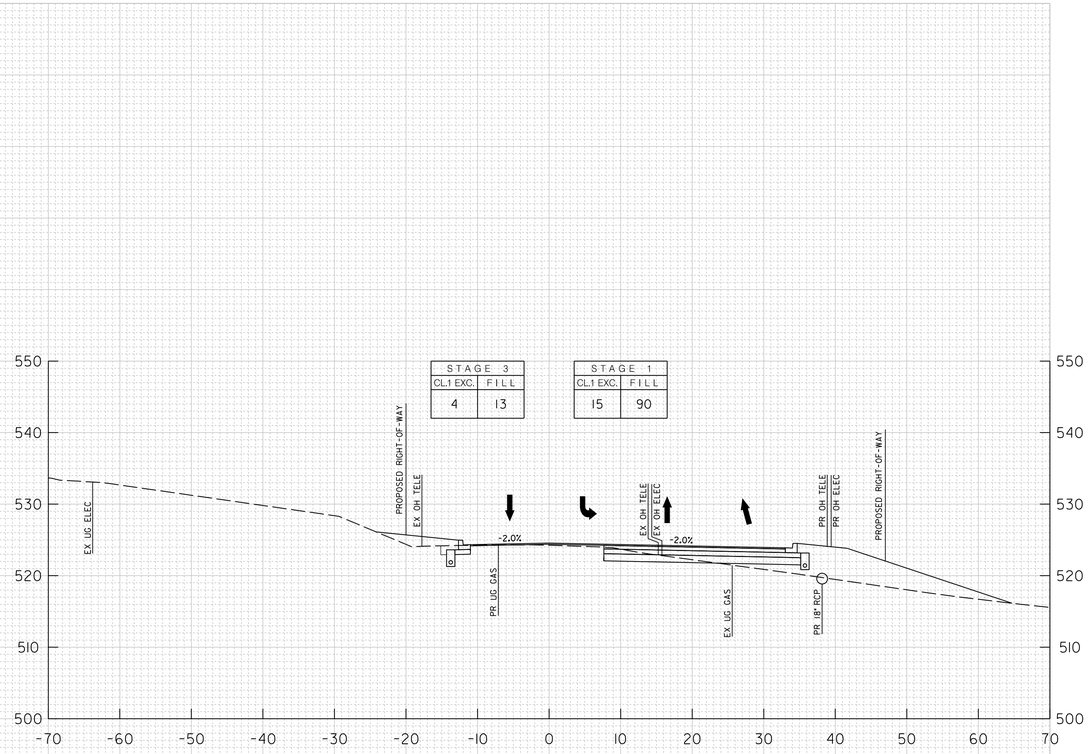
CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

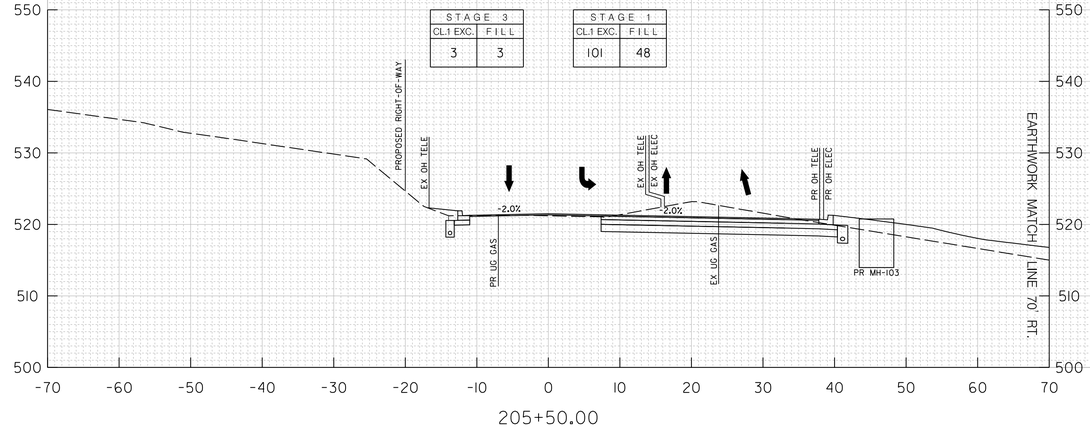
DATE: OCTOBER 2022 SCALE: 1" = 10'

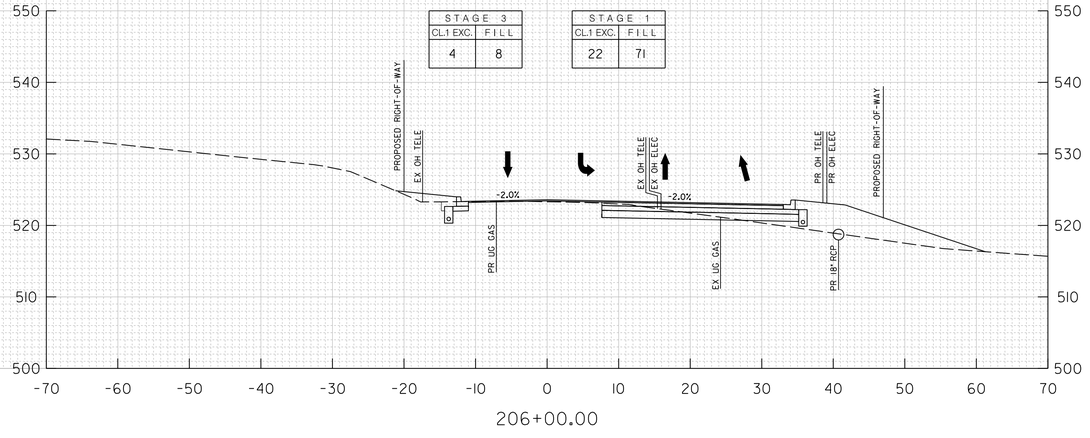
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 219 OF 226









CS-30

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JACKSON WELLS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

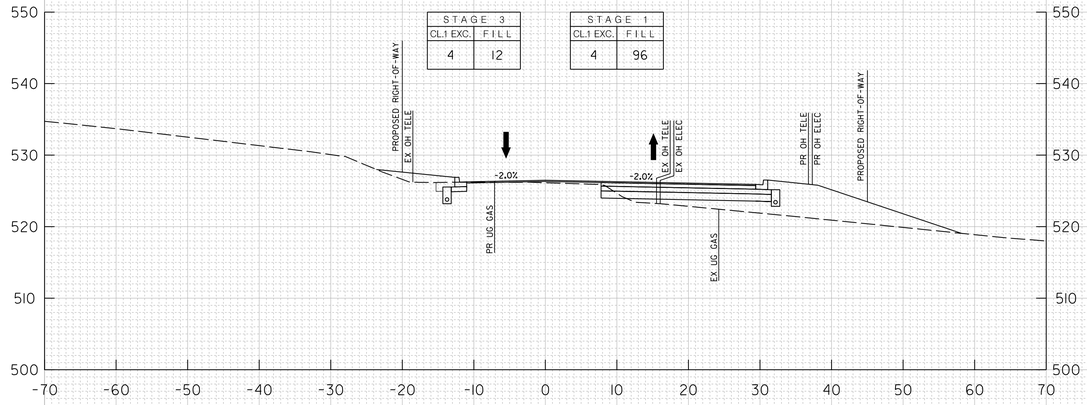
CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 220 OF 226

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X002-EWC-MD75.dgn



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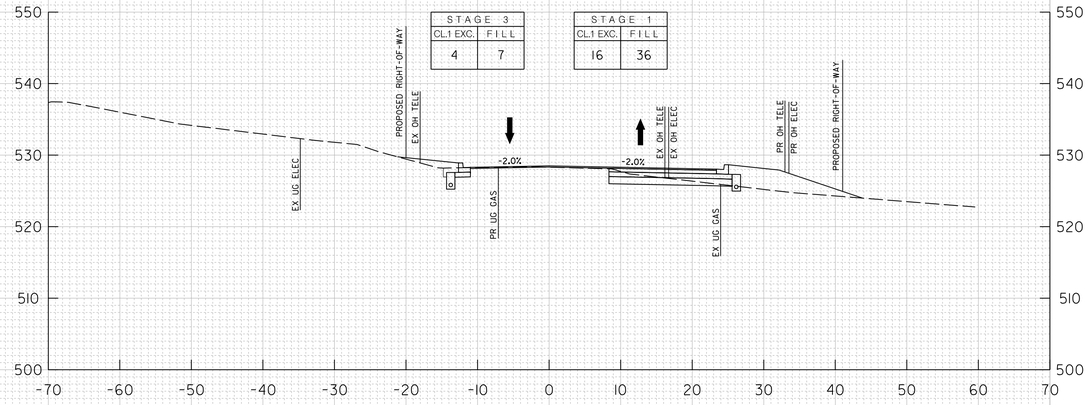

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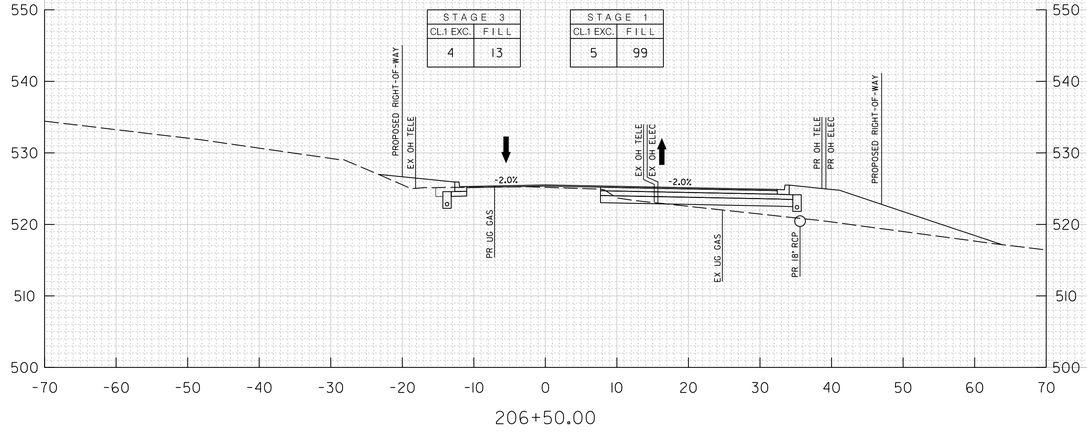

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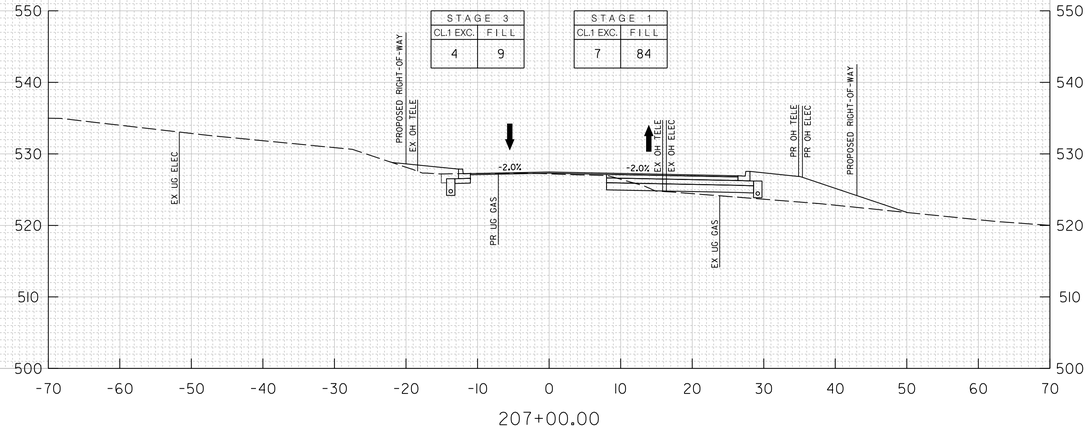


207+00.00

CS-31

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 221 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

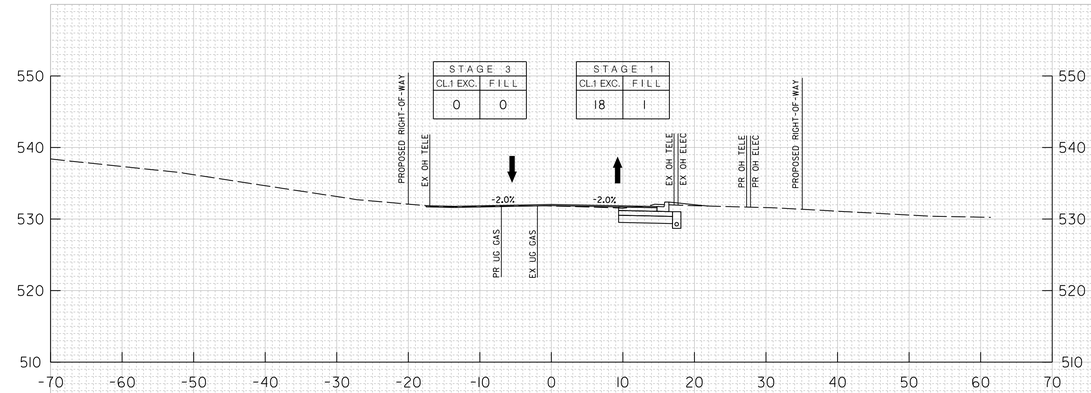
STATE OF MARYLAND — JOSEPH JACKSON WEST — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

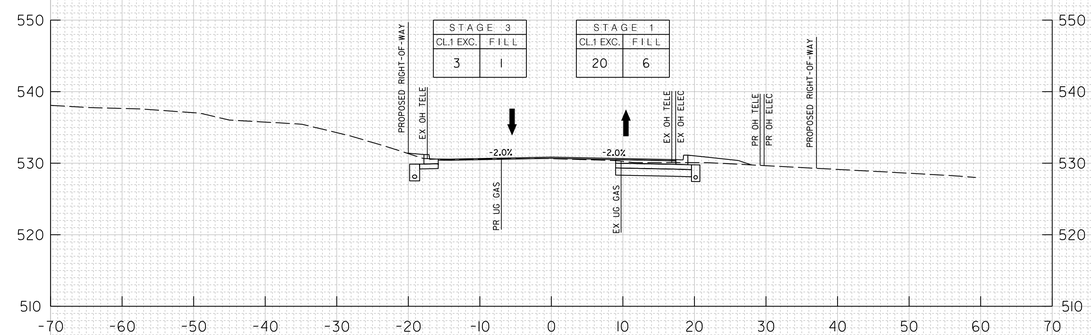
THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

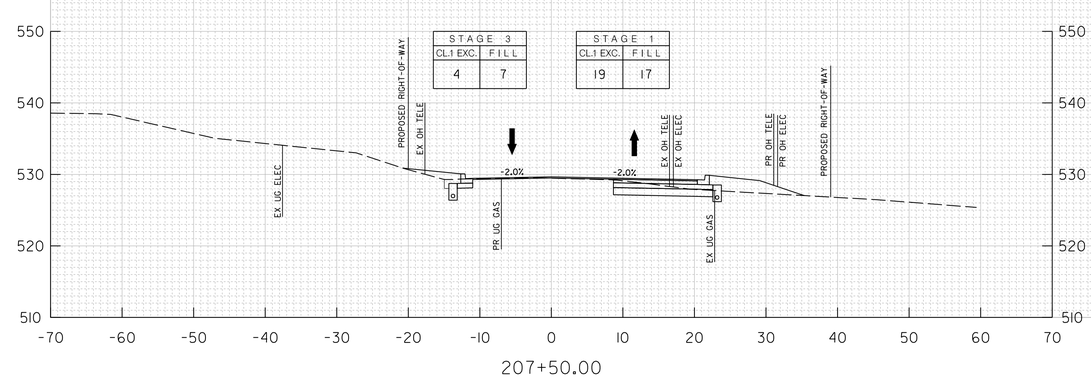
CROSS REFERENCE

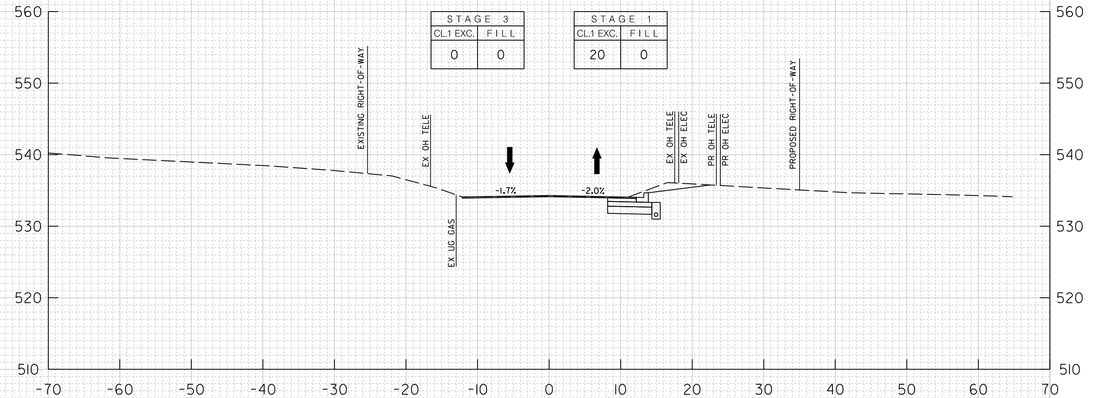
ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

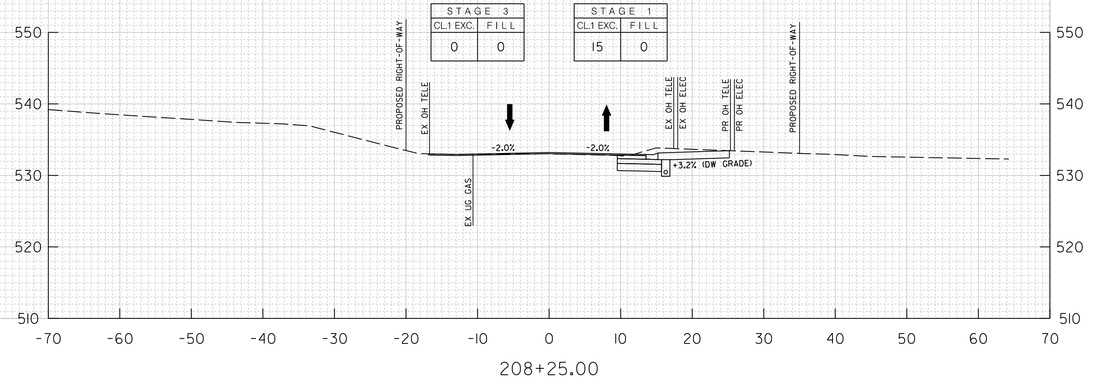
BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\HC-X002-EWC-MD75.dgn











CS-32

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 222 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

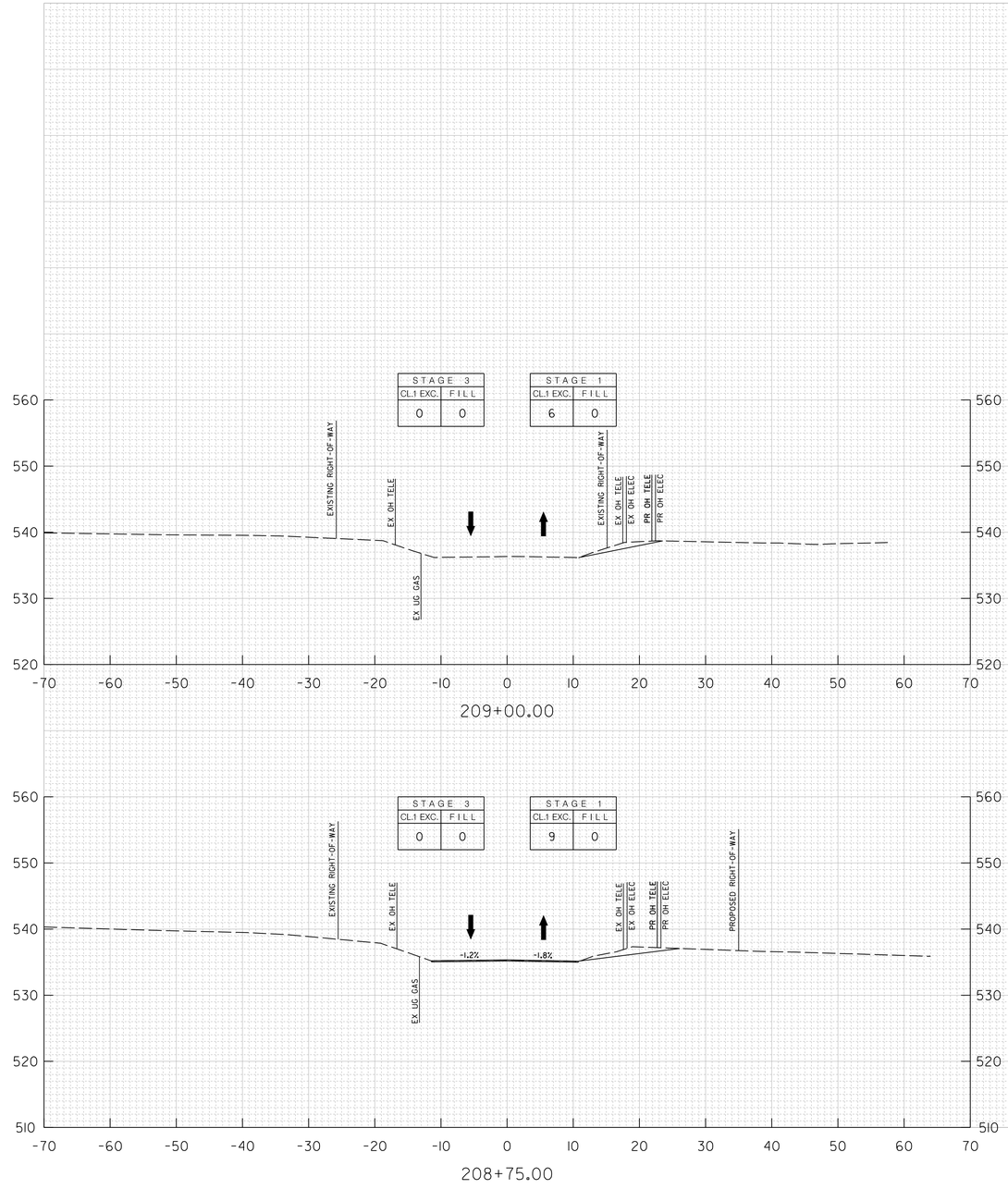
STATE OF MARYLAND — JOHN JACKSON WILSON — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

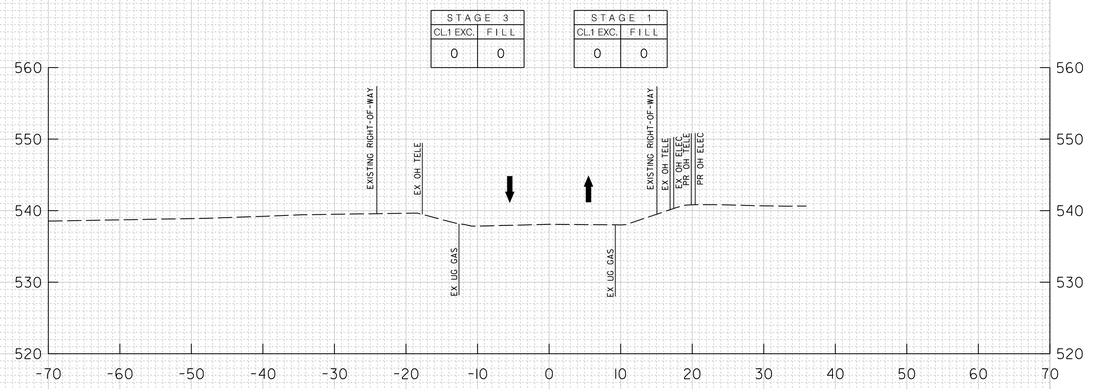
THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

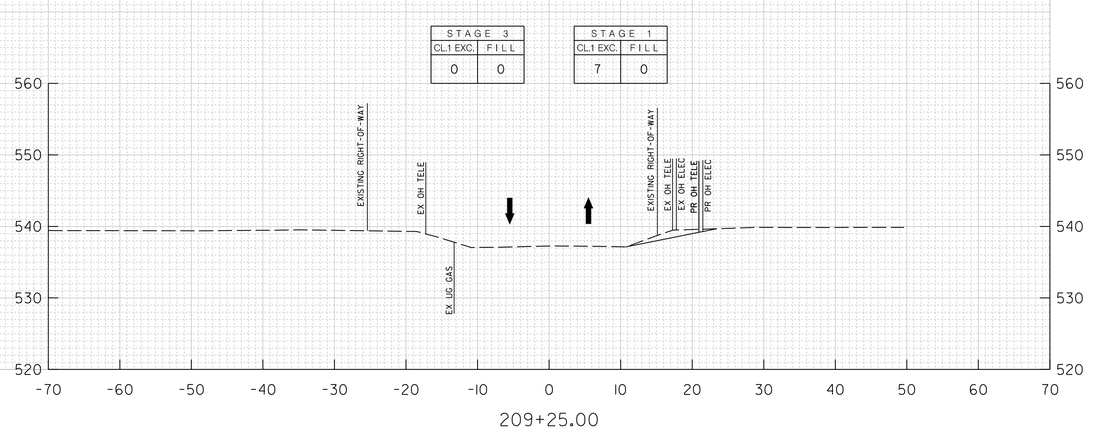
CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\sHC-X002-EWC-MD75.dgn







BY: AKR -
PLOTTED: 3/22/2023
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\HC-X002-EWC-MD75.dgn

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-33

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

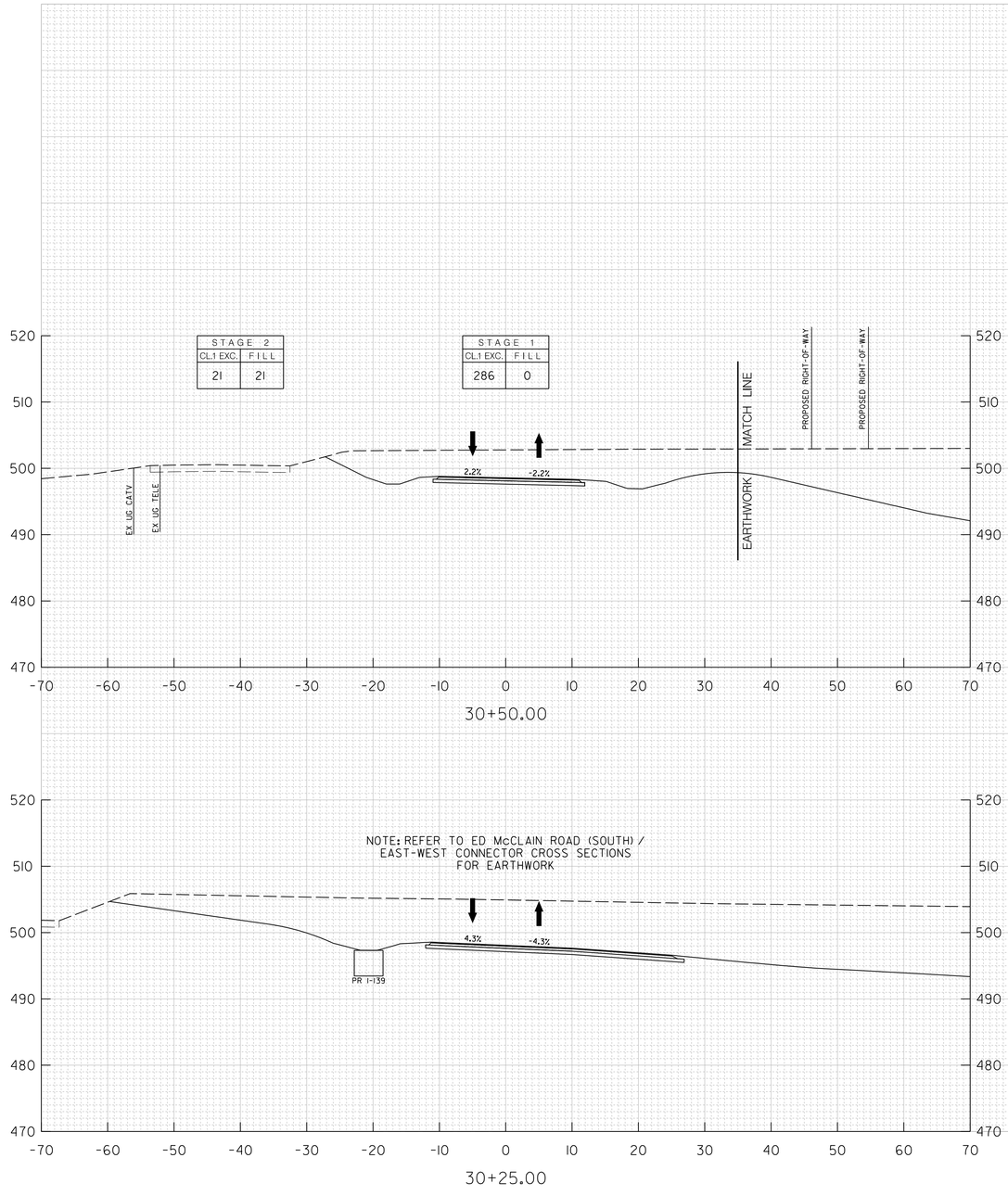
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

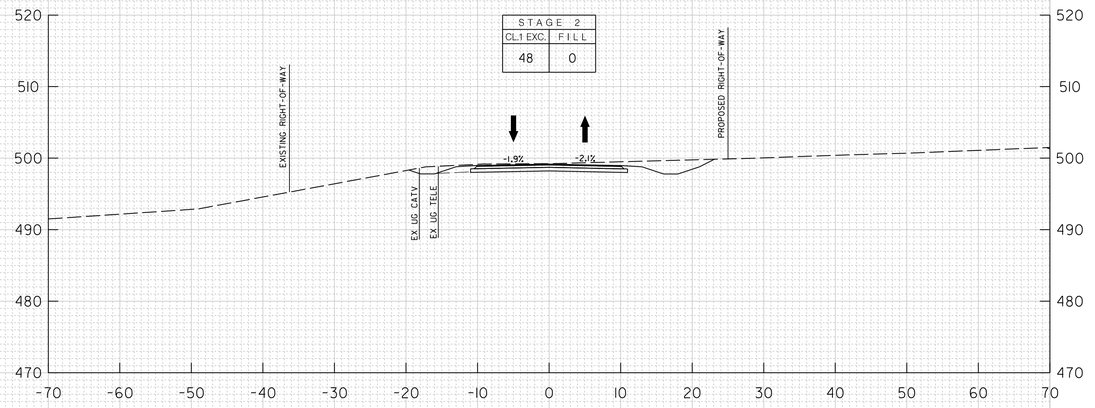
CROSS SECTIONS
MD 75 (GREEN VALLEY ROAD)

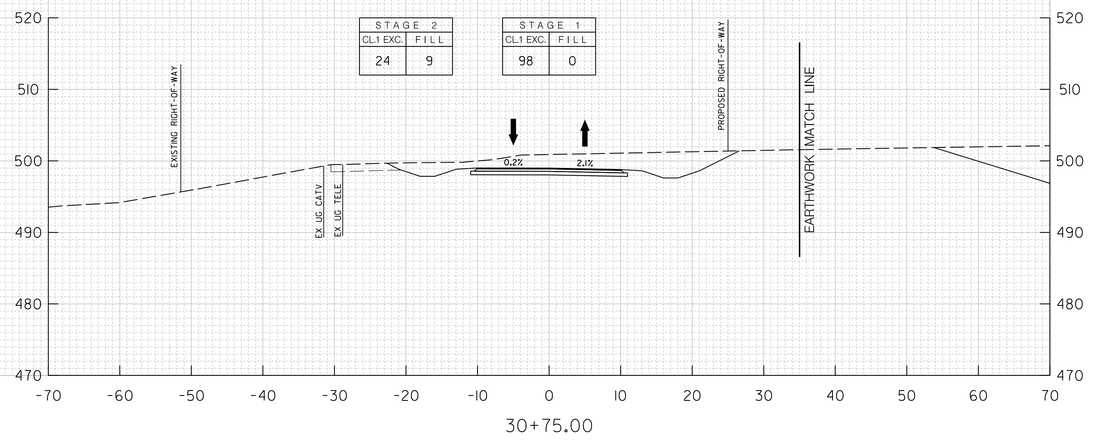
DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 223 OF 226







CS-34

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
ED McCLAIN ROAD (NORTH)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 224 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

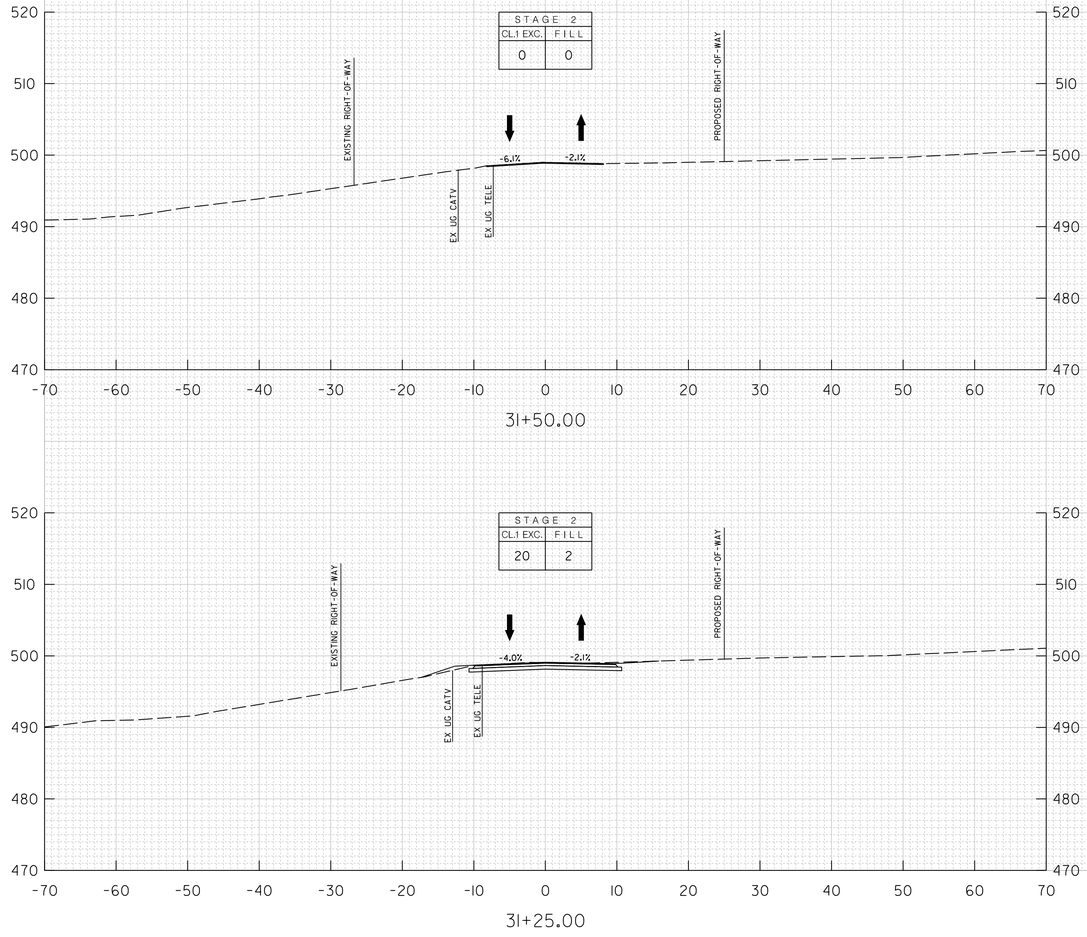
STATE OF MARYLAND — JOSEPH JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
GEOMETRIC LAYOUT SHEETS	10 TO 11
ROADWAY PLAN SHEETS	14 TO 21
ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X003_EWC-GEMR.dgn



BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X003-EWC-GEMR.dgn

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOHN JACKSON WILLIAMS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
SUPERELEVATION CHARTS	8
PIPE & DRAINAGE SCHEDULE	76 TO 77
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ROADWAY PROFILE SHEETS	22 TO 27
TRAFFIC CONTROL SHEETS	28 TO 47
EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

CS-35

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

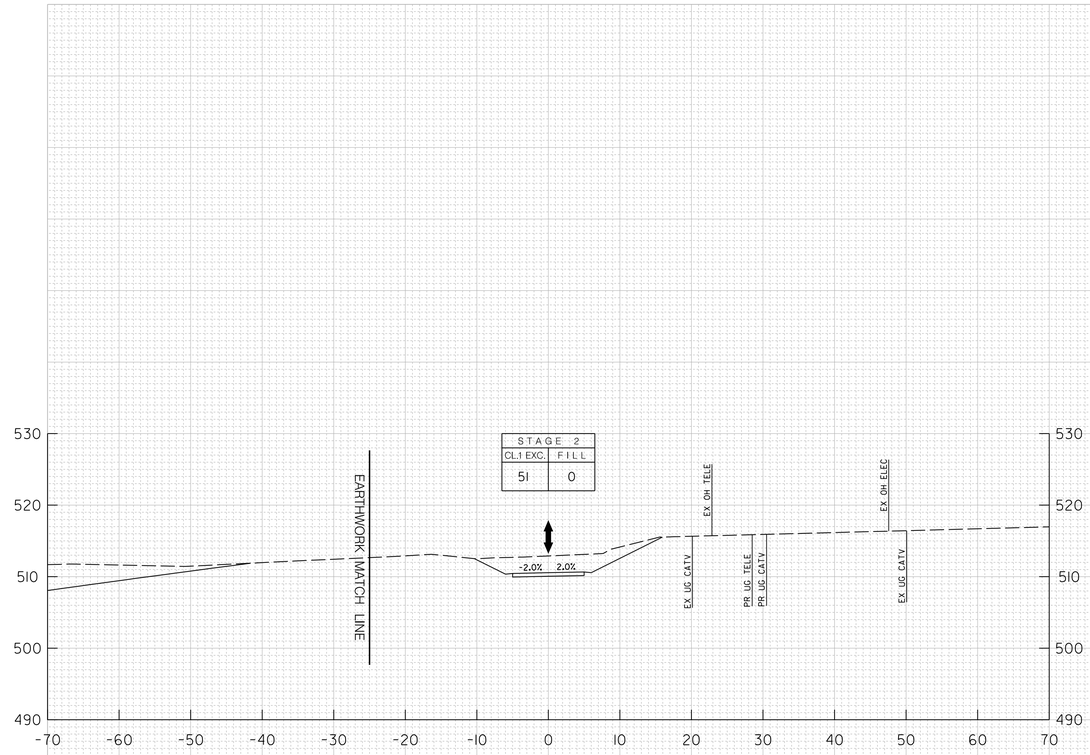
MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

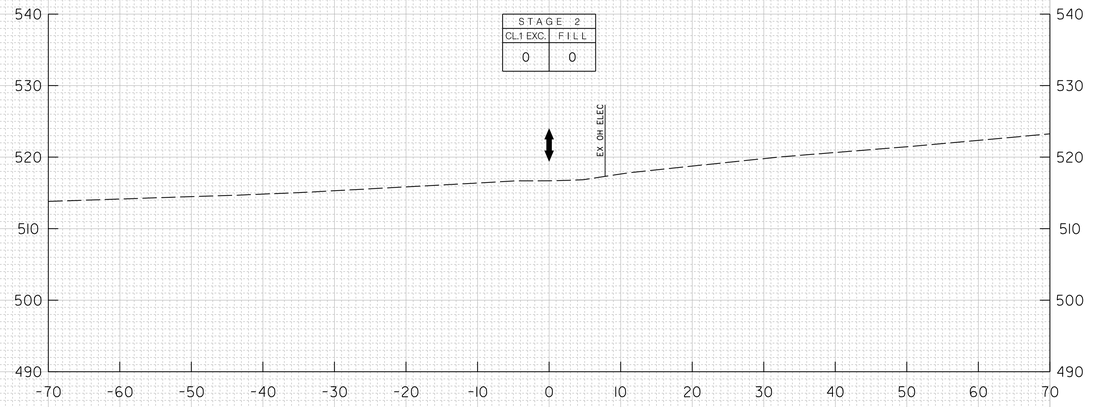
CROSS SECTIONS
ED McCLAIN ROAD (NORTH)

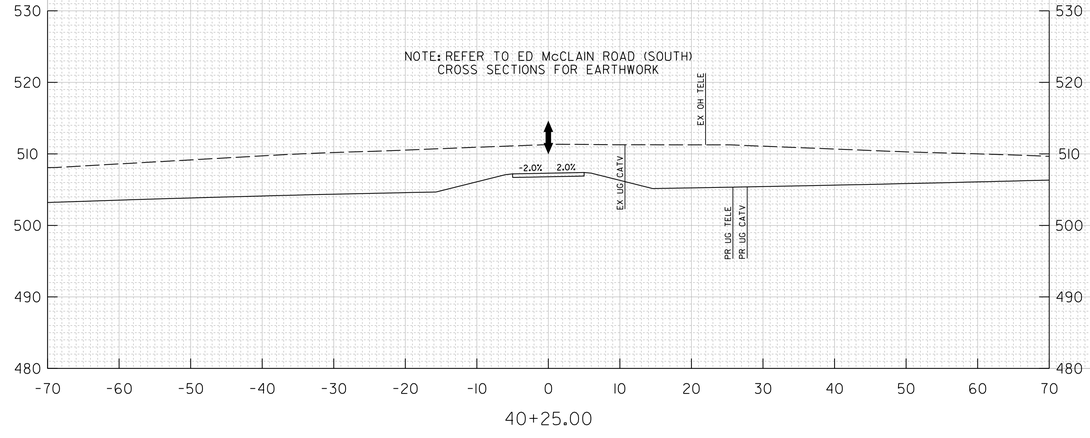
DATE: OCTOBER 2022 SCALE: 1" = 10'

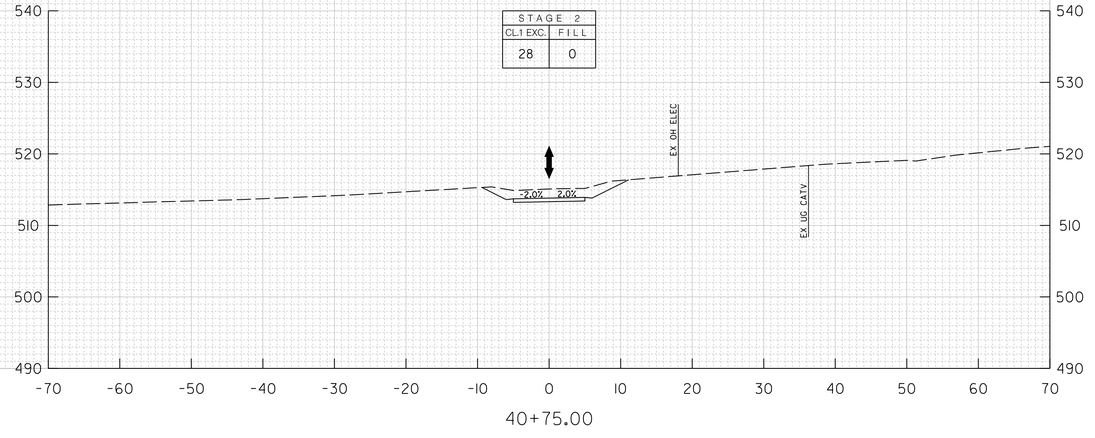
FREDERICK COUNTY PROJECT NO.
C6309.6309.01

DWG. 225 OF 226









CS-36

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

MONROVIA EAST-WEST CONNECTOR
ED McCLAIN ROAD TO MD 75

CROSS SECTIONS
DRIVEWAY (4639 EMR)

DATE: OCTOBER 2022 SCALE: 1" = 10'

FREDERICK COUNTY PROJECT NO. C6309.6309.01 DWG. 226 OF 226

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFFESIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02-25-2024

STATE OF MARYLAND — JOSEPH JACKSON WILLIS — No. 24828 — PROFESSIONAL ENGINEER
10/18/22

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

CROSS REFERENCE

ITEM	SHEET NOs.
TYPICAL SECTIONS	4 TO 7
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EROSION & SEDIMENT CONTROL PLANS	78 TO 117
SIGNING & MARKING PLANS	180 TO 186
LANDSCAPE PLAN SHEETS	118 TO 121
RESPECTIVE RIGHT-OF-WAY PLATS	SEE TITLE SHEET

BY: AKR -
PLOTTED: 10/18/2022
FILE: U:\Frederick County - Monrovia E-W Connector\Design Files\MC-X004_EWC-DM4639.dgn