DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

TIP PROJECT: EB-6025 & EB-6026

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EB-6025 & EB-6026	1	#

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

TOWN OF

BELVILLE

BRUNSWICK COUNTY, NORTH CAROLINA

TOWN OF BELVILLE NC-133 MULTI-USE PATH

NCDOT TIP: EB-6025 & EB-6026

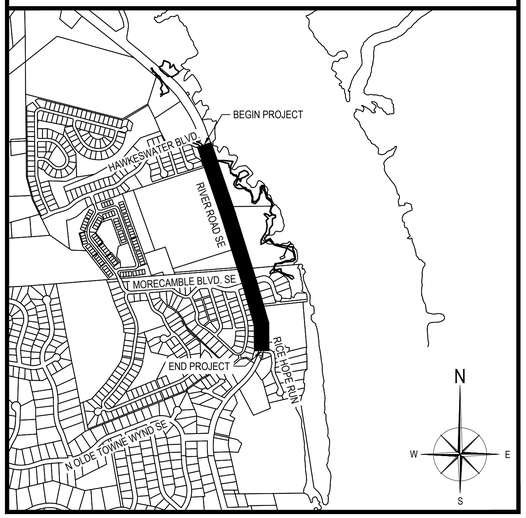
LOCATION : RIVER ROAD FROM HAWKESWATER BOULEVARD TO RICE HOPE RUN.

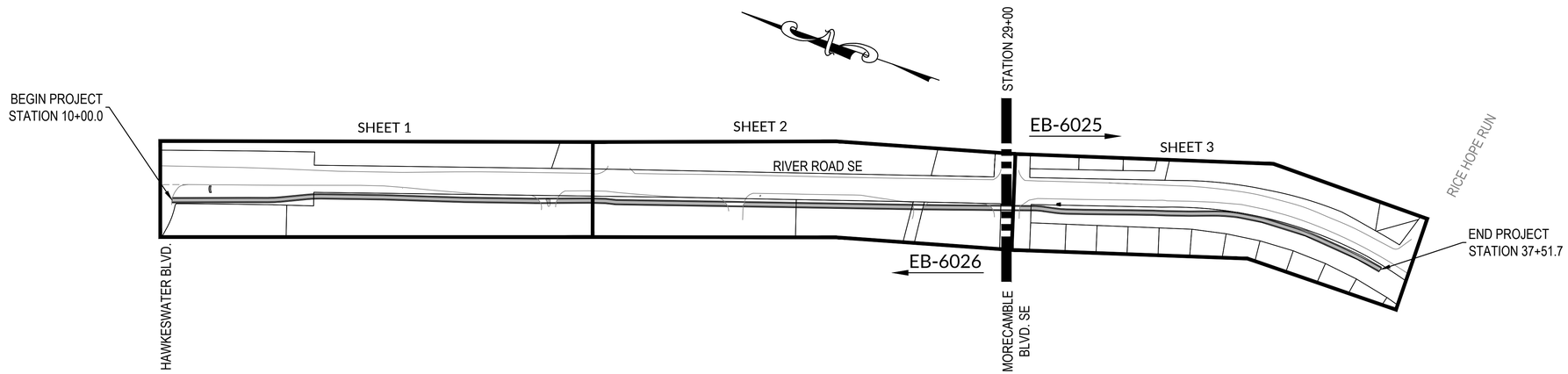
TYPE OF WORK : GRADING, PAVING, DRAINAGE, & EROSION CONTROL

100% PLANS

SUBMITTAL DATE: AUGUST 18, 2023

VICINITY MAP
1"=1000'





GRAPHIC SCALE
150 0 75 150 300
1 inch = 150 ft.

GRAPHIC SCALES
(UNLESS OTHERWISE NOTED)

20 10 0 20 40
PLANS
20 10 0 20 40
PROFILES (HORIZONTAL)
5 2.5 0 5 10
PROFILES (VERTICAL)

DESIGN DATA

NC 133 :
ADT = 15,000
V = 50 MPH

PROJECT LENGTH

PROJECT EB-6025 & EB-6026
= 0.521 MILES

TOWN OF BELVILLE CONTACT :

ATHINA WILLIAMS
TOWN MANAGER
PH: 910-371-2456

NCDOT CONTACT:

RON T. VAN CLEFF
DIVISION 3 PROJECT MANAGER

PREPARED IN THE OFFICE OF:

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405
t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

NCDOT 2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

JOSEPH S. BOYD, PE
PROJECT ENGINEER

RYAN C. BERGERON
PROJECT DESIGNER

PROJECT ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEA710741 1AC4AD...
8/18/2023

SIGNATURE *P.E.*

PREPARED FOR:

TOWN OF BELVILLE
63 RIVER ROAD
BELVILLE, NC 28451

w:\19\19-1380\19138b-belville nc 133 multi use path\CAD\drawing sets\construction\00.0 Cover.dwg - Thursday, August 17, 2023 5:28:28 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

GENERAL CONSTRUCTION NOTES/CONTRACTOR REQUIREMENTS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST TOWN OF BELVILLE, NCDOT, AND NCDEQ STANDARDS AND SPECIFICATIONS.
2. TOPOGRAPHIC & TREE INFORMATION LOCATED ALONG ROADWAY FROM SURVEY BY WITHERSRAVENEL.
3. A PORTION OF THE PROJECT IS WITHIN THE FLOOD A FLOOD HAZARD AREA AS EVIDENCED ON FLOOD MAP# 3720310700K, EFFECTIVE AUG. 28, 2018.
4. THE EXISTING UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION, BUT ARE TO BE CONSIDERED ONLY AS APPROXIMATE. ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION SHALL BE REPORTED TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO THE START OF CONSTRUCTION.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
6. TEMPORARY CONSTRUCTION EASEMENTS INDICATED ON THE PLANS SHALL BE CLEARED AND GRUBBED UNLESS OTHERWISE NOTED.
7. ALL REMOVAL, REPLACEMENT OR INSTALLATION OF PAVEMENT SHALL BE IN ACCORDANCE WITH THE TOWN OF BELVILLE, AND NCDOT STANDARDS AND SPECIFICATIONS.
8. ALL PROPOSED STORM DRAINAGE PIPES SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED.
9. ALL MANHOLE RIMS AND VALVE BOXES SHALL BE ADJUSTED IN ACCORDANCE WITH CURRENT TOWN OF BELVILLE AND NCDOT STANDARDS AND SPECIFICATIONS PRIOR TO PLACEMENT OF FINAL ASPHALT LAYER, OVERLAY, OR CONCRETE.
10. INSTALL AND MAINTAIN EROSION CONTROL DEVICES AS SHOWN ON THESE PLANS AND AS DIRECTED BY THE FIELD ENGINEER.
11. GROUND COVER, SUFFICIENT TO RESTRAIN EROSION, IS TO BE PROVIDED WITHIN 7 CALENDAR DAYS FOR ALL PERIMETER DIKES, SWALES, DITCHES, AND SLOPES STEEPER THAN 3:1. SLOPES 3:1 OR GREATER SHOULD BE PROVIDED WITH ADEQUATE GROUND COVER WITHIN 14 CALENDAR DAYS. EXTENSION OF THE REQUIRED TIME LIMIT MAY BE APPROVED BY THE DIVISION OF LAND QUALITY DUE TO NATURAL FACTORS THAT IMPEDE THE SEEDING PROCESS.
12. PROVIDE ADEQUATE PROTECTION FOR ALL EXISTING AND PROPOSED STORMWATER INLETS WITHIN THE DISTURBED PROJECT LIMITS.
13. PLACE 1/2" EXPANSION MATERIAL AROUND ALL POLES, METERS, VALVES, MANHOLES AND CURB INLETS.
14. CONCRETE CURB RAMPS SHALL BE BUILT TO CURRENT NCDOT STANDARD DRAWINGS AND SHALL BE CONSTRUCTED AT EACH INTERSECTION AT LOCATIONS SHOWN ON THESE PLANS.
15. UNLESS NOTED OTHERWISE, DRIVEWAY APRONS THAT ARE REPLACED SHALL MEET CURRENT NCDOT STANDARDS AND SHALL SATISFY ALL ADA REQUIREMENTS.
16. DO NOT DISTURB MONUMENTS. TOWN TO PLACE IN WATER METER BOXES WHERE NONE EXIST.
17. CONTRACTOR TO REMOVE SEDIMENT FROM TOWN STREETS TO PREVENT BUILD-UP AS DIRECTED BY FIELD ENGINEER.
18. NO DISTURBANCE IS ALLOWED BEYOND THE TEMPORARY CONSTRUCTION EASEMENT, CUT AND FILL SLOPE LINES, OR EXISTING AND PROPOSED RIGHT-OF-WAYS AS SHOWN ON THESE PLANS AND DIRECTED BY THE FIELD ENGINEER.
19. EXCAVATED MATERIAL MAY NOT BE PLACED ON THE ROADWAY PAVEMENT ON ALL TOWN OF BELVILLE AND NCDOT ROADWAYS. THE EXISTING ROADWAY PAVEMENT SHOULD BE PROTECTED AT ALL TIMES.
20. CLEARING AND GRUBBING IS TO INCLUDE THE REMOVAL OF ALL EXISTING TREES, SHRUBS, AND LANDSCAPED AREAS AS REQUIRED FOR THE CONSTRUCTION OF PATH.
21. CONTRACTOR TO REMOVE AND STOCKPILE STREET SIGNS AS REQUIRED FOR CONSTRUCTING THE PATH. SIGNS WILL BE RELOCATED IN ACCORDANCE WITH NCDOT SP9 R02.

EROSION AND SEDIMENT CONTROL NOTES

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

1. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR.
2. CONTACT THE DEMLR WILMINGTON REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITY.
3. PER NPDES REQUIREMENTS, A RAIN GAUGE, SELF-INSPECTIONS RECORDS, PERMIT, CERTIFICATE OF COVERAGE, AND S&E PLAN ARE REQUIRED TO BE MAINTAINED ON SITE AND ACCESSIBLE DURING INSPECTION. IT IS RECOMMENDED THAT THESE ITEMS BE PLACED IN A PERMITS BOX AT THE BEGINNING OR ENTRANCE OF PROJECT.
4. THE CONTRACTOR SHALL CONDUCT SELF-INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES AND COMPETE THE FOLLOWING COMBINED SELF-INSPECTION FORM FOUND ON THE DEMLR WEBSITE: HTTPS://DEQ.NC.GOV/ABOUT/DIVISIONS/ENERGY-MINERAL-LAND-RESOURCES/EROSION-SEDIMENT- CONTROL/FORMS. TWELVE MONTHS OF COMPLETE INSPECTION FORMS SHALL BE KEPT ON-SITE AND AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS RECOMMENDED A COPY BE KEPT IN A PERMITS BOX.
5. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL ESC MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.
6. INSTALL SILT FENCE, SAFETY/ TREE PROTECTION FENCING, AND EXISTING STORM STRUCTURE INLET PROTECTION AS SHOWN ON THE PLANS.
7. FURTHER CLEARING AND GRUBBING WILL ONLY BE PERFORMED TO THE EXTENT TO INSTALL ESC MEASURES. GRADING MAY COMMENCE AFTER MEASURES ARE INSTALLED. CLEARING AND GRUBBING WILL ONLY BE PERFORMED TO THE EXTENT TO INSTALL EROSION & SEDIMENT CONTROL MEASURES.
8. CLEAR AND REMOVE FROM SITE ALL NOTED STRUCTURES, PAVEMENT, TREES, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN DESIGNATED CLEARING LIMITS.
9. INSTALL NOTED EROSION CONTROL DEVICES INCLUDING CHECK DAMS IN DITCHES.
10. GRADE SITE AND INSTALL UTILITIES AS SHOWN ON PLANS. INSTALL INLET PROTECTION AT ALL STORM DRAIN INLETS AND RIP RAP OUT OUTLETS AS SHOWN ON PLANS. ALL TRENCHES SHALL BE BACKFILLED AND STABILIZED DAILY.
11. DIRECT RUNOFF FROM ROADWAY INTO STORM DRAINAGE SYSTEM. REMOVE TEMPORARY DIVERSION DITCHES AS NEEDED FOR SITE CONSTRUCTION. AFTER DITCH REMOVAL, CONTRACTOR SHALL VERIFY STORM WATER IS ROUTED THROUGH A BASIN OR SILT FENCE PRIOR TO LEAVING SITE.
12. PLANT GRASS OVER ALL GRADED AREAS AS NOTED IN STABILIZATION NOTES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION MEASURES.
14. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED, CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY THE ENGINEER.
15. WATER, FERTILIZE, MOW AND MAINTAIN SPRIGGED, SODDED AND PLANTED AREAS UNTIL FINAL APPROVAL BY THE STATE OF NORTH CAROLINA.
16. PERIMETER MEASURES MUST BE LEFT IN PLACE UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED. AFTER SITE IS PERMANENTLY STABILIZED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND PROVIDE PERMANENT SEEDING WHERE TEMPORARY MEASURES HAVE BEEN REMOVED AND GROUND COVER IS NOT ADEQUATE.
17. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN.

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERYONE INCH RAINFALL. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
3. SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES WILL BE SPACED 6 FEET APART UNLESS A WIRE BACKING IS USED WITH 8 FOOT STAKE SPACING.
4. INLET PROTECTION DEVICES SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT. DAMAGED SILT FENCE SHALL BE REPLACED AND GRAVEL SHALL BE CLEANED OR REPLACED WHEN INLET NO LONGER DRAINS PROPERLY.
5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 7-14 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS.
6. SEDIMENT WILL BE REMOVED FROM AROUND TEMPORARY ROCK CHECK DAMS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

STABILIZATION NOTES

1. SLOPES LEFT EXPOSED WILL, WITHIN 7-14 CALENDAR DAYS OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES TO RESTRAIN EROSION.
2. ALL OTHER DISTURBED AREAS SHALL BE PLANTED OR OTHERWISE PROVIDED PERMANENT GROUND COVER WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT WHICHEVER PERIOD IS SHORTER.

BUILDING WASTES HANDLING

1. NO LIQUID WASTES OR PARTS THEREOF SHALL BE DISCHARGED INTO STREAM OR STORM DRAINS.
2. DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
3. EARTHEN-MATERIALS STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
4. CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.

INSPECTIONS

1. INSPECT RAIN GAUGE & INSPECTIONS AFTER 1" RAIN EVENT.
2. INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS HOURS".
3. INSPECTION REPORTS MUST BE AVAILABLE ON-SITE DURING BUSINESS HOURS UNLESS A SITE-SPECIFIC EXEMPTION IS APPROVED.
4. RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON REQUEST.
5. ELECTRONICALLY AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS.

NPDES-SPECIFIC PLAN SHEETS NOTES

1. THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG010000.
2. THIS PAGE CAN BE APPROVED BY THE COUNTY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
3. THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE ELUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
4. THE COUNTY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT NOT PART OF THE APPROVED PLANS FOR THE PURPOSED OF ENFORCEMENT ACTION UNDER THE COUNTY CODE.

INDEX OF SHEETS

SHEET NUMBER	SHEET
C0.0	COVER SHEET
C0.1	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
C0.2	CONVENTIONAL SYMBOLS
C0.3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
C0.4	NCG01 NOTES
C1.0 THRU C1.2	EXISTING CONDITIONS PLAN
C2.0 THRU C2.2	PLAN SHEETS
C3.0 THRU C3.2	EROSION CONTROL PLANS
C4.0	NCG01 NOTES
C5.0 THRU C5.13	CROSS SECTIONS
C6.0 THRU C6.2	PLAN & PROFILE SHEETS
D1.0 THRU D1.7	NCDOT STANDARD DETAILS

2018 NCDOT LIST OF STANDARD DRAWINGS

STD. NO.	STANDARD DRAWING TITLES
200.02	METHOD OF CLEARING - METHOD II
310.02	PARALLEL PIPE END SECTION
840.18	CONCRETE GRATED DROP INLET TYPE B
840.19	CONCRETE GRATED DROP INLET TYPE D
840.24	FRAMES AND NARROW SLOT SAG GRATES
840.25	ANCHORAGE FOR FRAMES
840.31	CONCRETE JUNCTION BOX
840.54	MANHOLE FRAME AND COVER
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
848.02	DRIVEWAY TURNOUT - RADIUS TYPE
848.03	DRIVEWAY TURNOUT - DROP CURB TYPE
848.05	CURB RAMP - PROPOSED CURB AND GUTTER
1101.01	WORK ZONE WARNING SIGNS
1130.01	DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1605.01	TEMPORARY SILT FENCE
1631.01	MATTING INSTALLATION
1632.01	ROCK INLET SEDIMENT TRAP TYPE 'A'
1632.02	ROCK INLET SEDIMENT TRAP TYPE 'B'
1632.03	ROCK INLET SEDIMENT TRAP TRAP TYPE 'C'
1633.01	TEMPORARY ROCK SILT CHECK DAM TYPE B
1635.02	ROCK PIPE INLET SEDIMENT TRAP TYPE B
	SOIL STABILIZATION TIMEFRAMES

GROUND STABILIZATION CHART

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
DIKES, SWALES, DITCHES, AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D... 8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARD DRAWINGS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C0.1

w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PAVEMENT SCHEDULE.dwg- Friday, August 18, 2023 10:46:10 AM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

LEGEND

(UNLESS OTHERWISE DENOTED)

DESCRIPTION	EXISTING	PROPOSED
1' CONTOUR INTERVAL		
5' CONTOUR INTERVAL		
PROPERTY LINE		
ROADWAY CENTERLINE		
RIGHT OF WAY LIMITS		N/A
EASEMENT LINE		
CURB & GUTTER		
EDGE OF PAVEMENT		
SANITARY SEWER FACILITIES	SS	SS
STORM SEWER FACILITIES		
WATERLINE	W W	W W
FIRE HYDRANT ASSEMBLY		
FORCE MAIN	FM	FM
ELECTRIC	E	N/A
OVERHEAD ELECTRIC	OHE	N/A
GAS MAIN	G	N/A
TELEPHONE	T	N/A
STRUCTURES		
FENCING STRUCTURE	XX XX XX XX	
TELEVISION PEDESTAL	TV	N/A
WATER MANHOLE	W	N/A
TELEPHONE MANHOLE	T	N/A
FLARED END SECTION		N/A
SANITARY SEWER MANHOLE	S	N/A
GAS VALVE		N/A
UTILITY MANHOLE	U	N/A
ELECTRICAL PEDESTAL	E	N/A
SIGN		N/A
FIBER OPTIC MARKER	FO	N/A

DESCRIPTION	EXISTING	PROPOSED
WOODS LINE		N/A
WATERWAYS		N/A
SAFETY/ TREE PROTECTION FENCE	N/A	TP
SILT FENCE	N/A	SF
SPOT ELEVATION	(340.17) CL	339.92 EP
GUY ANCHOR		N/A
POWER POLE		N/A
LIGHT POLE		N/A
PROPERTY IRON		N/A
CURB INLET		N/A
STORM DRAIN JUNCTION BOX		N/A
YARD INLET		N/A
WATER METER		N/A
CONCRETE MONUMENT		N/A
TELEPHONE PEDESTAL		N/A
MAIL BOX		N/A
WATER VALVE		
CHECK DAM	N/A	
INLET PROTECTION	N/A	
SILT FENCE	N/A	SF
SILT FENCE OUTLET	N/A	

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710741AC4D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

CONVENTIONAL SYMBOLS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No. C0.2

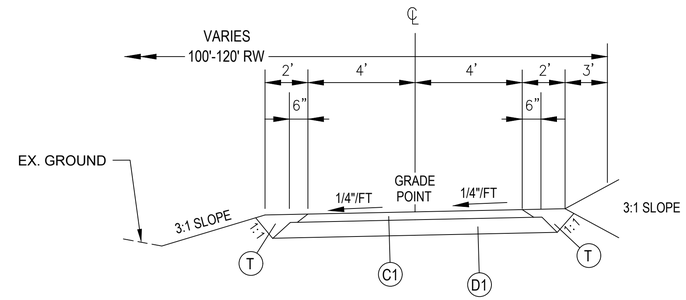
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PAVEMENT SCHEDULE.dwg- Wednesday, February 2, 2022 11:15:14 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

PAVEMENT SCHEDULE

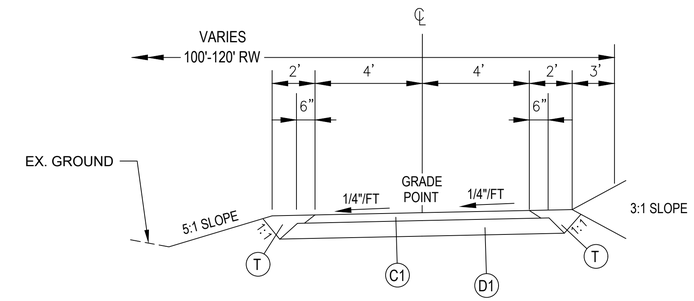
C1	PROP. APPROX. 2" ASPHALT SURFACE COURSE, TYPE S9.5B
D1	PROP. APPROX. 4" ABC WITH GEOTEXTILE FABRIC UNDERNEATH
T	COMPACTED EARTH MATERIAL
U	EXISTING PAVEMENT

EB-6026



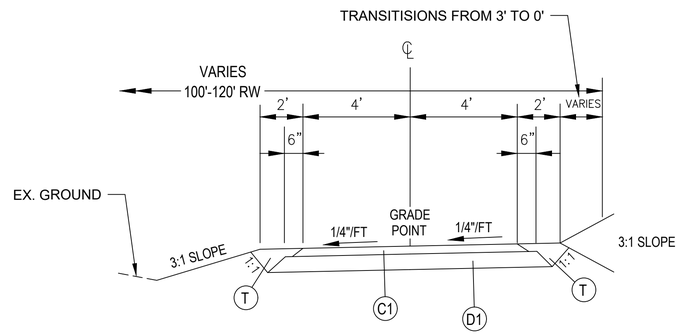
TYPICAL SECTION 1
-L- STA 10+00 ± to STA 10+75 ±
-L- STA 12+95 ± to STA 14+50 ±

EB-6026



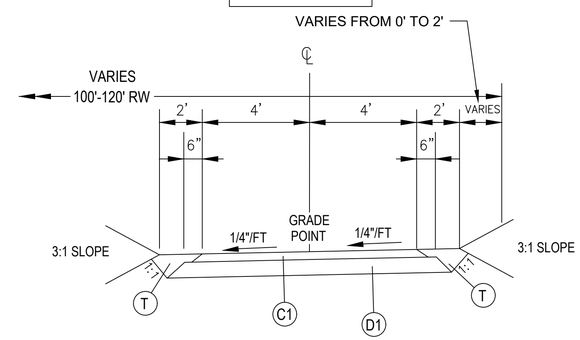
TYPICAL SECTION 2
-L- STA 10+75 ± to STA 12+95 ±

EB-6026



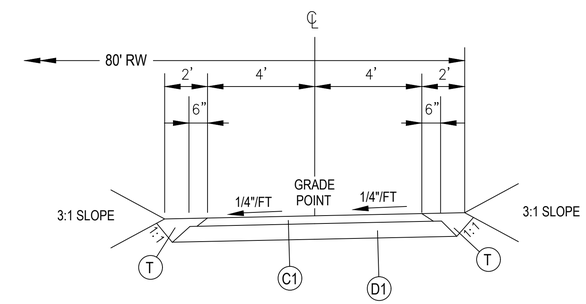
TYPICAL SECTION 3
-L- STA 14+50 ± to STA 16+60 ±

EB-6026



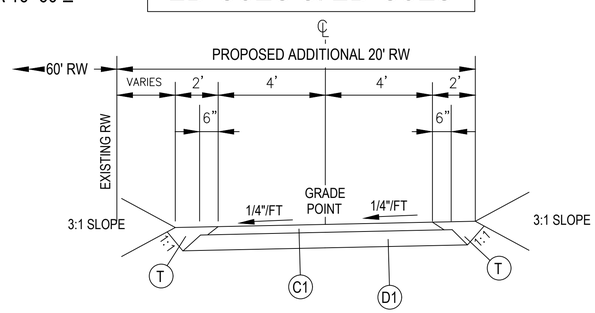
TYPICAL SECTION 4
-L- STA 16+60 ± to STA 20+00 ±

EB-6026



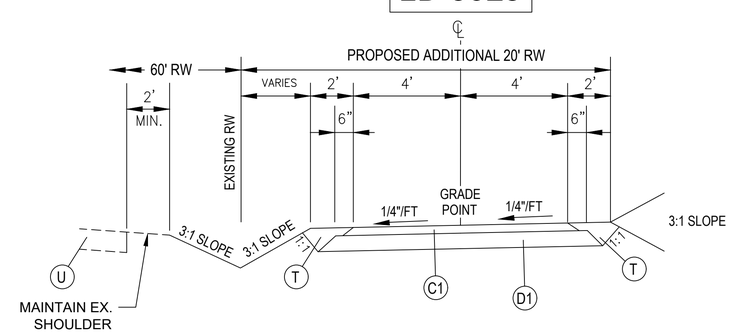
TYPICAL SECTION 5
-L- STA 20+00 ± to STA 27+00 ±

EB-6026 & EB-6025



TYPICAL SECTION 6
-L- STA 27+00 ± to STA 29+50 ±
-L- STA 33+00 ± to STA 37+52 ±

EB-6025



TYPICAL SECTION 7
-L- STA 29+50 ± to STA 33+00 ±

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC4AD... 8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

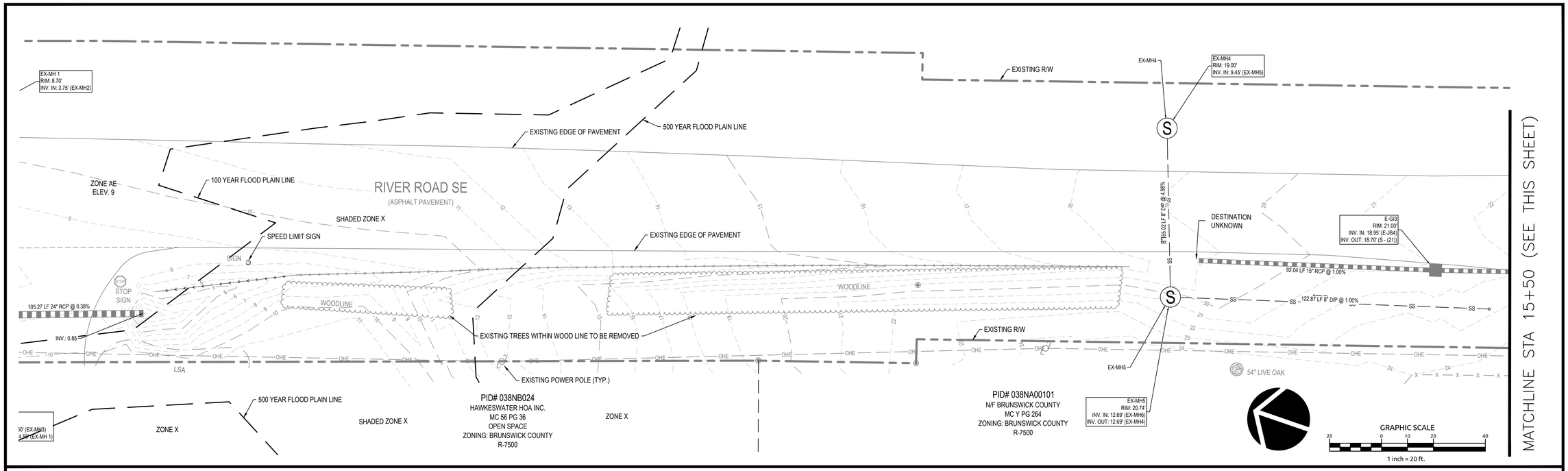
PAVEMENT SCHEDULE AND TYPICAL SECTIONS

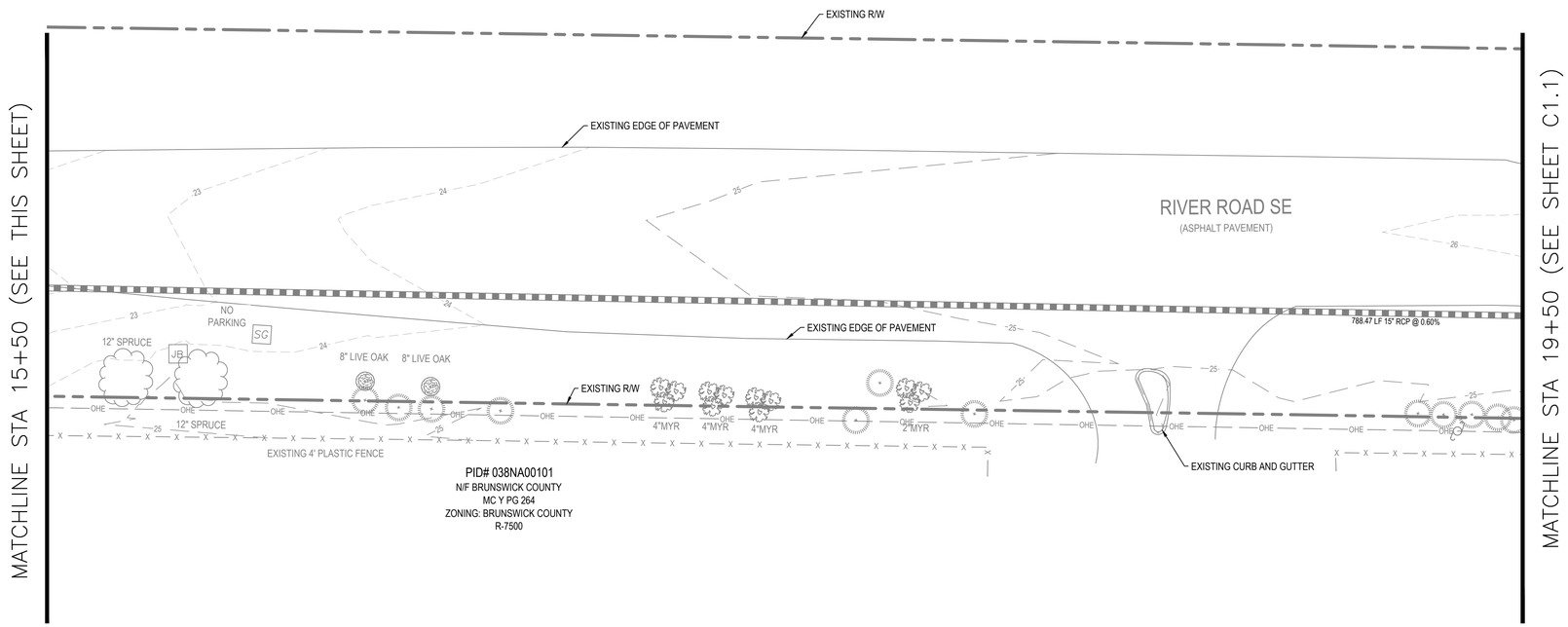
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No. C0.3

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PAVEMENT SCHEDULE.dwg- Thursday, August 17, 2023 5:29:12 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





GRAPHIC SCALE
1 inch = 20 ft.

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D... 8/18/2023

EB-6026

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

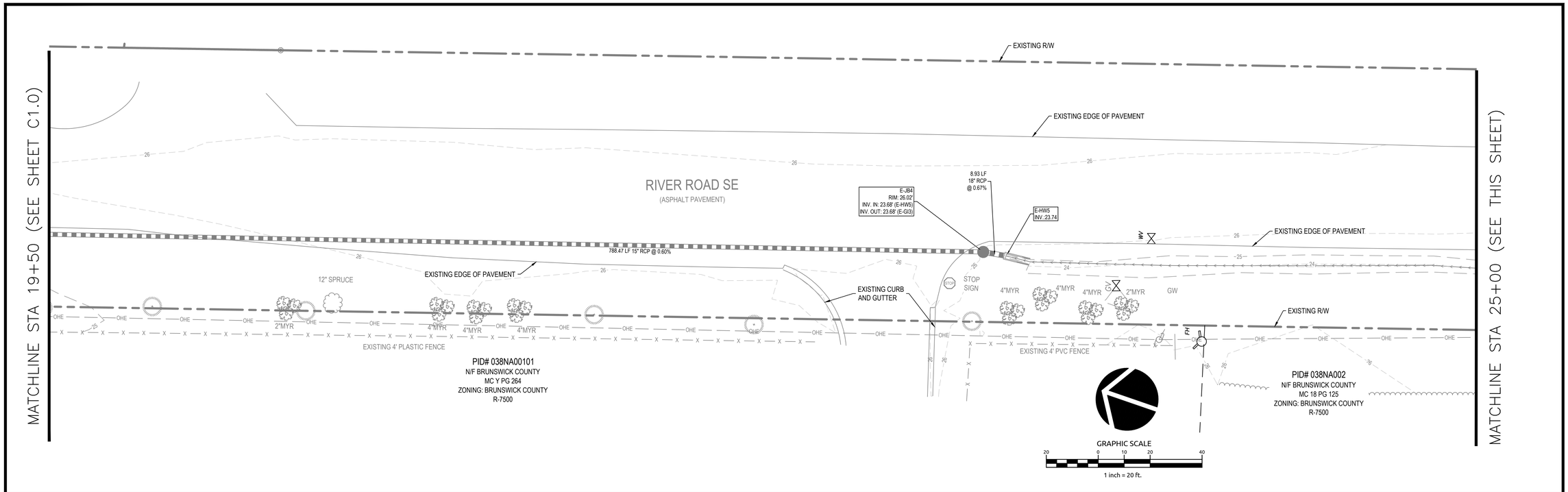
EXISTING CONDITIONS PLAN

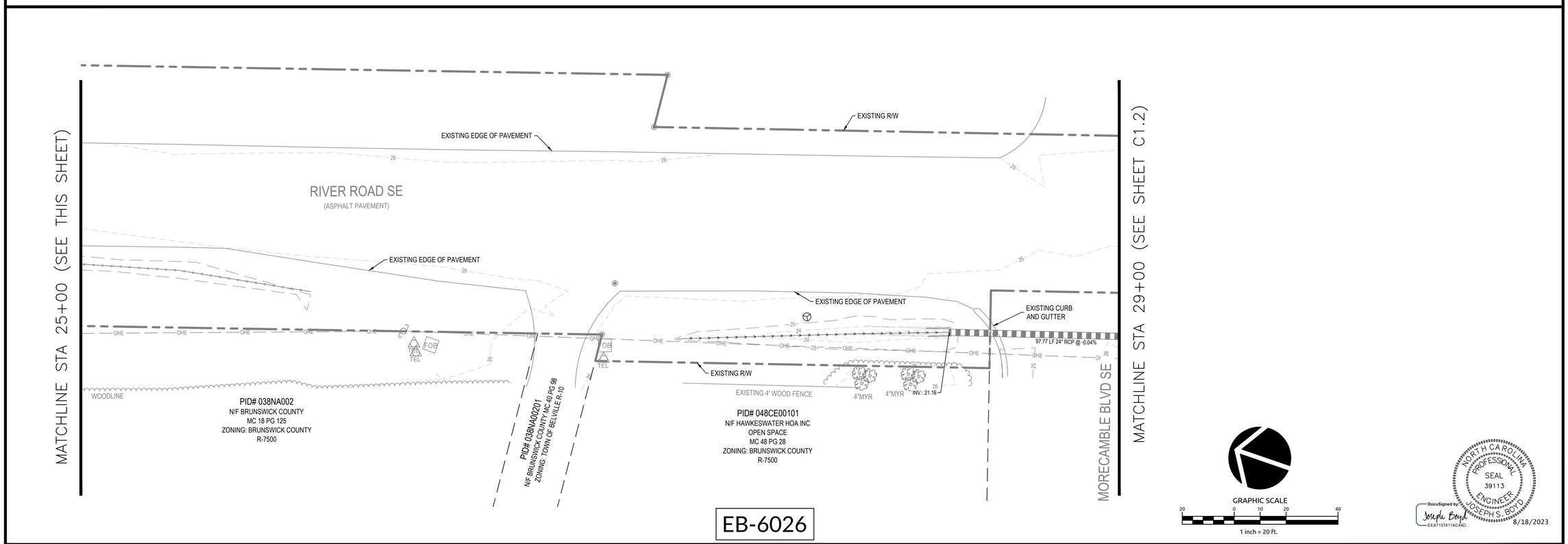
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No. C1.0

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\EXISTING CONDITIONS.dwg- Wednesday, February 2, 2022 11:15:57 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6026

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411ACA4D...

8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

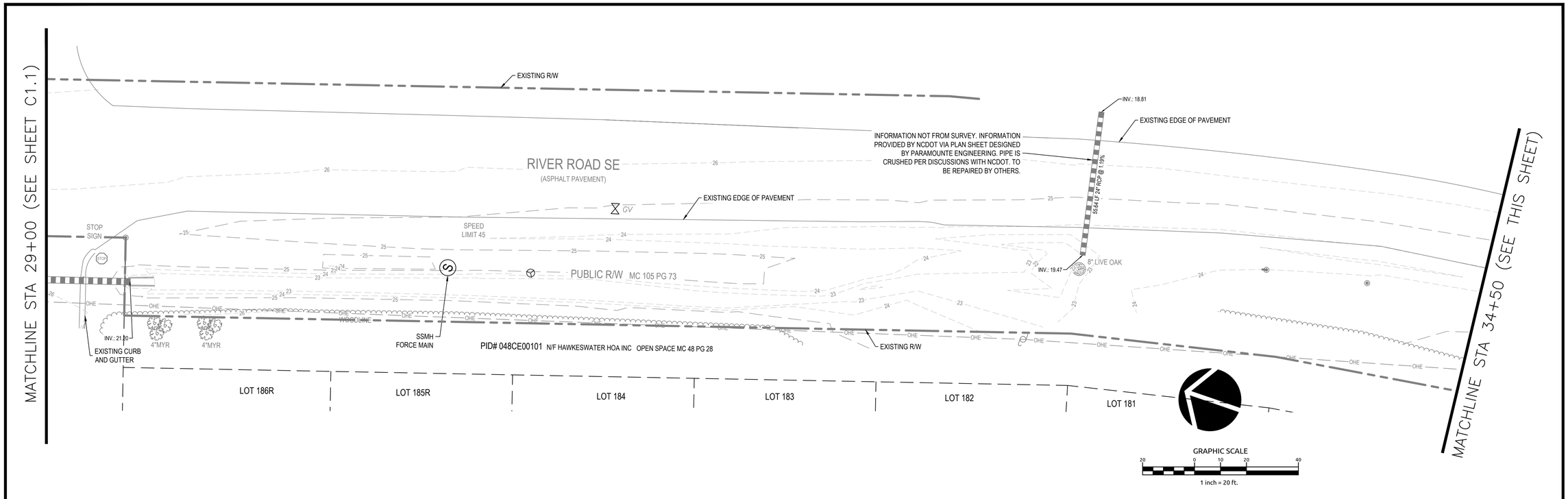
EXISTING CONDITIONS PLAN

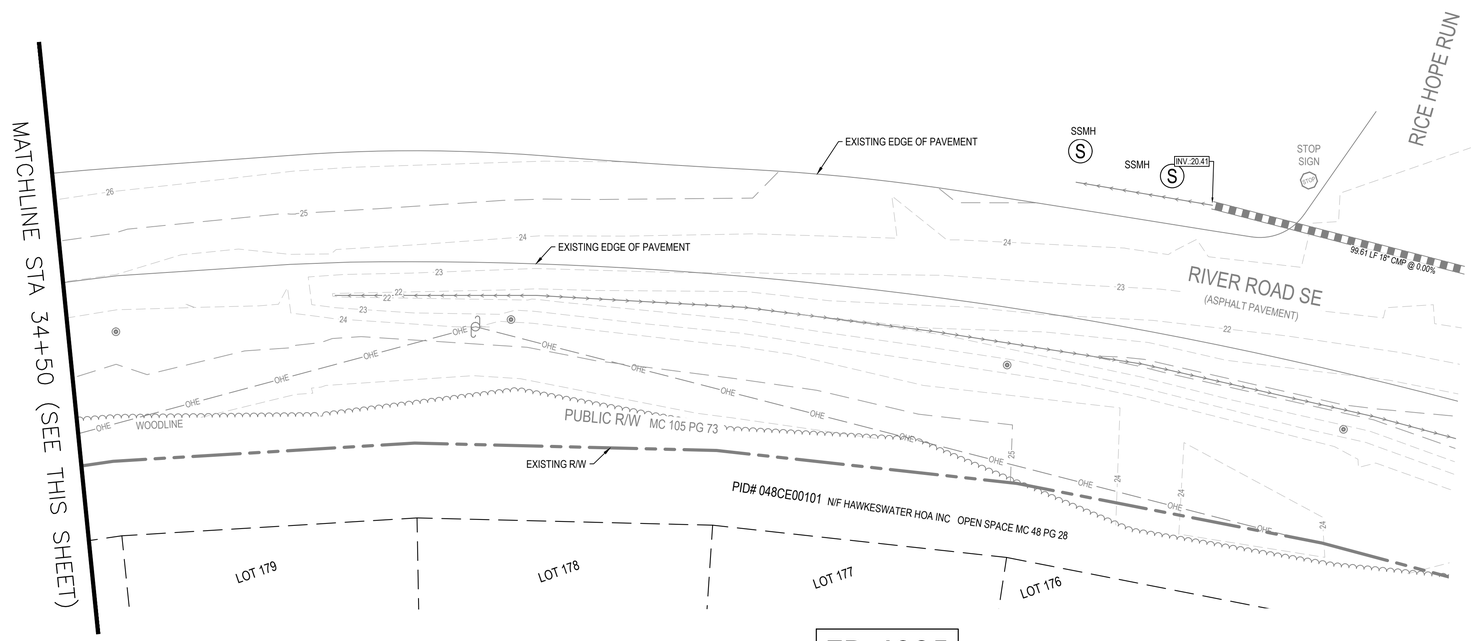
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C1.1

w:\191\191-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\EXISTING CONDITIONS.dwg– Wednesday, February 2, 2022 11:16:00 AM – BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6025

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710741IAC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

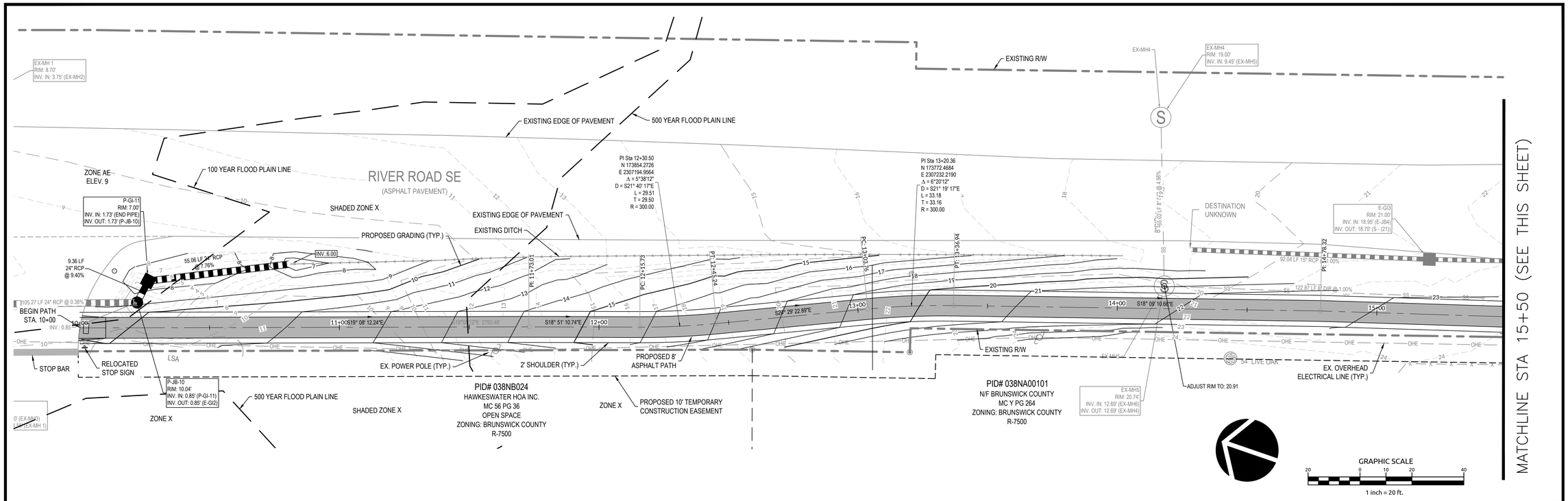
EXISTING CONDITIONS PLAN

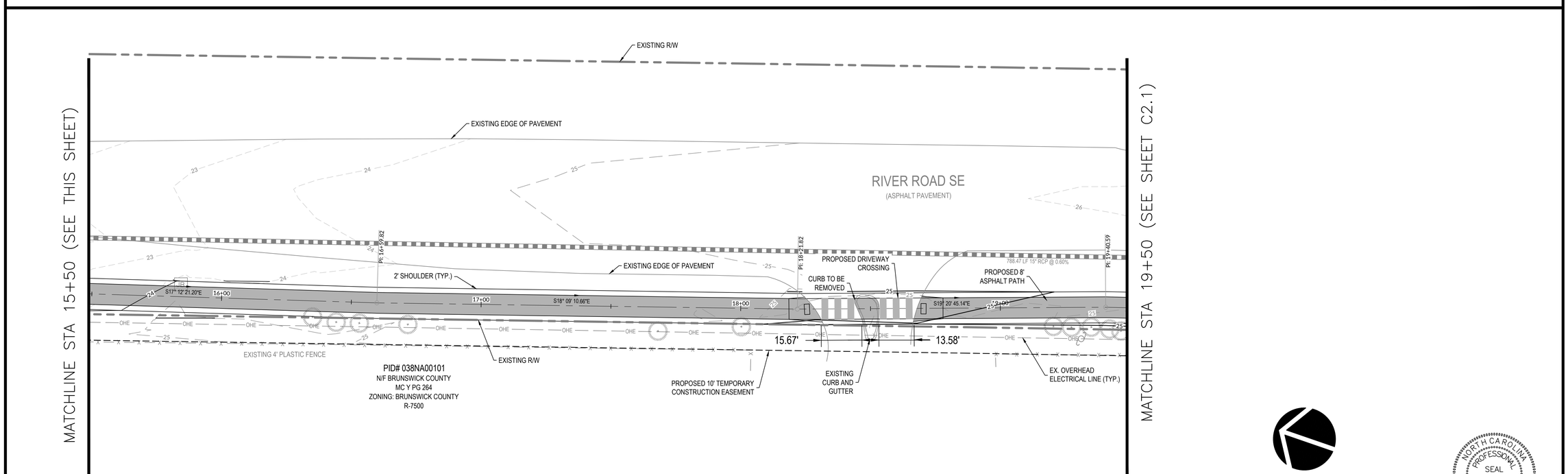
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C1.2

w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\EXISTING CONDITIONS.dwg- Wednesday, February 2, 2022 11:16:04 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6026

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSign Envelope ID: EEA710741 1AC44D...
Joseph Boyd
8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

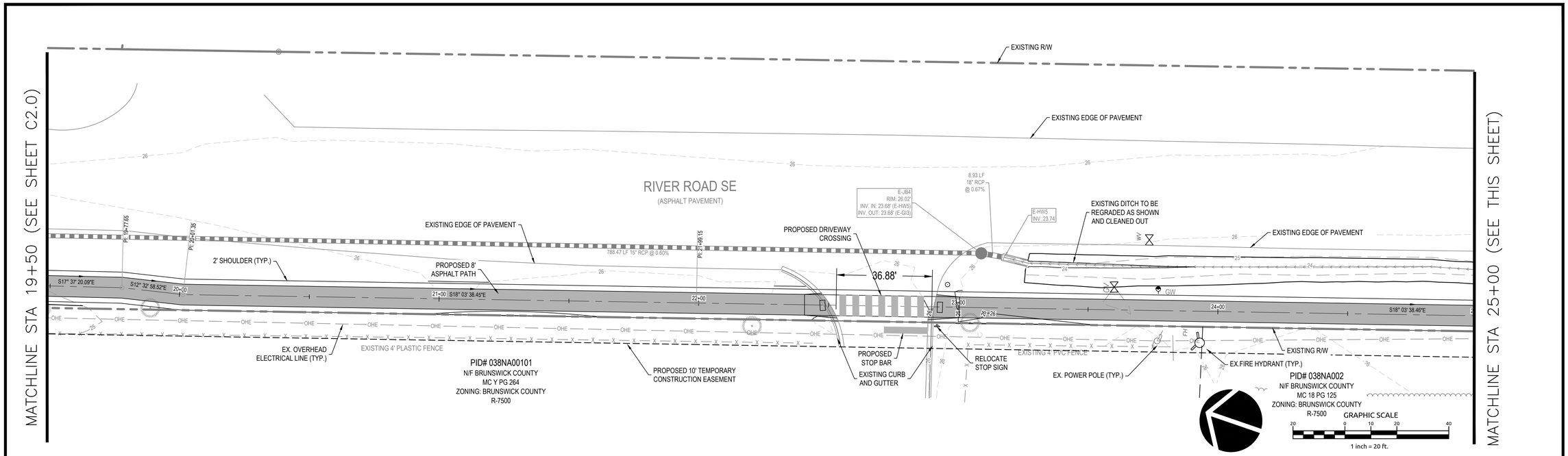
PLAN SHEET (-L- STA. 10+00 TO -L- STA. 19+50)

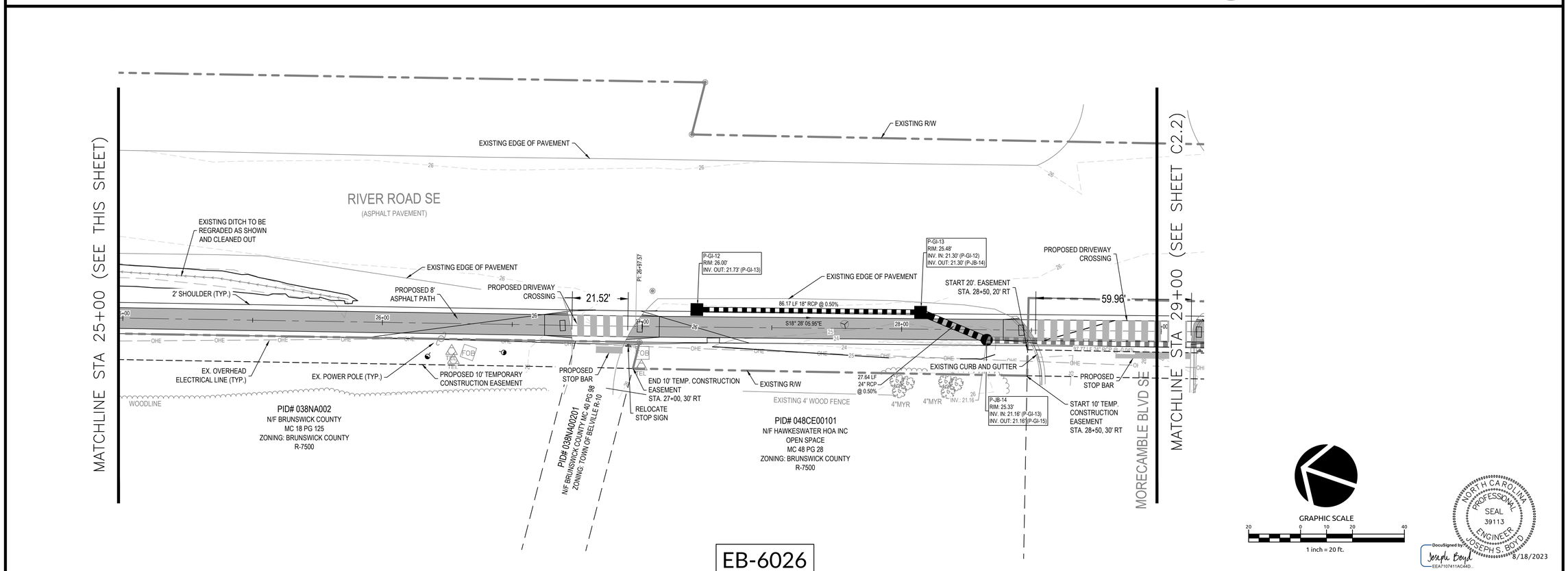
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
C2.0

w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\SITE PLAN.dwg– Friday, August 18, 2023 11:23:31 AM – BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6026

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEAF10741AC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

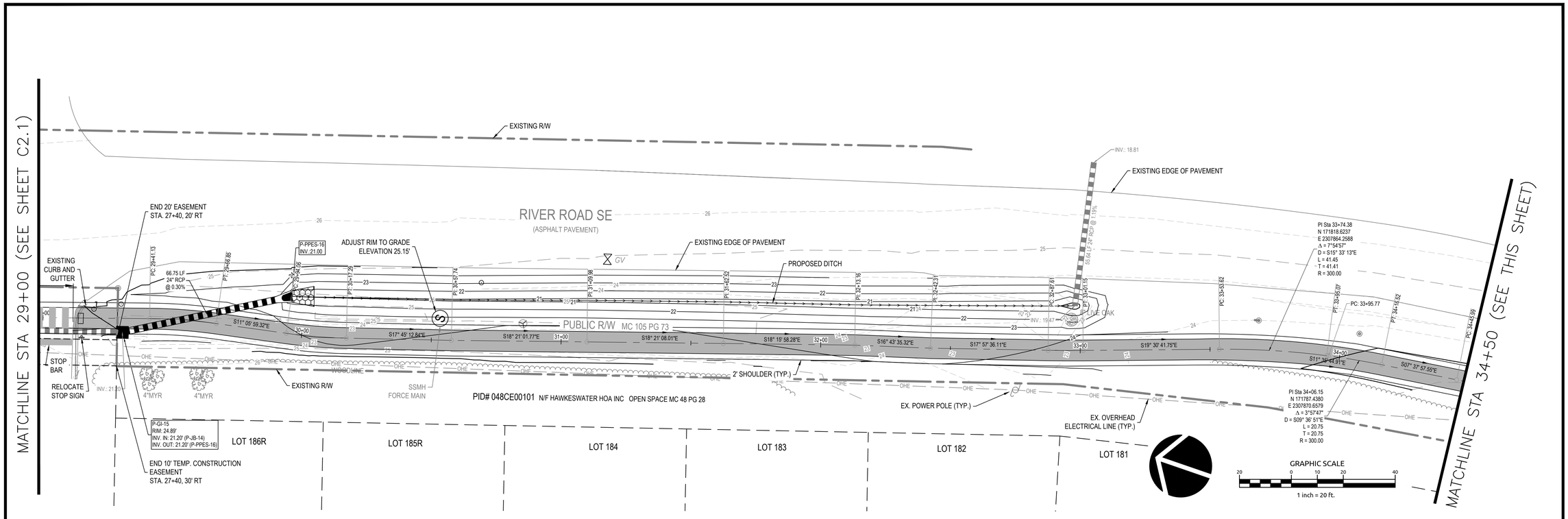
PLAN SHEET (-L- STA. 19+50
TO -L- STA. 29+00)

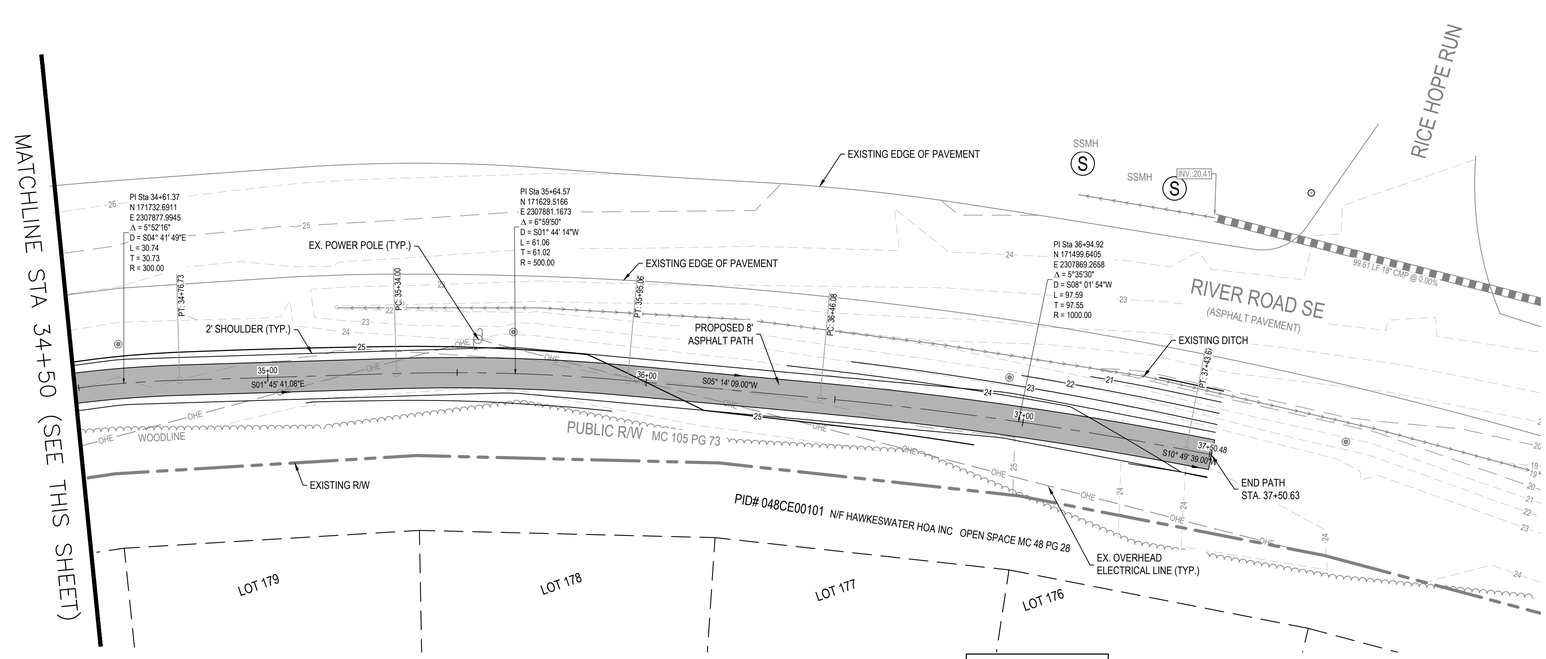
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
C2.1

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\SITE PLAN.dwg- Thursday, March 24, 2022 11:55:04 AM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6025

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

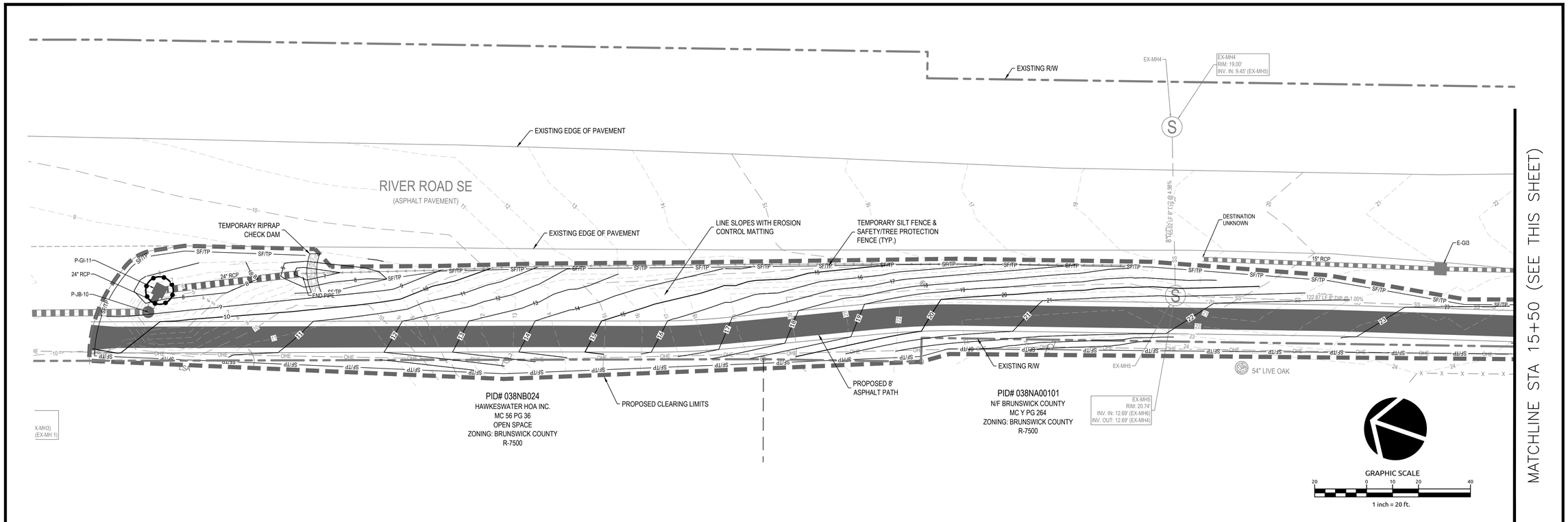
PLAN SHEET (-L- STA. 29+00 TO -L- STA. 37+51.70)

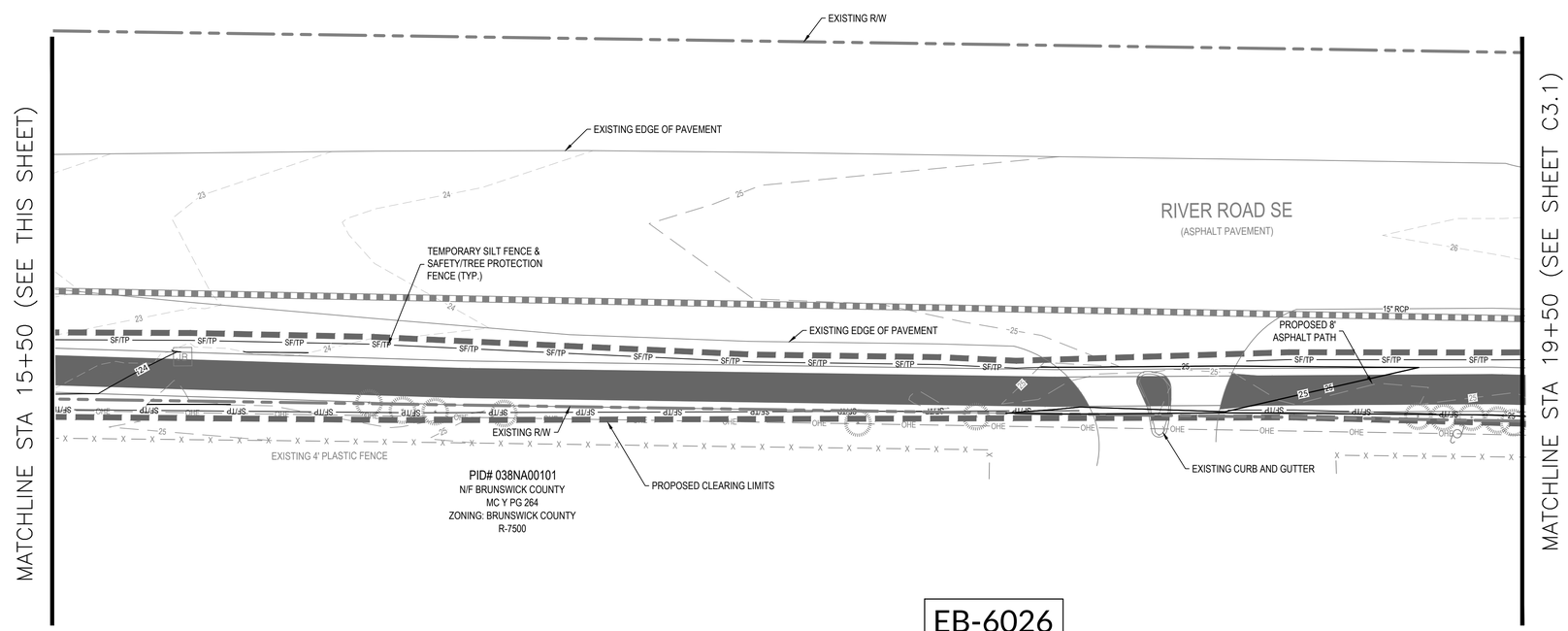
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No.
C2.2

w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\SITE PLAN.dwg- Thursday, March 24, 2022 11:55:07 AM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6026

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710741 1AC44D... 8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

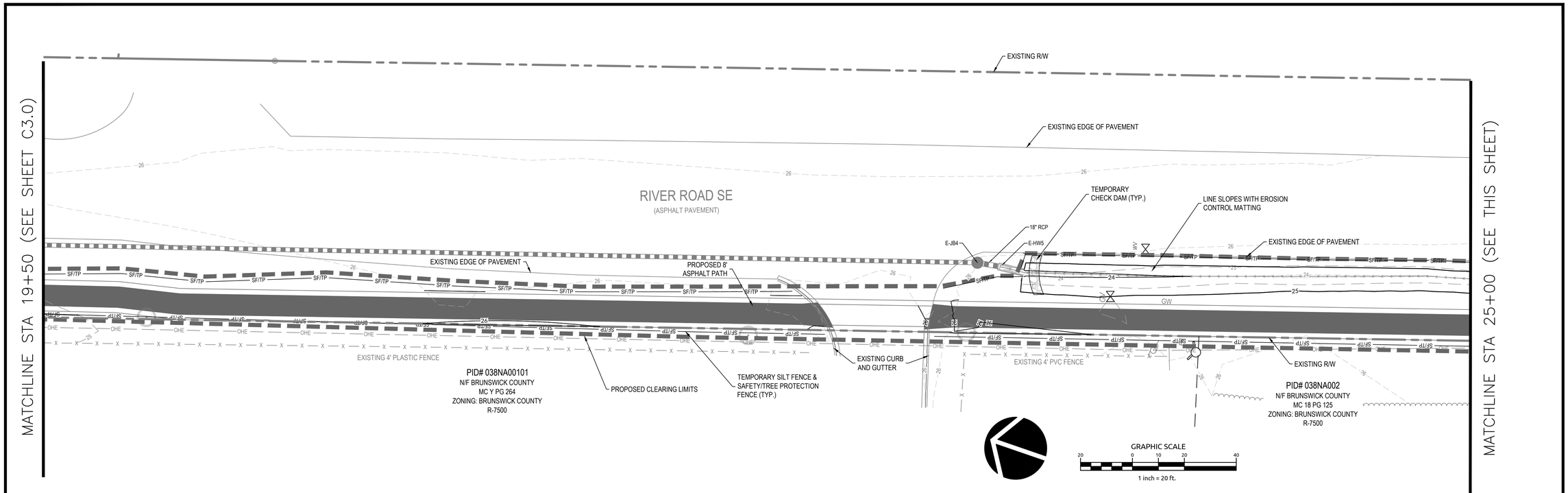
EROSION CONTROL PLAN

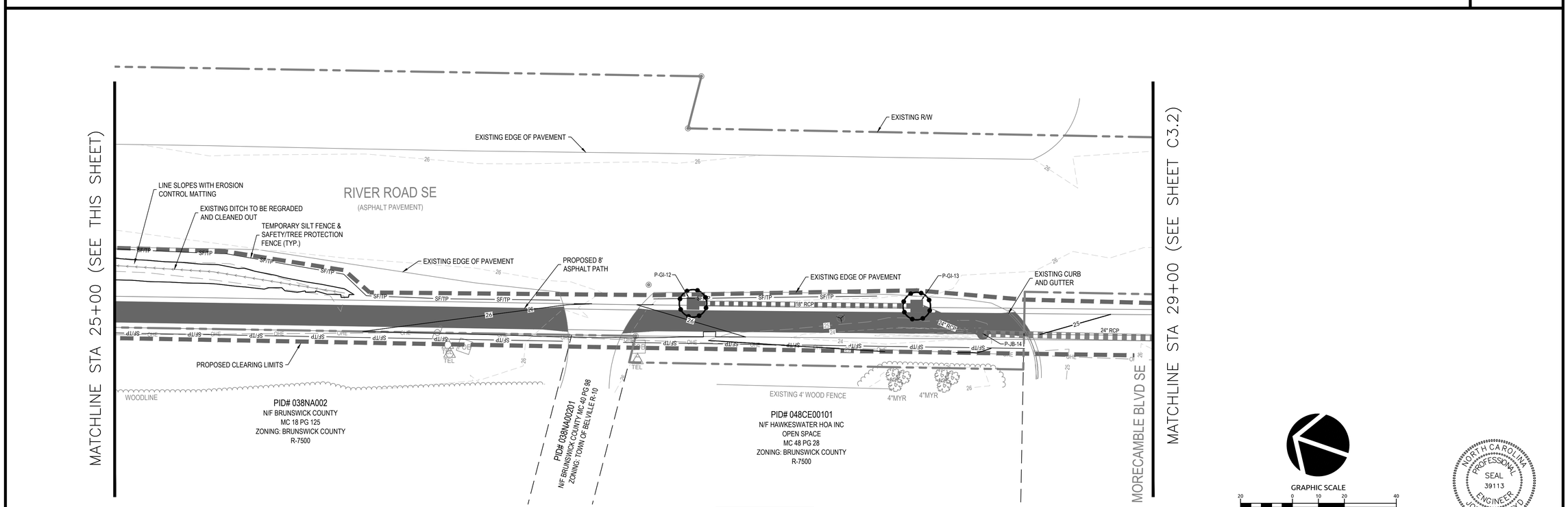
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C3.0

w:\191\191-1388\191388-belville nc 133 multi use path\CAD\drawing sets\construction\EROSION CONTROL.dwg- Friday, August 18, 2023 10:46:50 AM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6026

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

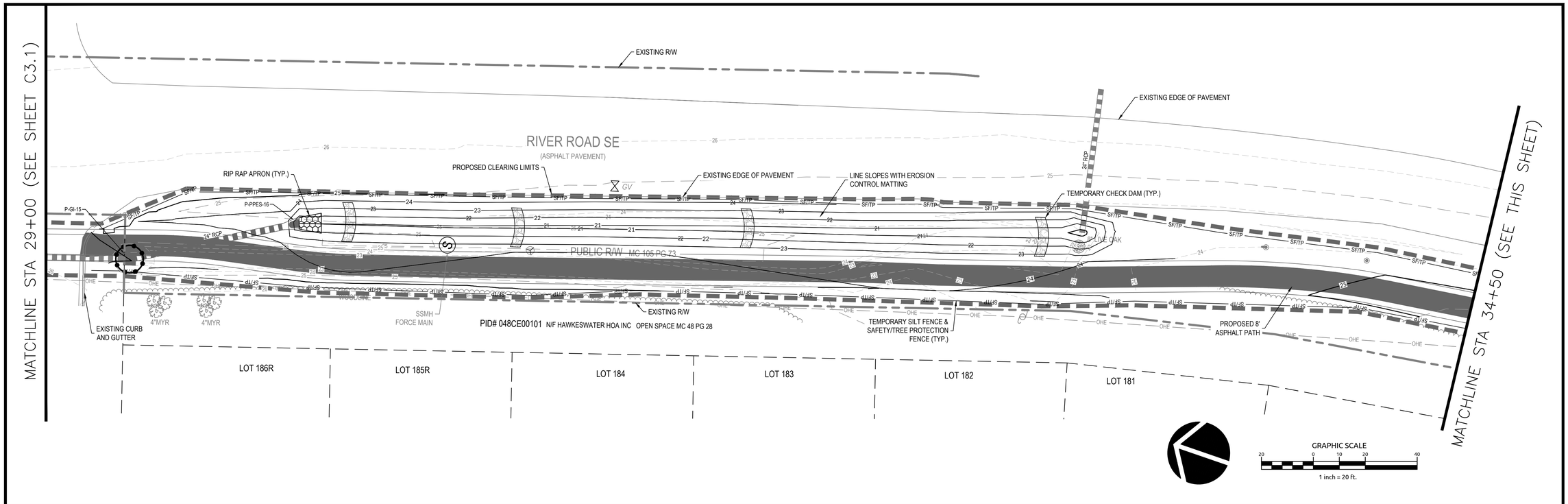
EROSION CONTROL PLAN

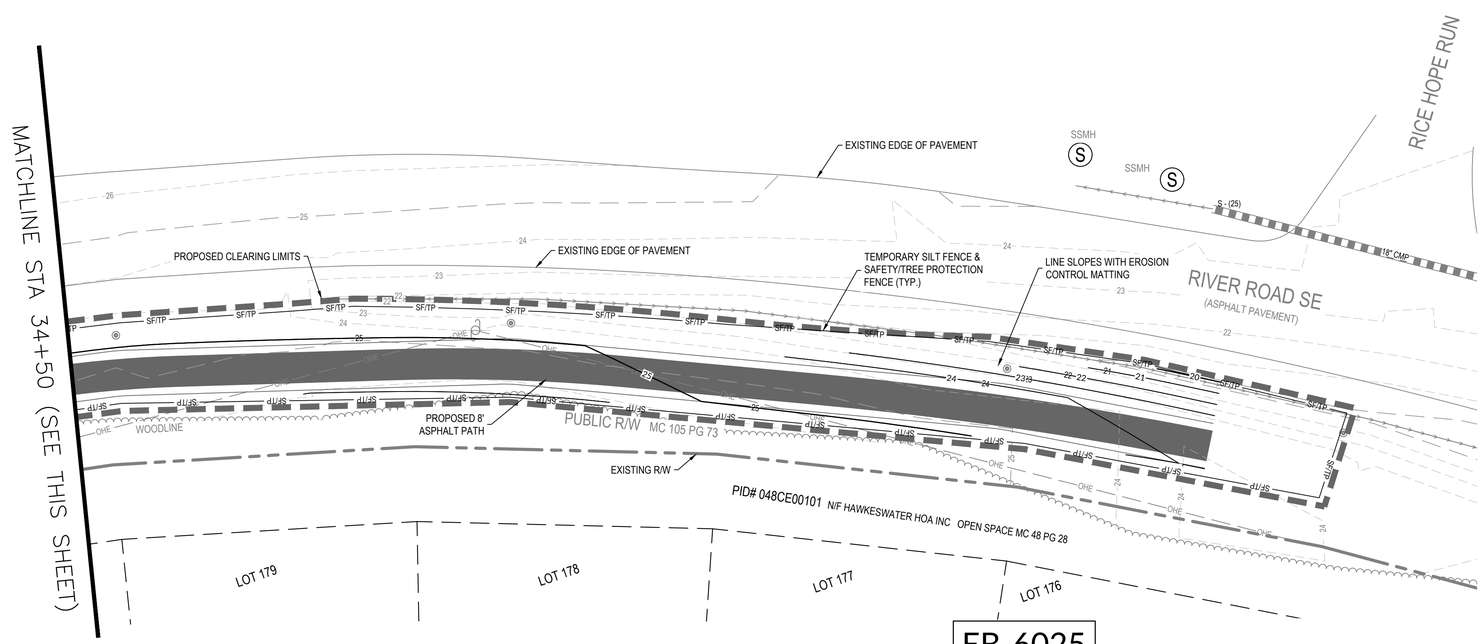
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C3.1

w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\EROSION CONTROL.dwg- Friday, August 18, 2023 8:24:10 AM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504





EB-6025

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

EROSION CONTROL PLAN

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C3.2

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\EROSION CONTROL.dwg- Friday, August 18, 2023 8:24:16 AM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

NCGO1-DETAIL GROUND STABILIZATION AND HANDLING PLAN

EFFECTIVE: 04/01/19

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

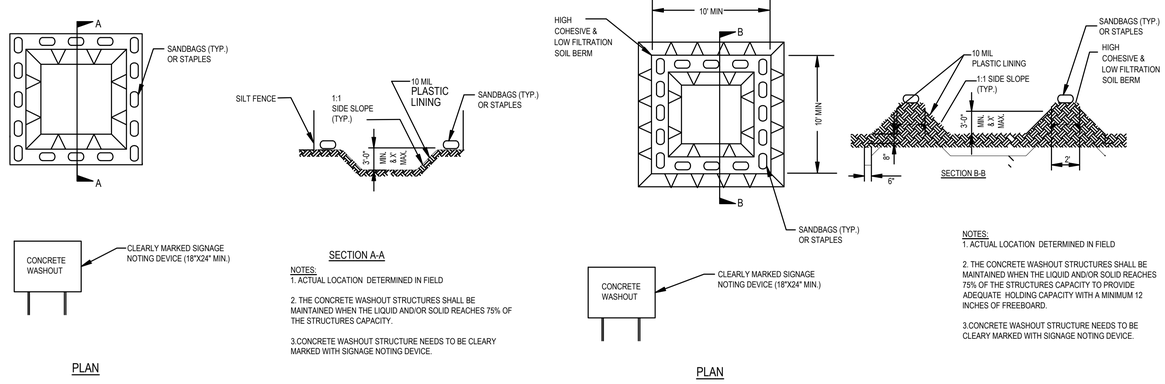
HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



SECTION A-A

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

NCGO1-SELF INSPECTION, RECORDKEEPING & REPORTING

EFFECTIVE: 05/17/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept onsite and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept Onsite

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSign by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

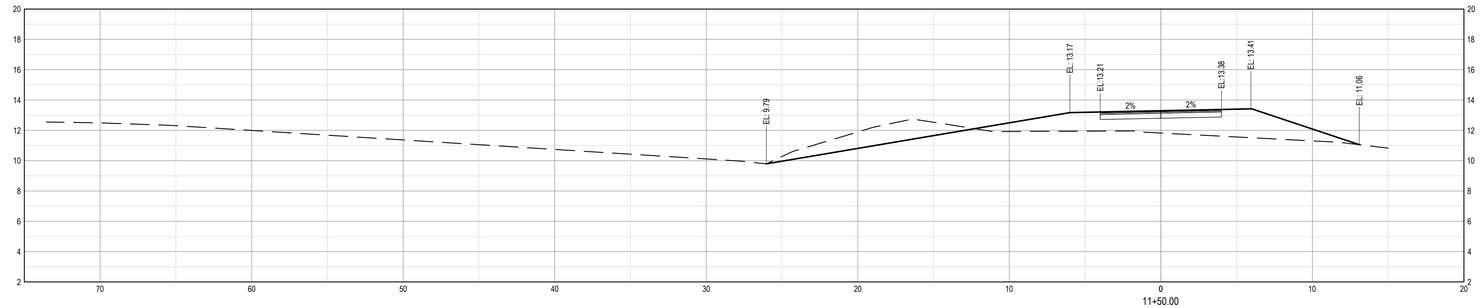
NCGO1 NOTES

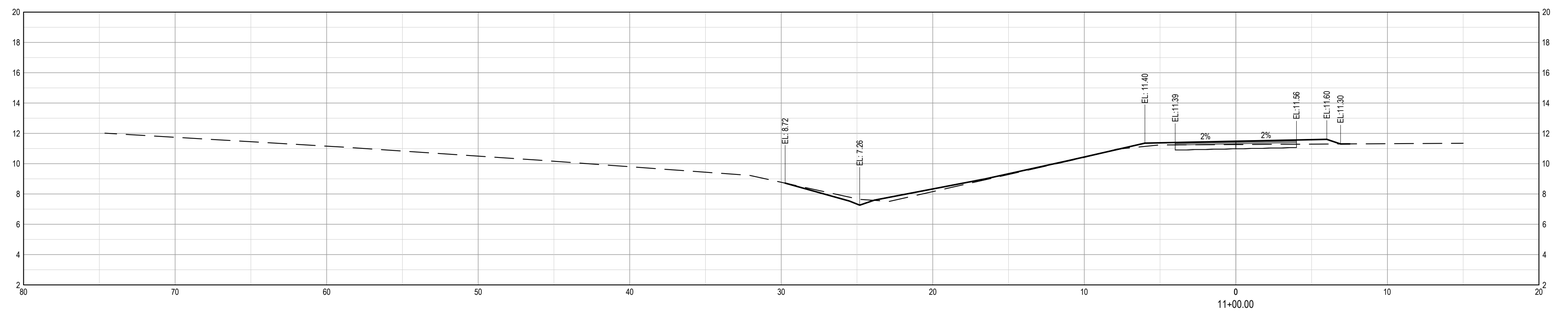
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

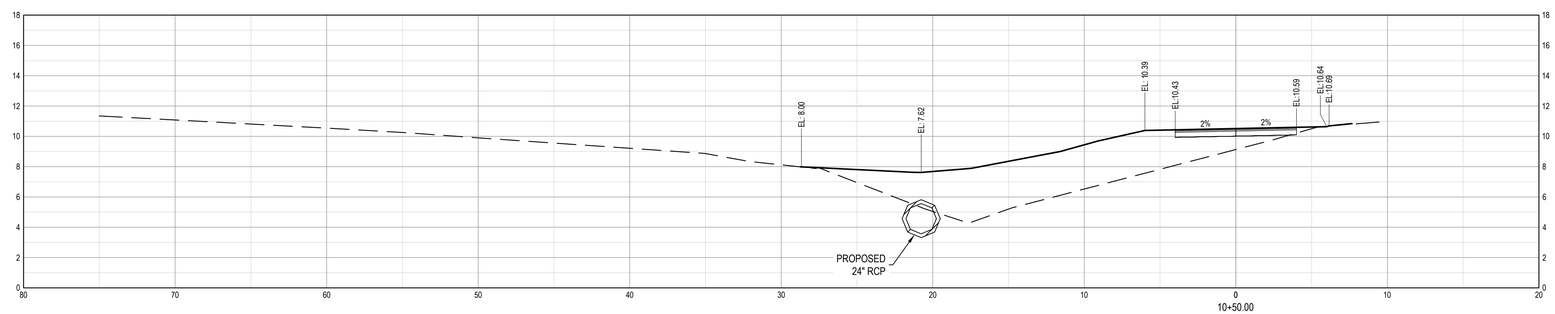
Sheet No.
C4.0

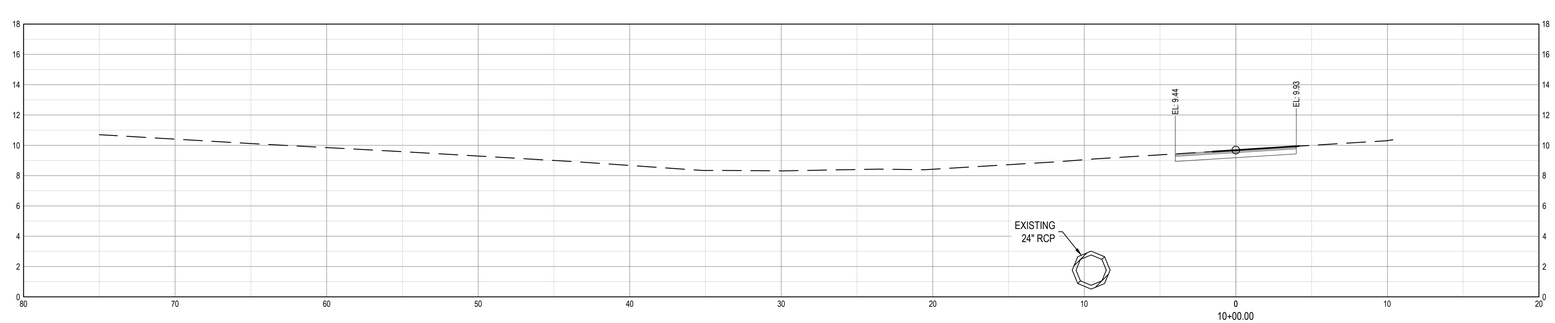
w:\191\191-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PROJECT NOTES.dwg– Wednesday, February 2, 2022 11:18:32 AM – BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









EB-6026

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

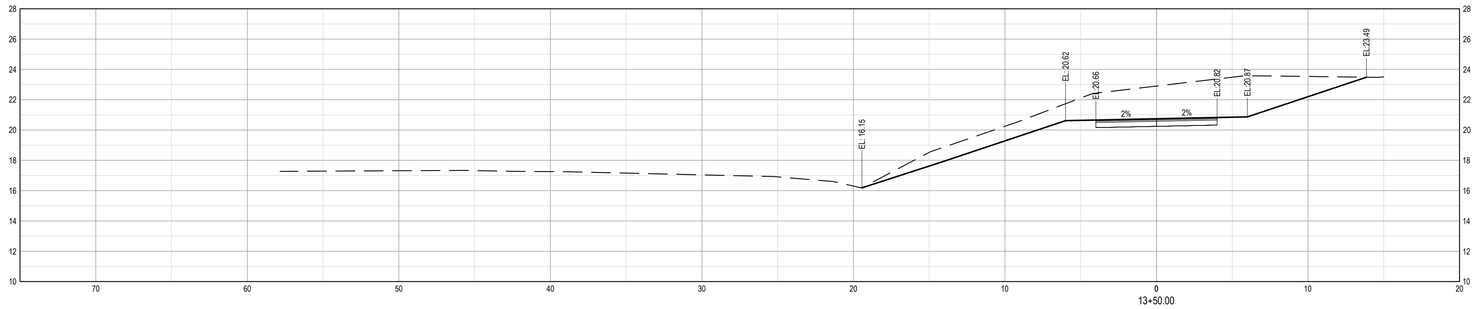
CROSS SECTIONS STA. 10+00.00 TO 11+50.00

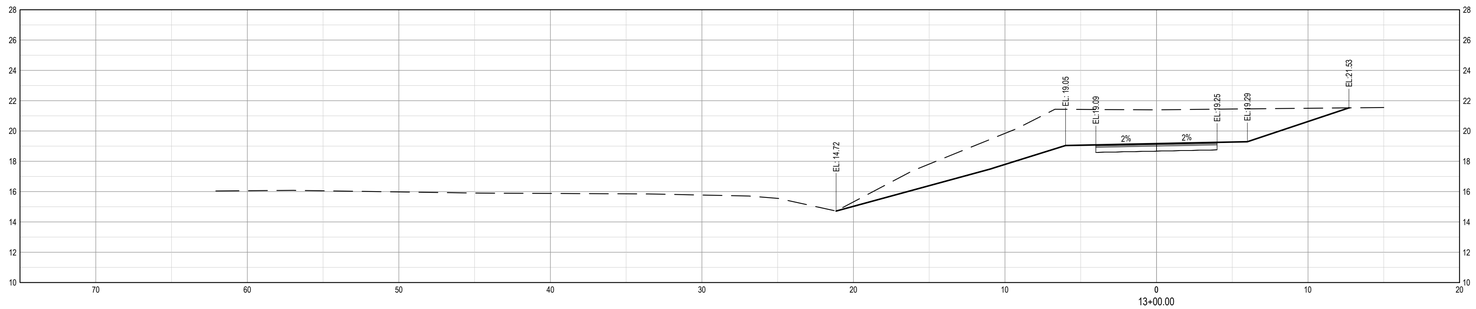
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

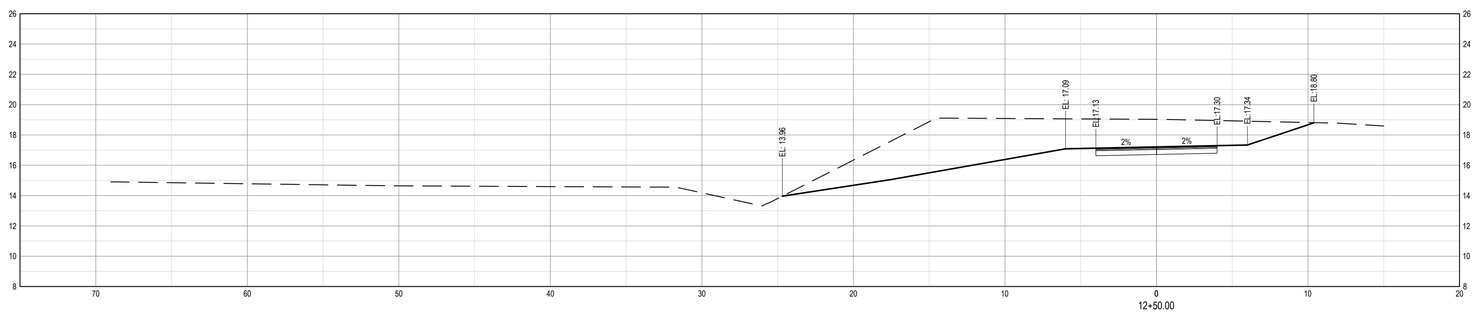
Sheet No.
C5.0

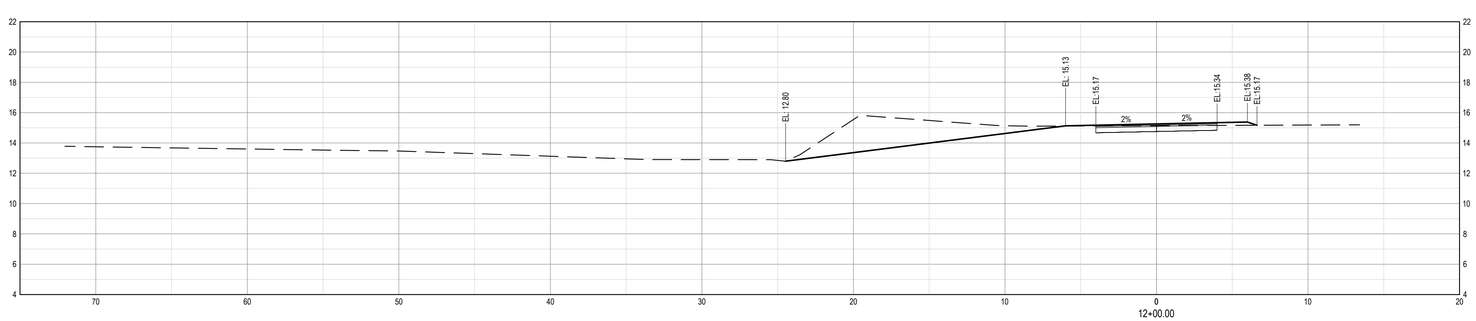
w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg - Wednesday, March 23, 2022 5:29:18 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









EB-6026

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSign by: Joseph Boyd EEA710741 1AC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

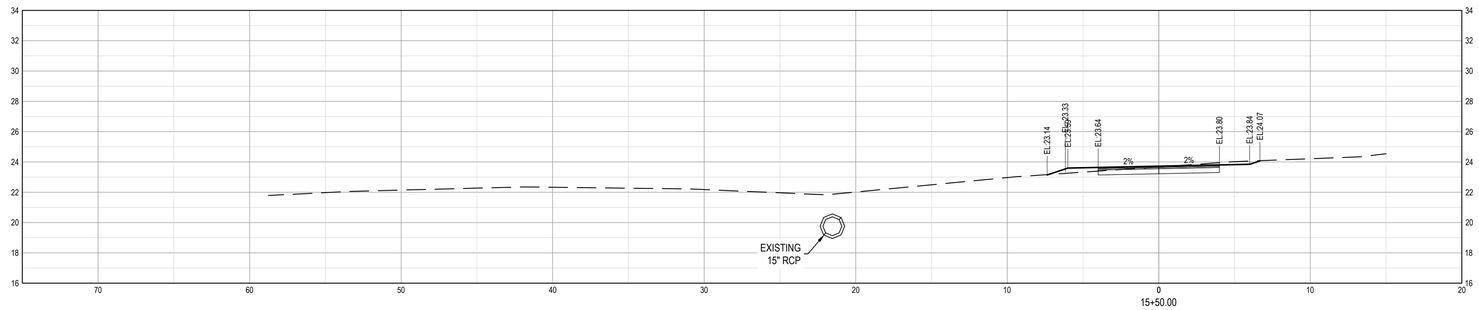
CROSS SECTIONS STA.
12+00.00 TO 13+50.00

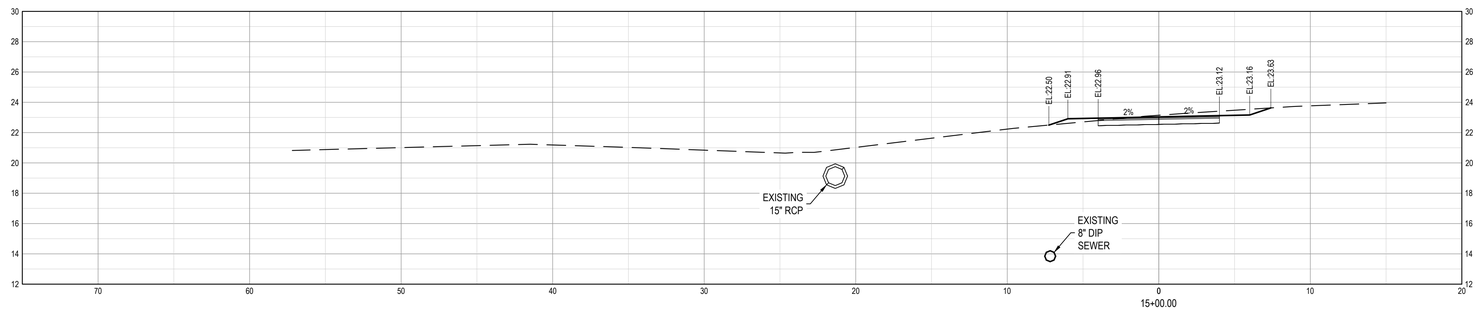
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

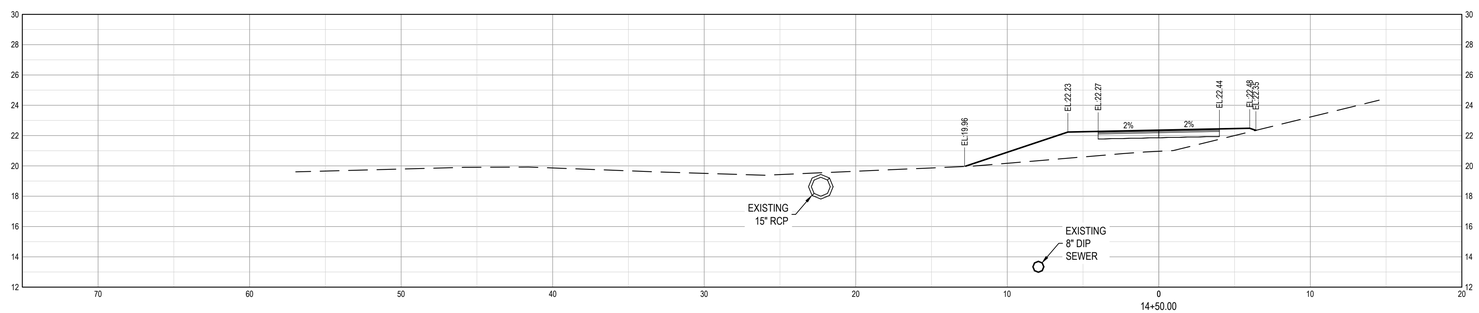
Sheet No.
C5.1

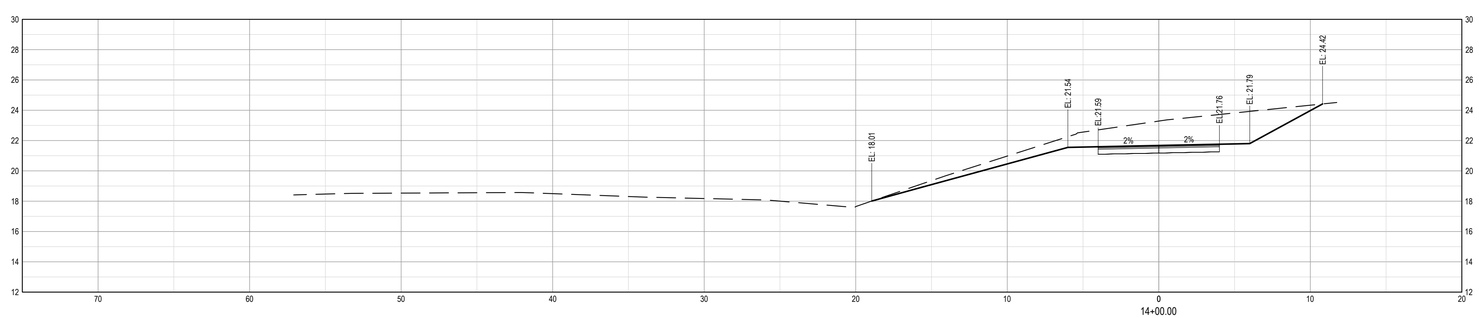
w:\191\191-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:20 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEAF107411AC4D... 8/18/2023

EB-6026

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

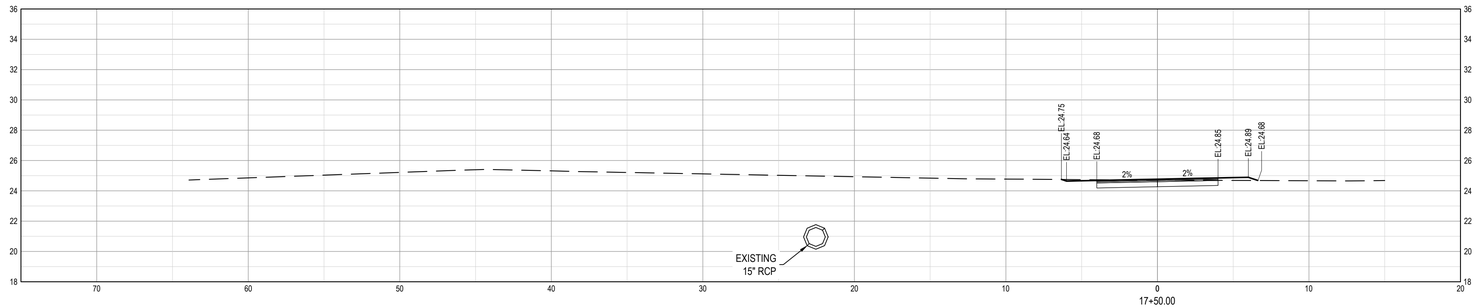
CROSS SECTIONS STA. 14+00.00 TO 15+50.00

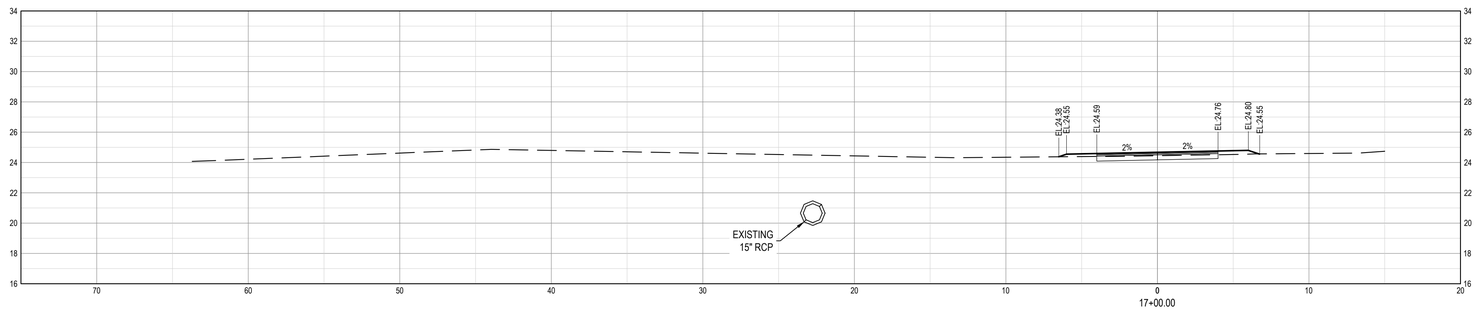
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

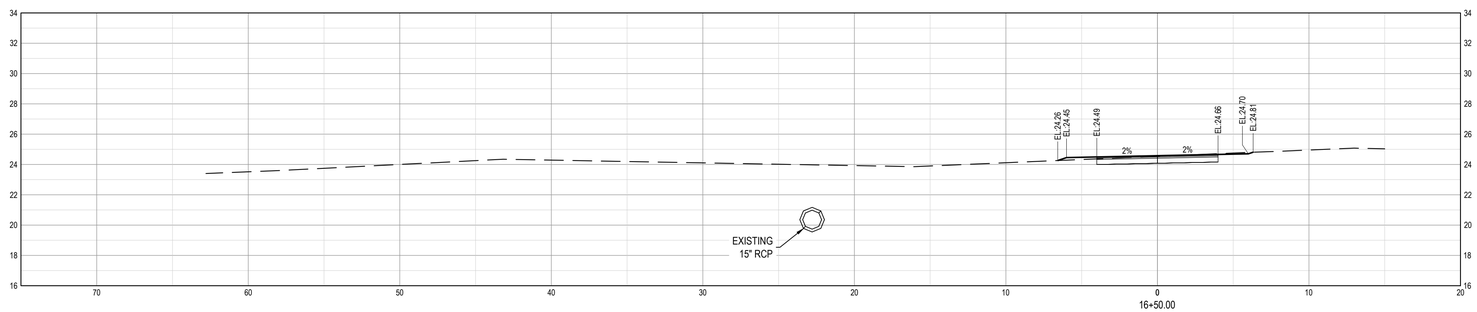
Sheet No.
C5.2

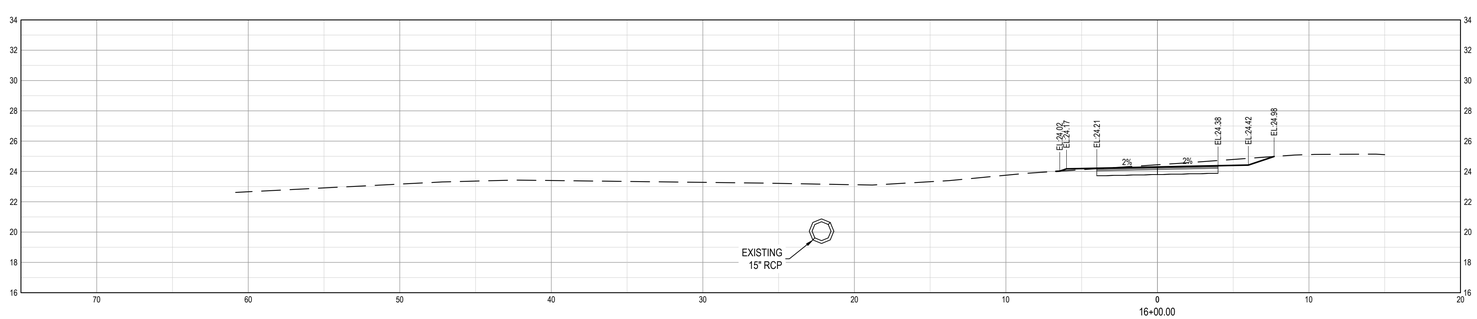
w:\19\19-138\191388-belville nc 133 multi use path\CAD\drawing set4\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:22 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









EB-6026

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC4AD...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

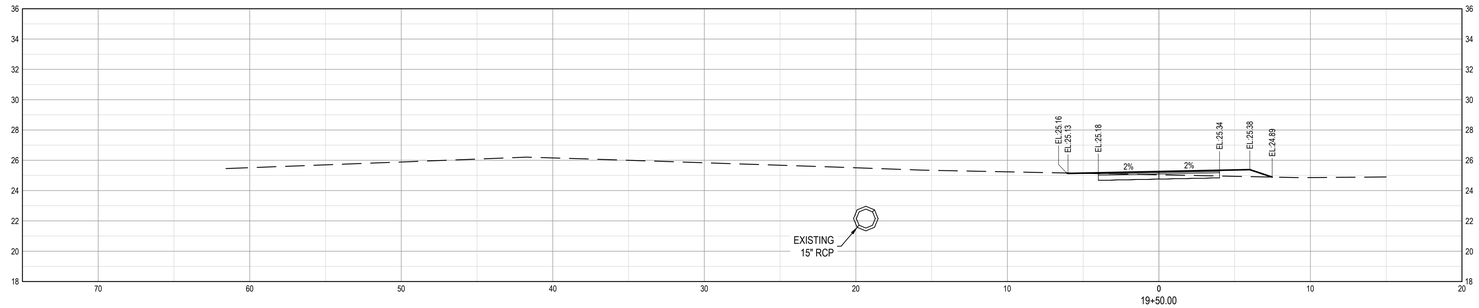
CROSS SECTIONS STA.
16+00.00 TO 17+50.00

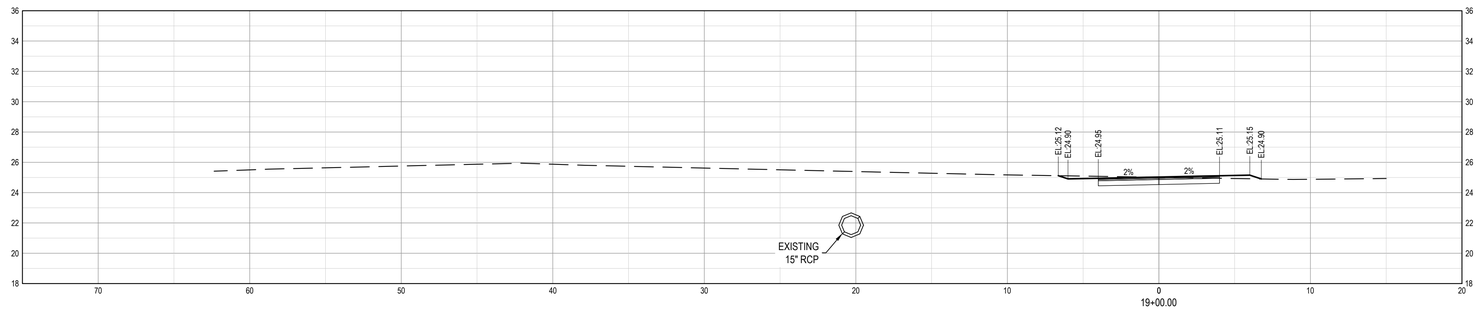
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

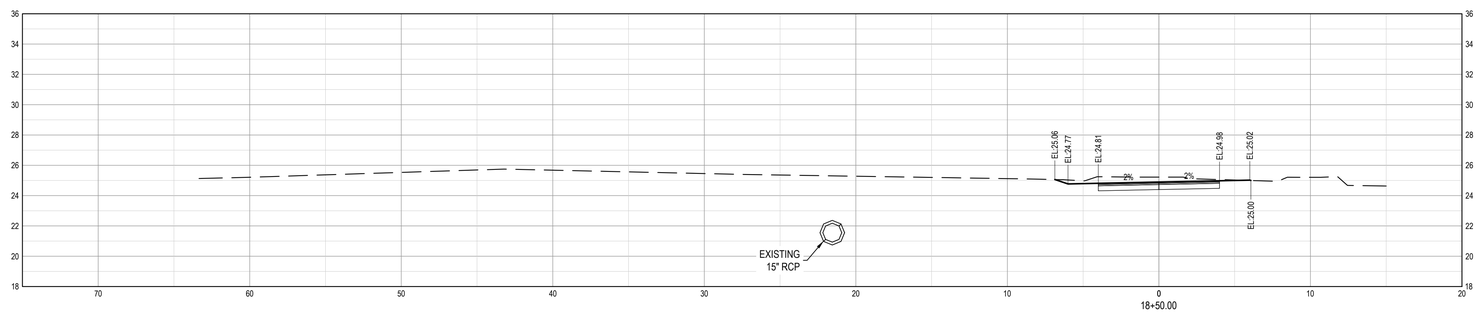
Sheet No.
C5.3

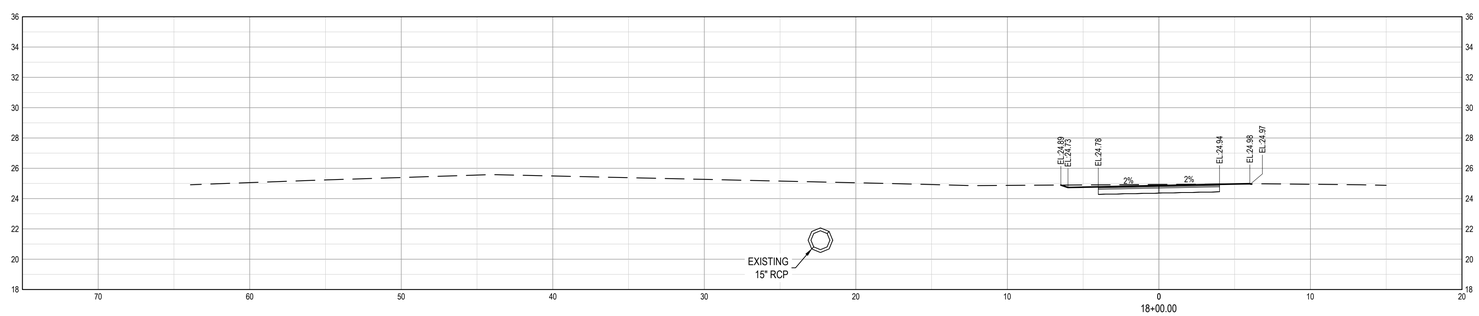
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:28:24 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









EB-6026

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEAF107411AC4AD...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

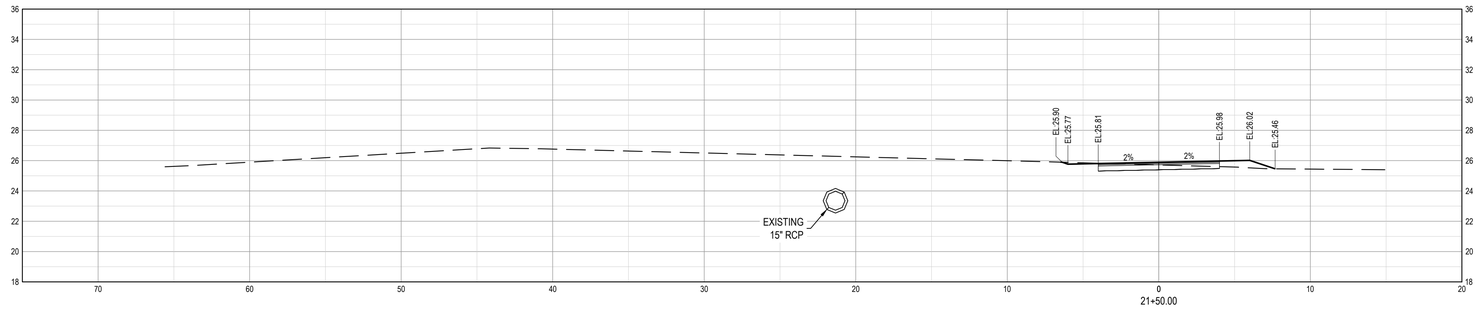
CROSS SECTIONS STA.
18+00.00 TO 19+50.00

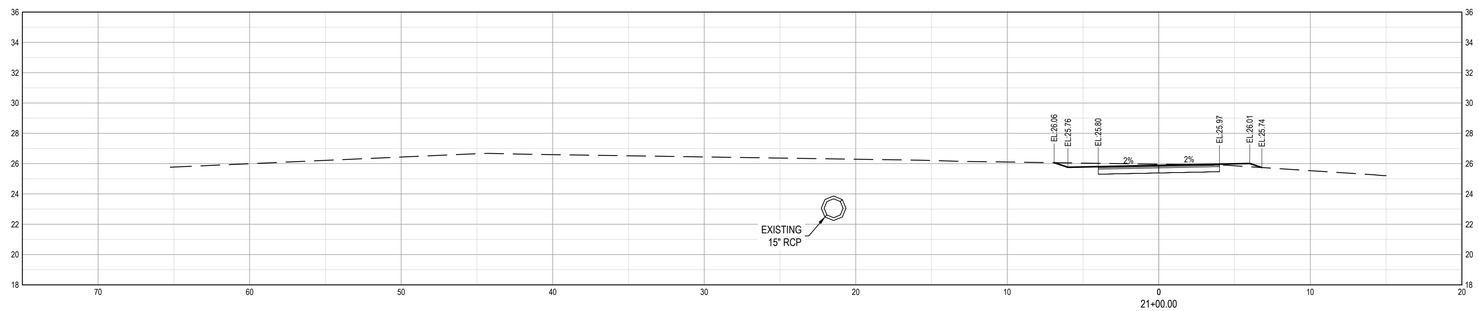
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

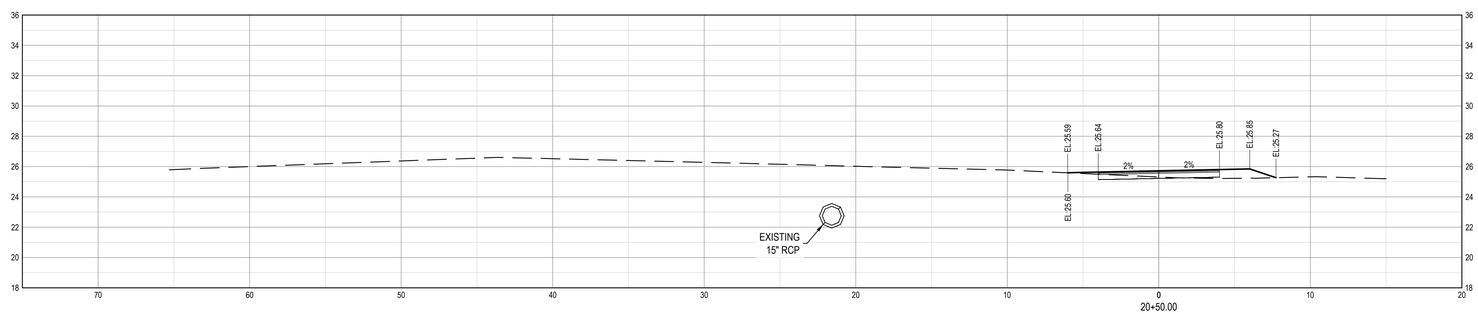
Sheet No.
C5.4

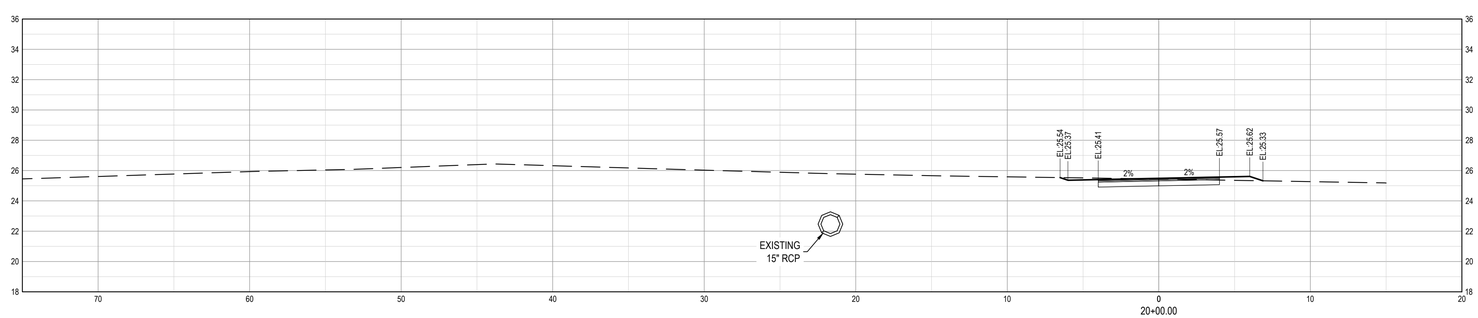
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:26 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411ACA4D... 8/18/2023

EB-6026

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

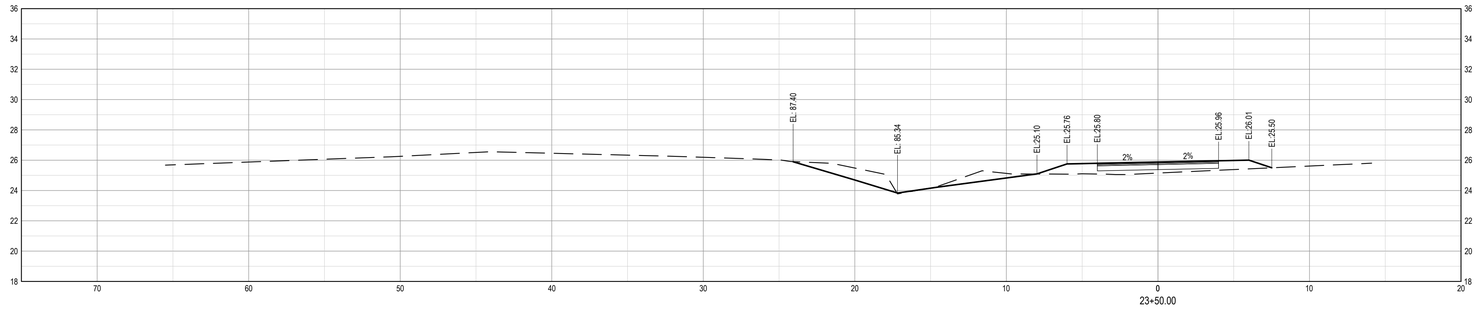
CROSS SECTIONS STA. 20+00.00 TO 21+50.00

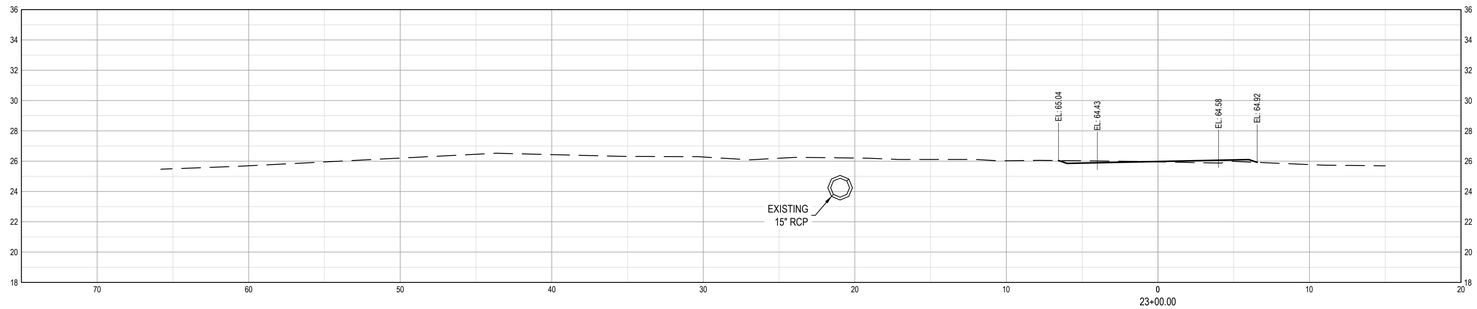
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

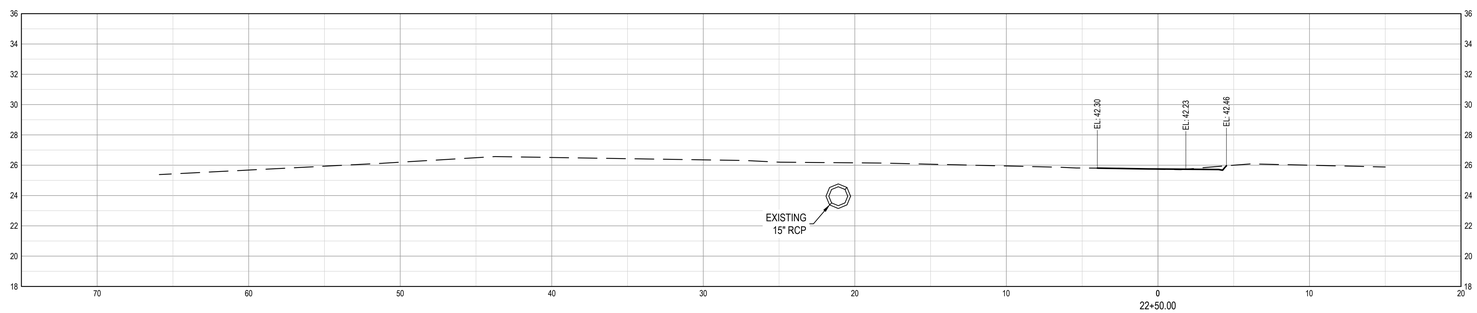
Sheet No.
C5.5

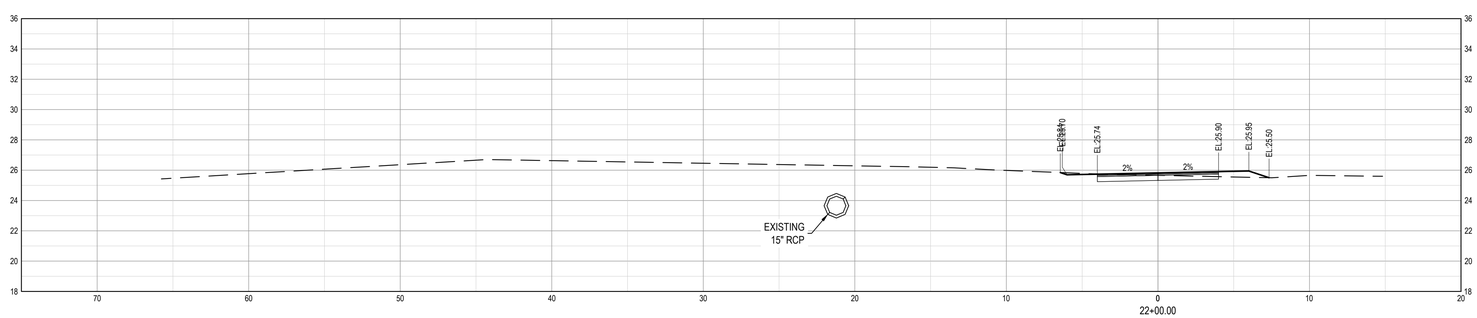
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:27 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









EB-6026

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

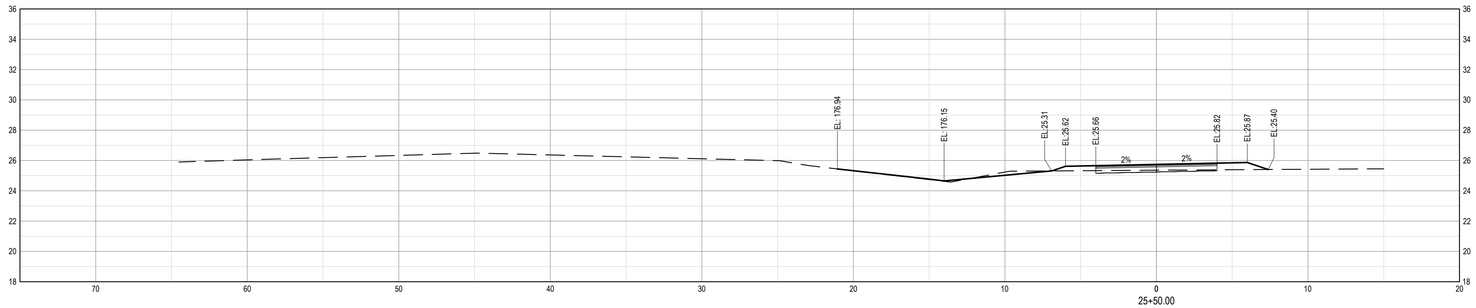
CROSS SECTIONS STA. 22+00.00 TO 23+50.00

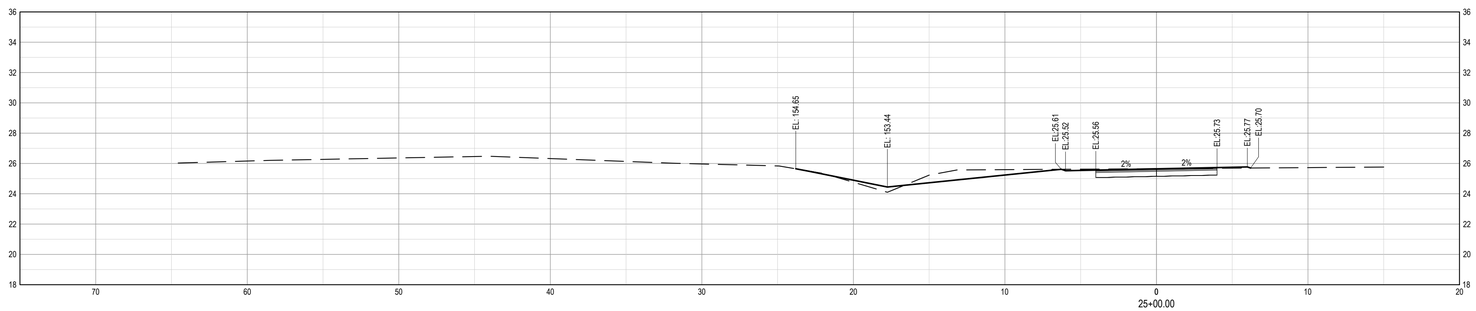
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

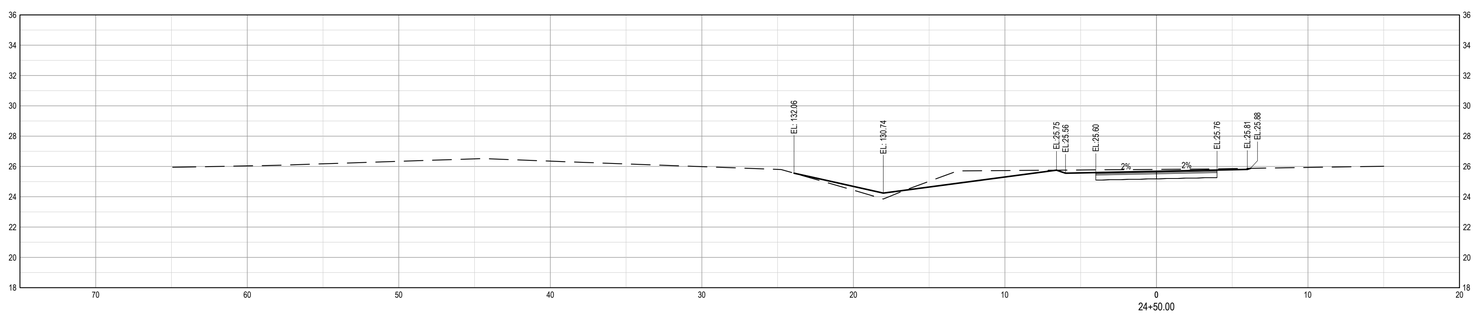
Sheet No.
C5.6

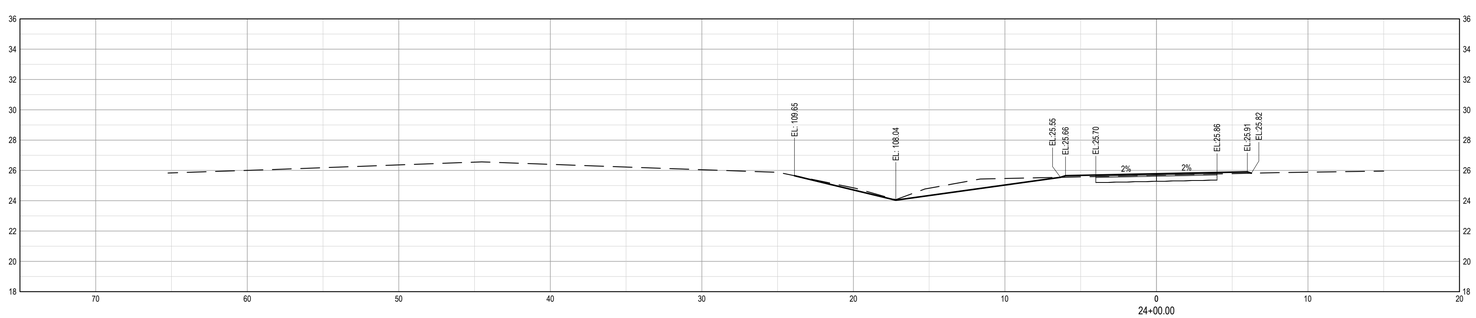
w:\19\19-138\191388-belville nc 133 multi use path\CAD\drawing set4\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:29 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

EB-6026

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

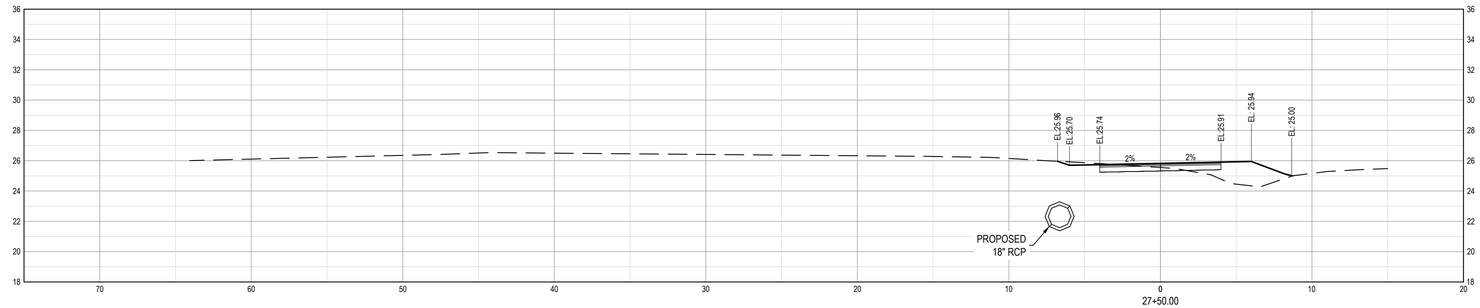
CROSS SECTIONS STA.
24+00.00 TO 25+50.00

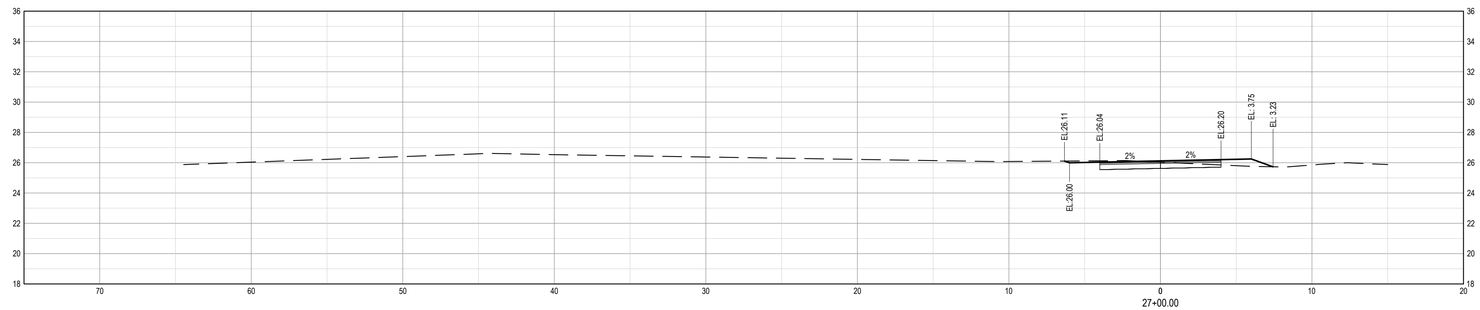
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

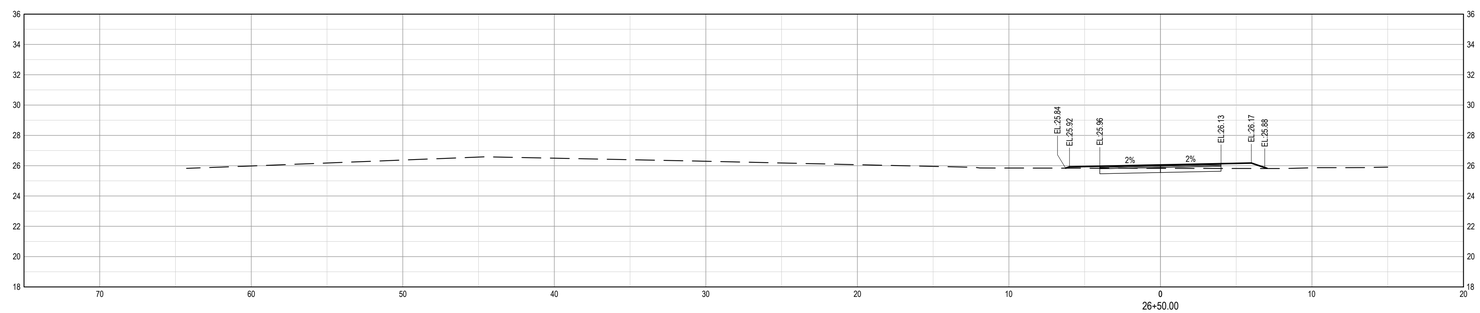
Sheet No.
C5.7

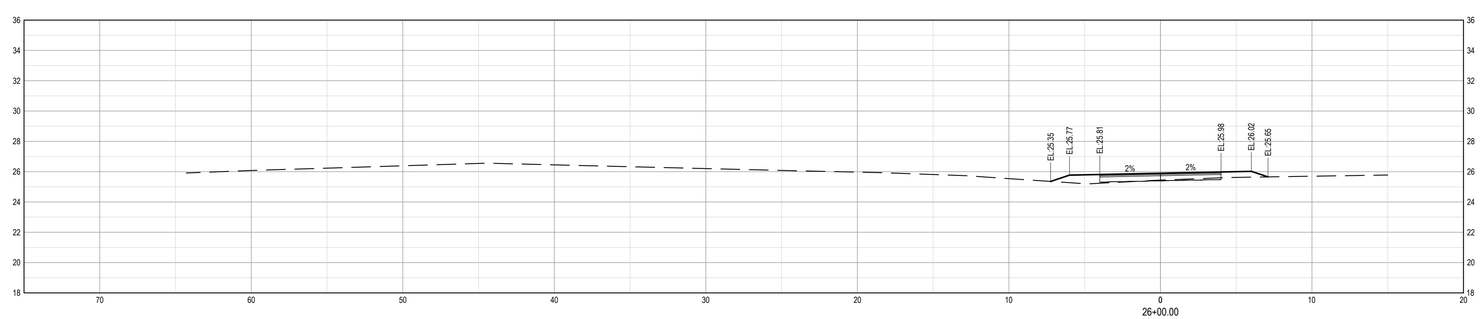
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:31 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEA7107411AC4AD...
8/18/2023

EB-6026

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

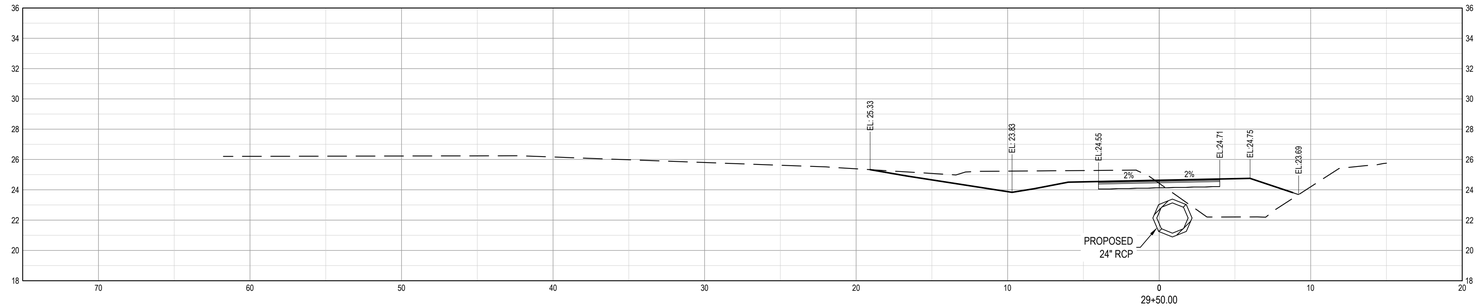
CROSS SECTIONS STA. 26+00.00 TO 27+50.00

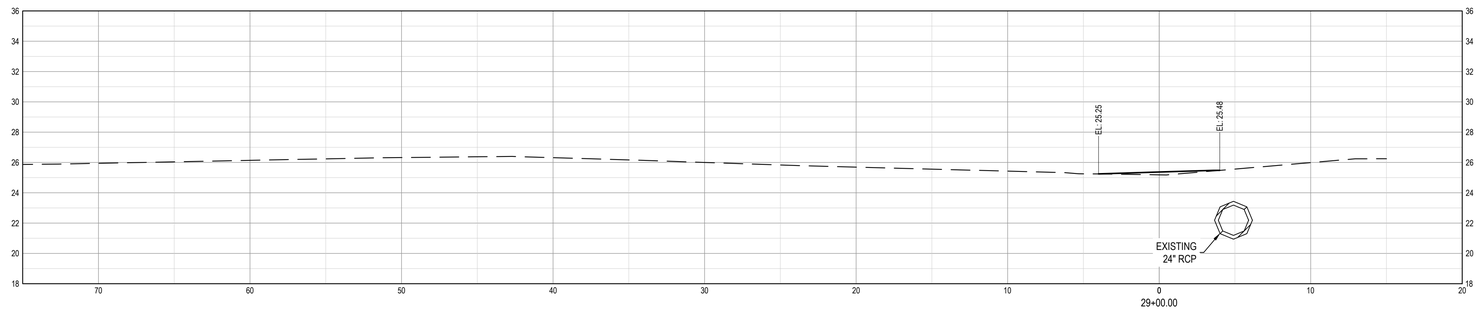
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
C5.8

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:33 PM - BERGERON, RYAN

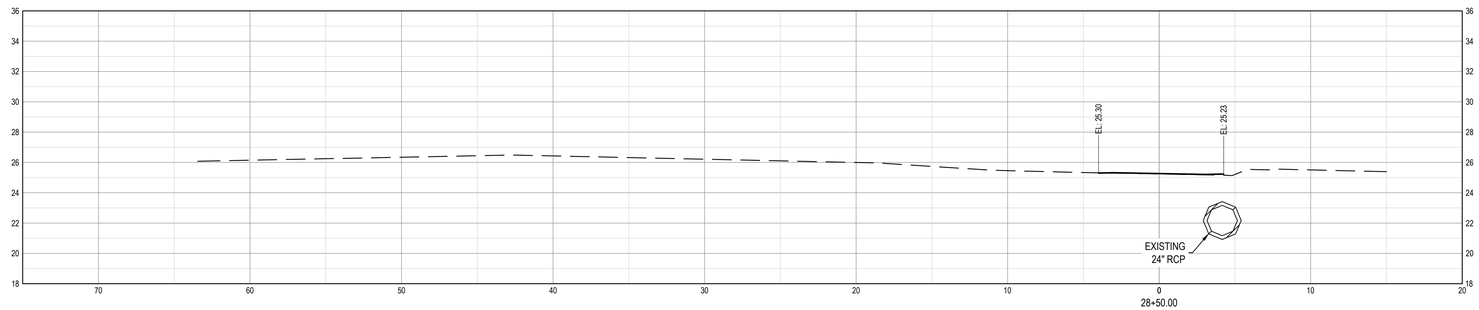
DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

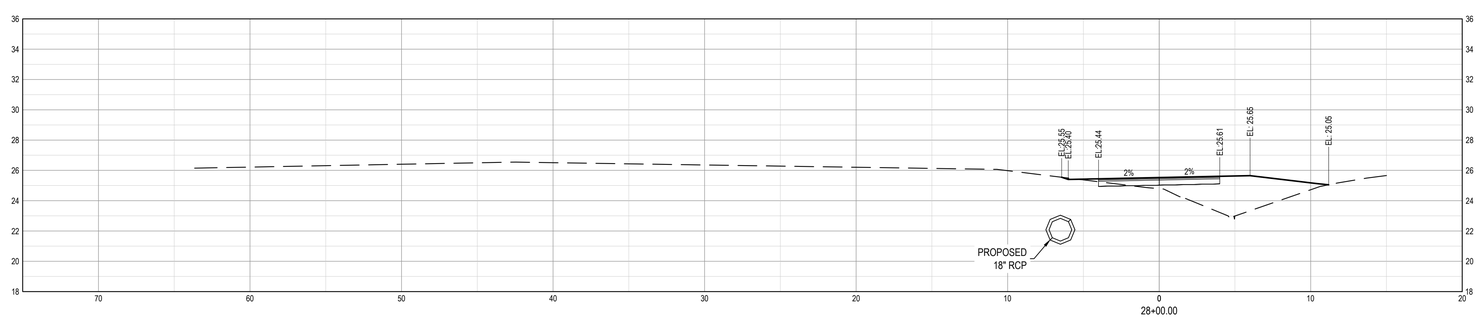




EB-6025

EB-6026





EB-6025 & EB-6026

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC4AD... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

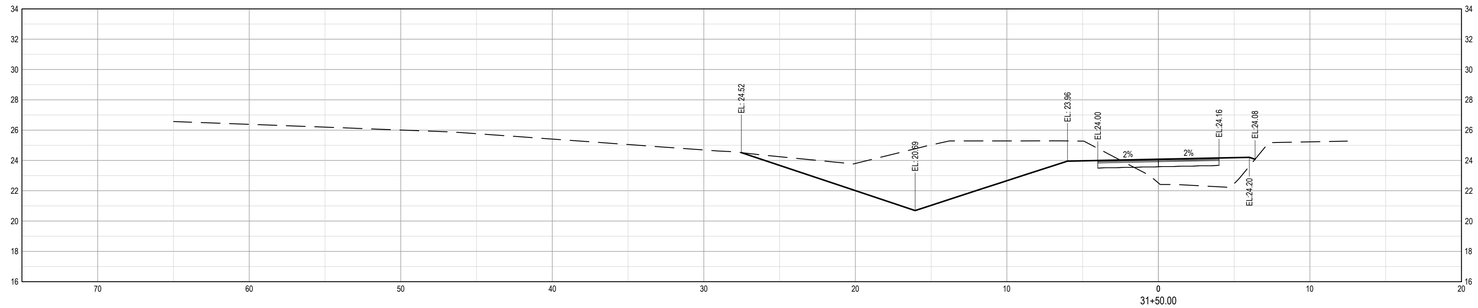
CROSS SECTIONS STA.
28+00.00 TO 29+50.00

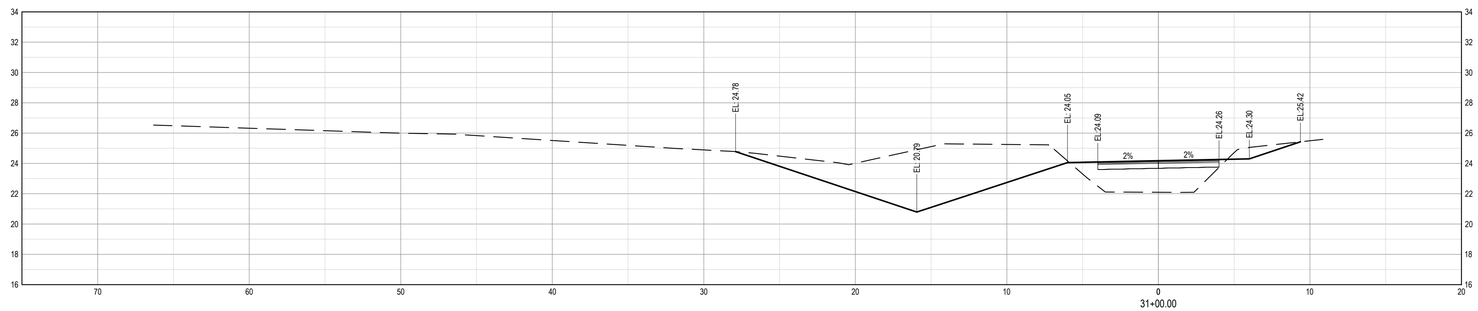
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

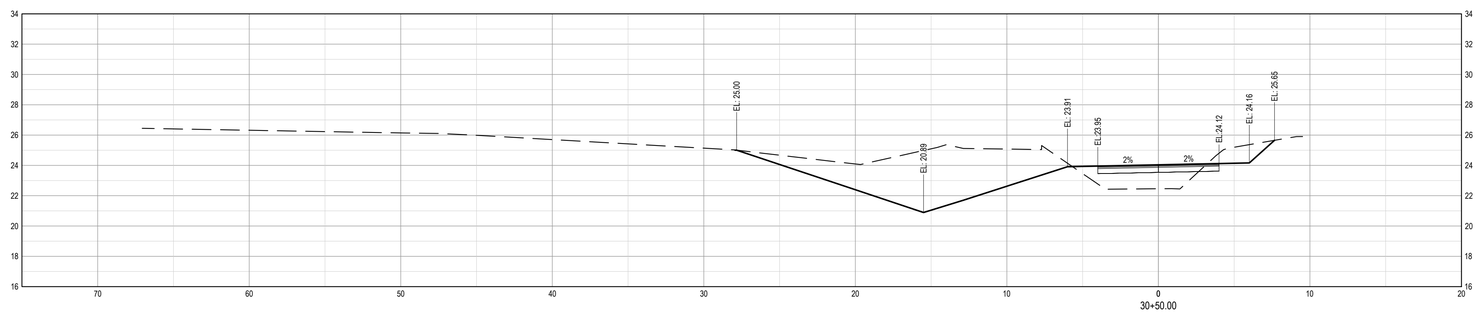
Sheet No.
C5.9

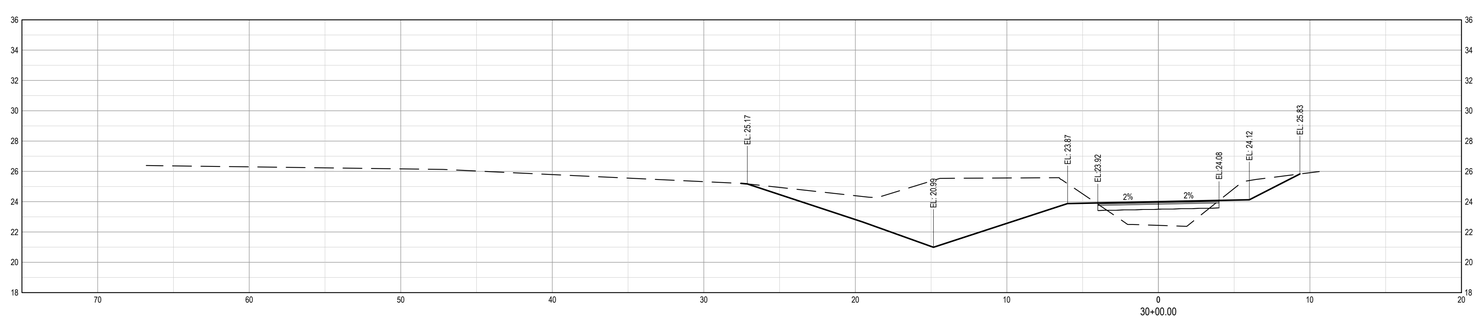
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:35 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEA7107411AC44D...
8/18/2023

EB-6025

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

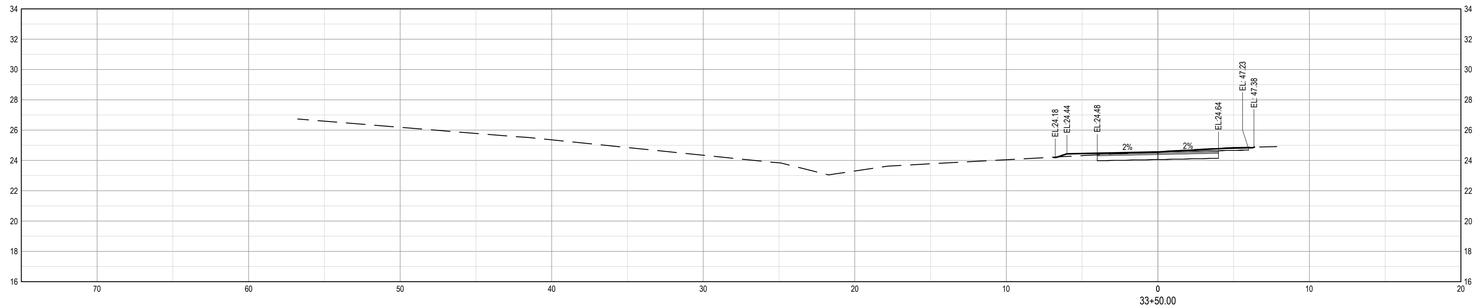
CROSS SECTIONS STA. 30+00.00 TO 31+50.00

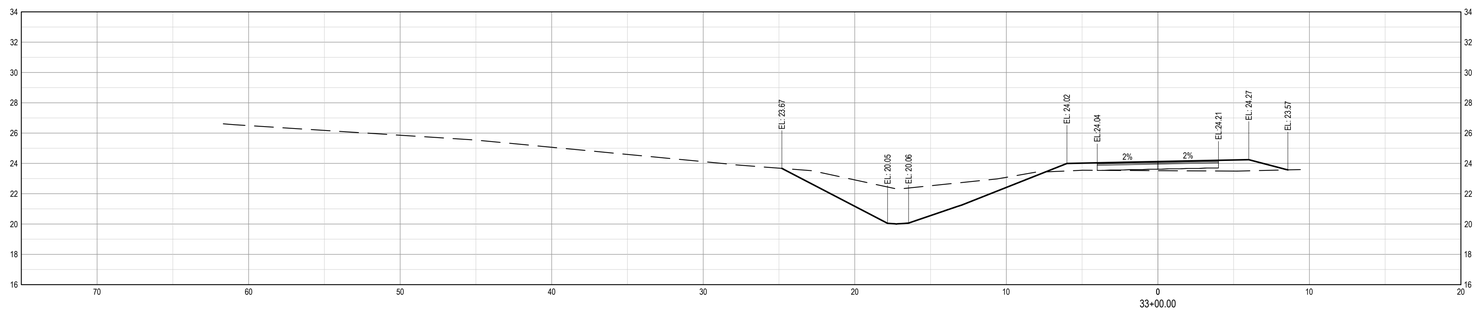
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

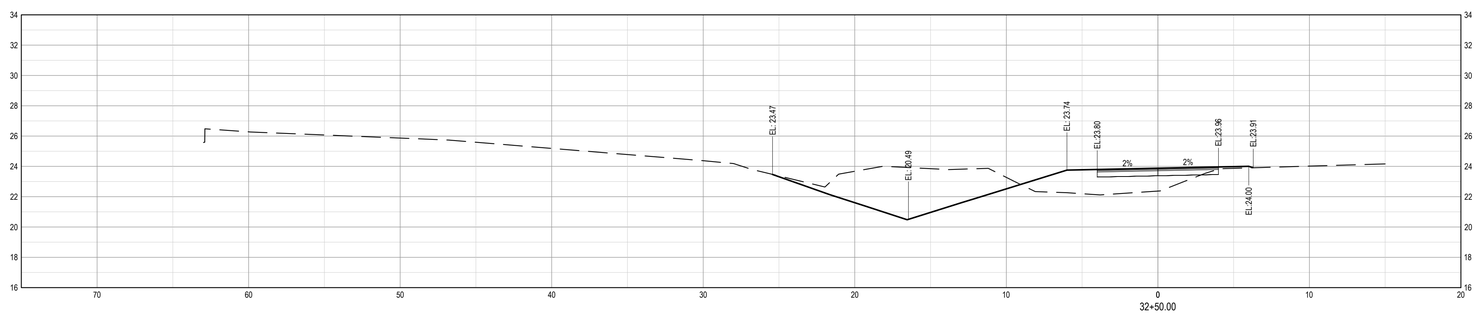
Sheet No.
C5.10

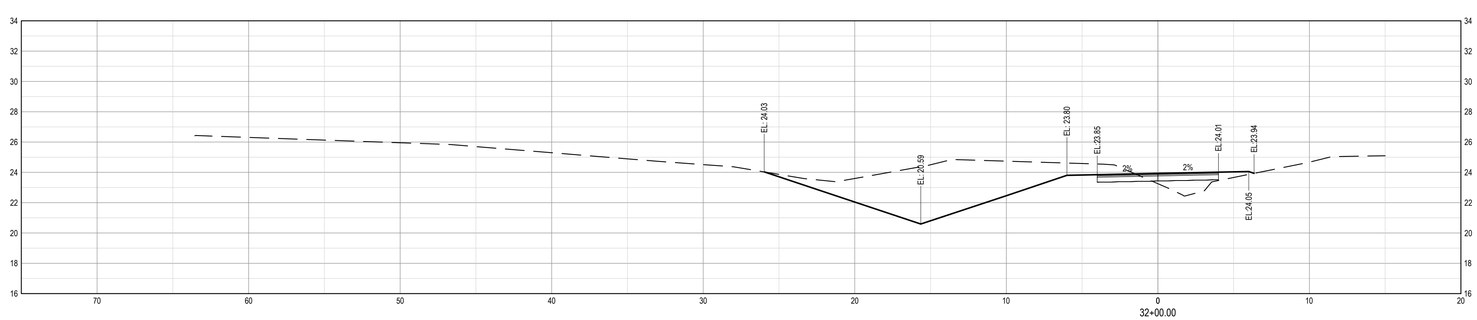
w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:36 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEA710741 1AC44D...
8/18/2023

EB-6025

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

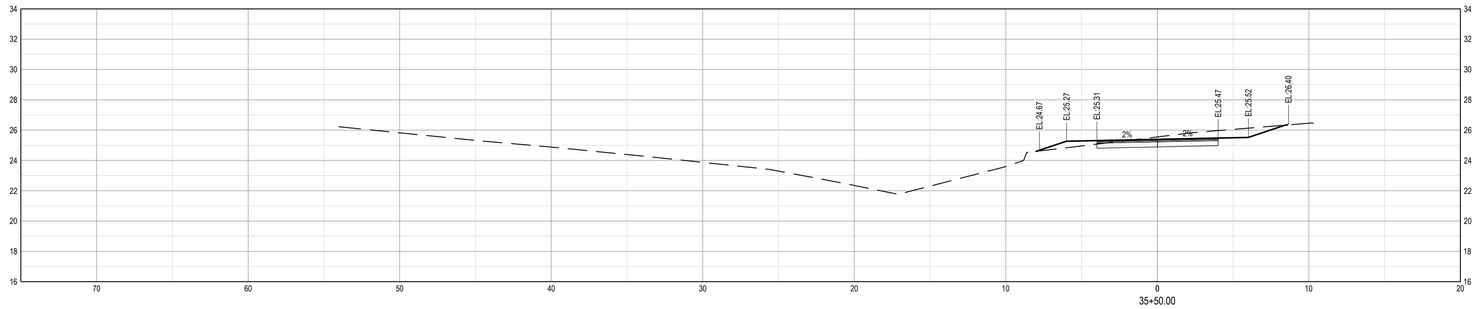
CROSS SECTIONS STA.
32+00.00 TO 33+50.00

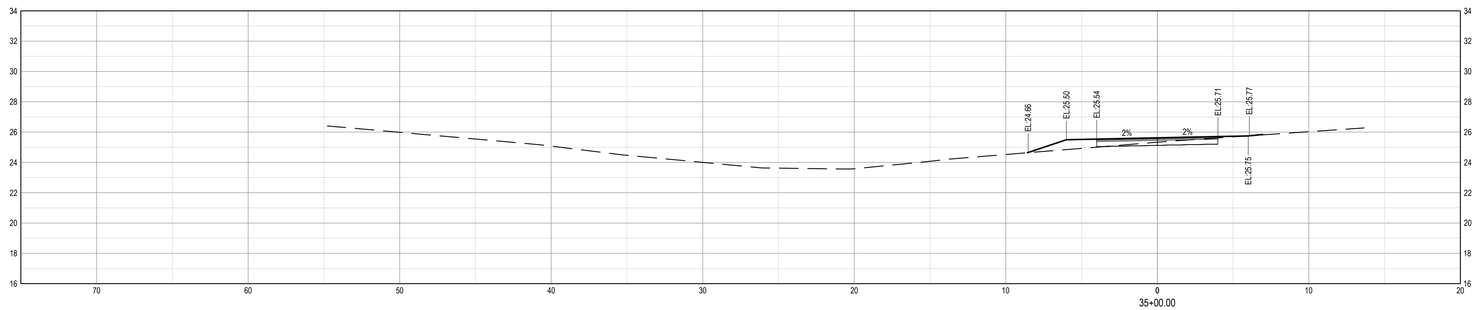
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

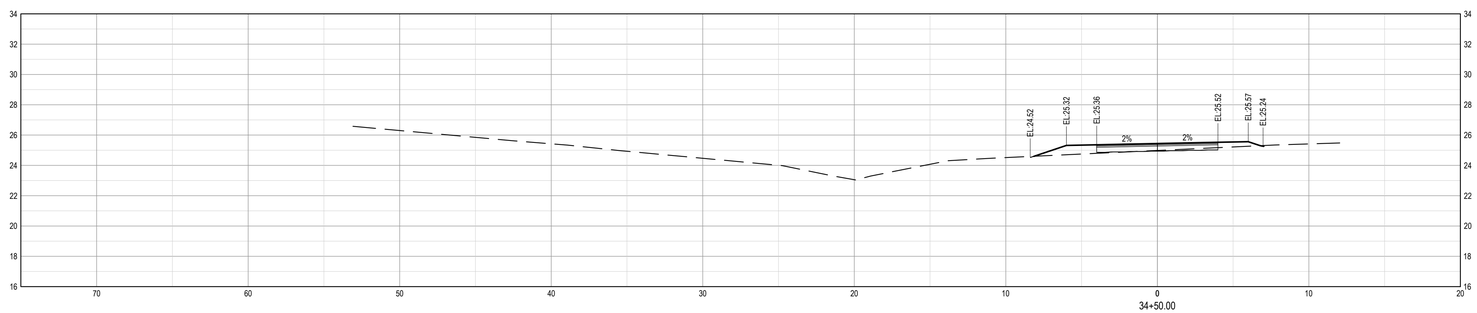
Sheet No.
C5.11

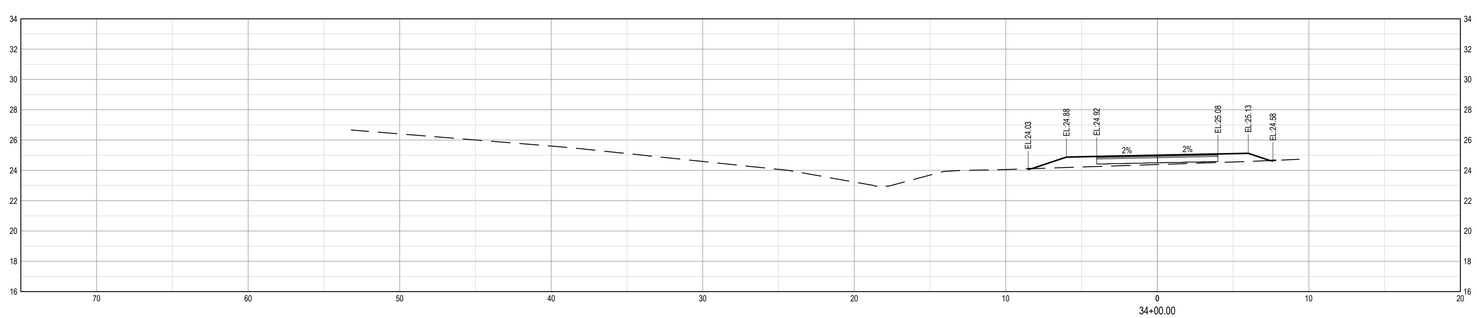
w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:38 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEA7107411AC44D...
8/18/2023

EB-6025

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

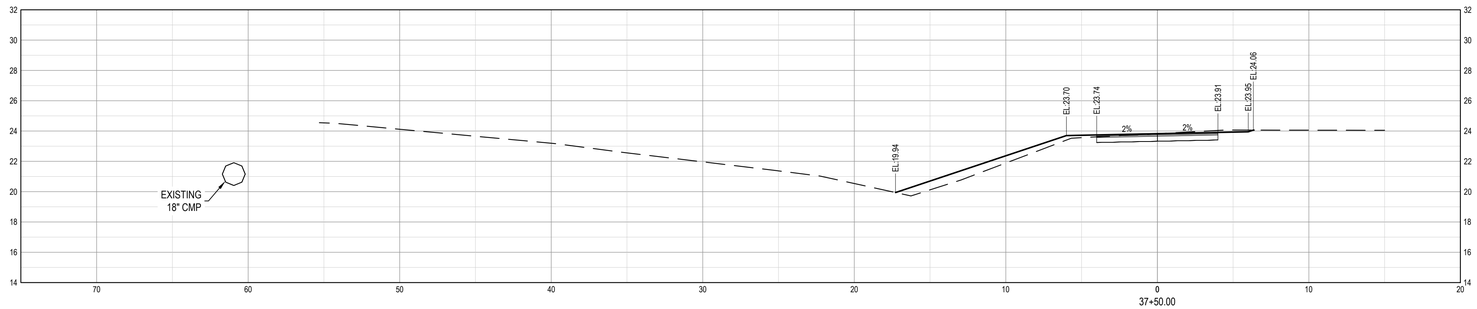
CROSS SECTIONS STA. 34+00.00 TO 35+50.00

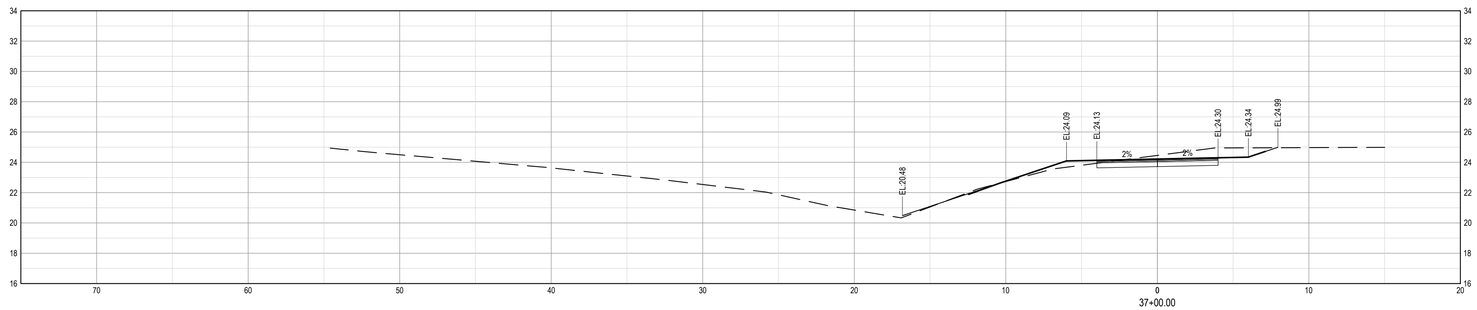
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

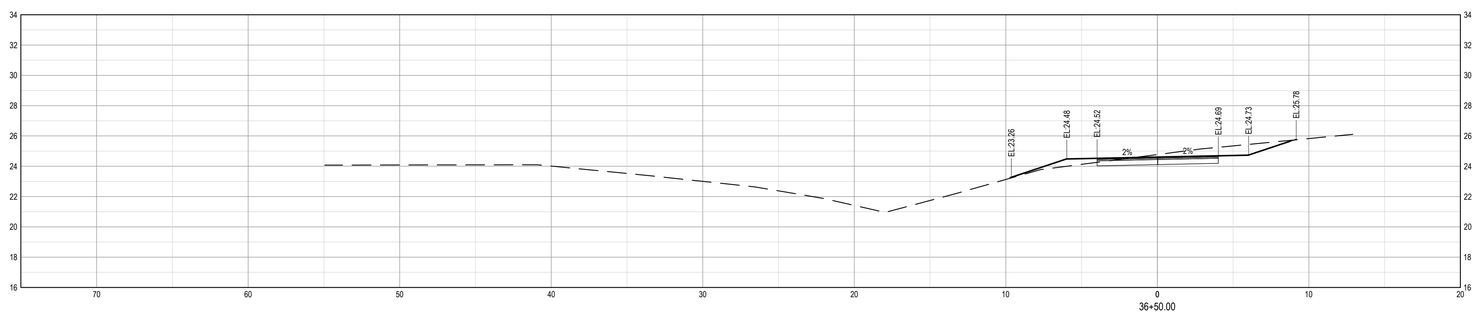
Sheet No.
C5.12

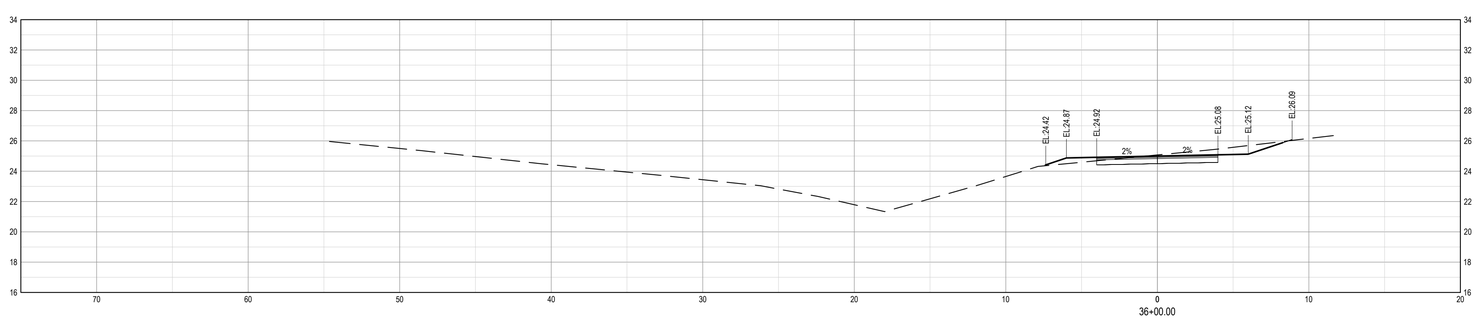
w:\191-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:40 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504









EB-6025

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

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

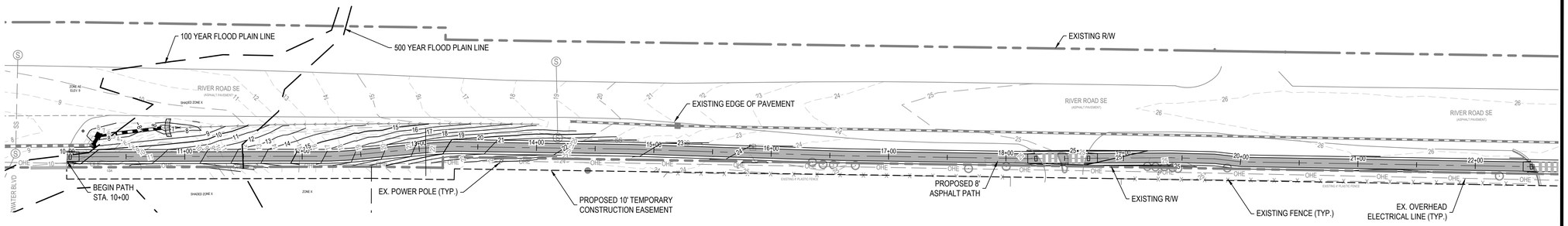
CROSS SECTIONS STA.
36+00.00 TO 37+50.00

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
C5.13

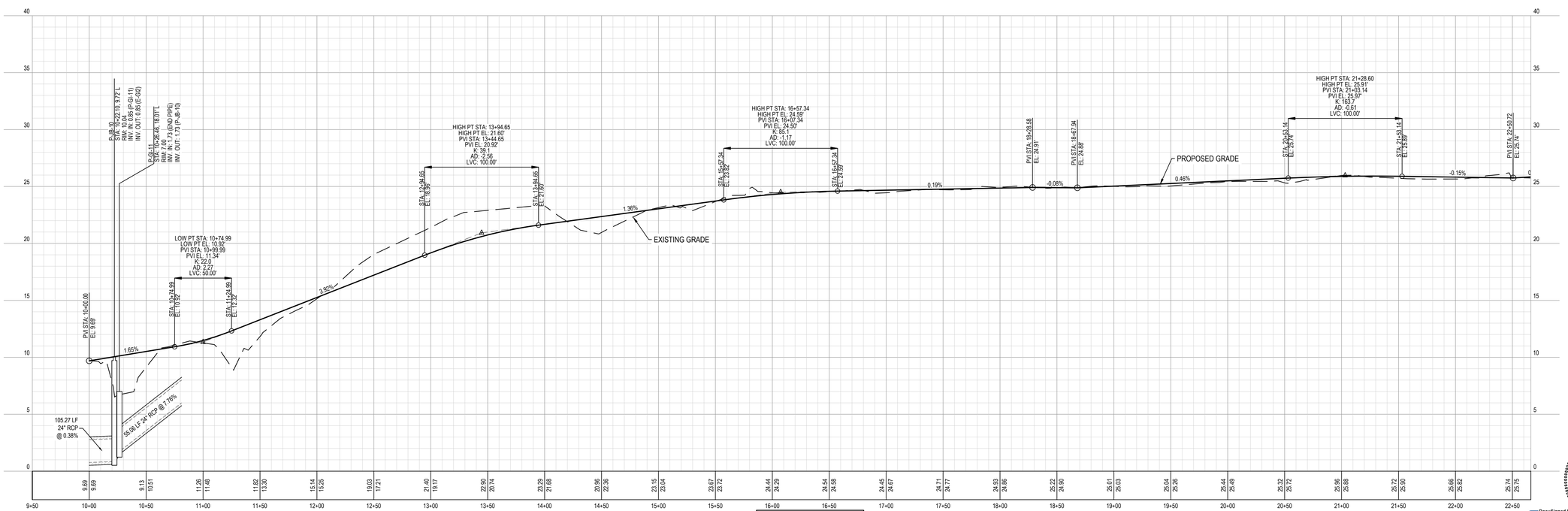
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\CROSSECTIONS.dwg- Wednesday, March 23, 2022 5:29:42 PM - BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504



GRAPHIC SCALE

1 inch = 20 ft.



EB-6026

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

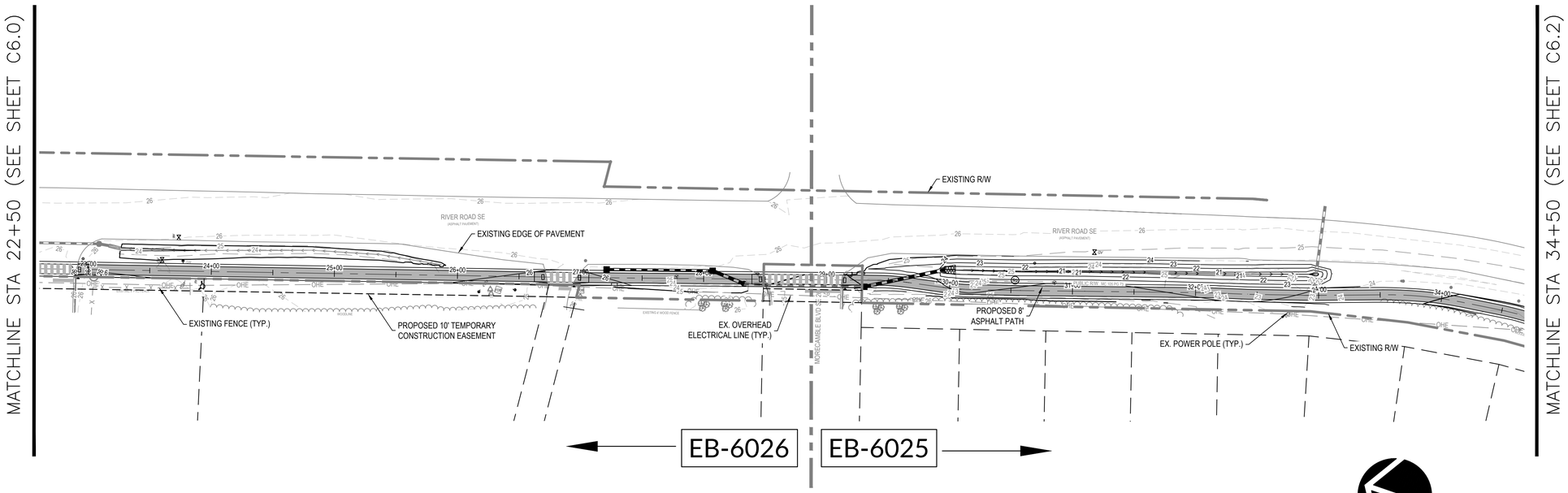
PLAN&PROFILE - STA. 10+00-22+50

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
C6.0

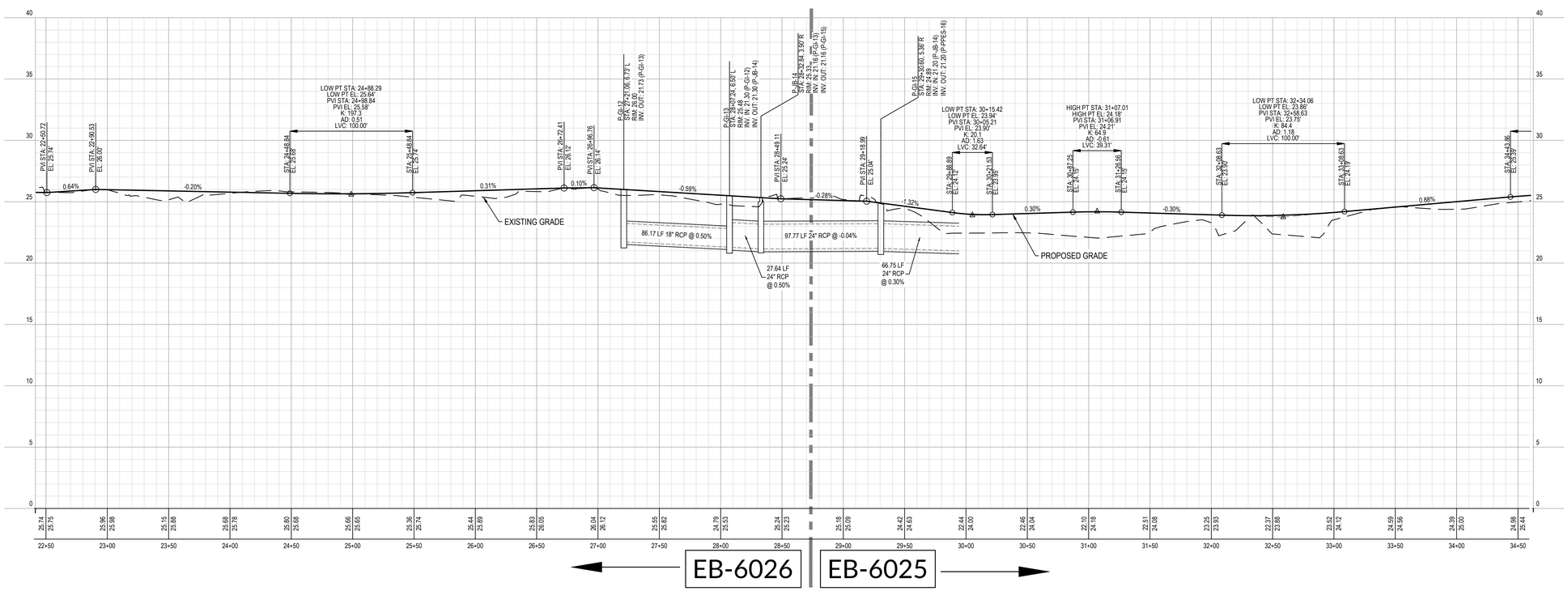
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PLAN&PROFILE.dwg– Thursday, March 24, 2022 11:57:14 AM – BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504



GRAPHIC SCALE

1 inch = 20 ft.



NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710741 1AC4AD... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

PLAN&PROFILE - STA, 22+50-34+50

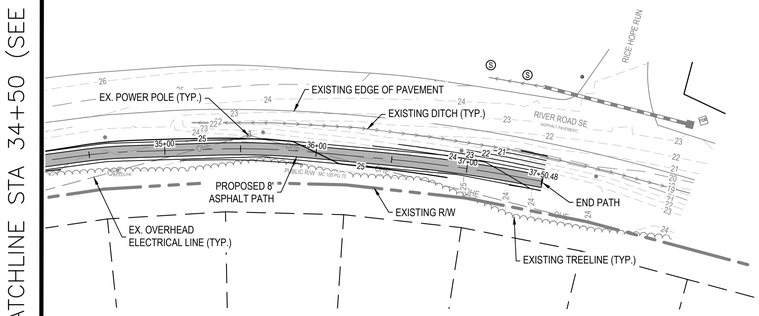
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No. C-6.1

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PLAN&PROFILE.dwg – Thursday, March 24, 2022 11:57:19 AM – BERGERON, RYAN

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

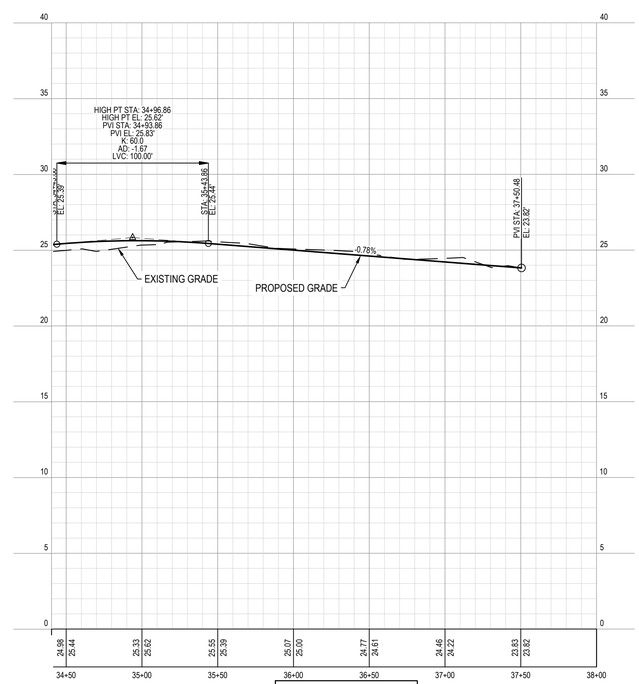
MATCHLINE STA 34+50 (SEE SHEET C6.1)



GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 ft.



EB-6025

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710741 1AC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

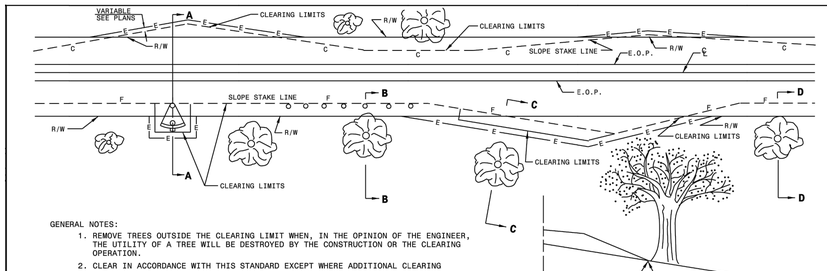
PLAN&PROFILE - STA. 34+50-38+00

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

Sheet No. C-6.2

w:\191\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\PLAN&PROFILE.dwg– Thursday, March 24, 2022 11:57:23 AM – BERGERON, RYAN

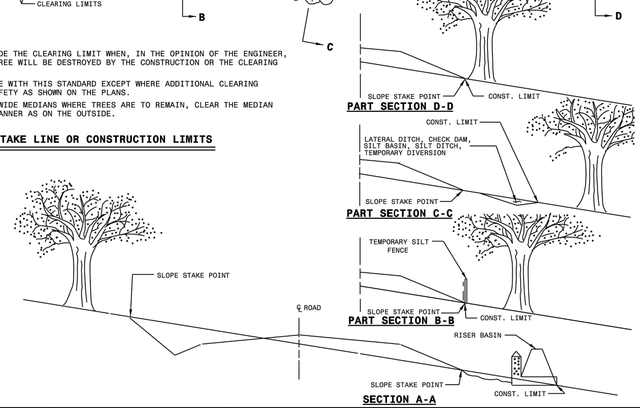
DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504



GENERAL NOTES:

1. REMOVE TREES OUTSIDE THE CLEARING LIMIT WHEN, IN THE OPINION OF THE ENGINEER, THE UTILITY OF A TREE WILL BE DESTROYED BY THE CONSTRUCTION OR THE CLEARING OPERATION.
2. CLEAR IN ACCORDANCE WITH THIS STANDARD EXCEPT WHERE ADDITIONAL CLEARING IS REQUIRED FOR SAFETY AS SHOWN ON THE PLANS.
3. FOR SECTIONS WITH WIDE MEDIANS WHERE TREES ARE TO REMAIN, CLEAR THE MEDIAN SIDE IN THE SAME MANNER AS ON THE OUTSIDE.

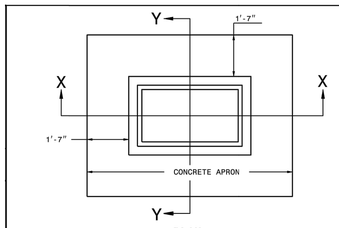
CLEAR TO SLOPE STAKE LINE OR CONSTRUCTION LIMITS



1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
METHOD OF CLEARING
METHOD - II

SHEET 1 OF 1
200.02



PLAN

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

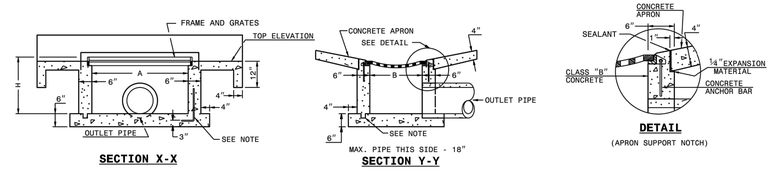
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

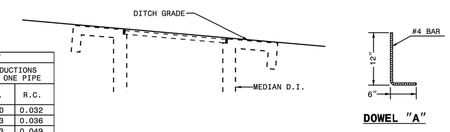
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.



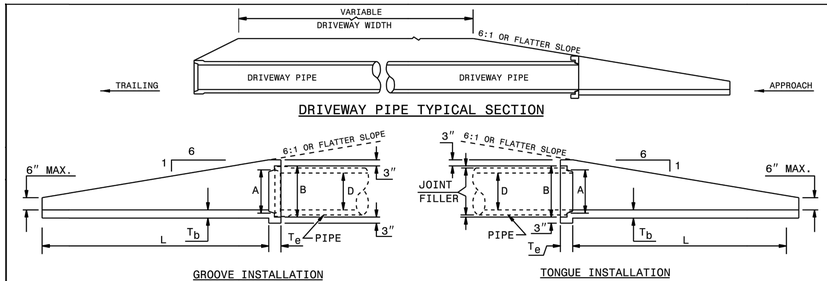


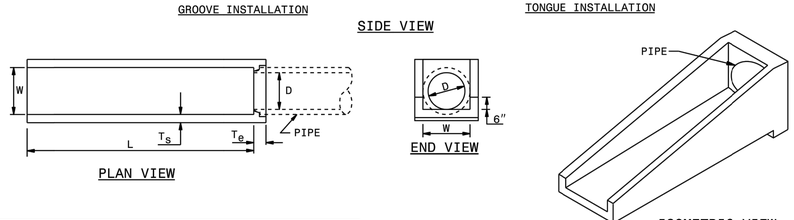
MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET									
PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	2'-6"	0.362	0.247	0.597	0.958	0.020	0.032
15"	3'-8"	2'-0"	2'-9"	0.362	0.247	0.659	1.021	0.023	0.036
18"	3'-8"	2'-0"	3'-0"	0.362	0.247	0.720	1.082	0.033	0.049
24"	3'-8"	2'-0"	3'-6"	0.362	0.247	0.865	1.227	0.059	0.085
30"	3'-8"	2'-0"	4'-0"	0.362	0.247	0.988	1.350	0.092	0.127
36"	3'-8"	2'-0"	4'-6"	0.362	0.247	1.112	1.474	0.132	0.178

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'B'
12" THRU 36" PIPE

SHEET 1 OF 1
840.18





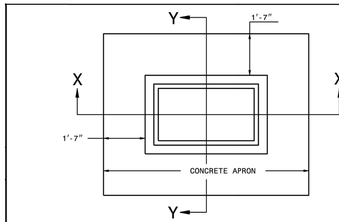
END TREATMENT DIMENSIONS							
D	L	W	T_s	T_b	T_e	A	B
15"	7'-6"	19"	4"	4"	6"	17¾"	20⅞"
18"	9'-0"	23"	4"	4"	6"	21¼"	25"
24"	12'-6"	30"	4"	4"	6"	27⅞"	32"

NOTES:
1. CONSTRUCT PIPE END SECTION USING #4 REBAR SPACED 9" EACH WAY AND MEET ALL REQUIREMENTS OF STD. SPEC. 310.
2. CHAMFER ALL EXPOSED CORNERS ¾".

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PARALLEL PIPE END SECTION
PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE

SHEET 1 OF 1
310.02



PLAN

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

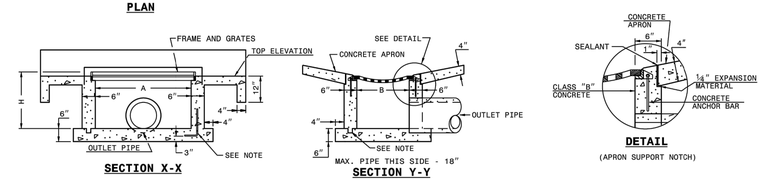
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

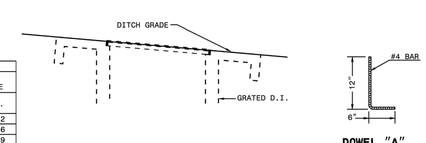
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.





MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET									
PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	1'-8"	0.362	0.247	0.391	0.753	0.020	0.032
15"	3'-8"	2'-0"	1'-11"	0.362	0.247	0.453	0.815	0.023	0.036
18"	3'-8"	2'-0"	2'-2"	0.362	0.247	0.515	0.877	0.033	0.049
24"	3'-8"	2'-0"	2'-8"	0.362	0.247	0.659	1.021	0.059	0.085
30"	3'-8"	2'-0"	3'-2"	0.362	0.247	0.782	1.144	0.092	0.127
36"	3'-8"	2'-0"	3'-8"	0.362	0.247	0.906	1.268	0.132	0.178

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'D'
12" THRU 36" PIPE

SHEET 1 OF 1
840.19

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710741AC44D... 8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

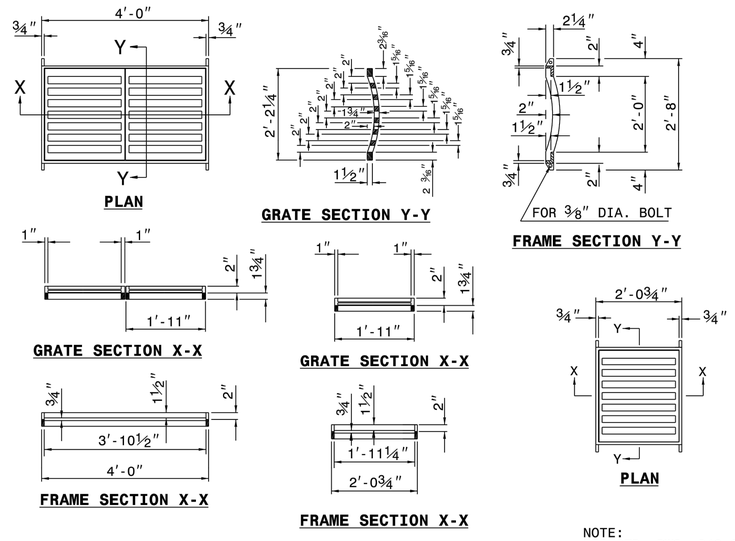
NCDOT STANDARD DETAILS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.0

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:21:57 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

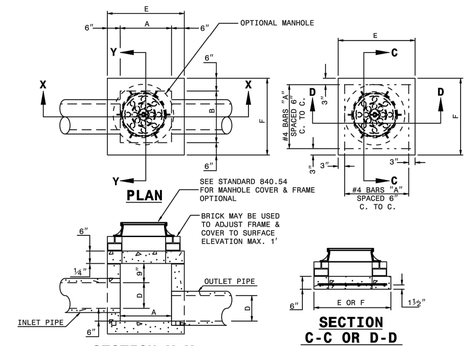


NOTE:
SEE STD. DWG. 840.25
FOR FRAME ANCHORAGE.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
FRAMES AND NARROW SLOT SAG GRATES

SHEET 1 OF 1
840.24



GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1".

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

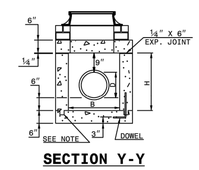
USE FORMS TO CONSTRUCT THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.



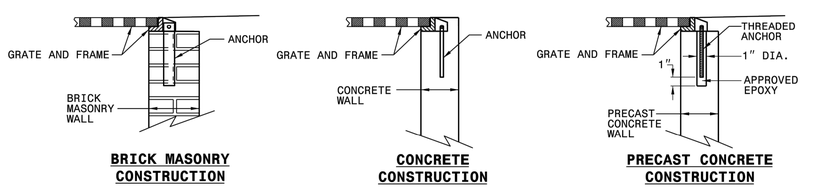
DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES

DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU.YDS.	
PIPE	SPAN	WIDTH	HEIGHT	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. MIN. "H"	C.S.	R.C.
D	A	B	H											
12"	2'-0"	2'-0"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.167	0.167	0.185	22	0.750	0.015	0.024
15"	2'-3"	2'-3"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.196	0.196	0.204	24	0.902	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.222	30	1.065	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	16	3'-9"	4'-0"	4'-0"	0.296	0.296	0.259	40	1.434	0.059	0.085
30"	3'-6"	3'-6"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	0.092	0.127
36"	4'-0"	4'-0"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.341	0.132	0.178
42"	4'-6"	4'-6"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	0.180	0.243
48"	5'-4"	5'-4"	5'-3"	26	6'-3"	6'-4"	6'-4"	0.743	0.743	0.407	111	3.623	0.235	0.317
54"	5'-10"	5'-10"	5'-9"	28	6'-7"	6'-10"	6'-10"	0.865	0.865	0.444	126	4.283	0.297	0.401
60"	6'-6"	6'-6"	6'-3"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.481	145	5.090	0.367	0.495
66"	7'-1"	7'-1"	6'-9"	32	7'-10"	8'-1"	8'-1"	1.210	1.210	0.518	169	5.917	0.444	0.589

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

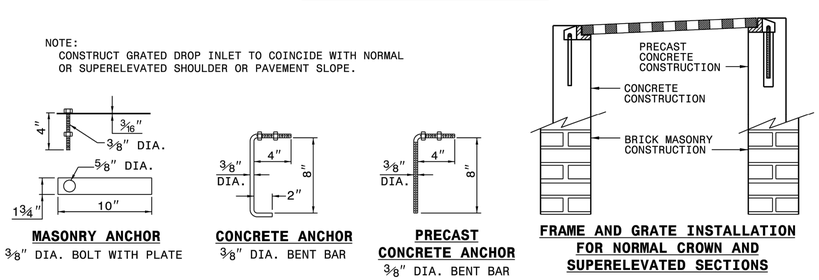
ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

SHEET 1 OF 1
840.31



DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

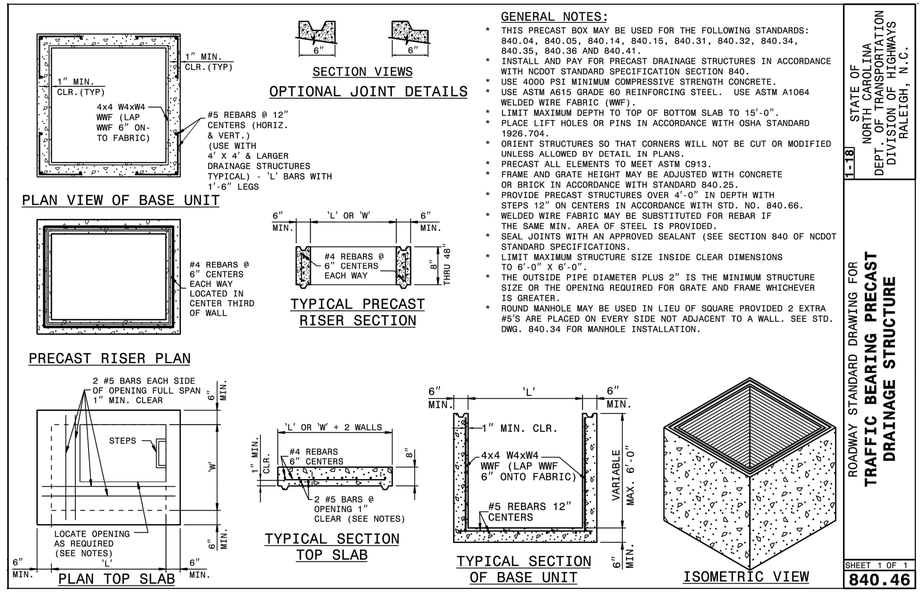
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840.25



GENERAL NOTES:

* THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34, 840.35, 840.36 AND 840.41.
* INSTALL AND PAY FOR PRECAST DRAINAGE STRUCTURES IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATION SECTION 840.
* USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.
* USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A1064 WELDED WIRE FABRIC (WWF).
* LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15'-0".
* PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
* ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.
* PRECAST ALL ELEMENTS TO MEET ASTM C913.
* FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
* PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.
* SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCDOT STANDARD SPECIFICATIONS.
* LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0".
* THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OR THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.
* ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA #5'S ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. SEE STD. DWG. 840.34 FOR MANHOLE INSTALLATION.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

SHEET 1 OF 1
840.46

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd
EEA710741 1AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

NCDOT STANDARD DETAILS

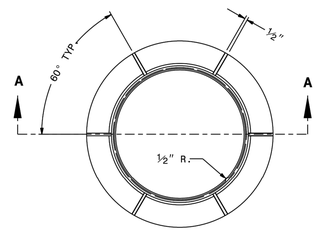
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.1

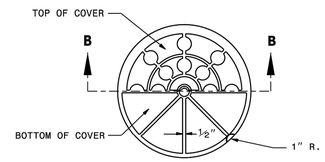
w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:22:01 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

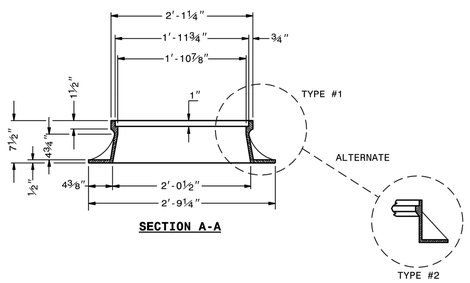
SOLID COVER SHOWN PERFORATED. PERFORATED AVAILABLE IF SPECIFIED.
STATE USE OF SYSTEM ON COVER
(I.E.: SEWER, STORM DRAIN, ELECTRICAL)



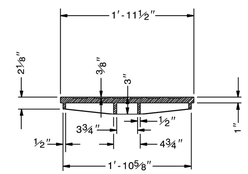
PLAN OF FRAME



PLAN OF COVER



SECTION A-A



SECTION B-B

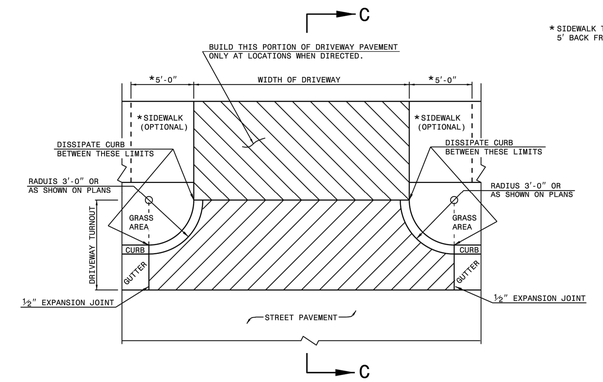
MINIMUM WEIGHTS - LBS.
FRAME - 180
COVER - 120
TOTAL - 300

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

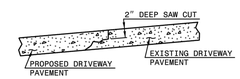
ROADWAY STANDARD DRAWING FOR
MANHOLE FRAME AND COVER

SHEET 1 OF 1
840.54



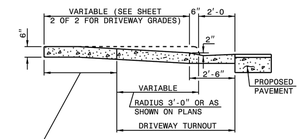
*SIDEWALK TAPERS DOWN 5' BACK FROM DRIVEWAY.

PLAN
DETAIL OF DRIVEWAY



METHOD OF TIE IN

WHEN EXISTING DRIVEWAY PAVEMENT IS CONCRETE, SAW CUT 2" DEEP JOINT AT THE POINT OF TIE-IN. SAW JOINT PERPENDICULAR TO EDGE OF EXISTING DRIVEWAY PAVEMENT.



SECTION C-C

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
DRIVEWAY TURNOUT
RADIUS TYPE

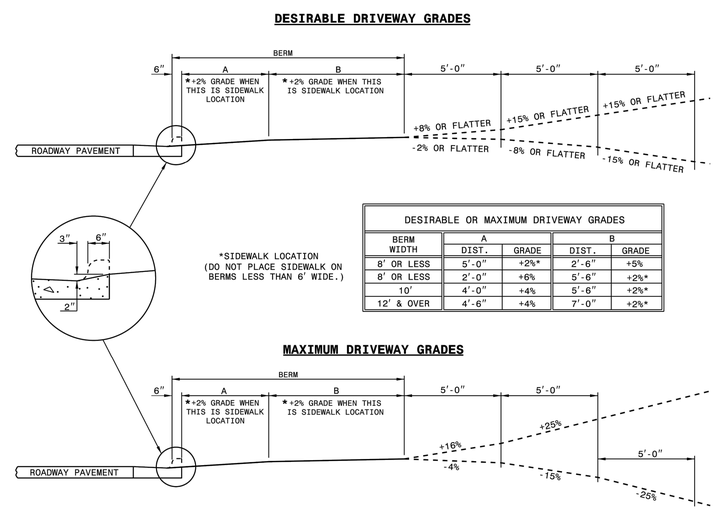
SHEET 1 OF 2
848.02

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. | SHEET NO.

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.



DESIRABLE OR MAXIMUM DRIVEWAY GRADES

BERM WIDTH	A DIST.	A GRADE	B DIST.	B GRADE
8' OR LESS	5'-0"	+2%*	2'-6"	+5%
8' OR LESS	2'-0"	+6%	5'-6"	+2%*
10'	4'-0"	+4%	5'-6"	+2%*
12' & OVER	4'-6"	+4%	7'-0"	+2%*

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
DRIVEWAY TURNOUT
DRIVEWAY GRADES

SHEET 2 OF 2
848.02

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSign Envelope ID: EEA710741 1AC64D...
8/18/2023

No.	Revision	Date	By
1	EROSION CONTROL REVISIONS	8/18/23	RCB

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

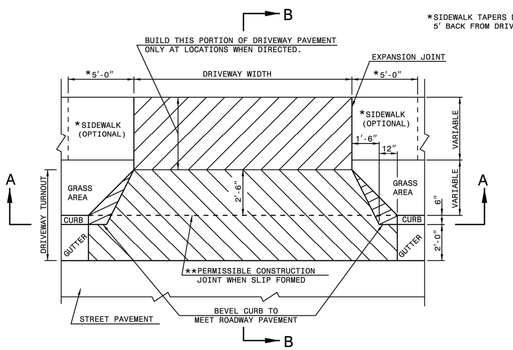
NCDOT STANDARD DETAILS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

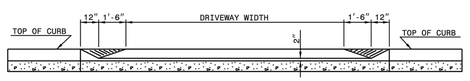
Sheet No.
D1.2

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Thursday, August 17, 2023 5:37:14 PM - BERGERON, RYAN

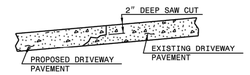
DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504



PLAN
DETAIL OF DRIVEWAY

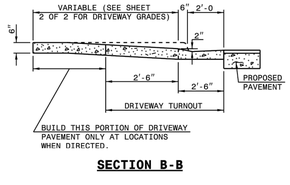


SECTION A-A



METHOD OF TIE IN

WHEN EXISTING DRIVEWAY PAVEMENT IS CONCRETE, SAW CUT 2" DEEP JOINT AT THE POINT OF TIE-IN. SAW JOINT PERPENDICULAR TO EDGE OF EXISTING DRIVEWAY PAVEMENT.



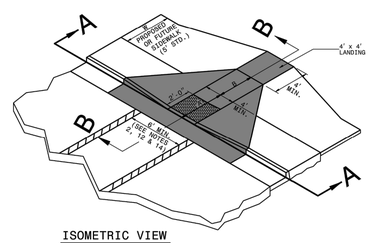
SECTION B-B

GENERAL NOTES:
**NO CONSTRUCTION JOINT WILL BE PERMITTED IF FORMS ARE USED TO CAST DRIVEWAY. SLIP FORMING OF CURB AND GUTTER PERMITS THE USE OF CONSTRUCTION JOINT.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
DRIVEWAY TURNOUT
DROP CURB TYPE

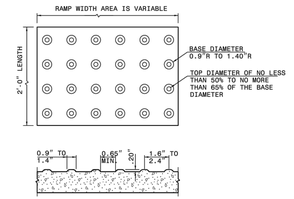
SHEET 1 OF 2
848.03



ISOMETRIC VIEW

PAY LIMITS FOR CURB RAMP

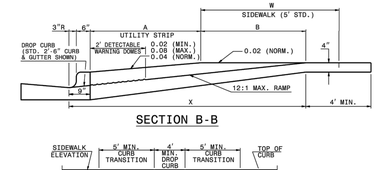
NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING DOMES

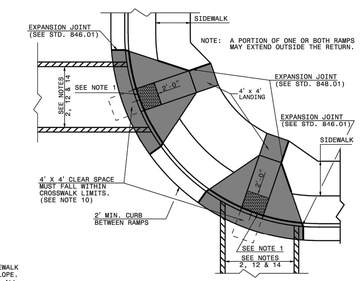
W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'**
7'	0.0'	7.8'	7.3'	6.5'**
8'	0.0'	8.8'	7.3'	6.5'**
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X-(A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.



SECTION B-B

SECTION A-A



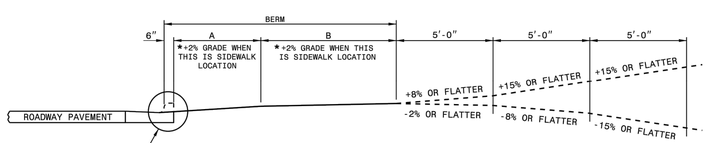
PLAN VIEW
DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

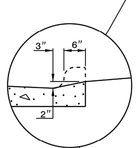
1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 1 OF 3
848.05

DESIRABLE DRIVEWAY GRADES



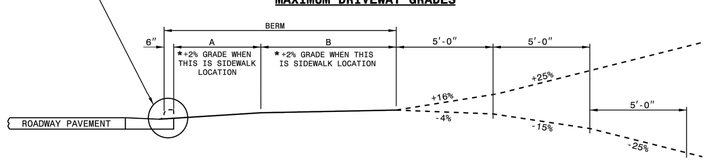


*SIDEWALK LOCATION (DO NOT PLACE SIDEWALK ON BERMS LESS THAN 6' WIDE.)

DESIRABLE OR MAXIMUM DRIVEWAY GRADES

BERM WIDTH	A		B	
	DIST.	GRADE	DIST.	GRADE
8' OR LESS	5'-0"	+2%*	2'-6"	+5%
8' OR LESS	2'-0"	+6%	5'-6"	+2%*
10'	4'-0"	+4%	5'-6"	+2%*
12' & OVER	4'-6"	+4%	7'-0"	+2%*

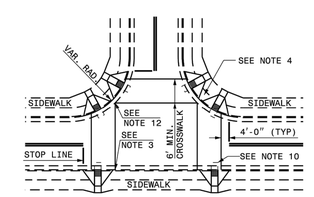
MAXIMUM DRIVEWAY GRADES



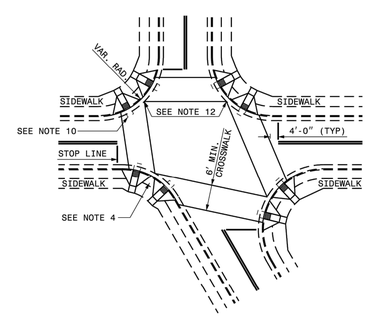
1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
DRIVEWAY TURNOUT
DRIVEWAY GRADES

SHEET 2 OF 2
848.03



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

ROADWAY PLAN SYMBOL
CR
FOR PROPOSED CURB RAMP

PROPOSED CURB RAMP W/ LANDING
PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 2 OF 3
848.05

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD
DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

NCDOT STANDARD DETAILS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.3

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:22:10 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

NOTES:

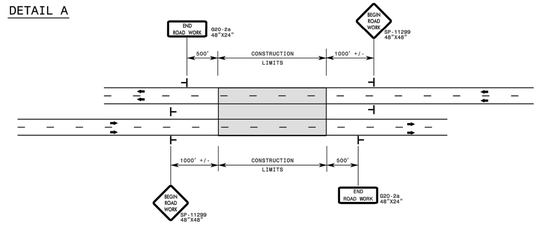
1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMPS
NOTES

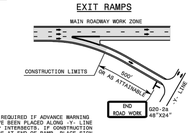
SHEET 3 OF 3
848.05

DETAIL A



DETAIL B

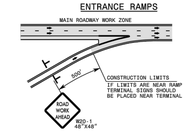
EXIT RAMPS



NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C

ENTRANCE RAMPS



GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD. 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

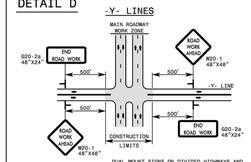
6- DO NOT BACK BRACE SIGN SUPPORTS.

7- TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND
STATIONARY SIGN
DIRECTION OF TRAFFIC FLOW

DETAIL D

-Y- LINES



DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000'+/-.

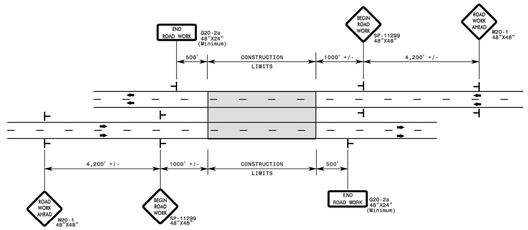
NO STATIONARY -Y- LINE ADVANCE WARNING SIGNAGE IS REQUIRED UNLESS THERE IS MORE THAN 1000' OF CONSTRUCTION ALONG THE -Y- LINE.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR FACILITIES < 55 MPH

SHEET 2 OF 3
1101.01

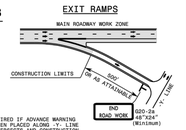
DETAIL A



* USE THE "$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL ONLY WHEN A "$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

DETAIL B

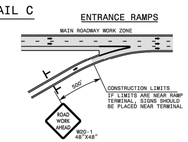
EXIT RAMPS



NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE UNDERWAY, IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C

ENTRANCE RAMPS



GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

6- DO NOT BACK BRACE SIGN SUPPORTS.

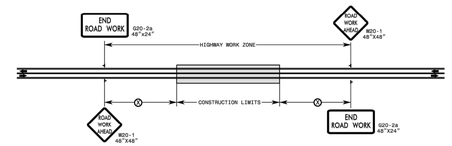
LEGEND
STATIONARY SIGN
DIRECTION OF TRAFFIC FLOW

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES > 60 MPH

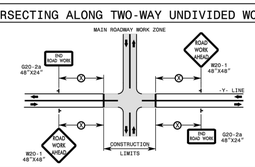
SHEET 1 OF 3
1101.01

TWO-WAY UNDIVIDED (L-LINES)



POSTED SPEED LIMIT (MPH)	RECOMMENDED MINIMUM SIGN SPACING X
≤ 50	500'
55	1000'

ROADWAYS INTERSECTING ALONG TWO-WAY UNDIVIDED WORK ZONE (Y-LINES)



NO STATIONARY -Y- LINE ADVANCE WARNING SIGNAGE IS REQUIRED UNLESS THERE IS MORE THAN 1000' OF CONSTRUCTION ALONG THE -Y- LINE.

GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

6- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND
STATIONARY SIGN
DIRECTION OF TRAFFIC FLOW

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR TWO-WAY UNDIVIDED FACILITIES

SHEET 3 OF 3
1101.01

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD
DocuSigned by: Joseph Boyd EEA7107411AC4AD...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH
BELVILLE NORTH CAROLINA

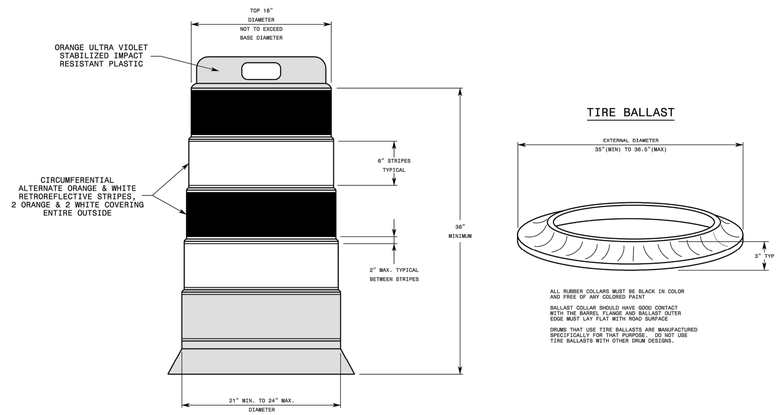
NCDOT STANDARD DETAILS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.4

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:22:15 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504



ALL RUBBER COLLARS MUST BE BLACK IN COLOR AND FREE OF ANY COLORED PAINT

BALLAST COLLAR SHOULD HAVE GOOD CONTACT WITH THE BARREL FLANGE AND BALLAST OUTER EDGE MUST LAY FLAT WITH ROAD SURFACE

DRUMS THAT USE TIRE BALLASTS ARE MANUFACTURED SPECIFICALLY FOR THAT PURPOSE. DO NOT USE TIRE BALLASTS WITH OTHER DRUM DESIGNS.

GENERAL NOTES

1- BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE-SIDEWALL, OR PREFORMED WEIGHTED BASE METHODS. USE THE TIRE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.

2- IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.

3- ALL DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCT LIST.

4- REFER TO THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR ADDITIONAL INFORMATION.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **DRUMS**

SHEET 1 OF 1
1130.01

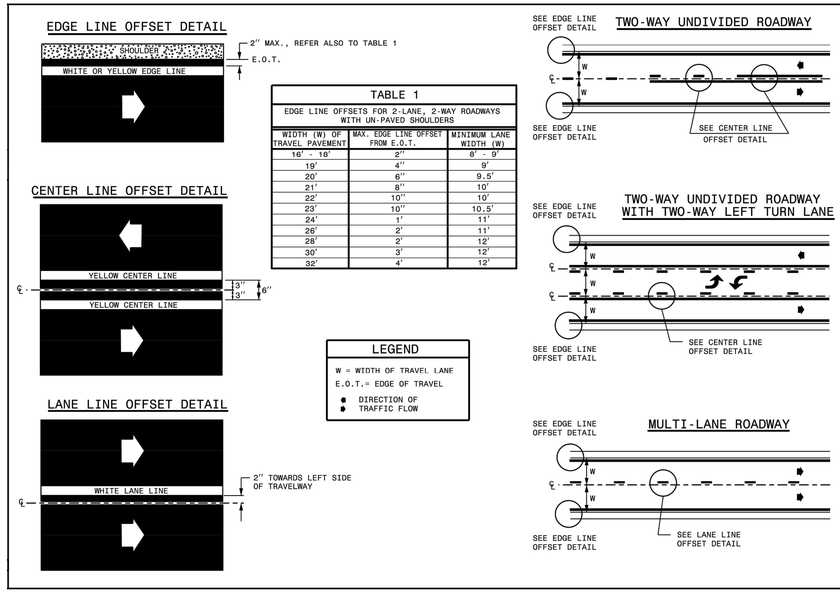


TABLE 1

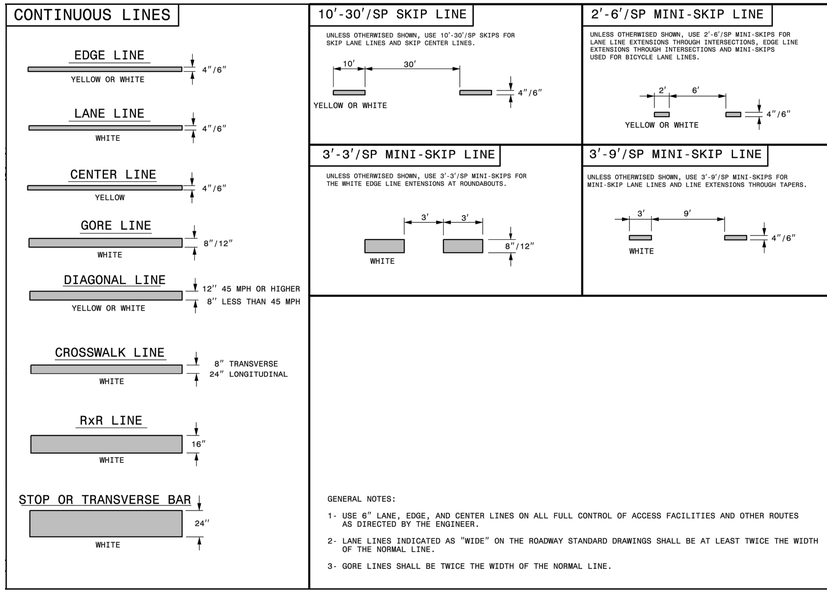
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

WIDTH (W) OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E.O.T.	MINIMUM LANE WIDTH (W)
16' - 18'	2"	8' - 9'
19'	4"	9'
20'	6"	9.5'
21'	8"	10'
22'	10"	10'
23'	10"	10.5'
24'	1'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

SHEET 2 OF 2
1205.01



GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

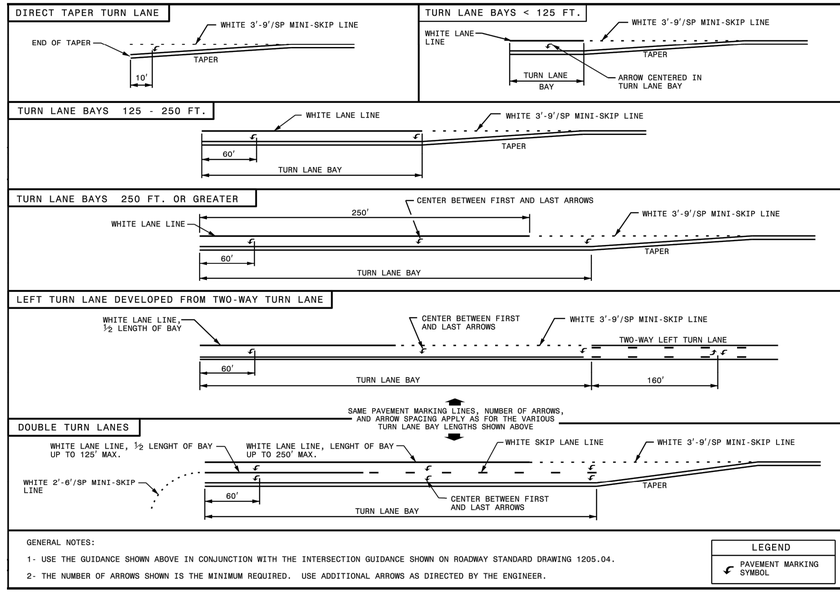
2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

SHEET 1 OF 2
1205.01



GENERAL NOTES:

1- USE THE GUIDANCE SHOWN ABOVE IN CONJUNCTION WITH THE INTERSECTION GUIDANCE SHOWN ON ROADWAY STANDARD DRAWING 1205.04.

2- THE NUMBER OF ARROWS SHOWN IS THE MINIMUM REQUIRED. USE ADDITIONAL ARROWS AS DIRECTED BY THE ENGINEER.

LEGEND

PAVEMENT MARKING SYMBOL

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** TURN LANES

SHEET 1 OF 1
1205.05

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd — EEA7107411AC44D...
8/18/2023

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:22:20 AM - BOYD, JOSEPH

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

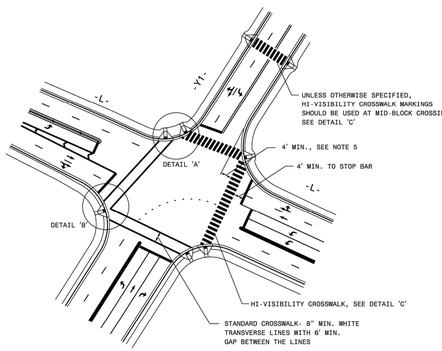
NCDOT STANDARD DETAILS

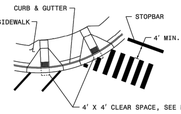
WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.5

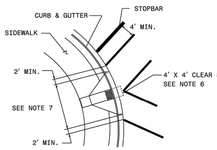
DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504

CROSSWALK PLACEMENT GUIDANCE

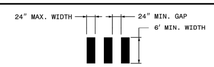




DETAIL 'A'- DUAL CURB RAMPS



DETAIL 'B'- SINGLE DIAGONAL CURB RAMP



DETAIL 'C'- HI-VISIBILITY CROSSWALK

GENERAL NOTES:

1- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.

2- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.

3- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

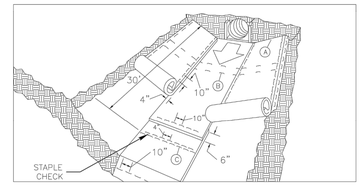
7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.

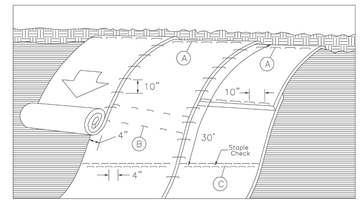
1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS

SHEET 1 OF 1
1205.07



MATTING IN DITCHES



MATTING ON SLOPES

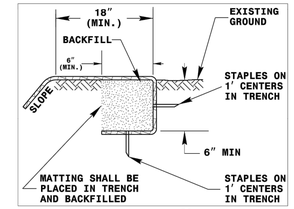


DIAGRAM (A)

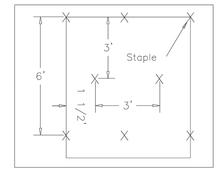


DIAGRAM (B)

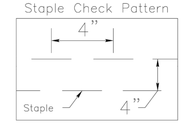


DIAGRAM (c)

NOTES

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, COIR FIBER MAT AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION AND AS DIRECTED.

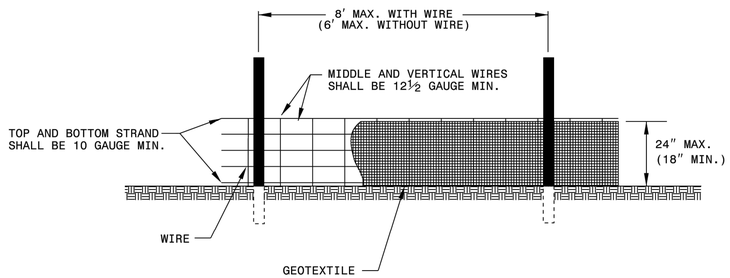
STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
MATTING INSTALLATION

SHEET 1 OF 1
1631.01



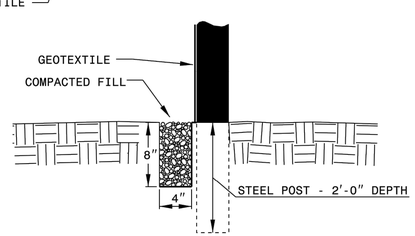
NOTES

USE GEOTEXTILE A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE POSTS AND WIRE AS DIRECTED.

USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 5 LINE WIRES WITH 12" VERTICAL SPACING.

PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.

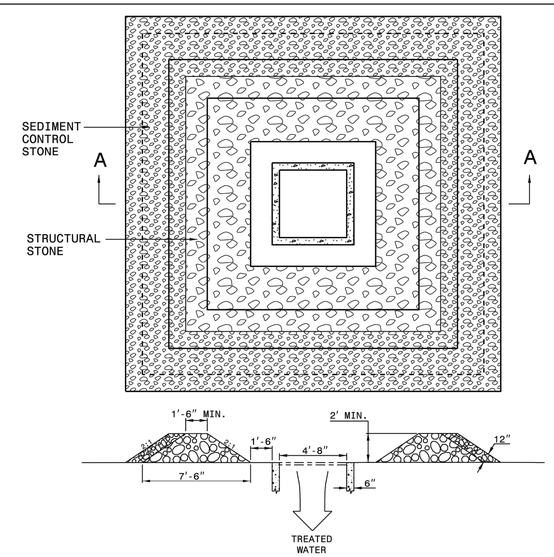
FOR MECHANICAL SLICING METHOD INSTALLATION, GEOTEXTILE SHALL BE A MAXIMUM OF 18" ABOVE GROUND SURFACE.



1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY SILT FENCE

SHEET 1 OF 1
1605.01



SECTION A-A

NOTES

CLEAN SEDIMENT WHEN ½ FULL AND AS DIRECTED.

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

USE CLASS B STONE FOR STRUCTURAL STONE.

CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR ANY DIVERSION POINT.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
ROCK INLET SEDIMENT TRAP TYPE A

SHEET 1 OF 1
1632.01

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA7107411AC44D...
8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

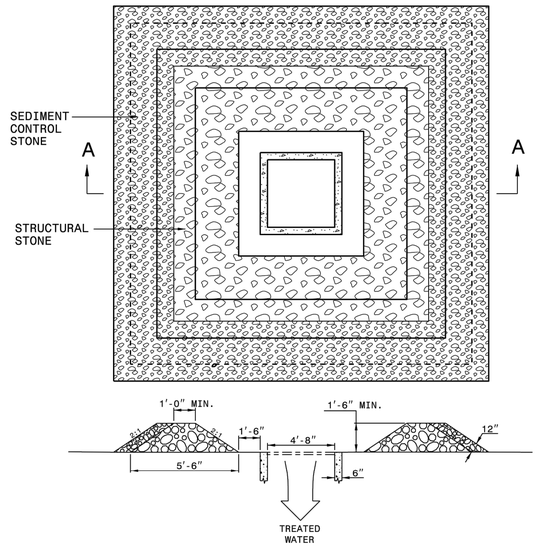
NCDOT STANDARD DETAILS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.6

w:\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:22:25 AM - BOYD, JOSEPH

DocuSign Envelope ID: A0EE45F2-0269-479B-A9F8-1E522FE89504



SECTION A-A

NOTES

CLEAN SEDIMENT WHEN 1/2 FULL AND AS DIRECTED.

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

USE CLASS A STONE FOR STRUCTURAL STONE.

CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR ANY DIVERSION POINT.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

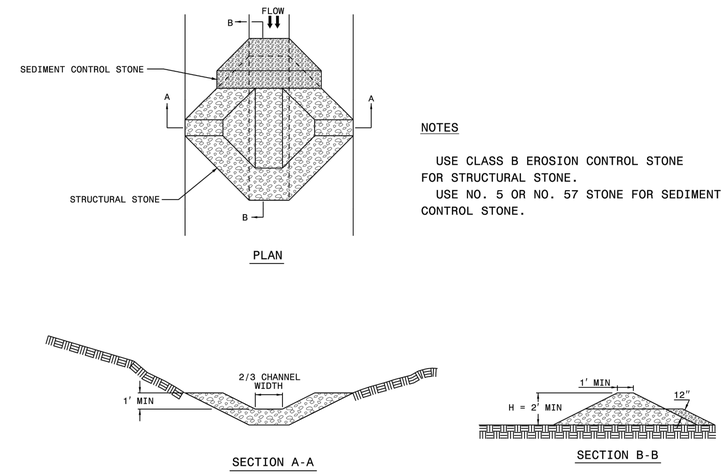
1-18

ROADWAY STANDARD DRAWING FOR

ROCK INLET SEDIMENT TRAP TYPE B

SHEET 1 OF 1

1632.02



PLAN

SECTION A-A

SECTION B-B

NOTES

USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

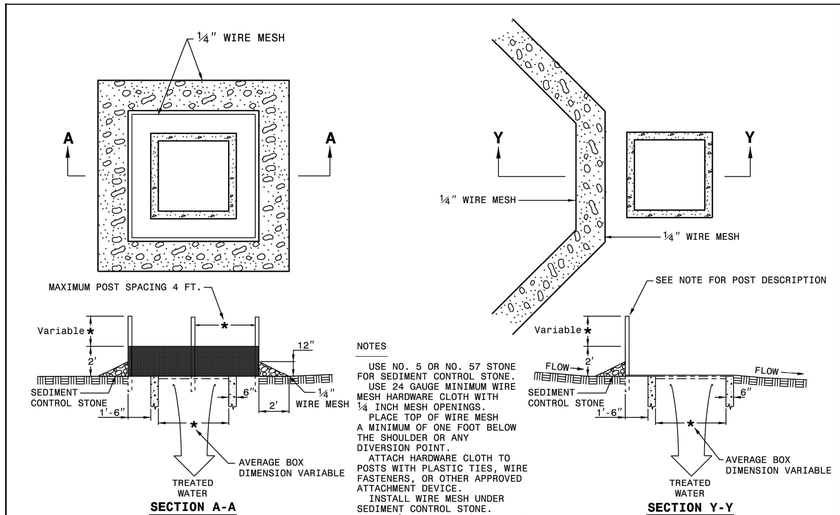
1-18

ROADWAY STANDARD DRAWING FOR

TEMPORARY ROCK SILT CHECK TYPE A

SHEET 1 OF 1

1633.01



SECTION A-A

MULTI-DIRECTIONAL FLOW

NOTES

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

USE 24 GAUGE MINIMUM WIRE MESH HARDWARE CLOTH WITH ¼ INCH MESH OPENINGS.

PLACE TOP OF WIRE MESH A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR ANY DIVERSION POINT.

ATTACH HARDWARE CLOTH TO POSTS WITH PLASTIC TIES, WIRE FASTENERS, OR OTHER APPROVED ATTACHMENT DEVICE.

INSTALL WIRE MESH UNDER SEDIMENT CONTROL STONE.

USE 5' STEEL POST, INSTALLED 2' DEEP MINIMUM, AND OF THE SELF-FASTENER ANGLE STEEL TYPE.

SPACE POST A MAXIMUM OF 4'.

SECTION Y-Y

SINGLE-DIRECTIONAL FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

ROCK INLET SEDIMENT TRAP TYPE C

SHEET 1 OF 1

1632.03

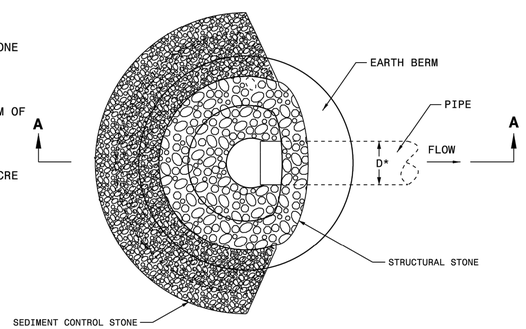
NOTES

USE CLASS A EROSION CONTROL STONE FOR STRUCTURAL STONE.

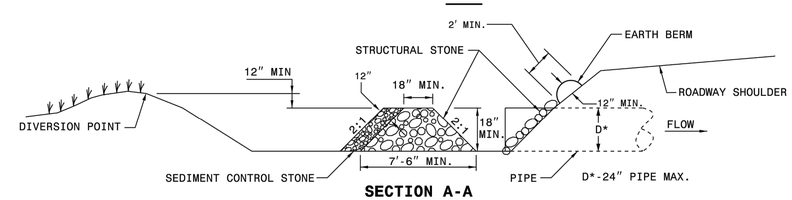
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR DIVERSION POINT.

PROVIDE A TOTAL SEDIMENT TRAP VOLUME OF 3600± CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY UP OR DOWNSTREAM CONTROLS.



PLAN



SECTION A-A

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

ROCK PIPE INLET SEDIMENT TRAP TYPE B

SHEET 1 OF 1

1635.02

NORTH CAROLINA PROFESSIONAL SEAL 39113 ENGINEER JOSEPH S. BOYD

DocuSigned by: Joseph Boyd EEA710411AC4AD...

8/18/2023

No.	Revision	Date	By

Designer TMG	Scale
Drawn By JSB	Date 12/23/2020
Checked By JSB	Job No. 191388

BELVILLE NC 133 MULTI USE PATH

BELVILLE NORTH CAROLINA

NCDOT STANDARD DETAILS

WithersRavenel
Engineers | Planners | Surveyors
219 Station Road, Suite 101 | Wilmington, NC 28405 | t: 910.256.9277 | license #: C-0832 |
www.withersravenel.com

Sheet No.
D1.7

*\19\19-1380\191388-belville nc 133 multi use path\CAD\drawing sets\construction\DETAILS.dwg- Wednesday, February 2, 2022 11:22:29 AM - BOYD, JOSEPH