

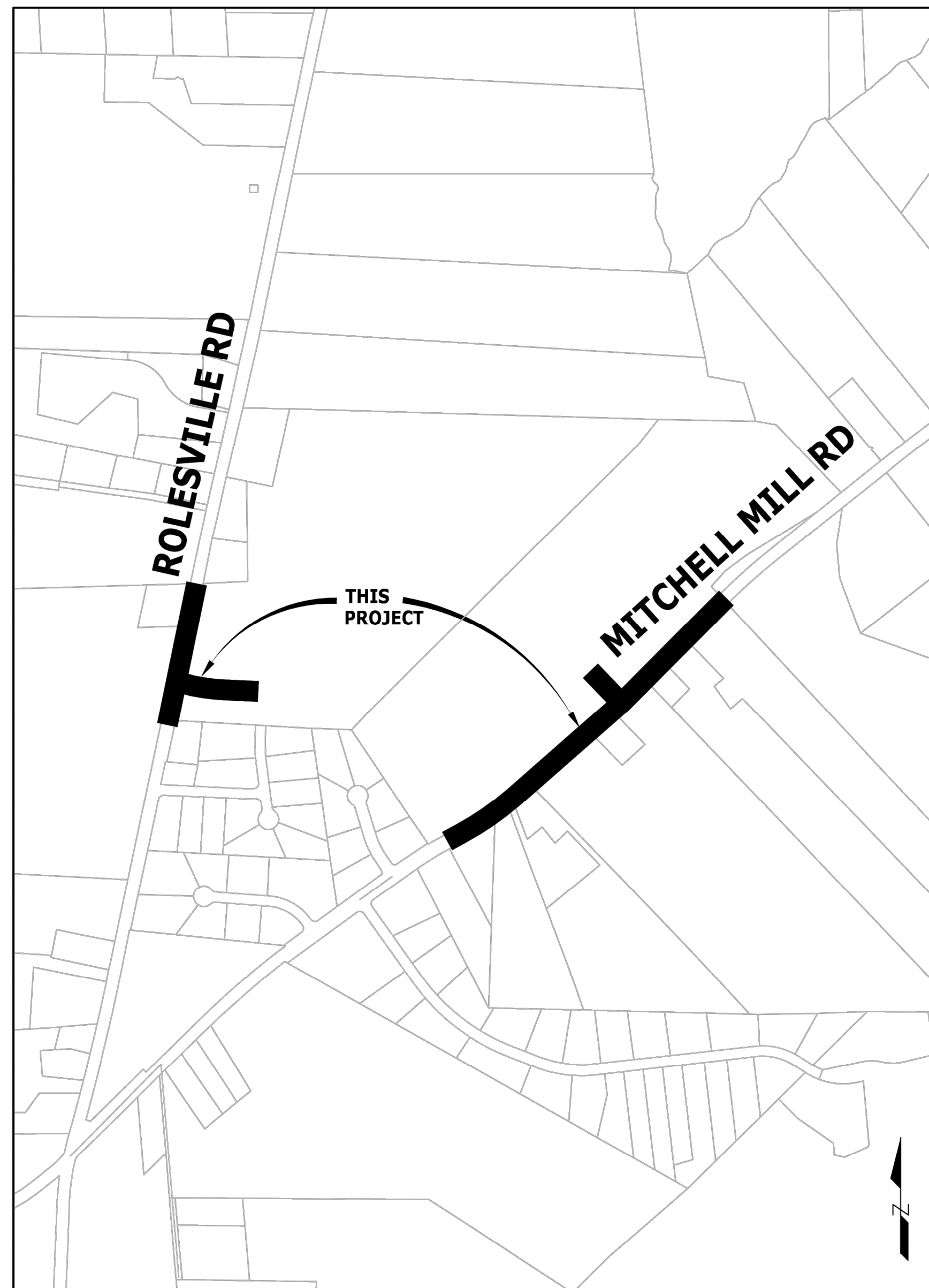
# WHEELER TRACT OFFSITE IMPROVEMENTS

TOWN OF ROLESVILLE  
WAKE COUNTY, NORTH CAROLINA

DATE: 07/21/22

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OVERALL VICINITY MAP  
SCALE: 1" = 500'



ALL CONSTRUCTION SHALL CONFORM WITH THE LATEST VERSION OF NCDOT STANDARDS AND SPECIFICATIONS.

### SURVEY NOTES:

- HORIZONTAL CONTROL (BASIS OF THE BEARINGS) IS BASED ON NC STATE GRID, NAD83 (2011); VERTICAL CONTROL IS BASED ON NAVD83, AS ESTABLISHED BY GPS. ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES.
- CONTOUR INTERVALS ARE 1'.
- THE LOCATION OF SUB-SURFACE UTILITIES AS SHOWN HEREON, IF ANY, ARE BASED ON FIELD LOCATION OF SURFACE FEATURES AND MARKINGS PROVIDED BY NC 811 AND ARE APPROXIMATE. OTHER SUB-SURFACE UTILITIES MAY EXIST ON THIS SITE THAT ARE NOT INCLUDED IN THIS SURVEY.
- THIS MAP CONSTITUTES NEITHER A SUBDIVISION NOR A RECOMBINATION PLAT OF THE PARCELS OF LAND SHOWN HEREON. THIS MAP HAS NOT BEEN PREPARED IN ACCORDANCE WITH NC G.S. 47-30 AND IS NOT SUITABLE FOR RECORDING.
- THERE ARE NO RECOVERABLE NGS MONUMENTS WITHIN 200' OF THIS PROPERTY.

### EXISTING CONDITIONS NOTES:

- OTHER SOURCES OF INFORMATION INCLUDE TOWN GIS AND AERIAL IMAGERY.
- THE UTILITIES ON THESE PLANS ARE APPROXIMATE ONLY, AND ARE NOT ACCURATE FOR CONSTRUCTION PURPOSES. FOR FIELD MARKS CALL 811.

### DEMOLITION NOTES:

- ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
- ALL WASTE MATERIAL GENERATED FROM CLEARING AND DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
- REMOVE TOPSOIL AND STOCKPILE APPROPRIATELY ON-SITE. ON-SITE TEMPORARY STOCKPILES SHALL BE LOCATED WITHIN CONSTRUCTION LIMITS.
- ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS INDICATED OTHERWISE. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR DETAIL.
- PROTECT ALL ADJACENT PROPERTIES. THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES SHOULD DAMAGE OCCUR, NOTIFY ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL USE NC ONE CALL (811) TO LOCATE ALL UNDERGROUND UTILITIES.
- VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ENGINEER IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND OSHA REGULATIONS.
- EXISTING MANHOLES, VALVE BOXES, VAULTS, CLEANOUTS, UTILITY POLES ETC. TO REMAIN WITHIN THE GRADING LIMITS SHALL BE ADJUSTED AS NEEDED TO FUNCTION PROPERLY WITH THE PROPOSED FINISHED GRADES (WHETHER OR NOT INDICATED TO BE MODIFIED).
- GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING ETC. WITH THE OWNER.
- CONTRACTOR TO COORDINATE ALL WORK AS NEEDED WITH UTILITY COMPANIES, MUNICIPALITY, AND INSPECTORS.
- CONTRACTOR TO COORDINATE ALL DEMOLITION WORK AS NEEDED WITH UTILITY COMPANIES AND MUNICIPALITIES. ALL WORK SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- CONTRACTOR TO CONFIRM LOCATION OF ALL ON-SITE UTILITY SERVICES AND COORDINATE REMOVAL AS NEEDED.

### GRADING AND STORM DRAINAGE NOTES:

- CONTRACTOR SHALL CALL "NORTH CAROLINA ONE CALL" (1-800-632-4949) AT LEAST 48 HOURS PRIOR TO DIGGING TO HAVE EXISTING UTILITIES LOCATED. REPORT ANY DISCREPANCIES TO THE ENGINEER.
- CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES INVOLVED IN ANY RELATED RELOCATION (I.E. POWER POLES, TELEPHONE PEDESTALS, WATER METERS, ETC.).
- EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, VALVE BOXES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISHED GRADE.
- ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE CONTRACTOR'S INDEPENDENT TESTING LABORATORY.
- A PRE-CONSTRUCTION MEETING MUST BE SCHEDULED PRIOR TO ANY WORK, GRADING OR INSTALLATION OF EROSION CONTROL MEASURES.
- IF CONTRACTOR NOTICES ANY DISCREPANCIES IN ANY OF THESE SLOPE REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ENGINEER PRIOR TO POURING ANY ASPHALT SO THAT A SOLUTION CAN BE FOUND.
- SPOT ELEVATIONS ARE GIVEN AT THE MAJORITY OF THE MAJOR BREAK POINTS BUT IT SHOULD NOT BE ASSUMED THAT ALL NECESSARY SPOT ELEVATIONS ARE SHOWN. DUE TO SPACE LIMITATIONS, THERE MAY BE OTHER CRITICAL SPOTS NOT LABELED THAT SHOULD BE TAKEN INTO CONSIDERATION. THE CONTRACTOR SHALL REVIEW THE GRADING PLAN IN DETAIL AND SHALL ENSURE THAT ALL CRITICAL GRADE POINTS ARE STAKED AND FOLLOWED TO PROVIDE POSITIVE DRAINAGE.
- EXISTING VEGETATION WITHIN TREE PROTECTIVE AREAS SHALL REMAIN UNDISTURBED UNLESS NOTED OTHERWISE. ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR USING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR OR THE ENGINEER.
- THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.

### DESIGN DATA

Rolesville Road (SR-1003)	Mitchell Mill Road (SR-2224)
ADT 2019 = 4,300	ADT 2019 = 1,900
Vd = 50 mph	Vd = 50 mph
F.C. = Minor Arterial	F.C. = Major Collector

NOTE: SEE TRAFFIC STUDY FOR FUTURE VOLUMES



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06-15-2023  
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SCALE  
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JOB NO.  
43398

SHEET NO.  
R1.00

REVISION DESCRIPTION  
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
GRADING AND STORM NETWORK ADJUSTMENTS

REVISION DATE

REVISION BY

REVISION DATE

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**TIMMONS GROUP**  
WHEELER TRACT - OFFSITE IMPROVEMENTS  
ROLESVILLE - WAKE COUNTY, NORTH CAROLINA  
COVER SHEET

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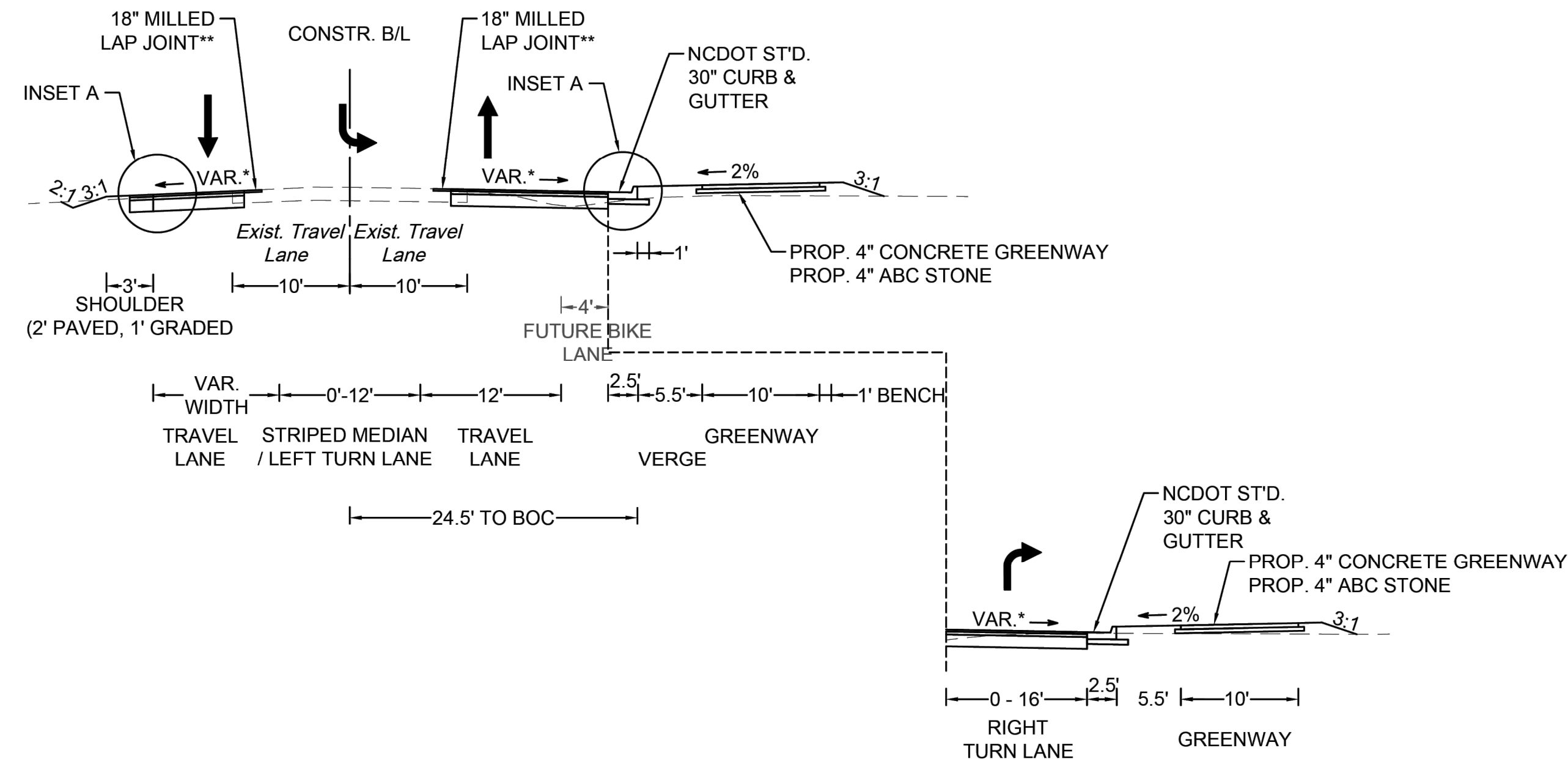




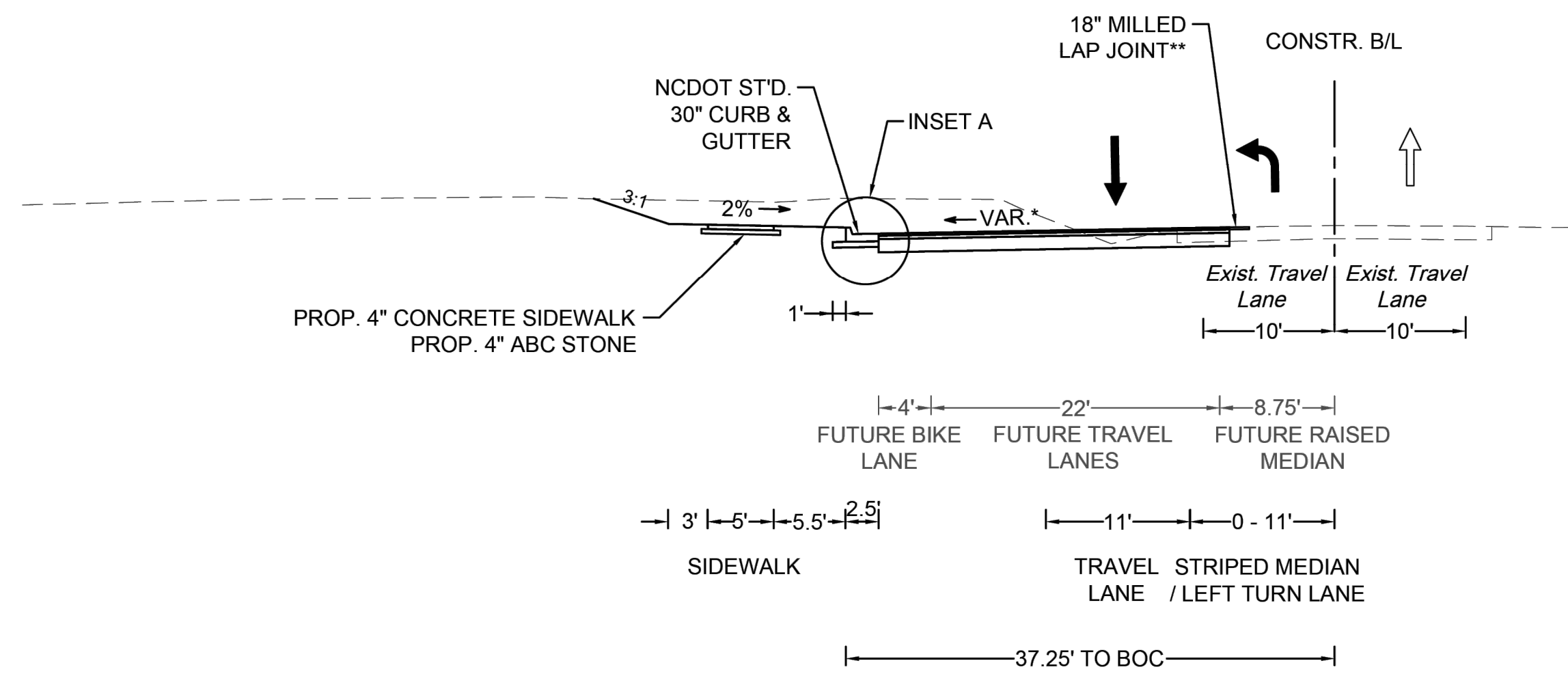


# TYPICAL SECTIONS

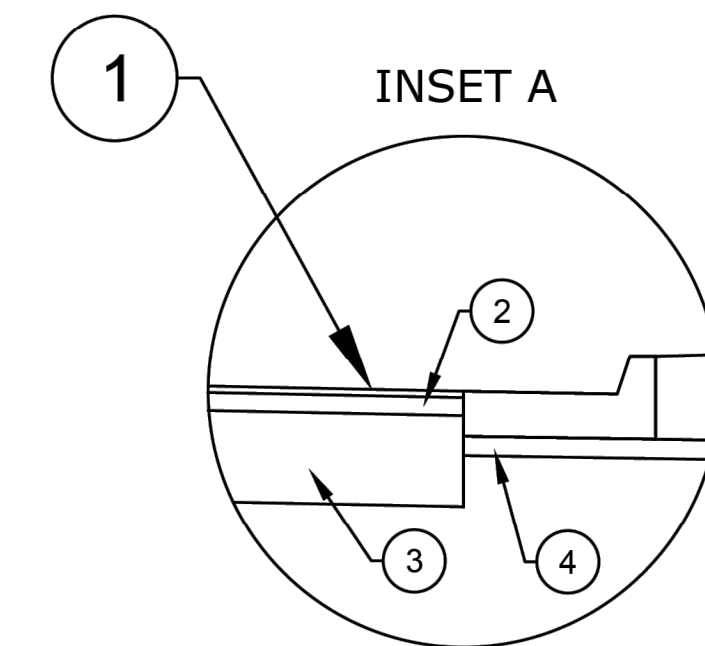
## ROLESVILLE ROAD PROPOSED TYPICAL SECTION STA. 102+70 TO 110+00



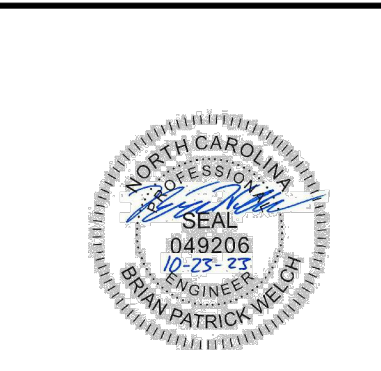
## MITCHELL MILL ROAD PROPOSED TYPICAL SECTION STA. 203+00 TO 220+75



\* OR AS CONTROLLED BY SUPERELEVATION, SEE CROSS SECTIONS FOR FURTHER DETAILS  
 \*\* SAW CUT 18" INTO EXISTING PAVEMENT TO KEY-IN PAVEMENT WIDENING AREAS. MATCH AND REPLACE EXISTING.



- ① 3" ASPHALT CONCRETE SURFACE COURSE (NCDOT S9.5C)
- ② 4" ASPHALT INTERMEDIATE COURSE (NCDOT I19.0C)
- ③ 10" AGGREGATE BASE MATERIAL (NCDOT ABC STONE)  
\* USE 5" DEPTH ASPHALT CONCRETE BASE COURSE (NCDOT B25.0C) IF WIDENING < 6'
- ④ 4" AGGREGATE BASE MATERIAL (NCDOT ABC STONE)



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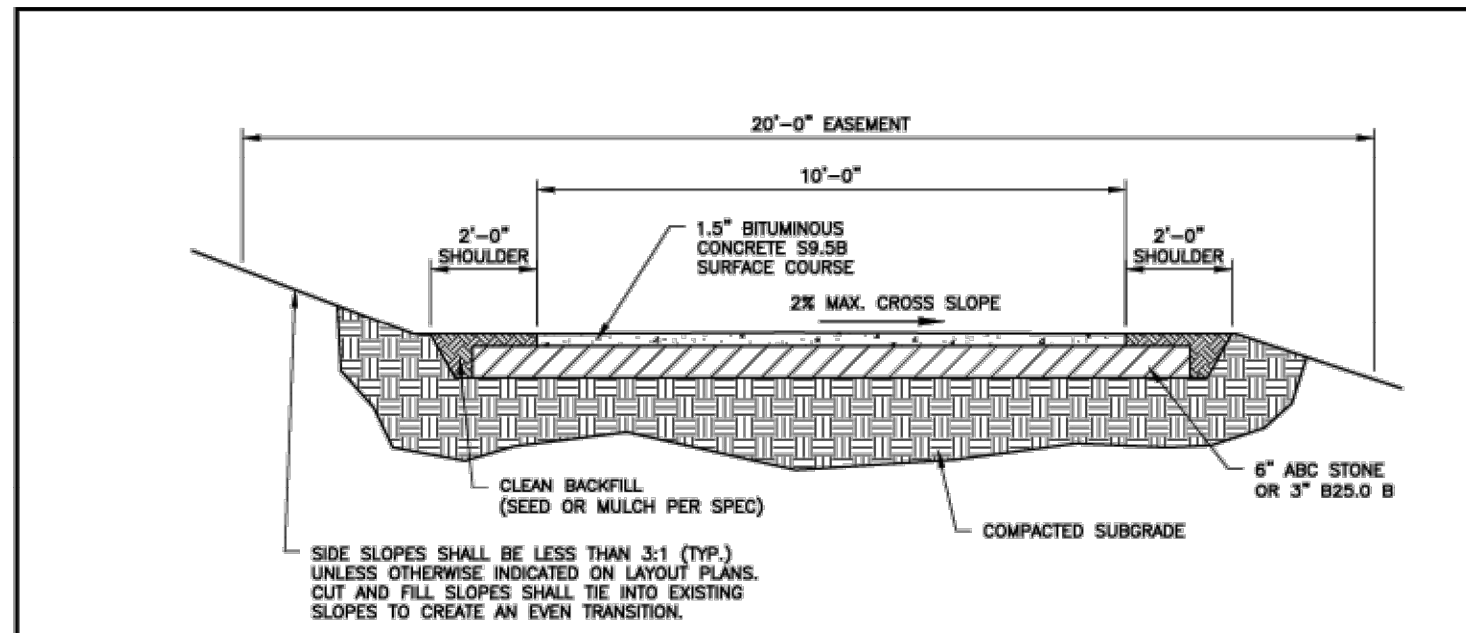
REVISION DESCRIPTION	DATE
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE	06-15-2023
GRADING AND STORM NETWORK ADJUSTMENTS	10-24-2023
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	AS NOTED

# TIMMONS GROUP

## WHEELER TRACT - OFFSITE IMPROVEMENTS ROLESVILLE - WAKE COUNTY, NORTH CAROLINA TYPICAL SECTIONS

JOB NO.  
**43398**  
 SHEET NO.  
**R2.01**

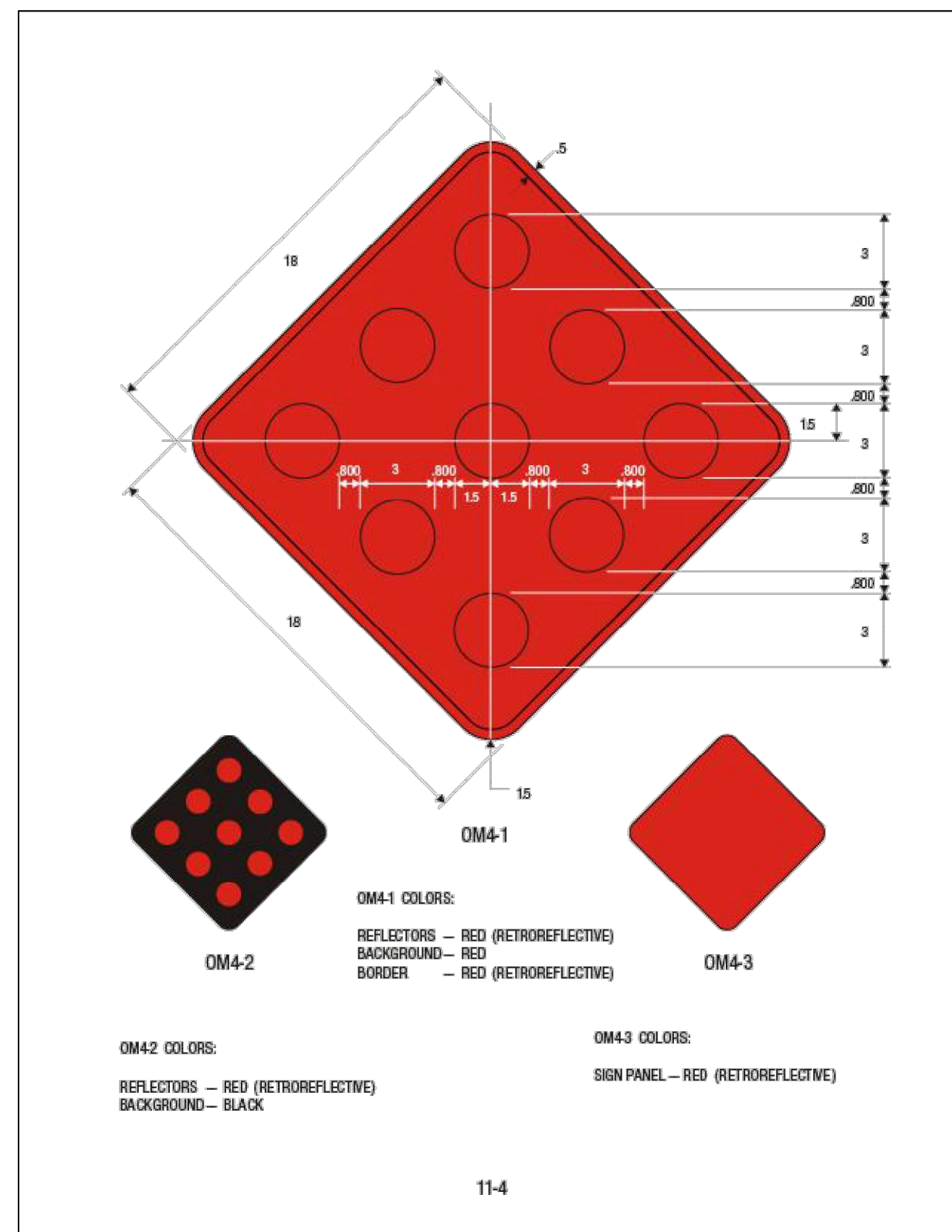




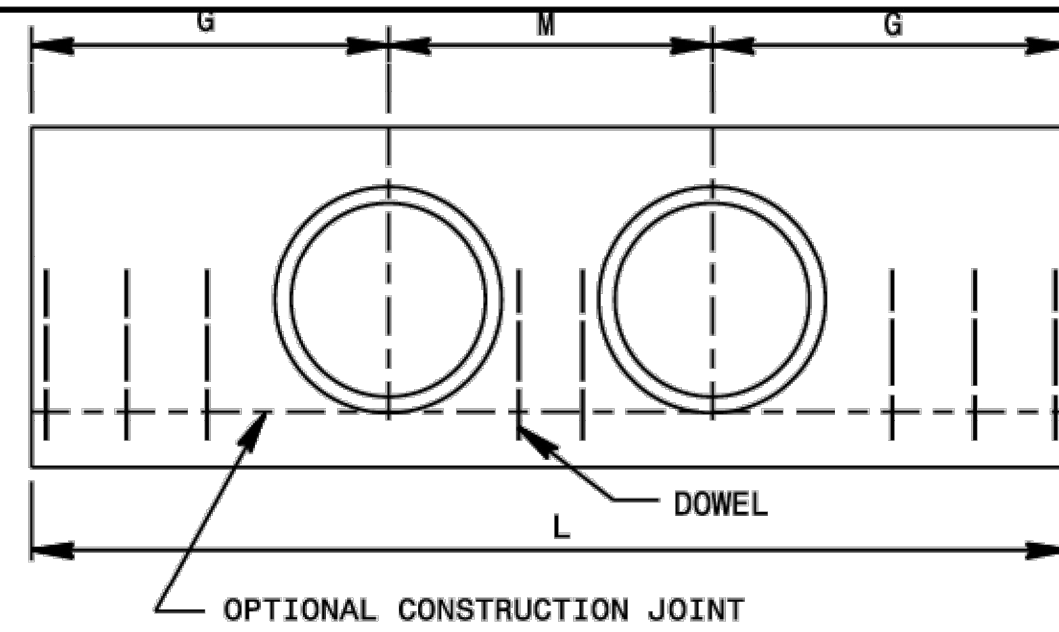
- NOTES:
- CROSS SLOPE DIRECTION VARIES. SEE LAYOUT PLANS FOR DIRECTION OF SLOPE.
  - CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED BY CONSTRUCTION.
  - SEE DETAIL 080.13 FOR AREAS WHERE GROUNDWATER IS PRESENT.
  - IF NATURAL DRAINAGE CROSSES TRAIL IN AN EROSION MANNER, ADDITIONAL MEASURES SHALL BE REQUIRED TO PASS WATER ACROSS GREENWAY.
  - 20 FT EASEMENT SHALL BE CLEARED OF ALL VEGETATION AND SEEDED APPROPRIATELY.
  - VERTICAL CLEARANCE OF 8" FROM GREENWAY SURFACE TO LOWEST VEGETATION SHALL BE REQUIRED. SELECT REMOVAL OF VEGETATION THAT POSSES MAINTENANCE ISSUES MAY BE REQUIRED.

DRAWING NOT TO SCALE

DATE: DECEMBER 30, 2018  
 TOWN OF FUQUAY-VARINA STANDARD DETAILS  
 10 FT ASPHALT GREENWAY TRAIL  
 SHEET NO. 080.12  
 SHEET 01 OF 01



11-4



ELEVATION

**DOWELS IN ENDWALL WITH REINFORCED CONCRETE**

LOC.	SINGLE PIPE									
	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"
G	2	2	3	3	4	4	5	2	2	3
M	-	-	-	-	-	2	2	1	1	2
G	2	2	3	3	4	4	5	2	2	3
M	-	-	-	-	-	2	2	1	1	2
TOTAL LBS.	9	9	14	14	19	55	65	12	12	19

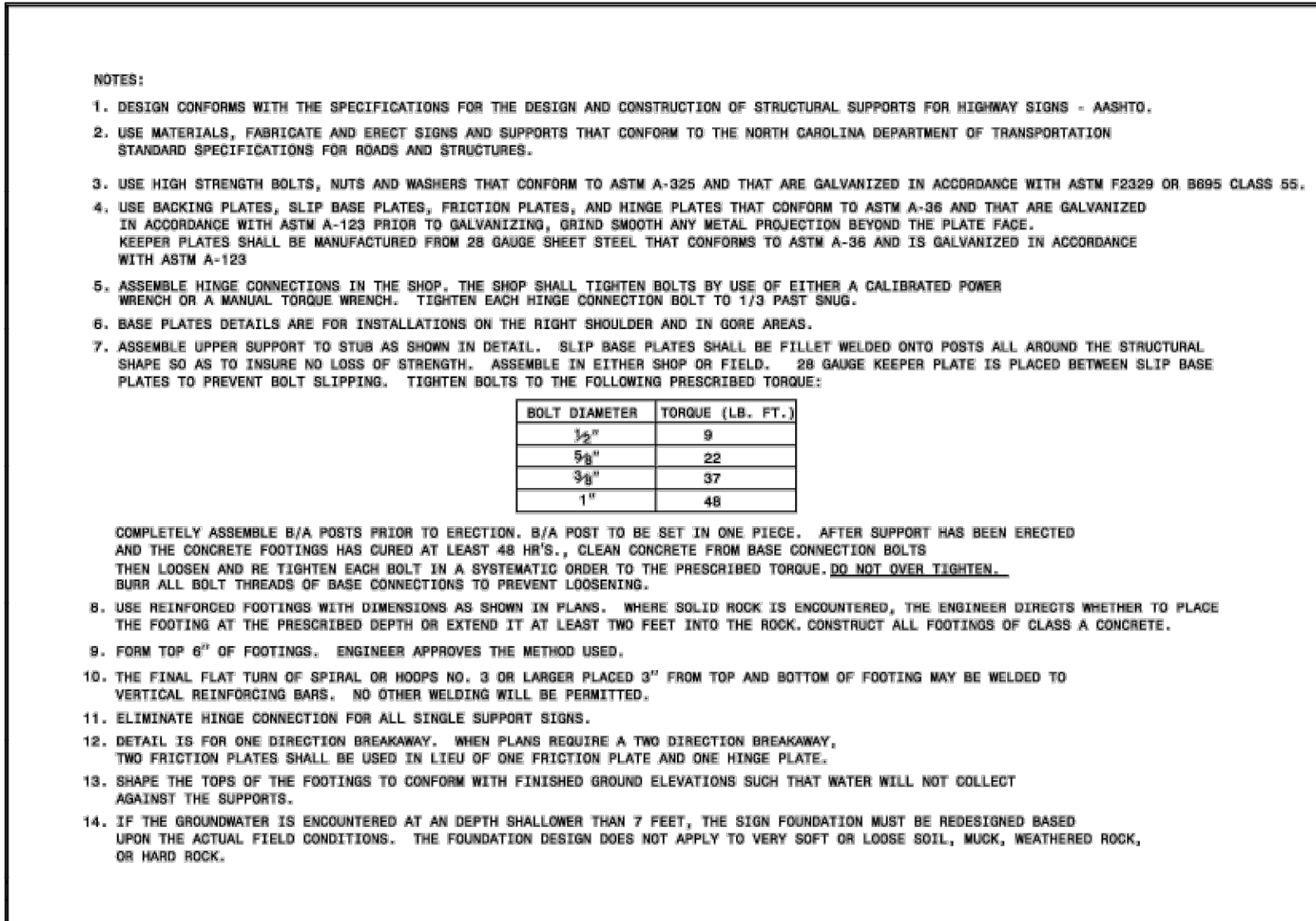
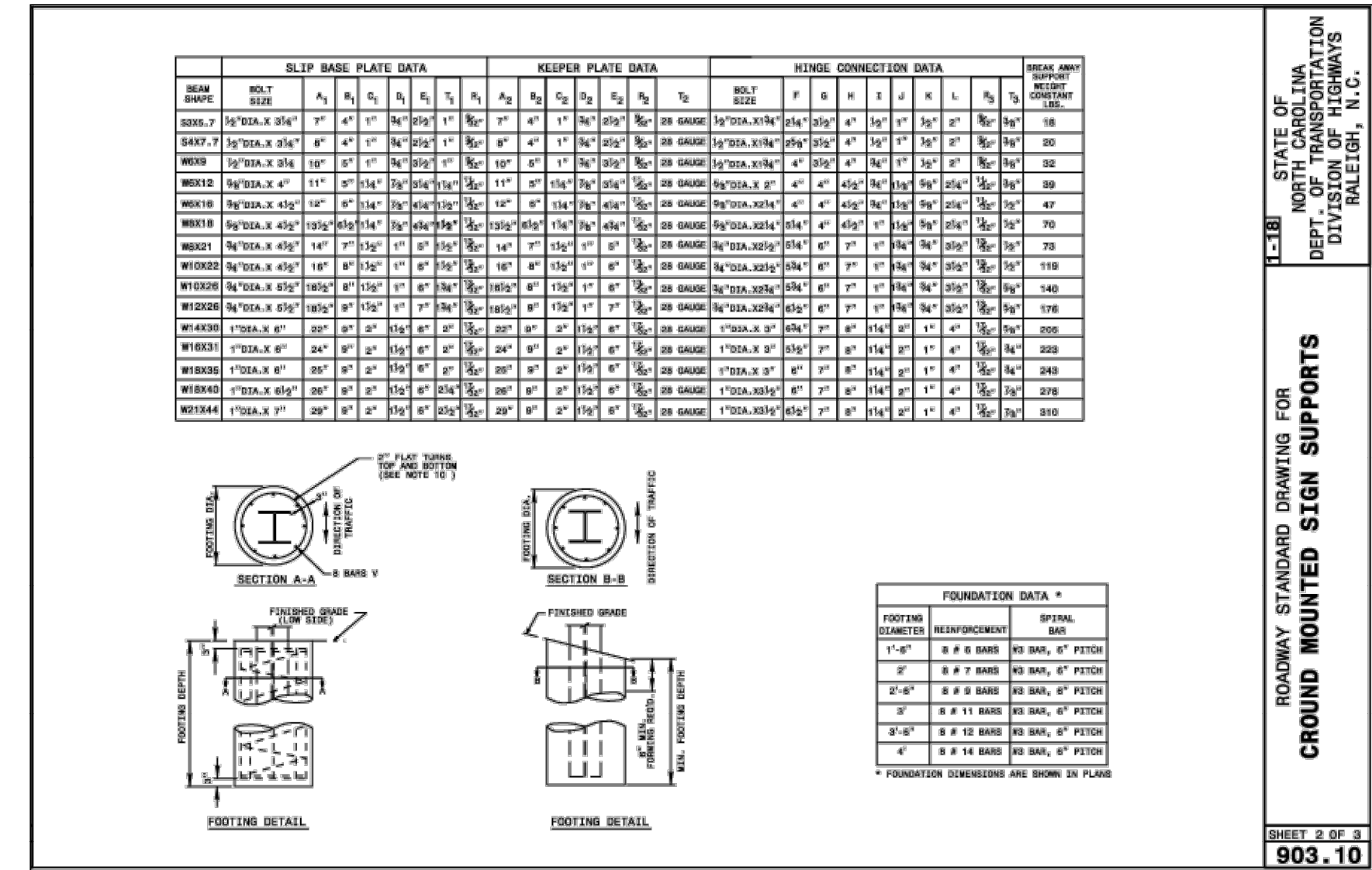
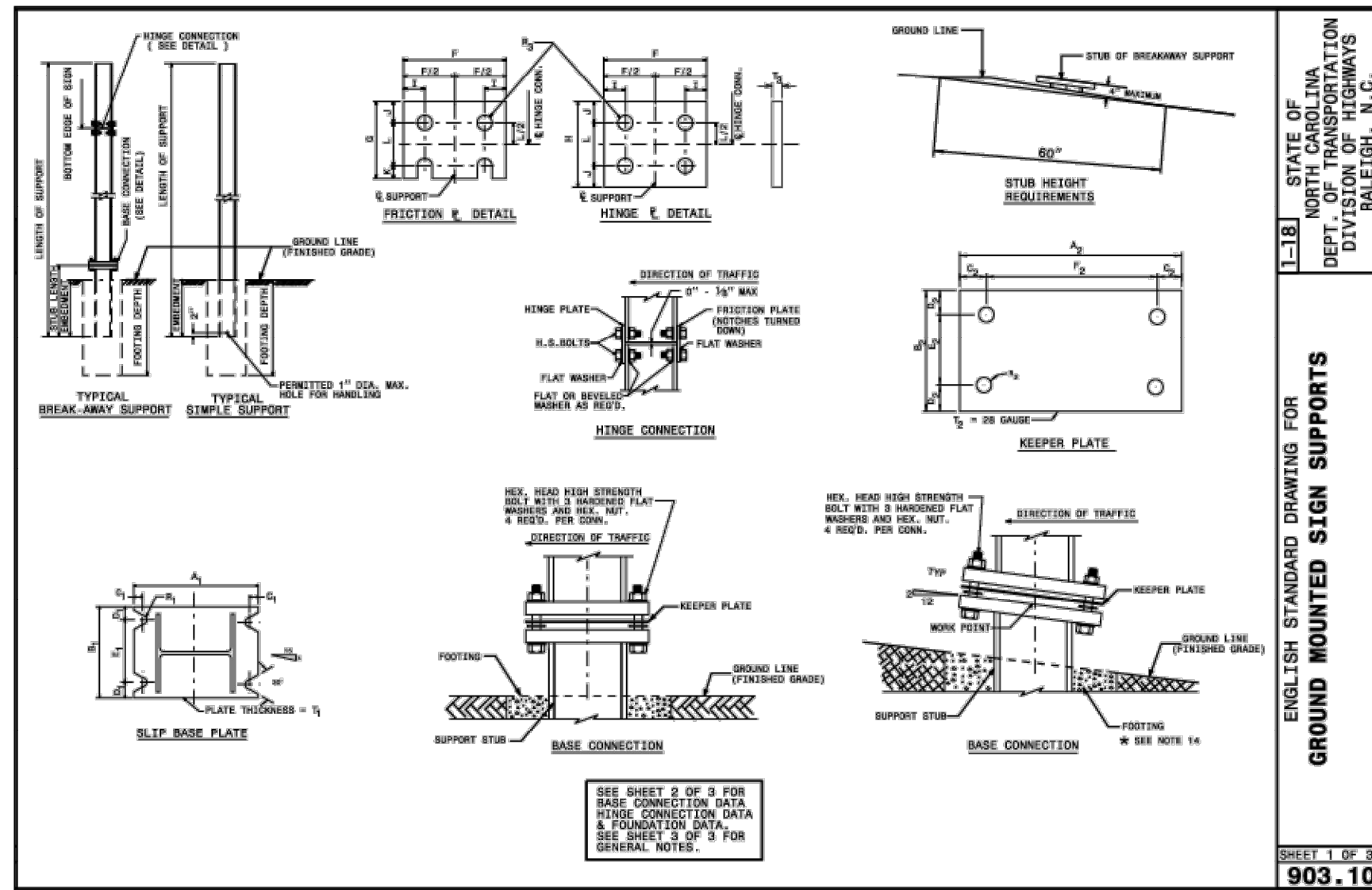
**DIMENSIONS AND CONCRETE QUANTITIES USING CONCRETE PIPE**

D	COMMON DIMENSIONS									
	H	B	G	T	S	L	Y <sup>3</sup>	M	L	L
15"	3'-3"	1'-8"	2'-9"	2 1/4"	9 1/2"	5'-6"	0.7	2'-2"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	2 1/2"	10"	6'-4"	1.0	2'-7"	8'-11"	1.3
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5	3'-5"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	4 1/4"	11 1/2"	9'-2"	2.3	4'-3"	13'-5"	3.1
36"	5'-8"	2'-8"	5'-6"	4 3/4"	11 1/2"	11'-0"	3.4	5'-0"	16'-0"	4.5
42"	6'-2"	3'-1"	6'-4"	5 1/4"	11 1/2"	12'-8"	4.5	5'-10"	18'-6"	6.0
48"	6'-9"	3'-5"	7'-2"	5 3/4"	11 1/2"	14'-4"	6.0	6'-8"	20'-0"	8.0

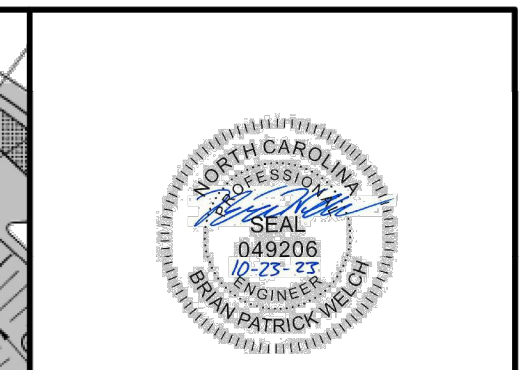
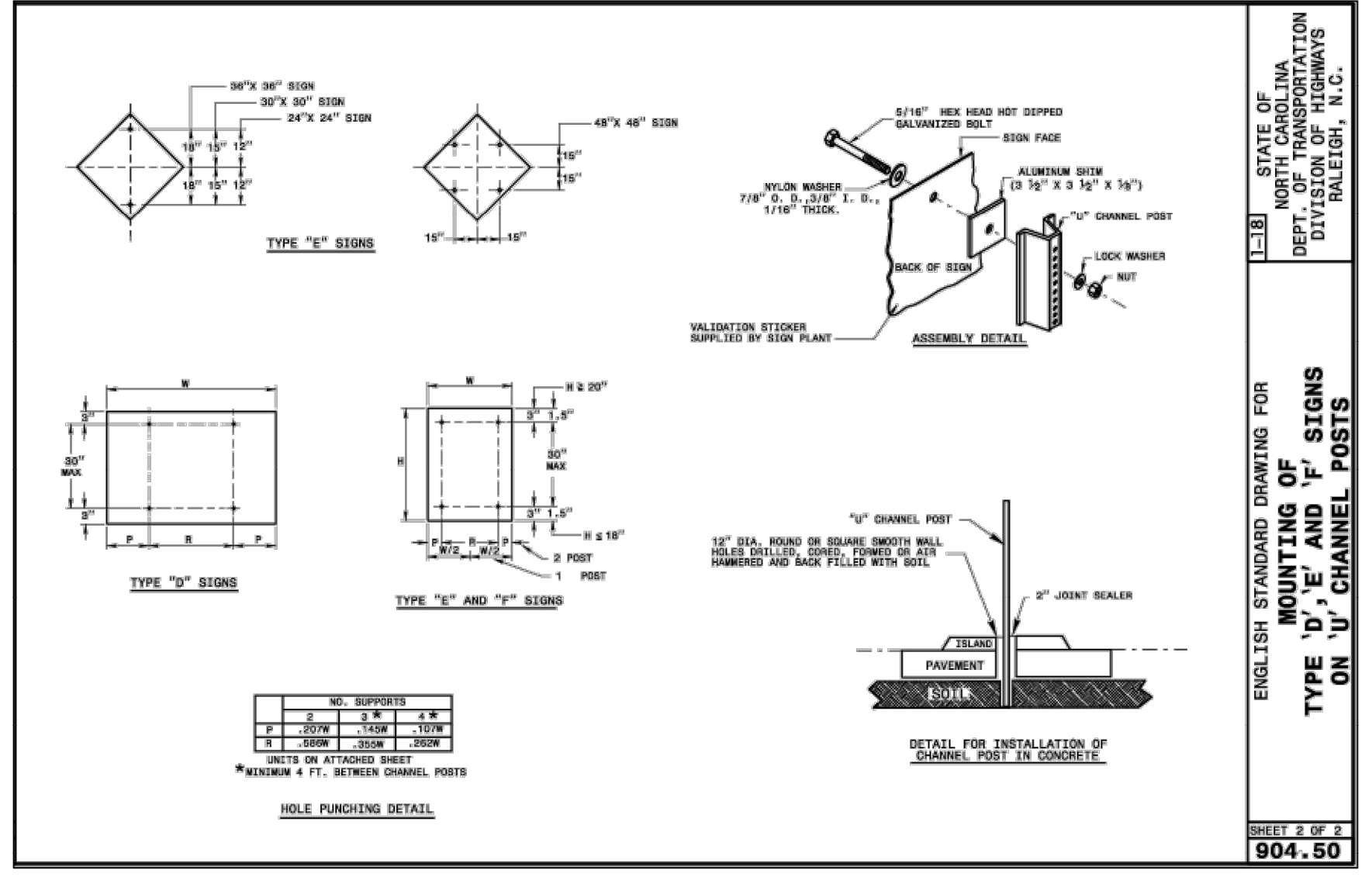
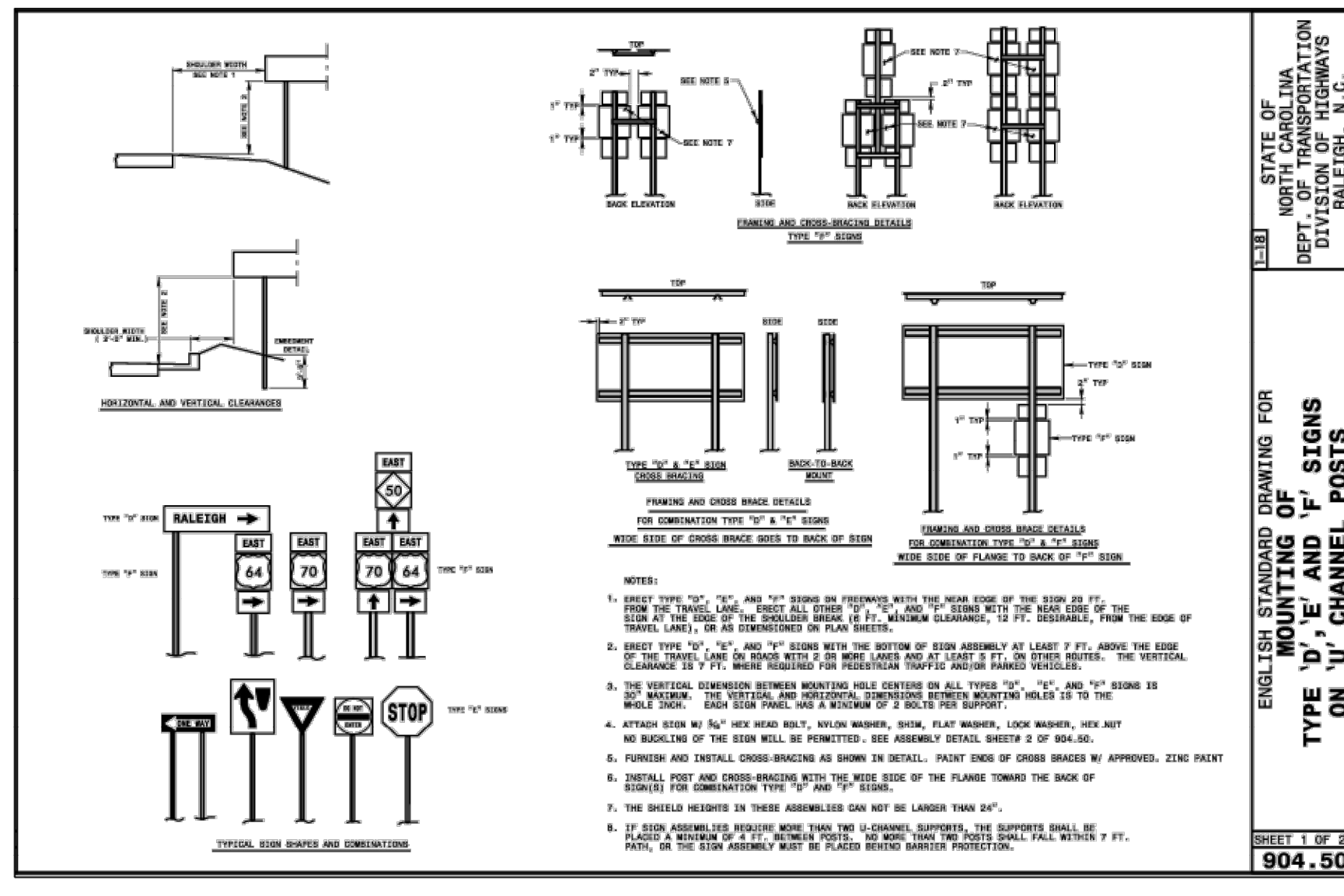
\*SEE SHEET 3

ROADWAY STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE

SHEET 1 OF 3  
 838.01



ROADWAY STANDARD DRAWING FOR GROUND MOUNTED SIGN SUPPORTS  
 SHEET 3 OF 3  
 903.10



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REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATES  
 GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
 06-15-2023  
 10-24-2023

DATE  
 07/21/22

DRAWN BY  
 BPW

DESIGNED BY  
 BPW

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SCALE  
 N.T.S.

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WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY STATE - NORTH CAROLINA  
 STANDARD DETAILS

JOB NO.  
 43398

SHEET NO.  
 R2.02

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10-24-2023	GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
07/21/22

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SCALE  
1" = 50'

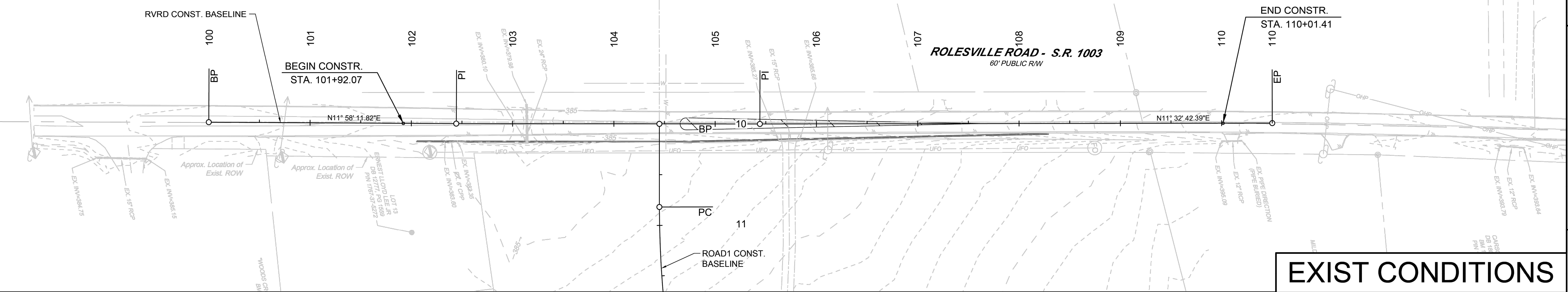
# TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 EXISTING CONDITIONS & PLAN & STRIPING SHEET

JOB NO.  
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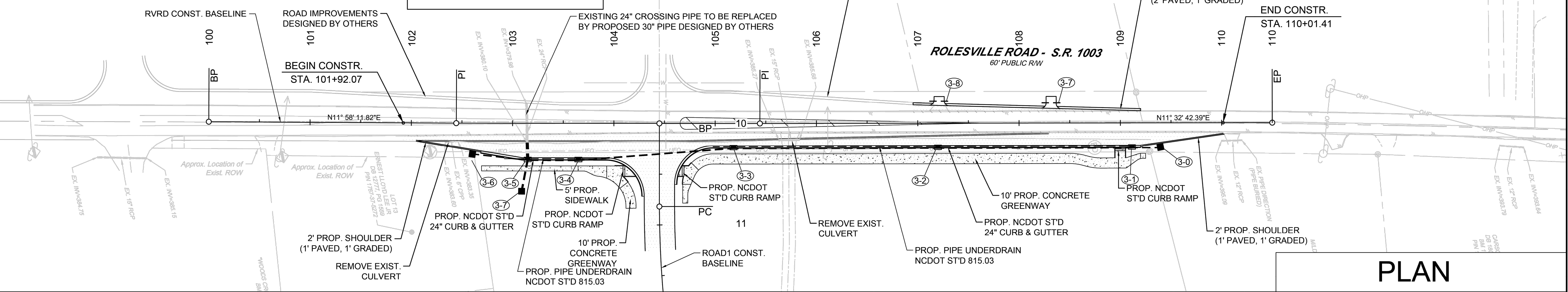


## EXIST CONDITIONS

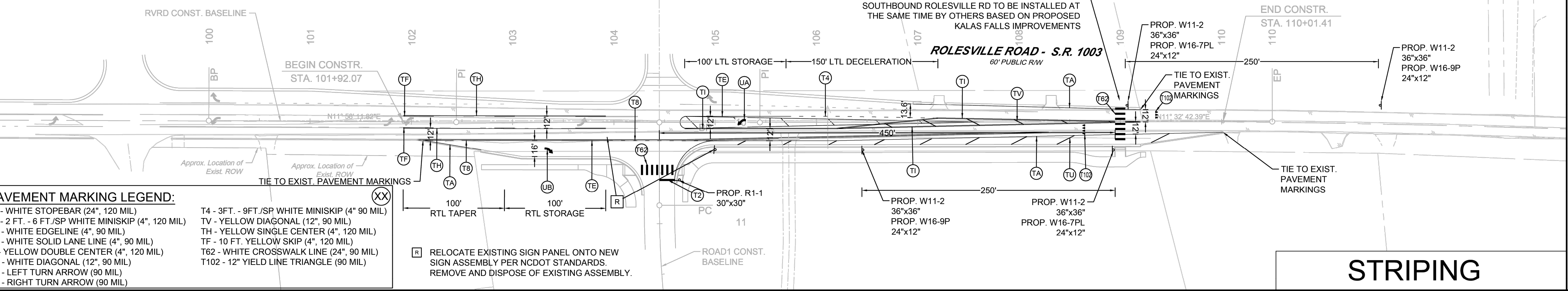


**LEGEND:**

- DEMOLITION OF EX. PAVEMENT
- NEW PAVEMENT
- CONCRETE SIDEWALK



## PLAN



## STRIPING

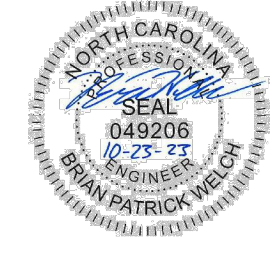
**PAVEMENT MARKING LEGEND:**

- T2 - WHITE STOPEBAR (24", 120 MIL)
- T8 - 2 FT. - 6 FT./SP WHITE MINISKIP (4", 120 MIL)
- TA - WHITE EDGELINE (4", 90 MIL)
- TE - WHITE SOLID LANE LINE (4", 90 MIL)
- TI - YELLOW DOUBLE CENTER (4", 120 MIL)
- TU - WHITE DIAGONAL (12", 90 MIL)
- UA - LEFT TURN ARROW (90 MIL)
- UB - RIGHT TURN ARROW (90 MIL)
- T4 - 3FT. - 9FT./SP WHITE MINISKIP (4" 90 MIL)
- TV - YELLOW DIAGONAL (12", 90 MIL)
- TH - YELLOW SINGLE CENTER (4", 120 MIL)
- TF - 10 FT. YELLOW SKIP (4", 120 MIL)
- T62 - WHITE CROSSWALK LINE (24", 90 MIL)
- T102 - 12" YIELD LINE TRIANGLE (90 MIL)

RELOCATE EXISTING SIGN PANEL ONTO NEW SIGN ASSEMBLY PER NCDOT STANDARDS. REMOVE AND DISPOSE OF EXISTING ASSEMBLY.

S:\323043398-Wheeler\_Trac\DWG\Sheet\CD\203043398-203-CR.dwg | Plotted on: 10/24/2023 11:43 AM | by Brian Welch





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CHECKED BY	BPW
SCALE	1" = 50'

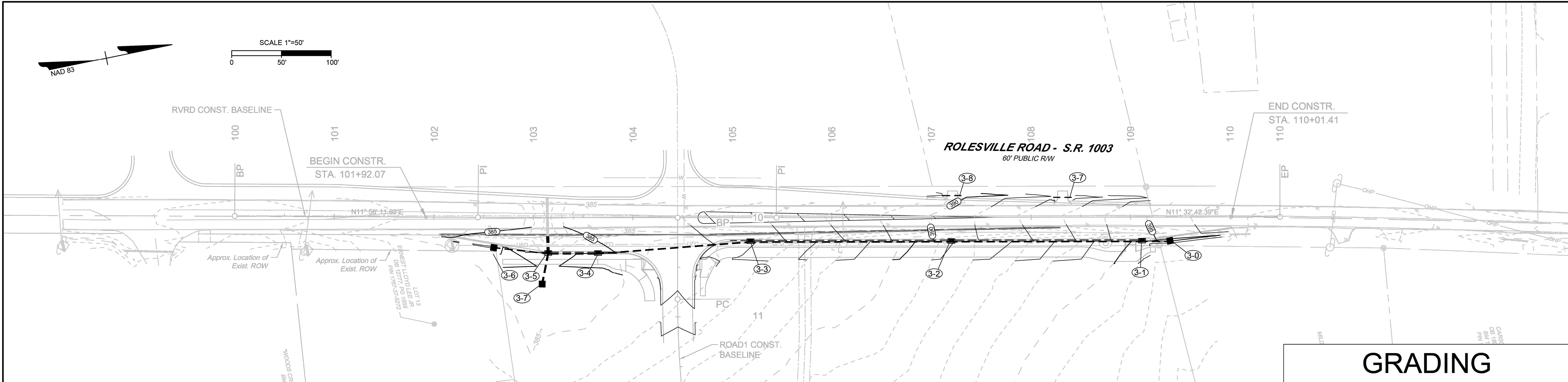
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**WHEELER TRACT - OFFSITE IMPROVEMENTS**  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

**GRADING & PROFILE SHEET**

JOB NO.  
**43398**

SHEET NO.  
**R3.02**

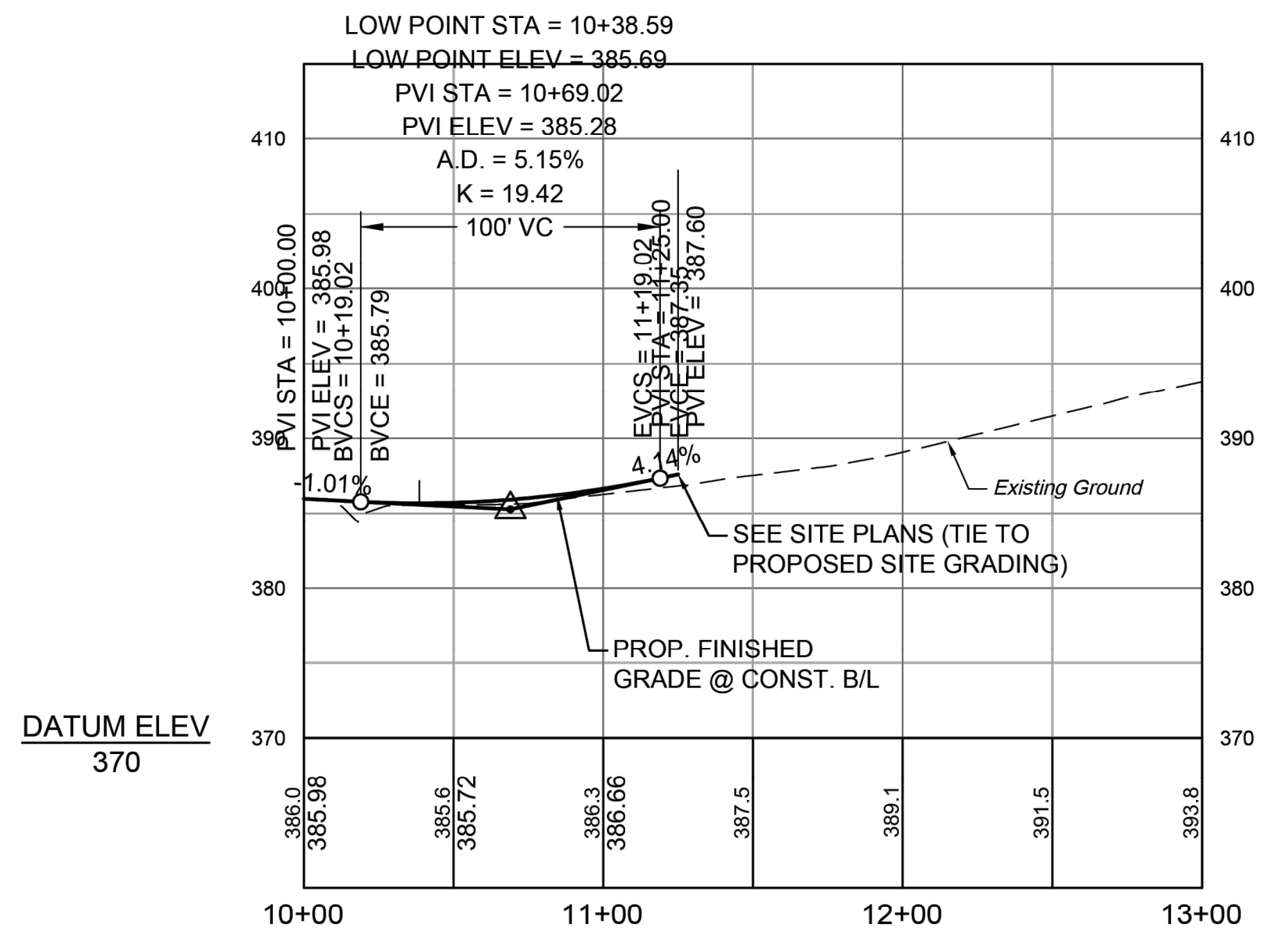
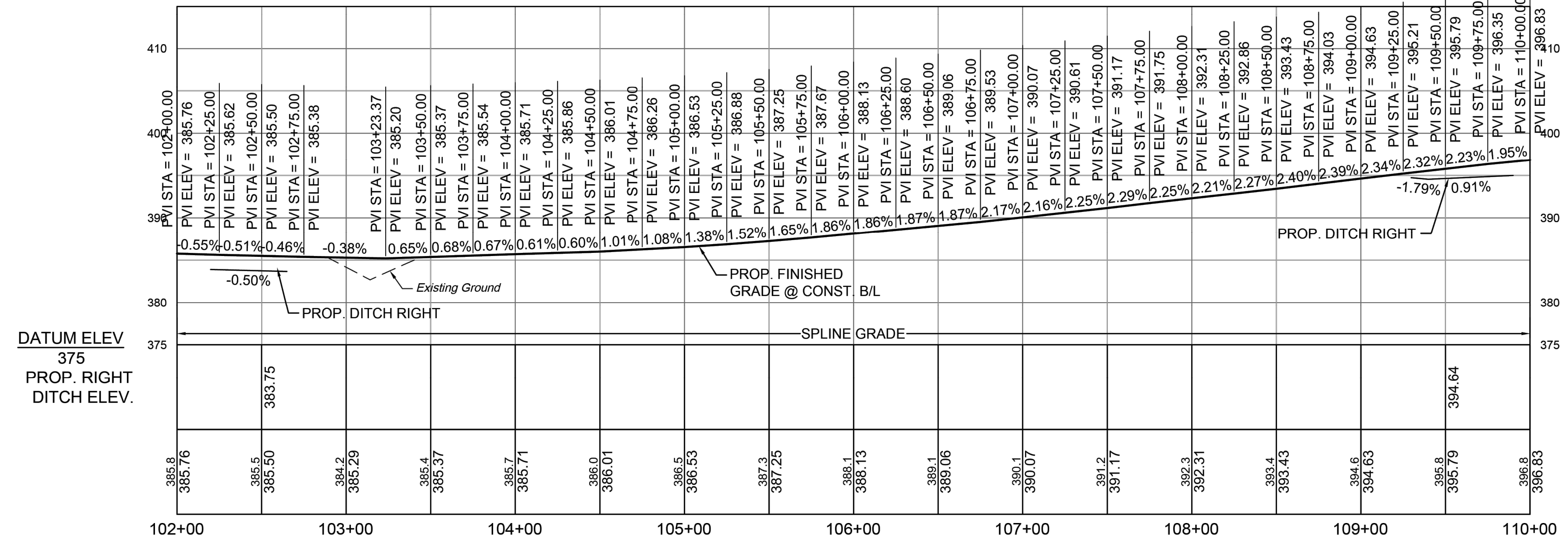


**PROFILE**

**RVRD**

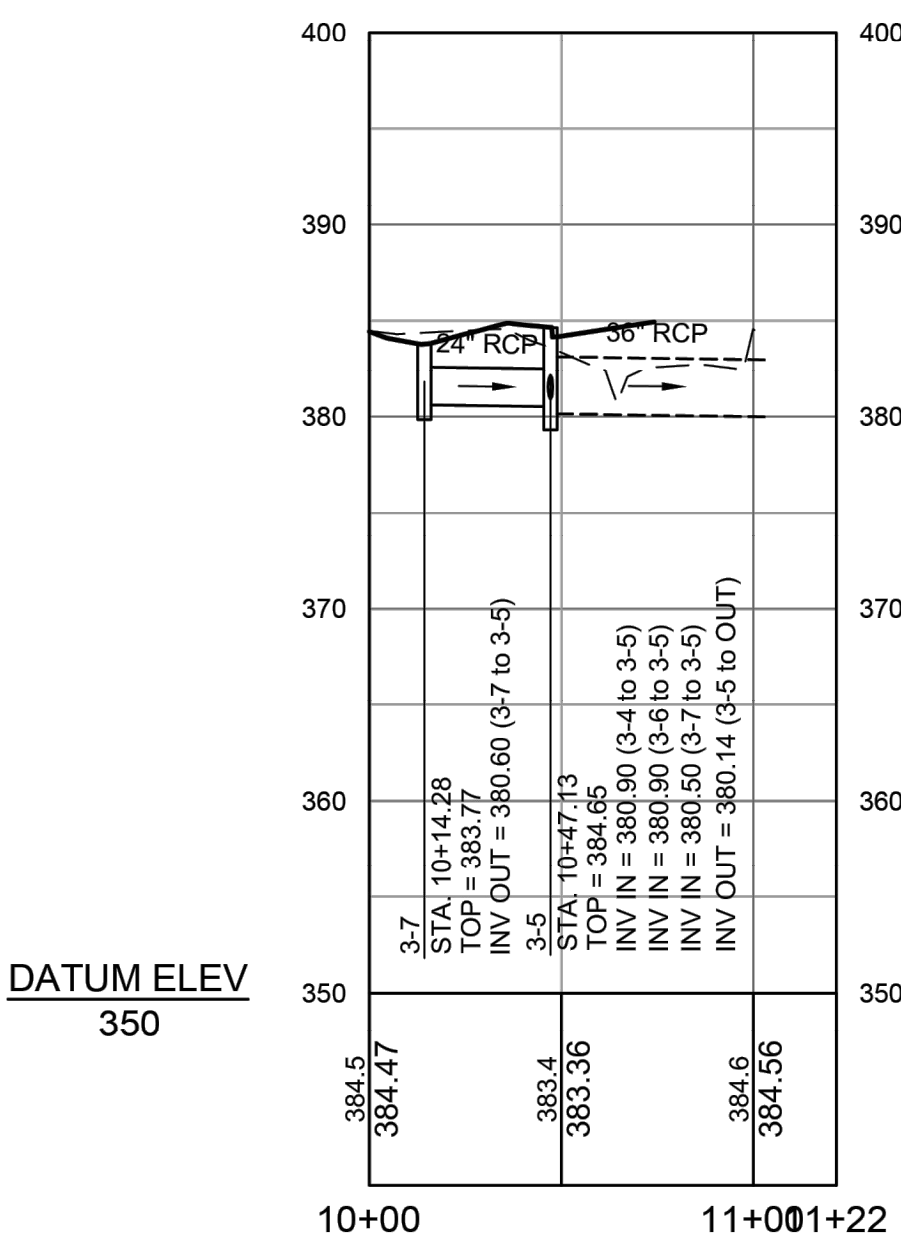
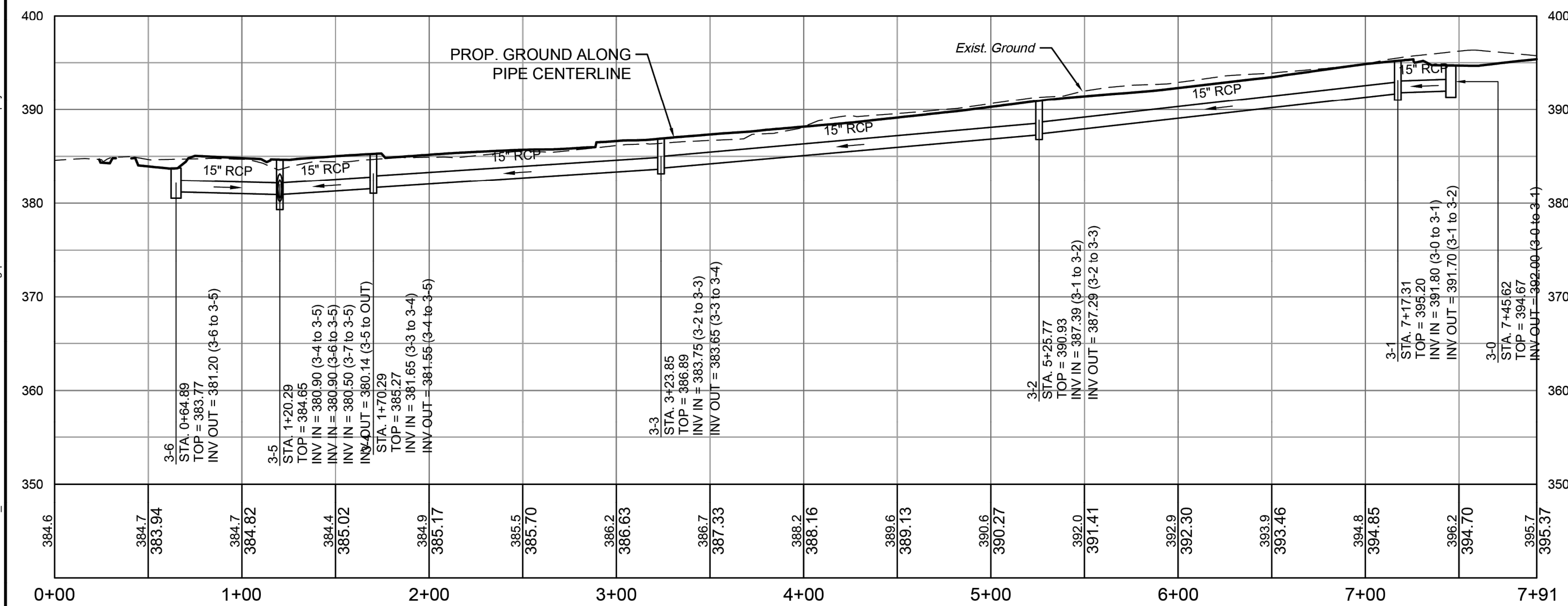
**ROAD1**

**GRADING**



**STM ROLESVILLE RD**

**STRM 3-7 TO OUTFALL**



**STORM STRUCTURE TABLE**  
STM Rolesville Road

STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
3-6	383.77	380.90' (15" RCP FROM 3-4)	381.20' (15" RCP TO 3-5)	NCDOT 840.14 CONCRETE DI
3-5	384.65	380.90' (15" RCP FROM 3-6)	380.14' (36" RCP TO OUT)	NCDOT 840.02 CONCRETE CB
3-4	385.27	381.65' (15" RCP FROM 3-3)	381.55' (15" RCP TO 3-5)	NCDOT 840.02 CONCRETE CB
3-3	386.89	383.75' (15" RCP FROM 3-2)	383.65' (15" RCP TO 3-4)	NCDOT 840.02 CONCRETE CB
3-2	390.93	387.39' (15" RCP FROM 3-1)	387.29' (15" RCP TO 3-3)	NCDOT 840.02 CONCRETE CB
3-0	394.67	392.00' (15" RCP TO 3-1)	392.00' (15" RCP TO 3-1)	NCDOT 840.14 CONCRETE DI
3-1	395.20	391.80' (15" RCP FROM 3-0)	391.70' (15" RCP TO 3-2)	NCDOT 840.02 CONCRETE CB

**STORM PIPE TABLE**  
STM Rolesville Road

FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
3-0 - 3-1	392.00'	391.80'	0.71%	28.30 LF	15"	RCP	CLASS III
3-1 - 3-2	391.70'	387.39'	2.25%	191.54 LF	15"	RCP	CLASS III
3-2 - 3-3	387.29'	383.75'	1.75%	201.92 LF	15"	RCP	CLASS III
3-3 - 3-4	383.65'	381.65'	1.30%	153.56 LF	15"	RCP	CLASS III
3-4 - 3-5	381.55'	380.90'	1.30%	50.00 LF	15"	RCP	CLASS III
3-6 - 3-5	381.20'	380.90'	0.55%	54.98 LF	15"	RCP	CLASS III
OUT - 3-5	379.98'	380.14'	0.29%	55.64 LF	36"	RCP	EXIST. PIPE

**PROFILE**

S:\324\43398\Wheeler\_Timed\DWG\Sheet\2023\43398-R3.dwg | Plotted on 10/24/2023 11:45 AM | by Brian Welch





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REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
 GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
 06-15-2023  
 10-24-2023

DATE  
 07/21/22

DRAWN BY  
 BPW

DESIGNED BY  
 BPW

CHECKED BY  
 BPW

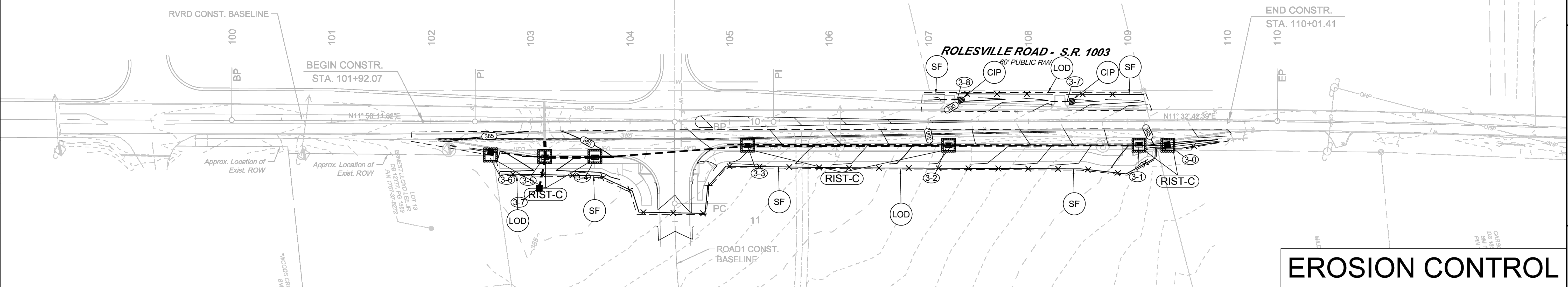
SCALE  
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JOB NO.  
 43398

SHEET NO.  
 R3.03

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WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 EROSION CONTROL PLAN



# EROSION CONTROL

## EROSION CONTROL NOTES & DETAILS

### PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

### EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL. THE MINIMUM STANDARDS SET FORTH BY THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

### EROSION CONTROL SEQUENCE OF CONSTRUCTION

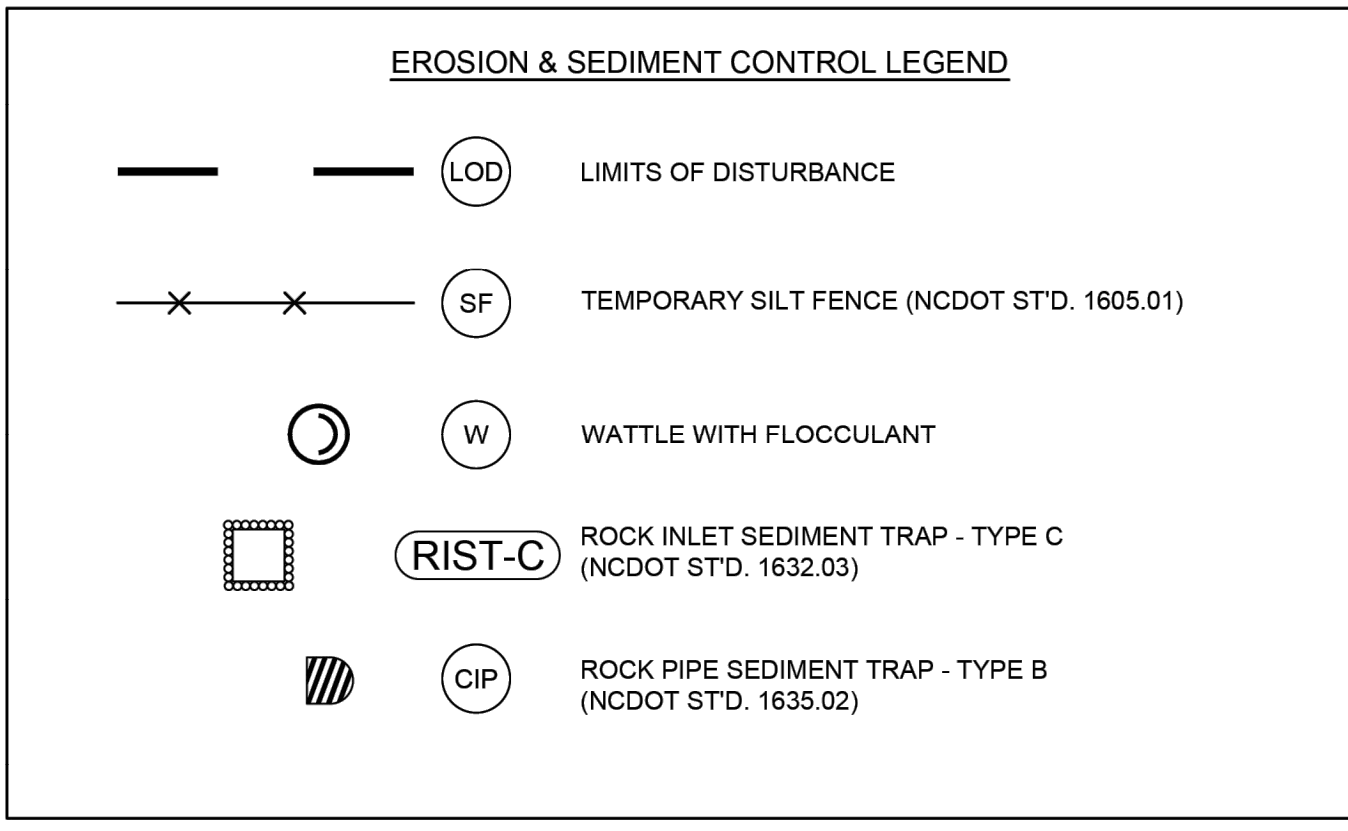
A SINGLE-PHASED EROSION CONTROL APPROACH IS PROVIDED BELOW TO DESCRIBE GENERAL MEASURES REQUIRED TO MAINTAIN THE SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL APPLY PHASE I AS DESCRIBED HEREIN TO THE VARIOUS WORK AREAS ASSOCIATED WITH THIS PROJECT. DUE TO THE NATURE OF WORK AREAS, THE CONTRACTOR SHALL ENSURE EROSION CONTROL MEASURES ARE PROVIDED AS DESCRIBED THROUGH PROJECT COMPLETION AND ACCEPTANCE.

### PHASE I:

- PROVIDE MINIMAL CLEARING TO INSTALL SILT FENCE AS SHOWN ON THE PLANS. INSTALL CULVERT PROTECTION AS REQUIRED FOR EXISTING PIPES. TAKE SPECIAL CARE TO KEEP SOIL BUILD-UP FROM ENTERING THE EXISTING ROAD PAVEMENT.
- THE CONTRACTOR WILL NOTIFY THE INSPECTOR OF THE PERMITTED LOCATION EXCESS SOIL MATERIAL IS HAULED TO OR BORROW MATERIAL IS BROUGHT IN FROM. CLEAR AND GRUB AS INDICATED IN THE PLANS. MAINTAIN ACCESS ALONG EXISTING ROADS AND TO EXISTING DRIVEWAYS AT ALL TIMES.
- TEMPORARY GRADING AND SEEDING IS REQUIRED FOR ALL AREAS WHEN DIRECTED:
  - WHEN IT IS IMPOSSIBLE OR IMPRACTICAL TO BRING AN AREA TO THE FINAL LINE, GRADE AND FINISH SO THAT PERMANENT SEEDING AND MULCHING OPERATIONS CAN BE PERFORMED WITHOUT SUBSEQUENT SERIOUS DISTURBANCE BY ADDITIONAL GRADING
  - WHEN EROSION OCCURS OR IS CONSIDERED TO BE POTENTIALLY SUBSTANTIAL ON AREAS OF GRADED ROADBED WHERE CONSTRUCTION OPERATIONS ARE TEMPORARILY SUSPENDED OR WHEN THE GRADING OF THE ROADBED HAS BEEN COMPLETED SUBSTANTIALLY IN ADVANCE OF THE PAVING CONSTRUCTION DURING SEASONS OF THE YEAR WHEN PERMANENT SEEDING AND MULCHING IS PROHIBITED BY THE CONTRACT
  - WHEN AN IMMEDIATE COVER WOULD BE DESIRABLE TO MINIMIZE EROSION, SILTATION OR POLLUTION ON ANY AREA
  - 7/14-DAY SOIL STABILIZATION REQUIREMENTS APPLY TO ANY SECTION OF THE PROJECT WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND SHALL SUPERSEDE ANY LESS STRINGENT STABILIZATION REQUIREMENTS ON THE PLANS. [G.S. 143-215.1]
- CONTRACTOR SHALL REMOVE AND REPLACE ANY DAMAGED EROSION CONTROL MEASURES UNTIL FINAL APPROVAL OF CONSTRUCTION.
- THE SITE SHALL BE PERMANENTLY STABILIZED AFTER ALL GRADING HAS BEEN COMPLETED BY SEEDING ALL DISTURBED AREAS.
- UPON CONSTRUCTION COMPLETION, THE CONTRACTOR MUST CONTACT THE INSPECTOR FOR EROSION CONTROL INSPECTION OF SLOPE STABILITY. EROSION CONTROL MEASURES MAY NOT BE REMOVED WITHOUT AUTHORIZATION BY THE ASSIGNED INSPECTOR.
- UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

### NOTE:

- CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.



### STABILIZATION REQUIREMENTS:

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 2:1 or flatter, with a slope length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

### SEEDING AND MULCHING:

(East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas	
March 1 - August 31	September 1 - February 28
35# Tall Fescue	50# Tall Fescue
10# Centipede	10# Centipede
25# Bermudagrass (unleaded)	35# Bermudagrass (subleaded)
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

Waste and Borrow Locations

March 1 - August 31	September 1 - February 28
75# Tall Fescue	75# Tall Fescue
25# Bermudagrass (unleaded)	35# Bermudagrass (subleaded)
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dunt	Enclave	Justice	Sawgrass
2nd Millennium	Evergreen 2	Kalibart	Shady
3rd Millennium	Falcon I	King Hank 2000	Shardis
Apache III	Falcon IV	Legitimate	Sigma
Avenger	Falcon NG	Lehigh	Silver Hawk
Barfence	Falcon V	LSD	Silverstar
Barfence II	Falk	Magnum	Shamrock Elite
Bar Pa	Fat Cat	Meador	Sidewinder
Barren	Festiva	Millennium SRP	Skyline
Barrington	Fidelity	Misc	Solara
Barrovento	Finlayson Elite	Montag 4	Southern Choice II
Barrovento	Finlayson Xpress	Ninja 2	Speedway
Bilmore	Flora II	Of Glory	Spire LS
Bingo	Firebird	Olympic Gold	Sunset Gold
Bilmore	Firecracker LS	Palde	Tacoma
Blackwatch	Finesse	Paragonia	Tanzania
Blade Runner II	Five Point	Pedigree	Tito
Bonast	Focus	Picasso	Tobacco II
Braveheart	Fortis	Piedmont	Talladega
Breno	Gardens	Plantation	Turkey
Bullseye	Genelle II	Prospect 501	Turbo RZ
Camavaro	Gold Medalion	Prospect	Turbo RZ
Candyst	Grade 3	Pure Gold	Titan Ind
Cayenne	Greenbrook	Quest	Timonium LS
Ceasare R2	Greenkeeper	Raptor II	Tracer
Charger	Greenline	Rebel Rebel	Transverse SRP
Cochise IV	Greystone	Rebel Senry	Triple Time
Constitution	Guardian 21	Rebel IV	Turbo
Cora	Guardian 41	Regiment II	Turbo RZ
Coyote	Himal	Regiment II	Ultimate
Coyote	Hokey Hawk	Rebellion	Ventura
Darlington	Hot Rod	Rambler 2 SRP	Unshella
Dartini	Imperial	Rambler 2 SRP	Van Gogh
Deane	Inferno	Renaissance	Watchdog
Destiny	Innovator	Riverside	Wolfpack II
Dynasty	Imperial	ROP	Xmasgreen
Endavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

### TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for Seeding and Mulching and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browning Millet shall be used in summer months and Ryegrass during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

### FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

### SEEDING AND MULCHING:

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

### SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for Seeding and Mulching, with the exception that no complete seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a soil seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clothseeder (roll and chain) may be used where degree of slope prevents the use of a soil seeder.

### MOWING:

The minimum mowing height on this project shall be 4 inches.

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unrotted, unweeded, avoid weeds.	Spread evenly from wheel or cart; spread by hand or machine; must be tacked down.
Wood chips	5-6 tons	Air dry	Use with 1/2 ton nitrogenizer. Apply with blower. If by hand, it is fine turf. Not for use in fine turf.
WOOD FIBER	0.5-1 ton		Also referred to as wood mulch. May be hydroseeded. Do not use in hot, dry weather.
Bank	30 cubic yards	Air dry, shredded, or chipped.	Apply with mulch blower, chip handler, or by hand. Do not use against bank.
Com mulch	4-4 tons	Cut or shredded in 4-8 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Grass mulch	1-3 tons	Green or dry; should contain vermiculite.	
Hay and Straw	Cover area	Heavy uniform; weeds of single late year.	Withstands weather. Best when used with organic mulch.
Fibergrass mat	Cover area		Withstands weather. Best when used with organic mulch.
Excelsior (wood fiber)	Cover area		Withstands weather.
Fibergrass mat	0.5-1 ton	Continuous layer of straw glass bound together with a soil-based agent.	Apply with a compressed air seeder. Back with mulch applied at a rate of 25-30 gal/1,000 sq ft.
Chemical Stabilizer	Follow manufacturer's specifications		Not beneficial to plant growth.

\*Refer to Practice No. 0.36, Green Line/Overlook.  
 \*Use of back services does not imply endorsement of product.

## NOTES

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REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
 GRADING AND STORM NETWORK ADJUSTMENTS

DATE	DATE
06-15-2023	07/21/22
10-24-2023	

DRAWN BY: BPW  
 DESIGNED BY: BPW  
 CHECKED BY: BPW  
 SCALE: 1" = 50'

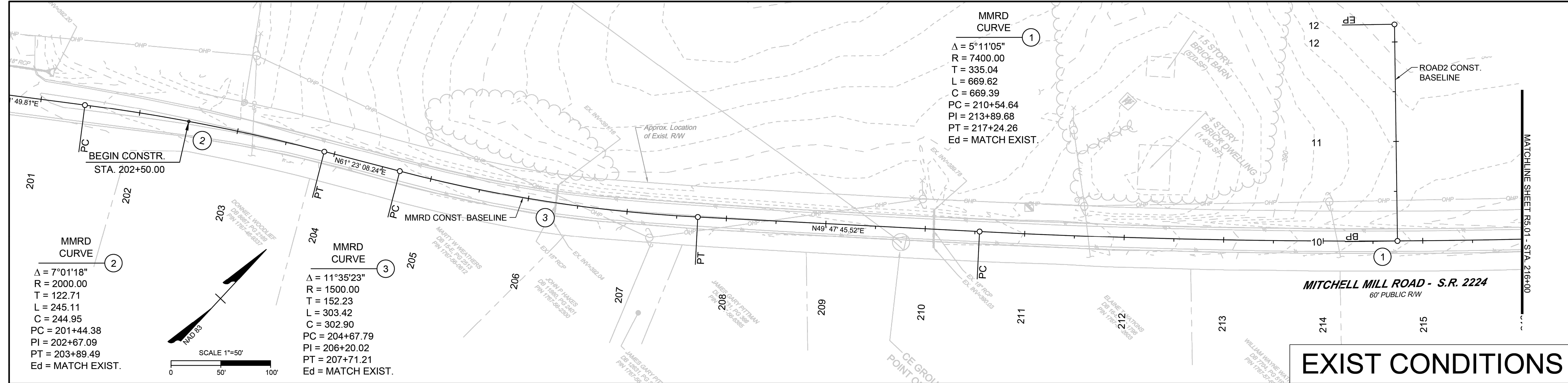
**WHEELER TRACT - OFFSITE IMPROVEMENTS**  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
**EXISTING CONDITIONS & PLAN & STRIPING SHEET**

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**43398**  
 SHEET NO.  
**R4.01**

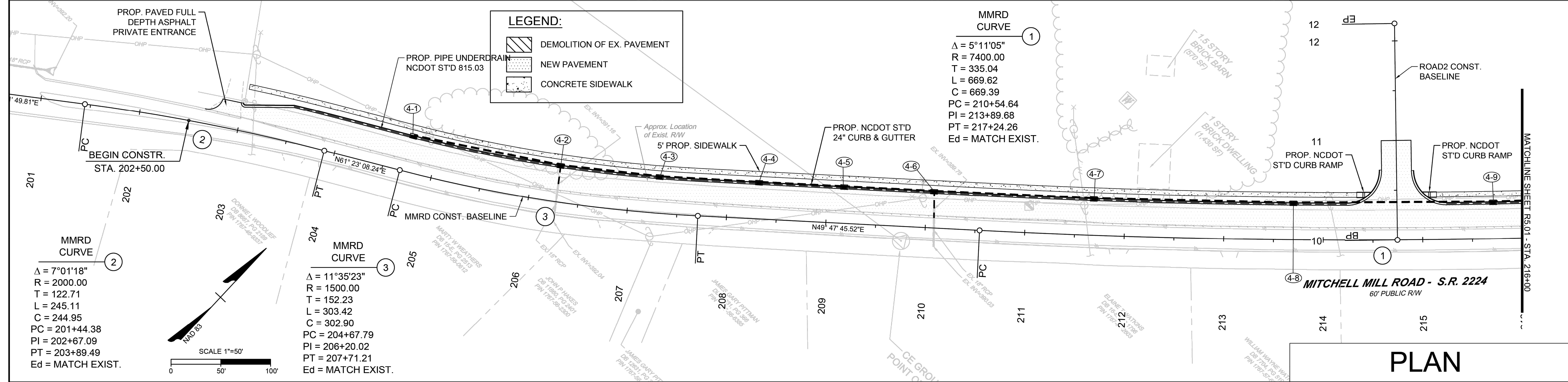
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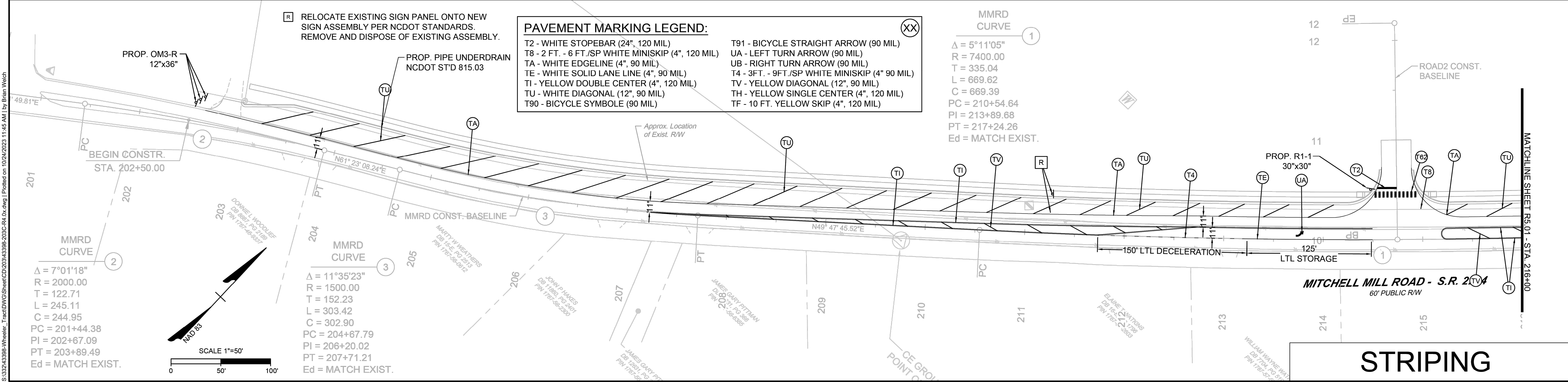
**EXIST CONDITIONS**



**PLAN**

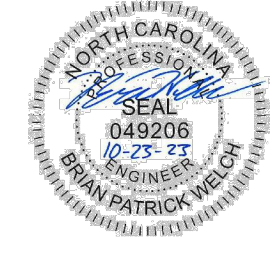


**STRIPING**



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SCALE  
 1" = 50'

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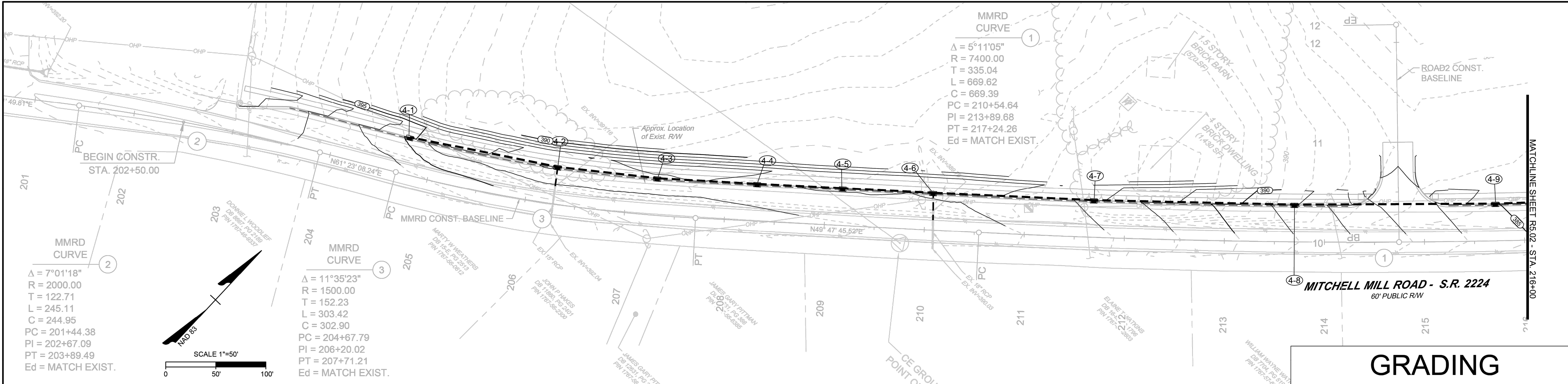
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REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
 GRADING AND STORM NETWORK ADJUSTMENTS

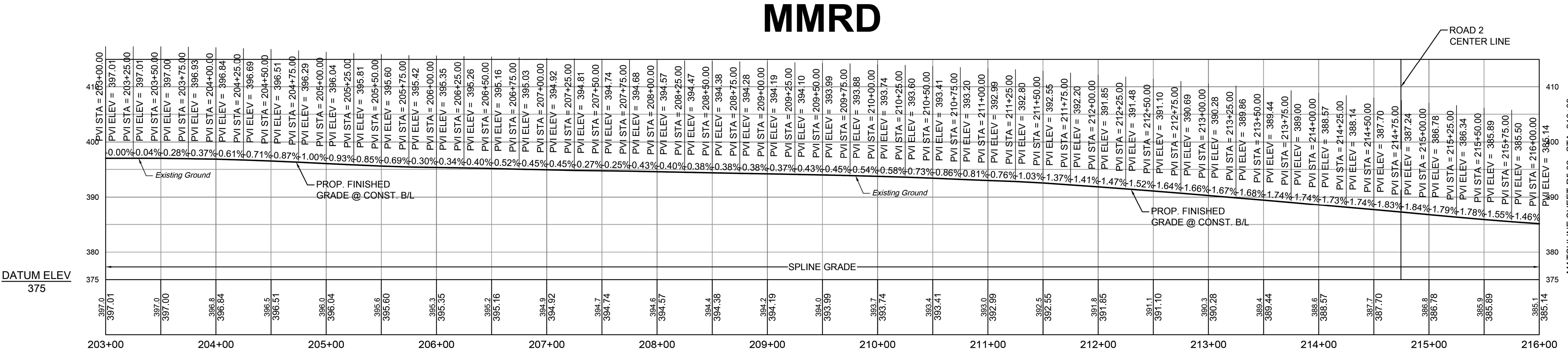
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WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 GRADING & PROFILE SHEET

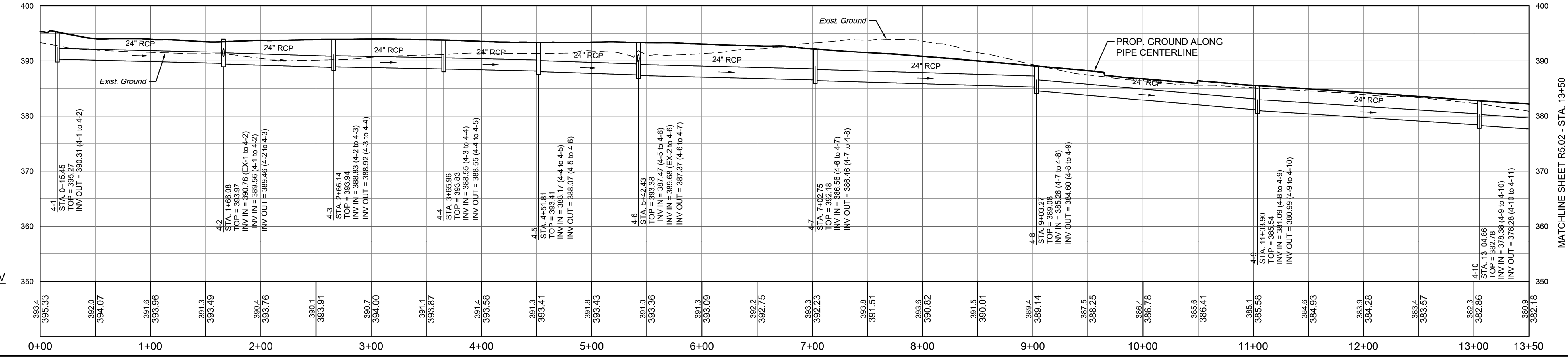
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**PROFILE**



**STM MITCHELL MILL ROAD**



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 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATES  
 GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
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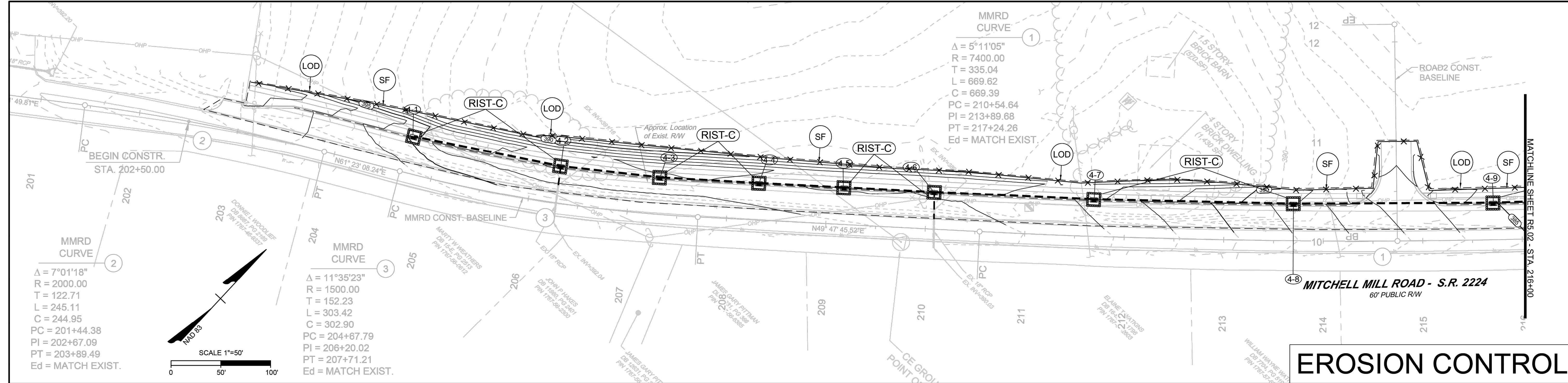
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 43398

SHEET NO.  
 R4.03

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 WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 EROSION CONTROL PLAN



# EROSION CONTROL

## EROSION CONTROL NOTES & DETAILS

### PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

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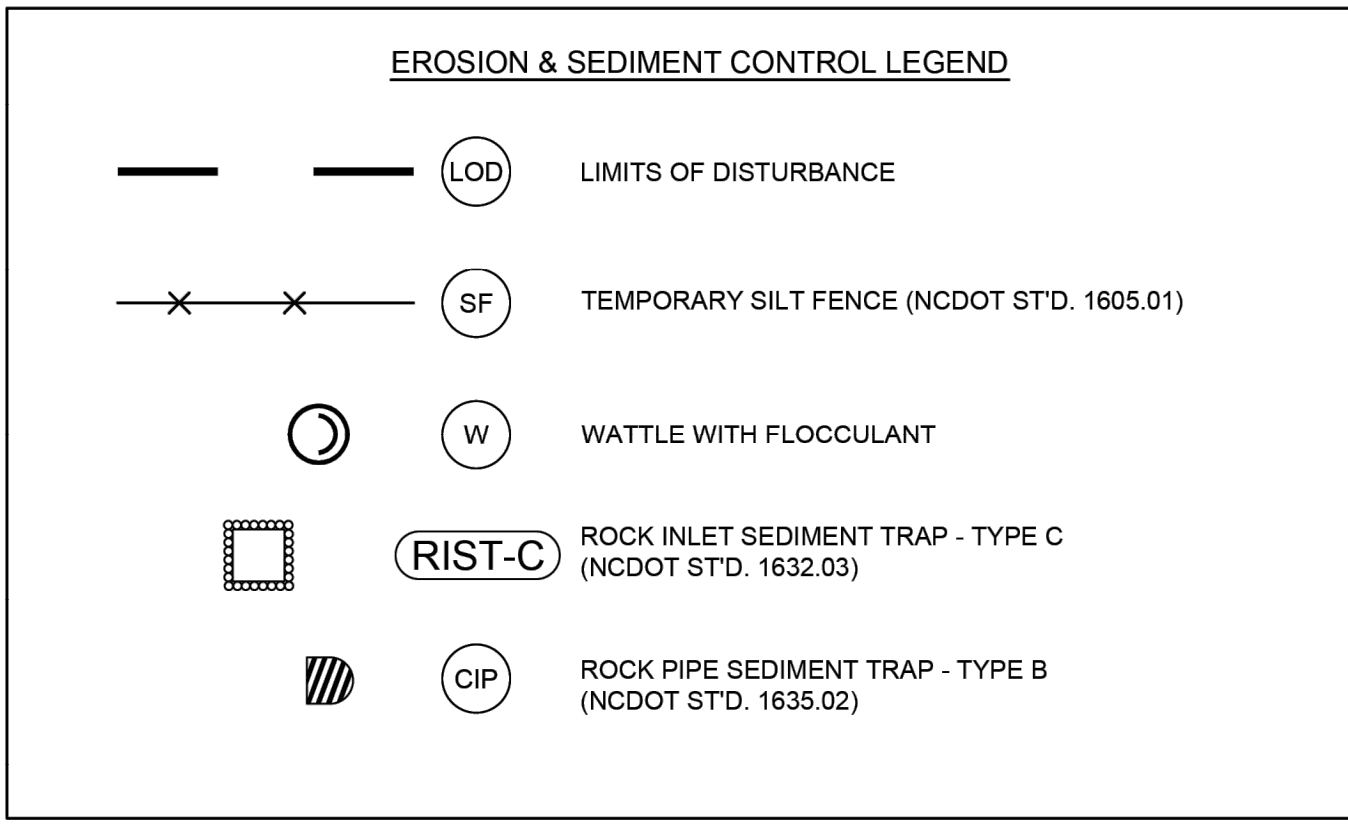
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#### PHASE I:

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- UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

**NOTE:**  
 1. CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.



#### STABILIZATION REQUIREMENTS:

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- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 2:1 or flatter, with a slope length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (2). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

#### SEEDING AND MULCHING:

(East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas			
March 1 - August 31	September 1 - February 28		
50# Tall Fescue	50# Tall Fescue		
10# Centipede	10# Centipede		
25# Bermudagrass (unfilled)	35# Bermudagrass (subfilled)		
500# Fertilizer	500# Fertilizer		
4000# Limestone	4000# Limestone		

Waste and Borrow Locations

March 1 - August 31	September 1 - February 28		
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Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

Material	Rate Per Acre	Quality	Notes
Organic Mulch/Straw	1-2 tons	Dry, unrotted, unweeded, avoid weeds.	Shield cover from wind or rain; spread by hand or machine; must be tacked down.
Wood chips	5-6 tons	Air dry	Use with 1/2 ton nitrogenizer. Apply with blower. If by hand, use in fine turf. Not for use in fine turf.
WOOD FIBER	0.5-1 ton		Also referred to as wood mulch. May be hydroseeded. Do not use in hot, dry weather.
Bank	30 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handler, or by hand. Do not use against bank.
COIR MATS	4-4 TONS	Cut or shredded in 4-8 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Grass seed/soil mix	1-3 tons	Green or dry; should contain vermiculite.	
Hydro seed mix	Cover area	Heavy uniform; water of single late year.	Withstands weather. Best when used with organic mulch.
Fibergrass mat	Cover area		Withstands weather. Best when used with organic mulch.
Excelsior (WOOD FIBER)	Cover area		Withstands weather.
Fibergrass mat	0.5-1 ton	Continuous layer of straw plus soil and fertilizer applied together with a soil-based agent.	Apply with a compressed air applicator. Not for use in fine turf.
Geotextile Stabilizer	Follow manufacturer's specifications		Not beneficial to plant growth.

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

#### TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for Seeding and Mulching and applied at the rate of 400 pounds and needed at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

#### FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

#### FERTILIZER FOR TOPDRESSING:

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 16-8-8 analysis and as directed.

#### SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for Seeding and Mulching, with the exception that no complete seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a soil seeder shall be used for incorporating seed into the soil to prevent disturbance of existing vegetation. A clothseeder (roll and chain) may be used where degree of slope prevents the use of a soil seeder.

#### MOWING:

The minimum mowing height on this project shall be 4 inches.

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

## NOTES

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YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
 GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
 06-15-2023  
 10-24-2023

DATE  
 07/21/22

DRAWN BY  
 BPW

DESIGNED BY  
 BPW

CHECKED BY  
 BPW

SCALE  
 1" = 50'

JOB NO.  
 43398

SHEET NO.  
 R5.01

# TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 EXISTING CONDITIONS & PLAN & STRIPING SHEET

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## EXIST CONDITIONS

## PLAN

## STRIPING

MMRD CURVE ④  
 $\Delta = 6^{\circ}35'39"$   
 $R = 2500.00$   
 $T = 144.02$   
 $L = 287.73$   
 $C = 287.57$   
 $PC = 221+95.86$   
 $PI = 223+39.88$   
 $PT = 224+83.59$   
 $Ed = MATCH EXIST.$

MMRD CURVE ④  
 $\Delta = 6^{\circ}35'39"$   
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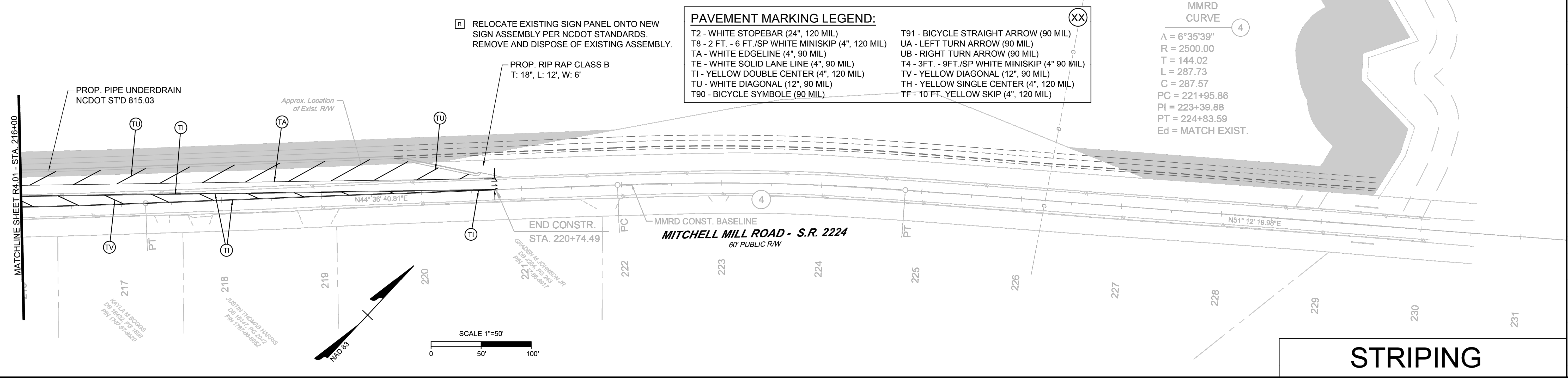
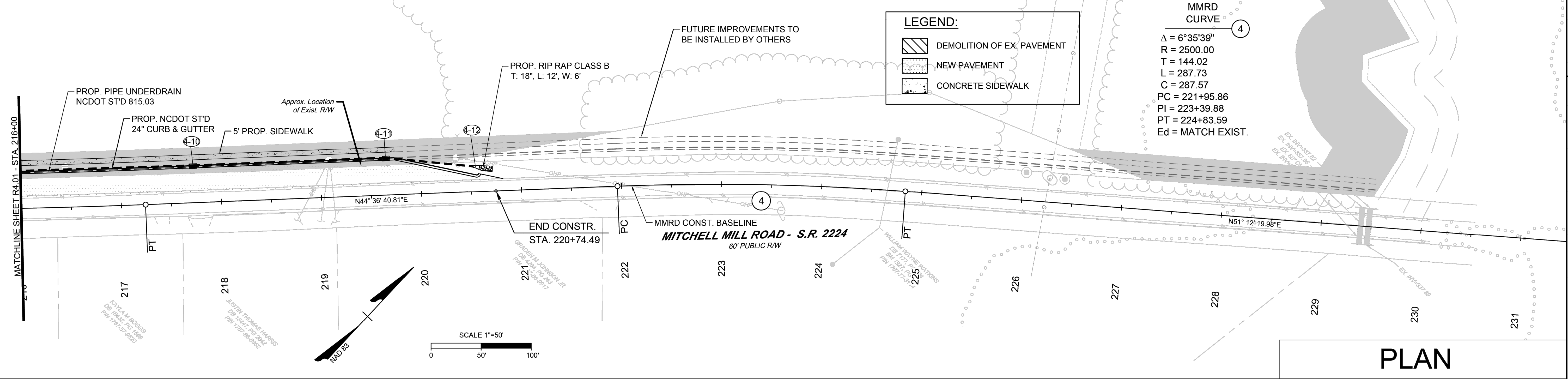
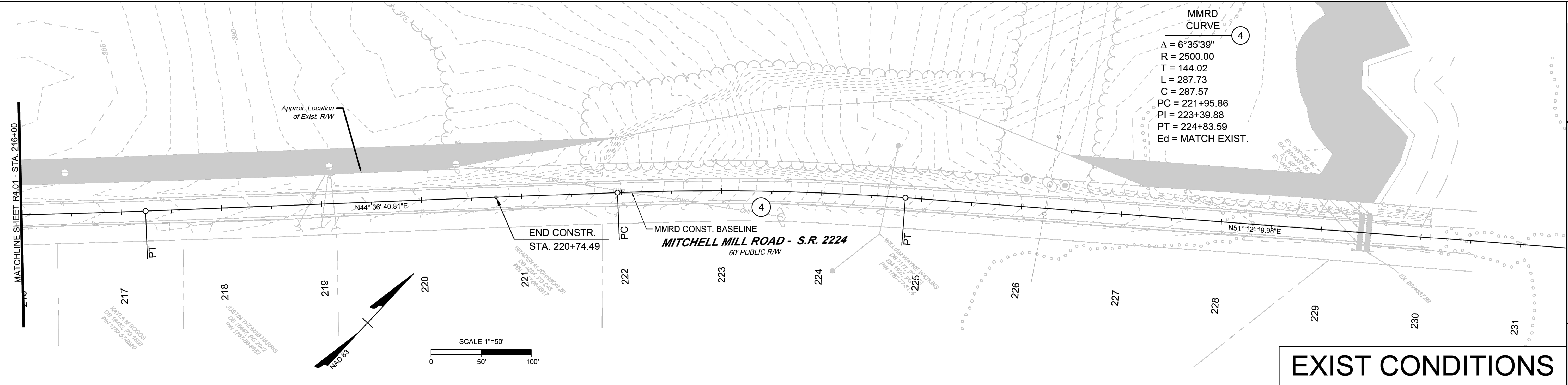
**LEGEND:**

- DEMOLITION OF EX. PAVEMENT
- NEW PAVEMENT
- CONCRETE SIDEWALK

**PAVEMENT MARKING LEGEND:**

- T2 - WHITE STOPEBAR (24", 120 MIL)
- T8 - 2 FT. - 6 FT./SP WHITE MINISKIP (4", 120 MIL)
- TA - WHITE EDGELINE (4", 90 MIL)
- TE - WHITE SOLID LANE LINE (4", 90 MIL)
- TU - WHITE DIAGONAL (12", 90 MIL)
- T90 - BICYCLE SYMBOLE (90 MIL)
- T91 - BICYCLE STRAIGHT ARROW (90 MIL)
- UA - LEFT TURN ARROW (90 MIL)
- UB - RIGHT TURN ARROW (90 MIL)
- T4 - 3FT. - 9FT./SP WHITE MINISKIP (4" 90 MIL)
- TV - YELLOW DIAGONAL (12", 90 MIL)
- TH - YELLOW SINGLE CENTER (4", 120 MIL)
- TF - 10 FT. YELLOW SKIP (4", 120 MIL)

RELOCATE EXISTING SIGN PANEL ONTO NEW SIGN ASSEMBLY PER NCDOT STANDARDS. REMOVE AND DISPOSE OF EXISTING ASSEMBLY.



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REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
 GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
 07/21/22

DRAWN BY  
 BPW

DESIGNED BY  
 BPW

CHECKED BY  
 BPW

SCALE  
 1" = 50'

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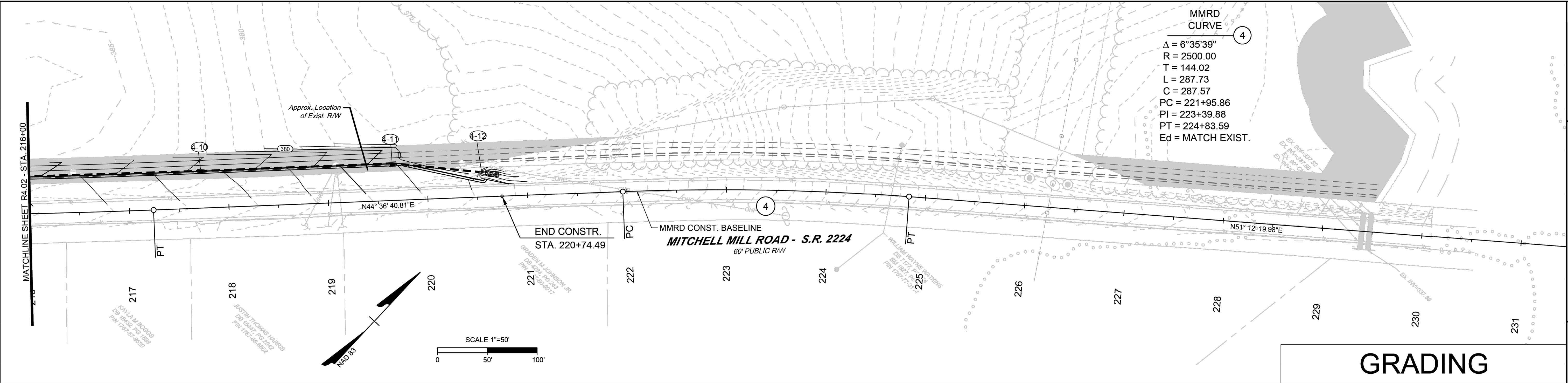
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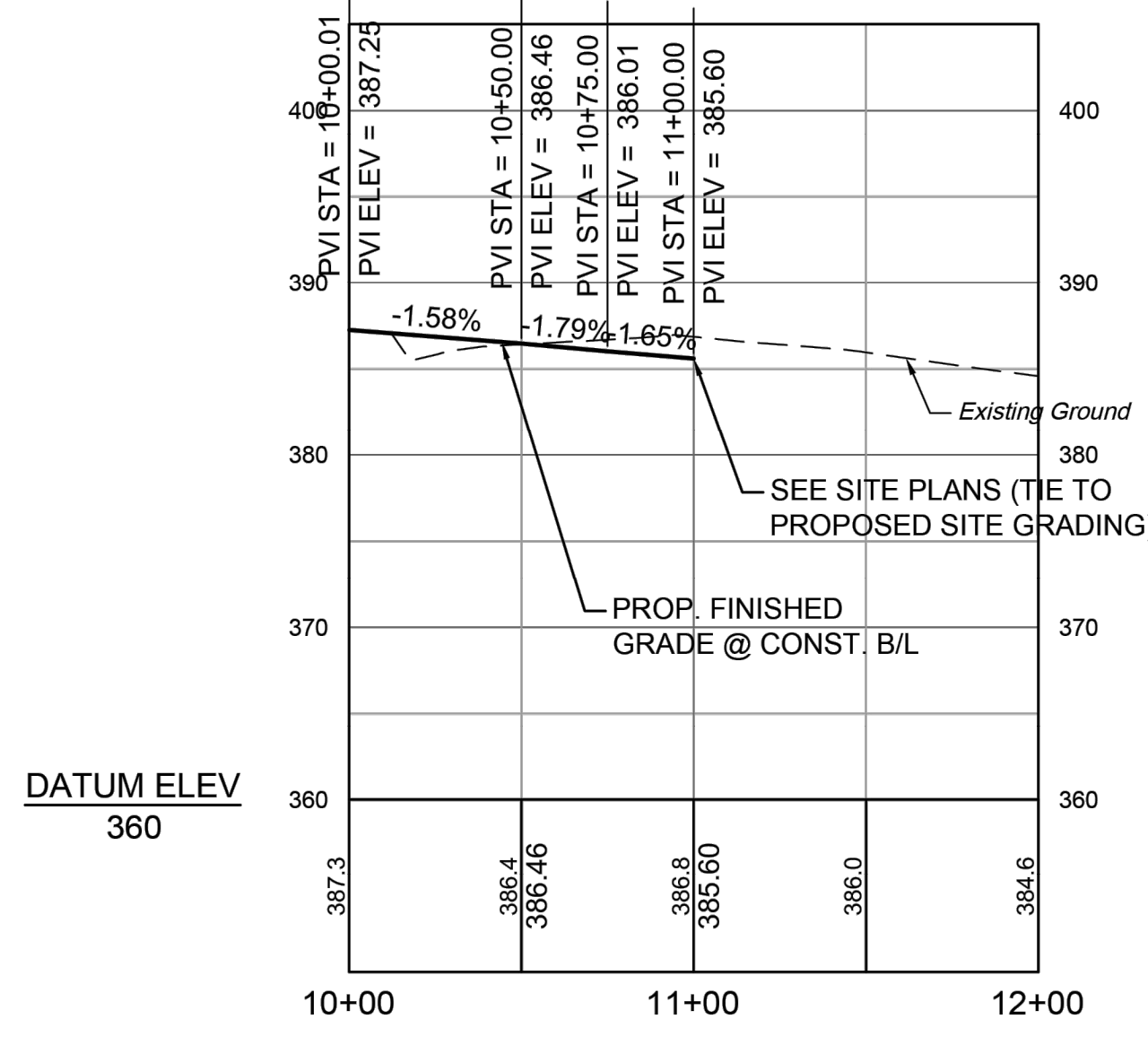
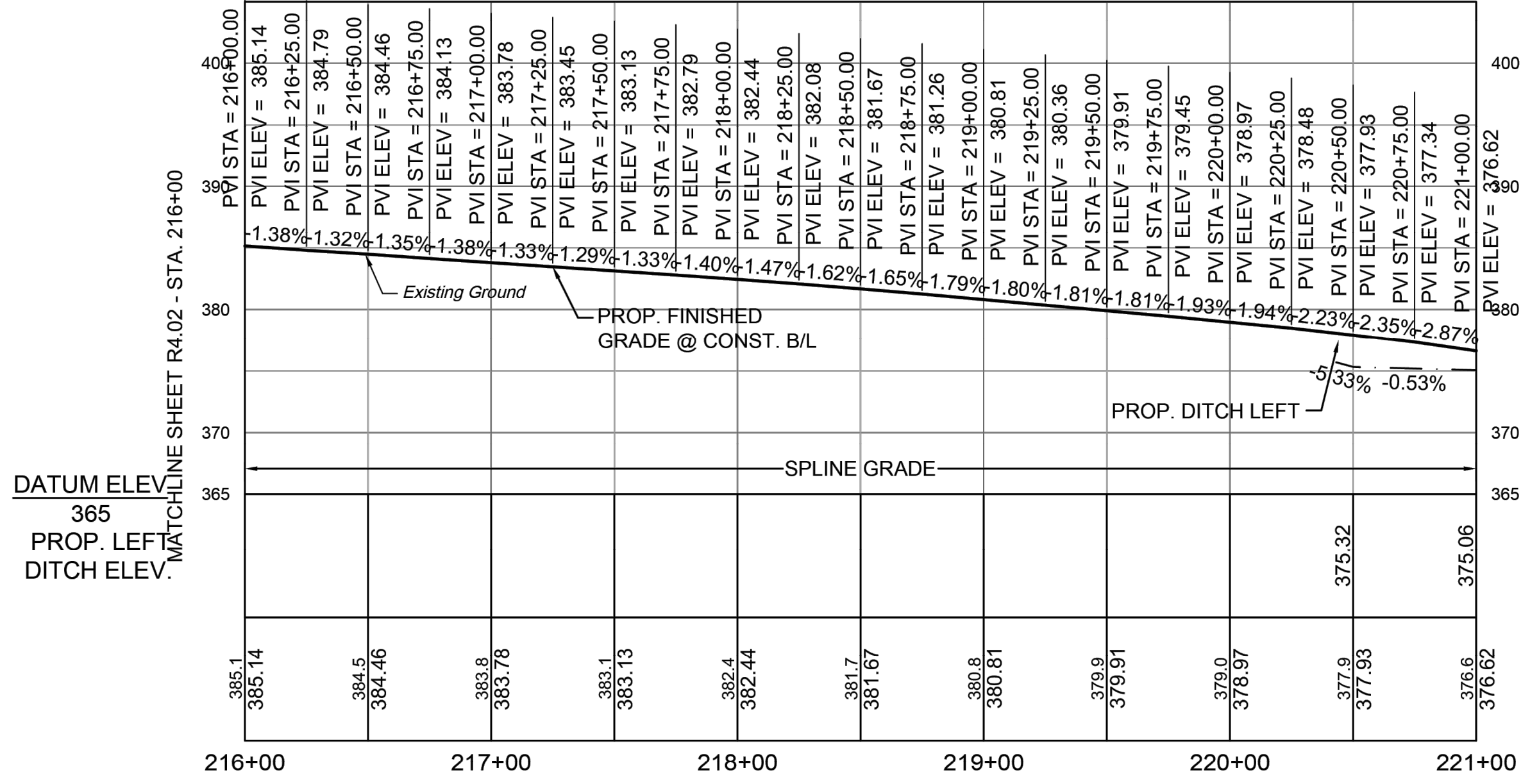


# GRADING

# MMRD

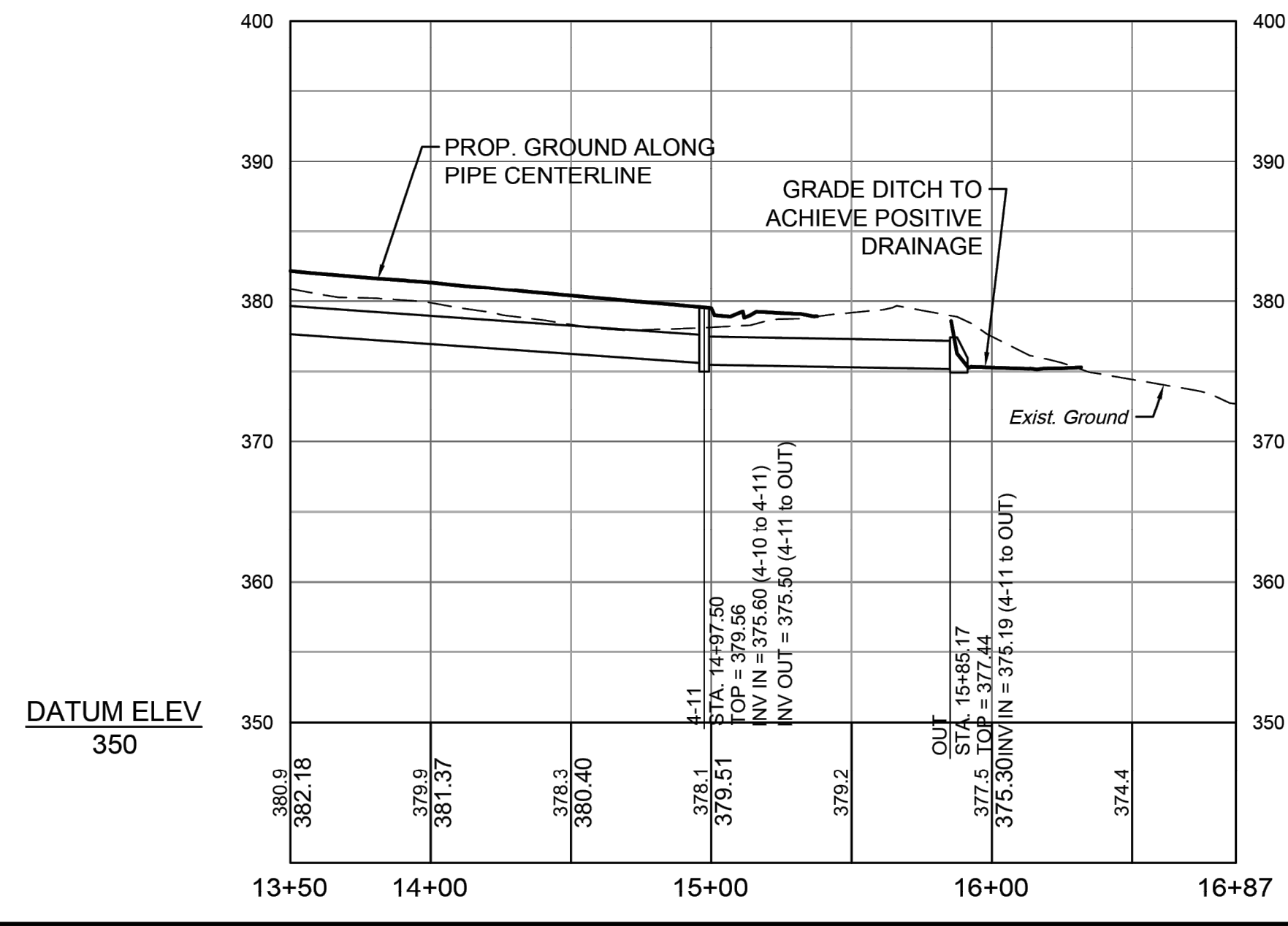
# ROAD2

PIPE



# PROFILE

# STM MITCHELL MILL ROAD



STORM STRUCTURE TABLE STM Mitchell Mill Road				
STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
OUT	377.44'	375.19' (24" RCP FROM 4-11)		NCDOT 310.02 CONCRETE ES
4-11	379.56'	375.60' (24" RCP FROM 4-10)	375.50' (24" RCP TO OUT)	NCDOT 840.02 CONCRETE CB
4-10	382.78'	378.38' (24" RCP FROM 4-9)	378.28' (24" RCP TO 4-11)	NCDOT 840.02 CONCRETE CB
4-9	385.54'	381.09' (24" RCP FROM 4-8)	380.99' (24" RCP TO 4-10)	NCDOT 840.02 CONCRETE CB
4-8	389.08'	385.26' (24" RCP FROM 4-7)	384.60' (24" RCP TO 4-9)	NCDOT 840.02 CONCRETE CB
4-7	392.18'	386.56' (24" RCP FROM 4-6)	386.46' (24" RCP TO 4-8)	NCDOT 840.02 CONCRETE CB
4-6	393.38'	387.47' (24" RCP FROM 4-5) 389.68' (18" RCP FROM IN-NORTH)	387.37' (24" RCP TO 4-7)	NCDOT 840.02 CONCRETE CB
4-5	393.41'	388.17' (24" RCP FROM 4-4)	388.07' (24" RCP TO 4-6)	NCDOT 840.02 CONCRETE CB
4-2	393.51'	390.76' (18" RCP FROM EX-1) 389.56' (24" RCP FROM 4-1)	389.46' (24" RCP TO 4-3)	NCDOT 840.02 CONCRETE CB
4-4	393.83'	388.55' (24" RCP FROM 4-3)	388.55' (24" RCP TO 4-5)	NCDOT 840.02 CONCRETE CB
4-3	393.94'	388.83' (24" RCP FROM 4-2)	388.82' (24" RCP TO 4-4)	NCDOT 840.02 CONCRETE CB
4-1	395.27'		390.31' (24" RCP TO 4-2)	NCDOT 840.02 CONCRETE CB

STORM PIPE TABLE STM Mitchell Mill Road							
FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
4-1 - 4-2	390.31'	389.56'	0.50%	150.63 LF	24"	RCP	CLASS III
4-2 - 4-3	389.46'	388.83'	0.63%	100.06 LF	24"	RCP	CLASS III
4-3 - 4-4	388.92'	388.55'	0.38%	99.79 LF	24"	RCP	CLASS III
4-4 - 4-5	388.55'	388.17'	0.44%	85.85 LF	24"	RCP	CLASS III
4-5 - 4-6	388.07'	387.47'	0.66%	90.61 LF	24"	RCP	CLASS III
4-6 - 4-7	387.37'	386.56'	0.51%	160.33 LF	24"	RCP	CLASS III
4-7 - 4-8	386.46'	385.26'	0.60%	200.51 LF	24"	RCP	CLASS III
4-8 - 4-9	384.60'	381.09'	1.75%	200.64 LF	24"	RCP	CLASS III
4-9 - 4-10	380.99'	378.38'	1.30%	200.96 LF	24"	RCP	CLASS III
4-10 - 4-11	378.28'	375.60'	1.39%	192.64 LF	24"	RCP	CLASS III
4-11 - OUT	375.50'	375.19'	0.35%	87.67 LF	24"	RCP	CLASS III
EX-1 - 4-2	392.04'	390.76'	2.25%	56.87 LF	18"	RCP	EXIST. PIPE
IN-NORTH - 4-6	390.03'	389.68'	0.63%	55.98 LF	18"	RCP	EXIST. PIPE

# PROFILE

# TIMMONS GROUP

**WHEELER TRACT - OFFSITE IMPROVEMENTS**  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 GRADING & PROFILE SHEET

JOB NO.  
**43398**  
 SHEET NO.  
**R5.02**

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REVISION DESCRIPTION  
 ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
 GRADING AND STORM NETWORK ADJUSTMENTS

YOUR VISION ACHIEVED THROUGH OURS.

DATE  
 06-15-2023  
 10-24-2023

DATE  
 07/21/22

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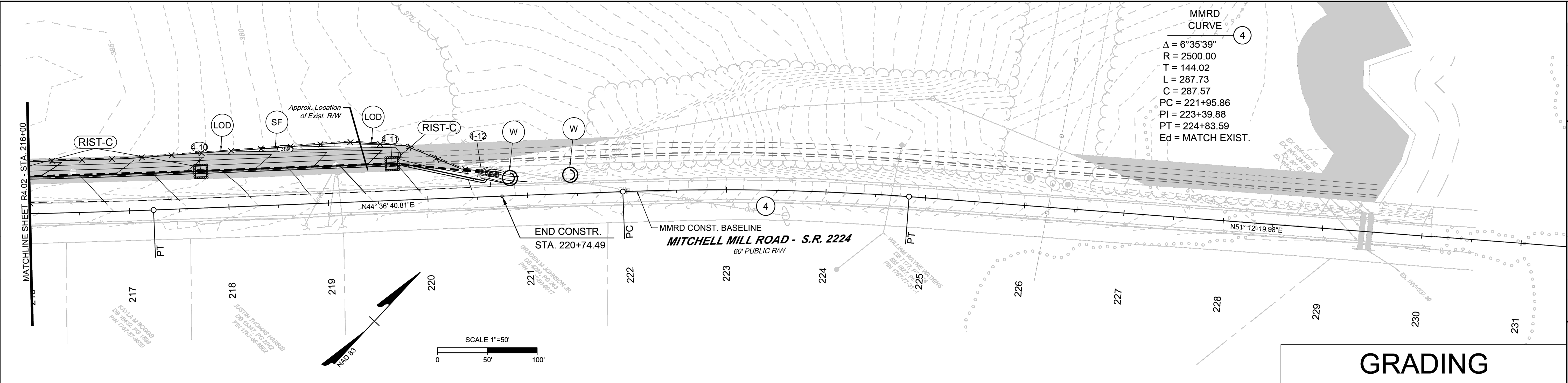
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# TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 EROSION CONTROL PLAN

JOB NO.  
 43398  
 SHEET NO.  
 R5.03

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## GRADING

## EROSION CONTROL NOTES & DETAILS

### PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

### EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL. THE MINIMUM STANDARDS SET FORTH BY THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

### EROSION CONTROL SEQUENCE OF CONSTRUCTION

A SINGLE-PHASED EROSION CONTROL APPROACH IS PROVIDED BELOW TO DESCRIBE GENERAL MEASURES REQUIRED TO MAINTAIN THE SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL APPLY PHASE I AS DESCRIBED HEREIN TO THE VARIOUS WORK AREAS ASSOCIATED WITH THIS PROJECT. DUE TO THE NATURE OF WORK AREAS, THE CONTRACTOR SHALL ENSURE EROSION CONTROL MEASURES ARE PROVIDED AS DESCRIBED THROUGH PROJECT COMPLETION AND ACCEPTANCE.

### PHASE I:

- PROVIDE MINIMAL CLEARING TO INSTALL SILT FENCE AS SHOWN ON THE PLANS. INSTALL CULVERT PROTECTION AS REQUIRED FOR EXISTING PIPES. TAKE SPECIAL CARE TO KEEP SOIL BUILD-UP FROM ENTERING THE EXISTING ROAD PAVEMENT.
- THE CONTRACTOR WILL NOTIFY THE INSPECTOR OF THE PERMITTED LOCATION EXCESS SOIL MATERIAL IS HAULED TO OR BORROW MATERIAL IS BROUGHT IN FROM. CLEAR AND GRUB AS INDICATED IN THE PLANS. MAINTAIN ACCESS ALONG EXISTING ROADS AND TO EXISTING DRIVEWAYS AT ALL TIMES.
- TEMPORARY GRADING AND SEEDING IS REQUIRED FOR ALL AREAS WHEN DIRECTED:
  - WHEN IT IS IMPOSSIBLE OR IMPRACTICAL TO BRING AN AREA TO THE FINAL LINE, GRADE AND FINISH SO THAT PERMANENT SEEDING AND MULCHING OPERATIONS CAN BE PERFORMED WITHOUT SUBSEQUENT SERIOUS DISTURBANCE BY ADDITIONAL GRADING.
  - WHEN EROSION OCCURS OR IS CONSIDERED TO BE POTENTIALLY SUBSTANTIAL ON AREAS OF GRADED ROADBED WHERE CONSTRUCTION OPERATIONS ARE TEMPORARILY SUSPENDED OR WHEN THE GRADING OF THE ROADBED HAS BEEN COMPLETED SUBSTANTIALLY IN ADVANCE OF THE PAVING CONSTRUCTION DURING SEASONS OF THE YEAR WHEN PERMANENT SEEDING AND MULCHING IS PROHIBITED BY THE CONTRACT.
  - WHEN AN IMMEDIATE COVER WOULD BE DESIRABLE TO MINIMIZE EROSION, SILTATION OR POLLUTION ON ANY AREA.
  - 7/14-DAY SOIL STABILIZATION REQUIREMENTS APPLY TO ANY SECTION OF THE PROJECT WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND SHALL SUPERSEDE ANY LESS STRINGENT STABILIZATION REQUIREMENTS ON THE PLANS. [G.S. 143-215.1]
- CONTRACTOR SHALL REMOVE AND REPLACE ANY DAMAGED EROSION CONTROL MEASURES UNTIL FINAL APPROVAL OF CONSTRUCTION.
- THE SITE SHALL BE PERMANENTLY STABILIZED AFTER ALL GRADING HAS BEEN COMPLETED BY SEEDING ALL DISTURBED AREAS.
- UPON CONSTRUCTION COMPLETION, THE CONTRACTOR MUST CONTACT THE INSPECTOR FOR EROSION CONTROL INSPECTION OF SLOPE STABILITY. EROSION CONTROL MEASURES MAY NOT BE REMOVED WITHOUT AUTHORIZATION BY THE ASSIGNED INSPECTOR.
- UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

### NOTE:

- CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.

EROSION & SEDIMENT CONTROL LEGEND	
	LIMITS OF DISTURBANCE
	TEMPORARY SILT FENCE (NCDOT STD. 1605.01)
	WATTLE WITH FLOCCULANT
	ROCK INLET SEDIMENT TRAP - TYPE C (NCDOT STD. 1632.03)
	ROCK PIPE SEDIMENT TRAP - TYPE B (NCDOT STD. 1635.02)

### STABILIZATION REQUIREMENTS:

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 2:1 or flatter, with a slope length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (2). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

### SEEDING AND MULCHING:

(East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas	
March 1 - August 31	September 1 - February 28
35# Tall Fescue	35# Tall Fescue
10# Centipede	10# Centipede
25# Bermuda grass (mild)	35# Bermuda grass (subtil)
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

Waste and Borrow Locations

March 1 - August 31	September 1 - February 28
75# Tall Fescue	75# Tall Fescue
25# Bermuda grass (mild)	35# Bermuda grass (subtil)
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermuda grass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dunt	Enchale	Justice	Sawseget
2nd Millennium	Evergreen 2	Kolobart	Shady
3rd Millennium	Kinzy Hawk 2000	Sherridan	Sheridan
Apache III	Falcon IV	Legitimate	Sigma
Avenger	Falcon NG	Lehigh	Silver Hawk
Barkless	Falcon V	LSD	Silverstar
Barkless II	Fuchs	Magnum	Shamrock Elite
Bar Pa	Fit Cat	Meador	Sidewinder
Barnes	Festonia	Moore	Millennium SRP
Barrington	Fidelity	Moore	Solara
Barrobuso	Finlawn Elite	Montag 4	Southern Choice II
Barrobuso	Finlawn Xpress	Ninja 2	Speedway
Bilmore	Finlawn II	Of Glory	Sprite LS
Bingo	Firebird	Olympic Gold	Sunset Gold
Bilmore	Finlawn LS	Palde	Tacoma
Blackwatch	Finlawn	Paragonia	Tanzenia
Black Runner II	Five Point	Pedigree	Tito
Bonast	Focus	Picasso	Tobac II
Braveheart	Fortis	Piedmont	Talladega
Breno	Garrison	Plantation	Tulene
Bullseye	Grassie II	Prospect 5301	Ternoo
Camavaro	Gold Medalion	Prospect	Titan Ind
Candyst	Grade 3	Pure Gold	Titanium LS
Cayenne	Greenbrook	Quest	Tracer
Cosmos R2	Greenkeeper	Raptor II	Transverse SRP
Charger	Greenline	Rebel Brava	Trio Time
Cochise IV	Greystone	Rebel Senry	Turbo
Comstock	Guardian 21	Rebel IV	Turbo RZ
Conquest	Guardian 41	Rebelment II	Turbo RZ
Cosma	Himal	Ragunator	Ultimate
Coyote	Honky Tonk	Radiation	Ventura
Darlington	Hot Rod	Rambler 2 SRP	Unshella
Dartini	Innovator	Rambroad	Van Gogh
Devine	Indefino	Renaissance	Watchdog
Domination	Innovator	Riverside	Wolfpack II
Dynamic	Imagery	ROP	Xmasgreen
Dynasty	Jupiter 3	Rockstar	
Endeavor	Jamboree	Sception	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be provided the 1-2-3 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

### TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for Seeding and Mulching and applied at the rate of 400 pounds and needed at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browning Millet shall be used in summer months and Ryegrass during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

### FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-3 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-3 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

### SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for Seeding and Mulching, with the exception that no composite seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a soil seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clostrine (roll and clean) may be used where degree of slope prevents the use of a soil seeder.

### MOVING:

The minimum moving height on this project shall be 4 inches.

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unrotted, unweeded, avoid weed.	Spread over bare wheel or cast; spread by hand or machine; must be tacked down.
Wood chips	5-6 tons	Air dry	Use with 1/2 ton nitrogenizer. Apply with blower. If landing it by hand, not for use in fine turf.
WOOD FIBER	0.5-1 ton		Also referred to as wood mulch. May be hydroseeded. Do not use in hot, dry weather.
Bank	30 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handler, or by hand. Do not use on steep bank.
Com mulch	4-8 tons	Cut or shredded in 4-8 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Grass	1-3 tons	Green or dry; should contain vermiculite.	
Wool Mat	Cover area	Heavy uniform; woven or single pile yarn.	Withstands weather. Best when used with organic mulch.
UV mat	Cover area		Withstands weather. Best when used with organic mulch.
Fiberglass mat	Cover area		Withstands weather.
Excelsior (wood fiber) mat	Cover area		Withstands weather.
Fiberglass mat	0.5-1 ton	Continuous layer of straw glass bound together with a soil-based agent.	Apply with a compressed air applicator. Mat with erodible applied at a rate of 25-30 gal/1,000 sq ft.
Chemical Stabilizer			Not beneficial to plant growth.
Asphalt	Follow manufacturer's specifications		
Acrylic			
Cement			
Peel and Stick			
Roll On			
Grass Seed			
N-M			

\*Refer to Practice No. 0.36, Green Line/Overlook.  
 \*Use of back services does not imply endorsement of product.

## NOTES

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CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

**TIME RESTRICTIONS**

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
Rolesville Road	7am-9am, 3pm-6pm
Mitchell Mill Road	7am-9am, 3pm-6pm

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
Rolesville Road	7am-9am, 3pm-6pm
Mitchell Mill Road	7am-9am, 3pm-6pm

**HOLIDAY**

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.  
  
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

**LANE AND SHOULDER CLOSURE REQUIREMENTS**

- C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

**PAVEMENT EDGE DROP OFF REQUIREMENTS**

- G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:
- BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
- BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- H) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

**TRAFFIC PATTERN ALTERATIONS**

I) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

**SIGNING**

- J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- L) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

**TRAFFIC CONTROL DEVICES**

M) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII AND 5 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

**PAVEMENT MARKINGS AND MARKERS**

N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

O) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

**MISCELLANEOUS**

P) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

Q) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

REV. OCTOBER 2017

**ROADWAY STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED ATTENUATOR
1180.01	SKINNY - DRUMS

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

**RECOMMENDED STRATEGIES:**

**TRAFFIC MANAGEMENT STRATEGIES:**

- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- TRAFFIC / INCIDENT MANAGEMENT & SPEED ENFORCEMENT STRATEGIES: COORDINATION WITH STATE TRAFFIC OPERATIONS CENTER (STOC) COORDINATION WITH MEDIA

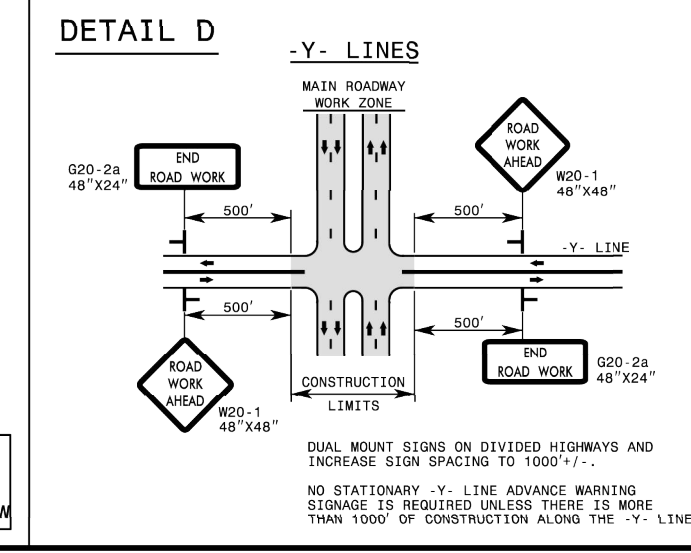
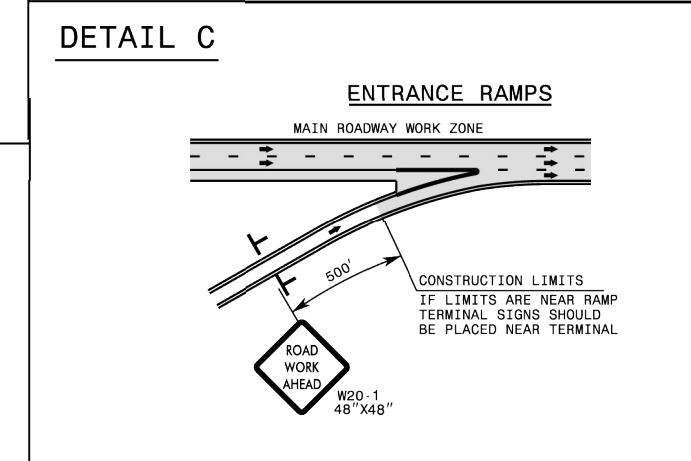
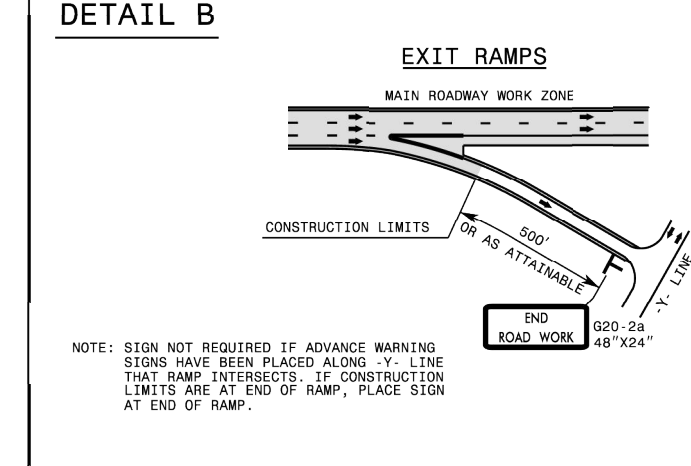
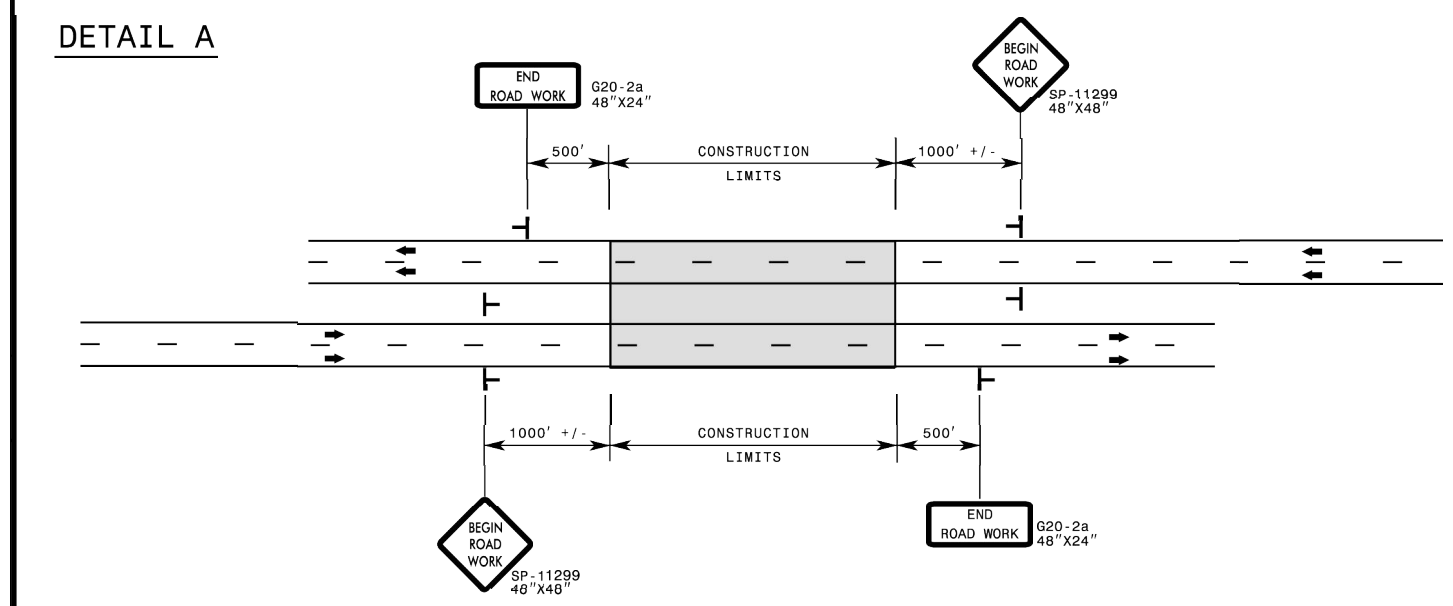
**SEQUENCE OF CONSTRUCTION**

THE FOLLOWING SEQUENCE OF CONSTRUCTION IS A RECOMMENDATION PROVIDED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FOR ANY CHANGES TO THIS TRANSPORTATION MANAGEMENT PLAN RESULTING FROM ADJUSTMENTS TO THE RECOMMENDED SEQUENCES. ALL PHASES OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS PROVIDED.

CONSTRUCTION FOR EACH LOCATION WILL FOLLOW THE SEQUENCE PROVIDED BELOW. CONSTRUCTION DURING EACH PHASE CONSISTS OF ALL WORK NECESSARY TO COMPLETE THE PROJECT.

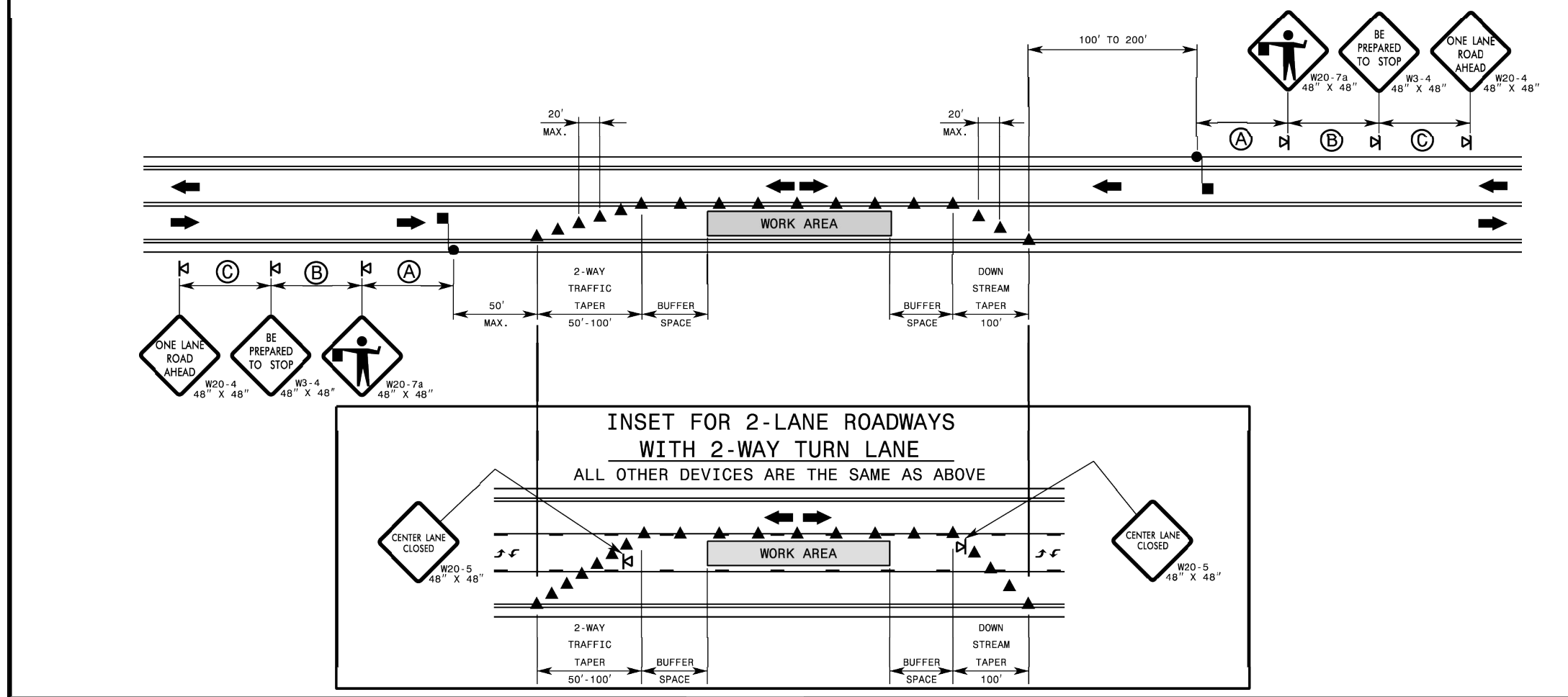
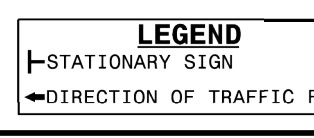
TRAFFIC SHALL BE MAINTAINED ACCORDING TO THE N.C. DEPARTMENT OF TRANSPORTATION DETAILS FOUND ON THIS SHEET. THE CONTRACTOR SHALL MINIMIZE LANE CLOSURES TO THE GREATEST EXTENT PRACTICAL.

- PHASE 1**  
INSTALL SIGNING FOR PROJECT LIMITS PER 1101.01. ERECT ALL ADVANCE WARNING SIGNS AND CHANNELIZATION DEVICES PER NCDOT DETAILS FOR APPROPRIATE MAINTENANCE OF TRAFFIC FOR CONSTRUCTION STAGING.
- PHASE 2**  
COMMENCE CLEARING AND INSTALLATION OF EROSION CONTROL MEASURES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS. REMOVAL, ABANDONMENT AND ADJUSTMENTS OF PUBLIC UTILITIES SHALL BE COMPLETED PRIOR TO OR DURING THIS PHASE. PERFORM GRADING OPERATIONS FOR PROPOSED WIDENING.
- PHASE 3**  
CONSTRUCT ROUGH GRADING, STORM STRUCTURES AND NETWORK, CURB AND GUTTER, PAVEMENT WIDENING, FINAL PAVING OPERATIONS, STRIPING AND INSTALLATION OF ROADSIDE SIGNS.
- PHASE 4**  
PERFORM FINAL GRADING OPERATIONS AND PLACE FINAL SEED MIX AND STABILIZE ALL WORK AREAS
- PHASE 5**  
UPON COMPLETION OF ALL WORK, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (AS APPROVED BY THE ENVIRONMENTAL ENGINEERING INSPECTOR) AND ALL TEMPORARY TRAFFIC CONTROL DEVICES.



**GENERAL NOTES**

- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- 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.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD, 1110.01.
- DO NOT BACK BRACE SIGN SUPPORTS.
- 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.

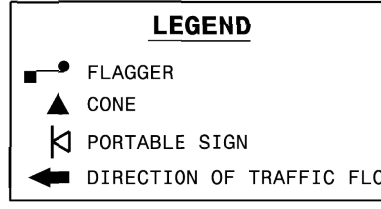


**GENERAL NOTES FOR FLAGGING OPERATIONS**

- REFER TO RSD, 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.
- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.
- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- PLACE CONES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD, 1101.11, SHEET 2).
- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.
- DRUMS OR SKINNY DRUMS MAY BE USED IN LIEU OF CONES. REFER TO RSD, 1180.01 FOR SKINNY DRUM REQUIREMENTS.
- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE; SUPPLEMENT FLAGGERS LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W8-7a) PLACED APPROXIMATELY 250 FT. IN ADVANCE OF THE FLAGGER, FOR SIGNALIZED INTERSECTIONS PLACE SIGNALS IN THE FLASH MODE AND USE LAW ENFORCEMENT.
- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.
- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

**GENERAL NOTES FOR PILOT CAR OPERATIONS**

- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.
- IF ROADWAY WIDTH IS LESS THAN 22 FEET (EOP TO EOP), CONES MAY NOT BE REQUIRED ALONG WORK AREA, AND AT THE DISCRETION OF THE ENGINEER, CONES MAY BE OMITTED ALONG THE WORK AREA IF USING A PILOT CAR.
- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.
- MOUNT SIGN (W8-4) "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.
- DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- ADVISE RESIDENTS AND BUSINESSES WITHIN THE LANE CLOSURE LIMITS ABOUT METHODS OF SAFE EGRESS AND INGRESS FROM DRIVEWAYS DURING FLAGGING AND PILOT CAR OPERATIONS.



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

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

SHEET 2 OF 3  
**1101.01**

**TIMMONS GROUP**

WHEELER TRACT - OFFSITE IMPROVEMENTS  
ROLESVILLE - WAKE COUNTY STATE - NORTH CAROLINA  
TRAFFIC MANAGEMENT PLAN

THIS DRAWING PREPARED AT THE OFFICE OF THE ENGINEER  
5410 Trinity Road, Raleigh, NC 27607  
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

REVISION DESCRIPTION  
06-15-2023 ROLESVILLE ROAD TAPER, SHIFT AND STORM NETWORK UPDATE  
10-24-2023 GRADING AND STORM NETWORK ADJUSTMENTS

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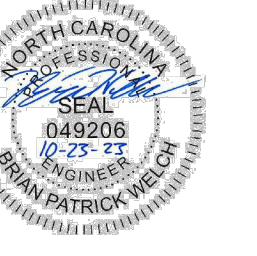
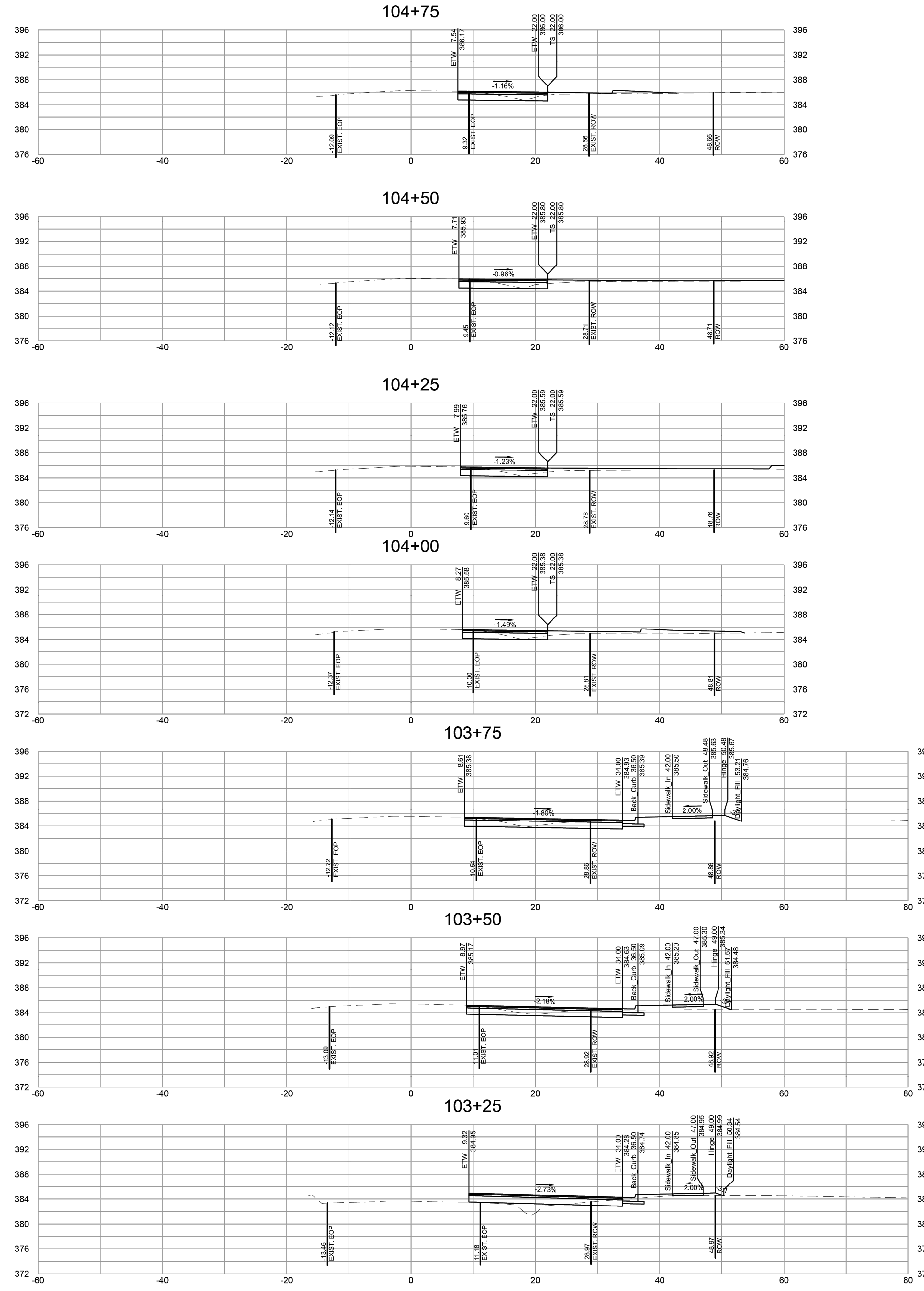
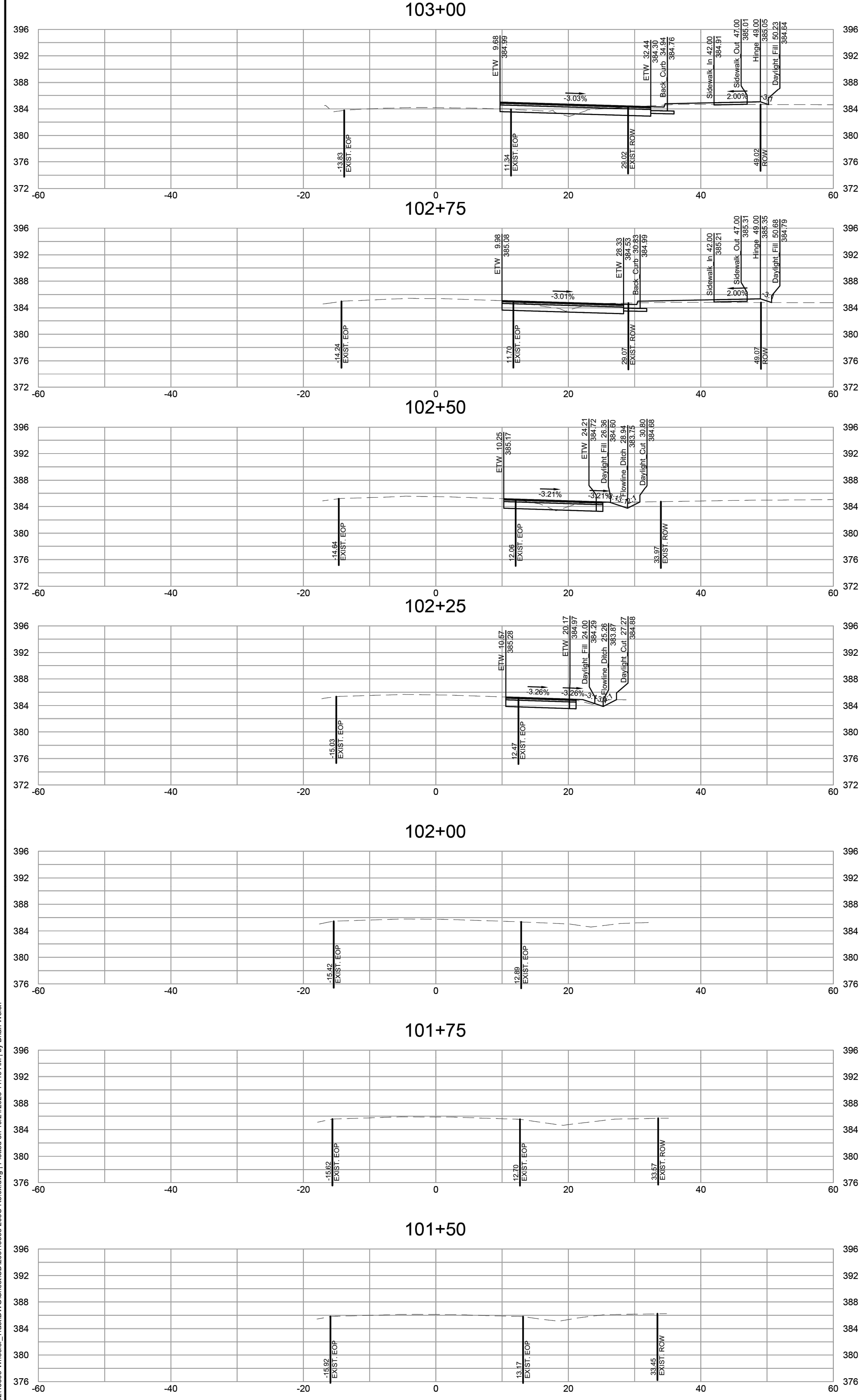
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DESIGNED BY: BPW  
CHECKED BY: BPW  
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JOB NO. 43398  
SHEET NO. R7.00

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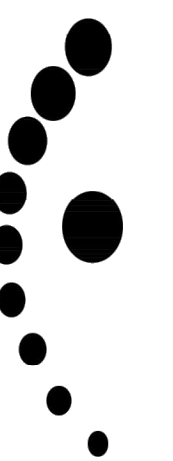


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# WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
ROLESVILLE ROAD CROSS SECTIONS

REVISION DESCRIPTION  
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
GRADING AND STORM NETWORK ADJUSTMENTS

DATE  
06-15-2023  
10-24-2023

DATE  
07/21/22

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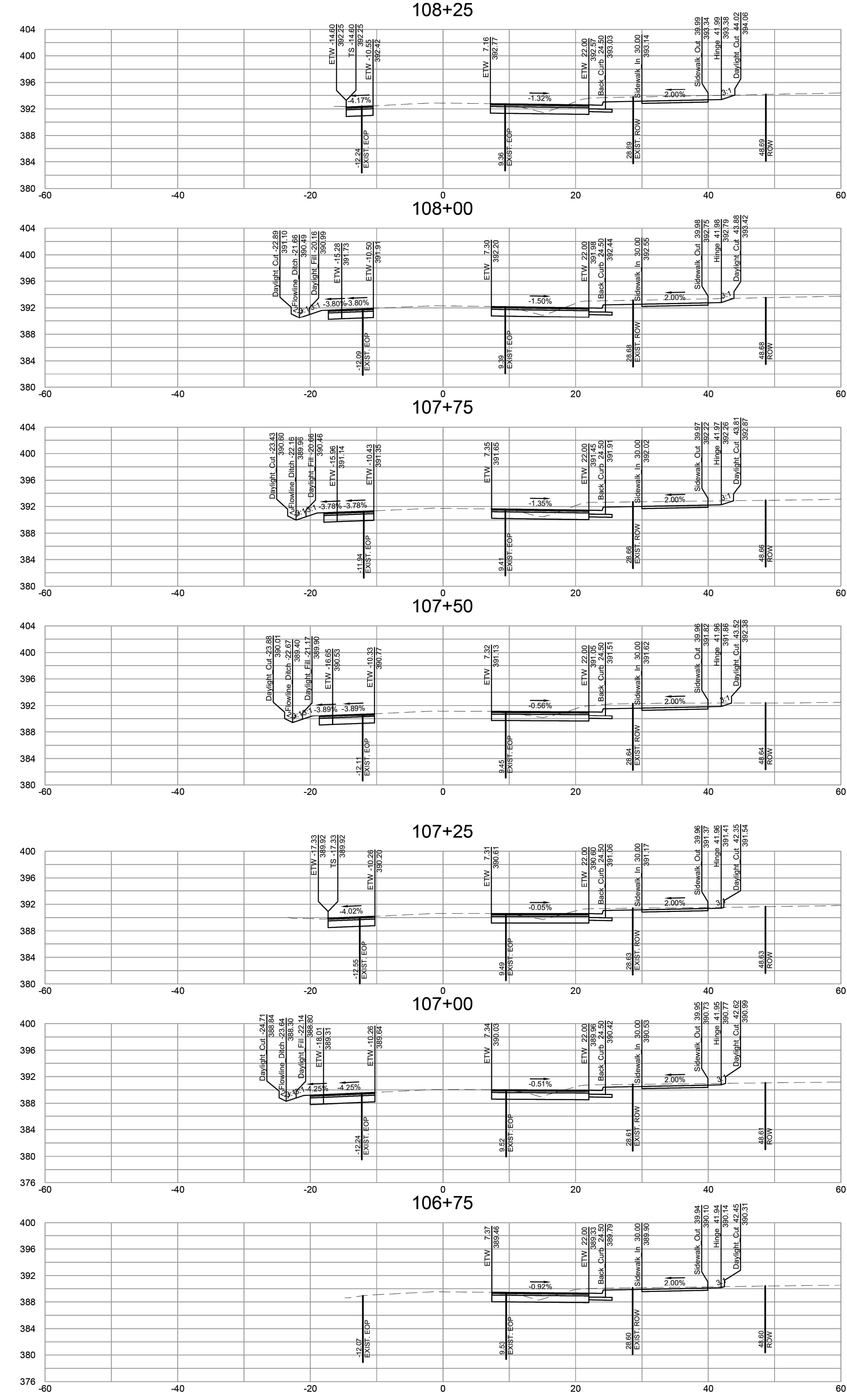
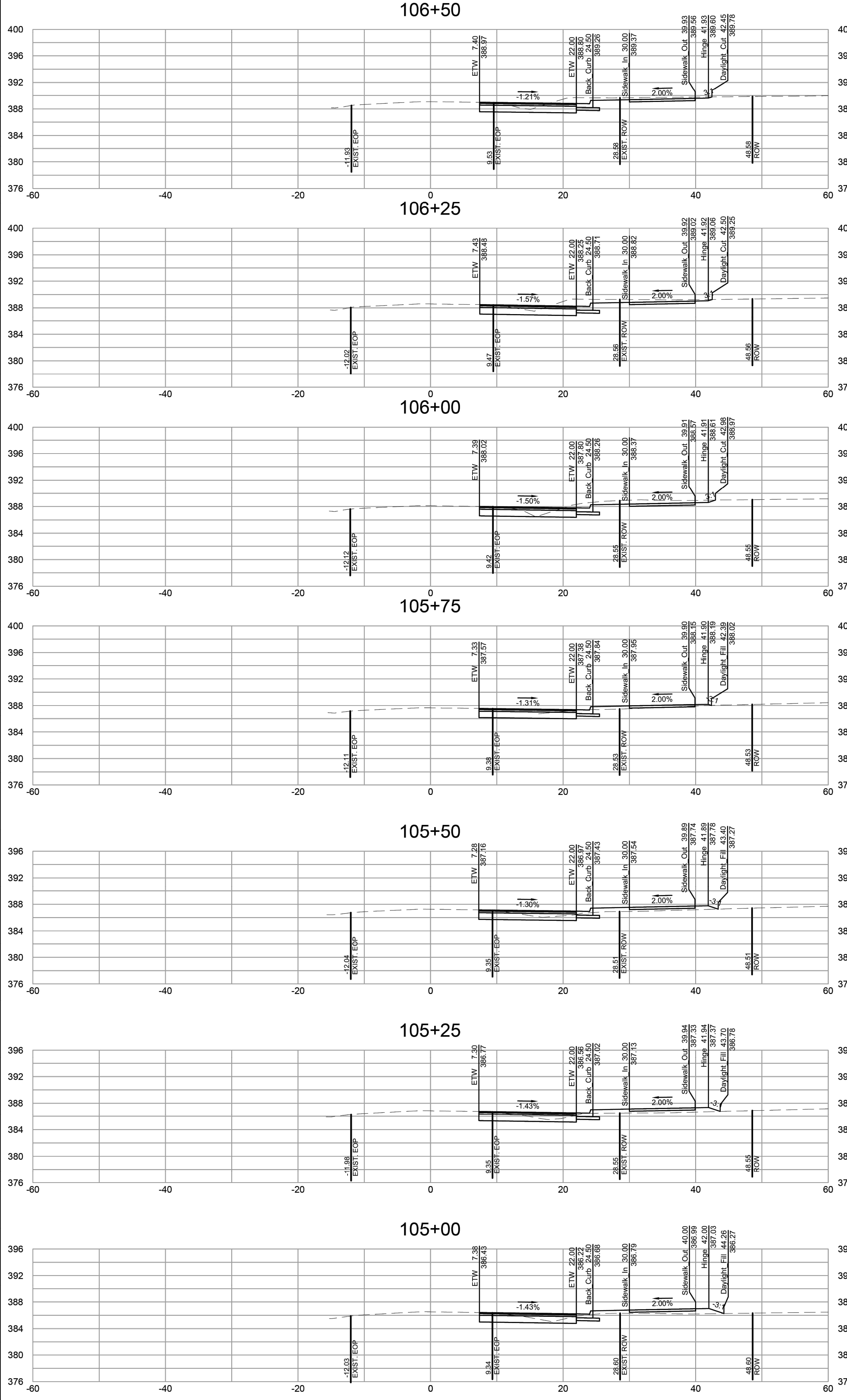
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SHEET NO.  
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## WHEELER TRACT - OFFSITE IMPROVEMENTS ROLESVILLE - WAKE COUNTY - NORTH CAROLINA ROLESVILLE ROAD CROSS SECTIONS

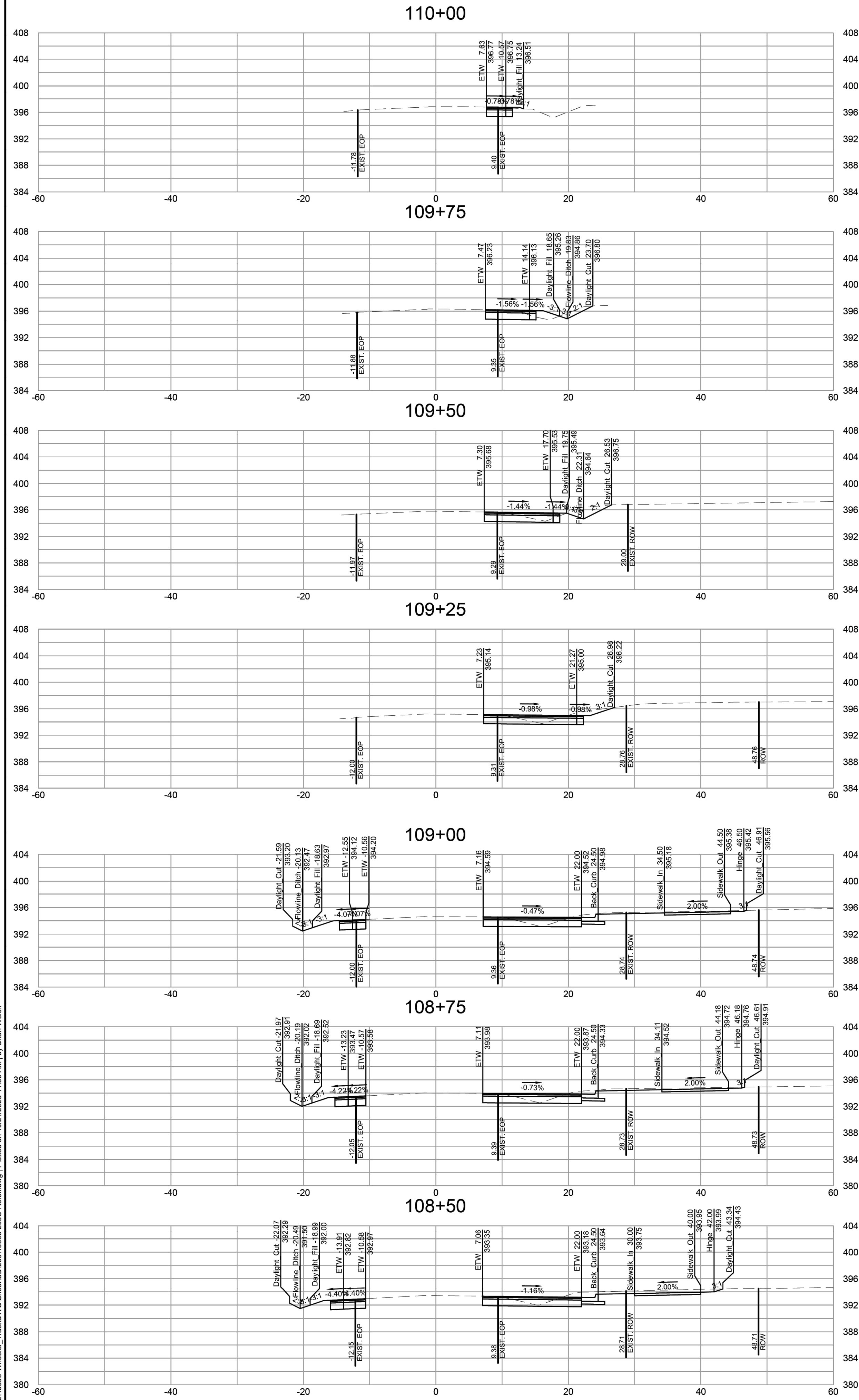
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REVISION DESCRIPTION  
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
GRADING AND STORM NETWORK ADJUSTMENTS

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 BPW

SCALE  
 1" = 10'



**WHEELER TRACT - OFFSITE IMPROVEMENTS**  
 ROLESVILLE - WAKE COUNTY - NORTH CAROLINA  
 ROLESVILLE ROAD CROSS SECTIONS

JOB NO.  
**43398**  
 SHEET NO.  
**R8.03**

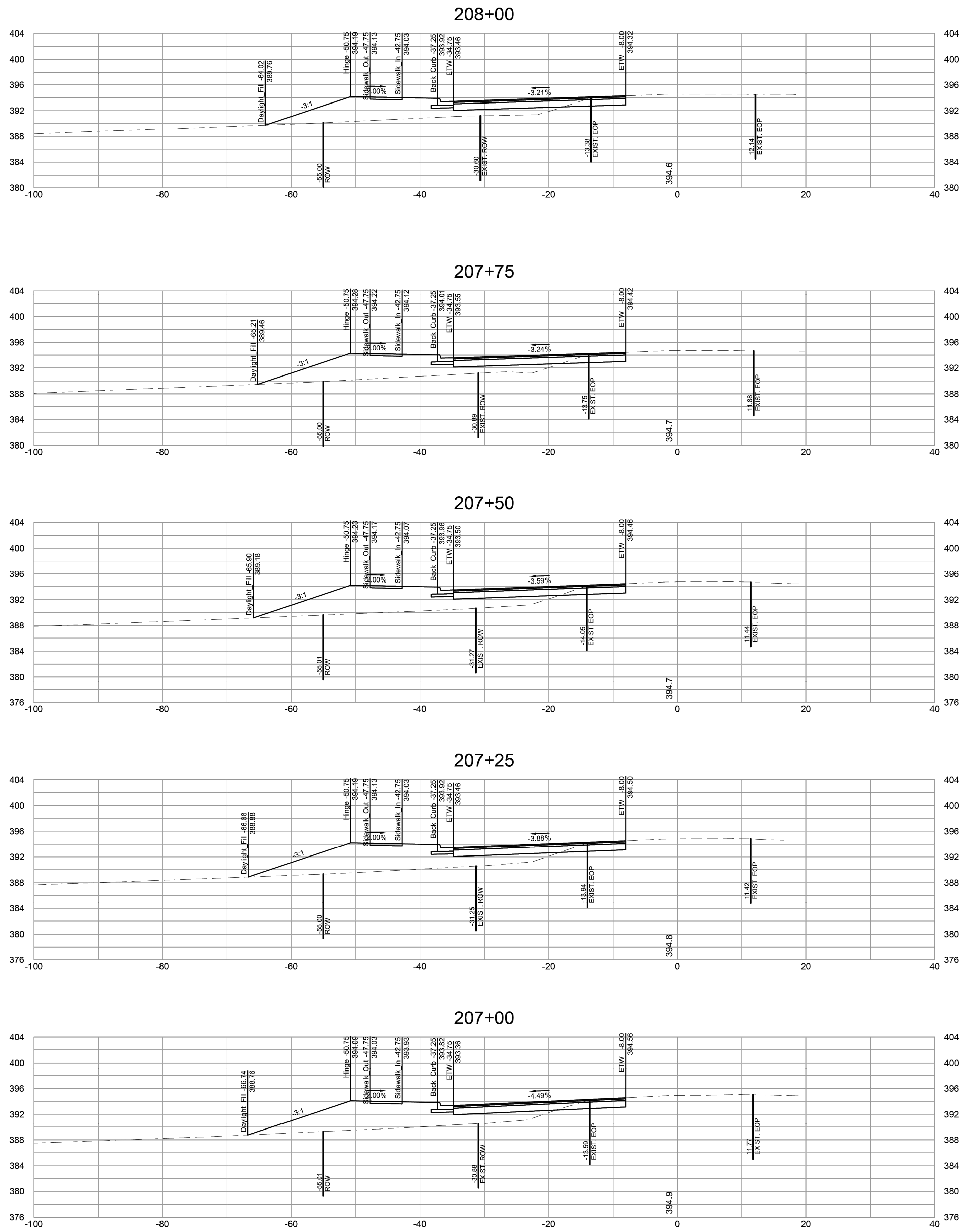
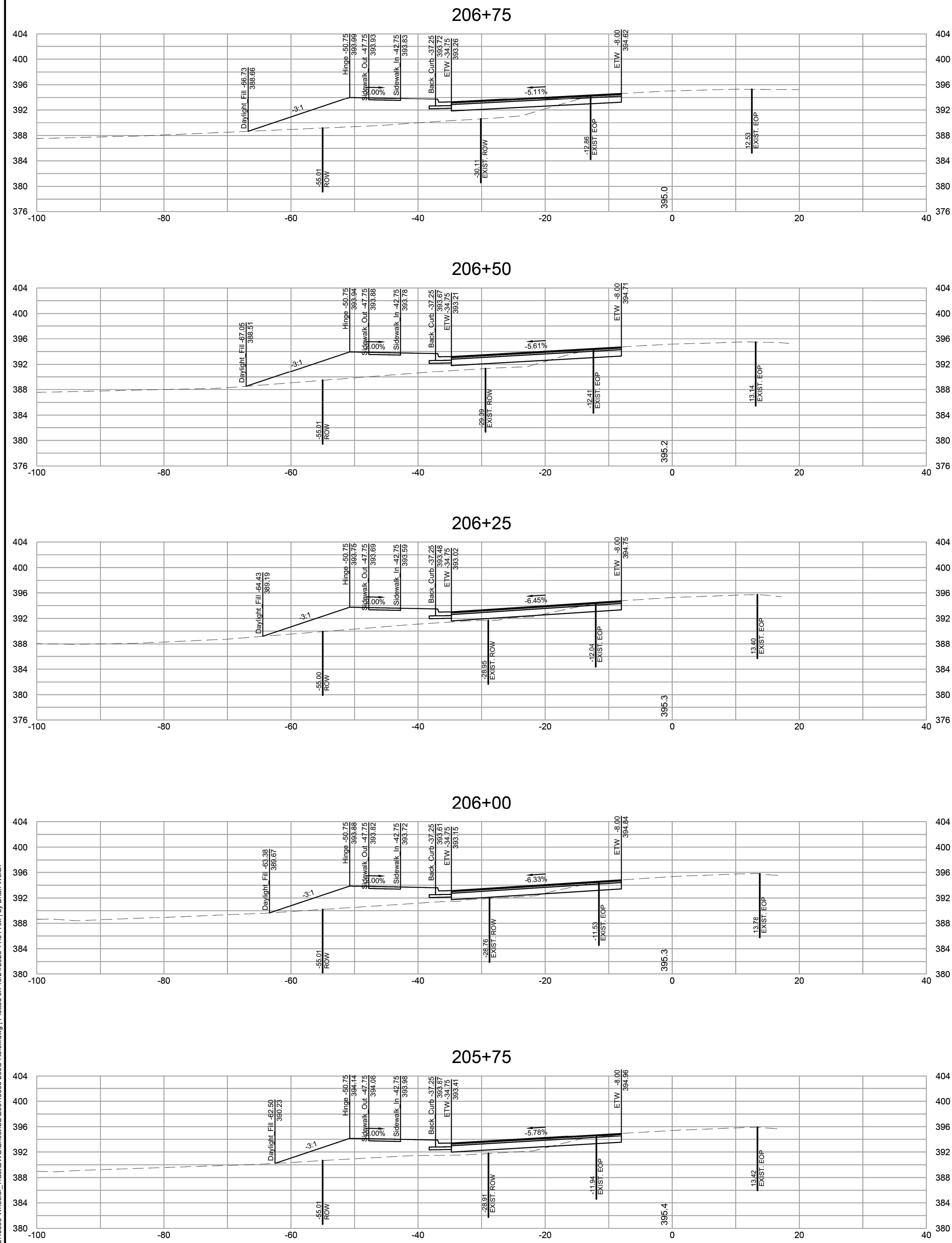
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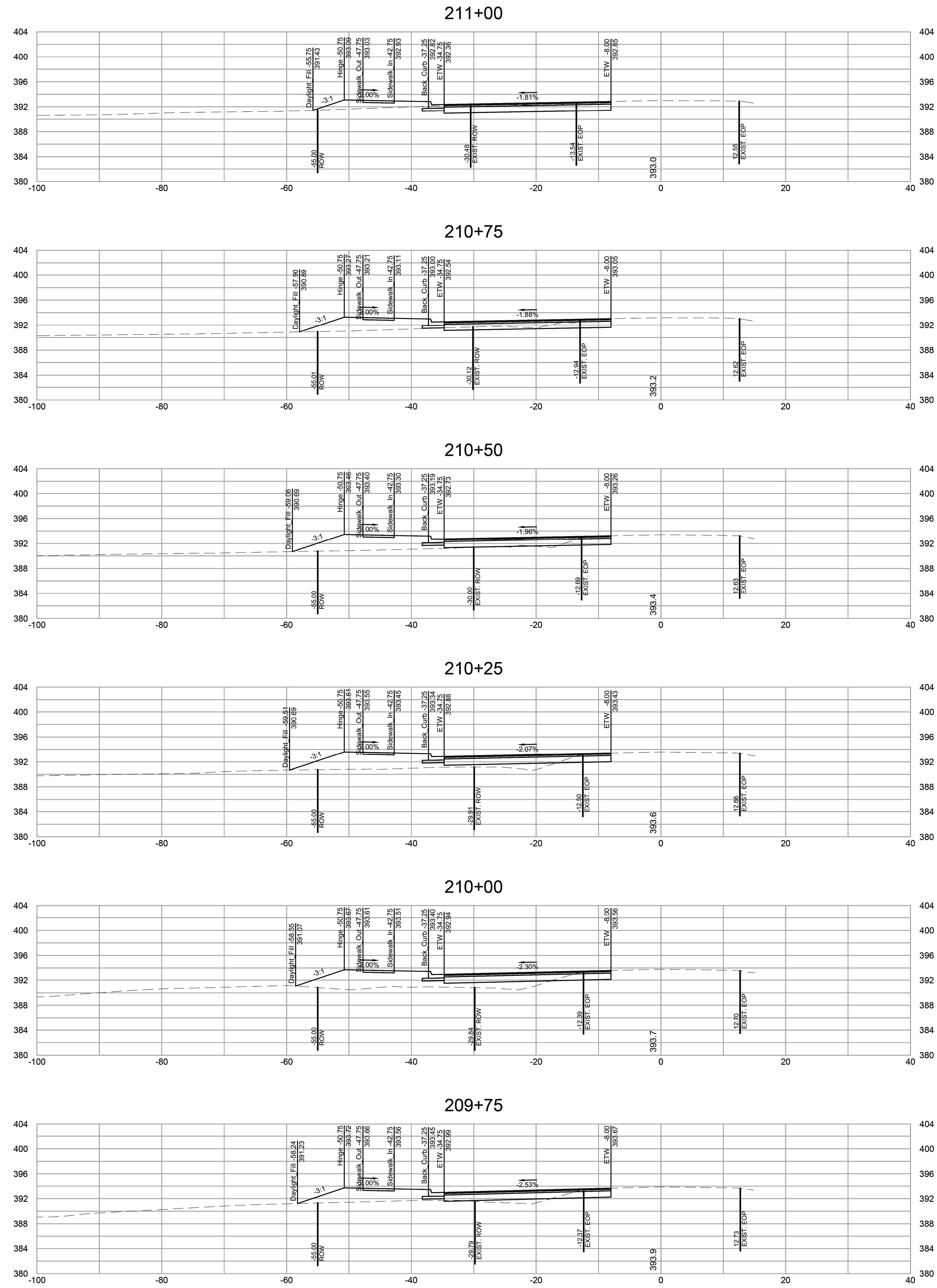
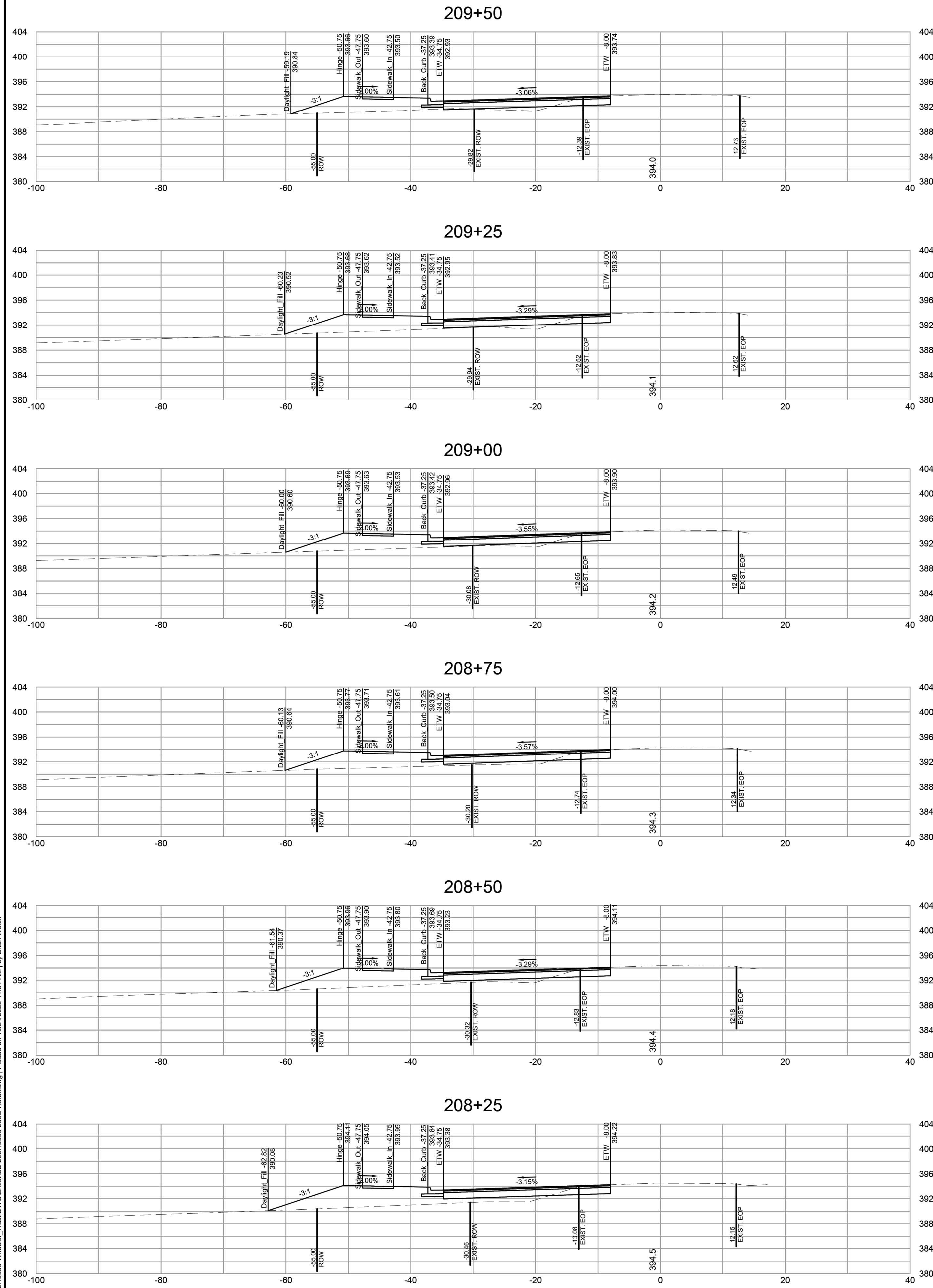
## WHEELER TRACT - OFFSITE IMPROVEMENTS ROLESVILLE - WAKE COUNTY - NORTH CAROLINA MITCHELL MILL ROAD CROSS SECTIONS

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ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE  
GRADING AND STORM NETWORK ADJUSTMENTS

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## WHEELER TRACT - OFFSITE IMPROVEMENTS ROLESVILLE - WAKE COUNTY - NORTH CAROLINA MITCHELL MILL ROAD CROSS SECTIONS

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