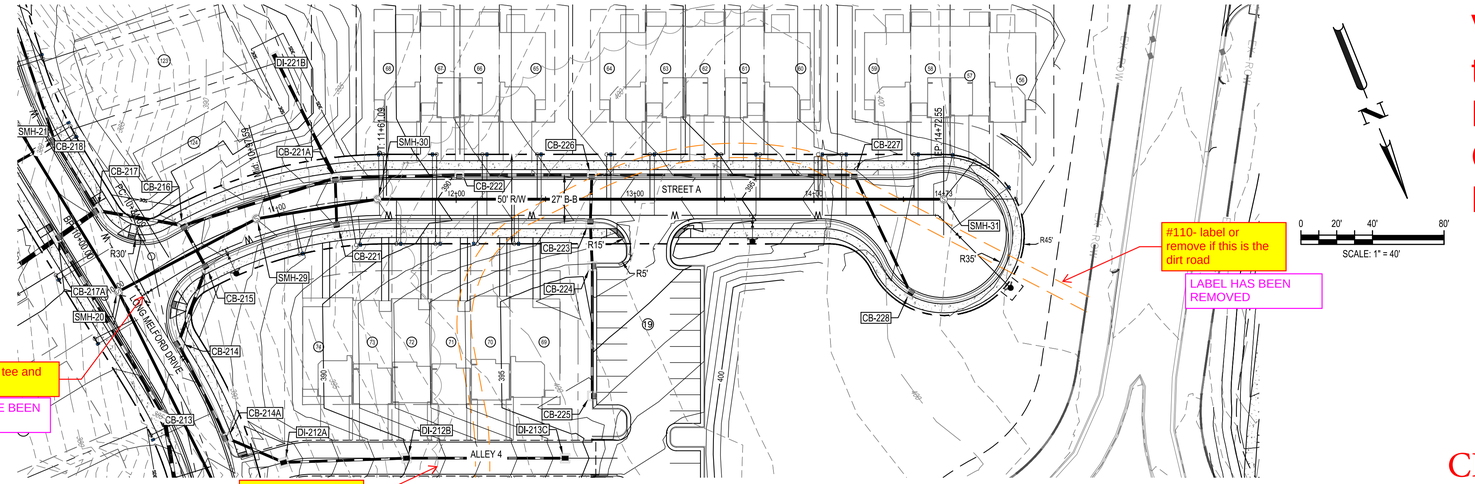
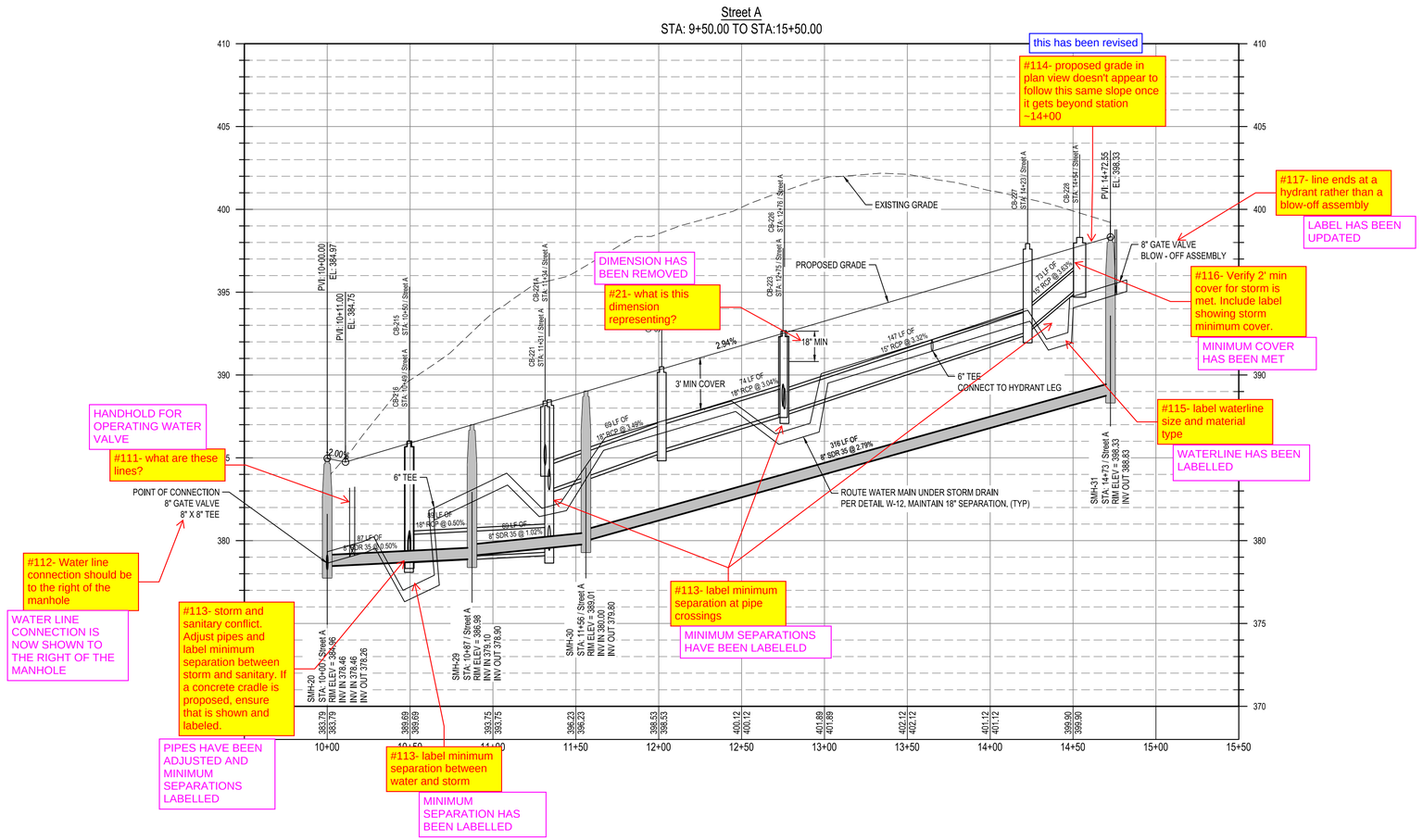
V2 - REsponse to V1 ENGINEERING COMMENTs on Part 3 of 3



CID-23-06 - V1 - Part 3 of 3 of plan set



REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

STREET A PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DEBRA M. FEERS
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-0

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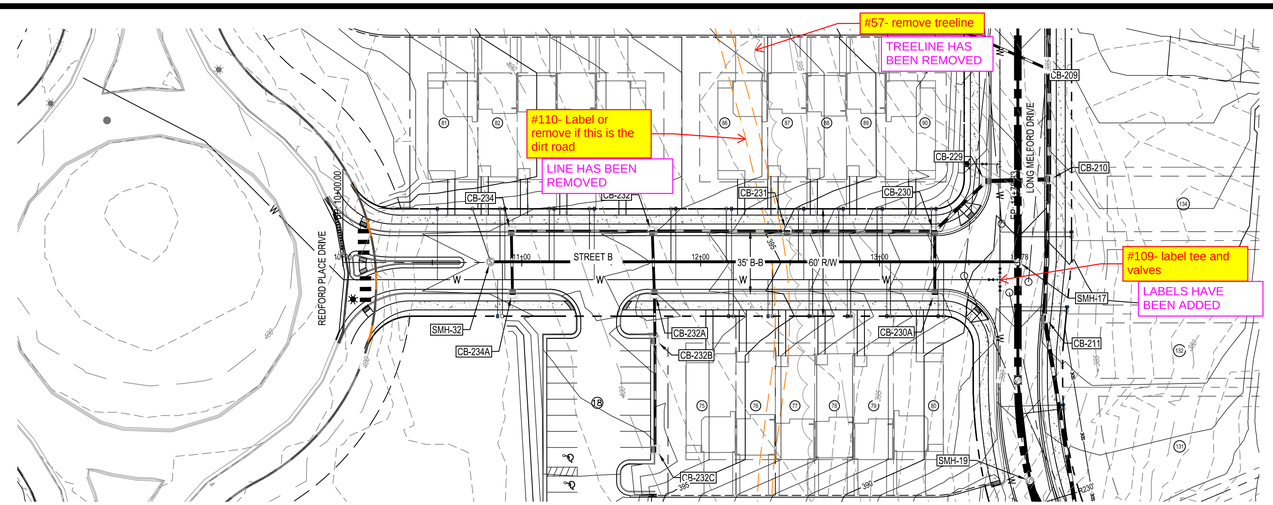

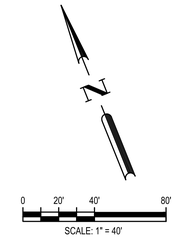

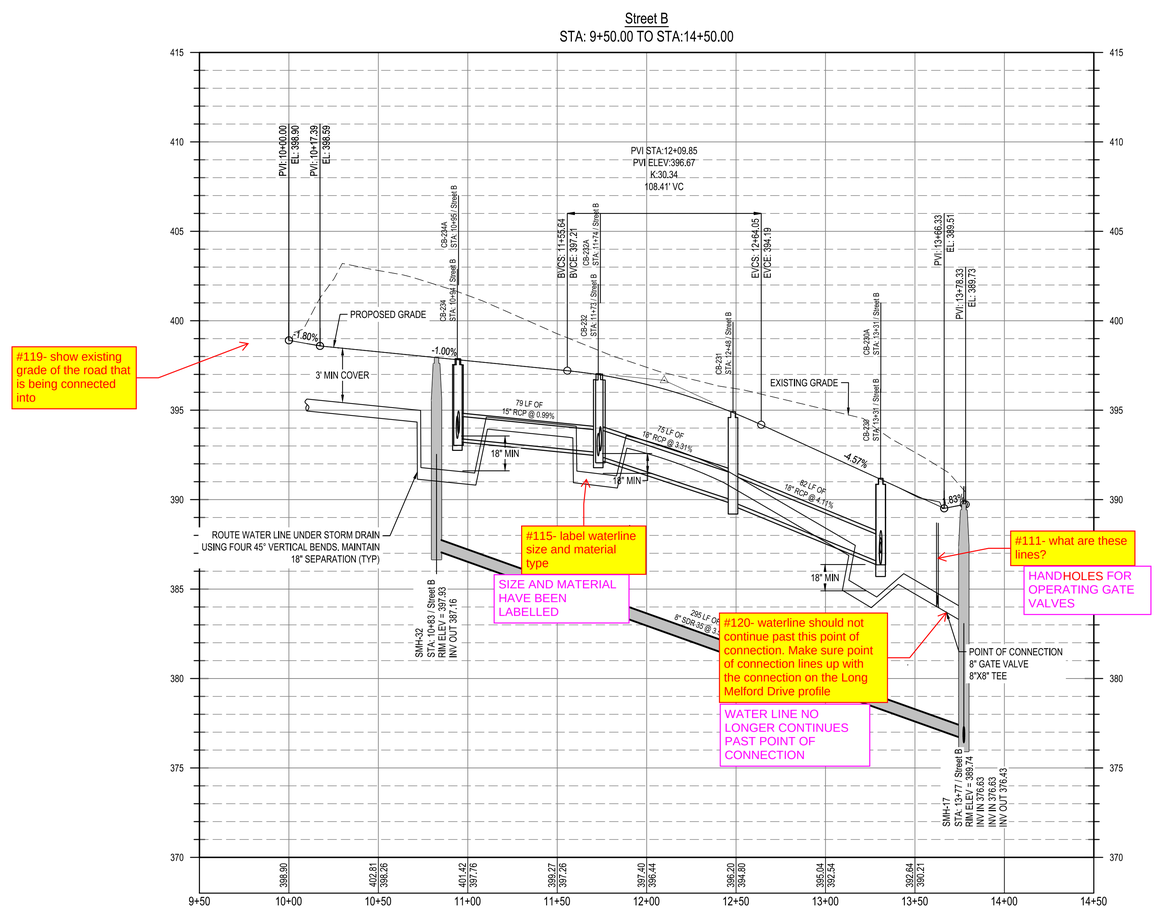

REV	DATE	DESCRIPTION
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2		
3		
4		
5	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
6	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
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STREET B PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DEBRA M. TERRY
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FILE NUMBER: 8430-03
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C6-1

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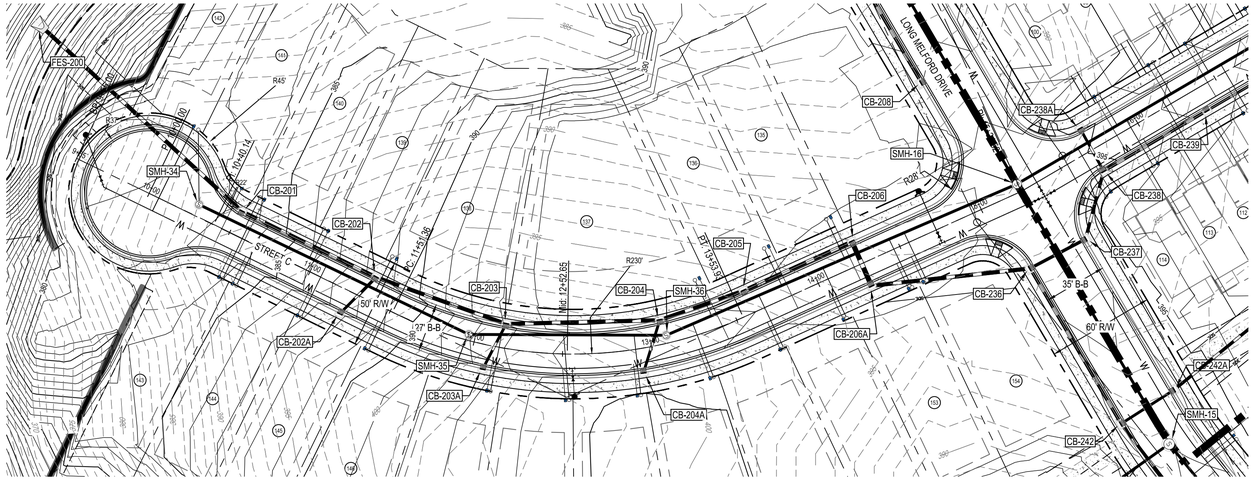
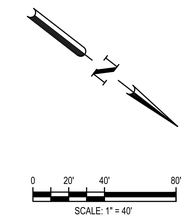
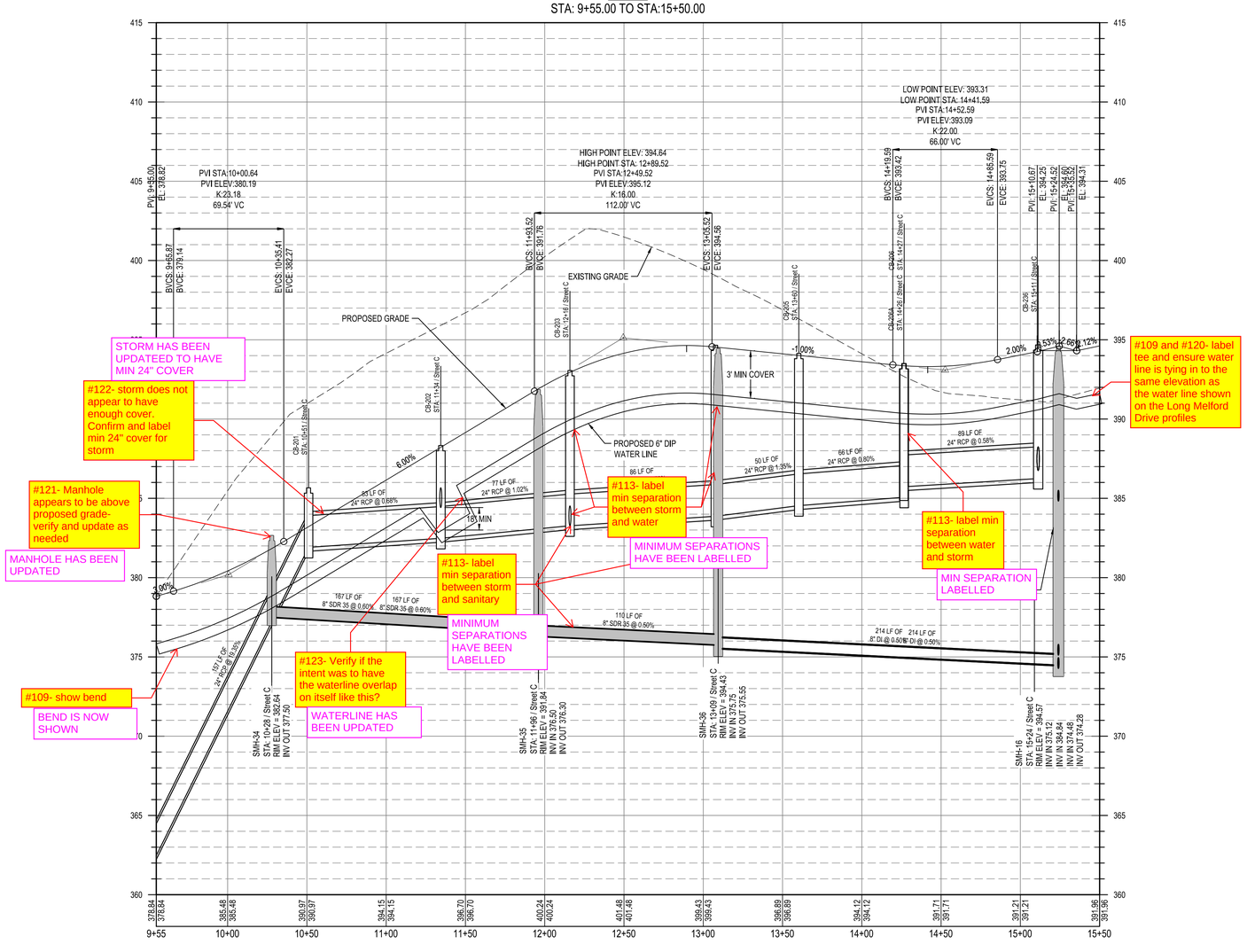




Street C
STA: 9+55.00 TO STA:15+50.00



REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
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DESIGNED BY: DF/CD
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STREET C PLAN AND PROFILE (1 OF 2)

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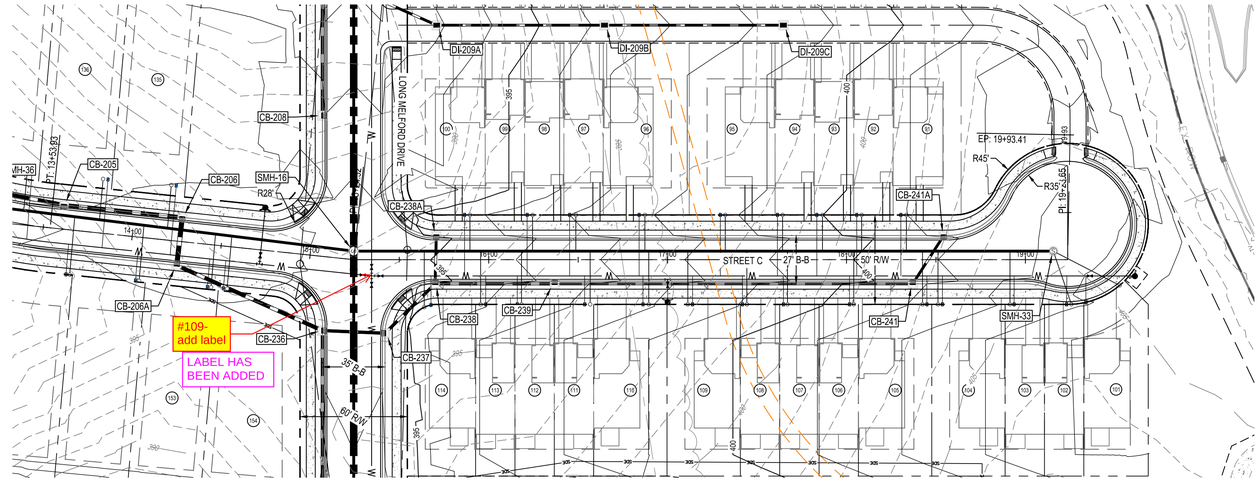

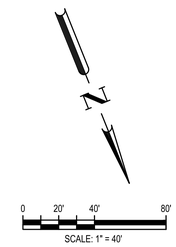

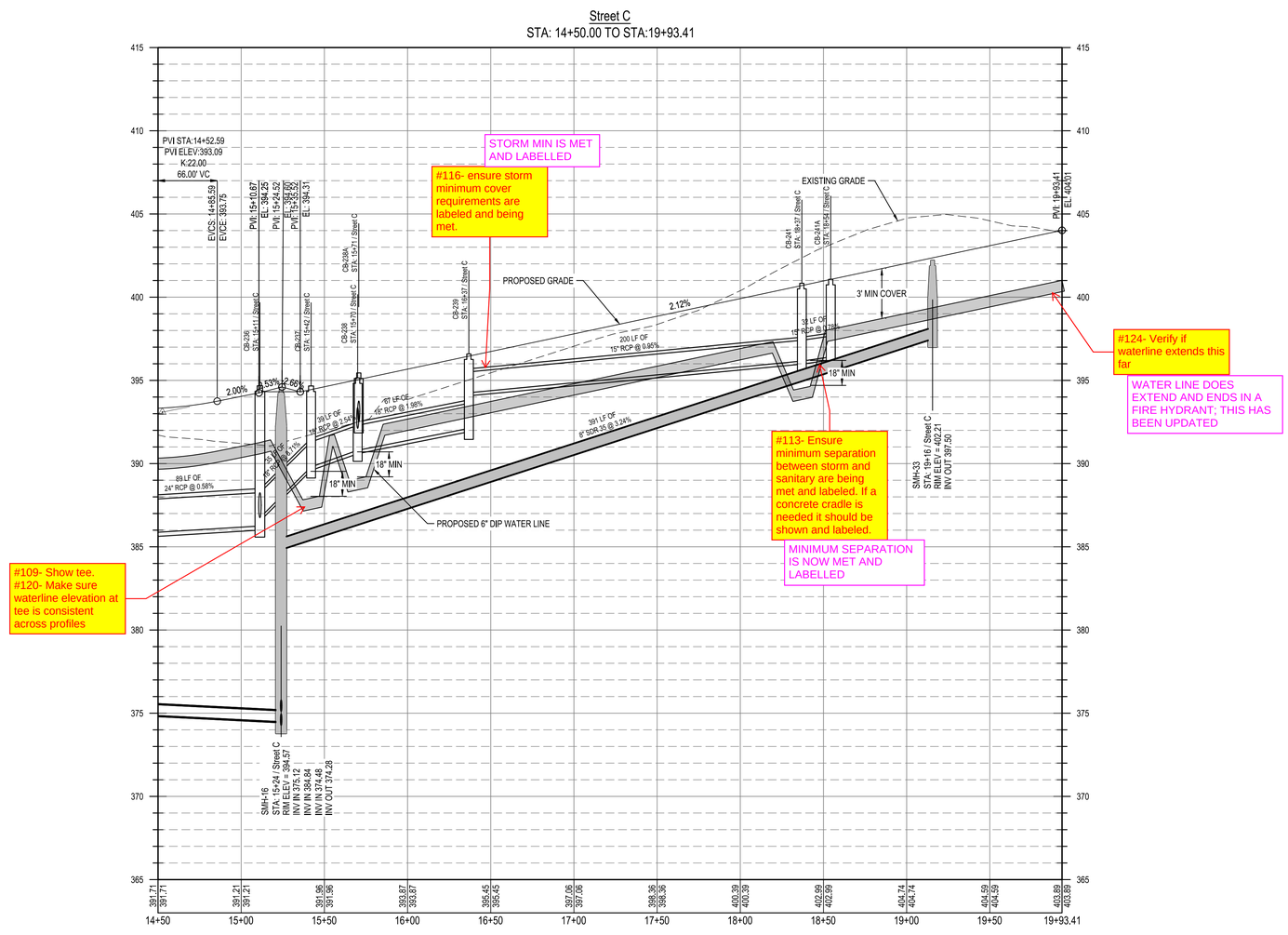

REV	DATE	DESCRIPTION
	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
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DESIGNED BY: DF/CD
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STREET C PLAN AND PROFILE (2 OF 2)

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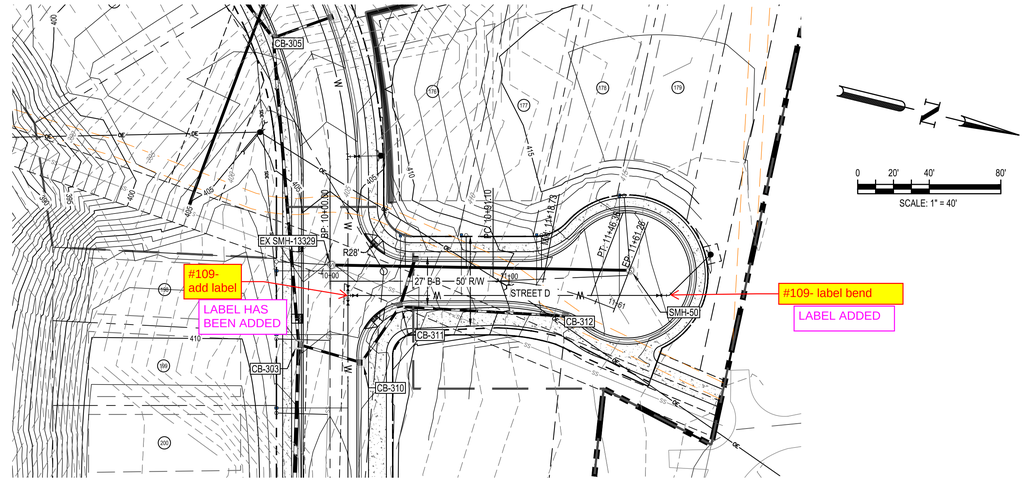

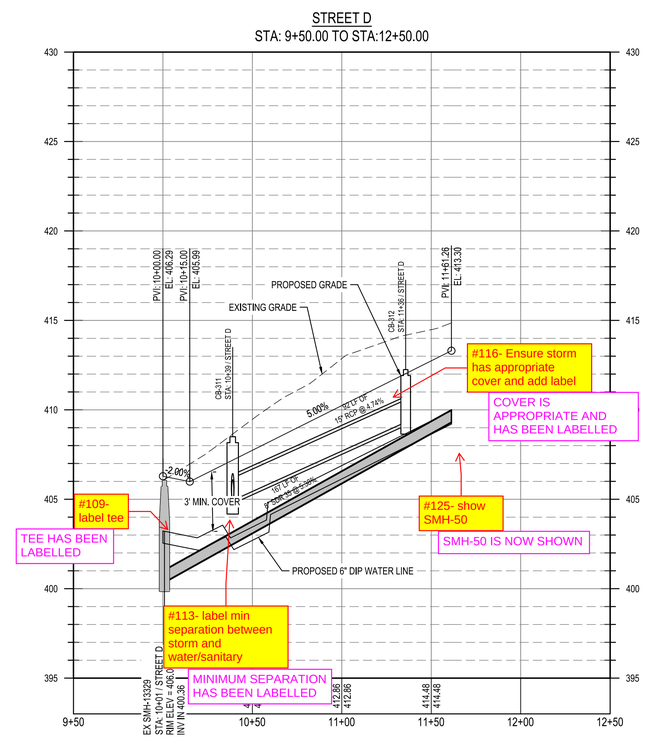

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
6	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
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STREET D PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
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FILE NUMBER: 8430-03
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C6-4

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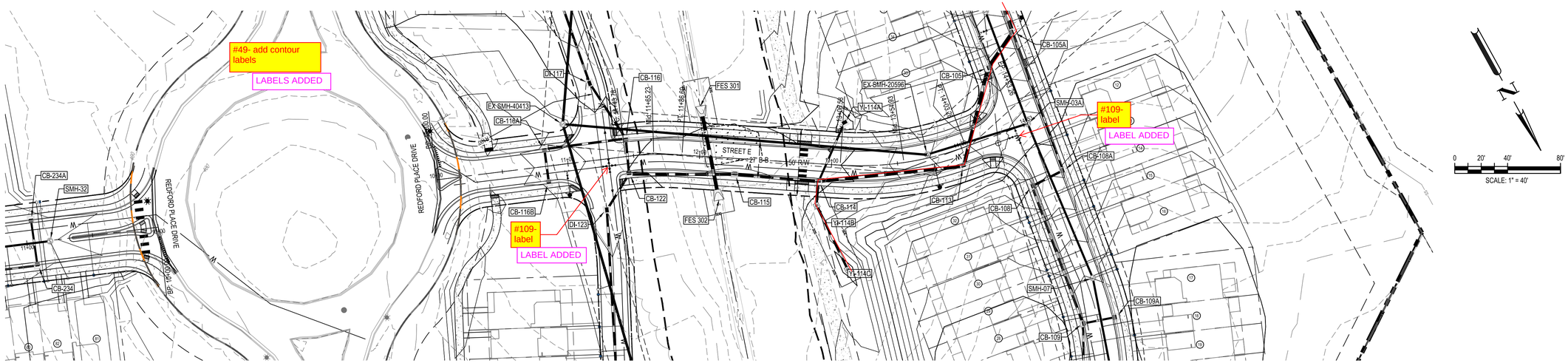

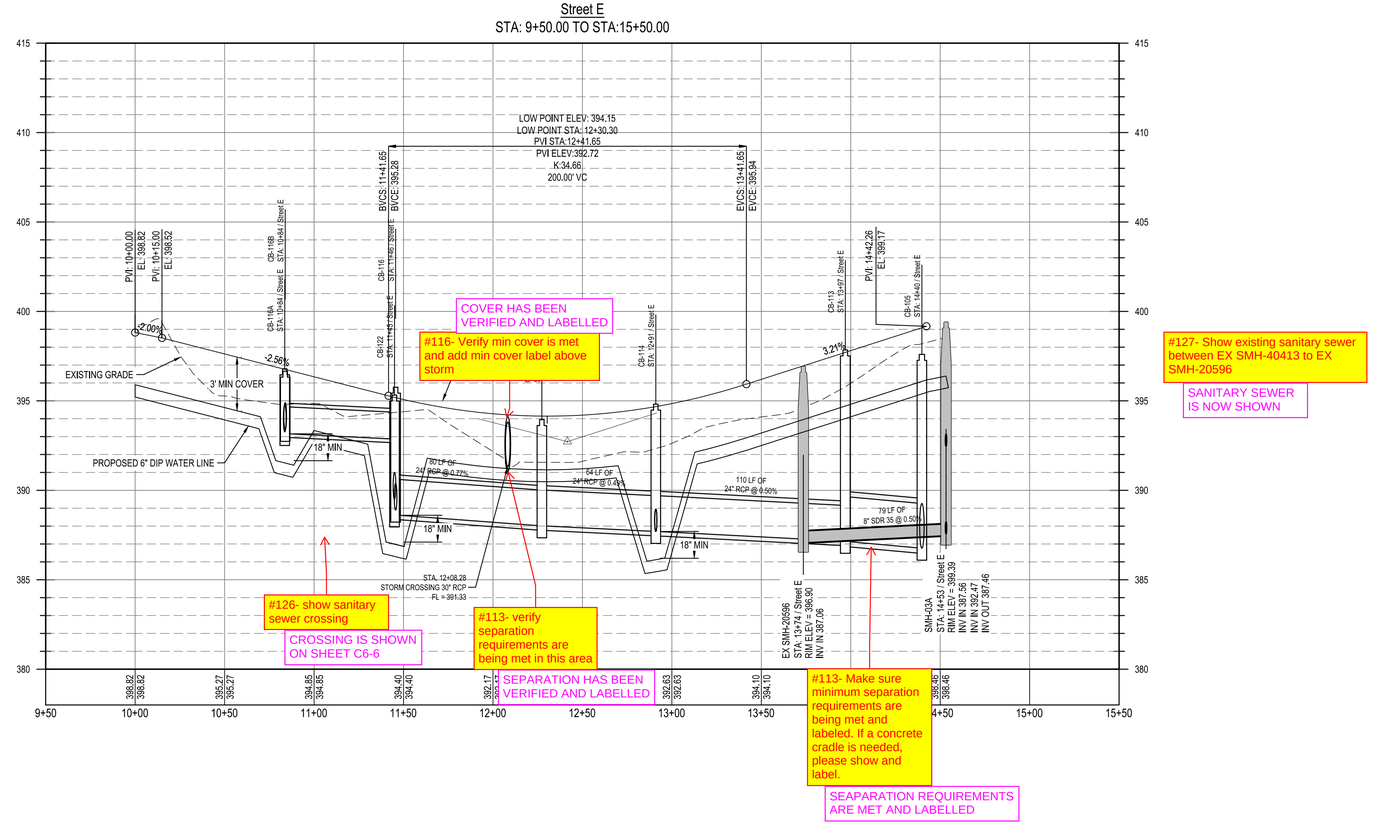

REV	DATE	DESCRIPTION
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DESIGNED BY: DF/CD
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REVIEWED BY: DF

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STREET E PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
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NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
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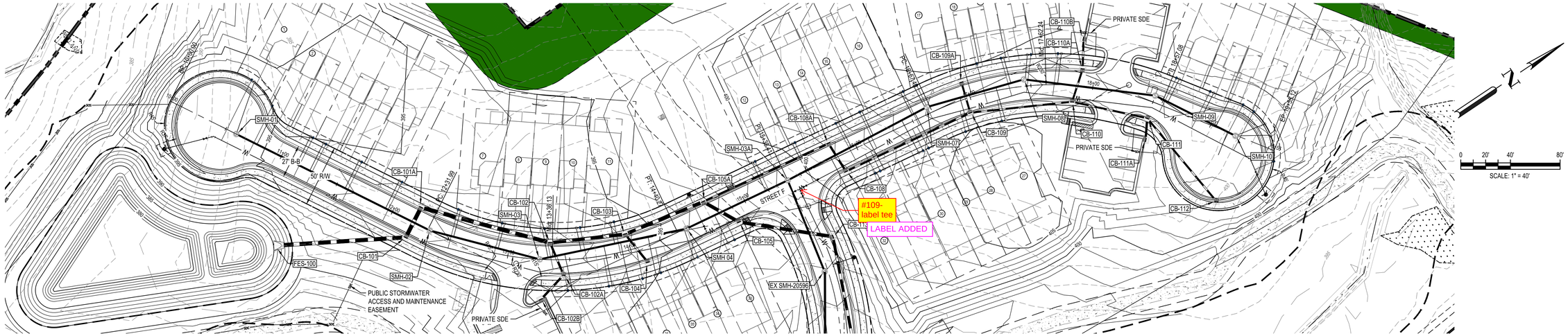
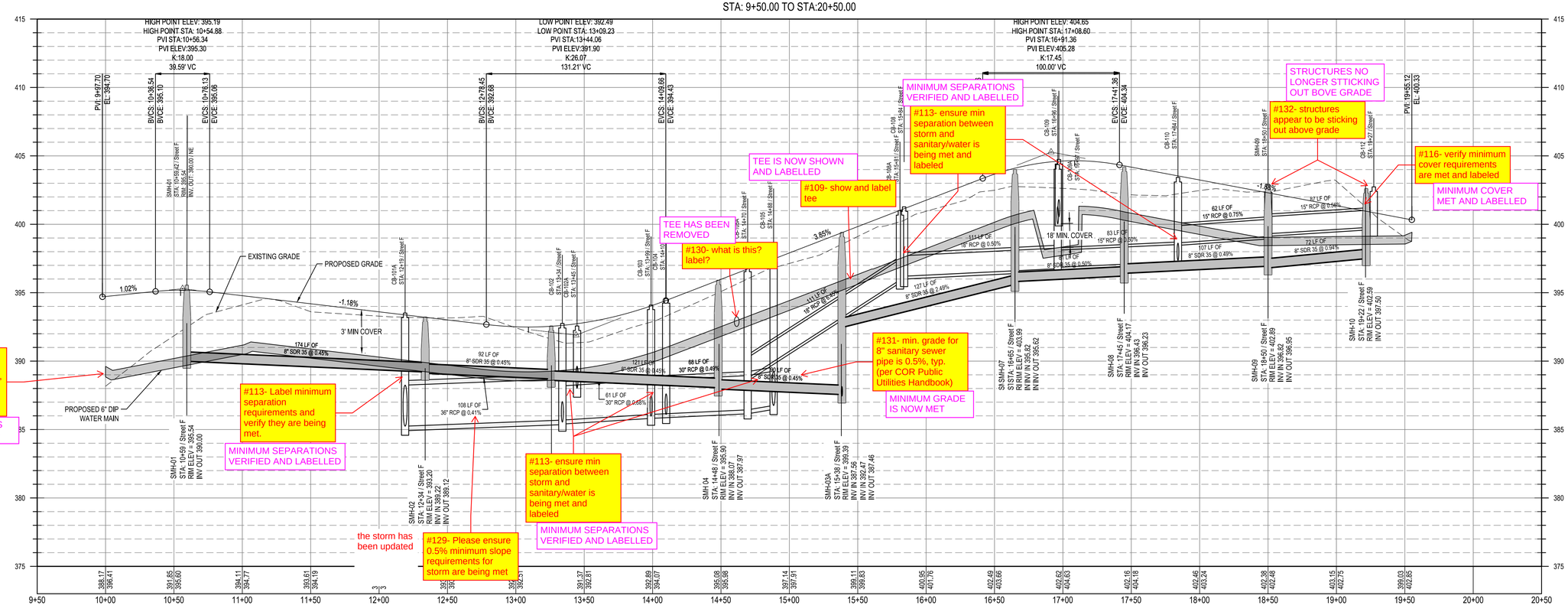


Street F
STA: 9+50.00 TO STA:20+50.00



REV	DATE	DESCRIPTION
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0	04/03/2023	INITIAL SUBMITTAL

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STREET F PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DEBRA M. FERRY
PRELIMINARY
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FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-6

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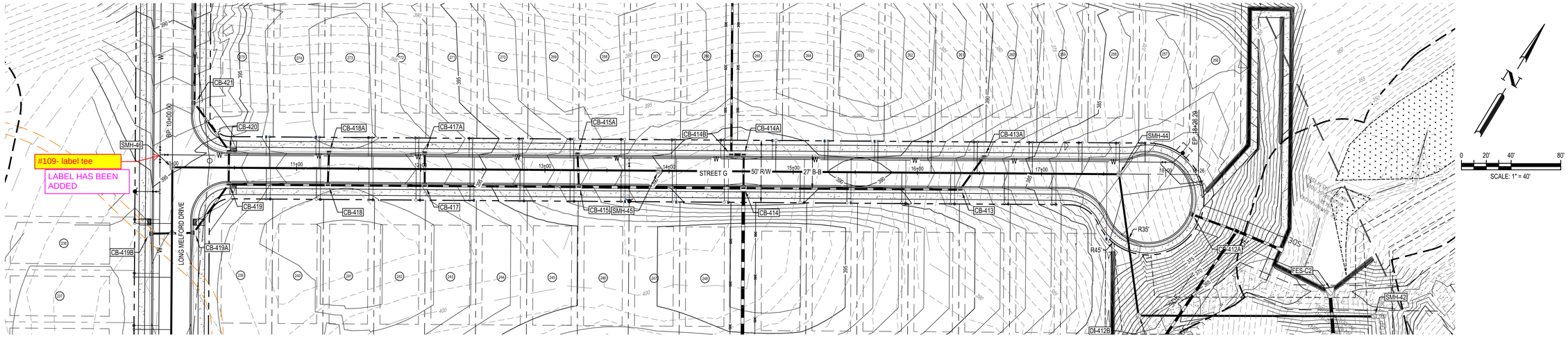

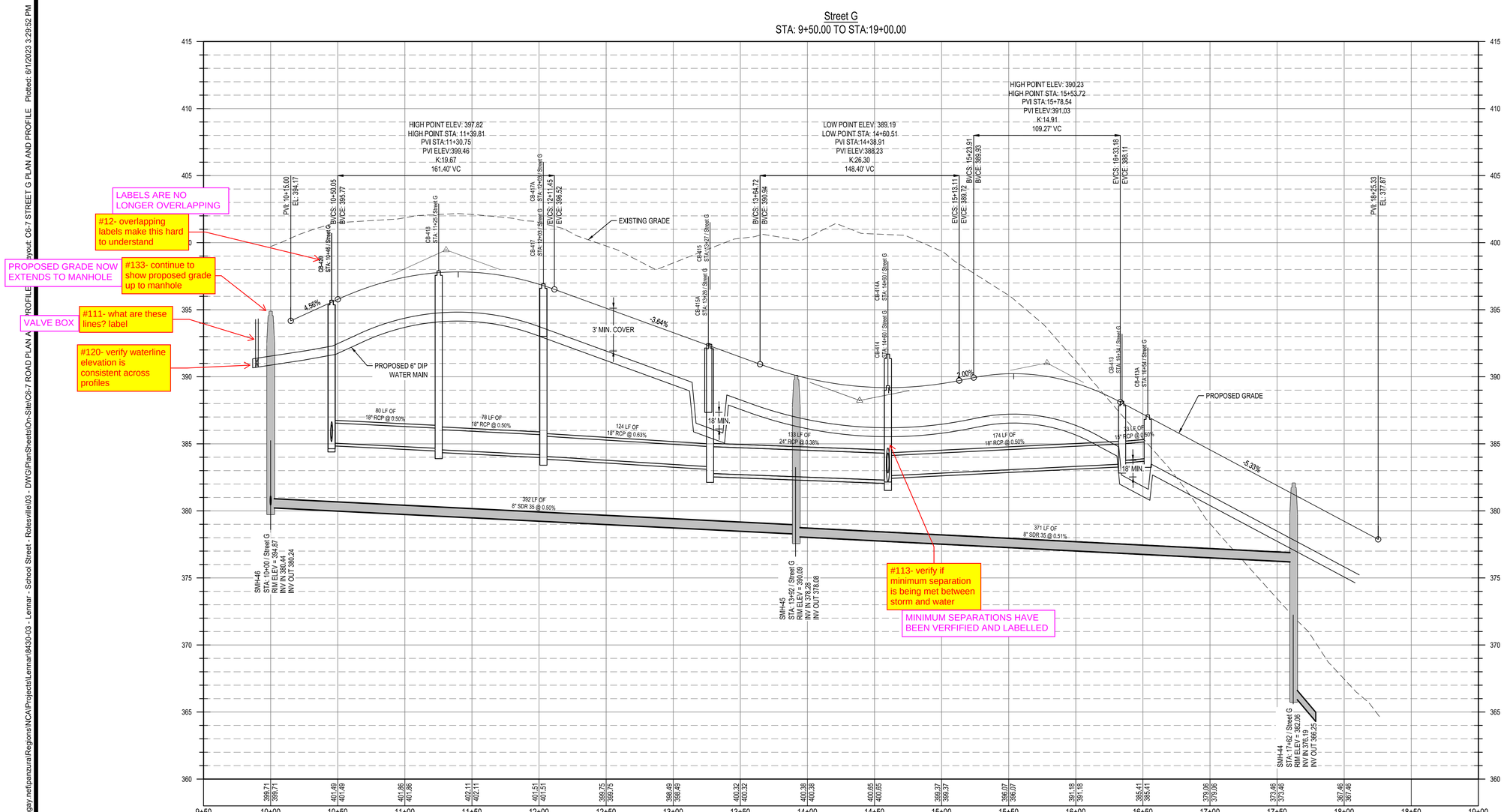

REV	DATE	DESCRIPTION
	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
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STREET G PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
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DATE: 06/01/2023
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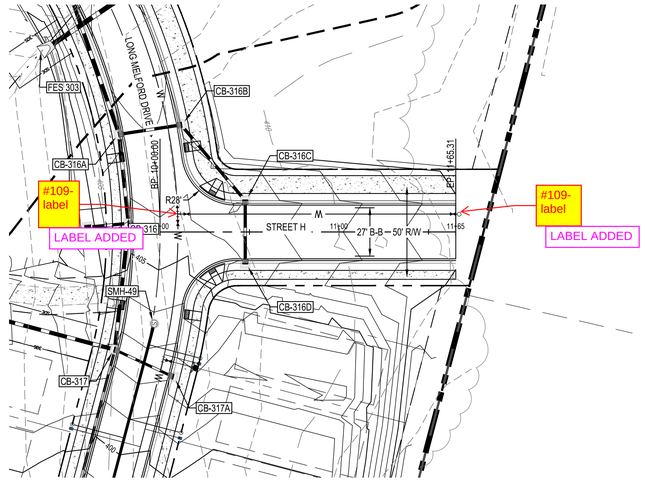

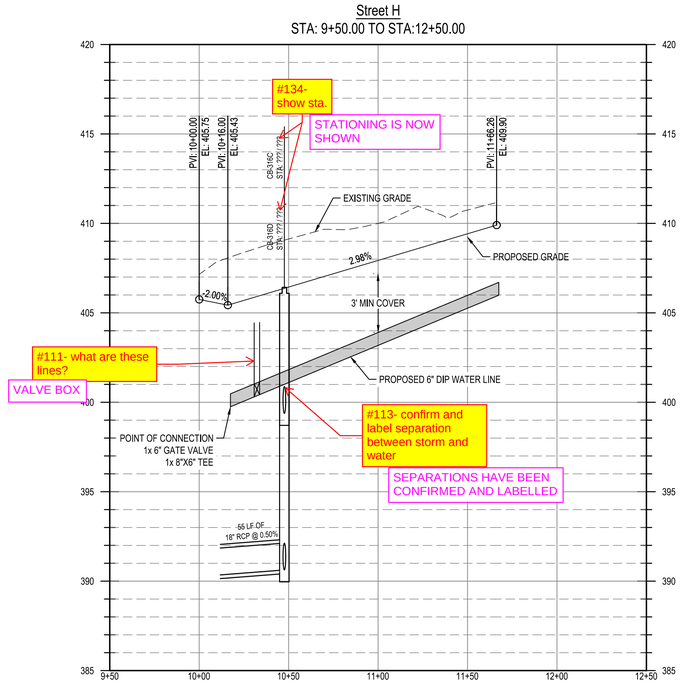

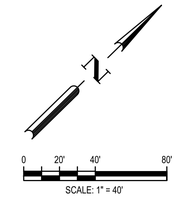

REV		
04/03/2023	INITIAL SUBMITTAL	
06/01/2023	PER TOWN OF ROLESVILLE COMMENT	

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STREET H PLAN AND PROFILE

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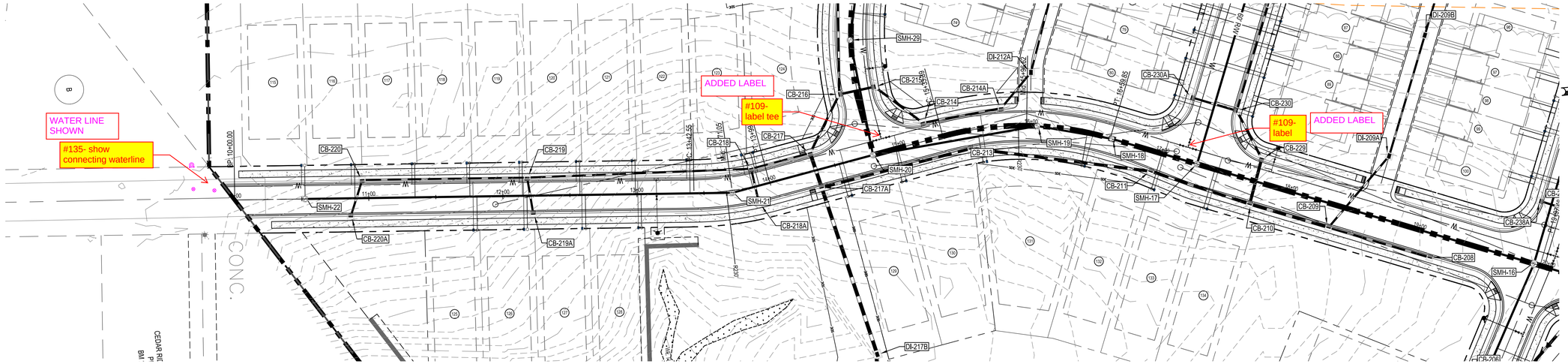
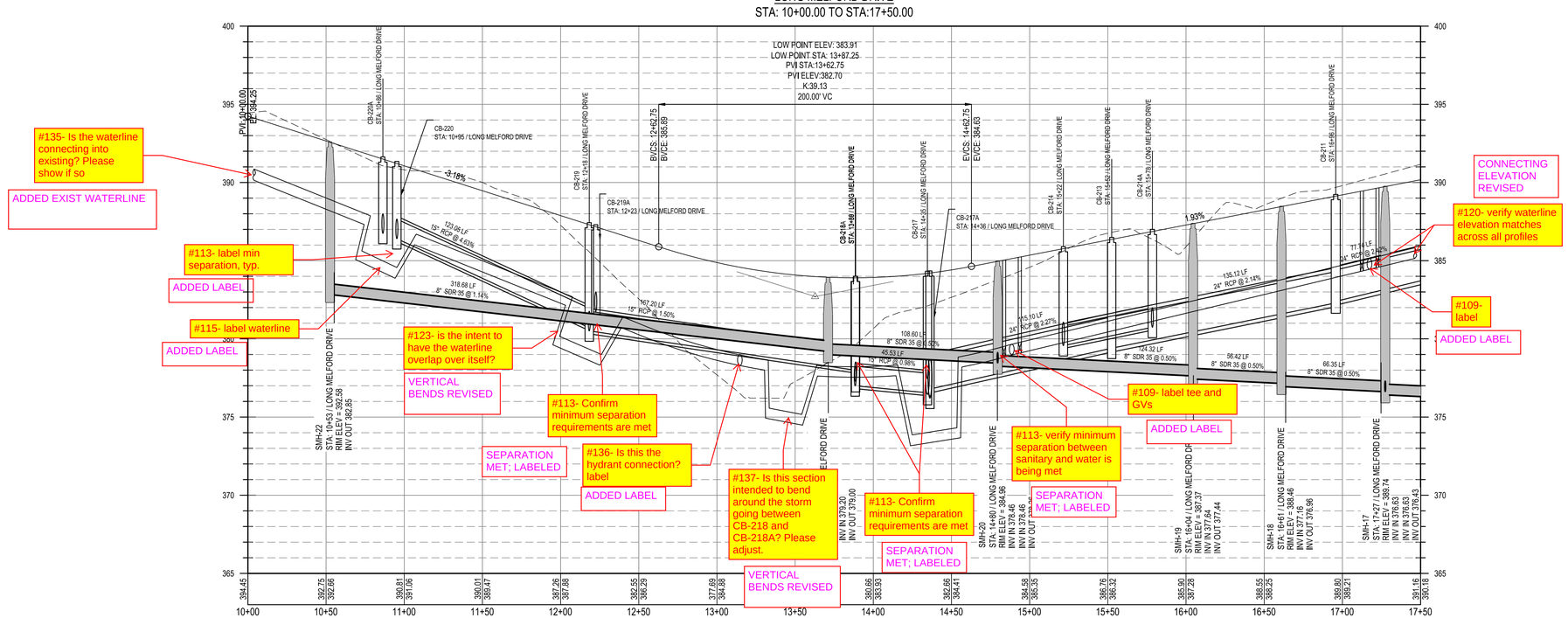


LONG MELFORD DRIVE
STA: 10+00.00 TO STA:17+50.00



REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
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LONG MELFORD DRIVE PLAN AND PROFILE (1 OF 5)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
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FILE NUMBER: 8430-03
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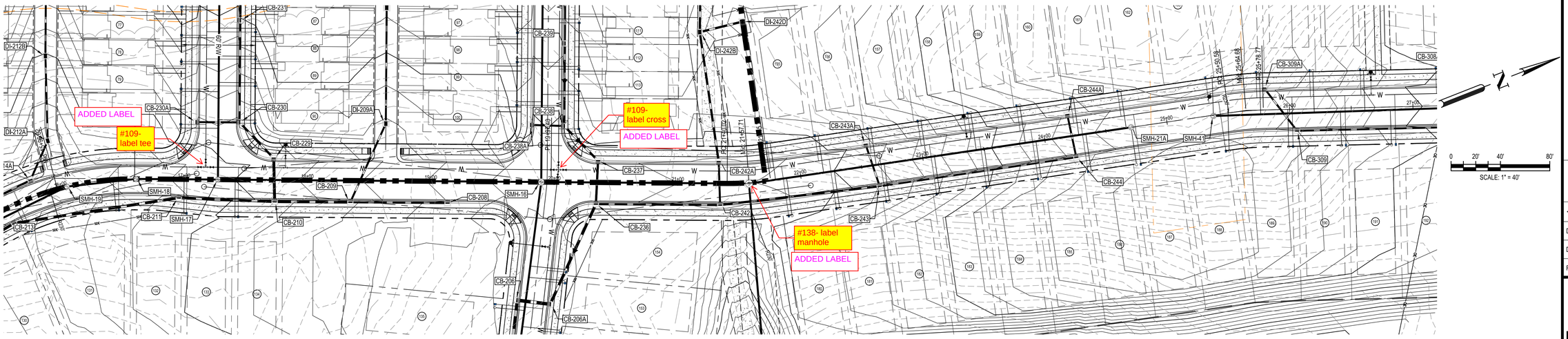
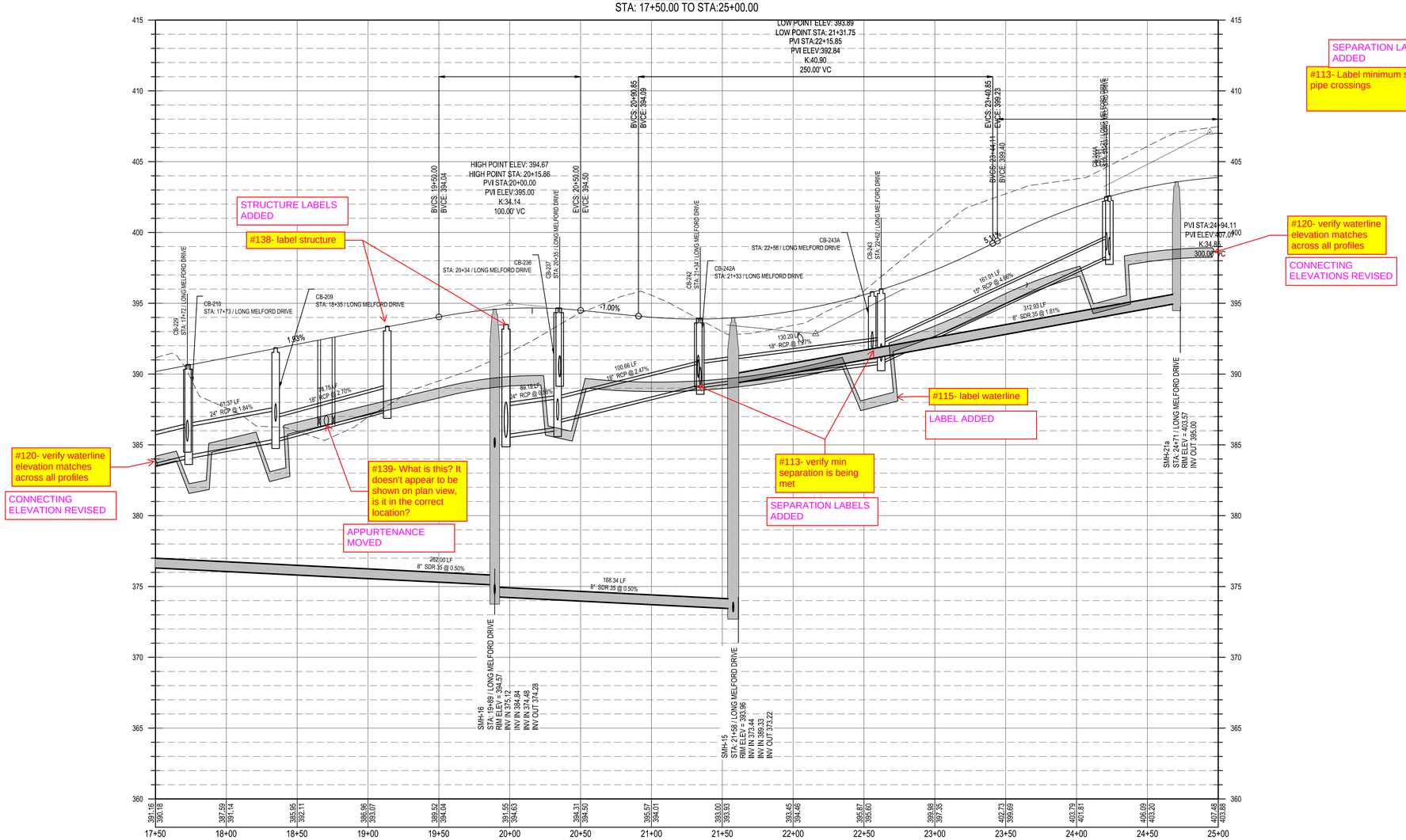


LONG MELFORD DRIVE
STA: 17+50.00 TO STA:25+00.00



SEPARATION LABELS ADDED
#113- Label minimum separation at pipe crossings

TITLE BLOCK IS NOW ABLE TO BE READ
#140- Please make sure the title block is able to be read.

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82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

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DEBRA M. TERW
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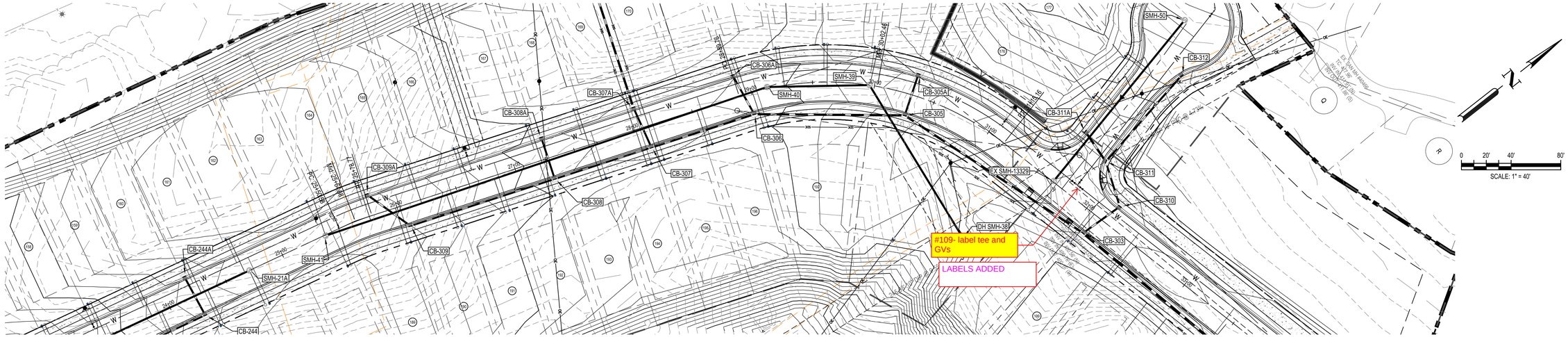

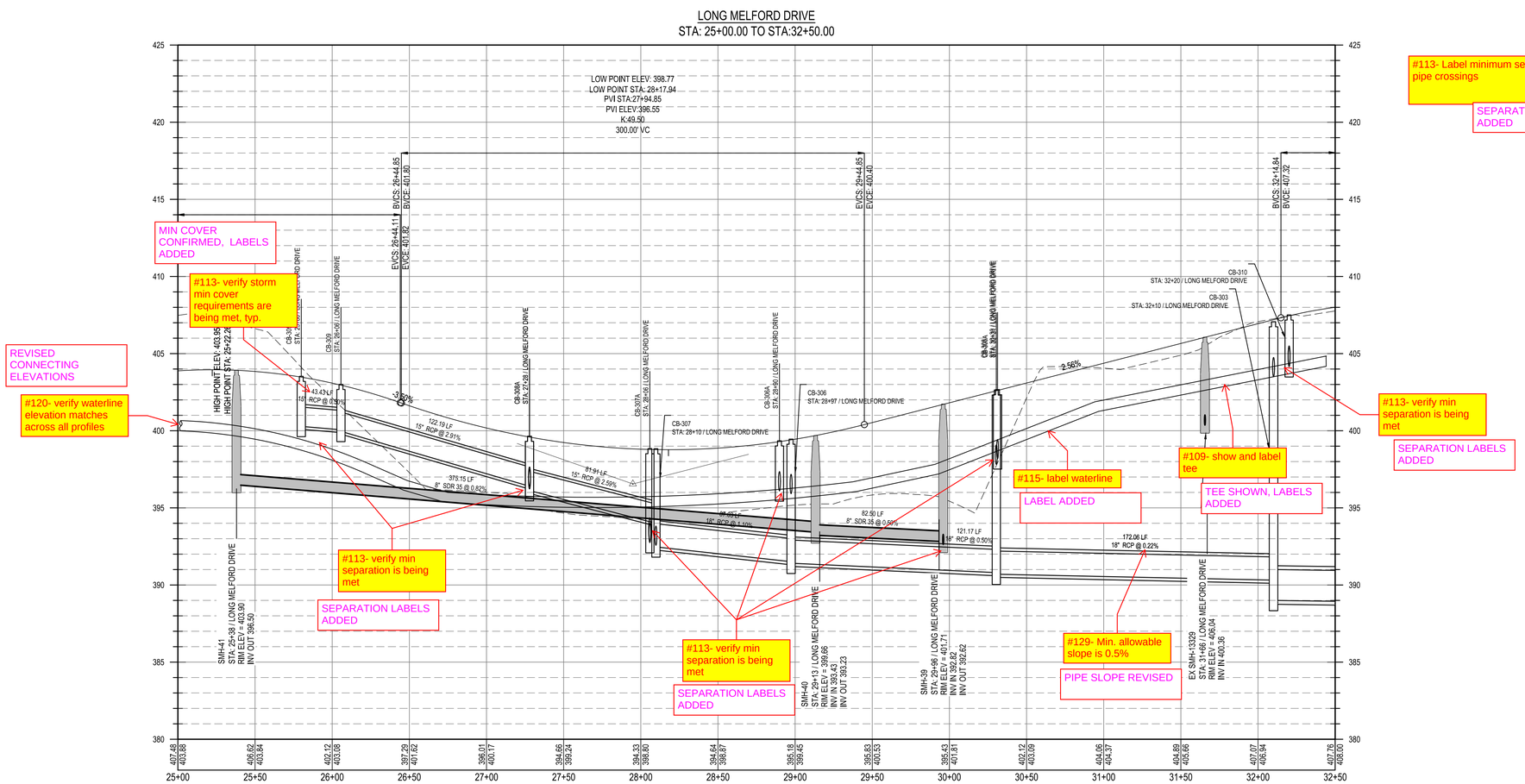

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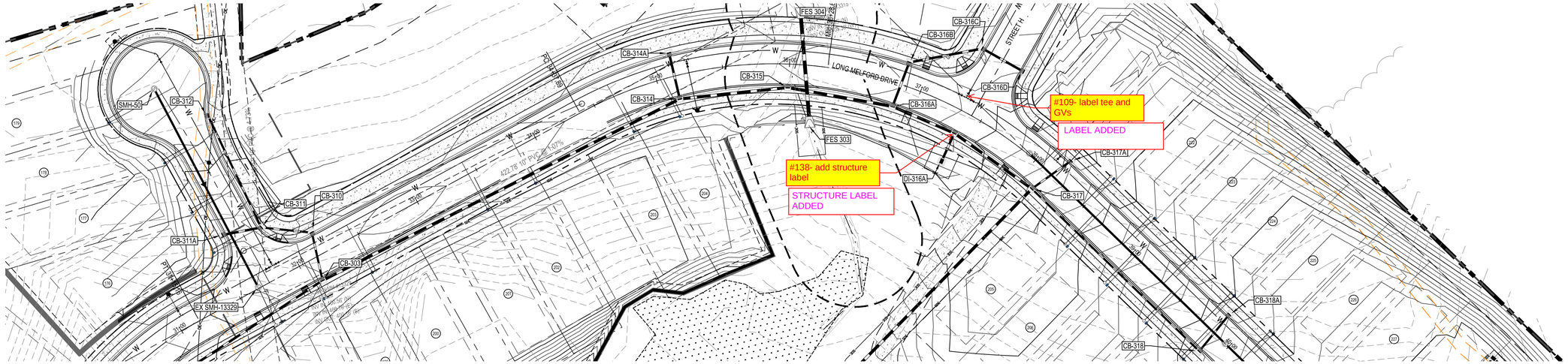
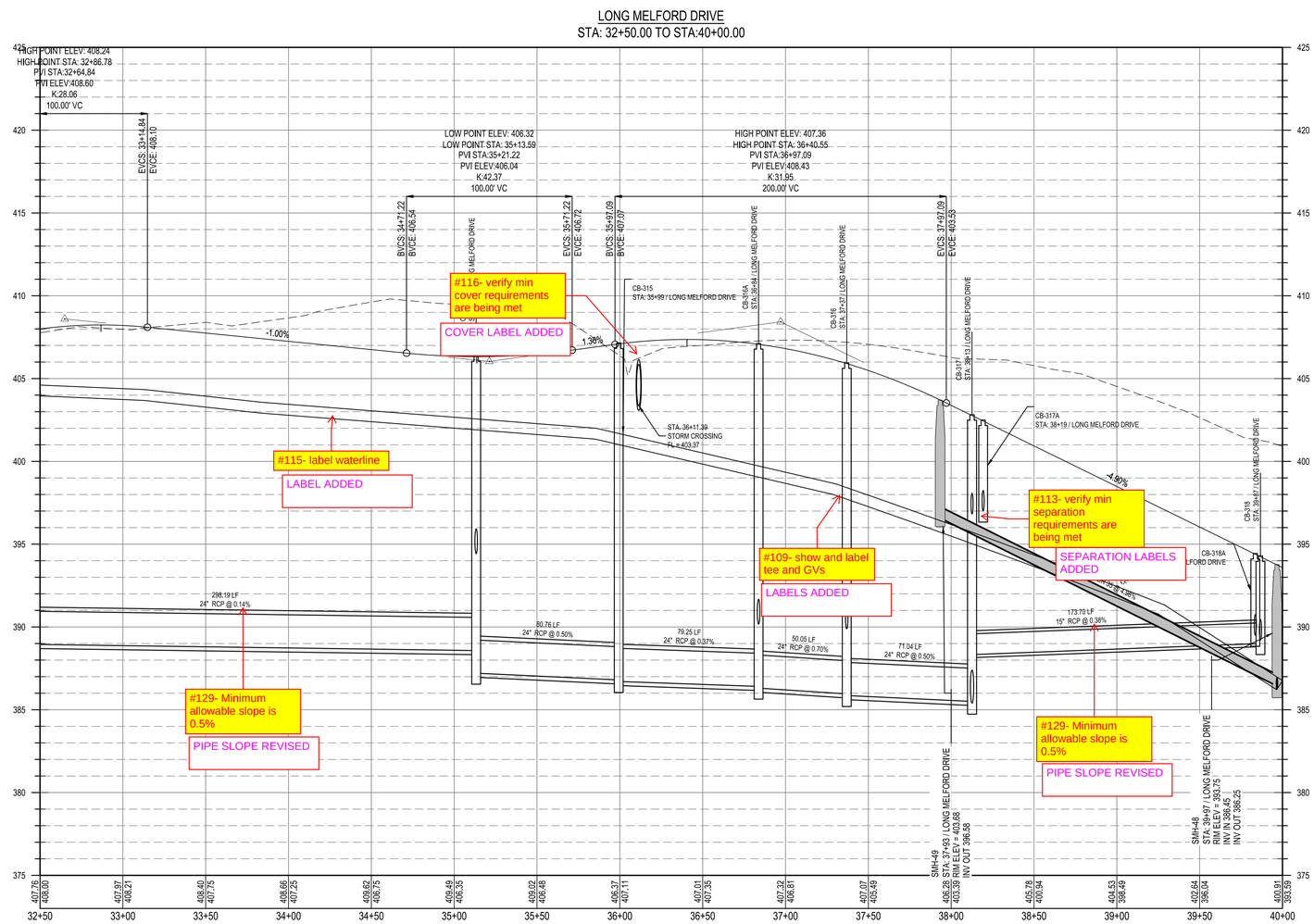
LONG MELFORD DRIVE PLAN AND PROFILE (3 OF 5)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DEBRA M. FOX
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-11





REV						
04/03/2023	INITIAL SUBMITTAL					
06/01/2023	PER TOWN OF ROLESVILLE COMMENT					

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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LONG MELFORD DRIVE PLAN AND PROFILE (4 OF 5)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-12

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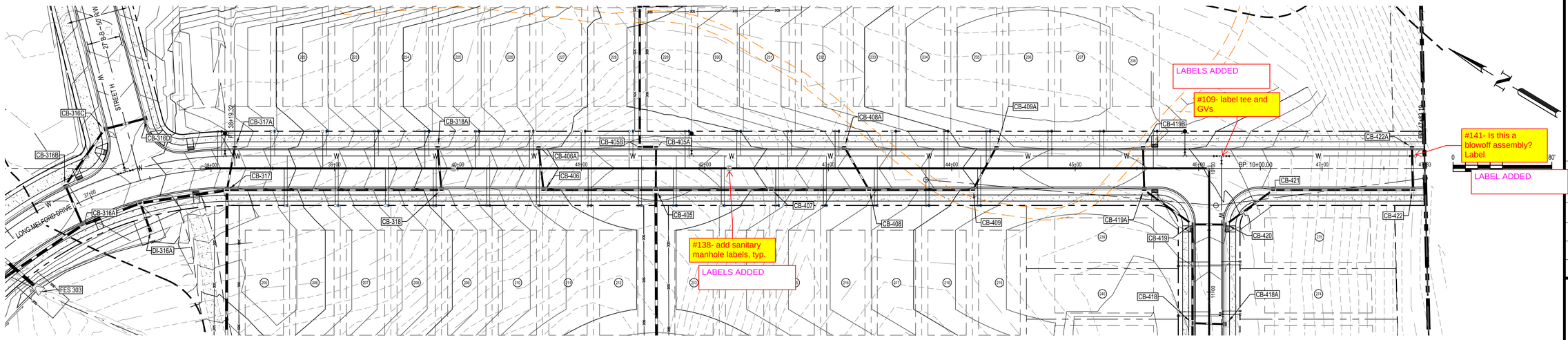
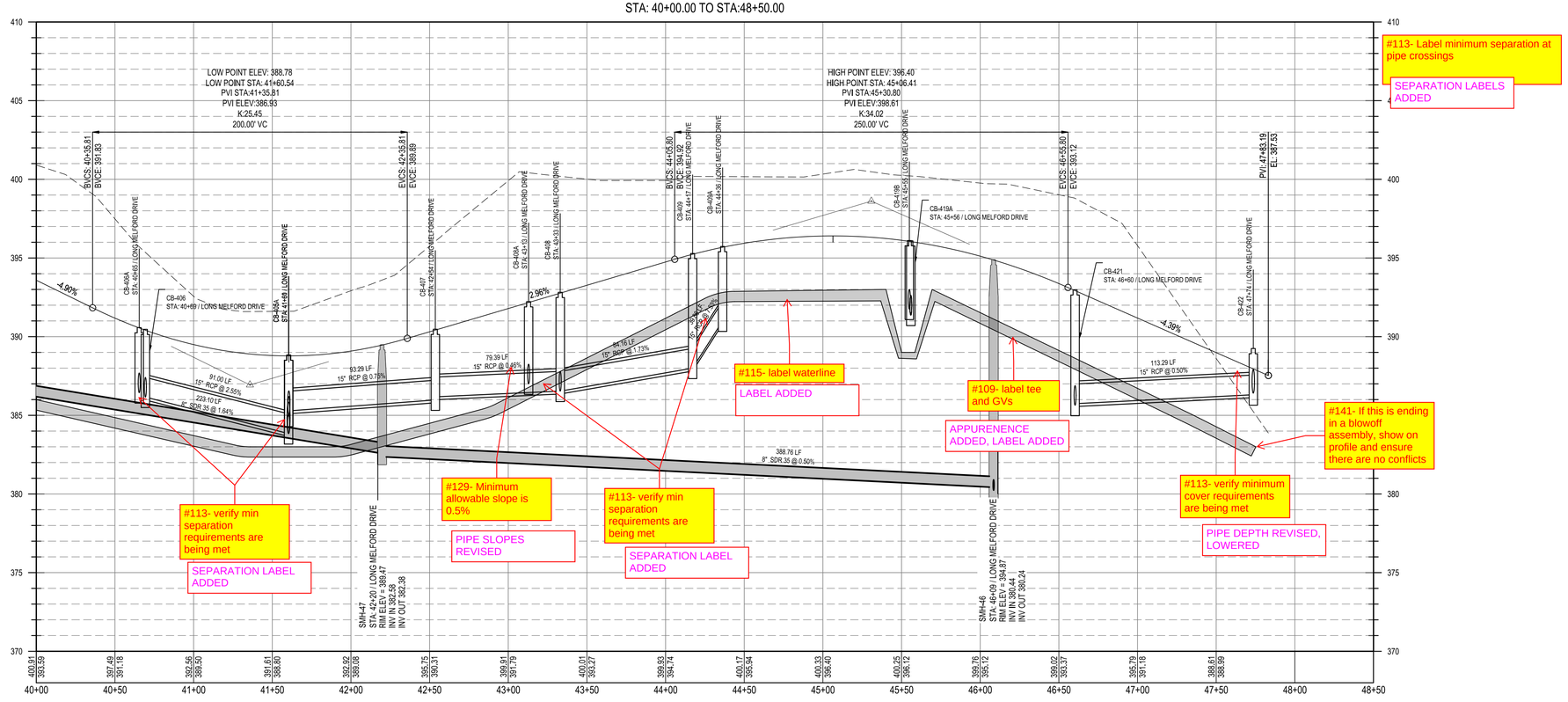


LONG MELFORD DRIVE
STA: 40+00.00 TO STA:48+50.00



REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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LONG MELFORD DRIVE PLAN AND PROFILE (5 OF 5)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DEBRA M. FERN
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-13

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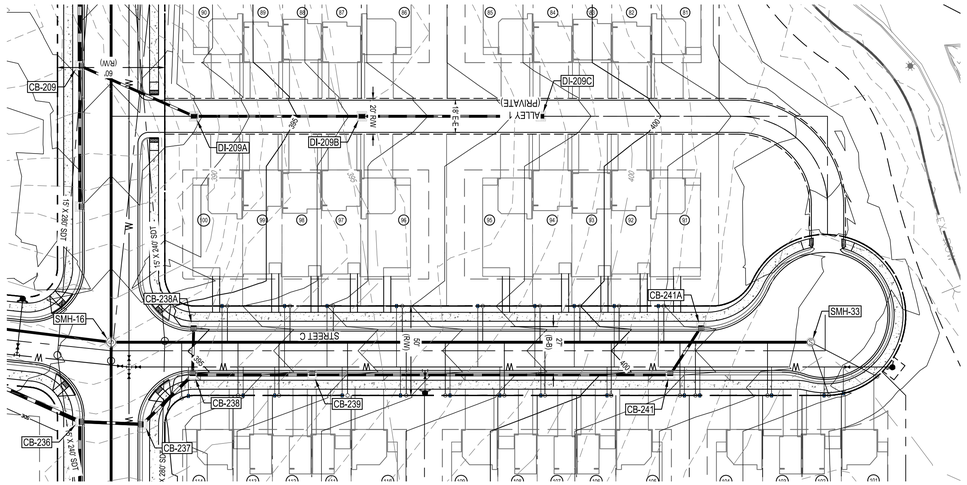
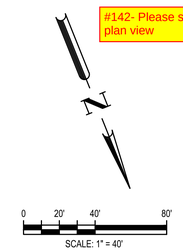
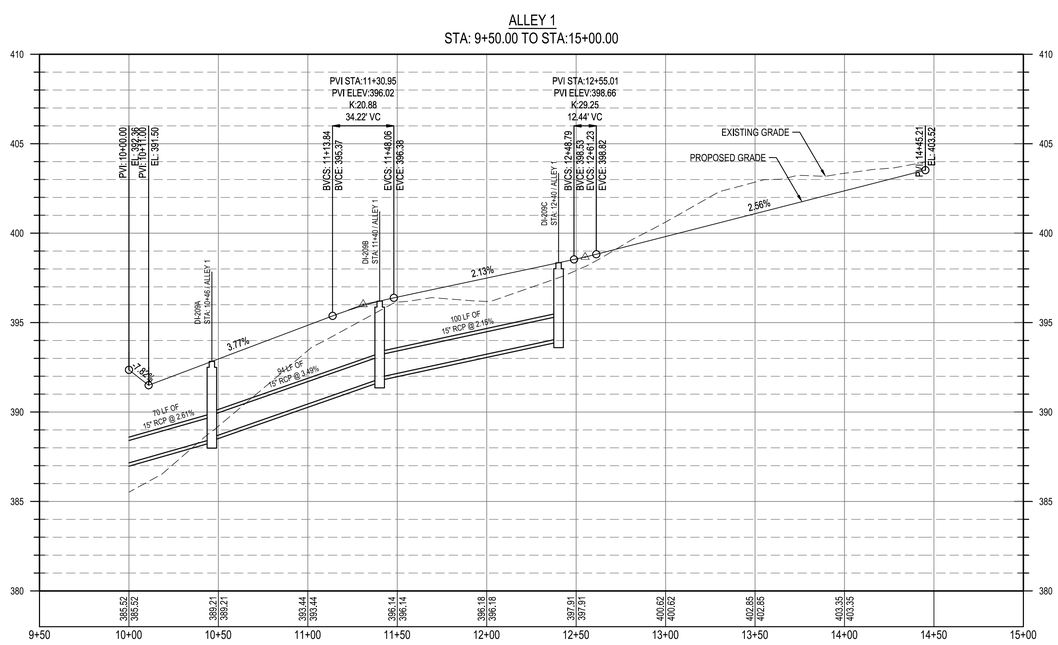


#142- Please show stationing on plan view

Station now showing





REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ALLEY 1 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
DEBRA M. FERM
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 06/01/2023

C6-14

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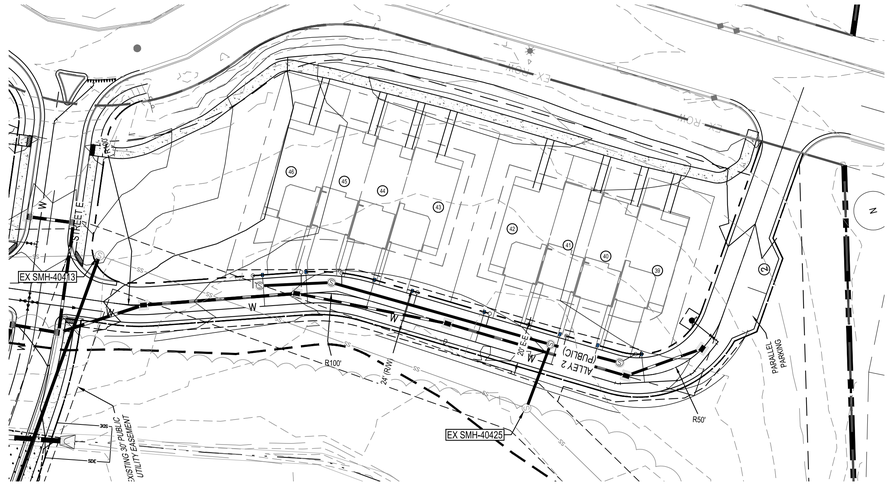


#142- Please show stationing on plan view

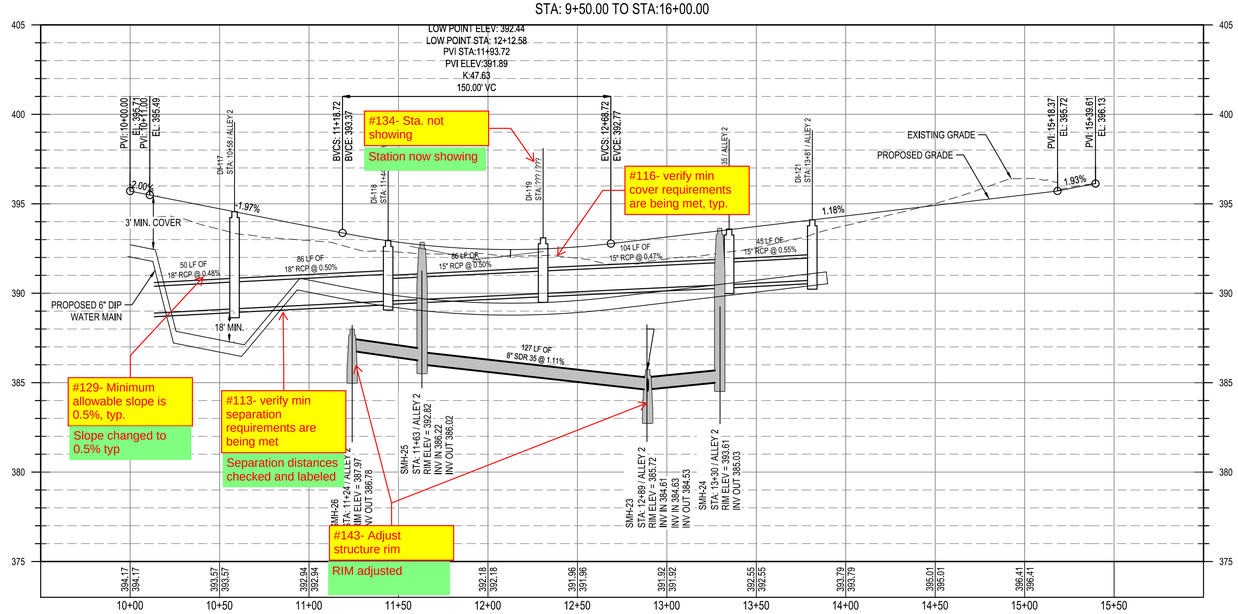
Station now showing

#138- Label structures in plan view

Structures now shown

0 20' 40' 80'
SCALE: 1" = 40'

ALLEY 2
STA: 9+50.00 TO STA:16+00.00



#134- Sta. not showing

Station now showing

#116- verify min cover requirements are being met, typ.

#113- Label minimum separation at pipe crossings

#129- Minimum allowable slope is 0.5%, typ.

Slope changed to 0.5% typ

#113- verify min separation requirements are being met

Separation distances checked and labeled

#143- Adjust structure rim

RIM adjusted

REV		
04/03/2023	INITIAL SUBMITTAL	
06/01/2023	PER TOWN OF ROLESVILLE COMMENT	

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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ALLEY 2 PLAN AND PROFILE

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FILE NUMBER: 8430-03
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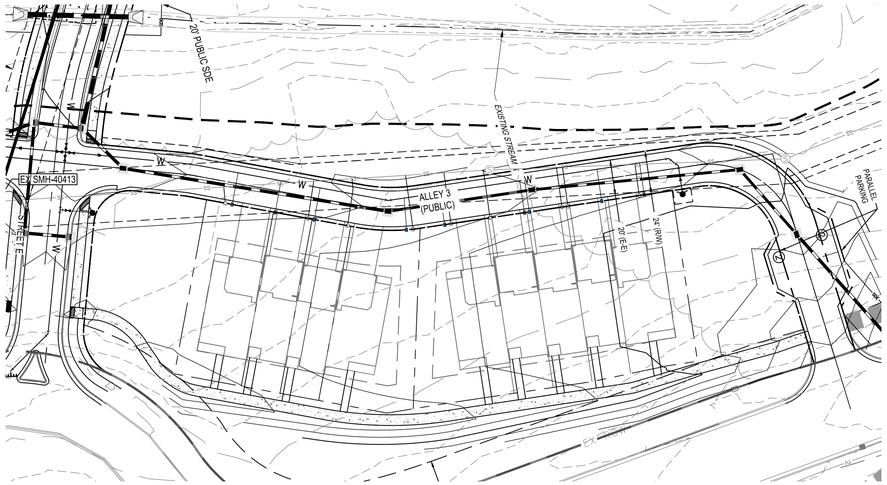


#142- Please show stationing on plan view

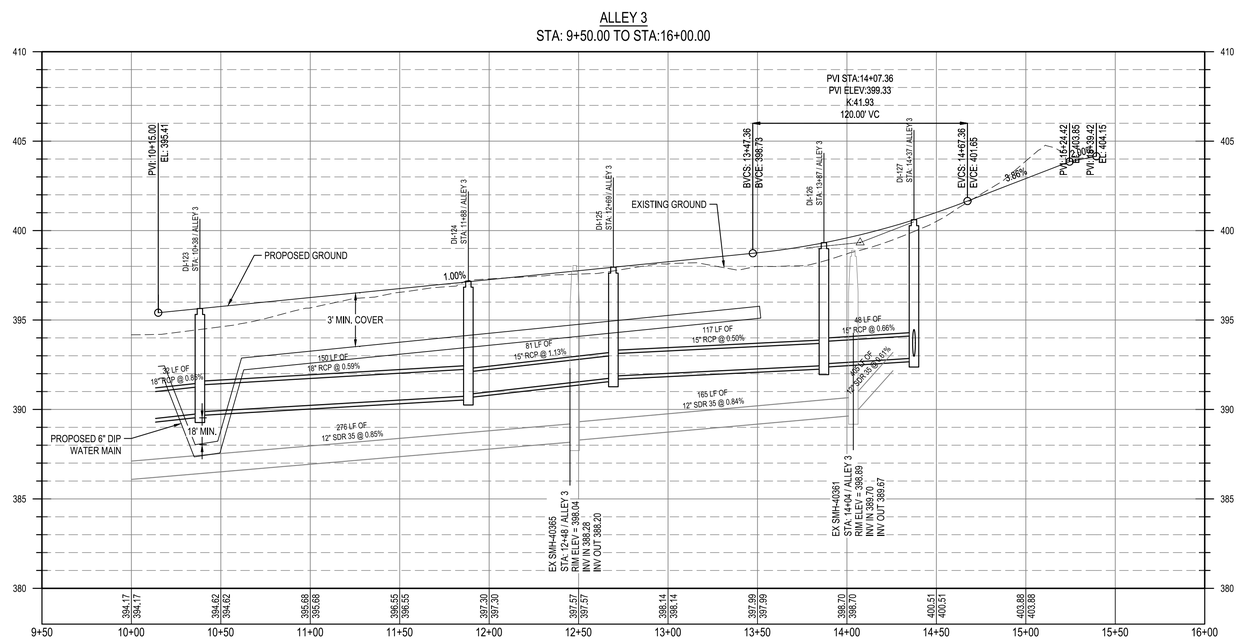
Stationing now shown

#138- Label structures in plan view

Structures now shown

0 20' 40' 80'

SCALE: 1" = 40'



#113- Label minimum separation at pipe crossings

minimum separation at pipe crossings shown

REV		DESCRIPTION
	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ALLEY 3 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER DEBRA M. FERM

PRELIMINARY

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FILE NUMBER: 8430-03

DATE: 06/01/2023

C6-16

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REV		DESCRIPTION
	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
	04/03/2023	INITIAL SUBMITTAL

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DRAWN BY: DF/JWM
REVIEWED BY: DF

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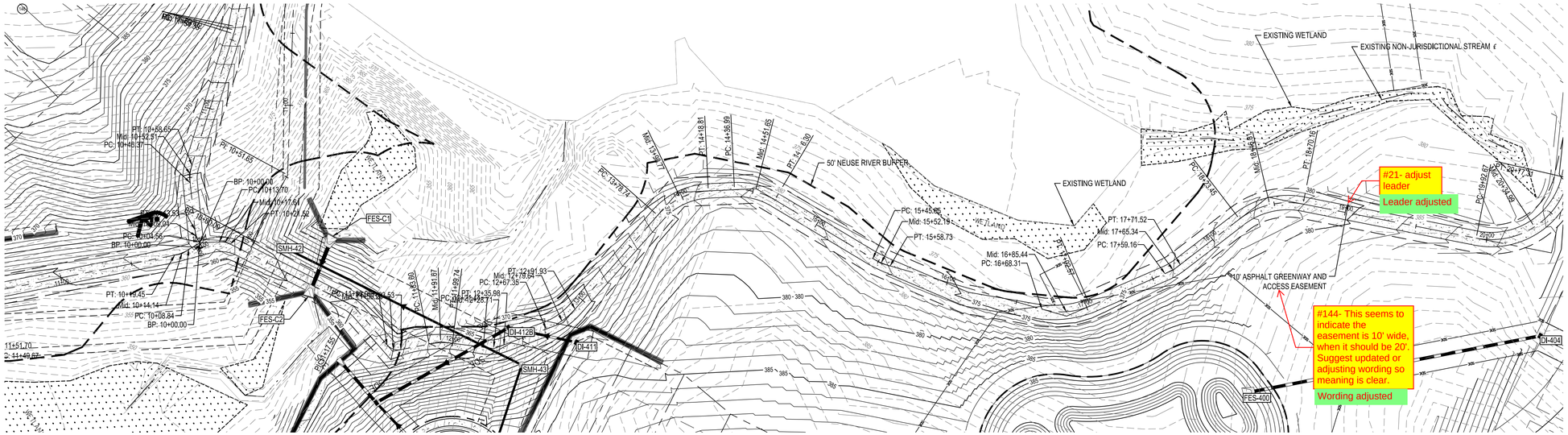
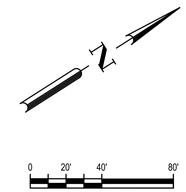
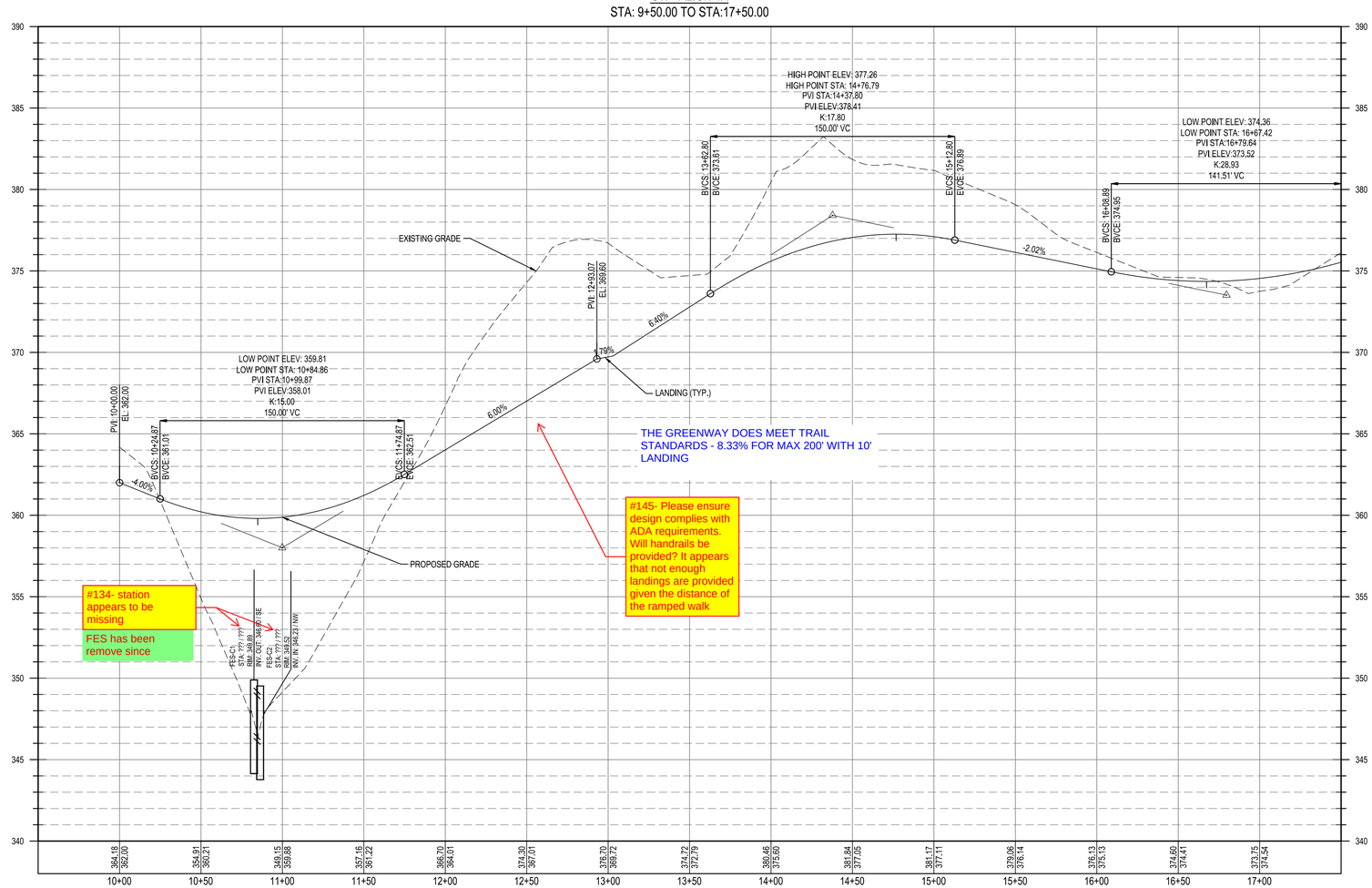
ALLEY 4 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER DEBRA M. FERM
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-17







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#21- adjust leader

Leader adjusted

#144- This seems to indicate the easement is 10' wide, when it should be 20'. Suggest updated or adjusting wording so meaning is clear.

Wording adjusted

GW - ALIGN 1A
STA: 9+50.00 TO STA:17+50.00

THE GREENWAY DOES MEET TRAIL STANDARDS - 8.33% FOR MAX 200' WITH 10' LANDING

#145- Please ensure design complies with ADA requirements. Will handrails be provided? It appears that not enough landings are provided given the distance of the ramped walk

#134- station appears to be missing

FES has been remove since

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REV	DATE	DESCRIPTION
5		
4		
3		
2		
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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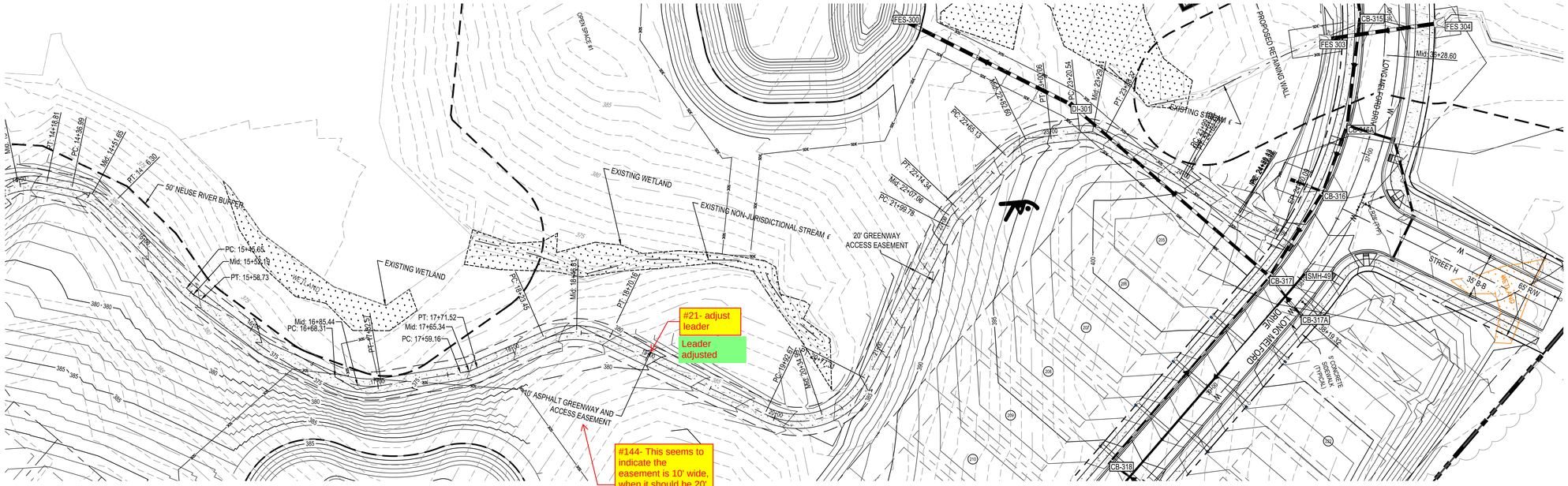
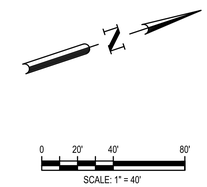
GW1A GREENWAY PLAN AND PROFILE (1 OF 2)

PRELIMINARY
DEBRA M. FERM
NOT FOR CONSTRUCTION

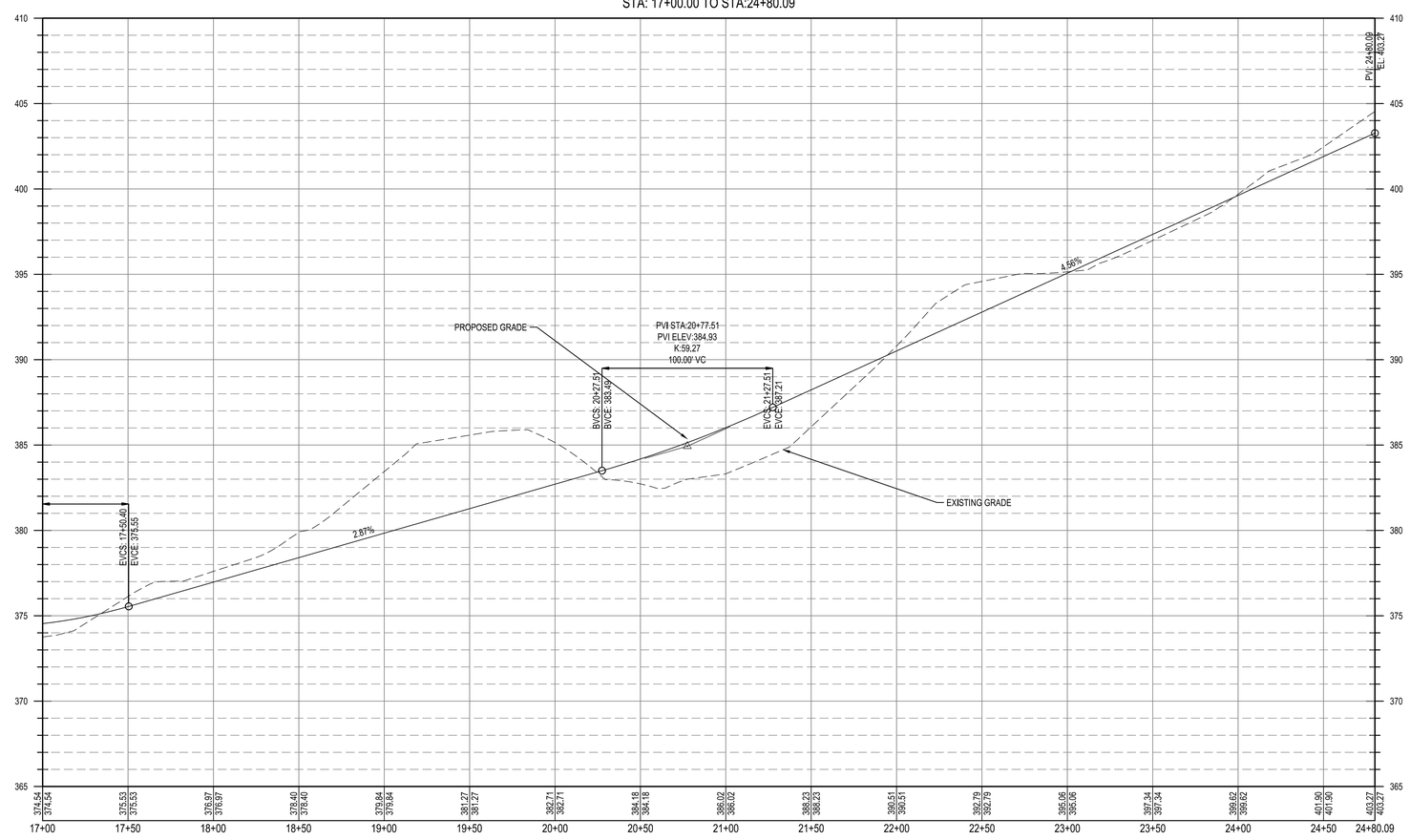
FILE NUMBER: 8430-03
DATE: 06/01/2023

C6-18





GW - ALIGN 1A
STA: 17+00.00 TO STA:24+80.09



REV	DATE	DESCRIPTION
06/01/2023	PER TOWN OF ROLESVILLE COMMENT	
04/03/2023	INITIAL SUBMITTAL	

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW1A GREENWAY PLAN AND PROFILE (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
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DEBRA M. FERRY
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FILE NUMBER: 8430-03
DATE: 06/01/2023

C6-19

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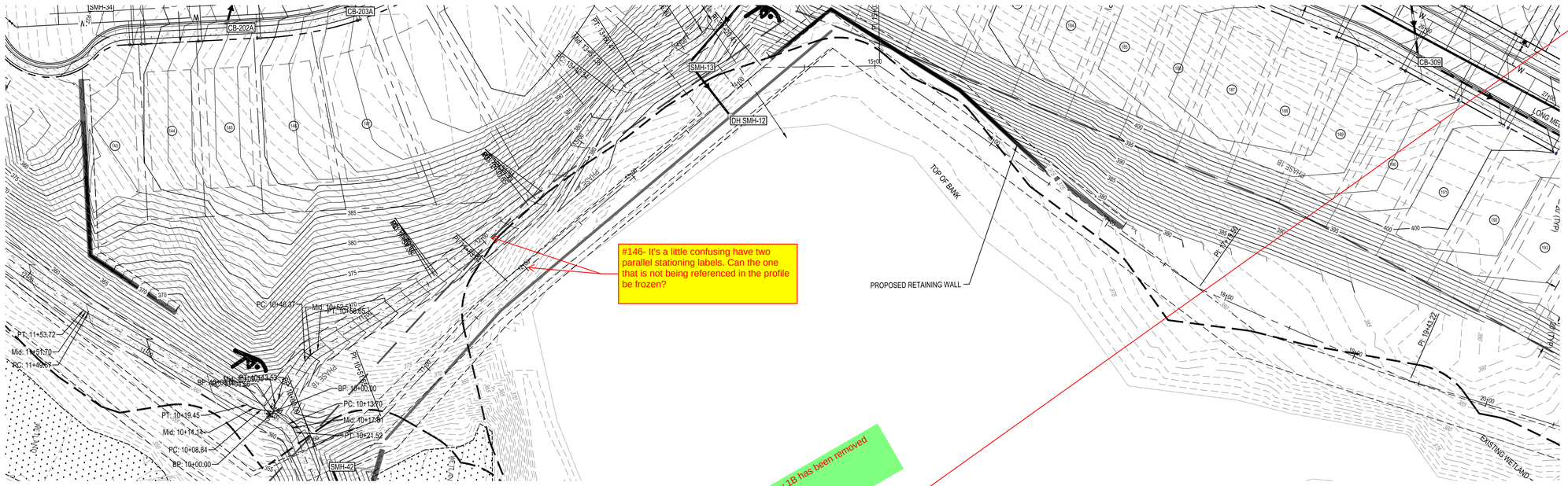
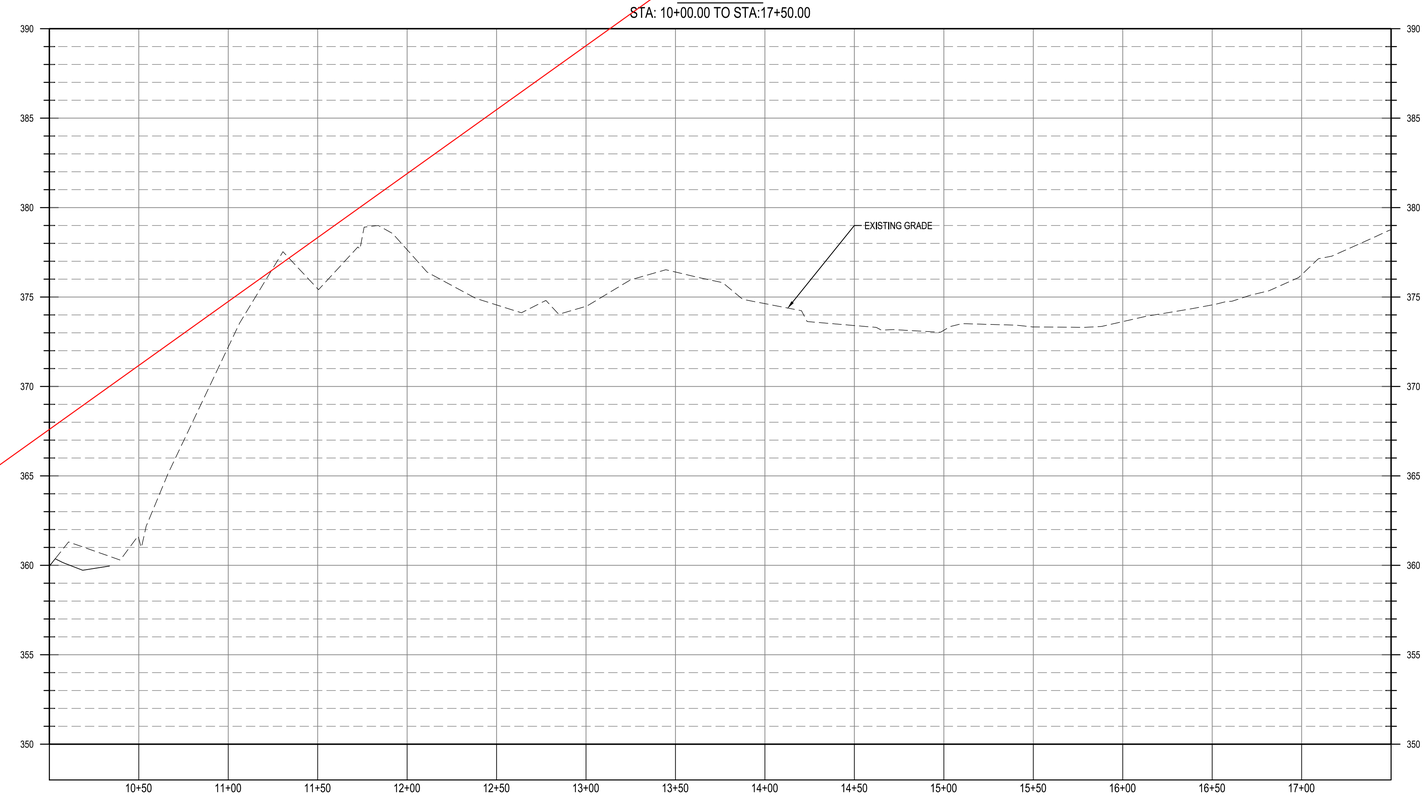


#146- It's a little confusing have two parallel stationing labels. Can the one that is not being referenced in the profile be frozen?

Greenway 1B has been removed

GW - ALIGN 1B
STA: 10+00.00 TO STA:17+50.00



#147- What is the intent of this profile? Is everything that is intended to be shown being shown?

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REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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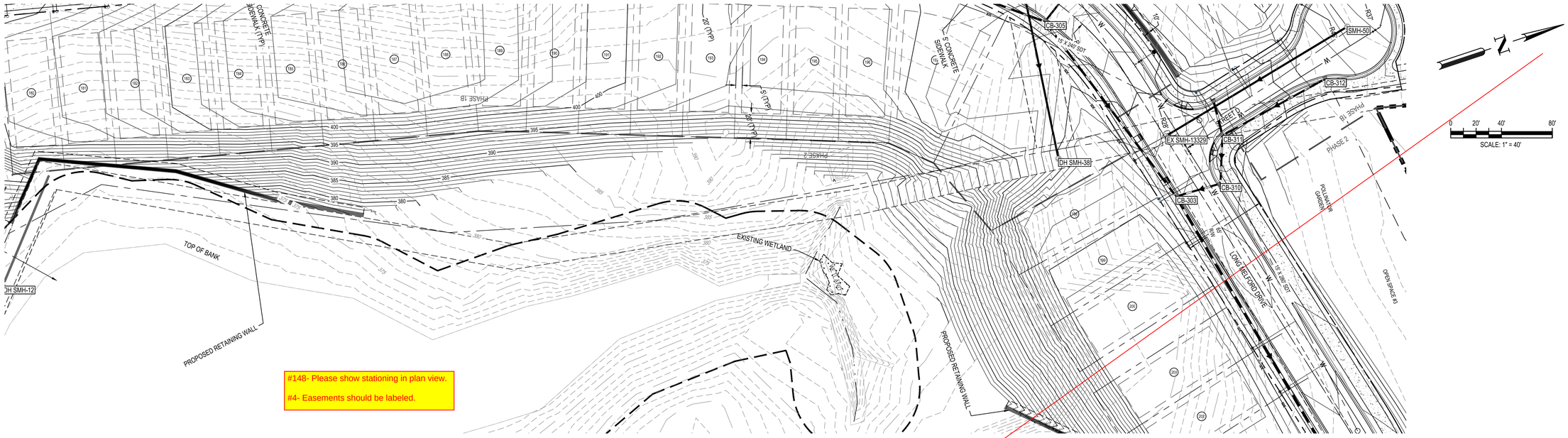
GW1B GREENWAY PLAN AND PROFILE (1 OF 2)

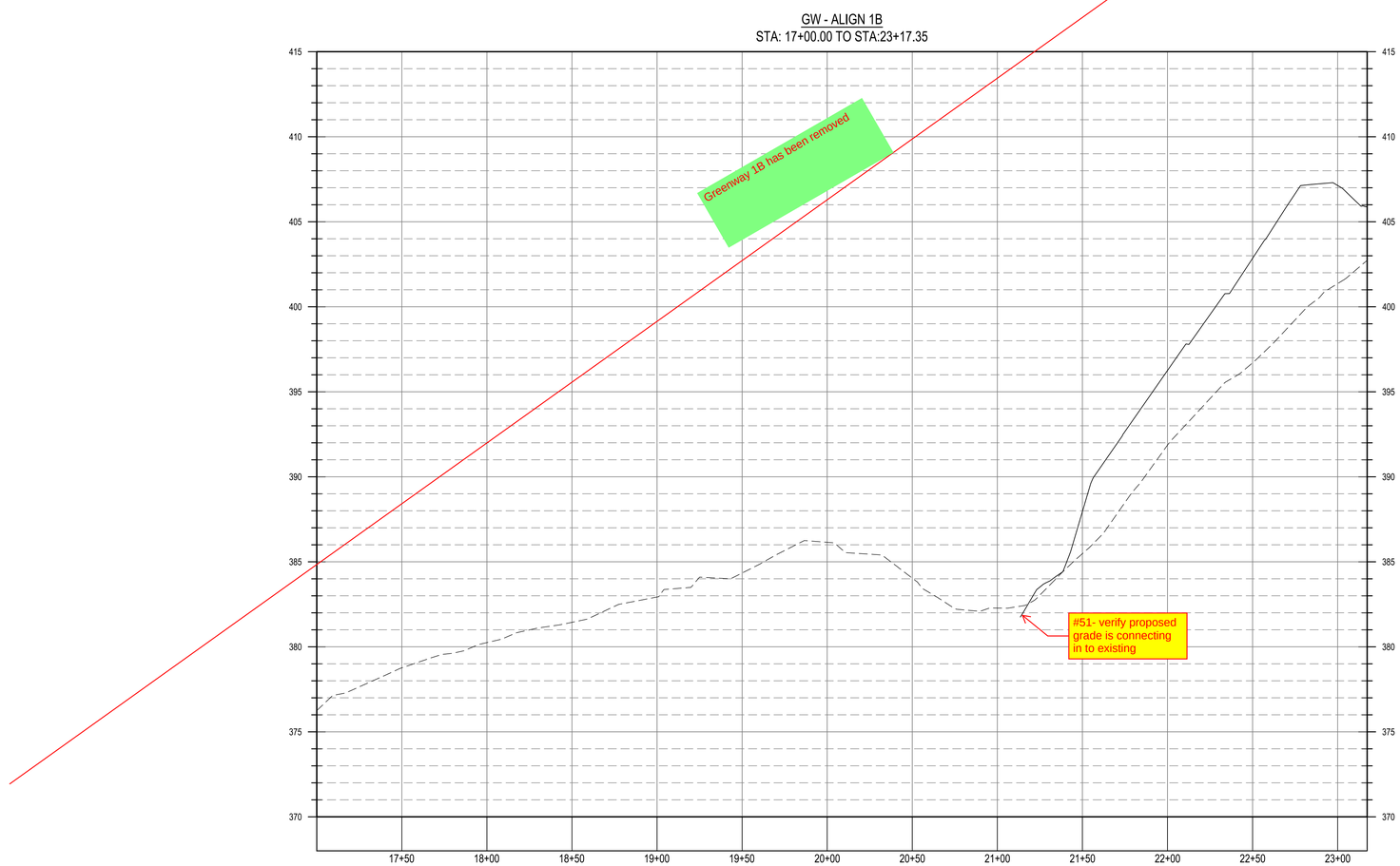
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
DEBRA M. TERRY
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-20



#148- Please show stationing in plan view.

#4- Easements should be labeled.



#51- verify proposed grade is connecting in to existing

#149- What is the intent of this profile? Is everything that is intended to be shown being shown?

REV		
04/03/2023	INITIAL SUBMITTAL	
06/01/2023	PER TOWN OF ROLESVILLE COMMENT	

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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GW1B GREENWAY PLAN AND PROFILE (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
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FILE NUMBER: 8430-03

DATE: 06/01/2023

C6-21

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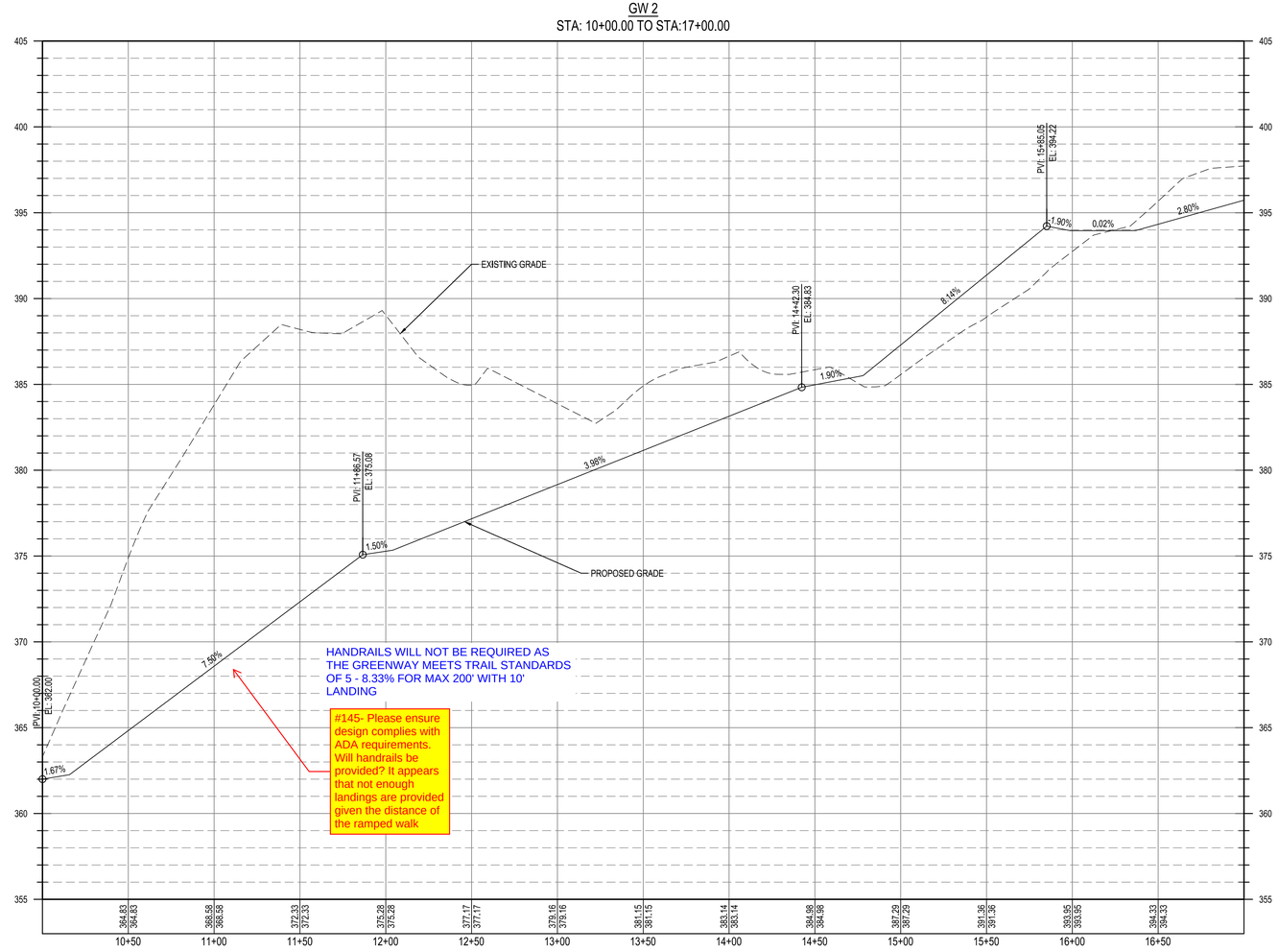

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
6	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW2 GREENWAY PLAN AND PROFILE (1 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
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FILE NUMBER: 8430-03
DATE: 06/01/2023

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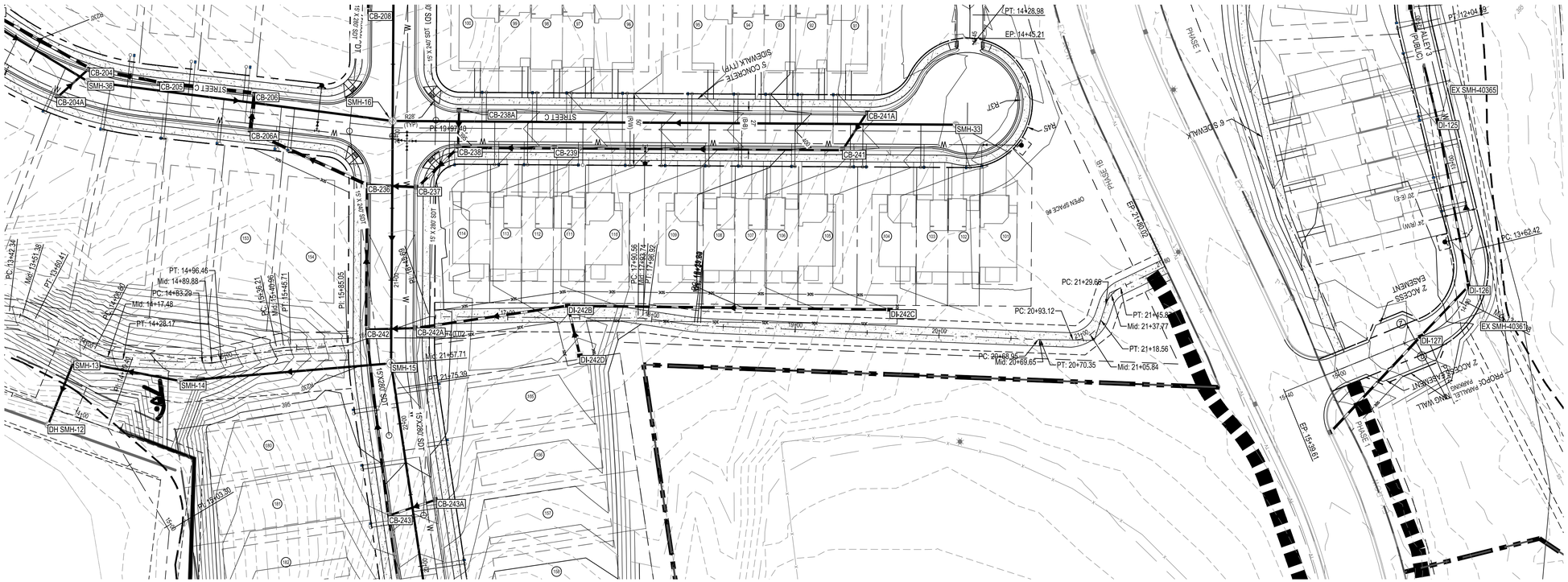
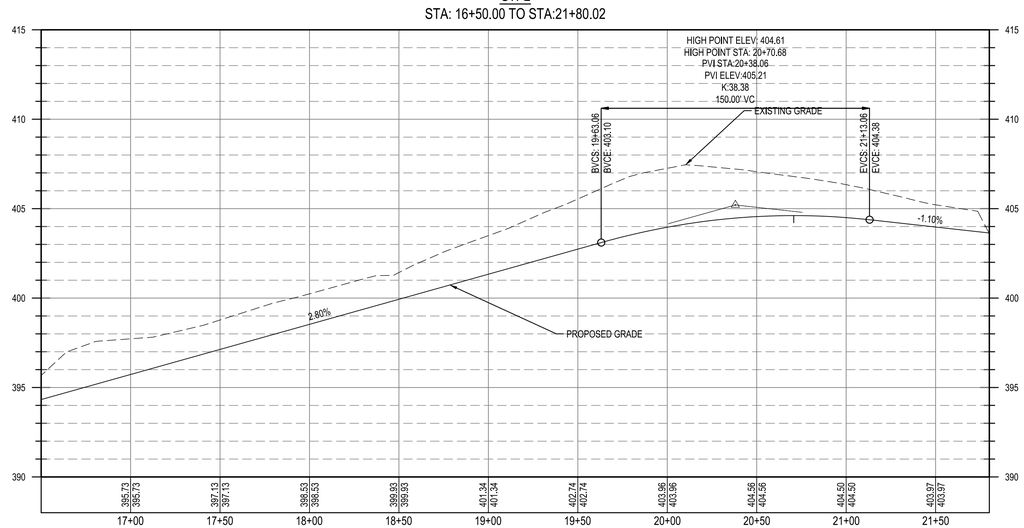


GW 2
STA: 16+50.00 TO STA:21+80.02



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REV						
04/03/2023	INITIAL SUBMITTAL					
06/01/2023	PER TOWN OF ROLESVILLE COMMENT					

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW2 GREENWAY PLAN AND PROFILE (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DEBRA M. FERRY
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DATE: 06/01/2023
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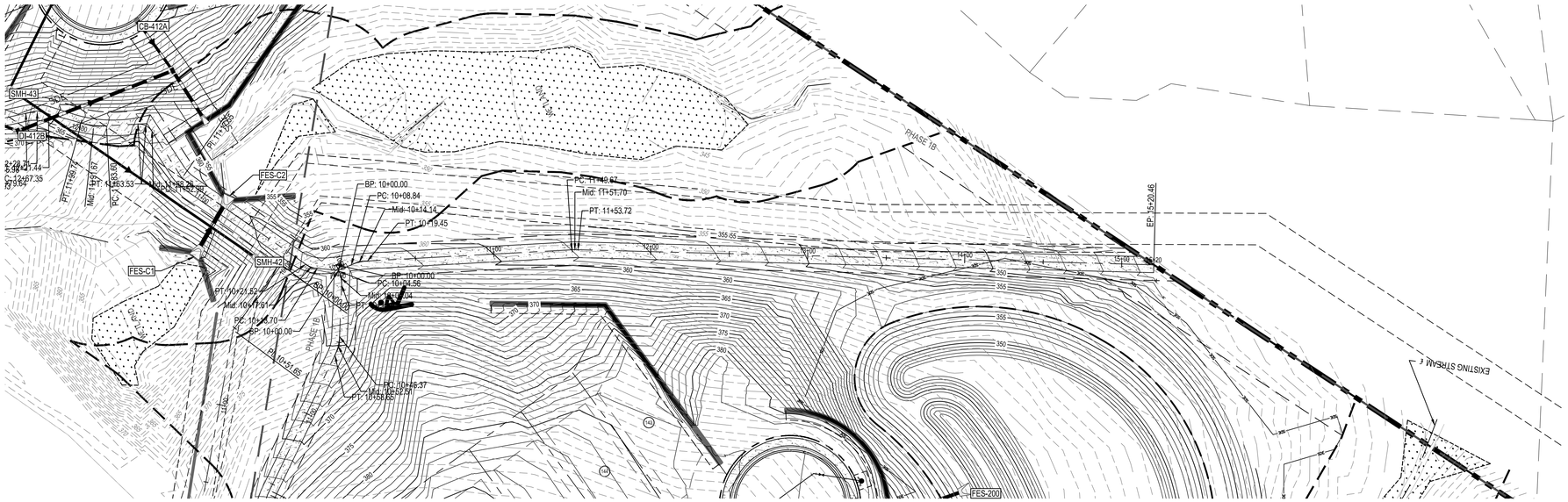
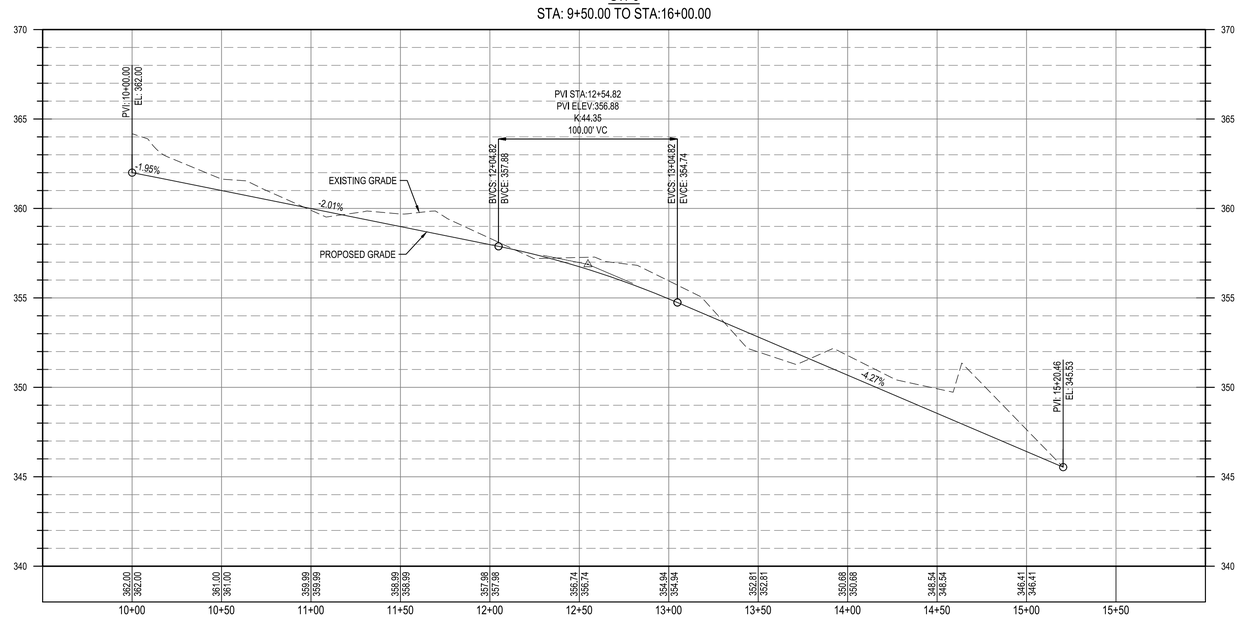


GW 3
STA: 9+50.00 TO STA:16+00.00



REV	DATE	DESCRIPTION
1		
2		
3		
4		
5	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
6	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGENC.COM
NC LICENSE #C-4397

LENNAR CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
62 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

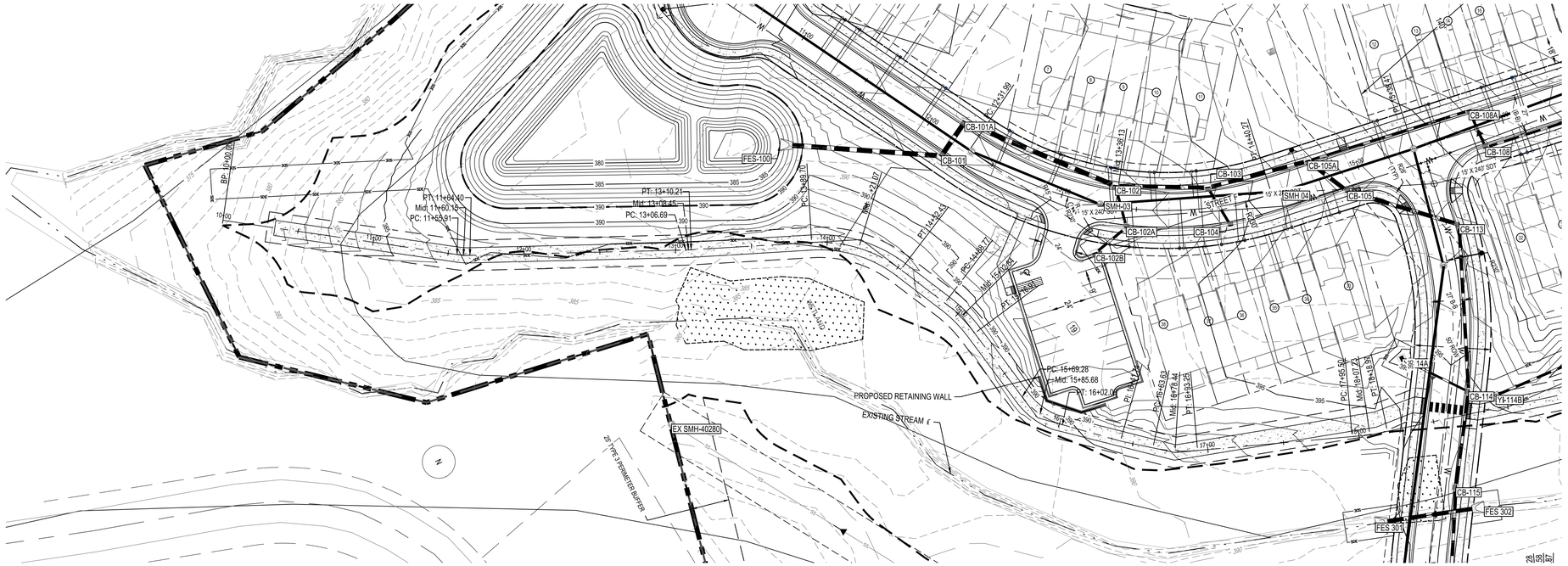
GW3 GREENWAY PLAN AND PROFILE (1 OF 1)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
DEBRA M. FERN
NOT FOR CONSTRUCTION

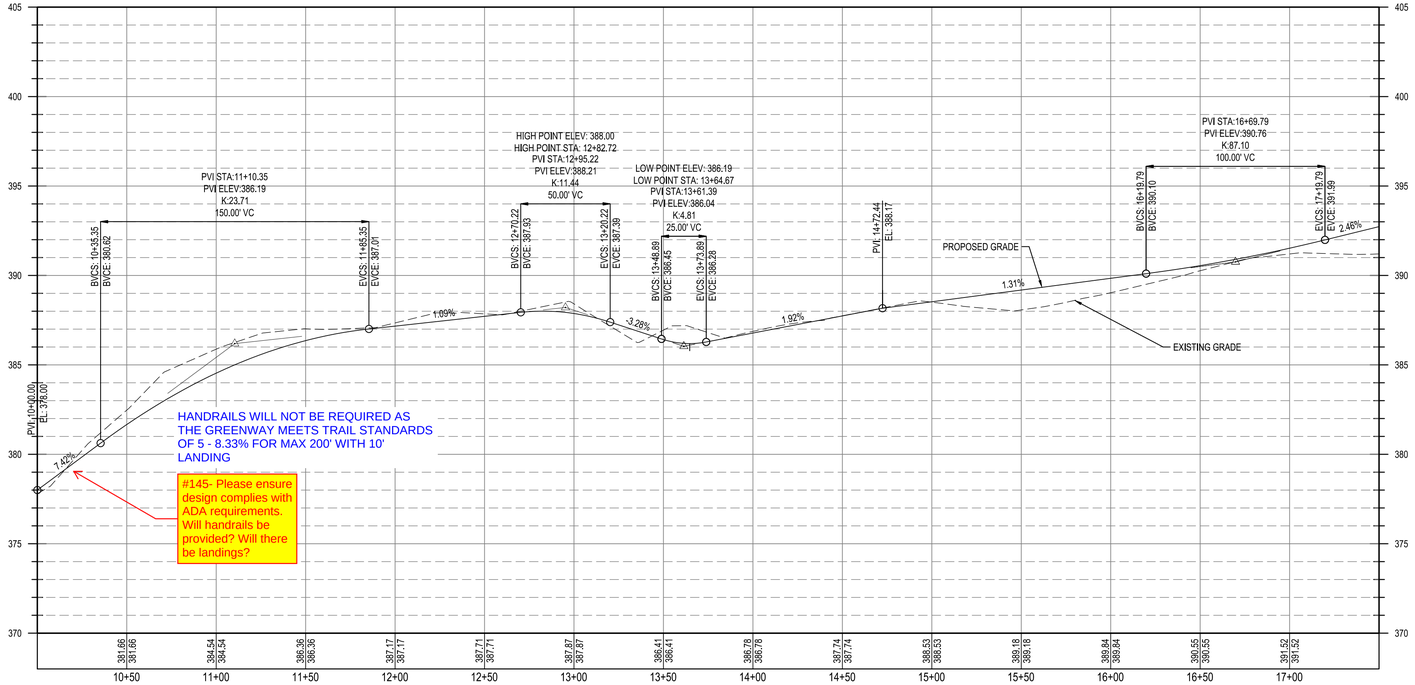
FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-24

811 Know what's below. Call before you dig.

\\brownegay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-18 GREENWAY PLAN AND PROFILE.dwg Layout: GW3 GREENWAY PLAN AND PROFILE (1 OF 1) Plotted: 6/1/2023 3:34:33 PM



GW4
STA: 10+00.00 TO STA:17+50.00



REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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LENNAR CORPORTAION
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ROLESVILLE / NORTH CAROLINA / 27571

GW4 GREENWAY PLAN AND PROFILE (1 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
DEBRA M. FERRI
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C6-25

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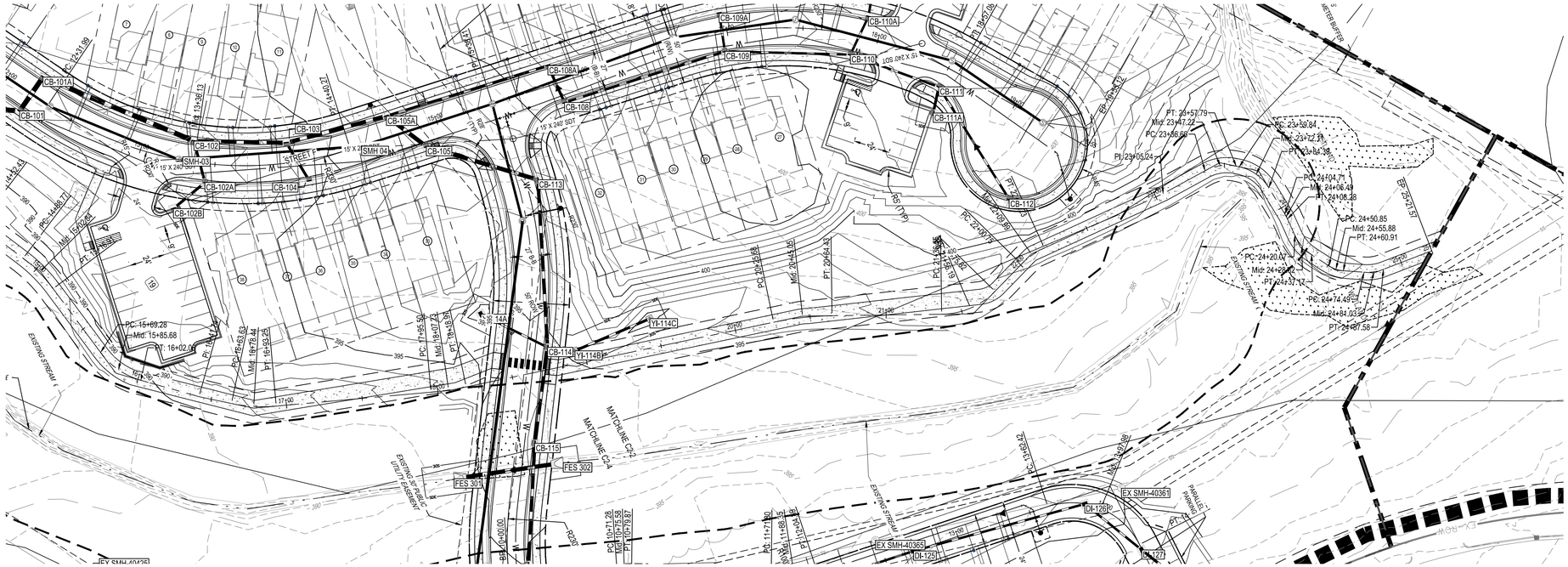

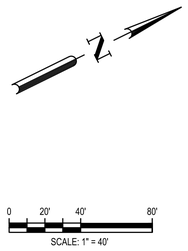

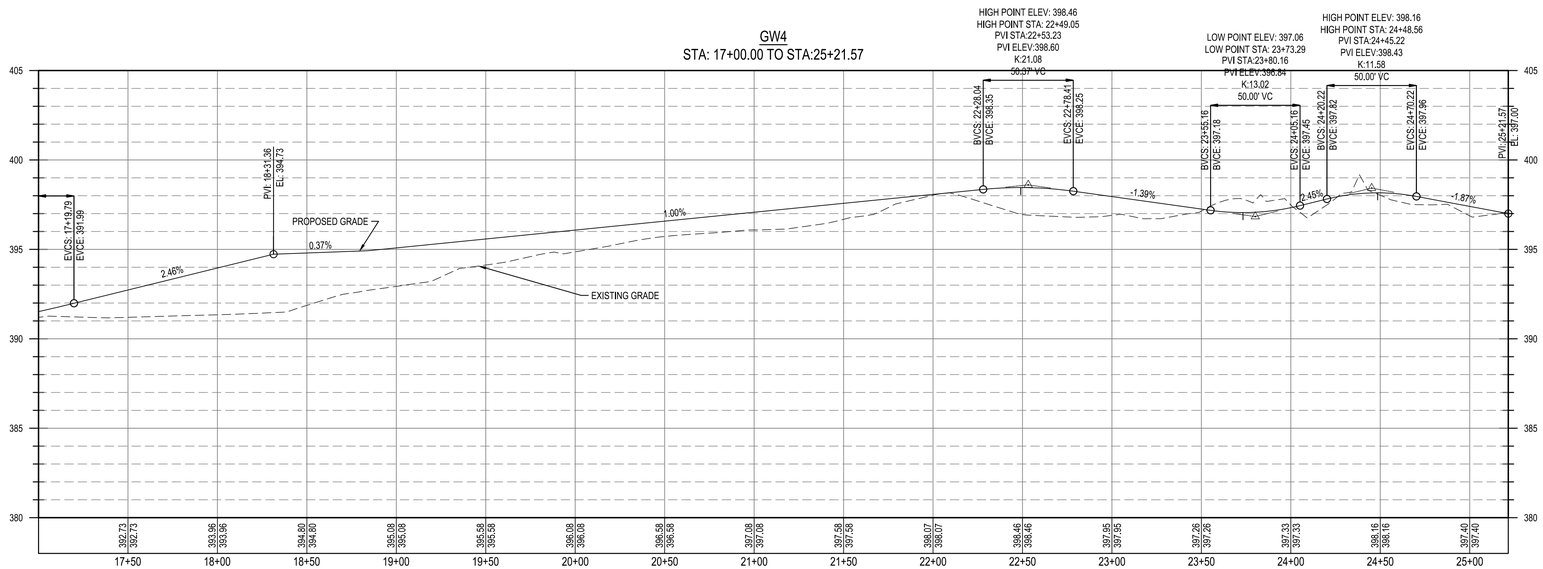

REV	DATE	DESCRIPTION
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0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW4 GREENWAY PLAN AND PROFILE (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DEBRA M. FERRY — PRELIMINARY — NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 06/01/2023

C6-26

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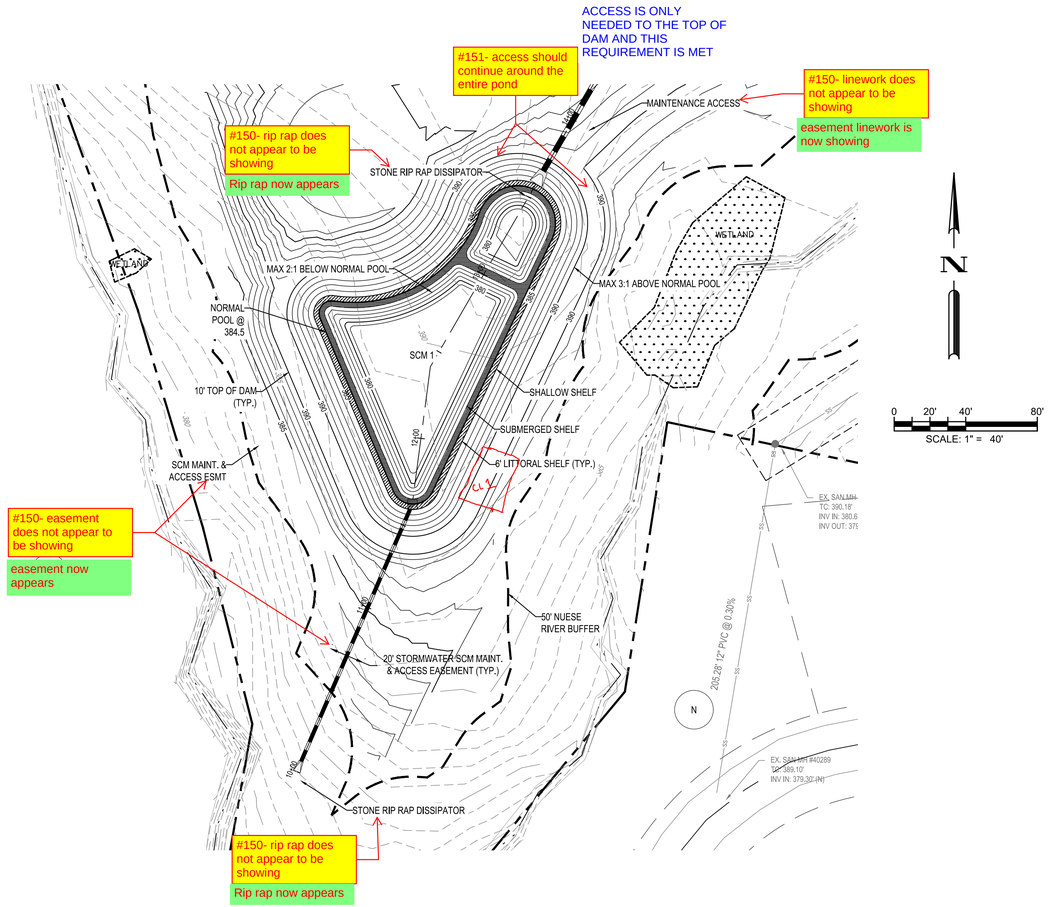
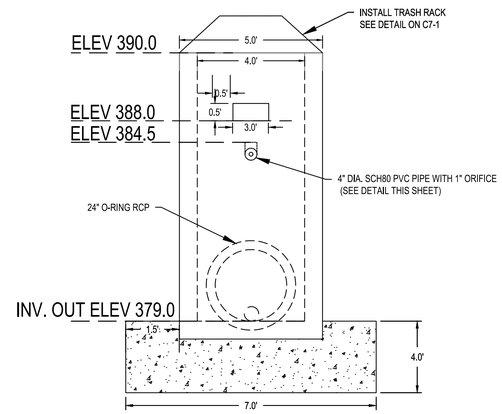
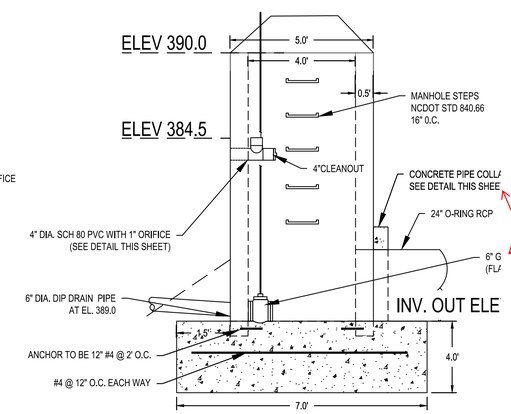




RISER STRUCTURE - WEST
N.T.S.



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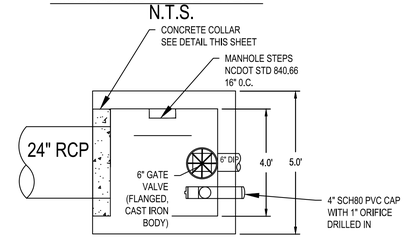
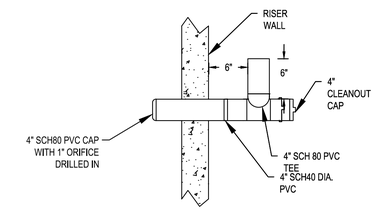
Text no longer cut off

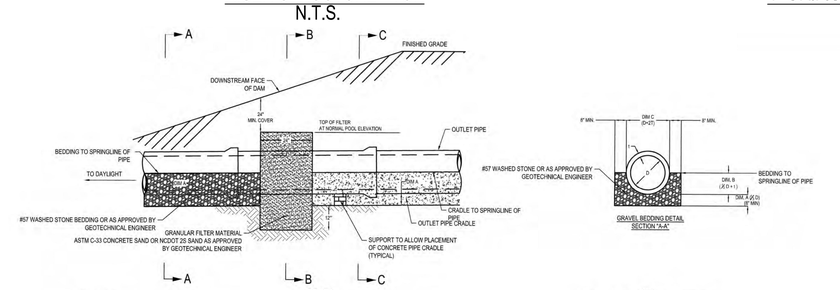
RISER STRUCTURE - SOUTH
N.T.S.



RISER STRUCTURE - TOP
N.T.S.



4" ORIFICE UPTURNED PIPE
N.T.S.



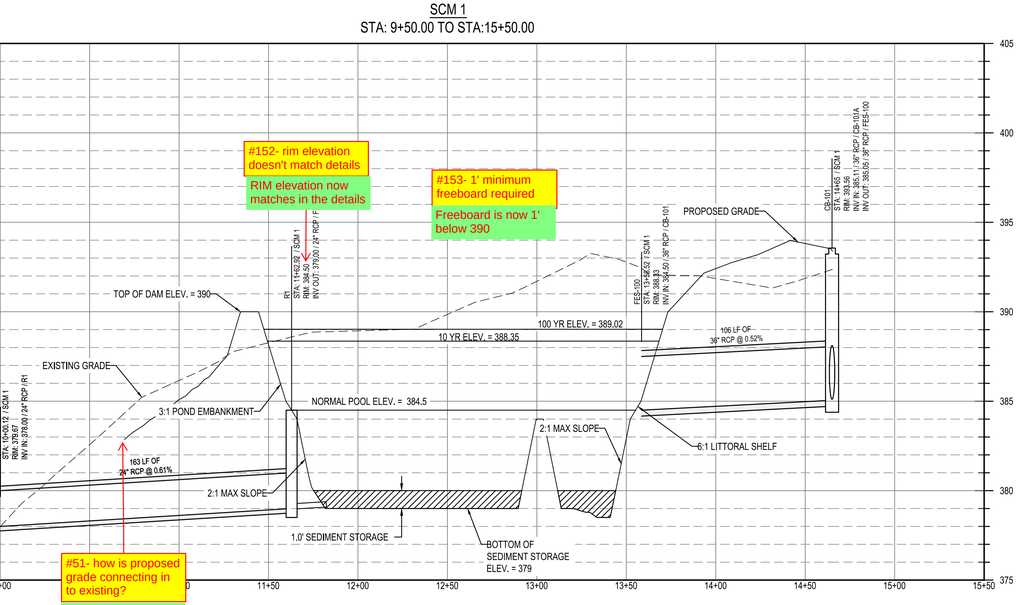
	NOMINAL PIPE SIZE	DIM A (1/2 D)	DIM B (1/2 D + 3)	DIM C (D + 26)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM I (WALL)
SCM#1, #2, & #3	24	8	7	30	24	20	3
	30	15	8.5	37	30	32	3.5
	36	12	10	44	36	24	4
	42	14	11.5	51	42	26	4.5
	48	16	13	58	48	28	5

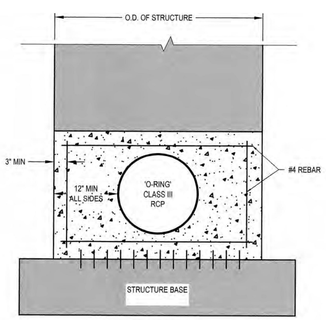
24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM & CONCRETE CRADLE DETAIL

NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS





CONCRETE COLLAR DETAIL
NTS

NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

811 Know what's below. Call before you dig.

REV					
2					
1					
0				06/01/2023	PER TOWN OF ROLESVILLE COMMENT
				04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
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LENNAR CORPORTAION
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ROLESVILLE / NORTH CAROLINA / 27571

SCM 1 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER DEBRA M. FERM
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C7-0

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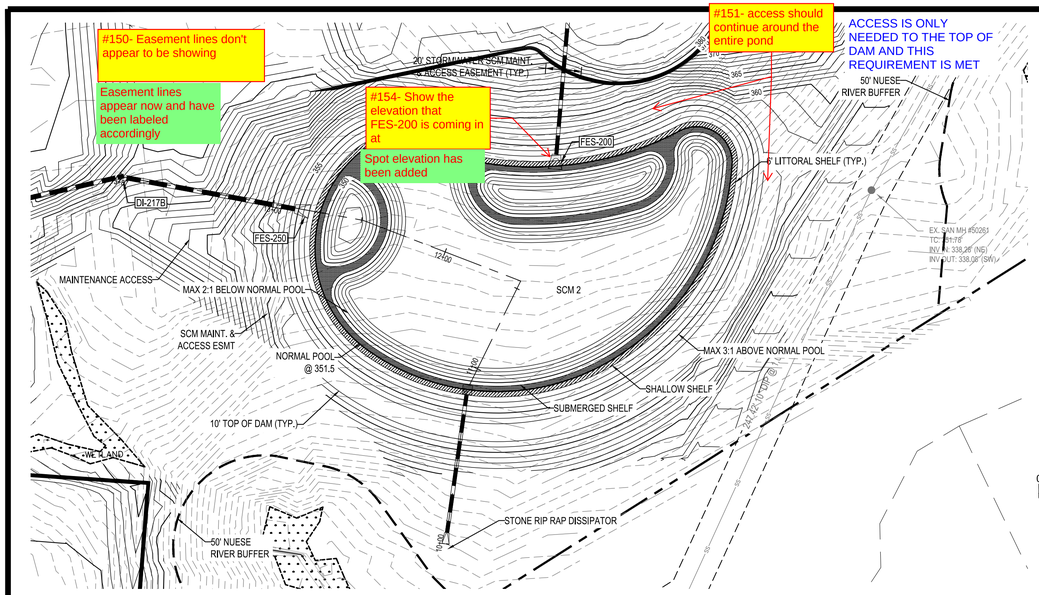
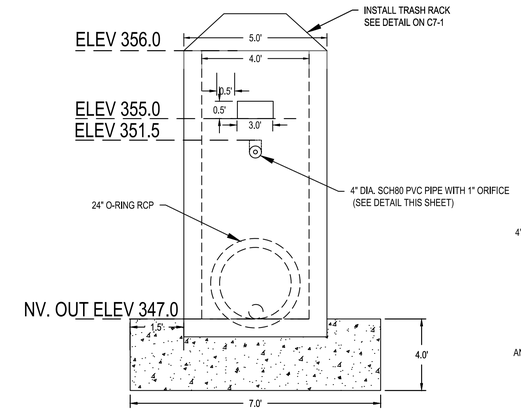
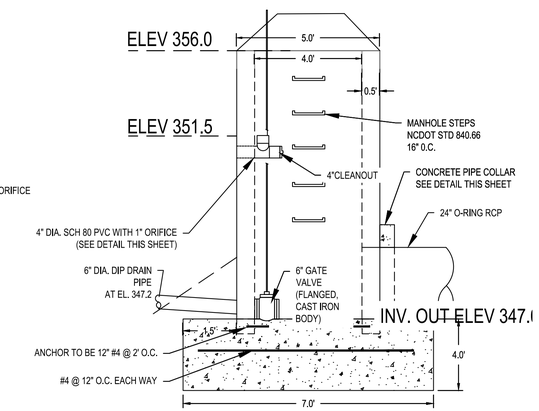


N

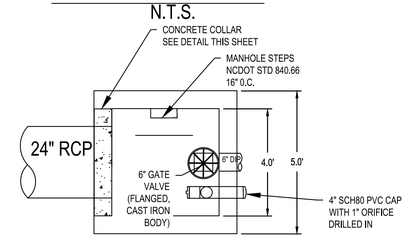
0 20' 40' 80'
SCALE: 1" = 40'



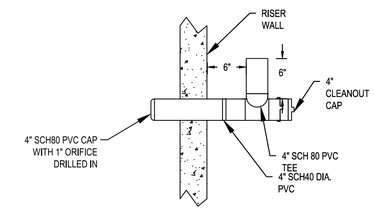
RISER STRUCTURE - WEST
N.T.S.



RISER STRUCTURE - SOUTH
N.T.S.

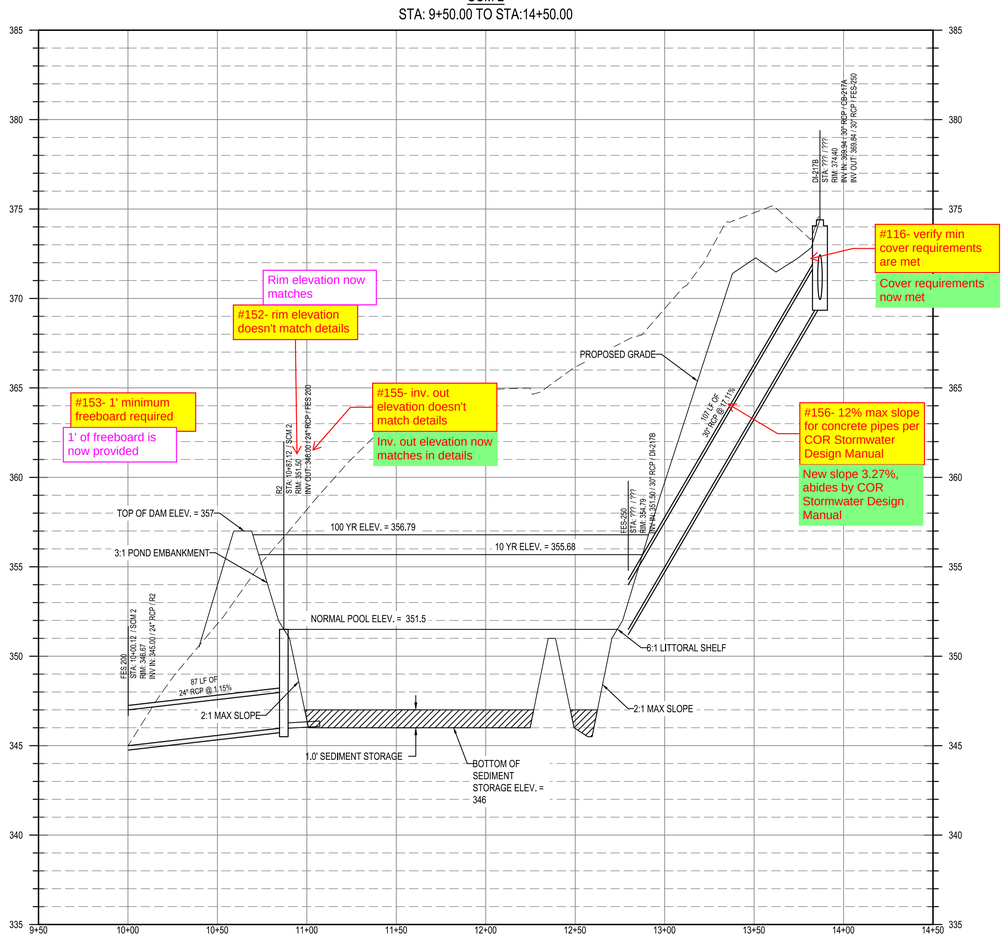


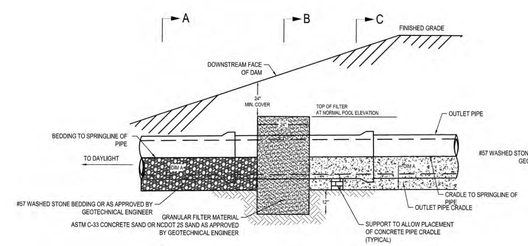
RISER STRUCTURE - TOP
N.T.S.

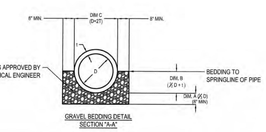


4" ORIFICE UPTURNED PIPE
N.T.S.

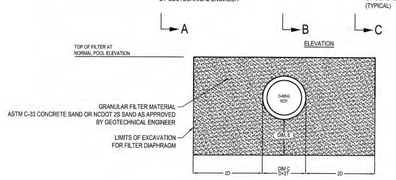
SCM 2
STA: 9+50.00 TO STA:14+50.00







GRAVEL BEDDING DETAIL
SECTION "A-A"

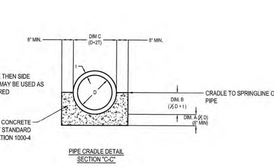


DIAPHRAGM FILTER DETAIL
SECTION "B-B"

SCM#1, #2, & #3

NOMINAL PIPE SIZE	DIM A (1/2 D)	DIM B (1/2 D + 6)	DIM C (D + 21)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM F (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

30" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

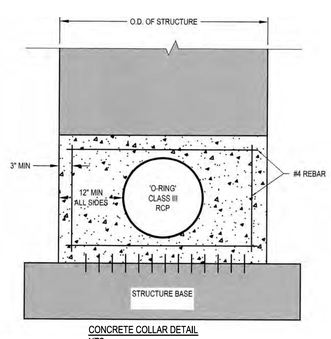


PIPE CRADLE DETAIL
SECTION "C-C"

NOTE:
IF PIPE IS INSTALLED IN EXCAVATED TRENCH, THEN SIDE WALLS MAY CONFORM TO TRENCH (TRENCH MAY BE USED AS CRADLE FORM) SO LONG AS MINIMUM REQUIRED DIMENSIONS ARE MAINTAINED

OUTLET PIPE FILTER DIAPHRAGM
& CONCRETE CRADLE DETAIL
NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS



CONCRETE COLLAR DETAIL
NTS

NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

SCM 2 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C7-1

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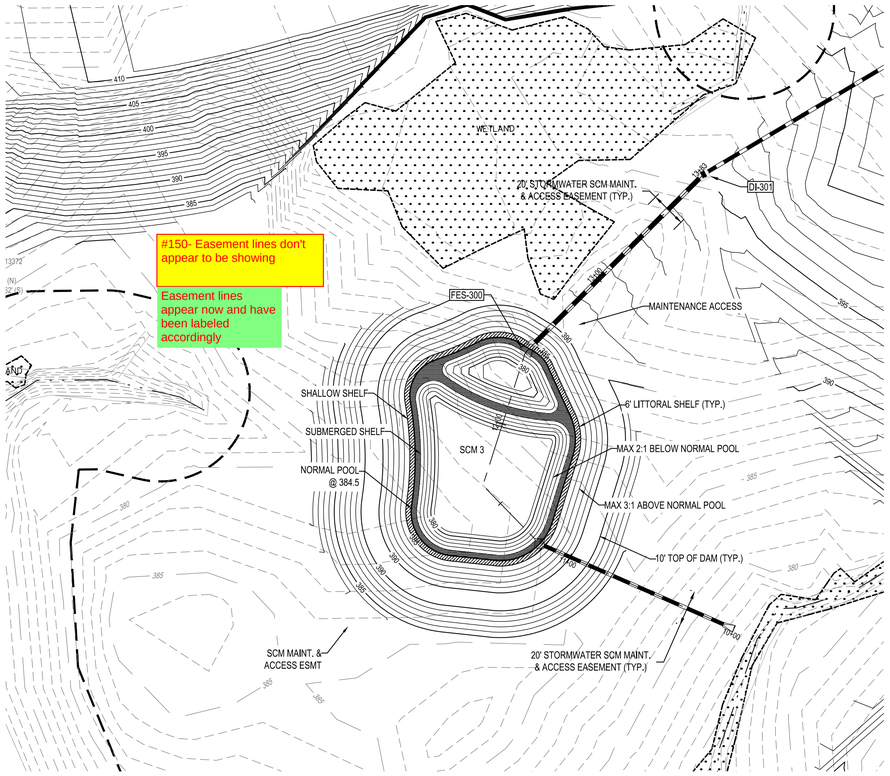
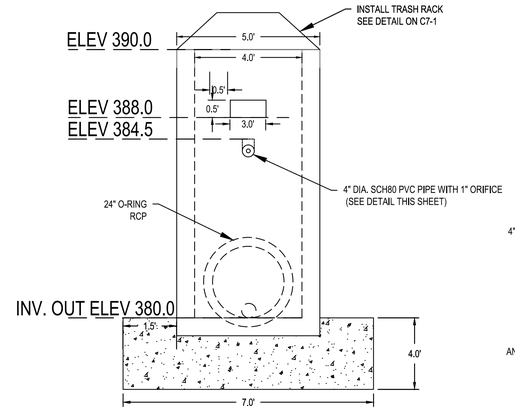
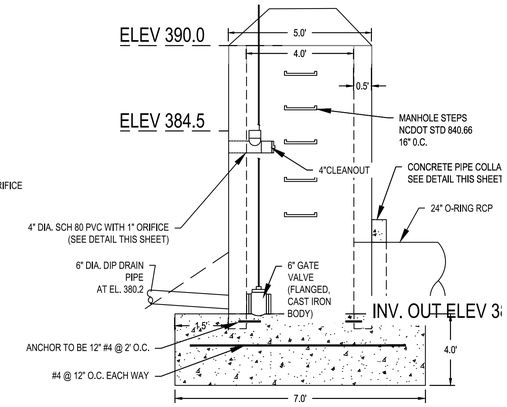


N

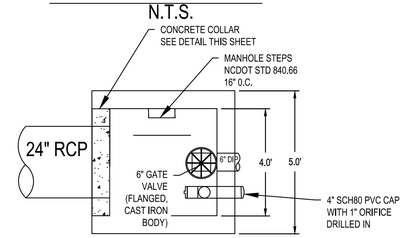
0 20' 40' 80'
SCALE: 1" = 40'



RISER STRUCTURE - WEST
N.T.S.



RISER STRUCTURE - SOUTH
N.T.S.



RISER STRUCTURE - TOP
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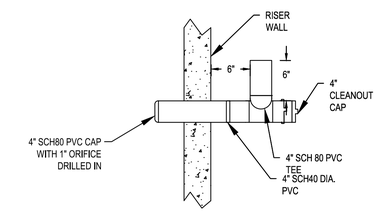
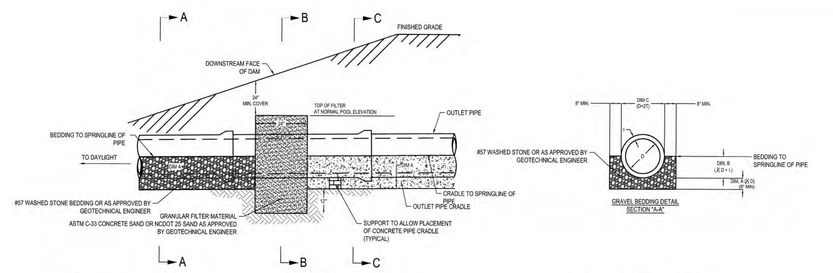


4" ORIFICE UPTURNED PIPE
N.T.S.



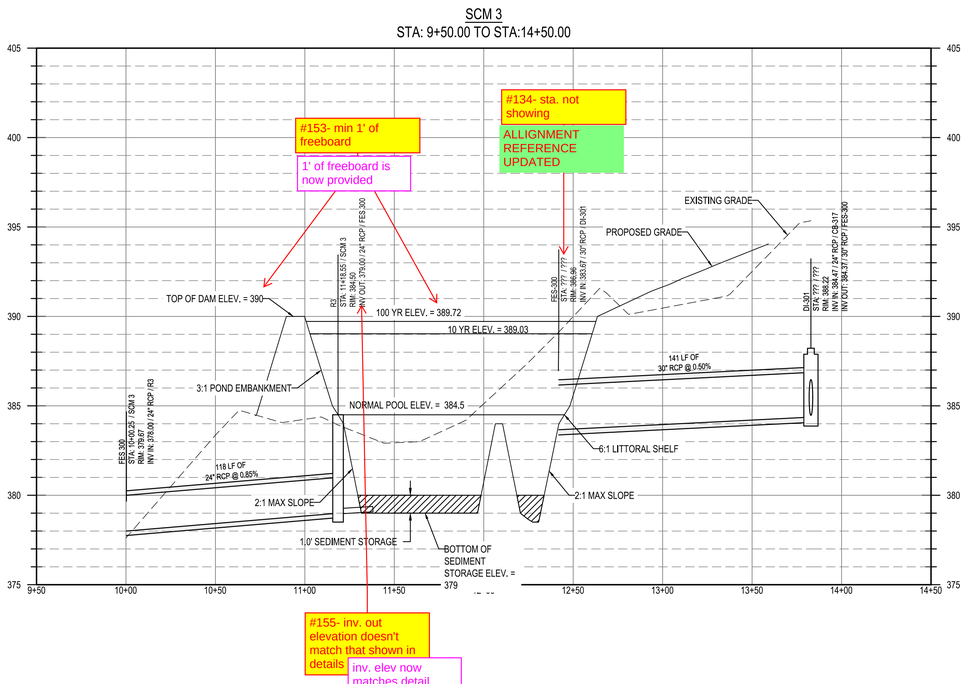
SCM#1, #2, & #3

NOMINAL PIPE SIZE	DIM A (1/3 D)	DIM B (1/2 D + 3)	DIM C (D + 3)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM I (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

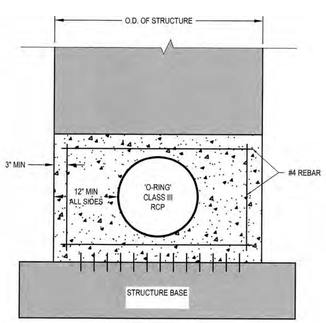
36" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM & CONCRETE CRADLE DETAIL
NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS



CONCRETE COLLAR DETAIL
NTS



NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

Know what's below. Call before you dig.

REV	DATE	
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
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RALEIGH NC 27607
WWW.BGEINC.COM
NC LICENSE #C-4397

LENNAR CORPORTAION
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MORRISVILLE / NORTH CAROLINA / 27560

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82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SCM 3 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C7-2

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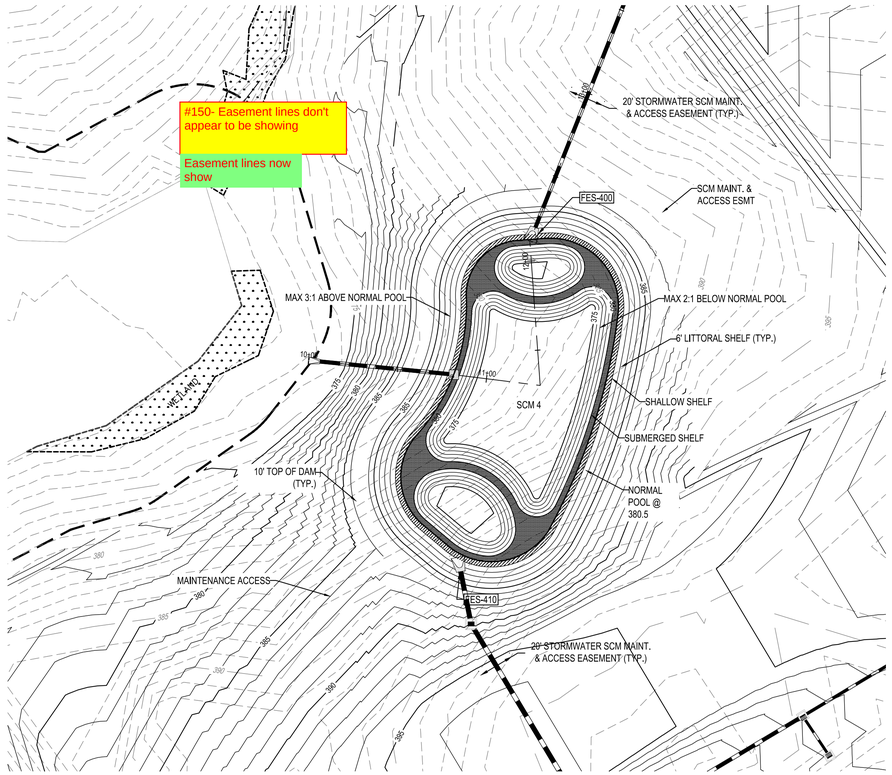
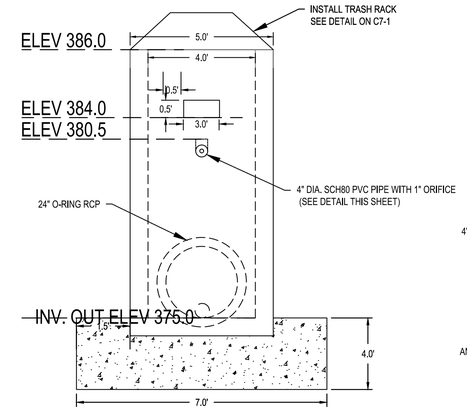
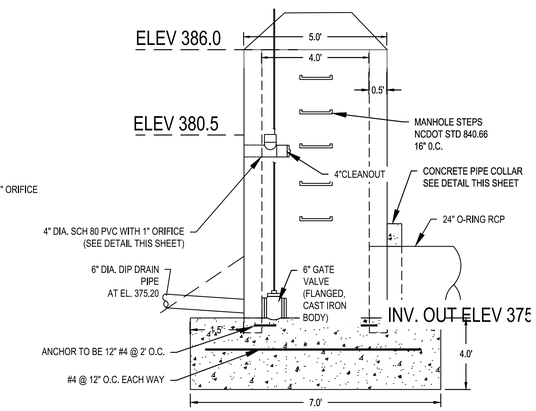
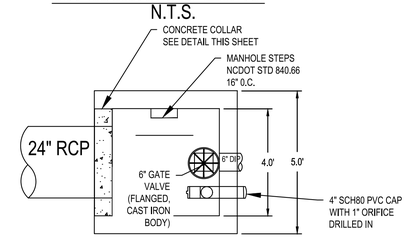




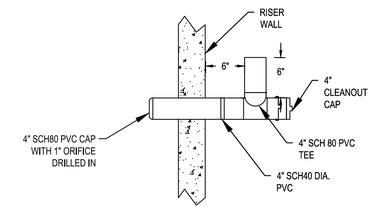
RISER STRUCTURE - WEST
N.T.S.



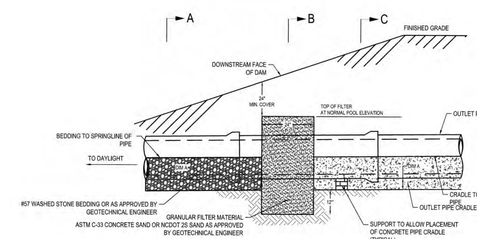
RISER STRUCTURE - SOUTH
N.T.S.



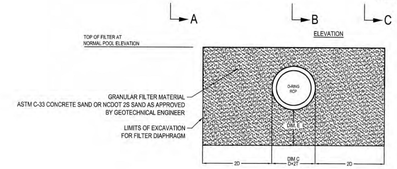
RISER STRUCTURE - TOP
N.T.S.



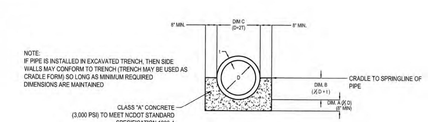
4" ORIFICE UPTURNED PIPE
N.T.S.



GRAVEL BEDDING DETAIL
SECTION "A-A"



DIAPHRAGM FILTER DETAIL
SECTION "B-B"



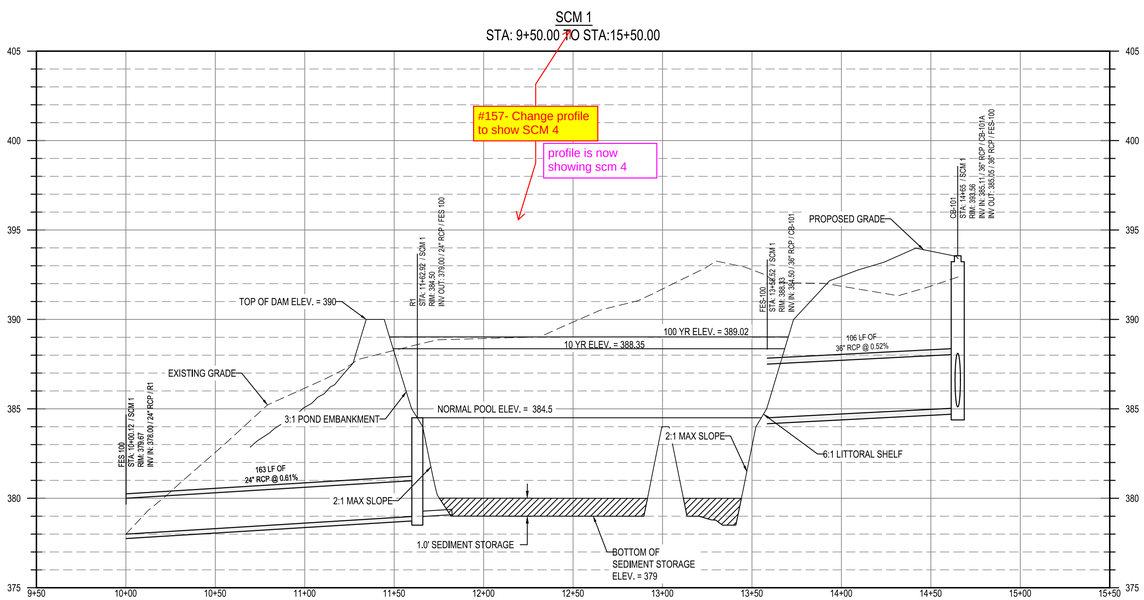
PIPE CRADLE DETAIL
SECTION "C-C"

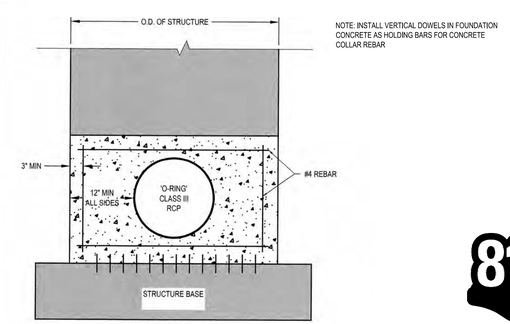
SCM#1, #2, & #3

NOMINAL PIPE SIZE	DIM A (1/2 D)	DIM B (1/2 D + 1)	DIM C (D + 3)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM I (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM
NTS





CONCRETE COLLAR DETAIL
NTS

811 Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGENC.COM
NC LICENSE #C-4397

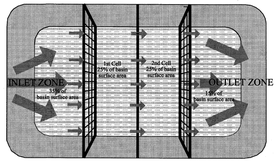
LENNAR CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
62 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SCM 4 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DEBRA M. FERN
PRELIMINARY
NOT FOR CONSTRUCTION

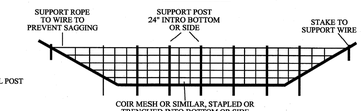
FILE NUMBER: 8430-03
DATE: 06/01/2023
C7-3

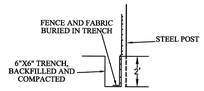


PLAN VIEW

NOTES:
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH). PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 G/M2 COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS
6. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH RAINFALL

CROSS SECTION



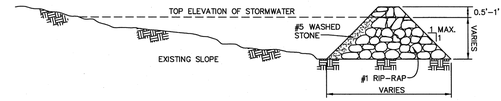


SECTION VIEW AT OPENING

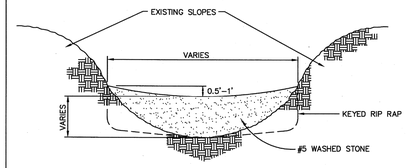
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL



SIDE VIEW



FRONT VIEW

CONSTRUCTION NOTES:

HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.

KEY RIP RAP INTO THE DAM FOR STABILIZATION.

STEP SEQUENCE

NOTE: REMOVE SEDIMENT ACCUMULATION FROM BEHIND CHECK DAMS TO PREVENT DAMAGE TO CHANNEL VEGETATION. FLOW SHOULD BE MAINTAINED THROUGH THE DAM.

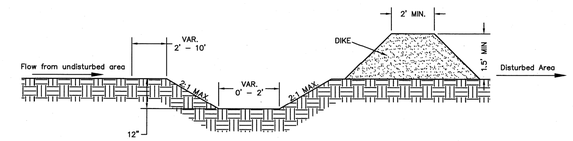
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CHECK DAM

NOTES:

1. DIVERSION TO BE USED UPSLOPE OF A CONSTRUCTION SITE TO PREVENT STORM RUNOFF FROM ENTERING THE DISTURBED AREA.
2. IMMEDIATELY LINE AND STABILIZE BEFORE ANY DOWNSLOPE GRADING BEGINS (STABILIZATION MUST OCCUR BEFORE ISSUANCE OF A CERTIFICATE OF COMPLIANCE). STABILIZATION METHOD IS BASED ON VELOCITY OF OFFSITE DRAINAGE.
3. DIVERSIONS SHOULD ONLY BE USED FOR DRAINAGES 5 ACRES OR LESS.
4. ANY SEDIMENT LADEN WATER PRIOR TO STABILIZATION OF THE DIVERSION MUST BE DIVERTED INTO AN APPROVED EROSION AND SEDIMENT CONTROL BMP. CLEAN WATER SHOULD EMPTY INTO AN APPROVED OUTLET DEVICE.

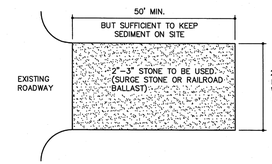


CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

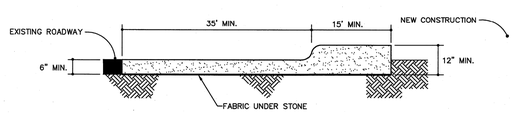
STANDARD CLEAN WATER DIVERSION



PLAN VIEW

NOTES:

1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3. MAINTAIN GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING CONSTRUCTION SITE. ENTRANCE WILL REQUIRE PERIODIC REMOVAL OF SEDIMENT–LADEN STONE AND REPLACEMENT WITH FRESH STONE.



CROSS SECTION

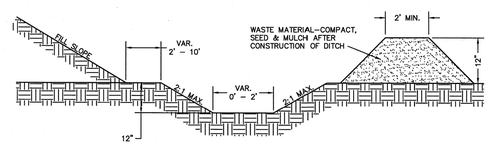
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE

NOTES:

1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE–HALF FILL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.

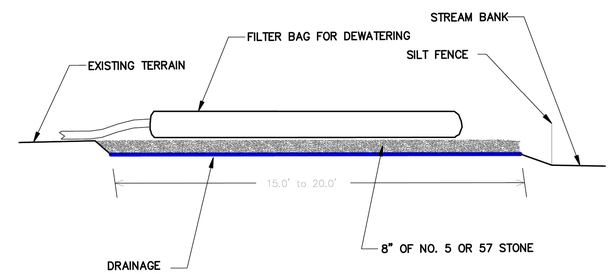


CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH



NOTES

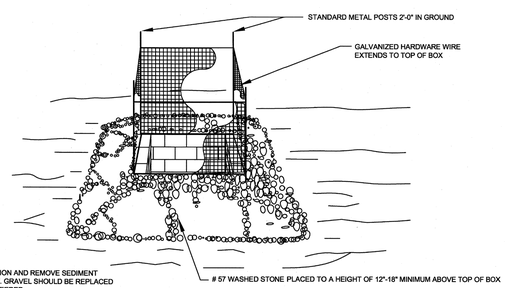
PROVIDE STABILIZED OUTLET TO STREAM BANK. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

NOT TO SCALE

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



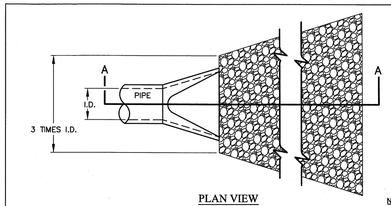
NOTE:

1. INSPECT INLET PROTECTION AND REMOVE SEDIMENT AFTER EACH RAIN EVENT. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

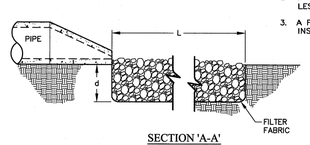
STANDARD GRAVEL YARD INLET PROTECTION



PLAN VIEW

NOTES:

1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

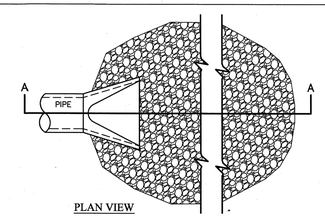


SECTION 'A-A'

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

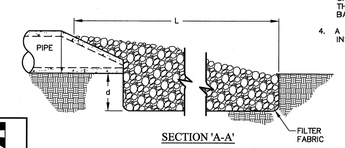
STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL



PLAN VIEW

NOTES:

1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. IN A WELL–DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" (INCHES) ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.



SECTION 'A-A'

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL

811 Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGENC.COM
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LENNAR CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

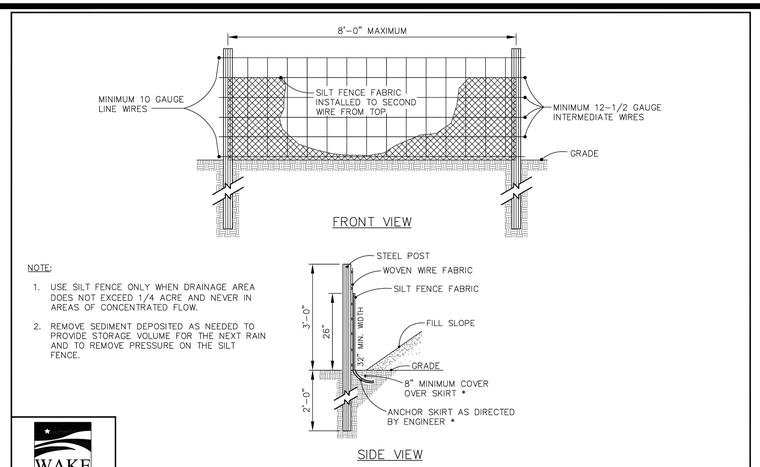
EROSION CONTROL DETAILS (1 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DEBRA M. FERM — PRELIMINARY — NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 06/01/2023

C8-2



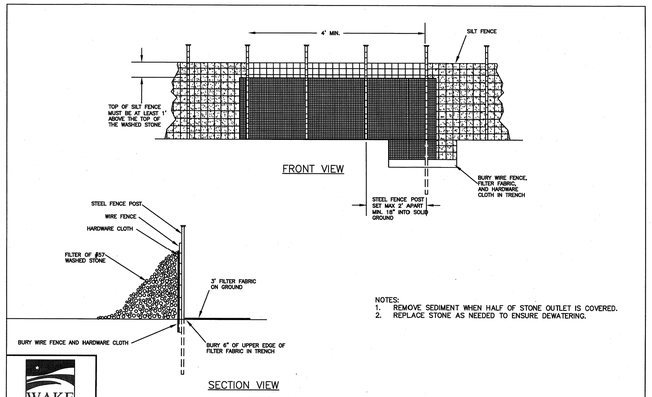
NOTE:

1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2. REMOVE SEDIMENT DEPOSITED AS NEEDED TO PROVIDE STORAGE VOLUME FOR THE NEXT RAIN AND TO REMOVE PRESSURE ON THE SILT FENCE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE

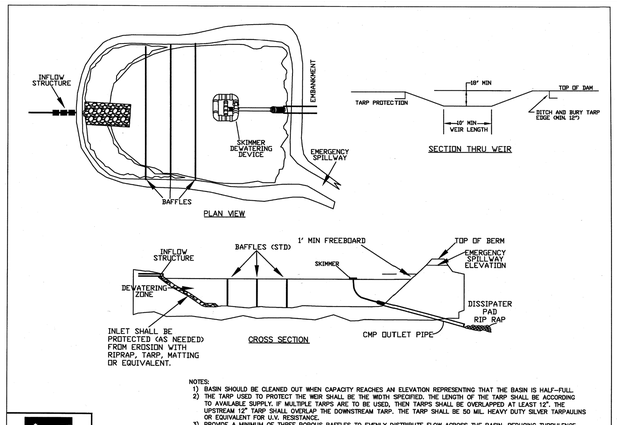


NOTES:
1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET

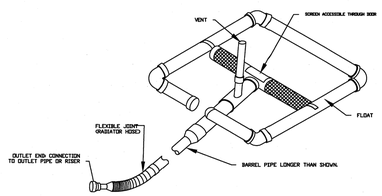


NOTES:
1) BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF-FULL.
2) THE TARP USED TO PROTECT THE WEIR SHALL BE THE WIDTH SPECIFIED. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 12". THE UPSTREAM 12" TARP SHALL OVERLAP THE DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARP/AULINS OR EQUIVALENT FOR U.V. RESISTANCE.
3) PROVIDE A MINIMUM OF THREE POROUS BAFFLES TO EVENLY DISTRIBUTE FLOW ACROSS THE BASIN, REDUCING TURBULENCE.
4) BAFFLE MATERIAL MUST BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR A SILT FENCE.
5) MOST OF THE SEDIMENT WILL ACCUMULATE IN THE FIRST BAY, SO THIS SHOULD BE READILY AVAILABLE FOR MAINTENANCE.
6) DURING THE CONSTRUCTION PHASE OF THE PROJECT, PERMANENT STORMWATER RISER SHALL ONLY DEWATER FROM THE TOP OF PIPE.
7) POND SHALL NOT BE CONVERTED FOR STORMWATER USE UNTIL APPROVED BY ENVIRONMENTAL ENGINEER.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SKIMMER BASIN



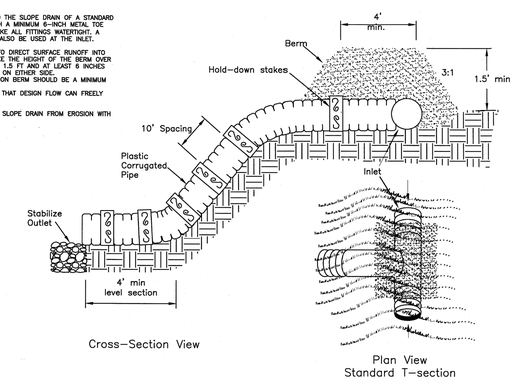
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SKIMMER DETAIL

NOTES:

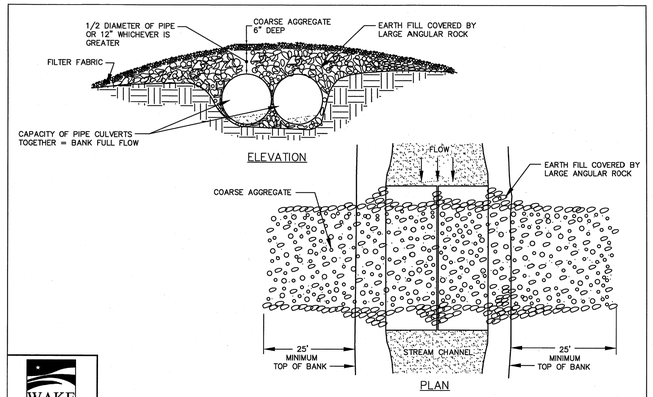
1. CONSTRUCT THE ENTRANCE TO THE SLOPE DRAIN OF A STANDARD FLARED-END SECTION OF PIPE WITH A MINIMUM 6-INCH METAL TOE PLATE (CROSS-SECTION VIEW). MAKE ALL FITTINGS WATERTIGHT. A STANDARD T-SECTION FITTING MAY ALSO BE USED AT THE INLET.
2. USE AN EARTHEN DIVERSION TO DIRECT SURFACE RUNOFF INTO THE TEMPORARY SLOPE DRAIN. MAKE THE HEIGHT OF THE BERM OVER THE DRAIN CONDUIT A MINIMUM OF 1.5 FT AND AT LEAST 6 INCHES HIGHER THAN THE ADJOINING BERM ON EITHER SIDE. THE LOWEST POINT OF THE DIVERSION BERM SHOULD BE A MINIMUM OF 1 FT ABOVE THE TOP OF THE DRAIN SO THAT DESIGN FLOW CAN FREELY ENTER THE PIPE.
3. PROTECT THE OUTLET OF THE SLOPE DRAIN FROM EROSION WITH RIPRAP DISSIPATOR.



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

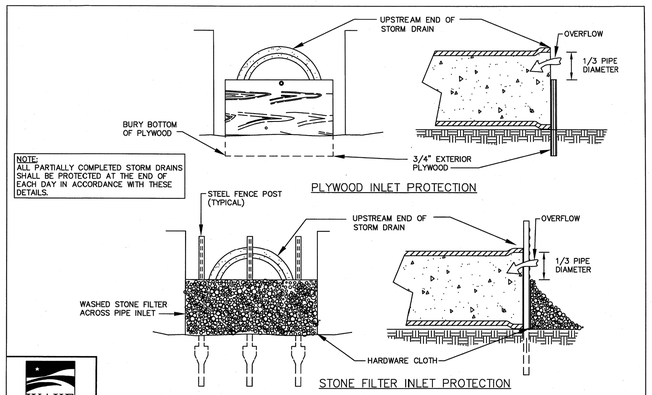
STANDARD TEMPORARY SLOPE DRAIN



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY STREAM CROSSING

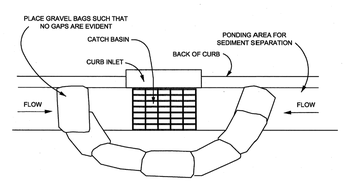


NOTE:
ALL PARTIALLY COMPLETED STORM DRAINS SHALL BE PROTECTED AT THE END OF EACH DAY IN ACCORDANCE WITH THESE DETAILS.

WAKE COUNTY NORTH CAROLINA

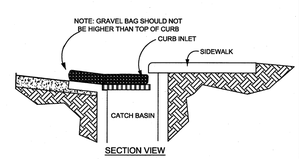
EFFECTIVE: 01/31/08

STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)



NOTES:

1. PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
2. USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH ¾ INCH (OR SMALLER) GRAVEL. BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.
4. WHEN INSTALLING CURB INLET PROTECTION DEVICES, **NEVER** BLOCK THE CURB INLET.



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD GRAVEL BAG CURB INLET PROTECTION

Know what's below. Call before you dig.

REV					
04/03/2023	INITIAL SUBMITTAL				
06/01/2023	PER TOWN OF ROLESVILLE COMMENT				

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

EROSION CONTROL DETAILS (2 OF 2)

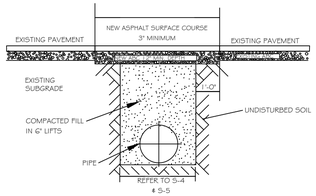
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — PRELIMINARY — DEBRA M. FERRIS

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 06/01/2023

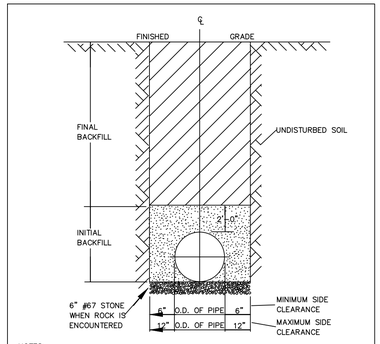
C8-3



NOTES:
1. IN NCDOT MAINTAINED ROADWAYS ENCROACHMENT PAVEMENT PATCH REQUIREMENTS SHALL TAKE PRECEDENCE.
2. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAWCUT MACHINE.
3. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
4. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-180 AS MODIFIED BY NCDOT.
5. THE ENTIRE THICKNESS AND VERTICAL EDGE OF CUT SHALL BE TACKED.
6. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
7. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
8. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING (S-4 & S-5) FOR ADDED TRAIL DETAILS.
9. NO HAND PATCHING ALLOWED.
10. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD ASPHALT PAVEMENT PATCH DETAIL

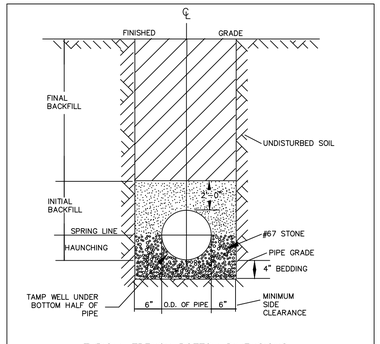
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-3	D.W.C.	1-1-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S.	10-5-10



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL, AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	D.W.C.	9-3-99		
	RRH	3-30-00		

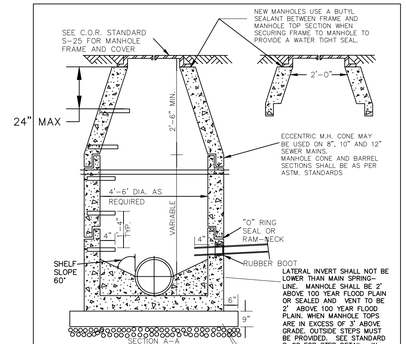


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

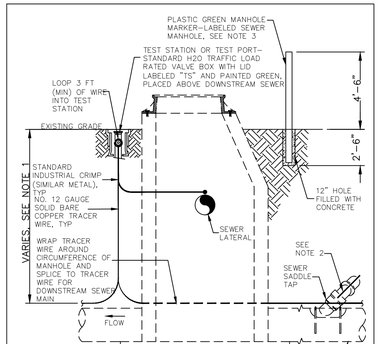
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

DWG. NO.	REVISIONS TO NOTES	DATE	REVISIONS	DATE
S-5		3-1-87	D.W.C.	9-3-99
		7-2-92	RRH	3-30-00



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD PRECAST SANITARY SEWER MANHOLE

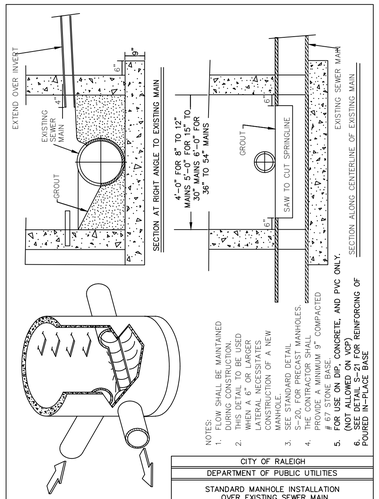
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-90	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7-8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
2. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO TO BE PLACED BETWEEN THE SADDLE AND MAIN.
3. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER

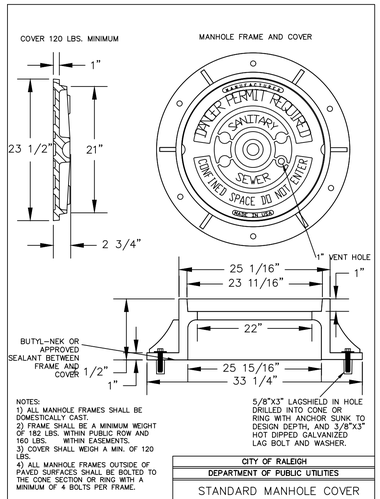
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WKD	09-14		



NOTES:
1. FLOW SHALL BE MAINTAINED THROUGH THE MANHOLE WHEN THIS DETAIL TO BE USED
2. WHEN A 8" OR LARGER LATERAL EXISTS AT CONSTRUCTION OF A NEW MANHOLE.
3. SEE STANDARD DETAIL S-20 FOR PRECAST MANHOLES
4. THE CONTRACTOR SHALL PROVIDE A MINIMUM 9" COMPACTED #67 STONE BASE.
5. FOR USE ON DIP, CONCRETE, AND PVC ONLY. (NOT ALLOWED ON VCP)
6. FOR REINFORCING OF EXISTING PIPE SEE STD. S-2 FOR POURED IN PLACE PIPE BASE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE INSTALLATION OVER EXISTING SEWER MAIN

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-22	Y.C.A.	12-31-91	A.B.B.	1-19-05
	RRH	3-30-00	D.H.L.	6/16/08

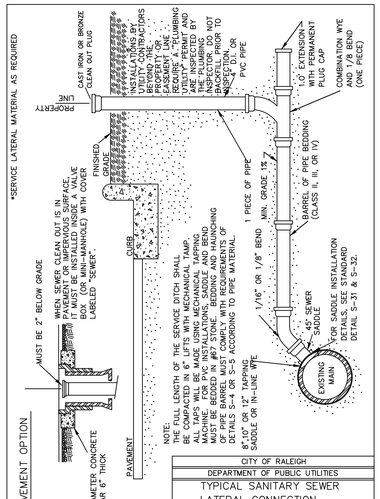


NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 3/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE COVER

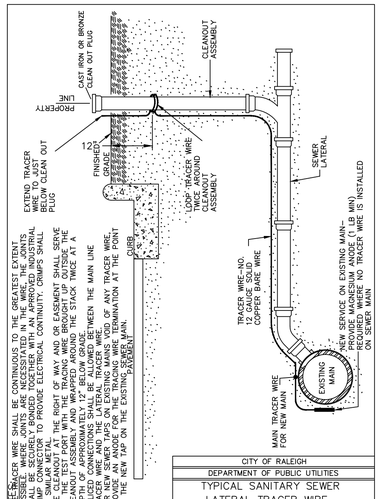
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25		3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



NOTE:
THE FULL LENGTH OF THE SERVICE DITCH SHALL BE COMPACTED IN 6" LIFTS WITH MECHANICAL TAMP MACHINE. FOR PVC INSTALLATIONS, SADDLE MUST BE BEDDED IN #67 STONE. BEDDING AND HAUNCHING MUST BE PLACED AS PER DETAILS S-4 OR S-5 ACCORDING TO PIPE MATERIAL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL CONNECTION

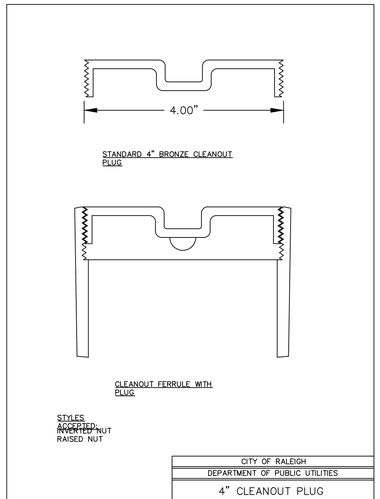
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-92	A.B.B.	4-6-04
	RRH	3-30-00	D.H.L.	6-18-08



NOTES:
1. TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. ALL JOINTS ARE CONSOLIDATED IN THE WIRE. SHALL BE SECURELY BONDED TOGETHER WITH AN APPROVED INDUSTRIAL CRIMP CONNECTOR. CONTINUITY OF SIGNAL SHALL BE SIMILAR METAL.
2. LOOP 3 FT OF WIRE AT TEST PORT WITH THE TRACING WIRE AT THE TEST PORT WITH THE TRACING WIRE BROUGHT UP CLEANOUT ASSEMBLY AND WRAPPED AROUND THE STACK TWICE. LOOP 3 FT OF WIRE AT THE POINT OF TERMINATION AT THE TEST PORT.
3. SPLICED CONNECTIONS SHALL BE ALLOWED BETWEEN THE TRACER WIRE ON EXISTING MAIN AND THE TRACER WIRE ON NEW MAIN, AS NEEDED.
4. FOR NEW SERVICE ON EXISTING MAIN, PROVIDE AN ANODE FOR THE TRACING WIRE. TERMINATE OF THE NEW TWP ON THE EXISTING SEWER MAIN.

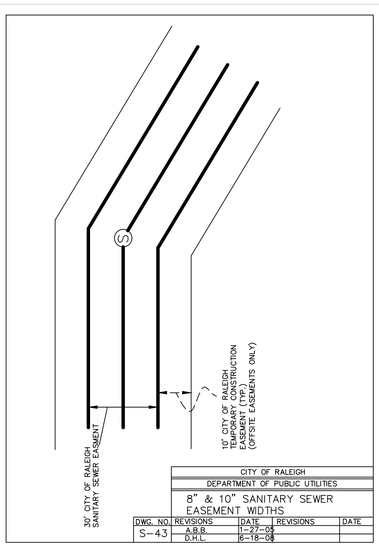
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL TRACER WIRE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	9-14		



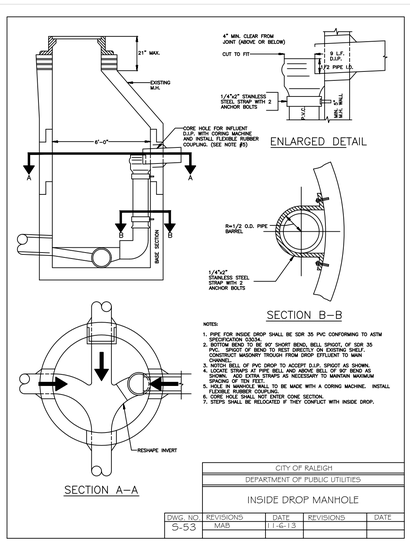
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" CLEANOUT PLUG

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34	D.W.C.	3-1-87	RRH	3-30-00
		3-27-98		



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
8" & 10" SANITARY SEWER EASEMENT WIDTHS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-43	A.B.B.	1-27-03		
	D.H.L.	6-18-08		



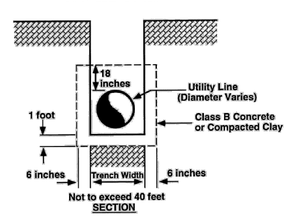
NOTES:
1. PIPE FOR INSIDE DROP SHALL BE SDR 35 PVC CONFORMING TO ASTM SPECIFICATION D3034.
2. BOTTOM BEND TO BE 90° SHORT BEND, BELL SPIGOT, OF SDR 35 PVC. SPIGOT OF BEND TO REST DIRECTLY ON EXISTING SHELF. CONSTRUCT MASONRY TROUGH FROM DROP EFFLUENT TO MAIN CHANNEL.
3. NOTCH BELL OF PVC DROP TO ACCEPT D.I.P. SPIGOT AS SHOWN. ADD EXTRA STRAPS AS NECESSARY TO MAINTAIN MAXIMUM SPACING OF TEN FEET.
4. HOLE IN MANHOLE WALL TO BE MADE WITH A CORING MACHINE. INSTALL FLEXIBLE RUBBER COUPLING.
5. DROP PIPE SHALL NOT ENTER CONE SECTION.
6. STEPS SHALL BE RELOCATED IF THEY CONFLICT WITH INSIDE DROP.

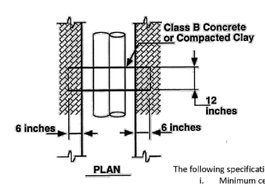
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
INSIDE DROP MANHOLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-53	MAB	1-16-13		

GC4276

ANTI-SEEP COLLAR





The following specifications shall apply to class B concrete:
- i. Minimum cement content, sacks per cubic yard with rounded coarse aggregate 5.0
- ii. Minimum cement content, sacks per cubic yard with angular coarse aggregate 5.5
- iii. Maximum water-cement ratio gallons per sack 6.8
- iv. Slump range 2" to 4"
- v. Minimum strength - 28-day psi 2,500

REV	DATE	
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGENC.COM
NC LICENSE #C-4397

LENNAR CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

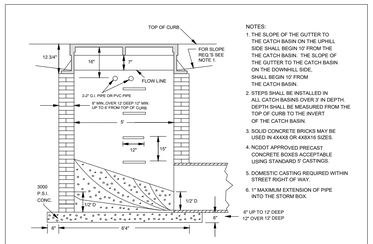
SEWER DETAIL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DEBRA M. FERRELL
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023

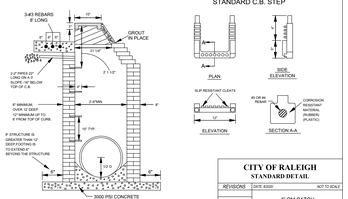
C8-4

811 Know what's below. Call before you dig.

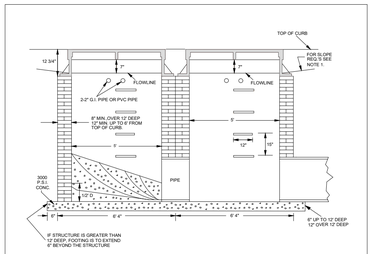


NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4X4X8 OR 4X8X16 SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
6. 1" MAXIMUM EXTENSION OF PIPE INTO THE STORM BOX.

STANDARD C.B. STEP

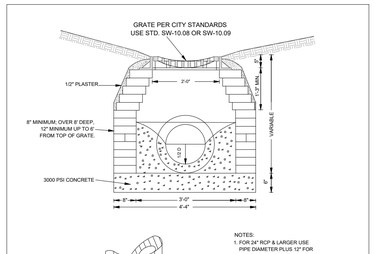


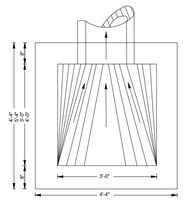
CITY OF RALEIGH STANDARD DETAIL
5' OM CATCH BASIN
SW-10.01



NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4" X 4" X 8" OR 4" X 8" X 16" SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE. USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.

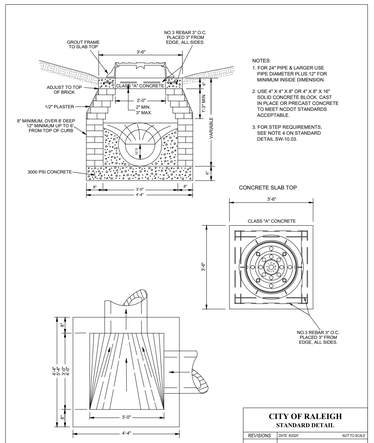
CITY OF RALEIGH STANDARD DETAIL
DOUBLE WIDTH CATCH BASIN
SW-10.02





NOTES:
1. FOR 24" RCP & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. 24" X 24" CASTING WITH 12", 15" & 18" PIPE, 24" X 36" CASTING USED WITH 24" PIPE OR LARGER. IF PLACED WITHIN PUBLIC R/W CASTING MUST BE TRAFFIC BEARING TYPE PER NCDOT STANDARDS.
3. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET N.C.D.O.T. STANDARDS ACCEPTABLE.
4. STEPS SHALL BE INSTALLED IN ALL DROP INLETS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF GRATE TO THE INVERT OF THE DROP INLET.

CITY OF RALEIGH STANDARD DETAIL
STANDARD DROP INLET
SW-10.03

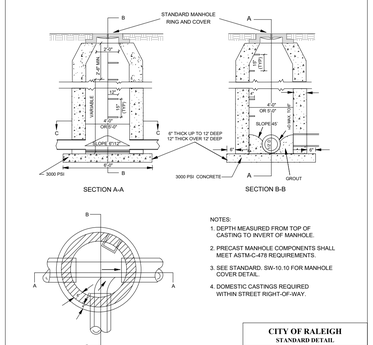


NOTES:
1. FOR 24" RCP & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET NCDOT STANDARDS ACCEPTABLE.
3. FOR STEP REQUIREMENTS SEE NOTE 4 ON STANDARD DETAIL SW-10.03.

CITY OF RALEIGH STANDARD DETAIL
STANDARD JUNCTION BOX
SW-10.04

TYPICAL MH FOR STORM SEWER

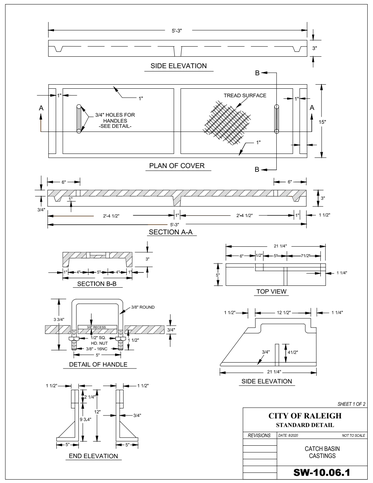
PIPE SIZE	MH DIAMETER
12-24"	4'-0"
30-42"	5'-0"
48"	6'-0"
54"	8'-0"



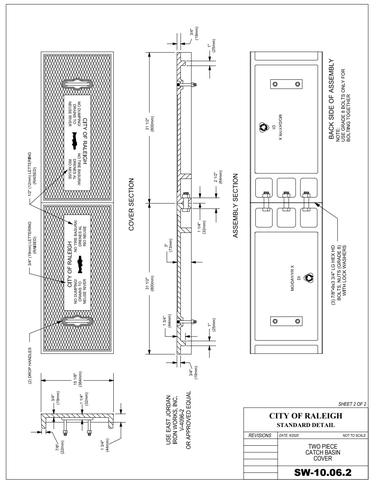
TYPE A
SECTION C-C

NOTES:
1. DEPTH MEASURED FROM TOP OF CASTING TO INVERT OF MANHOLE.
2. PRECAST MANHOLE COMPONENTS SHALL MEET ASTM-C-478 REQUIREMENTS.
3. SEE STANDARD. SW-10.10 FOR MANHOLE COVER DETAIL.
4. DOMESTIC CASTINGS REQUIRED WITHIN STREET RIGHT-OF-WAY.

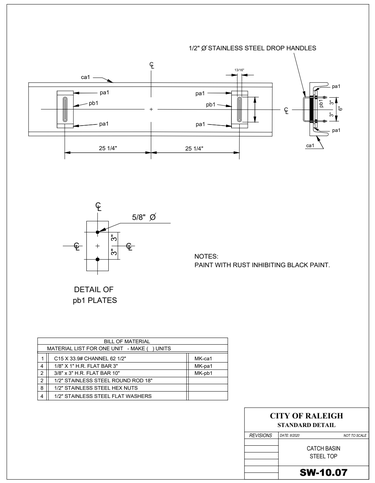
CITY OF RALEIGH STANDARD DETAIL
STANDARD CLASS "A" MANHOLE
SW-10.05



CITY OF RALEIGH STANDARD DETAIL
CATCH BASIN CASTINGS
SW-10.06.1



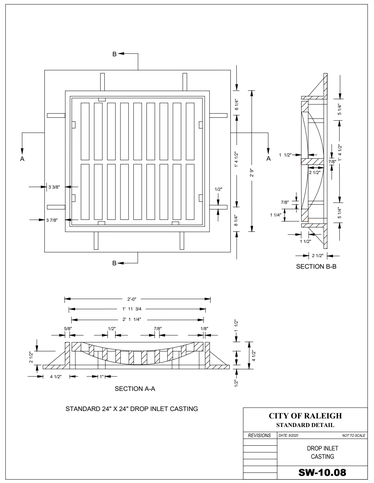
CITY OF RALEIGH STANDARD DETAIL
TWO PIECE CATCH BASIN COVER
SW-10.06.2



NOTES:
PAINT WITH RUST INHIBITING BLACK PAINT.

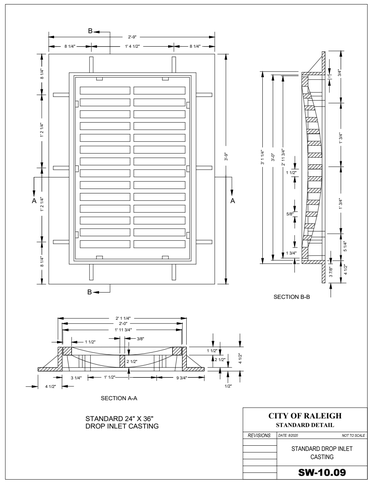
BILL OF MATERIAL		
MATERIAL LIST FOR ONE UNIT - MAKE ( ) UNITS		
1	C15 X 33.9# CHANNEL 62 1/2"	MK-ca1
4	1/8" X 1" H.R. FLAT BAR 3"	MK-pa1
2	3/8" x 3" H.R. FLAT BAR 10"	MK-pb1
2	1/2" STAINLESS STEEL ROUND ROD 18"	
8	1/2" STAINLESS STEEL HEX NUTS	
4	1/2" STAINLESS STEEL FLAT WASHERS	

CITY OF RALEIGH STANDARD DETAIL
CATCH BASIN STEEL TOP
SW-10.07



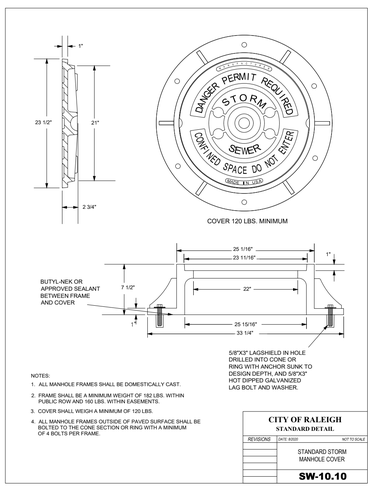
STANDARD 24" X 24" DROP INLET CASTING

CITY OF RALEIGH STANDARD DETAIL
DROP INLET CASTING
SW-10.08



STANDARD 24" X 36" DROP INLET CASTING

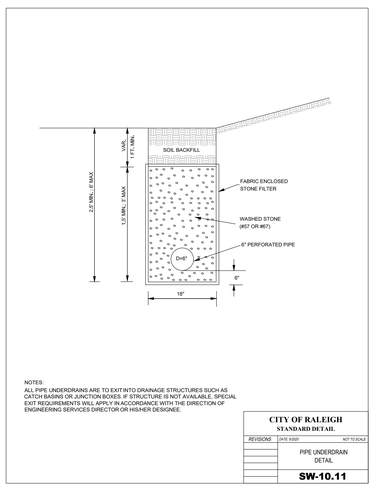
CITY OF RALEIGH STANDARD DETAIL
STANDARD DROP INLET CASTING
SW-10.09



COVER 120 LBS. MINIMUM

NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3. COVER SHALL WEIGH A MINIMUM OF 120 LBS.
4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACE SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH STANDARD DETAIL
STANDARD STORM MANHOLE COVER
SW-10.10

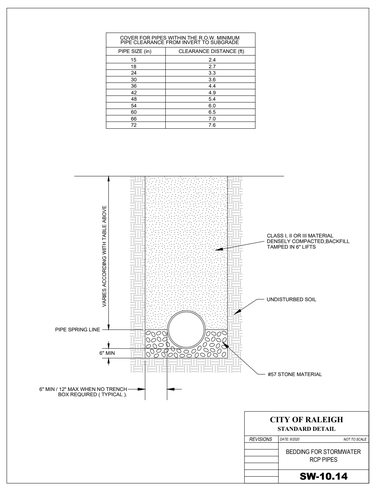


NOTES:
ALL PIPE UNDERDRAINS ARE TO EXIT INTO DRAINAGE STRUCTURES SUCH AS CATCH BASINS OR JUNCTION BOXES. IF STRUCTURE IS NOT AVAILABLE, SPECIAL EXIT REQUIREMENTS WILL APPLY IN ACCORDANCE WITH THE DIRECTION OF ENGINEERING SERVICES DIRECTOR OR HIS/HER DESIGNEE.

CITY OF RALEIGH STANDARD DETAIL
PIPE UNDERDRAIN DETAIL
SW-10.11

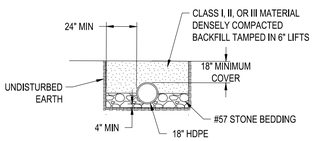
COVER FOR PIPES WITHIN THE R.O.W. MINIMUM PIPE CLEARANCE FROM INVERT TO SUBGRADE

PIPE SIZE (in)	CLEARANCE DISTANCE (ft)
15	2.4
18	2.7
24	3.3
30	4.1
36	4.4
42	4.9
48	5.4
54	6.0
60	6.5
66	7.0
72	7.6



CITY OF RALEIGH STANDARD DETAIL
BEDDING FOR STORMWATER RCP PIPES
SW-10.14

HDPE INSTALLATION DETAIL



HDPE INSTALLATION NOTES:
1. ALL HDPE CONSTRUCTION IS TO BE DONE IN COMPLIANCE WITH CITY OF RALEIGH STANDARDS FOR HDPE PIPE.
2. CONTRACTOR SHALL NOTIFY CITY OF RALEIGH 24 HOURS PRIOR TO HDPE PIPE INSTALLATION
3. TRANSITIONS OF HDPE TO RCP REQUIRE DISSIMILAR MATERIALS ADAPTER CONSISTING OF A MASTIC COATING AND STAINLESS STEEL STRAPS, AND A FULL CONCRETE ENCASEMENT AROUND CONNECTION.
4. ALL PIPE END TREATMENTS ARE TO BE REINFORCED CONCRETE MATERIAL.

Missing or invalid reference
File: ..\..\..\Blocks\36 - 7001-110-526 A.pdf
Sheet: 1

811 Know what's below. Call before you dig.

REV	REVISIONS	DATE
1	PER TOWN OF ROLESVILLE COMMENT	06/01/2023
0	INITIAL SUBMITTAL	04/03/2023

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGEINC.COM
NC LICENSE #C-4397

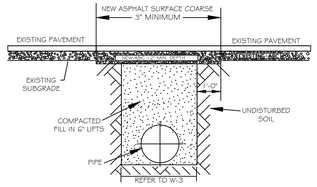
LENNAR CORPORATAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

STORM-DETAIL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DEBRA M. FERM
PRELIMINARY
NOT FOR CONSTRUCTION

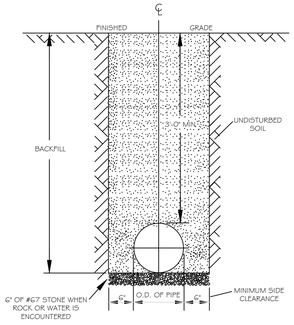
FILE NUMBER: 8430-03
DATE: 06/01/2023
C8-5



NOTES:
1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-180 AS MODIFIED BY NCDOT.
4. THE ENTIRE THICKNESS/ VERTICAL EDGE OF CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
7. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3, FOR ADDITIONAL DETAILS.
8. NO HAND PATCHING ALLOWED.
9. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD ASPHALT PAVEMENT PATCH DETAIL

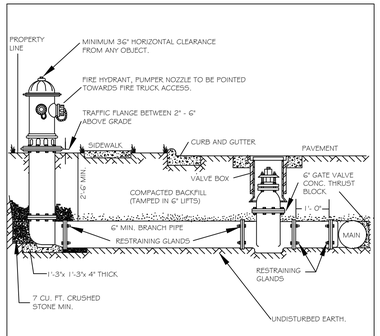
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-2	RRH	3-31-00	A.D.S.	4-12-04
	D.W.C.	1-1-99	J.P.S.	10-29-10



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10

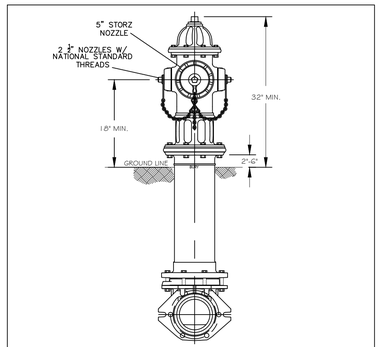


NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MIH, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
3. 6" GATE VALVE SHALL BE AWWA C500-96 OPEN LEFT
4. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2' FOOT EASEMENT ADJACENT TO ROW

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE ELEVATION OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD FIRE HYDRANT INSTALLATION DETAIL

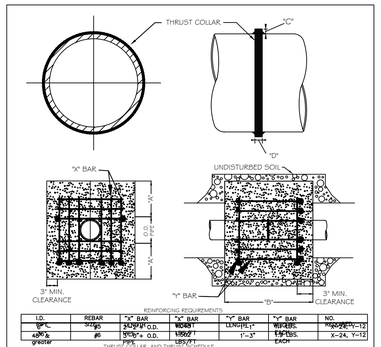
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	PAP	2/7/09
	DHL	2/1/05		



NOTES:
1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.
2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
RALEIGH, GARNER, KNIGHTDALE, ROLESVILLE, WAKE FOREST, WENDELL & ZEBULON
STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-5	MAR	6-30-16		
	KAT	9-15-17		



REINFORCING REQUIREMENTS

I.D.	REBAR	"X" BAR	"X" BAR	"Y" BAR	"Y" BAR	NO.
16" &	#4@5	24"@9" O.D.	1000'	11/4"(FL)+	1'-3"	X=24, Y=12
48" & greater	#6	36"@4" O.D.	1950'	1'-3"	1'-3"	X=24, Y=12
			LBS/FT		LBS.	EACH

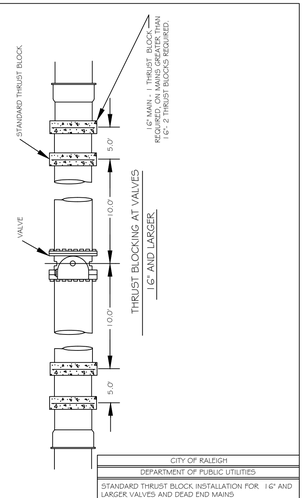
THRUST COLLAR AND THRUST BLOCK SCHEDULE

I.D. PIPE	"A"	"B"	"C"	"D"
6" - 16"	1'-4"	1'-7"	3"	5/8"
20" - 24"	1'-4"	1'-7"	3"	1/2"
30" - 36"	1'-4"	1'-7"	4"	5/8"
48" & greater	1'-5"	1'-9"	6"	7/8"

NOTES:
1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3.
5. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3.
6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

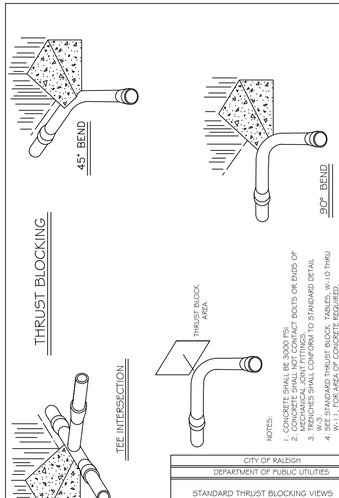
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
THRUST BLOCKING DESIGN DATA FOR WATER MAINS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-7	RRH	3-31-00	J.P.S.	11-1-10
	D.H.L.	6-18-08		



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD THRUST BLOCK INSTALLATION FOR 16" AND LARGER VALVES AND DEAD END MAINS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-8	Y.C.A.	4-12-90	D.W.C.	9-7-99
	C-92		RRH	3-31-00



NOTES:
1. CONCRETE SHALL BE 3000 PSI.
2. THRUST BLOCKS SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-13, FOR AREA OF CONCRETE REQUIRED.
4. ALL LOWER BEND DIRECTIONS SHALL HAVE
5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD THRUST BLOCKING VIEWS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-9	D.W.C.	3-1-87	RRH	3-31-00
		9-7-99	D.H.L.	6-18-08

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 P.S.I.

ALL AREAS GIVEN IN SQUARE FEET

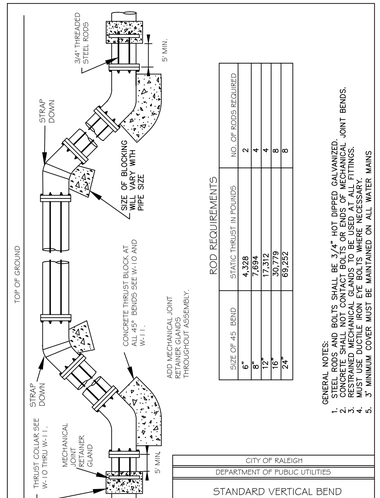
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MUCK/FLUIDS DRY CLAY 1000 LBS/FT²	SOFT CLAY 2000 LBS/FT²	SAND, LOSE SILT, SEAM, COARSE SAND 3000 LBS/FT²	SANDY CLAY, SILT, STIFF CLAY 4000 LBS/FT²	SAND, COMPACT, FIRM 6000 LBS/FT²	SAND, CLEAN, DRY 2000 LBS/FT²	SOIL LOOSE 1000 LBS/FT²	ROCK, POOR SHOCKING 10,000 LBS/FT²
6"									
11 1/4°	1,108	1	1	1	1	1	1	2	1
22 1/2°	2,207	1	2	2	1	1	1	3	1
45°	4,328	2	3	3	1	1	2	5	1
90°	7,996	2	4	5	1	1	2	8	1
PLUG	5,655	2	3	4	1	1	2	6	1
8"									
11 1/4°	1,970	1	1	2	1	1	1	2	1
22 1/2°	3,922	1	2	3	1	1	1	4	1
45°	7,694	2	4	5	1	1	2	8	1
90°	14,215	4	8	9	2	2	4	15	2
PLUG	10,053	3	5	6	2	2	3	10	1
12"									
11 1/4°	4,433	2	3	3	1	1	2	5	1
22 1/2°	8,826	3	5	6	2	2	3	9	1
45°	17,312	5	9	11	3	3	5	18	2
90°	31,983	8	16	19	4	4	8	32	4
PLUG	22,619	6	12	14	3	3	6	23	3
16"									
11 1/4°	7,881	2	4	5	1	1	2	8	1
22 1/2°	15,691	4	8	10	2	2	4	16	2
45°	30,779	8	16	19	4	4	8	31	4
90°	56,861	15	29	35	8	8	15	57	6
PLUG	40,213	10	21	25	5	5	10	41	5

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

USE 6" - 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
THRUST BLOCKING DESIGN QUANTITY TABLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-10	D.W.C.	6-23-99		



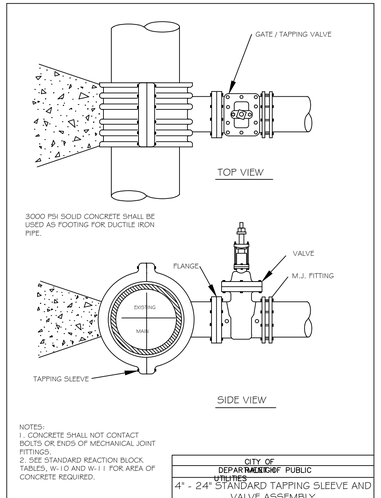
ROD REQUIREMENTS

SIZE OF 45 BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	6
24"	69,252	8

GENERAL NOTES:
1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. RESTRAINED MECHANICAL JOINT RESTRAINERS TO BE USED AT ALL BENDS, TEES, AND VALVES.
4. 3' MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD VERTICAL BEND

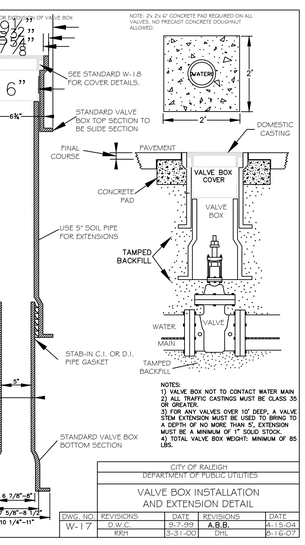
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-12	ABB	4-6-04	J.P.S.	11-1-10
	D.H.L.	6-18-08		



NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

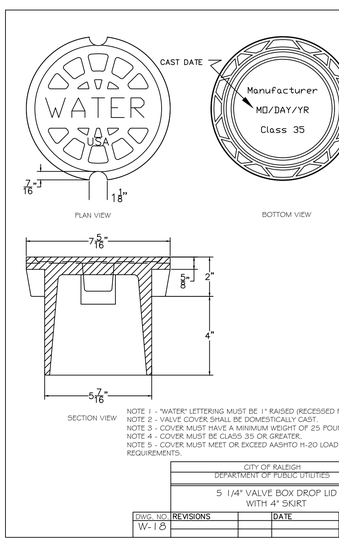
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-14	Y.C.A.	2-31-91	RRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10



NOTES:
1) VALVE BOX NOT TO CONTACT WATER MAIN.
2) ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER.
3) FOR ANY VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5', EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK.
4) TOTAL VALVE BOX WEIGHT: MINIMUM OF 85 LBS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
VALVE BOX INSTALLATION AND EXTENSION DETAIL

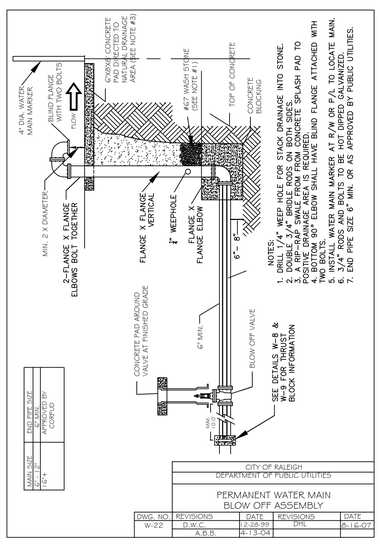
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-17	D.W.C.	9-7-99	A.B.B.	4-15-04
	RRH	3-31-00	DHL	6-16-07



NOTE 1 - "WATER" LETTERING MUST BE 1" RAISED (RECESSED PLUSH)
NOTE 2 - VALVE COVER SHALL BE DOMESTICALLY CAST.
NOTE 3 - COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
NOTE 4 - COVER MUST BE CLASS 35 OR GREATER.
NOTE 5 - COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
5 1/4" VALVE BOX DROP LID WITH 4" SKIRT

DWG. NO.	REVISIONS	DATE		
W-18				

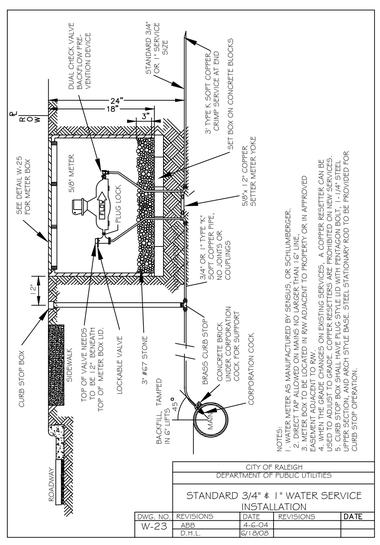


NOTES:
1. DRILL 1/4" WEEP HOLE FOR STACK DRAINAGE INTO STONE.
2. DOUBLE 3/4" BRIDLE RODS ON BOTH SIDES.
3. A RIP-RAP SHALE FROM CONCRETE SPLASH PAD TO FLOW DIRECTION FOR 10' MINIMUM.
4. BOTTOM 90° ELBOW SHALL HAVE BLIND FLANGE ATTACHED WITH TWO BOLTS.
5. INSTALL WATER MAIN MARKER AT R/W OR P/L TO LOCATE MAIN.
6. 3/4" RODS AND BOLTS TO BE HOT DIPPED GALVANIZED.
7. END PIPE SIZE 6" MIN. OR AS APPROVED BY PUBLIC UTILITIES.

MAR/5/97 | 1ND TYPE SIDE | 6" MAIN SIZE | 16" + | ADDED NOTE 6 BY CORPS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
PERMANENT WATER MAIN BLOW OFF ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-22	D.W.C.	12-28-99	DHL	6-16-07
	A.B.B.	4-13-04		



NOTES:
1. WATER METER AS MANUFACTURED BY SENSUS, OR SCHLUMBERGER.
2. DIRECT TAP ALLOWED ON MAINS NO LARGER THAN 12" LINE.
3. SERVICE LINE TO BE INSTALLED BY CONTRACTOR OR IN APPROVED EASEMENT ADJACENT TO R/W.
4. COPPER SERVICE LINES ON EXISTING SERVICES. A COPPER REDETTER CAN BE USED TO ADJUST TO GRADE. COPPER RESETTERS ARE PROHIBITED ON NEW SERVICES.
5. CURB STOP BOX SHALL HAVE PLUG STYLE LID WITH PENTAGON BOLT 1-1/4" STEEL. CONTRACTOR SHALL INSTALL A 12" TALL GRADE RISER, CONFORMING TO THE PROVIDED FOR CURB STOP OPERATION.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD 3/4" & 1" WATER SERVICE INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-23	ABB	4-6-04		
	D.H.L.	6/16/08		

4				06/01/2023	PER TOWN OF ROLESVILLE COMMENT
3					
2					
1					
				REV	04/03/2023 INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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82 SCHOOL STREET
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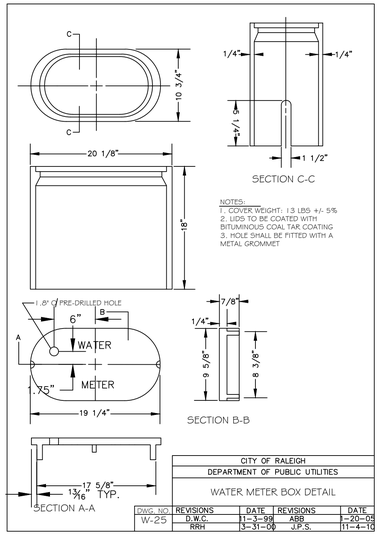
WATER DETAIL (1 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — PRELIMINARY — DEBRA M. FERN — NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C8-6

811 Know what's below. Call before you dig.

\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-6 - WATER DETAIL (1 OF 2).dwg Layout: C8-6 WATER DETAIL (1 OF 2) Plotted: 6/1/2023 3:36:48 PM



NOTES:
1. COVER WEIGHT: 13 LBS +/- 5%
2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING
3. HOLE SHALL BE FITTED WITH A METAL GROMMET

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
WATER METER BOX DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-25	D.W.C.	1-3-99	ABR	1-20-05
	RRH	3-31-09	J.P.S.	11-4-15

REV		DATE	
1		06/01/2023	PER TOWN OF ROLESVILLE COMMENT
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DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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WATER DETAIL (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
DEBRA M. FERR
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
C8-7

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LEGEND

- PASSIVE OPEN SPACE
- ACTIVE OPEN SPACE
- NATURAL RESOURCE AREAS
- PERIMETER BUFFER (INCLUDED IN PASSIVE OPEN SPACE)
- AREAS EXCLUDED FROM OPEN SPACE CALCULATION
- TYPICAL FITNESS STATION
- PROPOSED FUTURE GREENWAY CONNECTION
- OPEN SPACE LOT BOUNDARY

OPEN SPACE CALCULATIONS			
TOTAL SITE AREA	**85.27**	**AC**	
RM CLUSTER DISTRICT (SINGLE-FAMILY DETACHED)			
RM CLUSTER ZONING DISTRICT AREA	57.89	AC	
REQUIRED PASSIVE OPEN SPACE (12%)	6.95	AC	
REQUIRED ACTIVE OPEN SPACE (50% OF PASSIVE OPEN SPACE)	3.47	AC	
RH CLUSTER DISTRICT (TOWNHOMES)			
RH CLUSTER ZONING DISTRICT AREA	27.38	AC	
REQUIRED PASSIVE OPEN SPACE (15%)	4.11	AC	
REQUIRED ACTIVE OPEN SPACE (50% OF PASSIVE OPEN SPACE)	2.05	AC	
REQUIRED OPEN SPACE			
PASSIVE OPEN SPACE	11.05	AC	
ACTIVE OPEN SPACE	5.53	AC	
REQUIRED CLUSTER OPEN SPACE (40%)	34.11	AC	
PROVIDED OPEN SPACE			
PASSIVE OPEN SPACE	24.74	AC	
STORMWATER PONDS (5% MAXIMUM)	0.00	AC	0.00%
NATURAL RESOURCE AREAS (20% MAXIMUM)	3.85	AC	11.29%
ACTIVE OPEN SPACE	5.54	AC	
TOTAL PROVIDED OPEN SPACE	34.13	AC	

OPEN SPACE BREAKDOWN BY AREA

OPEN SPACE TYPE	OPEN SPACE #1	OPEN SPACE #2	OPEN SPACE #3	OPEN SPACE #4	OPEN SPACE #5	OPEN SPACE #6	OPEN SPACE #7	TOTAL AREA	PERCENTAGE	MAX ALLOWED
PASSIVE OPEN SPACE (AC)	13.43	0.34	2.79	1.21	0.47	0.6	5.9	24.74	NA	NA
STORMWATER PONDS (AC)	0	0	0	0	0	0	0	0	0.0%	5%
NATURAL RESOURCE AREAS (AC)	2.97	0	0.88	0	0	0	0	3.85	11.3%	20%
ACTIVE OPEN SPACE (AC)	1.73	0.33	0.82	0.73	0.16	0.32	1.45	5.54	NA	NA

N

0 75 150 300

SCALE: 1" = 150

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REV		
04/03/2023	INITIAL SUBMITTAL	
06/01/2023	PER TOWN OF ROLESVILLE COMMENT	

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REVIEWED BY: RZ

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OPEN SPACE PLAN

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036926 ROBERT C. ZAMWALT

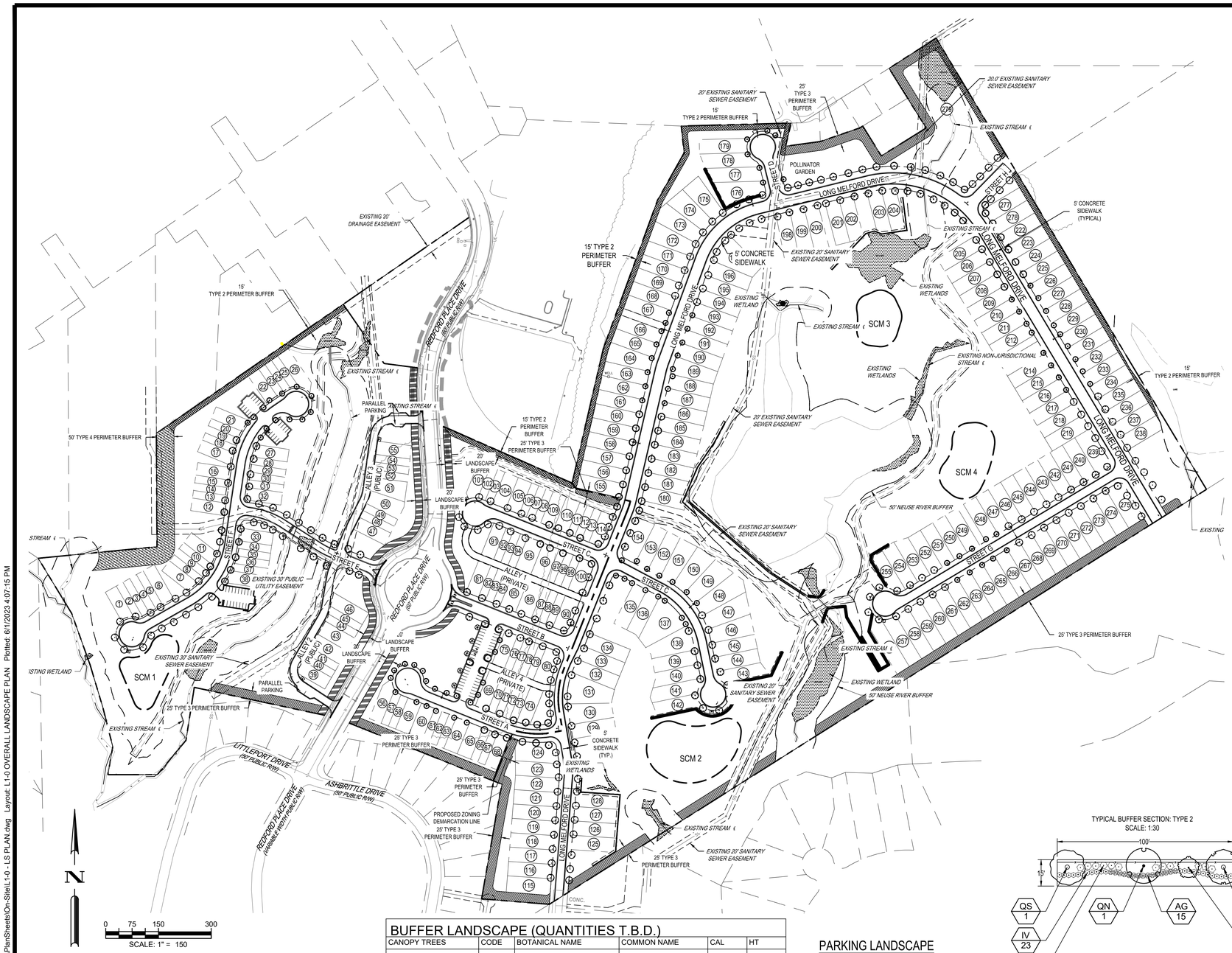
PRELIMINARY

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 06/01/2023

C9-0



PLANT SCHEDULE

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	KP	5	Koelreuteria paniculata	Golden Rain Tree	2" MIN.	8' MIN.
	PS	98	Pistacia chinensis	Chinese Pistache	2" MIN.	8' MIN.
	QC	81	Quercus coccinea	Scarlet Oak	2" MIN.	8' MIN.
	QF	61	Quercus falcata	Southern Red Oak	2" MIN.	8' MIN.
	QN	95	Quercus nuttallii	Nuttall Oak	2" MIN.	8' MIN.
	ZS	68	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8' MIN.
SHRUBS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**HT**	**SPR**
	AG	56	Abelia x grandiflora	Glossy Abelia	18-24"	18-24"
	IV	47	Ilex vomitoria 'Nana'	Dwarf Yaupon	18-24"	18-24"

LANDSCAPE BUFFERS

PERIMETER BUFFER TYPE 2: 15' WIDTH, 3,338 TOTAL LF
REQUIRED: 3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER 100 LF
6' FENCE
PROVIDED: *SEE NOTE BELOW

PERIMETER BUFFER TYPE 3: 25' WIDTH, 3,884 TOTAL LF
REQUIRED: 4 CANOPY TREES PER 100 LF
2 UNDERSTORY TREES PER 100 LF
60 SHRUBS PER 100 LF
6' WALL (6' FENCE PER ZONING)
PROVIDED: *SEE NOTE BELOW

PERIMETER BUFFER TYPE 4: 50' WIDTH, 517 TOTAL LF
REQUIRED: 8 CANOPY TREES PER 100 LF
4 UNDERSTORY TREES PER 100 LF
CONTINUOUS HEDGE
3' WALL + 5' BERM (6' FENCE PER ZONING)
PROVIDED: *SEE NOTE BELOW

STREET BUFFER - REDFORD PLACE DRIVE: 20' WIDTH, 2,037 LF OF FRONTAGE
REQUIRED: 1 STREET TREE EVERY 40 LF OF FRONTAGE
2,037 LF OF FRONTAGE / 40' = 23 TREES
PROVIDED: EXISTING STREET TREES SHALL SATISFY STREET TREE REQUIREMENT

* IF EXISTING CANOPY DOES NOT MEET BUFFER REQUIREMENTS, ADDITIONAL PLANTINGS MUST BE ADDED TO FULFILL BUFFER REQUIREMENTS (SEE TYPICAL BUFFER SECTIONS).

STREET TREES

REQUIRED: 1 STREET TREE EVERY 40 LF OF FRONTAGE

STREET A
REQUIRED: 918 LF OF FRONTAGE / 40' = 23 TREES
PROVIDED: 28 TREES

STREET B
REQUIRED: 554 LF OF FRONTAGE / 40' = 14 TREES
PROVIDED: 14 TREES

STREET C
REQUIRED: 1,722 LF OF FRONTAGE / 40' = 43 TREES
PROVIDED: 52 TREES

STREET D
REQUIRED: 292 LF OF FRONTAGE / 40' = 7 TREES
PROVIDED: 7 TREES

STREET E
REQUIRED: 704 LF OF FRONTAGE / 40' = 18 TREES
PROVIDED: 18 TREES

STREET F
REQUIRED: 1,660 LF OF FRONTAGE / 40' = 41 TREES
PROVIDED: 50 TREES

STREET G
REQUIRED: 1,528 LF OF FRONTAGE / 40' = 38 TREES
PROVIDED: 41 TREES

STREET H
REQUIRED: 264 LF OF FRONTAGE / 40' = 7 TREES
PROVIDED: 7 TREES

LONG MELFORD DRIVE
REQUIRED: 7,276 LF OF FRONTAGE / 40' = 182 TREES
PROVIDED: 182 TREES

BUFFER LANDSCAPE (QUANTITIES T.B.D.)

CANOPY TREES	CODE	BOTANICAL NAME	COMMON NAME	CAL	HT
	QS	Quercus shumardii	Shumard Oak	2" MIN.	8' MIN.
UNDERSTORY TREES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**CAL**	**HT**
	CC	Cercis canadensis	Eastern Redbud	1" MIN.	8' MIN.
	MS	Magnolia stellata	Star Magnolia	1" MIN.	8' MIN.
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**HT**	**SPR**
	IC	Ilex cornuta 'Burfordii Nana'	Dwarf Burford Holly	18-24"	18-24"
	IR	Ilex crenata 'Rotundifolia'	Japanese Holly	18-24"	18-24"
	IG	Ilex glabra	Inkberry Holly	18-24"	18-24"
	LC	Loropetalum chinense	Chinese Fringe Flower	18-24"	18-24"

PARKING LANDSCAPE

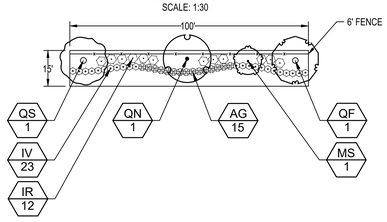
PARKING LOT 'A'
REQUIRED: PERIMETER SHRUBS 3' O.C.
ROADWAY SCREENING
PROVIDED: 56 SHRUBS

REQUIRED: 1 TREE / 150 SF OF PARKING ISLANDS
1,669 SF PARKING ISLANDS = 11 TREES
PROVIDED: 12 TREES

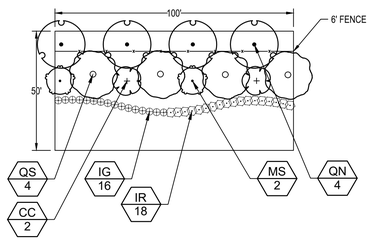
PARKING LOT 'B'
REQUIRED: PERIMETER SHRUBS 3' O.C.
ROADWAY SCREENING
PROVIDED: 56 SHRUBS

PARKING LOT 'C'
REQUIRED: PERIMETER SHRUBS 3' O.C.
ROADWAY SCREENING
PROVIDED: 28 SHRUBS

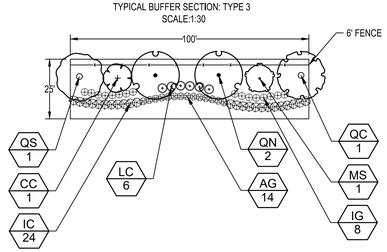
TYPICAL BUFFER SECTION: TYPE 2
SCALE: 1:30



TYPICAL BUFFER SECTION: TYPE 4
SCALE:1:30



TYPICAL BUFFER SECTION: TYPE 3
SCALE:1:30



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REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

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DRAWN BY: DF/JWM
REVIEWED BY: DF

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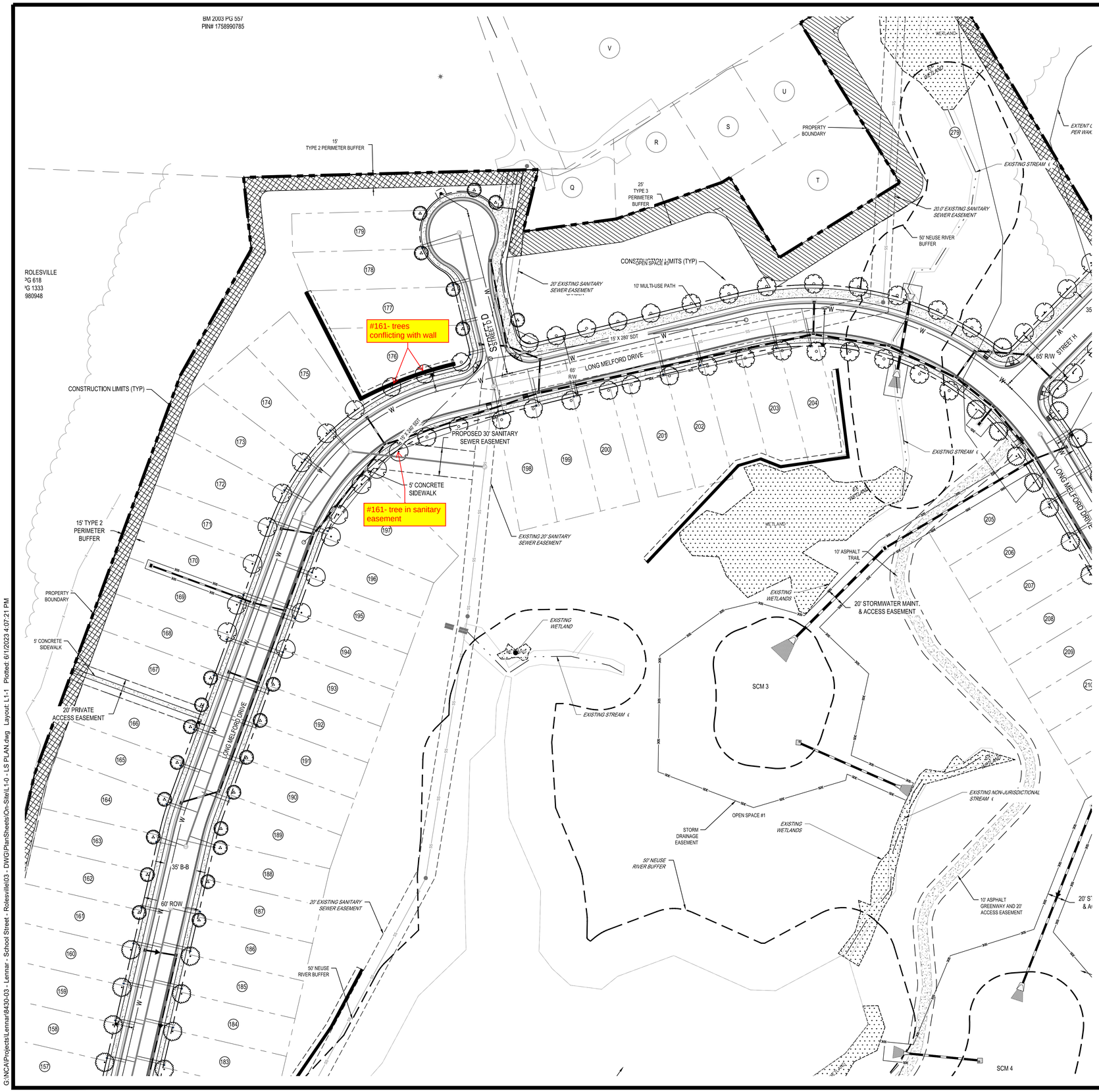
OVERALL LANDSCAPE PLAN

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. ZUMWALT
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-0

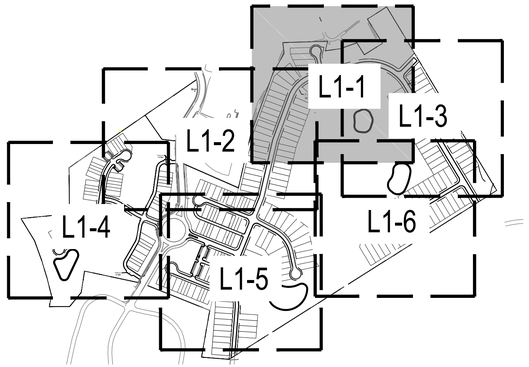


PLANT SCHEDULE L1-1

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	PS	23	Pistacia chinensis	Chinese Pistache	2" MIN.	8` MIN.
	QC	16	Quercus coccinea	Scarlet Oak	2" MIN.	8` MIN.
	QF	16	Quercus falcata	Southern Red Oak	2" MIN.	8` MIN.
	QN	20	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
	ZS	18	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8` MIN.
SHRUBS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**HT**	**SPR**
	IP	72	Ilex pernyi	Perny Holly	24-36"	24-36"
	VR	79	Viburnum rhytidophyllum	Leatherleaf Viburnum	24-36"	24-36"

LANDSCAPE BUFFERS

- PERIMETER BUFFER TYPE 2 (15' WIDTH)
- PERIMETER BUFFER TYPE 3 (25' WIDTH)
- PERIMETER BUFFER TYPE 4 (50' WIDTH)
- STREET BUFFER (20' WIDTH)



N

0 25' 50' 100'
SCALE: 1" = 50'

811
Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
6	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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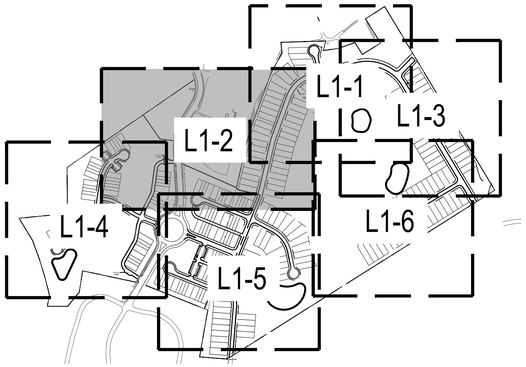
ENLARGED LANDSCAPE PLAN (1 OF 6)

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. ZUMWALT
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-1

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\L1-0 - LS PLAN.dwg Layout: L1-1 Plotted: 6/1/2023 4:07:21 PM



PLANT SCHEDULE L1-2

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	PS	37	Pistacia chinensis	Chinese Pistache	2" MIN.	8' MIN.
	QC	26	Quercus coccinea	Scarlet Oak	2" MIN.	8' MIN.
	QF	8	Quercus falcata	Southern Red Oak	2" MIN.	8' MIN.
	QN	14	Quercus nuttallii	Nuttall Oak	2" MIN.	8' MIN.
	ZS	30	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8' MIN.
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	HT	SPR
	IV	57	Ilex vomitoria 'Nana'	Dwarf Yaupon	18-24"	18-24"

LANDSCAPE BUFFERS

- PERIMETER BUFFER TYPE 2 (15' WIDTH)
- PERIMETER BUFFER TYPE 3 (25' WIDTH)
- PERIMETER BUFFER TYPE 4 (50' WIDTH)
- STREET BUFFER (20' WIDTH)

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REV		DESCRIPTION
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ENLARGED LANDSCAPE PLAN (2 OF 6)

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. JUNIOR
PRELIMINARY
NOT FOR CONSTRUCTION

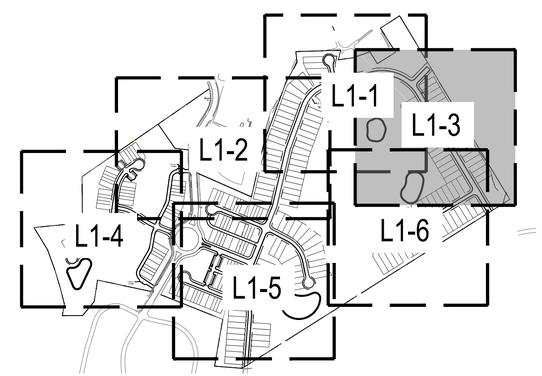
FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-2

PLANT SCHEDULE L1-3

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	PS	17	Pistacia chinensis	Chinese Pistache	2" MIN.	8` MIN.
	QC	24	Quercus coccinea	Scarlet Oak	2" MIN.	8` MIN.
	QF	2	Quercus falcata	Southern Red Oak	2" MIN.	8` MIN.
	QN	30	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
	ZS	16	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8` MIN.
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	HT	SPR
	IP	98	Ilex pernyi	Perny Holly	24-36"	24-36"
	VR	97	Viburnum rhytidophyllum	Leatherleaf Viburnum	24-36"	24-36"

LANDSCAPE BUFFERS

- PERIMETER BUFFER TYPE 2 (15' WIDTH)
- PERIMETER BUFFER TYPE 3 (25' WIDTH)
- PERIMETER BUFFER TYPE 4 (50' WIDTH)
- STREET BUFFER (20' WIDTH)



N

0 25' 50' 100'
SCALE: 1" = 50'

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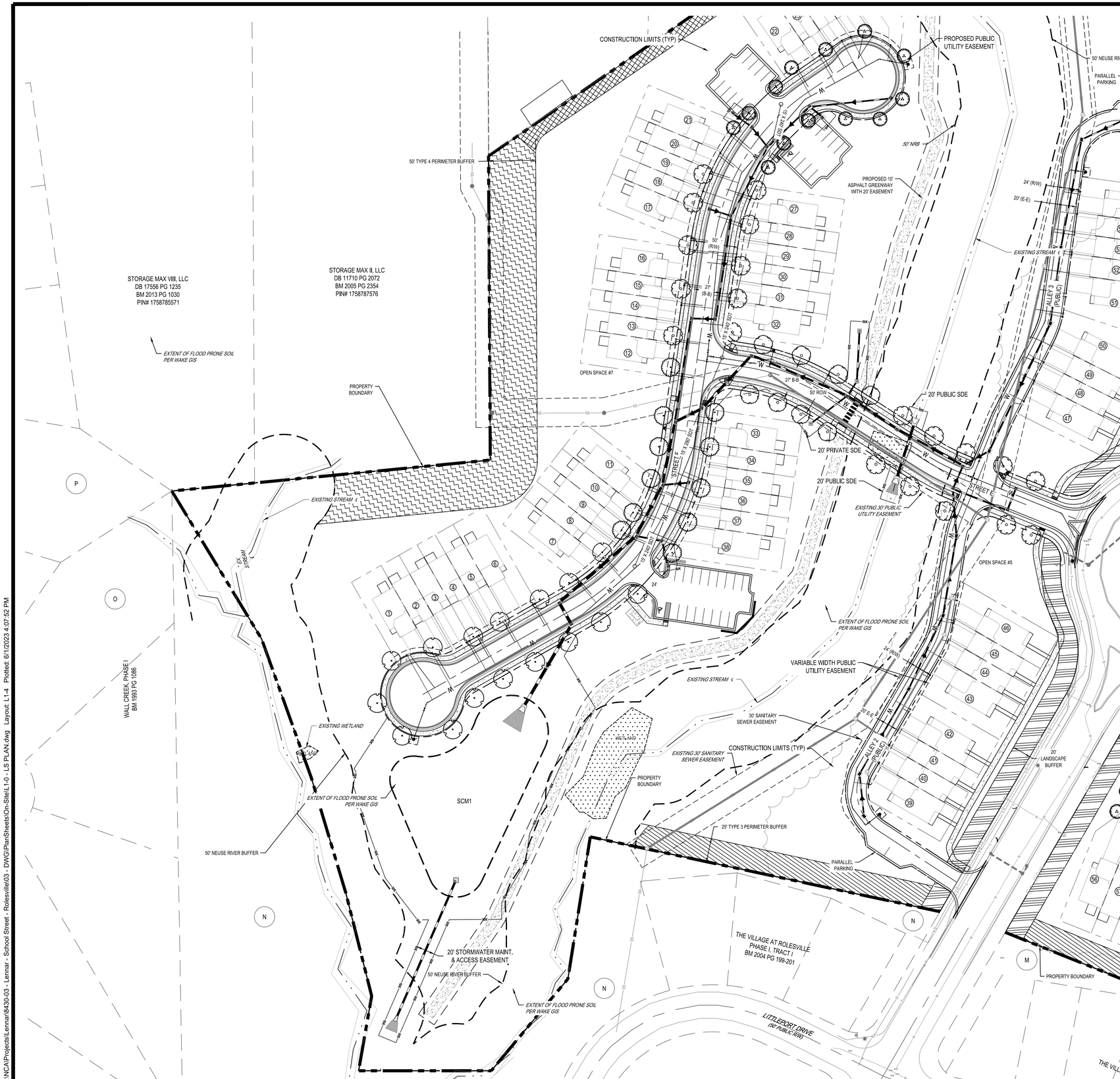
ENLARGED LANDSCAPE PLAN (3 OF 6)

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. ZUMWALT

PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-3

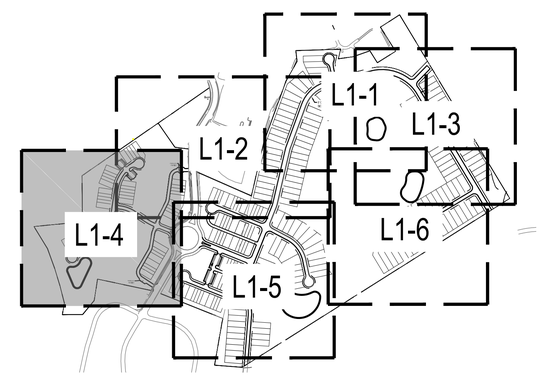


PLANT SCHEDULE L1-4

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	PS	13	Pistacia chinensis	Chinese Pistache	2" MIN.	8` MIN.
	QC	20	Quercus coccinea	Scarlet Oak	2" MIN.	8` MIN.
	QF	8	Quercus falcata	Southern Red Oak	2" MIN.	8` MIN.
	QN	16	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
	ZS	11	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8` MIN.
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	HT	SPR
	IP	61	Ilex pernyi	Perny Holly	24-36"	24-36"
	IV	84	Ilex vomitoria 'Nana'	Dwarf Yaupon	18-24"	18-24"
	VR	61	Viburnum rhytidophyllum	Leatherleaf Viburnum	24-36"	24-36"

LANDSCAPE BUFFERS

- PERIMETER BUFFER TYPE 2 (15' WIDTH)
- PERIMETER BUFFER TYPE 3 (25' WIDTH)
- PERIMETER BUFFER TYPE 4 (50' WIDTH)
- STREET BUFFER (20' WIDTH)



N

0 25' 50' 100'
SCALE: 1" = 50'

811
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REV	DATE	DESCRIPTION
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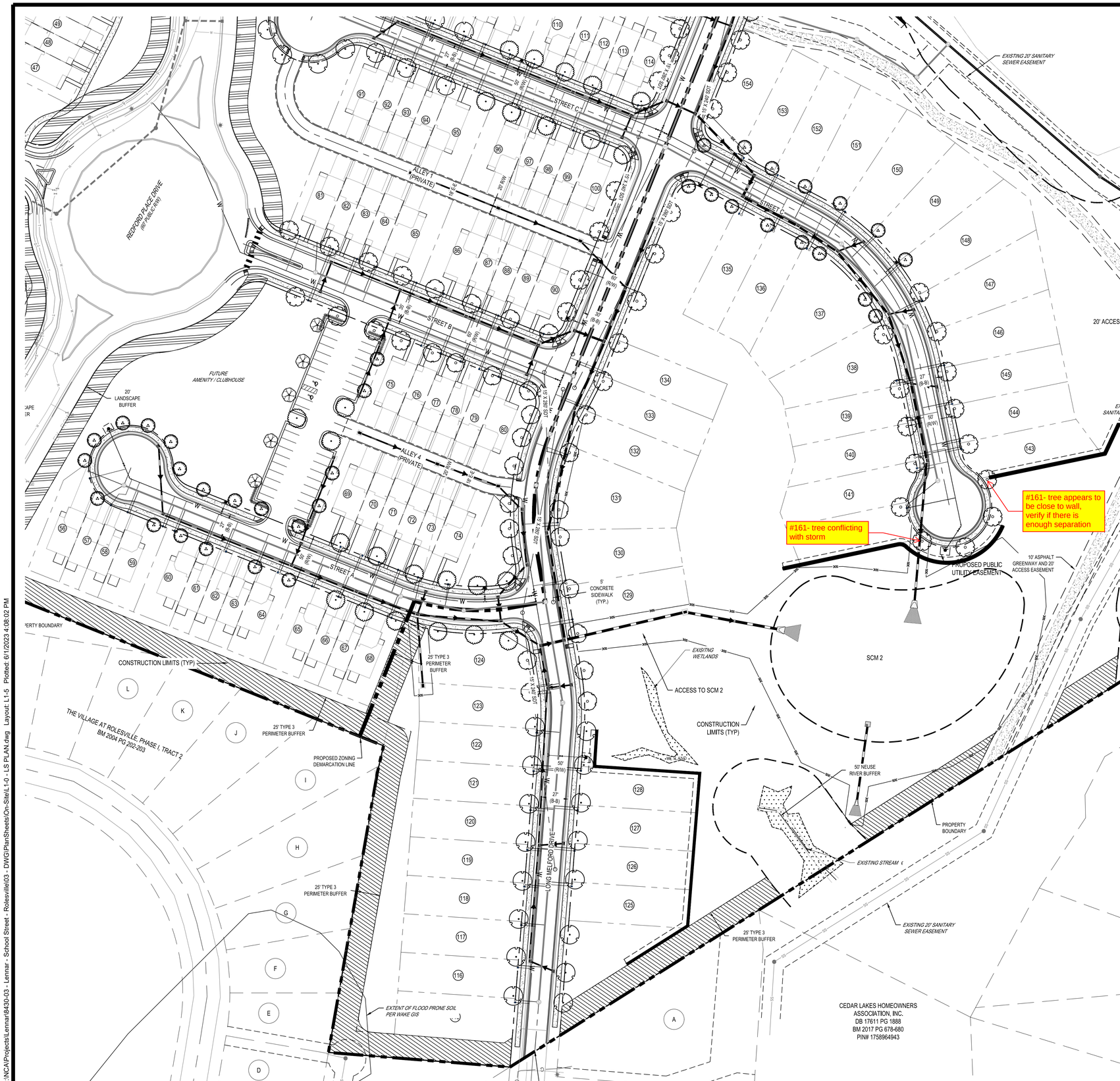
ENLARGED LANDSCAPE PLAN (4 OF 6)

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. JUNIUS
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-4



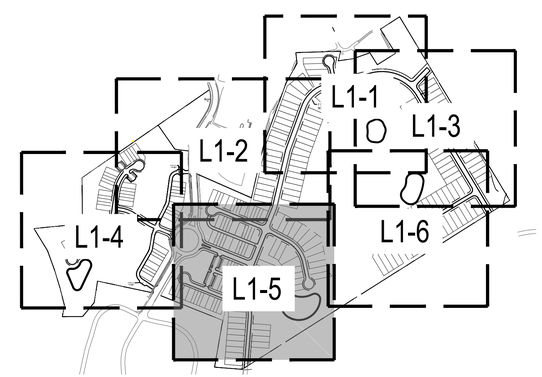
PLANT SCHEDULE L1-5

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	KP	5	Koelreuteria paniculata	Golden Rain Tree	2" MIN.	8` MIN.
	PS	35	Pistacia chinensis	Chinese Pistache	2" MIN.	8` MIN.
	QC	37	Quercus coccinea	Scarlet Oak	2" MIN.	8` MIN.
	QF	24	Quercus falcata	Southern Red Oak	2" MIN.	8` MIN.
	QN	25	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
	ZS	25	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8` MIN.

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	HT	SPR
	AG	56	Abelia x grandiflora	Glossy Abelia	18-24"	18-24"
	IP	67	Ilex pernyi	Perny Holly	24-36"	24-36"
	VR	63	Viburnum rhytidophyllum	Leatherleaf Viburnum	24-36"	24-36"

LANDSCAPE BUFFERS

- PERIMETER BUFFER TYPE 2 (15' WIDTH)
- PERIMETER BUFFER TYPE 3 (25' WIDTH)
- PERIMETER BUFFER TYPE 4 (50' WIDTH)
- STREET BUFFER (20' WIDTH)



N

0 25' 50' 100'
SCALE: 1" = 50'

811
Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGEINC.COM
NC LICENSE #C-4397

LENNAR CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

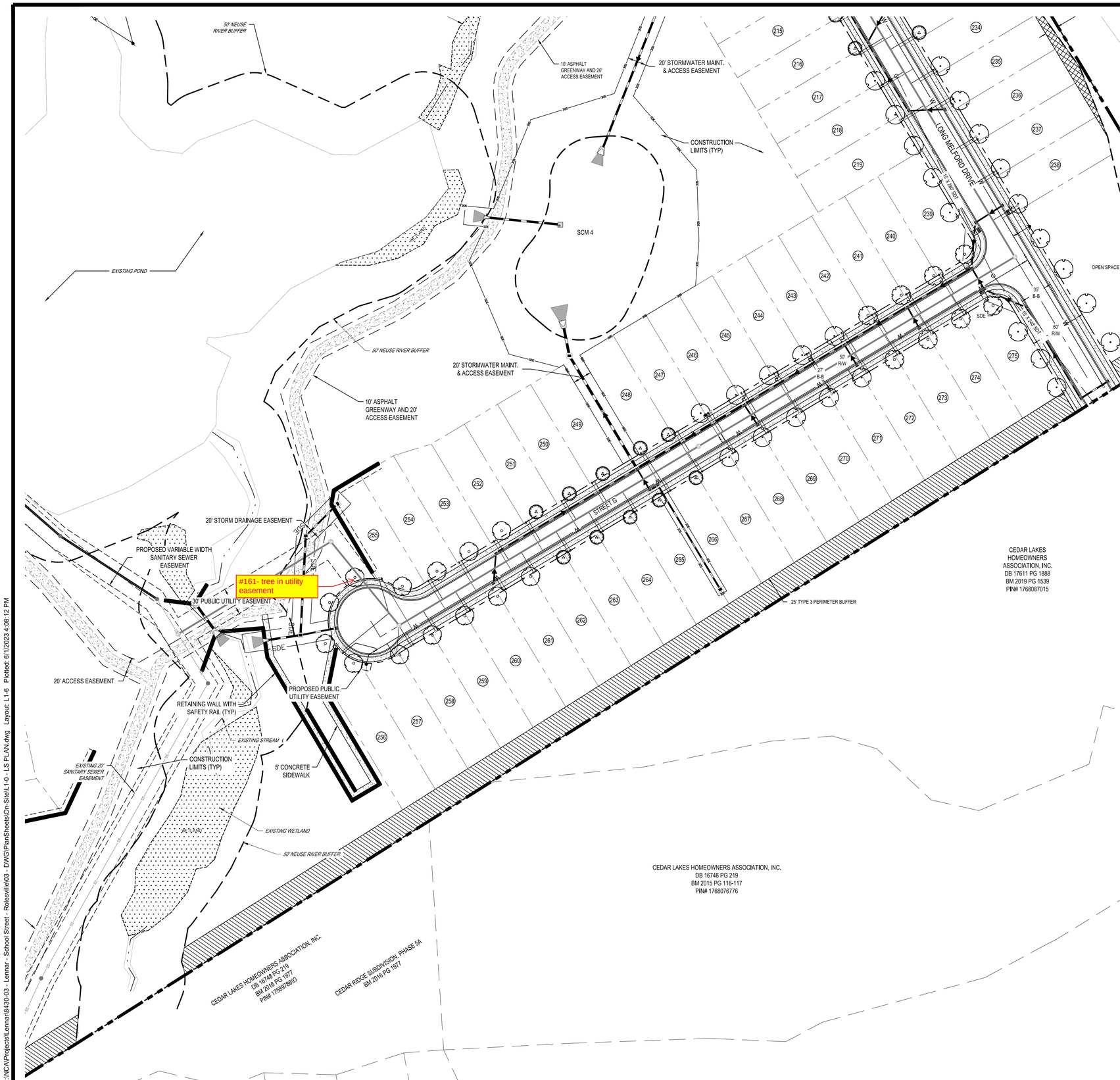
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

ENLARGED LANDSCAPE PLAN (5 OF 6)

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. ZUMWALT
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-5

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\L1-0 - LS PLAN.dwg Layout: L1-5 Plotted: 6/1/2023 4:08:02 PM



PLANT SCHEDULE L1-6

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	PS	12	Pistacia chinensis	Chinese Pistache	2" MIN.	8` MIN.
	QC	8	Quercus coccinea	Scarlet Oak	2" MIN.	8` MIN.
	QF	13	Quercus falcata	Southern Red Oak	2" MIN.	8` MIN.
	QN	27	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	HT	SPR
	IP	50	Ilex pernyi	Perny Holly	24-36"	24-36"
	VR	50	Viburnum rhytidophyllum	Leatherleaf Viburnum	24-36"	24-36"

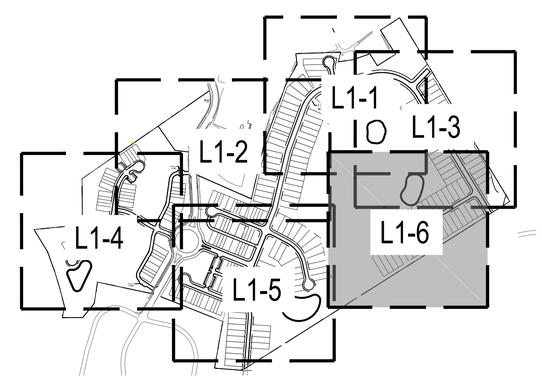
LANDSCAPE BUFFERS

PERIMETER BUFFER TYPE 2 (15' WIDTH)

PERIMETER BUFFER TYPE 3 (25' WIDTH)

PERIMETER BUFFER TYPE 4 (50' WIDTH)

STREET BUFFER (20' WIDTH)



N

0 25' 50' 100'
SCALE: 1" = 50'

811 Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
1	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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RALEIGH NC 27607
WWW.BGENC.COM
NC LICENSE #C-4397

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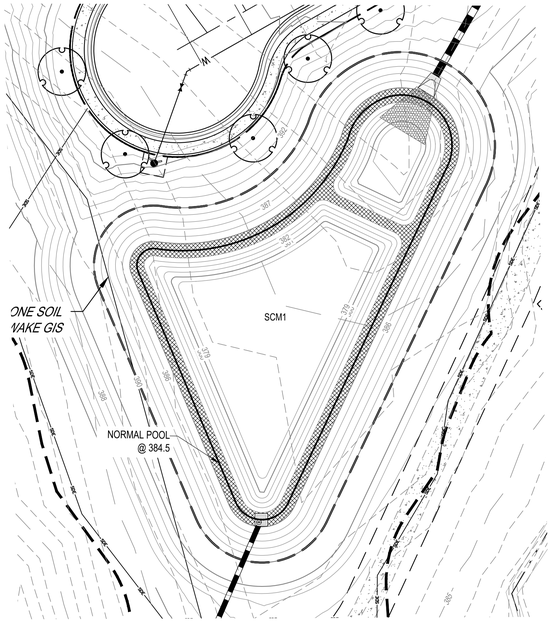
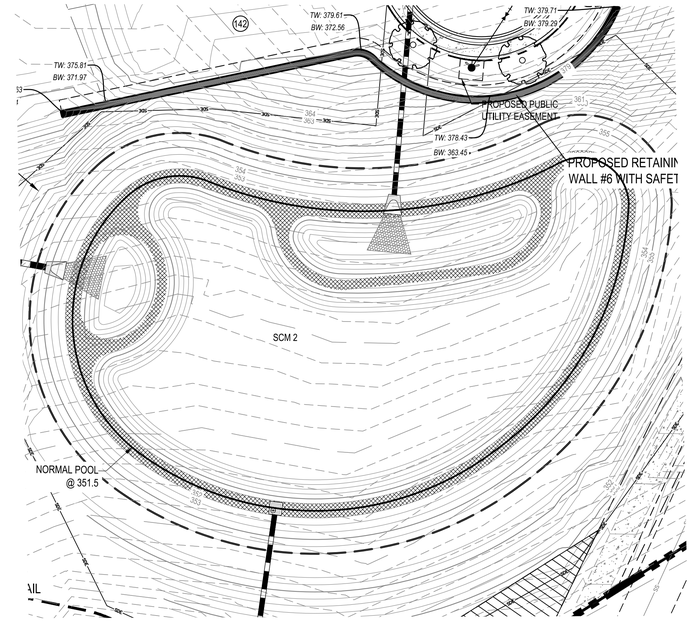
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

ENLARGED LANDSCAPE PLAN (6 OF 6)

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT ROBERT C. ZUMWALT
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-6





SCM 1 PLANTING CALCULATIONS

NORMAL POOL ELEVATION: 384.5'

VEGETATED SHELF: 3,065 S.F. (0.5' BELOW TO 0.5' ABOVE PERMANENT POND ELEV.)

REQUIRED: .25 PLANTS PER SQUARE FOOT
(3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 3,065 SF = 766 PLANTS
PROVIDED: (255) HC, (255) LC, (255) CT

SCM 1 PLANTING SCHEDULE

KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	CONT.
HC	255	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	24"Ø x 5" PLUG
LC	255	LOBELIA CARDINALIS	CARDINAL FLOWER	24"Ø x 5" PLUG
CT	255	CAREX TENERA	QUILL SEDGE	24"Ø x 5" PLUG

VEGETATED SHELF MIX

SCM 2 PLANTING CALCULATIONS

NORMAL POOL ELEVATION: 351.5'

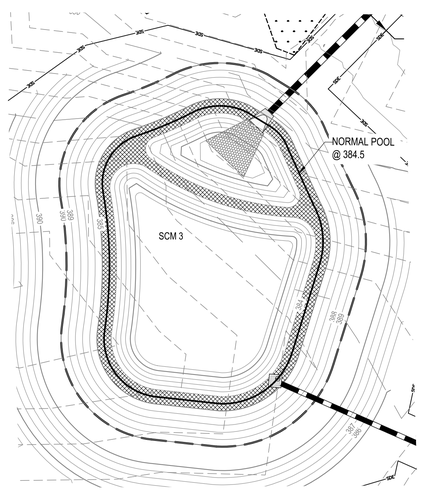
VEGETATED SHELF: 5,108 S.F. (0.5' BELOW TO 0.5' ABOVE PERMANENT POND ELEV.)

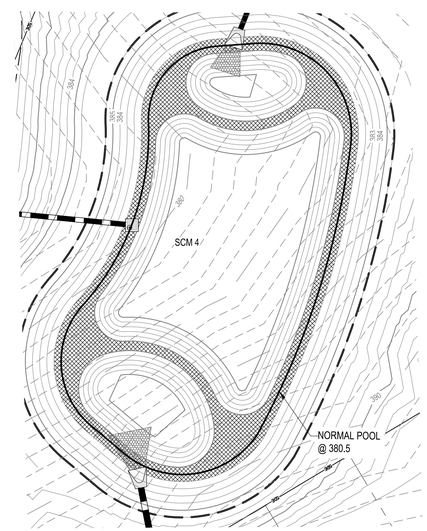
REQUIRED: .25 PLANTS PER SQUARE FOOT
(3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 5,108 SF = 1,277 PLANTS
PROVIDED: (426) HC, (426) LC, (426) CT

SCM 2 PLANTING SCHEDULE

KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	CON.
HC	426	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	24"Ø x 5" PLUG
LC	426	LOBELIA CARDINALIS	CARDINAL FLOWER	24"Ø x 5" PLUG
CT	426	CAREX TENERA	QUILL SEDGE	24"Ø x 5" PLUG

VEGETATED SHELF MIX





N

0 15' 30' 60'
SCALE: 1" = 30'

NOTES:
TREES AND WOODY SHRUBS ARE NOT PERMITTED ON THE DAM OR EMBANKMENT SLOPES AND ANY VOLUNTEERS SHOULD BE REMOVED AS PART OF REGULAR MAINTENANCE ACTIVITIES.
TREES AND SHRUBS MAY BE PLANTED OUTSIDE OF EMBANKMENT SLOPES AND CLEAR FROM MAINTENANCE EASEMENT.

SCM 3 PLANTING CALCULATIONS

NORMAL POOL ELEVATION: 384.5'

VEGETATED SHELF: 2,574 S.F. (0.5' BELOW TO 0.5' ABOVE PERMANENT POND ELEV.)

REQUIRED: .25 PLANTS PER SQUARE FOOT
(3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 2,574 SF = 644 PLANTS
PROVIDED: (215) HC, (215) LC, (215) CT

SCM 3 PLANTING SCHEDULE

KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	CON.
HC	215	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	24"Ø x 5" PLUG
LC	215	LOBELIA CARDINALIS	CARDINAL FLOWER	24"Ø x 5" PLUG
CT	215	CAREX TENERA	QUILL SEDGE	24"Ø x 5" PLUG

VEGETATED SHELF MIX

SCM 4 PLANTING CALCULATIONS

NORMAL POOL ELEVATION: 380.5'

VEGETATED SHELF: 4,398 S.F. (0.5' BELOW TO 0.5' ABOVE PERMANENT POND ELEV.)

REQUIRED: .25 PLANTS PER SQUARE FOOT
(3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 4,398 SF = 1,100 PLANTS
PROVIDED: (367) HC, (367) LC, (367) CT

SCM 4 PLANTING SCHEDULE

KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	CON.
HC	367	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	24"Ø x 5" PLUG
LC	367	LOBELIA CARDINALIS	CARDINAL FLOWER	24"Ø x 5" PLUG
CT	367	CAREX TENERA	QUILL SEDGE	24"Ø x 5" PLUG

VEGETATED SHELF MIX

811
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0	04/03/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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NC LICENSE #C-4397

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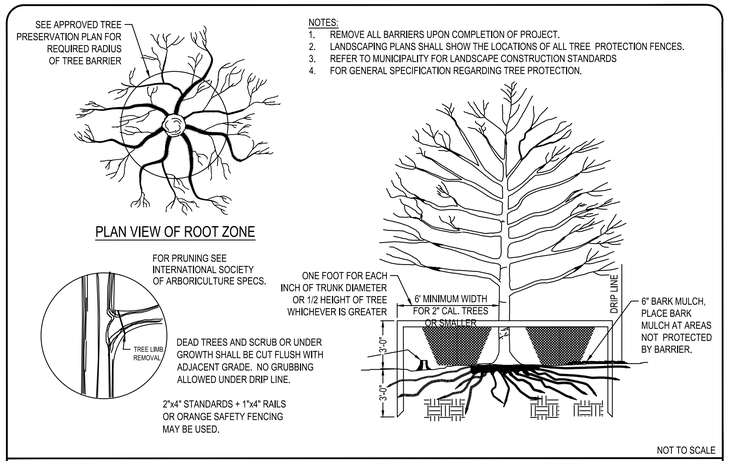
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SCM PLANTINGS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
NOT FOR CONSTRUCTION

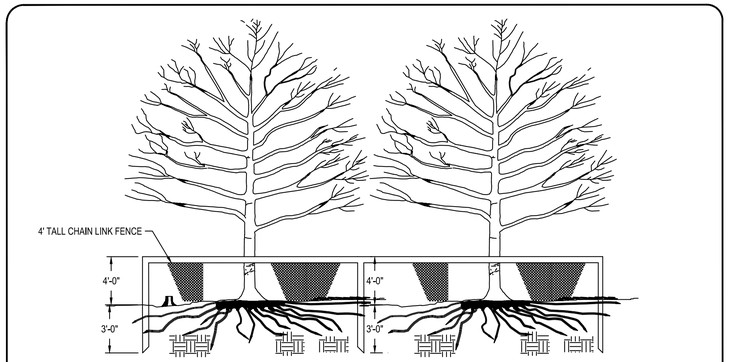
FILE NUMBER: 8430-03
DATE: 06/01/2023
L1-7



NOTES:
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
2. LANDSCAPING PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
3. REFER TO MUNICIPALITY FOR LANDSCAPE CONSTRUCTION STANDARDS
4. FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION.

NOT TO SCALE

TREE PROTECTION DETAIL



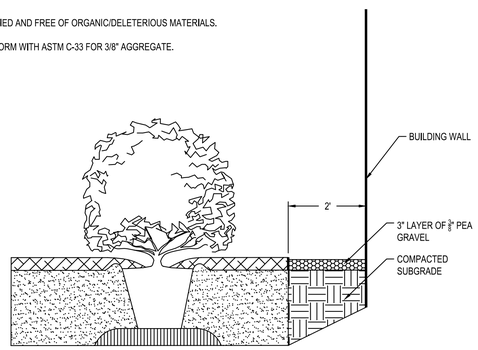
NOTES:
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT
2. LANDSCAPING PLANS SHALL SHO2W THE LOCATIONS OF ALL THREE PROTECTION FENCES
3. REFER TO MUNICIPALITY FOR LANDSCAPE CONSTRUCTION STANDARDS
4. FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION

NOT TO SCALE

TREE PROTECTION BARRICADE WITH 4' CHAIN LINK FENCE DETAIL

NOTES:

1. PEA GRAVEL SHALL BE DRIED AND FREE OF ORGANIC/DELETERIOUS MATERIALS.
2. PEA GRAVEL SHALL CONFORM WITH ASTM C-33 FOR 3/8" AGGREGATE.

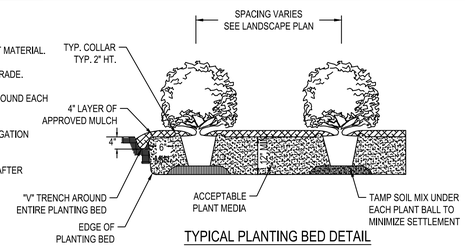


NOT TO SCALE

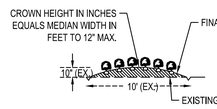
FOUNDATION PEA GRAVEL DETAIL

NOTES:

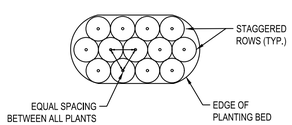
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINSHED GRADE.
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



TYPICAL PLANTING BED DETAIL



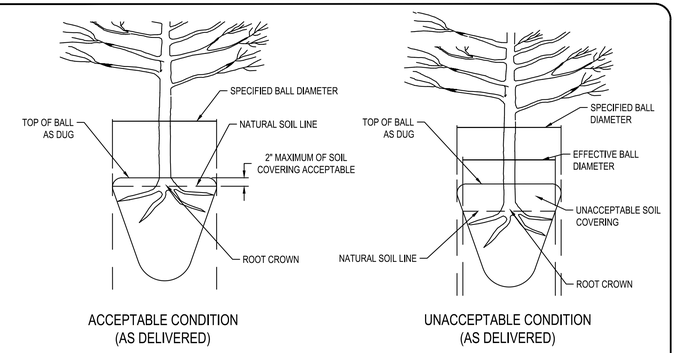
TYPICAL BED CROWNING



TYPICAL PLANTING BED PLAN

NOT TO SCALE

SHRUB PLANTING BED DETAIL



ACCEPTABLE CONDITION (AS DELIVERED)

UNACCEPTABLE CONDITION (AS DELIVERED)

NOTE:
A ROOT FLARE EXCAVATION FOR ALL TREES SPECIFIED WILL BE DONE BY THE CITY ARBORIST TO ENSURE THAT TREES WERE NOT PLANTED/GROWN TOO DEEPLY AT SOURCE (NURSERY). LANDSCAPE CONTRACTOR SHALL HAVE SUPPLIER MARK GROUND LEVEL LINE ABOVE ROOT BALL. IF CITY ARBORIST DETERMINES THAT THERE IS EXCESSIVE SOIL OVER THE ROOT CROWN, THESE TREES WILL BE REJECTED.

NOT TO SCALE

ROOT FLARE DEPTHS DETAIL
(TREE ROOT BALL CONDITION ON TREES FROM SUPPLIERS)

811 Know what's below. Call before you dig.

REV		
04/03/2023	INITIAL SUBMITTAL	
06/01/2023	PER TOWN OF ROLESVILLE COMMENT	

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

LANDSCAPE DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No.1155 ROBERT C. ZUMWALT

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 06/01/2023

L1- 8