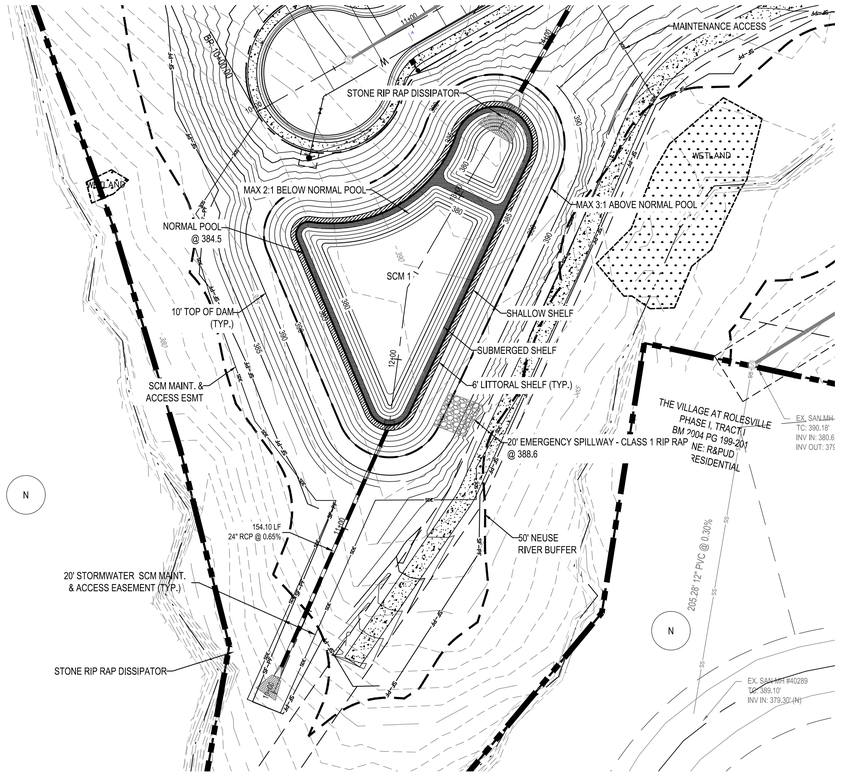
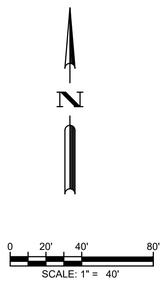
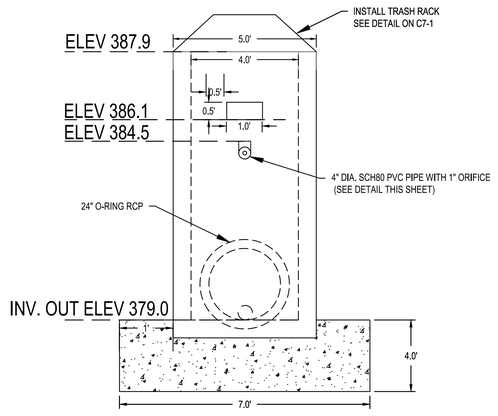
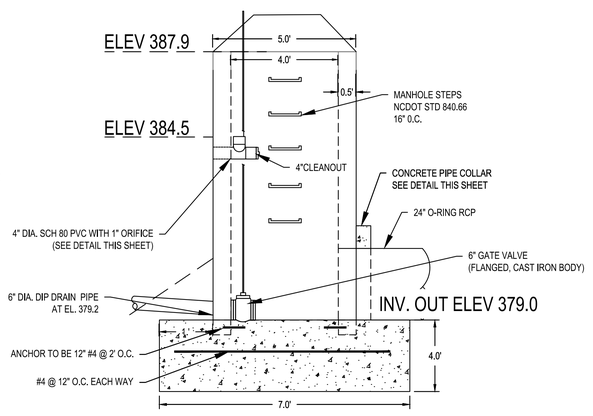


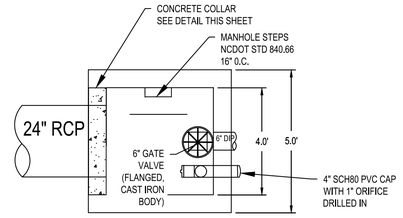




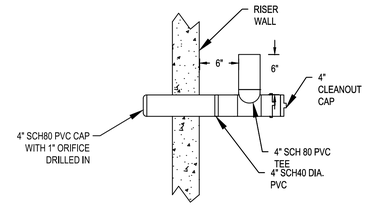
RISER STRUCTURE - WEST
N.T.S.



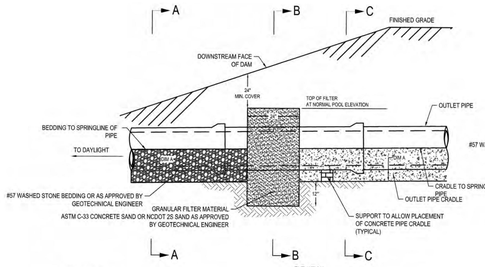
RISER STRUCTURE - SOUTH
N.T.S.



RISER STRUCTURE - TOP
N.T.S.



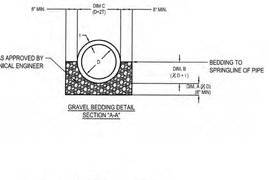
4" ORIFICE UPTURNED PIPE
N.T.S.



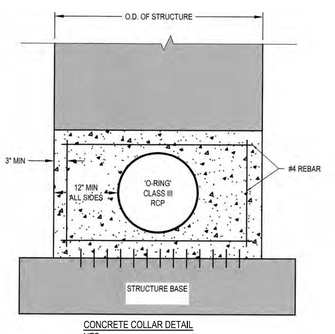
NOMINAL PIPE SIZE	DIM A	(1/2 D)	DIM B	(1/2 D + 6	DIM C	(D + 26	DIM D (PIPE ID)	DIM E	(DIM A + 12")	DIM I (WALL)
24	8	7			30	24		20		3
30	10	8.5			37	30		22		3.5
36	12	10			44	36		24		4
42	14	11.5			51	42		26		4.5
48	16	13			58	48		28		5

36" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM & CONCRETE CRADLE DETAIL
NOT TO SCALE



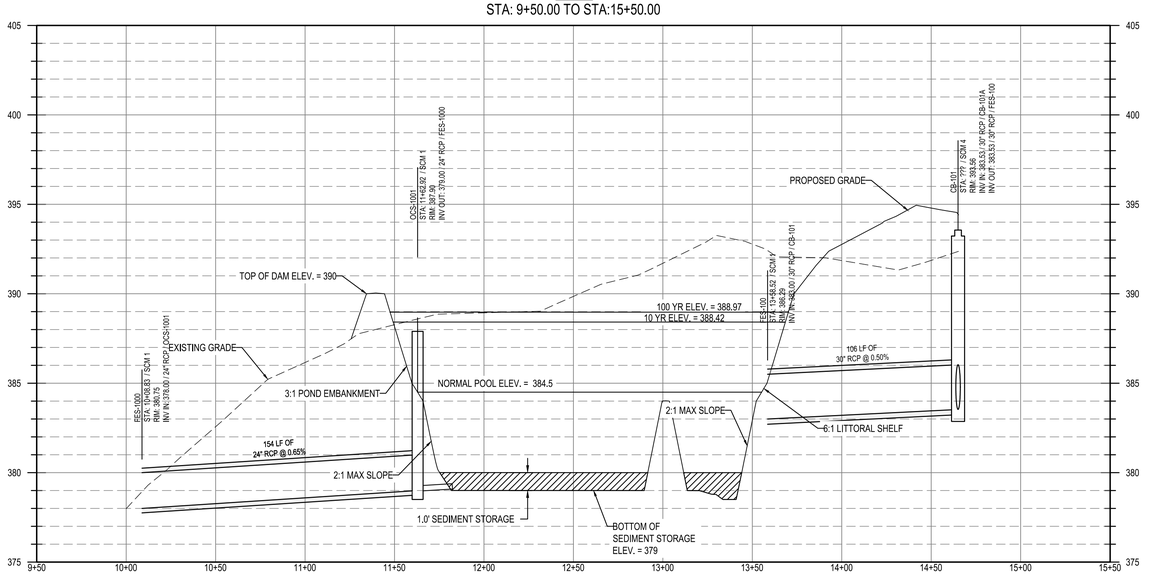
OUTLET PIPE FILTER DIAPHRAGM
NTS



CONCRETE COLLAR DETAIL
NTS

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

SCM 1
STA: 9+50.00 TO STA:15+50.00



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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

REV	DATE	
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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

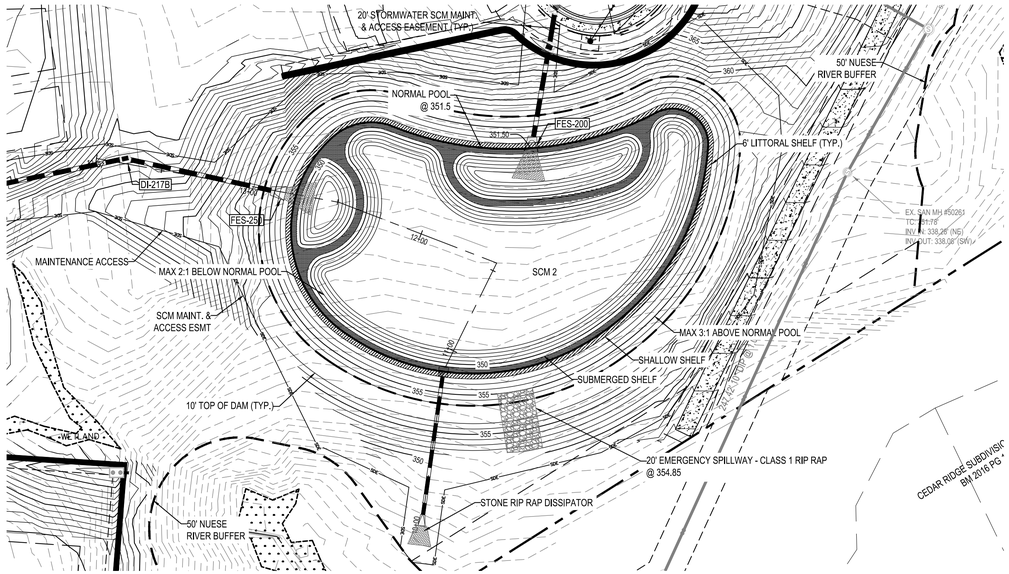
SCM 1 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040571 DEBRA M. TERM
PRELIMINARY
NOT FOR CONSTRUCTION

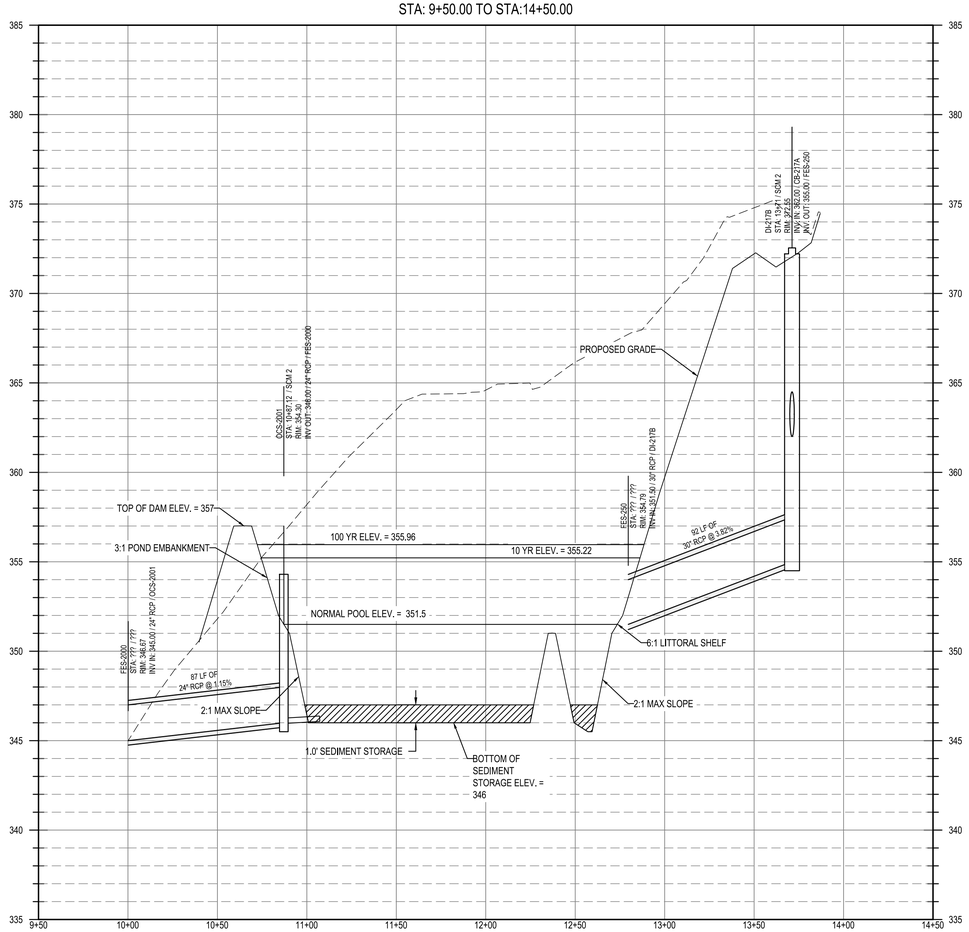
FILE NUMBER: 8430-03
DATE: 08/01/2023
C7-0

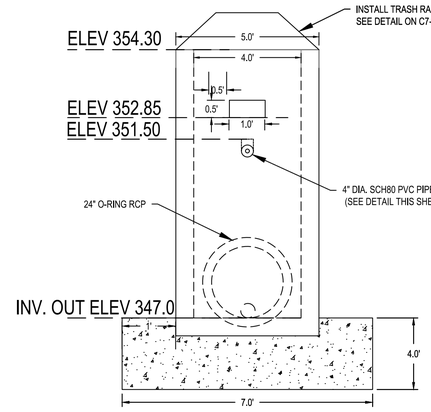
811 Know what's below. Call before you dig.

\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-0 SCM 1 PLAN AND PROFILE Plotted: 8/1/2023 12:25:39 PM

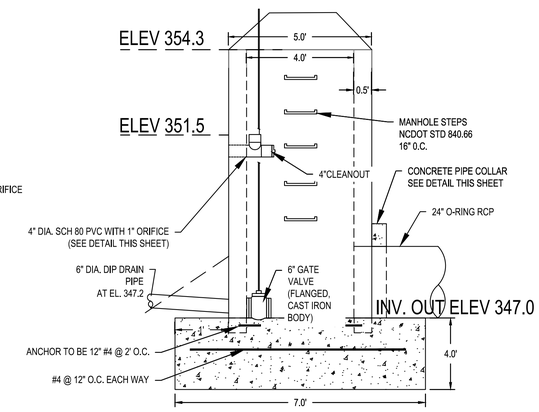


SCM 2
STA: 9+50.00 TO STA:14+50.00

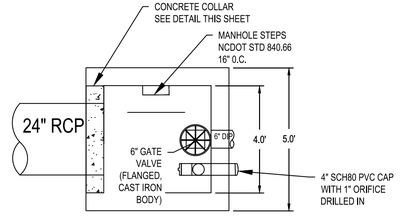




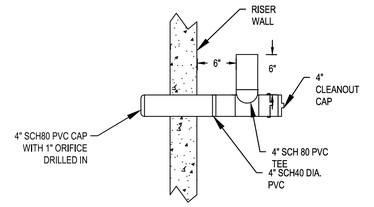
RISER STRUCTURE - WEST
N.T.S.



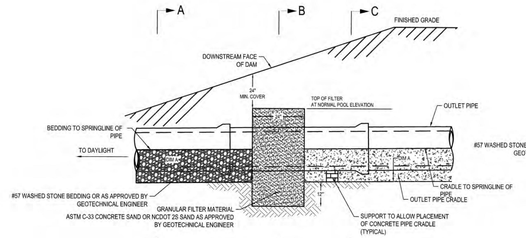
RISER STRUCTURE - SOUTH
N.T.S.



RISER STRUCTURE - TOP
N.T.S.

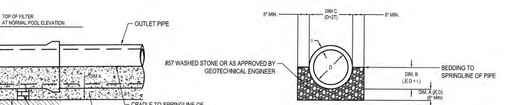


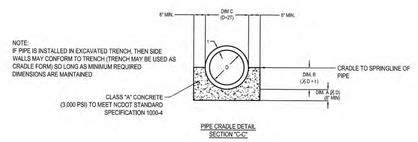
4" ORIFICE UPTURNED PIPE
N.T.S.



NOMINAL PIPE SIZE	DIM A (1/2 D)	DIM B (1/2 D + 5	DIM C (D + 2)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM F (WALL)
24	6	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

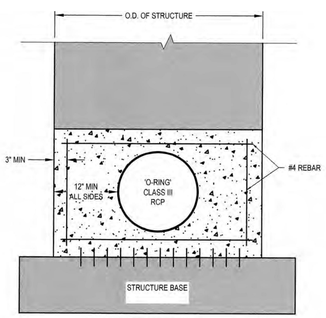
24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES





OUTLET PIPE FILTER DIAPHRAGM
& CONCRETE CRADLE DETAIL
NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS



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

CONCRETE COLLAR DETAIL
NTS

DESIGNED BY: ') &'
DRAWN BY: ') -: 0
REVIEWED BY: ')

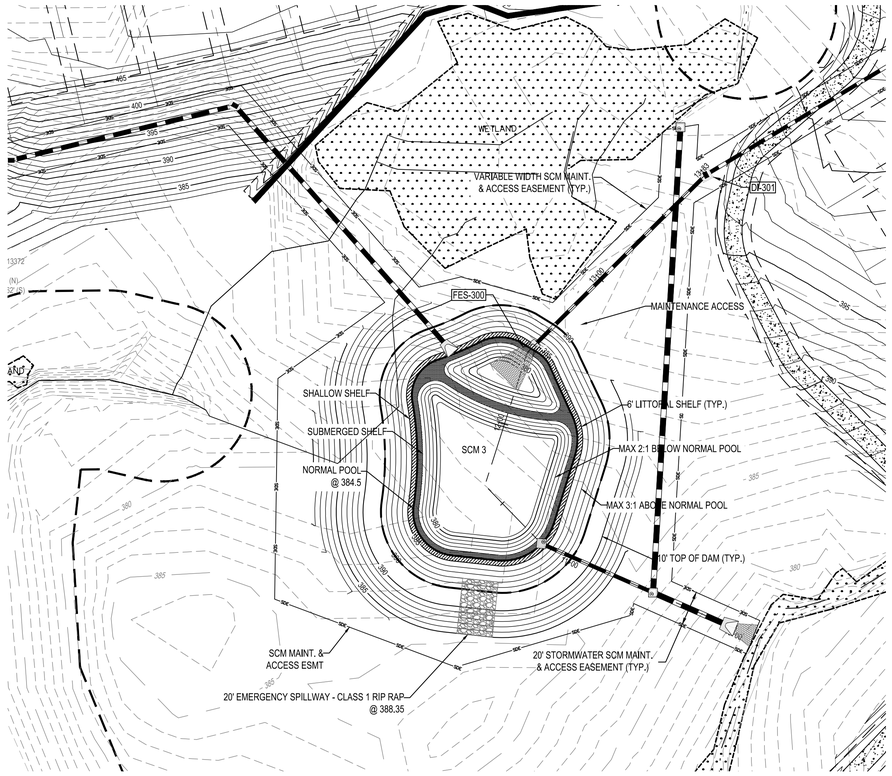
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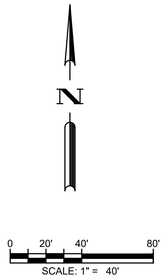
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1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

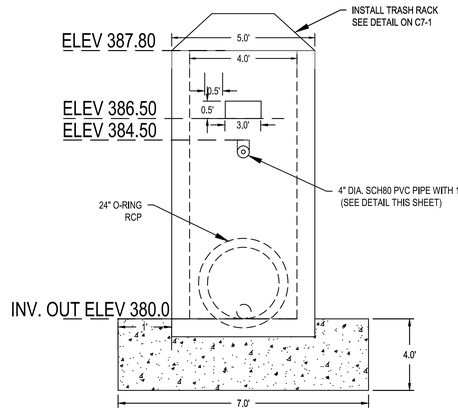
6&O 3/$1 $1' 352),(3$5.(5 5,'(
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

NORTH CAROLINA PROFESSIONAL ENGINEER DEBRA M. FERN
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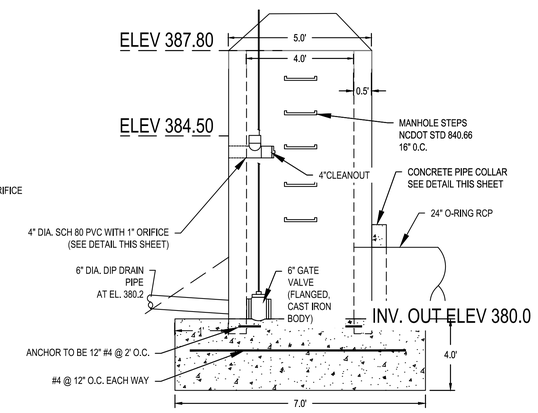
Know what's below. Call before you dig.
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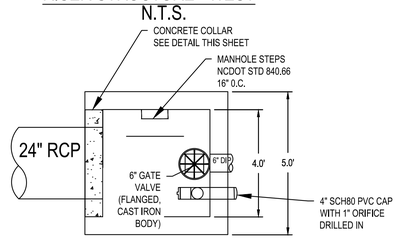




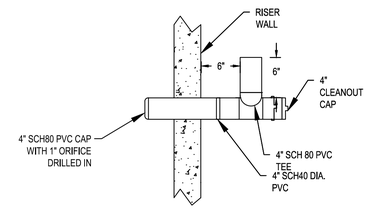
RISER STRUCTURE - WEST
N.T.S.



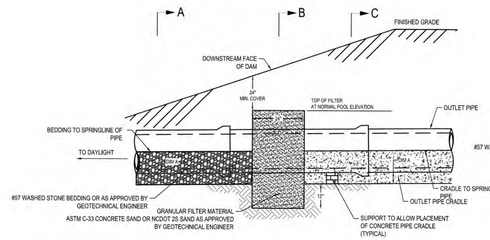
RISER STRUCTURE - SOUTH
N.T.S.



RISER STRUCTURE - TOP
N.T.S.

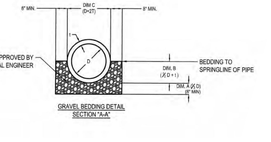


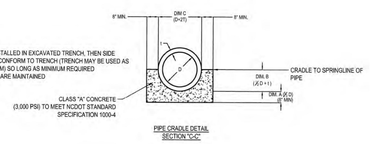
4" ORIFICE UPTURNED PIPE
N.T.S.



NOMINAL PIPE SIZE	DIM A	(1/2 D)	DIM B	(1/2 D + I)	DIM C	(D + 2I)	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				

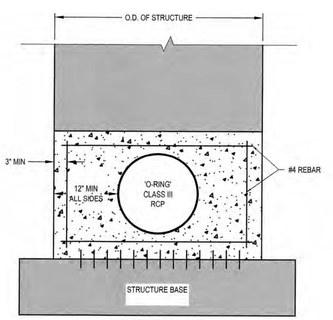
36" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES





OUTLET PIPE FILTER DIAPHRAGM
& CONCRETE CRADLE DETAIL
NOT TO SCALE

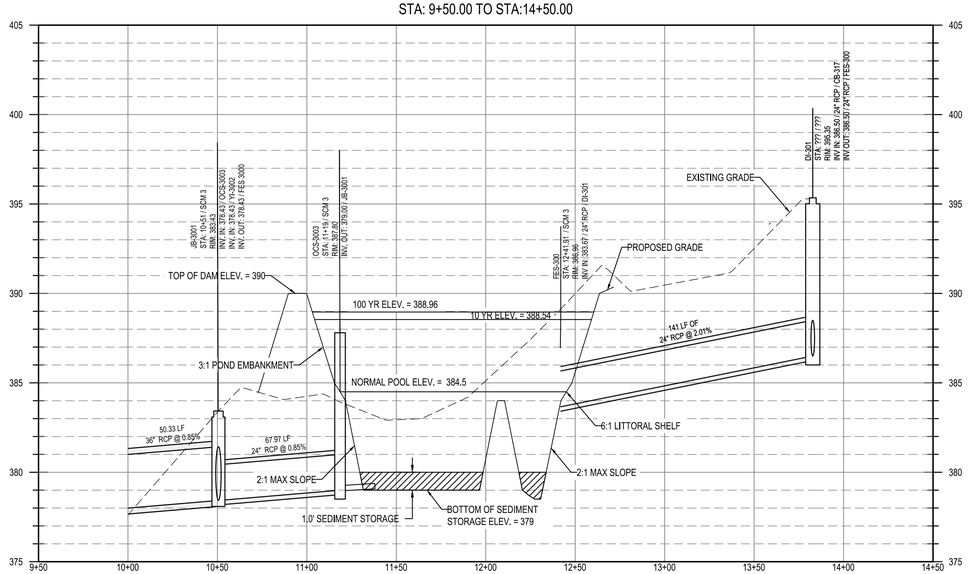
OUTLET PIPE FILTER DIAPHRAGM
NTS



CONCRETE COLLAR DETAIL
NTS

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

SCM 3
STA: 9+50.00 TO STA:14+50.00



Know what's below. Call before you dig.

				08/01/2023	PER TOWN OF ROLESVILLE COMMENT
				06/01/2023	INITIAL SUBMITTAL
				REV	
DESIGNED BY:	DF/CD				
DRAWN BY:	DF/JWM				
REVIEWED BY:	DF				

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SCM 3 PLAN AND PROFILE

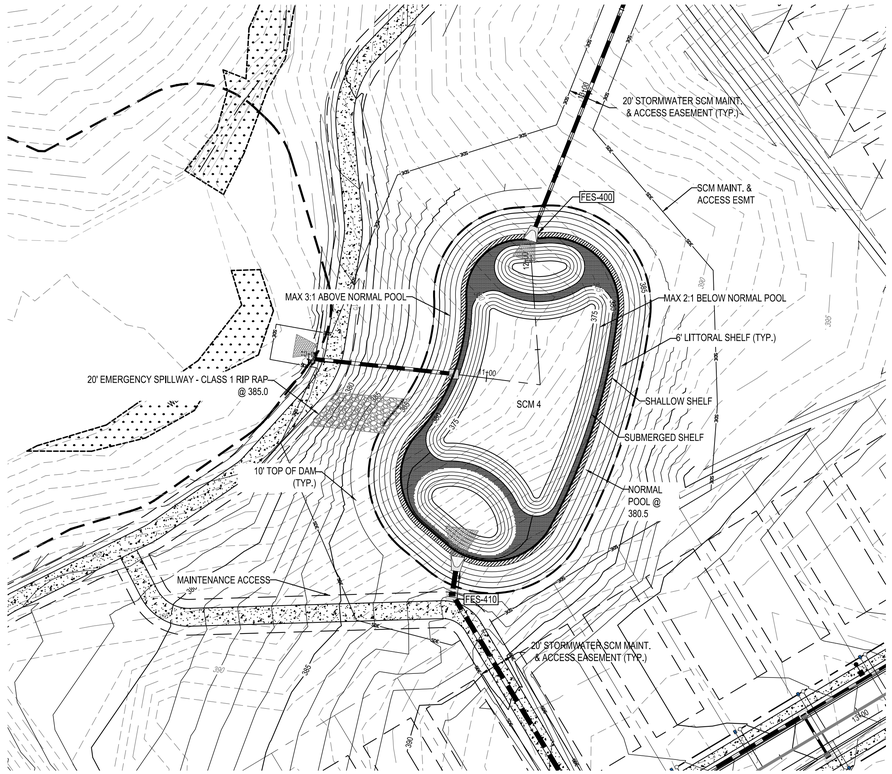
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ENGINEER DEBRA M. TERM
NOT FOR CONSTRUCTION

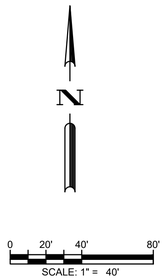
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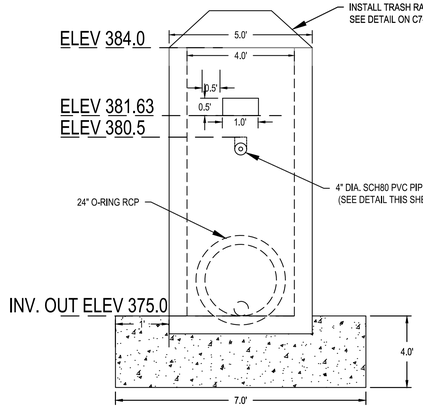
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C7-2

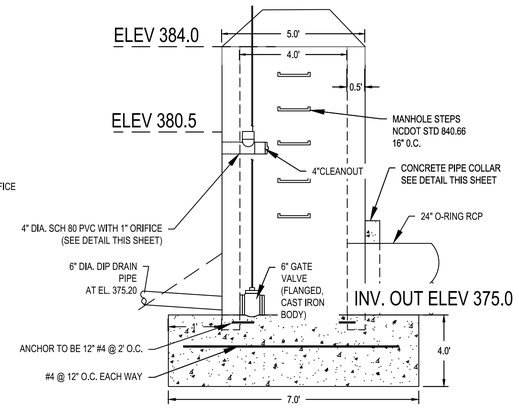
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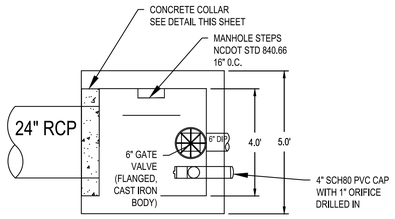




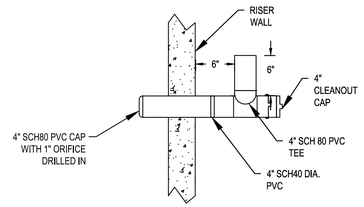
RISER STRUCTURE - WEST
N.T.S.



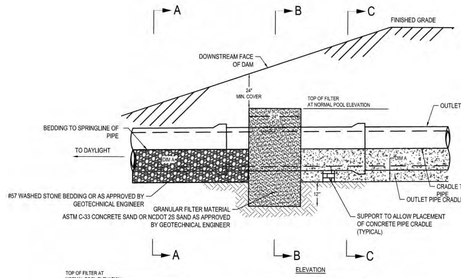
RISER STRUCTURE - SOUTH
N.T.S.

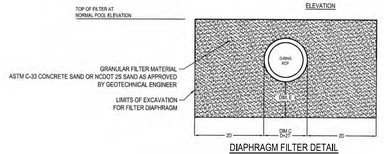


RISER STRUCTURE - TOP
N.T.S.



4" ORIFICE UPTURNED PIPE
N.T.S.



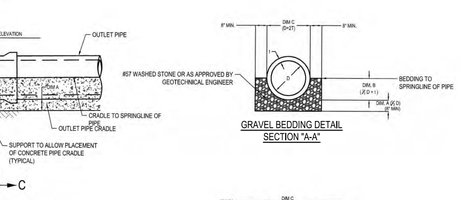


DIAPHRAGM FILTER DETAIL
SECTION "B-B"

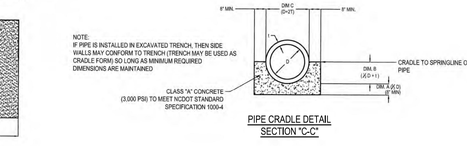
NOMINAL PIPE SIZE	DIM A (1/3 D)	DIM B (1/2 D + 1)	DIM C (D + 3)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM F (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

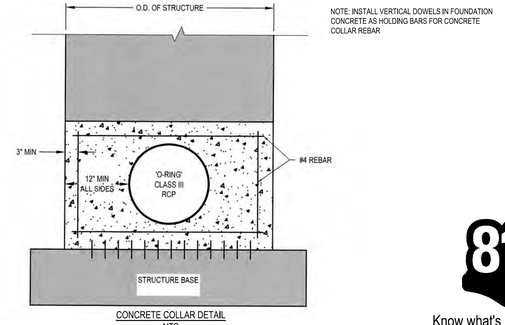
OUTLET PIPE FILTER DIAPHRAGM
NTS



GRAVEL BEDDING DETAIL
SECTION "A-A"

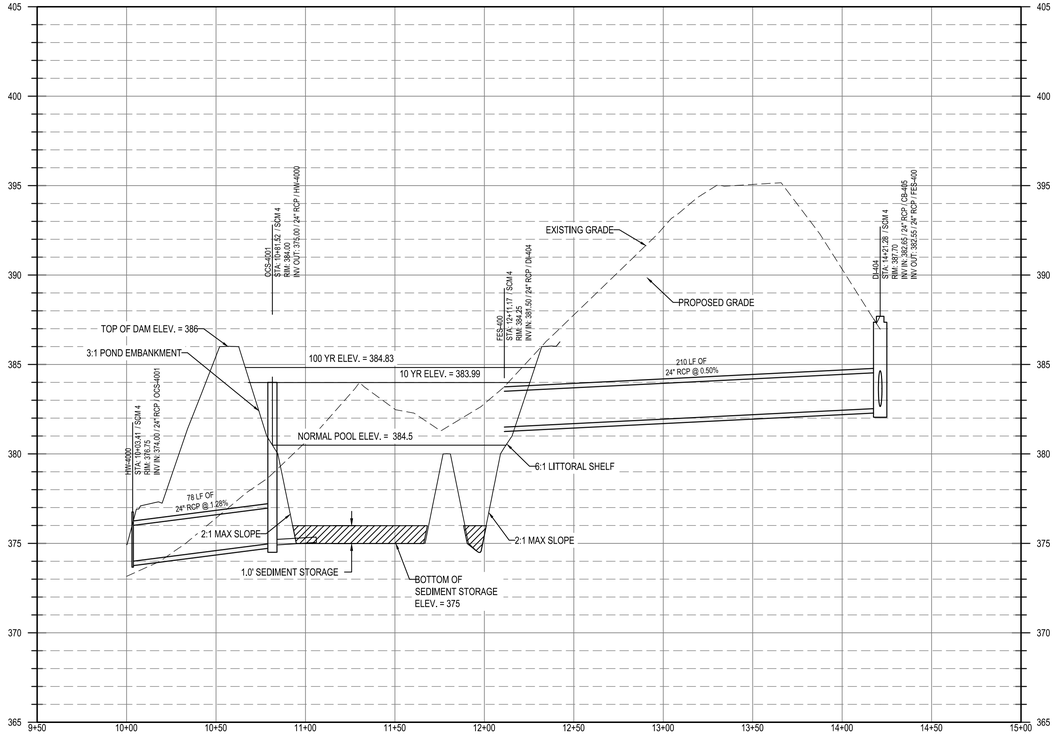


PIPE CRADLE DETAIL
SECTION "C-C"

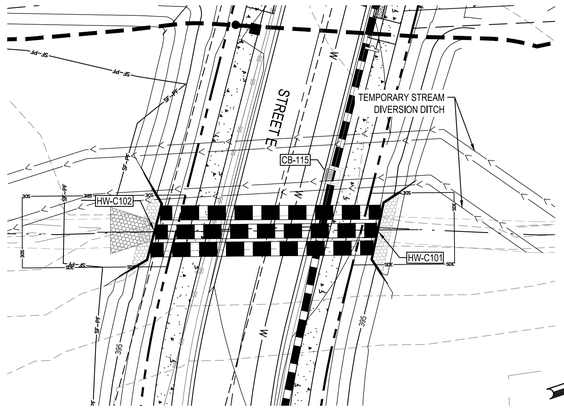


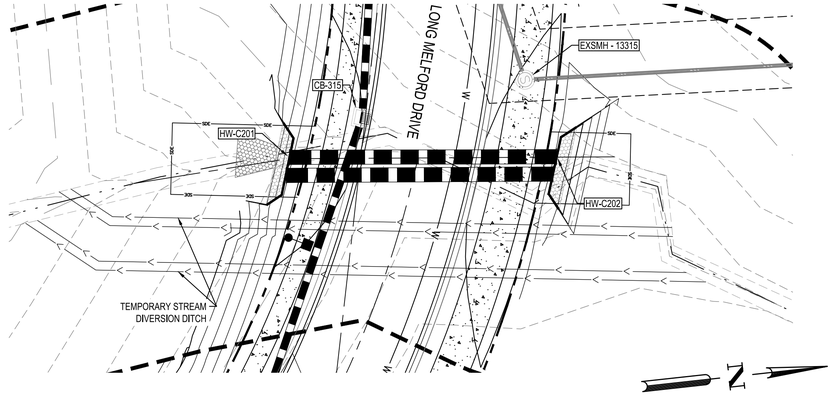
CONCRETE COLLAR DETAIL
NTS

SCM 4
STA: 9+50.00 TO STA:15+00.00

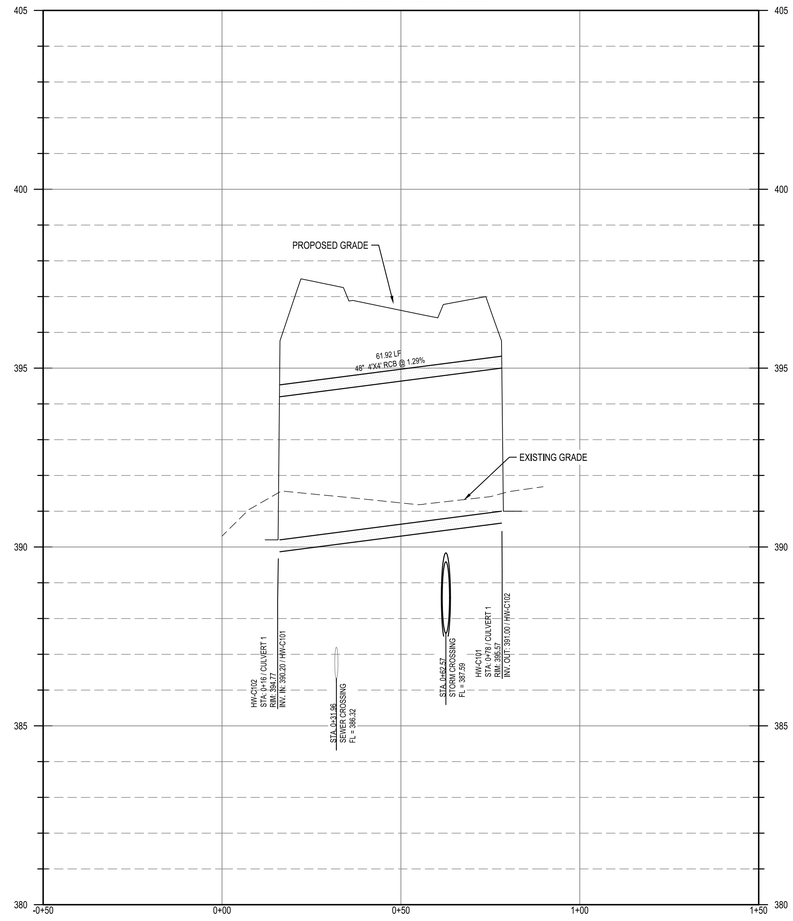


Know what's below. Call before you dig.

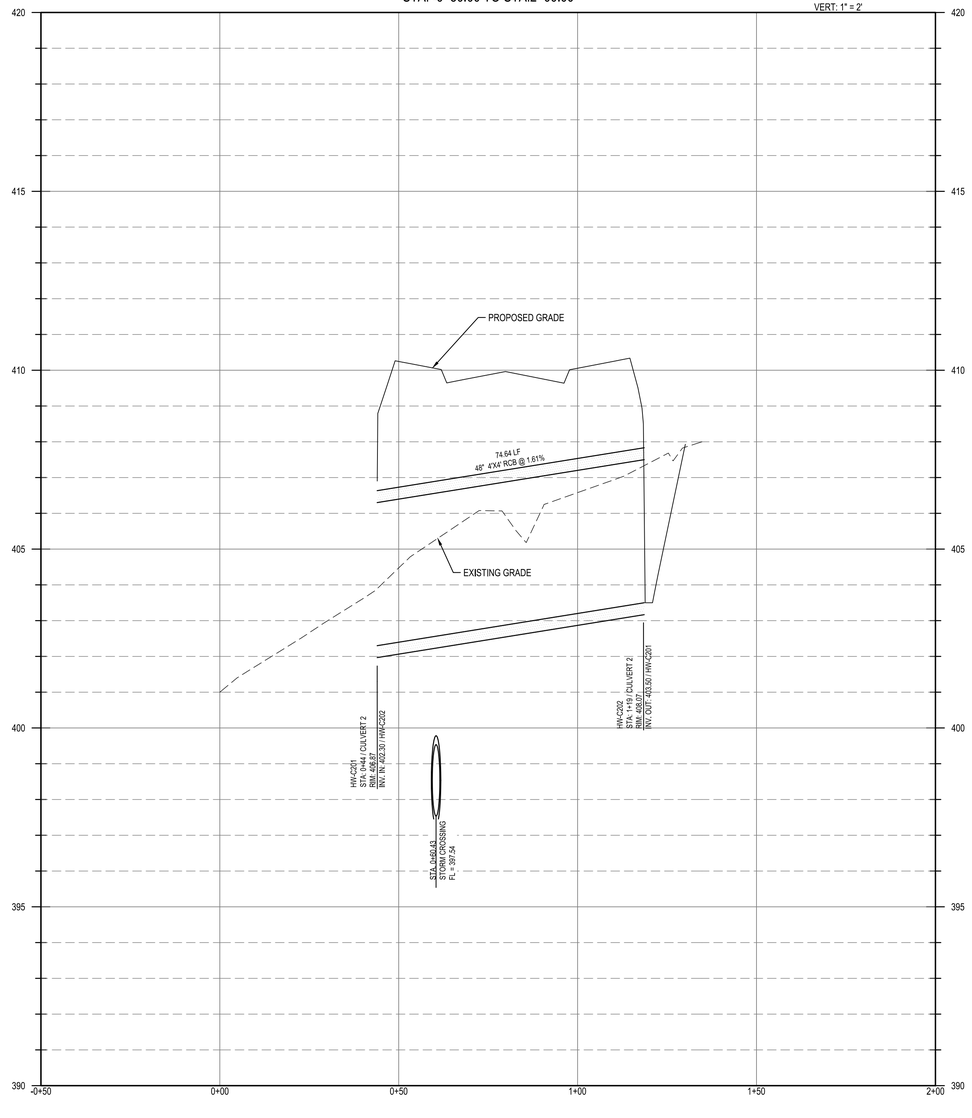




CULVERT 1
STA: -0+50.00 TO STA:1+50.00



CULVERT 2
STA: -0+50.00 TO STA:2+00.00



Know what's below. Call before you dig.

						PER TOWN OF ROLESVILLE COMMENT	INITIAL SUBMITTAL
						08/01/2023	06/01/2023
						REV	

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

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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

CULVERT PLAN (1 OF 2)

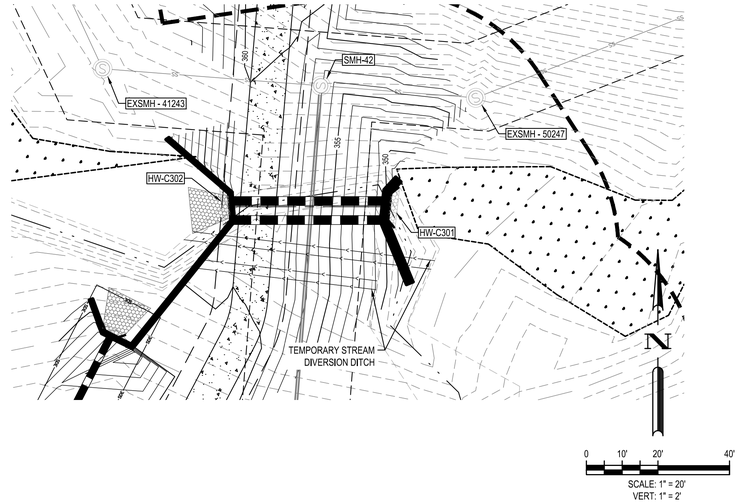
NORTH CAROLINA PROFESSIONAL ENGINEER DEBRA M. FERM
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

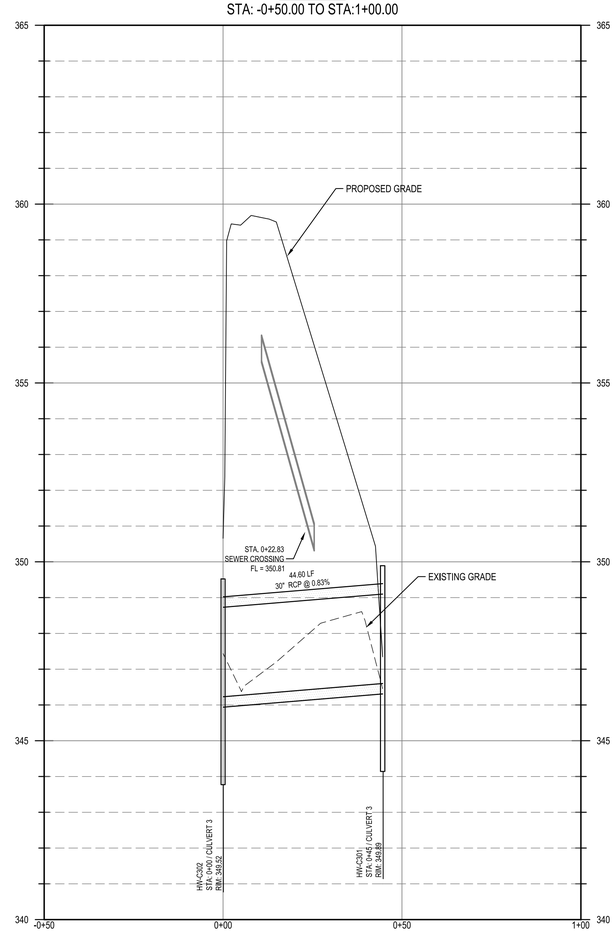
DATE: 08/01/2023

C7-4

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-4 CULVERT PLAN (1 OF 2) Plotted: 8/1/2023 11:52:27 AM



CULVERT 3
STA: -0+50.00 TO STA:1+00.00



Know what's below.
Call before you dig.

						08/01/2023	PER TOWN OF ROLESVILLE COMMENT
						06/01/2023	INITIAL SUBMITTAL
						REV	

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

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PARKER RIDGE
82 SCHOOL STREET
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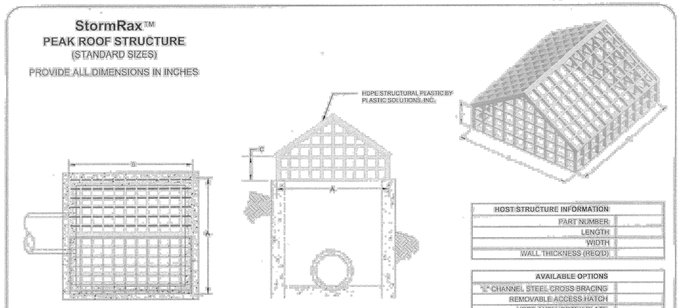
CULVERT PLAN (2 OF 2)

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

FILE NUMBER: 8430-03
DATE: 08/01/2023
C7-5

G:\NC\A\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\CS-4 - SWM-POND.dwg Layout: C7-5 CULVERT PLAN (2 OF 2) Plotted: 8/1/2023 11:52:34 AM

StormRax™
PEAK ROOF STRUCTURE
(STANDARD SIZES)
PROVIDE ALL DIMENSIONS IN INCHES



HOST STRUCTURE INFORMATION:	
PART NUMBER:	
LENGTH:	
WIDTH:	
WALL THICKNESS (REQ'D):	

AVAILABLE OPTIONS	
"L" CHANNEL STEEL CROSS BRACING	
REMOVABLE ACCESS HATCH	
HDPE ANTI-VORTEX PLATE	

NOTES: 1. GABLE END SHOULD BE SHORTER END WHEN MEASURING.
2. MEASUREMENT CHANGES WILL OCCUR WHEN ACCESS DOOR IS NEEDED AND LADDER PLACEMENT IS DETERMINED.

DIMENSION CODES (A, B, C)

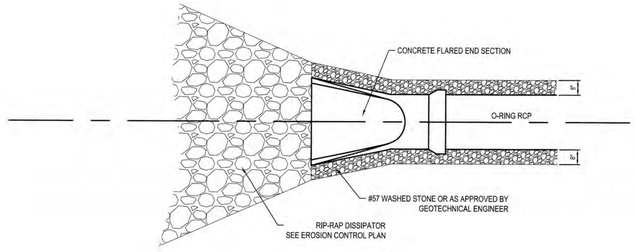
WIDTH A	29 1/8	36 13/16	45 13/16	54 13/16	66 7/16	72 5/16	81 5/16	90 9/16	99 1/2	108 3/8
CODE:	03	04	05	06	07	08	09	10	11	12
LENGTH B	32 7/8	38 1/4	43 5/8	49	54 3/8	59 3/4	65 1/8	70 1/2	76 1/2	81 7/8
CODE:	06	07	08	09	10	11	12	13	14	15
HEIGHT C	13 5/16	16 7/8								
CODE:	02	03								

X-Grids: Width | Y-Grids: High

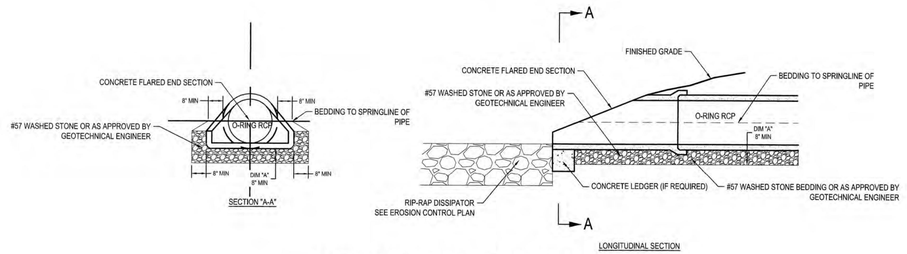
Peak Roof: Width A ___" | Length B ___" | Height C ___"

Plastic Solutions, Inc.
PO Box 4386, Winchester, VA 22604
238 McGhee Rd, Winchester, VA 22603
(877) 877-5727 phone
(540) 722-2219 fax
http://www.plastic-solution.com

CUSTOMER:
PROJECT:
DATE:
DRAWN BY:
APP'D BY:
DETAIL:



PLAN



LONGITUDINAL SECTION

OUTLET PIPE FILTER DIAPHRAGM
OUTLET DETAIL (FLARED END SECTION)

NTS

Know what's below. Call before you dig.

REV		
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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

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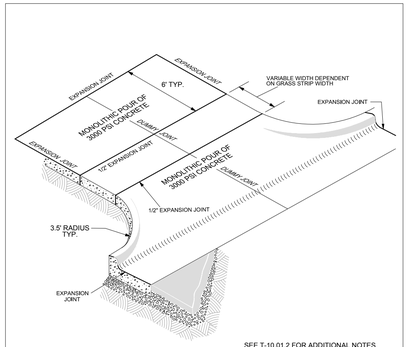
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SCM DETAILS

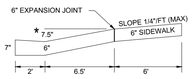
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY
DEBRA M. TERRY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 08/01/2023
C7-6

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\CS-5 - STRM-DETL.dwg Layout: STORM DRAINAGE DETAILS Plotted: 8/1/2023 11:52:44 AM



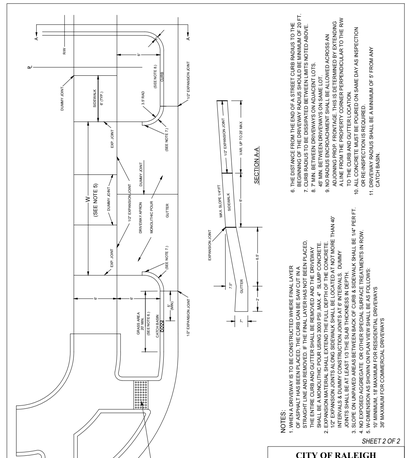
SEE T-10.01.2 FOR ADDITIONAL NOTES

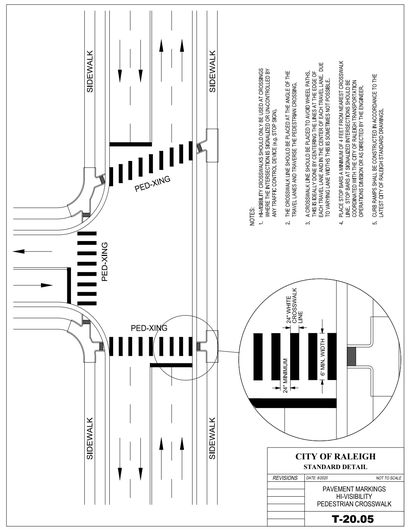


★ USE 6.5' WHEN DRIVEWAY IS USED IN LIEU OF A WHEELCHAIR RAMP TO ACCOMMODATE 12:1 MAXIMUM SLOPE (ADA COMPLIANT), SUCH AS IN A CUL-DE SAC.

SHEET 1 OF 2

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	DRIVEWAY AND SIDEWALK DETAIL	
	T-10.01.1	

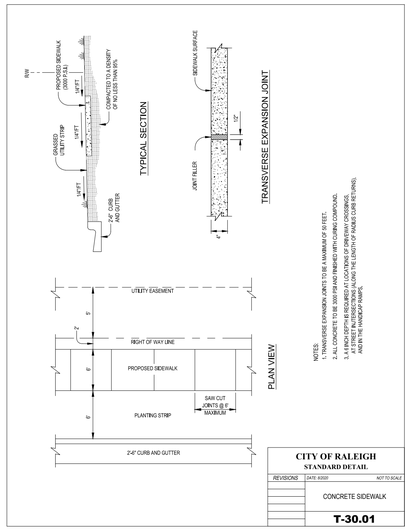

SECTION A-A
CURB
GUTTER
SIDEWALK
1/2" EXPANSION JOINT
SEE NOTE 5)
W
CURB JOINT
1/2" EXPANSION JOINT
GRASS AREA
MINIMUM 5' WIDTH
SIDEWALK
1/2" EXPANSION JOINT
SEE NOTE 7)
SEE NOTE 6)
SEE NOTE 6)
SEE NOTE 6



NOTES:
1. NUMBER OF CROSSWALK SHOULD BE LIMITED AT CROSSINGS WHERE THE INTERSECTIONS SHOULD BE UNCONTROLLED BY TRAFFIC SIGNALS OR STOP SIGNS.
2. THE CROSSWALK LINE SHOULD BE PLACED TO ALIGN WITH THE ANGLE OF THE TRAVEL LANES AND TRAVERSE THE PEDESTRIAN CROSSING.
3. A CROSSWALK LINE SHOULD BE PLACED TO MARK WHEEL PATHS. EACH TRAVEL LANE SHOULD BE MARKED AS A SEPARATE LANE WITH EACH TRAVEL LANE ANGLED TO THE CENTER OF EACH TRAVEL LANE, DUE TO THE CROSSWALK LINES BEING PERPENDICULAR TO THE ROADWAY.
4. PLACE STOP BARS A MINIMUM OF 4 FEET FROM NEAREST CROSSWALK LINE. STOP BARS AT SIGNALIZED INTERSECTIONS SHOULD BE PLACED BASED ON ENGINEERING JUDGMENT AND ENGINEERING OPERATIONS REVIEW, OR AS DIRECTED BY THE ENGINEER.
5. CROSSWALKS SHALL BE CONSTRUCTED TO PROVIDE A RAMP TO THE LATEST CITY OF RALEIGH STANDARD DRAWINGS.

CITY OF RALEIGH
STANDARD DETAIL

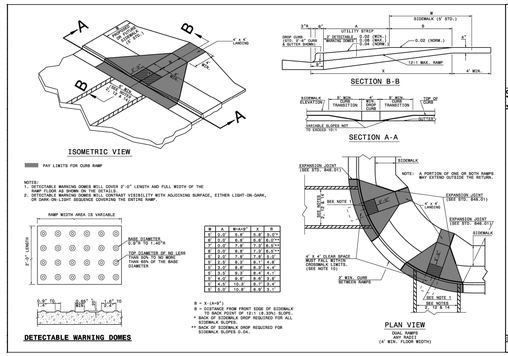
REVISIONS	DATE: 8/2020	NOT TO SCALE
	PAVEMENT MARKINGS HI-VISIBILITY PEDESTRIAN CROSSWALK	
	T-20.05	



NOTES:
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 60 FEET.
2. ALL CONCRETE TO BE 3000 PSI AND FINISHED WITH CURING COMPOUND.
3. A 4 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS.
4. ALL SIDEWALKS SHALL BE CONSTRUCTED TO PROVIDE A RAMP TO THE LATEST CITY OF RALEIGH STANDARD DRAWINGS.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	CONCRETE SIDEWALK	
	T-30.01	



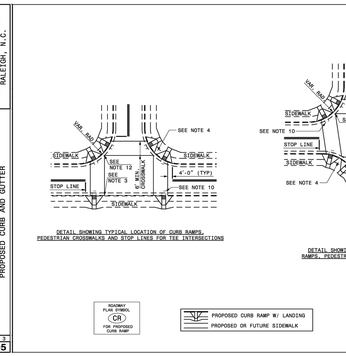
NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

A	B=A+2'	X	D
2'-0"	4'-0"	2'-4"	5'-4"
3'-0"	5'-0"	3'-4"	6'-4"
4'-0"	6'-0"	4'-4"	7'-4"
5'-0"	7'-0"	5'-4"	8'-4"
6'-0"	8'-0"	6'-4"	9'-4"
7'-0"	9'-0"	7'-4"	10'-4"
8'-0"	10'-0"	8'-4"	11'-4"
9'-0"	11'-0"	9'-4"	12'-4"
10'-0"	12'-0"	10'-4"	13'-4"

B = X-(4+9") = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* FOR 4" SIDEWALK, CURB DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 5.0%.

DETECTABLE WARNING DOMES

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** PROPOSED CURB AND GUTTER	SHEET 1 OF 4	**848.05**



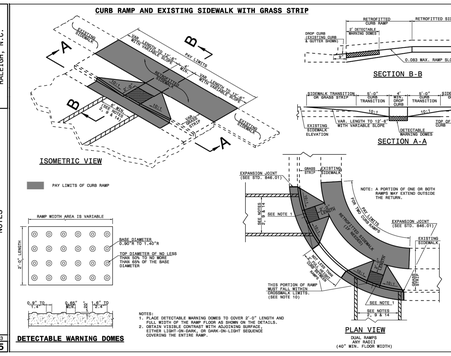
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** PROPOSED CURB AND GUTTER	SHEET 2 OF 4	**848.05**

	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL
	REV	
DESIGNED BY:	DF/CD	
DRAWN BY:	DF/JWM	
REVIEWED BY:	DF	

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

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** NOTES	SHEET 3 OF 4	**848.05**

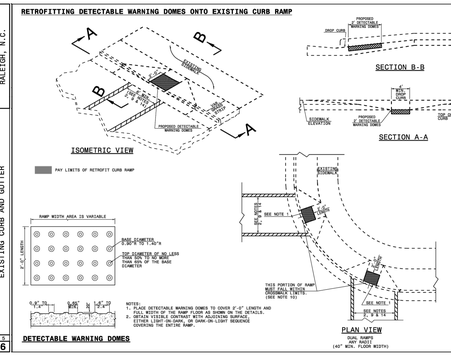
CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



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

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** EXISTING CURB AND GUTTER	SHEET 4 OF 4	**848.06**

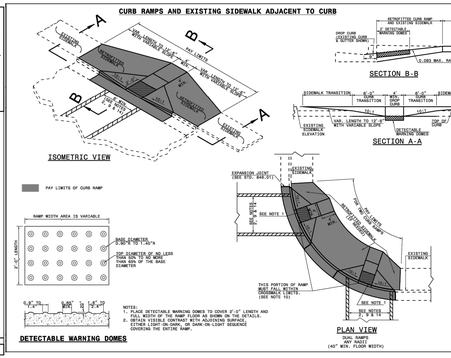
RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP



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

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** EXISTING CURB AND GUTTER	SHEET 5 OF 6	**848.06**

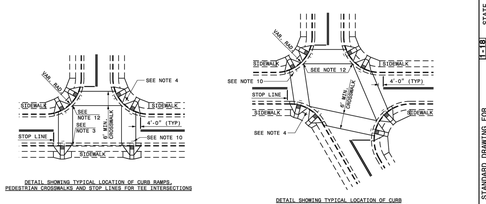
CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB



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

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** EXISTING CURB AND GUTTER	SHEET 6 OF 6	**848.06**

CURB RAMPS AND EXISTING SIDEWALK



RESURFACING PROJECTS

PROPOSED CURB RAMP W/ LANDING FOR RESURFACING PROJECTS

EXISTING SIDEWALK

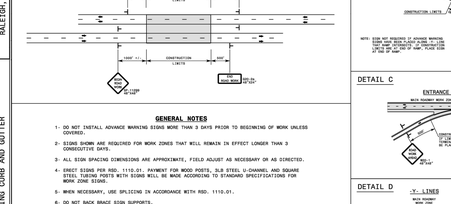
ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** EXISTING CURB AND GUTTER	SHEET 7 OF 6	**848.06**

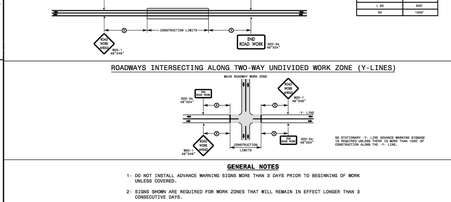
CURB RAMP AND EXISTING SIDEWALK

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

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **CURB RAMP** EXISTING CURB AND GUTTER	SHEET 8 OF 6	**848.06**



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **WORK ZONE ADVANCE WARNING SIGNS FOR 55 MPH FACILITIES** VI	SHEET 2 OF 3	**1101.01**



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	1.18	
ROADWAY STANDARD DRAWING FOR **WORK ZONE ADVANCE WARNING SIGNS FOR TWO-WAY UNDIVIDED FACILITIES**	SHEET 3 OF 3	**1101.01**

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82 SCHOOL STREET
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SITE DETAILS (2 OF 3)

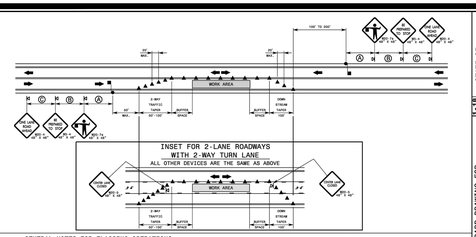
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 08/01/2023

C8-1

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

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-0 - SITE-DETL.dwg Layout: C8-1 SITE DETAILS (2 OF 3) Plotted: 8/1/2023 2:50:37 PM



GENERAL NOTES FOR FLAGGING OPERATIONS

1- REFER TO RDD. 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL CONES/DRUMS WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.

3- REMOVE CONES/DRUMS AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

4- PLACE CONES ALONG THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND LANE CLOSURES ALL THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FIRST DEVICE (REFER TO RDD. 1101.11, SHEET 3).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- DRUMS OR BYPASS DRUMS MAY BE USED IN LIEU OF CONES. REFER TO RDD. 1180.01 "TEMPORARY TRAFFIC CONTROL".

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. EQUIPMENT PLACED 100 TO 47' AWAY FROM INTERSECTIONS WITH FLASHING ARROW BOARD (W21.7a) OR TRUCK MOUNTED ATTENUATOR (TMA) MAY BE USED TO PROTECT FLAGGERS AT INTERSECTIONS PLACED VISIBLE IN "HI FLASH" MODE AND USE LAW ENFORCEMENT.

9- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

11- IF VEHICLE QUEUES WILL REACH WITHIN 15' OF EITHER SIDE OF ACTIVE RAILROAD TRACKS, COORDINATE WITH RAILROAD COMPANY TO DETERMINE IF ADDITIONAL WARNING DEVICES ARE REQUIRED AT THE GRADE CROSSING. PROVIDE DIVISION ON FLAGGER EVEN IF AUTOMATIC WARNING MEASURES ALREADY EXIST.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ROADWAY WIDTH IS LESS THAN 22 FEET (TOP TO TOP), CONES MAY NOT BE REQUIRED. THE WORK AREA IS TO BE APPROVED BY THE DIVISION OR THE ENGINEER. CONES MAY BE OMITTED ALONG THE WORK AREA TO OBTAIN A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN R20-A "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- DO NOT INSTALL MORE THAN ONE (1) WAY OF LANE CLOSURE BEFORE REACHING THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- NOTIFY RESIDENTS AND BUSINESSES WITHIN THE LANE CLOSURE THAT A PILOT CAR WILL BE USED TO GUIDE TRAFFIC THROUGH THE LANE CLOSURE. POST SIGNAGE AT THE BEGINNING AND END OF THE LANE CLOSURE STATING "PILOT CAR OPERATIONS".

LEGEND

- FLAGGER
- CONE
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

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

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 14
1101.02

REV	DATE	
1	06/01/2023	INITIAL SUBMITTAL
2	08/01/2023	PER TOWN OF ROLESVILLE COMMENT

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

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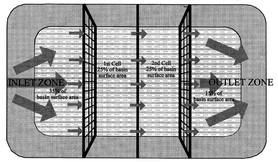
SITE DETAILS (3 OF 3)

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

FILE NUMBER: 8430-03
DATE: 08/01/2023
C8-2

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

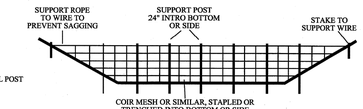
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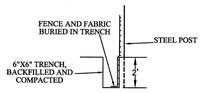


PLAN VIEW

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

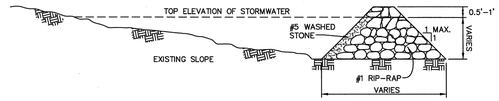




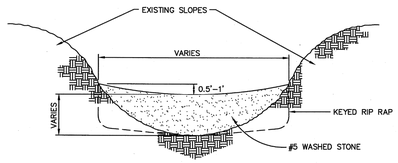
SECTION VIEW AT OPENING

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.



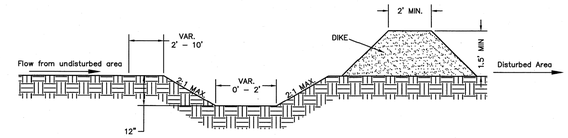
STEP SEQUENCE

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

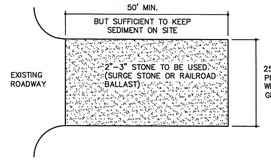
NOTES:
1. DIVERSION TO BE USED UPSLOPE OF A CONSTRUCTION SITE TO PREVENT STORM RUNOFF FROM ENTERING THE DISTURBED AREA.
2. IMMEDIATELY LINE AND STABILIZE BEFORE ANY DOWNSLOPE GRADING BEGINS (STABILIZATION MUST OCCUR BEFORE ISSUANCE OF A CERTIFICATE OF COMPLIANCE). STABILIZATION METHOD IS BASED ON VELOCITY 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.



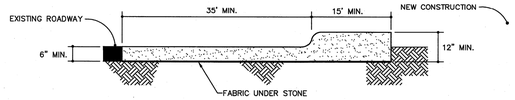
CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD CLEAN WATER DIVERSION



PLAN VIEW



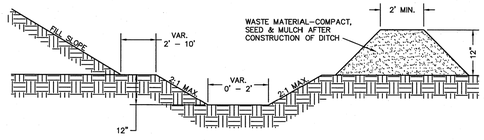
CROSS SECTION

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.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE

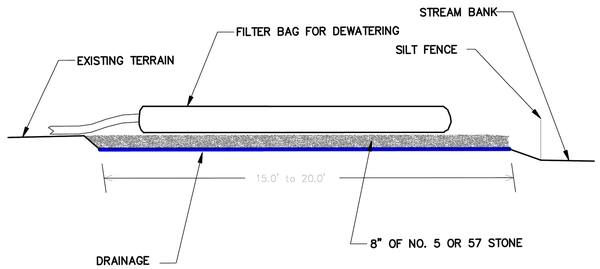
NOTES:
1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE-HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING,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



CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH



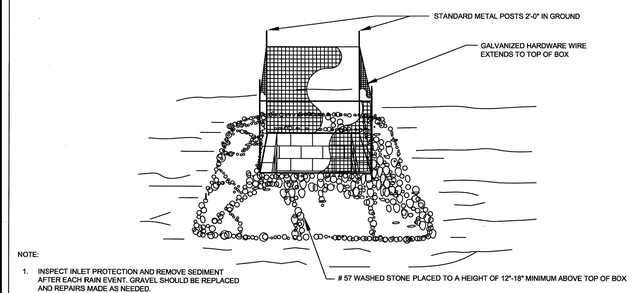
NOTES

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

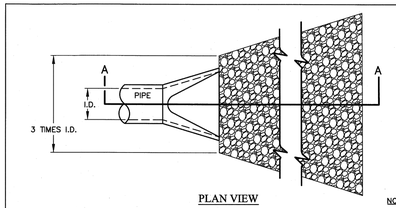
STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



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

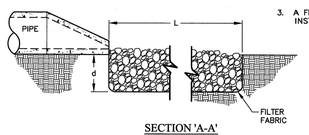
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD GRAVEL YARD INLET PROTECTION



PLAN VIEW

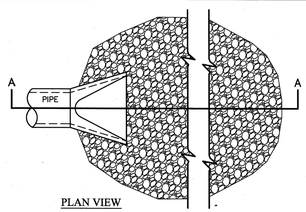
NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.



SECTION 'A-A'

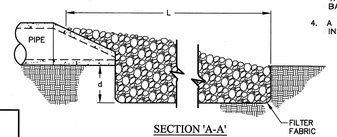
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

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

REV	DATE	COMMENT
1	06/01/2023	INITIAL SUBMITTAL
2	08/01/2023	PER TOWN OF ROLESVILLE COMMENT

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

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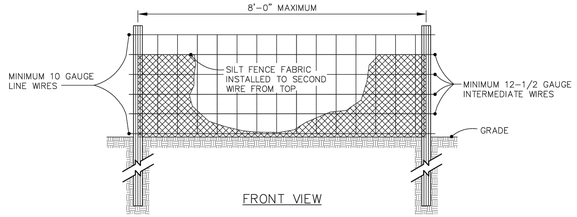
EROSION CONTROL DETAILS (1 OF 2)

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

FILE NUMBER: 8430-03
DATE: 08/01/2023
C8-3

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

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C2-2 - EROS-DETL.dwg Layout: C8-3 EROSION CONTROL DETAILS (1 OF 2) Plotted: 8/1/2023 2:50:53 PM



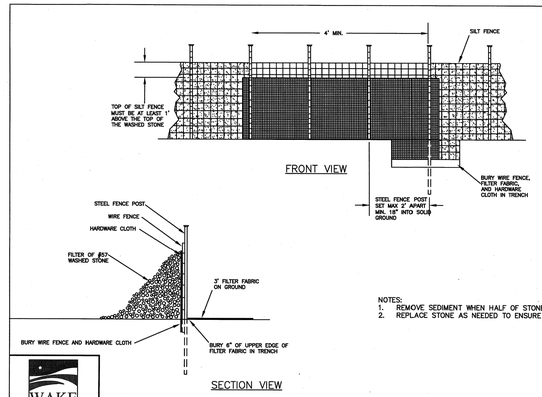
NOTE:

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

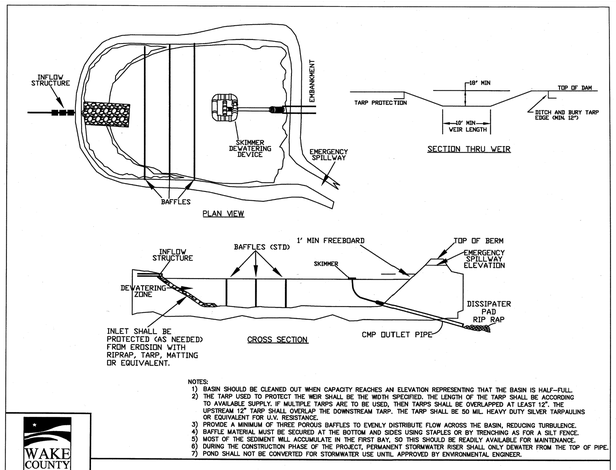


NOTES:
1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

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 TARPAULINS 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

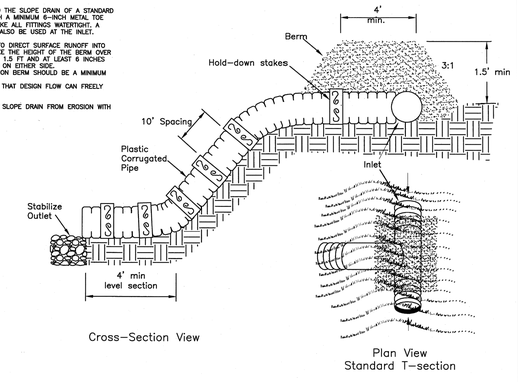
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SKIMMER DETAIL

NOTES:

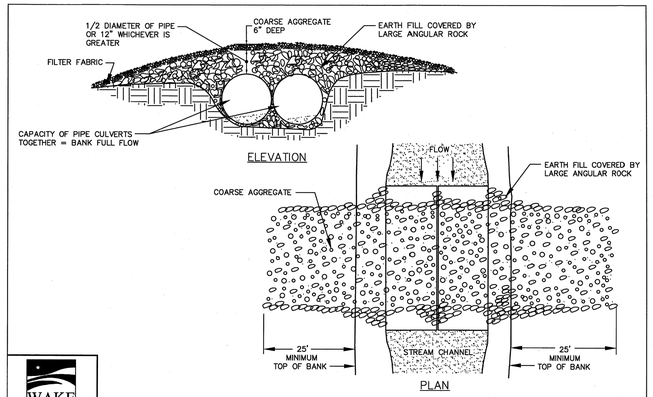
1. CONSTRUCT THE ENTRANCE TO THE SLOPE DRAIN OF A STANDARD FLARED-END SECTION OF PIPE WITH A MINIMUM 8-INCH METAL TOE PLATE (CROSS-SECTION VIEW). MAKE ALL FITTINGS WATERTIGHT. A STANDARD T-SECTION FITTING MAY ALSO BE USED AT THE INLET.
2. USE AN EARTHEN DIVERSION TO DIRECT SURFACE RUNOFF INTO THE TEMPORARY 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

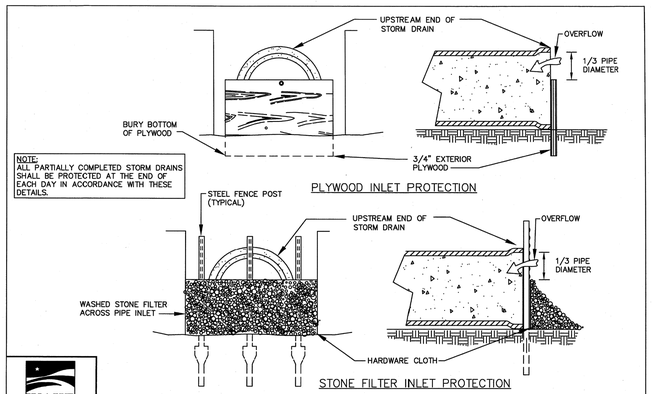
STANDARD TEMPORARY SLOPE DRAIN



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY STREAM CROSSING

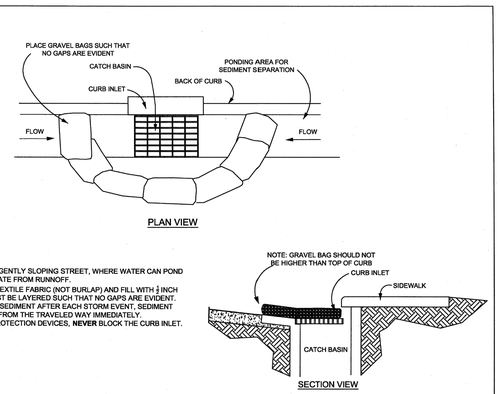


NOTE:
ALL PARTIALLY COMPLETED STORM DRAINS SHALL BE PROTECTED AT THE END OF EACH DAY IN ACCORDANCE WITH THESE DETAILS.

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

REV	DATE	DESCRIPTION
1	06/01/2023	INITIAL SUBMITTAL
2	08/01/2023	PER TOWN OF ROLESVILLE COMMENT

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

©2023

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

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

EROSION CONTROL DETAILS (2 OF 2)

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

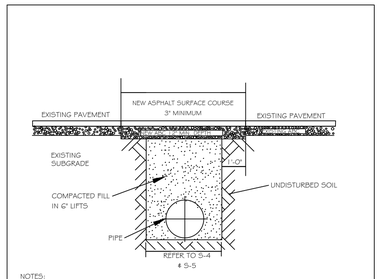
FILE NUMBER: 8430-03

DATE: 08/01/2023

C8-4

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

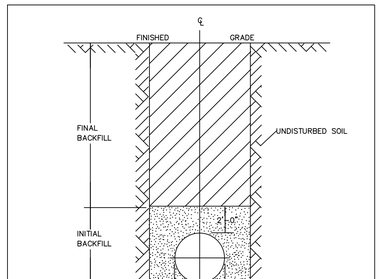
G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C2-2 - EROS-DETL.dwg Layout: C8-4 EROSION CONTROL DETAILS (2 OF 2) Plotted: 8/1/2023 2:50:58 PM



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 ADDITIONAL 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

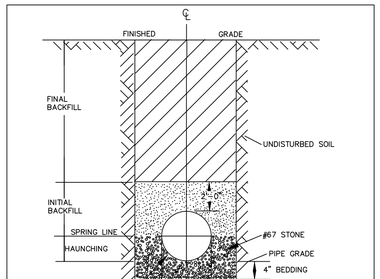
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-3	D.W.C.	11-1-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S.	10-5-10



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		

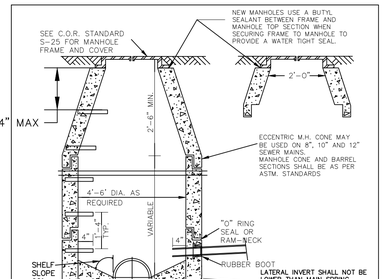


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

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.

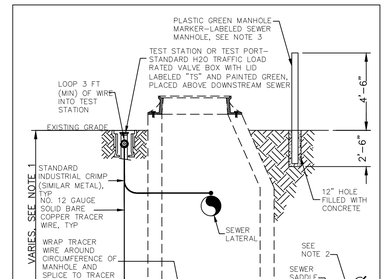
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

DWG. NO.	REVISIONS TO NOTES	DATE	REVISIONS	DATE
S-5		5-1-87	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

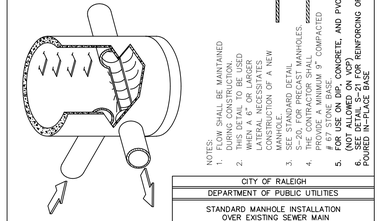
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-90	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



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

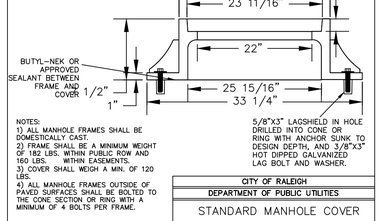
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WKD	09-14		



NOTES:
1. FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.
2. THIS DETAIL TO BE USED WHEN A 8" OR LARGER LATERAL IS ACCEPTED.
3. CONSTRUCTION OF A NEW MANHOLE.
4. SEE STANDARD DETAIL FOR CONNECTIONS TO MANHOLES.
5. THE CONTRACTOR SHALL PROVIDE A MINIMUM 9" COMPACTED STONE BASE.
6. FOR USE ON DIPS, CONCRETE, AND PVC (NOT ALLOWED ON VCP).
7. SEE STANDARD DETAIL S-4 FOR REINFORCING OF POURED IN PLACE 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.	6/16/08
	RRH	3-30-00	D.H.L.	

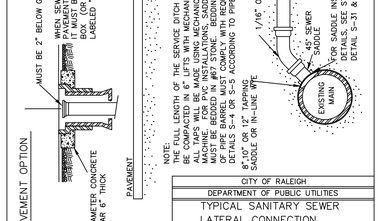


NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF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

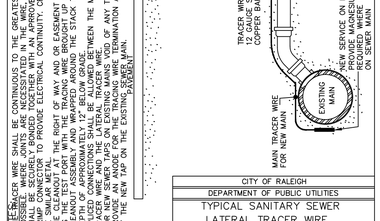
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE COVER

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	Y-1-87	3-30-00	D.H.L.	6-18-08
	RRH			

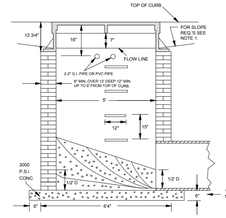


CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL CONNECTION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
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	RRH	3-30-00	D.H.L.	6-18-08

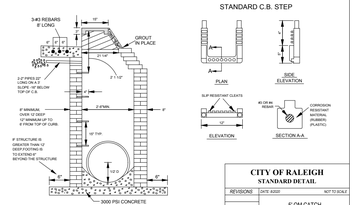


1. NOTES:
2. TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL 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.
3. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO TO BE PLACED BETWEEN THE SADDLE AND MAIN.
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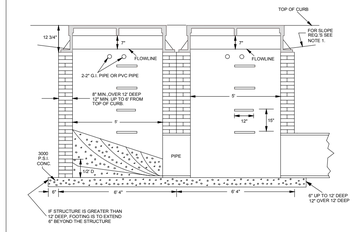
NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN AAA50 OR AAA15 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

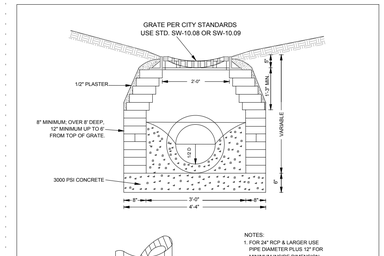
REVISIONS	DATE: 6/2020	NOT TO SCALE
	5' DM CATCH BASIN	
	SW-10.01	



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 16" 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

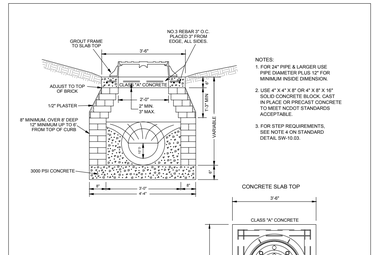
REVISIONS	DATE: 6/2020	NOT TO SCALE
	DOUBLE WIDTH CATCH BASIN	
	SW-10.02	



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

REVISIONS	DATE: 6/2020	NOT TO SCALE
	STANDARD DROP INLET	
	SW-10.03	



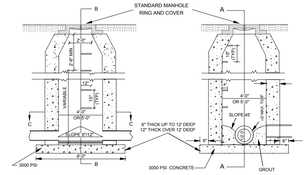
NOTES:
1. FOR 24" PIPE & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET NCDOT STANDARDS ACCEPTABLE.
3. FOR STEP REQUIREMENTS, SEE NOTE 4 ON STANDARD DETAIL SW-10.03.

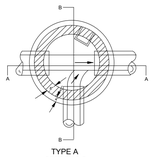
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	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"

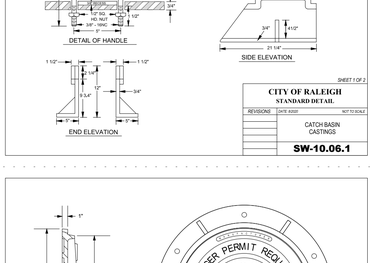




NOTES:
1. DEPTH MEASURED FROM TOP OF CASTING TO INVERT OF MANHOLE.
2. PRECAST MANHOLE COMPONENTS SHALL MEET ASTM-C-478 REQUIREMENTS.
3. SEE STANDARD. SW-10.10 FOR MANHOLE COVER DETAIL.
4. DOMESTIC CASTINGS REQUIRED WITHIN STREET RIGHT-OF-WAY.

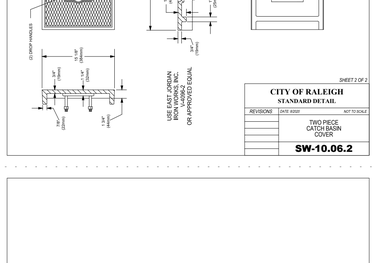
CITY OF RALEIGH
STANDARD DETAIL

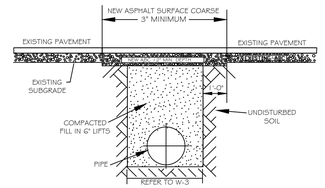
REVISIONS	DATE: 6/2020	NOT TO SCALE
	STANDARD CLASS "A" MANHOLE	
	SW-10.05	



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	CATCH BASIN CASTINGS	
	SW-10.06.1	


12" CRAWLLETTERING (RAISED)
RECESSED MOUNTING SURFACE FOR PAINTED MESSAGE
GREY IRON CASTING (RAISED)
COVER SECTION
23 1/2" (600mm)
7" (180mm)
3 3/4" (95mm)
2 1/2" (65mm)
ASSEMBLY SECTION
BACK SIDE OF ASSEMBLY SIDE GRATE SLOTS ONLY FOR VANE CONFIGURATION
(2) 5/8" X 4" ANCHOR BOLTS
MONTANTX
(3) 7/8"HEX 3/4" I.D HEX HD BOLTS (GALVANIZED WITH LOCK WASHERS)
(2) DRAG BAR
(2) DRAG BAR
(2) DRAG BAR

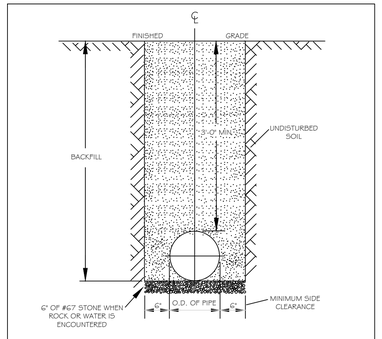


NOTES:
1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH 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.	4-1-04
	D.W.C.	11-1-99	J.P.S.	10-29-10

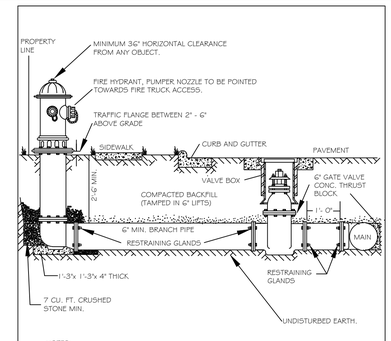


NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% 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.	3-31-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



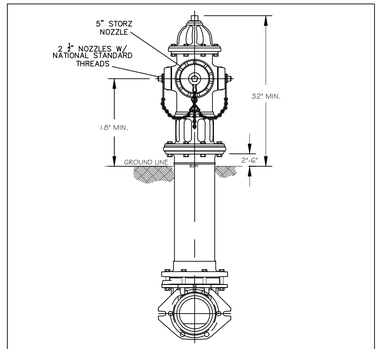
NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MIH, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR U.S PIPE.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
3. 6" GATE VALVE SHALL BE AWWA C500-96 OPEN LEFT
4. STEEL RODS AND BOLTS SHALL BE 8" HOT DIPPED GALVANIZED
5. 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 GRADE 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	2/17/09
	DHL	2/14/05		

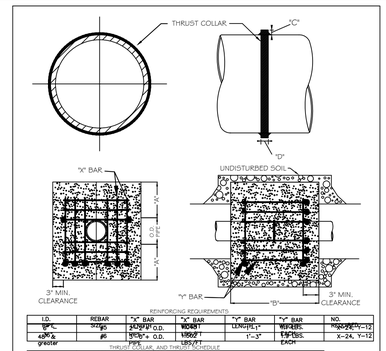


NOTES:
1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.
2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

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	9-13-17		



REINFORCING REQUIREMENTS

I.D.	REBAR	"A" BAR	"B" BAR	"C" BAR	NO.
6"-12"	#4	2'-0" O.D.	1'-0"	1'-3"	X-12, Y-12
16"& greater	#5	3'-0" O.D.	1'-0"	1'-3"	X-24, Y-12

THRUST COLLAR AND THRUST BLOCK SCHEDULE

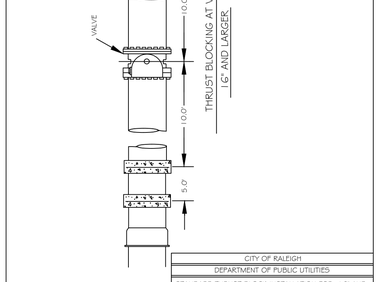
I.D. PIPE	"A"	"B"	"C"	"D"
6" - 16"	1'-4"	1'-7"	3"	5/8"
20" - 24"	1'-4"	1'-7"	3"	1/2"
30" - 36"	1'-4"	1'-7"	4"	5/8"
48" & greater	1'-5"	1'-9"	6"	7/8"

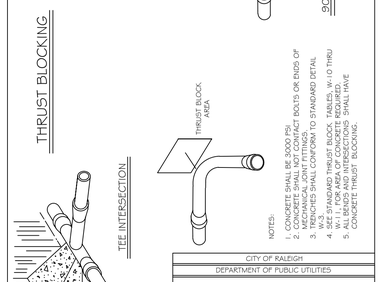
NOTES:
1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3.
5. BACKFILL 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	1-21-00	J.P.S.	11-1-10
	D.H.L.	6-18-08		





NOTES:
1. CONCRETE SHALL BE 3000 PSI.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. TRENCHES SHALL CONFORM TO STANDARD DETAIL W-3.
4. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-11, FOR AREA OF CONCRETE REQUIRED.
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	UNDISTURBED EARTH LBS/FT² 4000	SOFT CLAY 2000 LBS/FT²	LOOSE SAND, SILT, GRAVEL, ORDINARY FIRM CLAY	SATURATED SOFT CLAY, ORDINARY SOFT CLAY	SAND, COMPACT, FIRM 8000 LBS/FT²	SAND, CLEAN, DRY 4000 LBS/FT²	SOIL 1000 LBS/FT² DISTURBED	ROCK 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

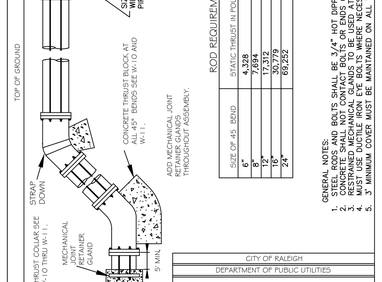
REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

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

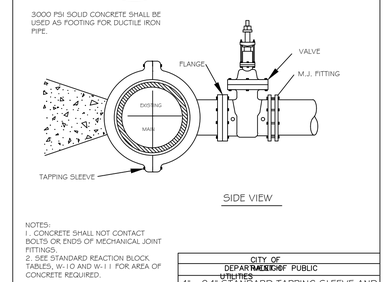
SIZE OF 45 BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	6
24"	69,252	8

GENERAL NOTES:
1. ALL STEEL RODS, BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. MEGATHRUST MECHANICAL GLANDS MAY BE USED IN LIEU OF CONCRETE BLOCKING AT ALL 45° BENDS, TEES, AND PLUGS.
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		

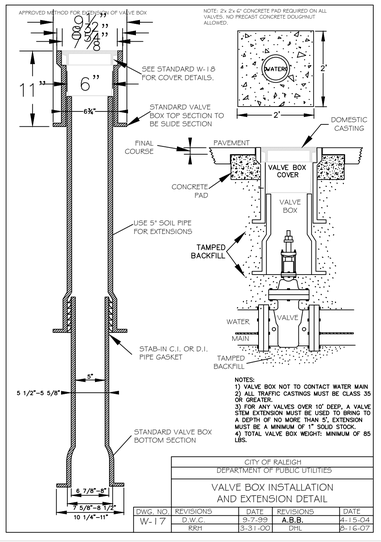


NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

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.	2-21-91	RRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10

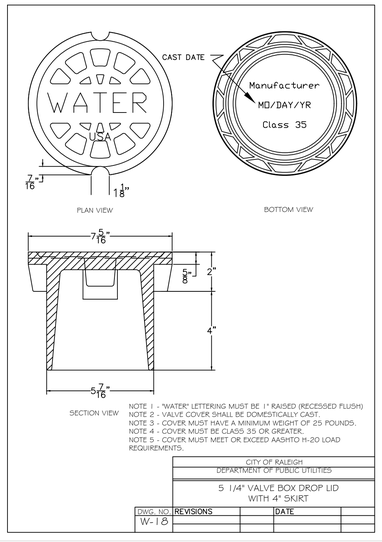


NOTES:
1) VALVE BOX NOT TO CONTACT WATER MAIN
2) ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER.
3) FOR ANY VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5', EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK.
4) TOTAL VALVE BOX WEIGHT: MINIMUM OF 85 LBS.

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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

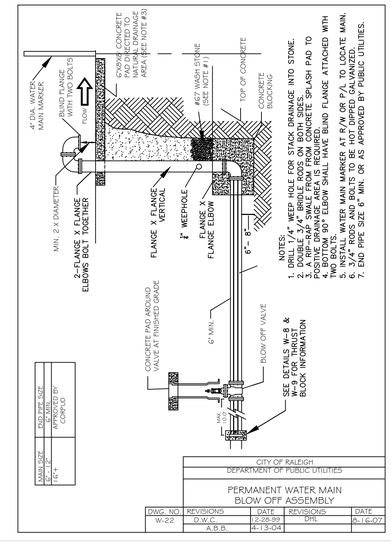


NOTE 1 - "WATER" LETTERING MUST BE 1" RAISED (RECESSED PLUSH)
NOTE 2 - VALVE COVER SHALL BE DOMESTICALLY CAST.
NOTE 3 - COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
NOTE 4 - COVER MUST BE CLASS 35 OR GREATER.
NOTE 5 - COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

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5 1/4" VALVE BOX DROP LID WITH 4" SKIRT

DWG. NO.	REVISIONS	DATE
W-18		



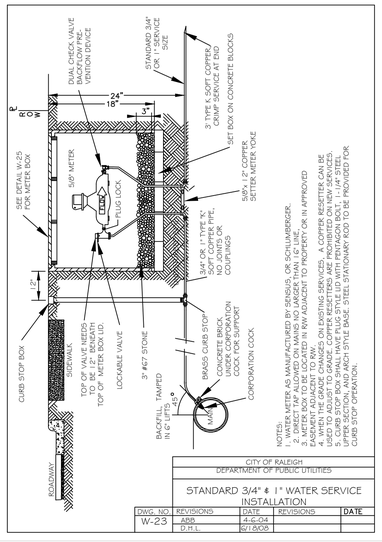
NOTES:
1. DRILL 1/4" WEEP HOLE FOR STACK DRAINAGE INTO STONE.
2. DOUBLE 3/4" BRIDLE RODS ON BOTH SIDES.
3. PIPE SHALL BE FREE FROM CONCRETE SPLASH PAD TO ALLOW FOR FLEXIBILITY OF JOINT.
4. BOTTOM 90° ELBOW SHALL HAVE BLIND FLANGE ATTACHED WITH TWO BOLTS.
5. INSTALL WATER MAIN MARKER AT R/W OR P/L TO 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.

MAIN SIZE	TEE SIZE	NO. OF RODS REQUIRED BY COPPER
6"x4"	6"	2
8"x6"	8"	4
12"x4"	12"	4

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	9-16-07
	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. INSTALL METER BOX AT LOCATION WHERE METER IS EASILY ACCESSIBLE FROM EASEMENT ADJACENT TO R/W.
4. COPPER RESETTING ONLY ON EXISTING SERVICES. A COPPER RESETTER 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 OPERATING ROD AND BE MARKED WITH BASE STEEL CAST IRON MARKED 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.	6/15/05		

REV	DATE	DESCRIPTION
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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

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MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

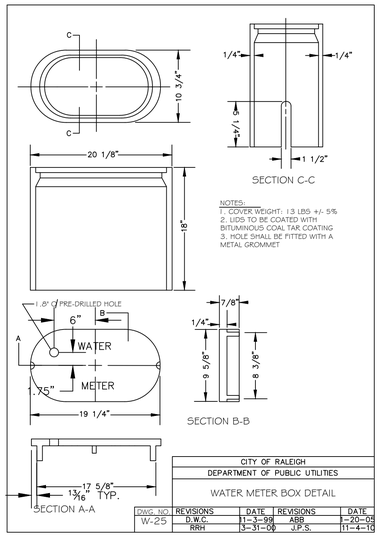
WATER DETAIL (1 OF 2)

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

FILE NUMBER: 8430-03
DATE: 08/01/2023
C8-7

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

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-6 - WATER DETAIL.dwg Layout: C8-7 WATER DETAIL (1 OF 2) Plotted: 8/1/2023 2:51:23 PM



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

WATER METER BOX DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-25	D.W.C.	11-3-99	ABB	1-20-05
	RRH	3-31-00	J.P.S.	11-4-15

REV							
06/01/2023							INITIAL SUBMITTAL
08/01/2023							PER TOWN OF ROLESVILLE COMMENT

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

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ROLESVILLE / NORTH CAROLINA / 27571

WATER DETAIL (2 OF 2)

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

FILE NUMBER: 8430-03

DATE: 08/01/2023

C8-8

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

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-8 - WATER DETAIL.dwg Layout: C8-8 WATER DETAIL (2 OF 2) Plotted: 8/1/2023 2:51:24 PM

RH DISTRICT OPEN SPACE CALCULATIONS

REQUIRED OPEN SPACE		
RH ZONING DISTRICT AREA	27.50	AC
REQUIRED OPEN SPACE (15%)	4.13	AC
REQUIRED ACTIVE OPEN SPACE (50% OF OPEN SPACE)	2.06	AC

OPEN SPACE #	CATEGORY	AREA (AC)	NATURAL RESOURCE AREA (AC)	SIZE CLASSIFCIATION	TYPE	PROGRAMMING ELEMENTS
4A	PASSIVE	0.59	0	SMALL	N/A	N/A
4B	ACTIVE	0.7	0	SMALL	AMENITY CENTER	POOL & POOLHOUSE, LAWN GAMES
5	PASSIVE	0.85	0	SMALL	N/A	N/A
6	PASSIVE	1.12	0	MEDIUM	N/A	N/A
7A	PASSIVE	7.15	1.39	LARGE	N/A	N/A
7B	ACTIVE	0.46	0	SMALL	POCKET PARK	PLAYGROUND, BENCHES
7C	ACTIVE	1.08	0	MEDIUM	NEIGHBORHOOD PARK	TOWN OF ROLESVILLE TO PROGRAM
7D	ACTIVE	0.12	0	SMALL	POCKET PARK	DOG PARK

PROVIDED OPEN SPACE		
TOTAL OPEN SPACE	12.07	AC
TOTAL ACTIVE OPEN SPACE	2.36	AC
TOTAL NATURAL RESOURCE AREA (20% MAX.)	11.52%	AC



LEGEND

- NATURAL RESOURCE / SCM AREAS NOT COUNTED TOWARD OPEN SPACE
- NATURAL RESOURCE AREAS COUNTED TOWARD OPEN SPACE
- PROPOSED FUTURE GREENWAY CONNECTION
- PHASE LINES
- DISC GOLF HOLE
- (T) TRASH RECEPTACLE
- (B) BENCH
- (BR) BIKE RACK

RM CLUSTER DISTRICT OPEN SPACE CALCULATIONS

REQUIRED OPEN SPACE		
RM CLUSTER ZONING DISTRICT AREA	57.89	AC
REQUIRED OPEN SPACE (12%)	6.95	AC
REQUIRED ACTIVE OPEN SPACE (50% OF OPEN SPACE)	3.47	AC
REQUIRED CLUSTER DEVELOPMENT OPEN SPACE TO BE DEDICATED AS A CONSERVATION ESMT. (40%)	23.16	AC

OPEN SPACE #	CATEGORY	TOTAL AREA (AC)	NATURAL RESOURCE AREA CONTAINED (AC)	SIZE CLASSIFCIATION	TYPE	PROGRAMMING ELEMENTS
1A	PASSIVE	16.99	3.41	LARGE	N/A	N/A
1B	ACTIVE	2.34	0.31	MEDIUM	NEIGHBORHOOD PARK	DISC GOLF COURSE
1C	ACTIVE	0.21	0	SMALL	POCKET PARK	BENCHES, LAWN GAMES
2A	PASSIVE	0.73	0.2	SMALL	N/A	N/A
2B	ACTIVE	0.28	0	SMALL	POCKET PARK	BENCHES, NATURE SIGNAGE
3A	PASSIVE	2.55	0.64	LARGE	N/A	N/A
3B	ACTIVE	0.31	0	SMALL	POCKET PARK	BENCHES, NATURE SIGNAGE
3C	ACTIVE	0.52	0	SMALL	POCKET PARK	OUTDOOR FITNESS STATIONS, BENCHES

PROVIDED OPEN SPACE		
TOTAL OPEN SPACE TO BE DEDICATED AS A CONSERVATION EASEMENT (40%)	23.93	AC
TOTAL ACTIVE OPEN SPACE	3.66	AC
TOTAL NATURAL RESOURCE AREA (20% MAX.)	19.06%	AC
TOTAL SCM POND AREA (5% MAX.)	3.64%	AC

N

0 75 150 300
SCALE: 1" = 150

Know what's below. Call before you dig.

REV	DATE	
		INITIAL SUBMITTAL
	06/01/2023	PER TOWN OF ROLESVILLE COMMENT
	08/01/2023	

DESIGNED BY: MC/RZ
DRAWN BY: MC
REVIEWED BY: RZ

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OPEN SPACE PLAN

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

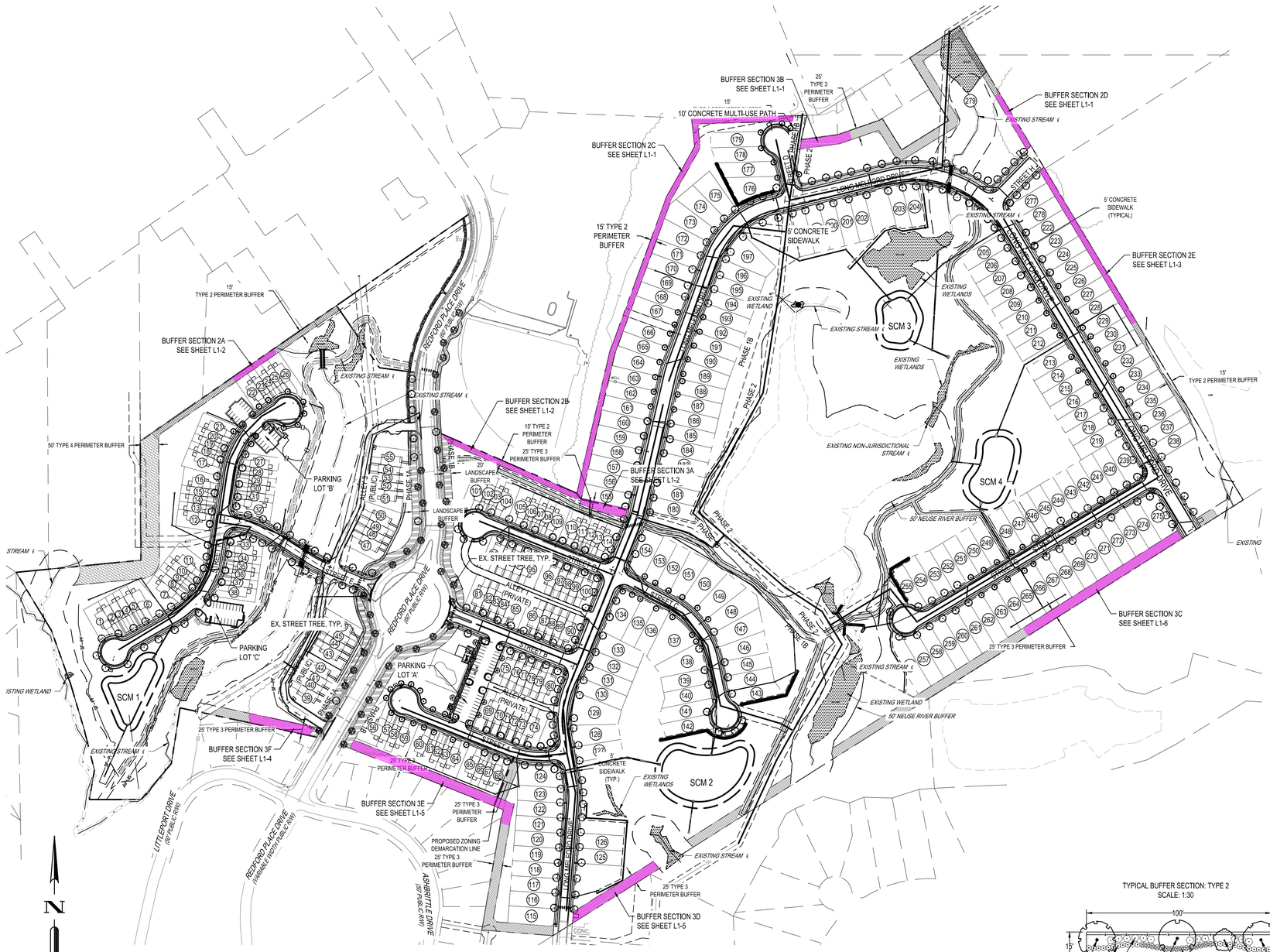
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

C9-0

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PLANT SCHEDULE: BUFFERS

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	AS	40	Acer saccharum	Sugar Maple	2" MIN.	8` MIN.
	QN	57	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
	UP	40	Ulmus parvifolia	Lacebark Elm	2" MIN.	8` MIN.
UNDERSTORY TREES	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CAL**	**HT**
	CC	17	Cercis canadensis	Eastern Redbud	1" MIN.	8` MIN.
	MS	40	Magnolia stellata	Star Magnolia	1" MIN.	8` MIN.
SHRUBS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**HT**	**SPR**
	AG	572	Abelia x grandiflora	Glossy Abelia	18-24"	18-24"
	IC	408	Ilex comuta 'Burfordii Nana'	Dwarf Burford Holly	18-24"	18-24"
	IR	266	Ilex crenata 'Rotundifolia'	Japanese Holly	18-24"	18-24"
	IG	272	Ilex glabra	Inkberry Holly	18-24"	18-24"
	IV	512	Ilex vomitoria 'Nana'	Dwarf Yaupon	18-24"	18-24"
	LC	102	Loropetalum chinense	Chinese Fringe Flower	18-24"	18-24"

BUFFER SECTION LACKING EXISTING VEGETATION OR DISTURBED BY GRADING. PLANT MATERIAL TO BE ADDED. SEE ENLARGEMENT SHEETS FOR QUANTITIES.

EXISTING STREET TREES ALONG REDFORD PLACE DRIVE (NOT SURVEYED, IDENTIFIED FROM AERIAL). FOR TREE SURVEY, SEE TREE PROTECTION PLAN. STREET TREES TO BE SURROUND BY PROTECTION FENCE - SEE SHEET L2-0 FOR DETAIL.

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 SHEET ENLARGEMENTS

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 SHEET ENLARGEMENTS

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: EX. VEGETATION TO SATISFY REQUIREMENT

STREET BUFFER - REDFORD PLACE DRIVE (COLLECTOR):
20' WIDTH, 2,037 LF OF FRONTAGE
REQUIRED: 1 STREET TREE EVERY 50 LF OF FRONTAGE
2,037 LF OF FRONTAGE / 50' = 41 TREES
PROVIDED: 9 CANOPY TREES
33 EXISTING CANOPY TREES TO COUNT TOWARD REQUIREMENT

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: 46 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: 48 TREES

STREET G
REQUIRED: 1,528 LF OF FRONTAGE / 40' = 38 TREES
PROVIDED: 39 TREES

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

LONG MELFORD DRIVE
REQUIRED: 6,800 LF OF FRONTAGE / 40' = 170 TREES
PROVIDED: 171 TREES

PLANT SCHEDULE: STREET TREES AND PARKING

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CAL	HT
	AS	75	Acer saccharum	Sugar Maple	2" MIN.	8` MIN.
	KP	6	Koelreuteria paniculata	Golden Rain Tree	2" MIN.	8` MIN.
	PS	92	Pistacia chinensis	Chinese Pistache	2" MIN.	8` MIN.
	QN	91	Quercus nuttallii	Nuttall Oak	2" MIN.	8` MIN.
	UP	66	Ulmus parvifolia	Lacebark Elm	2" MIN.	8` MIN.
	ZS	67	Zelkova serrata	Sawleaf Zelkova	2" MIN.	8` MIN.
SHRUBS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**HT**	**SPR**
	AG	42	Abelia x grandiflora	Glossy Abelia	18-24"	18-24"
	IV	46	Ilex vomitoria 'Nana'	Dwarf Yaupon	18-24"	18-24"

PARKING LANDSCAPE

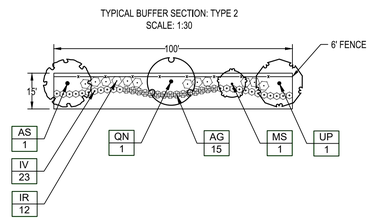
PARKING LOT 'A'
REQUIRED: PERIMETER SHRUBS 3' O.C. ROADWAY SCREENING
PROVIDED: 42 SHRUBS

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

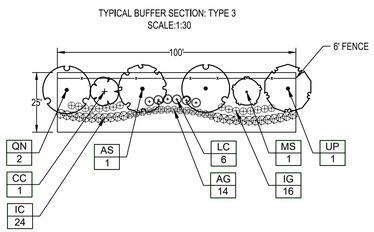
PARKING LOT 'B'
REQUIRED: PERIMETER SHRUBS 3' O.C. ROADWAY SCREENING
PROVIDED: 25 SHRUBS

PARKING LOT 'C'
REQUIRED: PERIMETER SHRUBS 3' O.C. ROADWAY SCREENING
PROVIDED: 21 SHRUBS

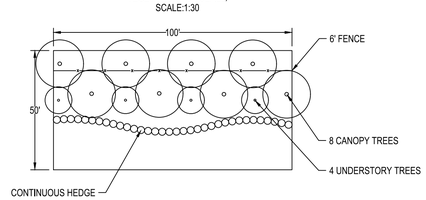
TYPICAL BUFFER SECTION: TYPE 2
SCALE: 1:30



TYPICAL BUFFER SECTION: TYPE 3
SCALE:1:30



TYPICAL BUFFER SECTION: TYPE 4 (EXISTING VEGETATION TO FULFILL)
SCALE:1:30



Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

OVERALL LANDSCAPE PLAN

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

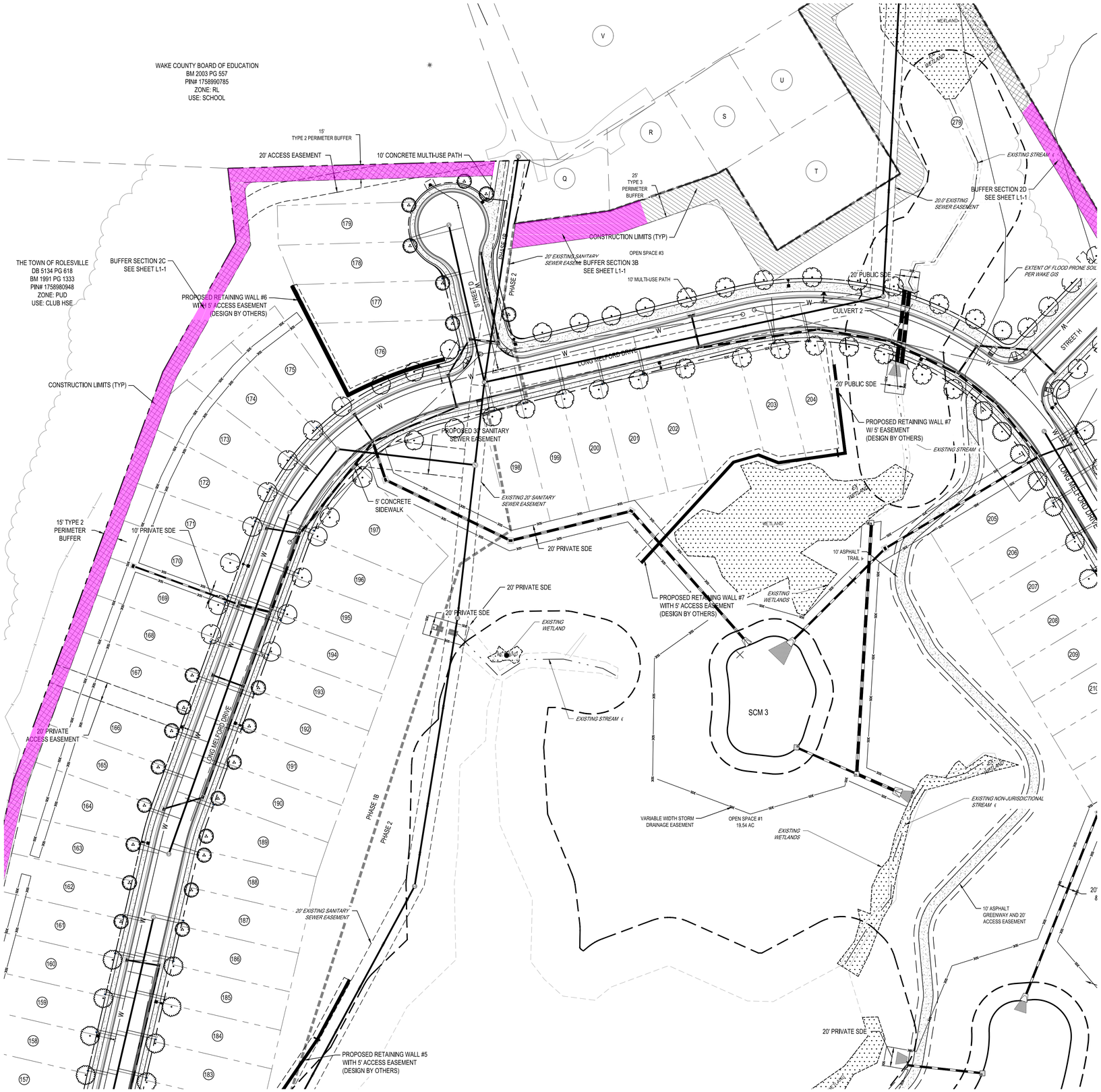
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

L1-0

g:\NCA\Projects\Lennar\8430-03 - lennar - school street - rolesville\03 - DWG\plansheets\On-Site\L1-0 - LS PLAN.dwg Layout: L1-0 OVERALL LANDSCAPE PLAN Plotted: 8/1/2023 2:28:11 PM



BUFFER SECTION 2C: 1,333 LF	
CANOPY TREES	COMMON NAME
13	Lacebark Elm
13	Nuttall Oak
13	Sugar Maple
UNDERSTORY TREES	COMMON NAME
13	Star Magnolia
SHRUBS	COMMON NAME
307	Dwarf Yaupon
200	Glossy Abelia
160	Japanese Holly

BUFFER SECTION 2D: 167 LF	
CANOPY TREES	COMMON NAME
2	Lacebark Elm
2	Nuttall Oak
2	Sugar Maple
UNDERSTORY TREES	COMMON NAME
2	Star Magnolia
SHRUBS	COMMON NAME
38	Dwarf Yaupon
25	Glossy Abelia
20	Japanese Holly

BUFFER SECTION 3B: 138 LF	
CANOPY TREES	COMMON NAME
1	Sugar Maple
3	Nuttall Oak
1	Lacebark Elm
UNDERSTORY TREES	COMMON NAME
1	Eastern Redbud
1	Star Magnolia
SHRUBS	COMMON NAME
19	Glossy Abelia
33	Dwarf Burford Holly
22	Inkberry Holly
8	Chinese Fringe Flower

PLANT KEY	
CANOPY TREES	COMMON NAME
	Sugar Maple
	Golden Rain Tree
	Chinese Pistache
	Nuttall Oak
	Lacebark Elm
	Sawleaf Zelkova
SHRUBS	COMMON NAME
	Glossy Abelia
	Dwarf Yaupon

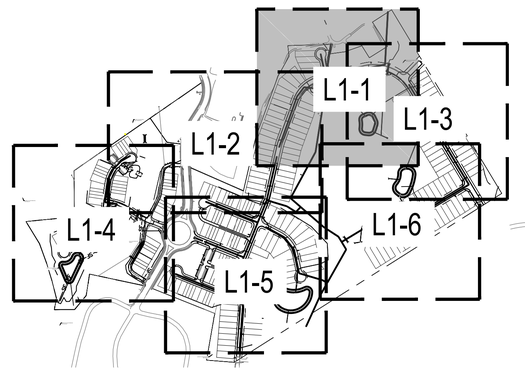
LANDSCAPE BUFFERS

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'

Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
3		
2		
1		
	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	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 No.1155 ROBERT C. ZUMWALT

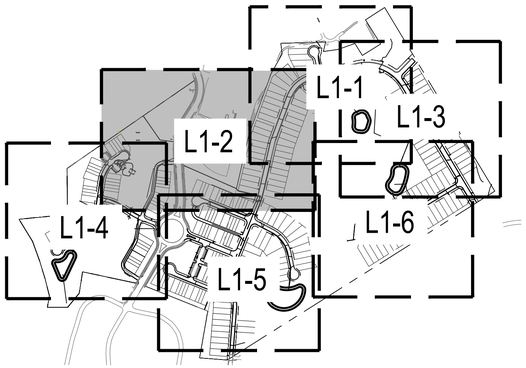
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

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: 8/1/2023 2:28:36 PM



LANDSCAPE BUFFERS

PERIMETER BUFFER TYPE 2 (15' WIDTH)

PERIMETER BUFFER TYPE 3 (25' WIDTH)

PERIMETER BUFFER TYPE 4 (50' WIDTH)

STREET BUFFER (20' WIDTH)

PLANT KEY

CANOPY TREES	COMMON NAME
	Sugar Maple
	Golden Rain Tree
	Chinese Pistache
	Nuttall Oak
	Lacebark Elm
	Sawleaf Zelkova
SHRUBS	COMMON NAME
	Glossy Abelia
	Dwarf Yaupon

BUFFER SECTION 2A: 135 LF

CANOPY TREES	COMMON NAME
1	Lacebark Elm
1	Nuttall Oak
1	Sugar Maple
UNDERSTORY TREES	COMMON NAME
1	Star Magnolia
SHRUBS	COMMON NAME
31	Dwarf Yaupon
20	Glossy Abelia
16	Japanese Holly

BUFFER SECTION 2B: 387 LF

CANOPY TREES	COMMON NAME
4	Lacebark Elm
4	Nuttall Oak
4	Sugar Maple
UNDERSTORY TREES	COMMON NAME
4	Star Magnolia
SHRUBS	COMMON NAME
89	Dwarf Yaupon
58	Glossy Abelia
46	Japanese Holly

BUFFER SECTION 3A: 127 LF

CANOPY TREES	COMMON NAME
1	Sugar Maple
3	Nuttall Oak
1	Lacebark Elm
UNDERSTORY TREES	COMMON NAME
1	Eastern Redbud
1	Star Magnolia
SHRUBS	COMMON NAME
18	Glossy Abelia
30	Dwarf Burford Holly
20	Inkberry Holly
8	Chinese Fringe Flower

REDFORD PLAZA, LLC
DB 16331 PG 976
BM 2006 PG 1022
PIN# 1758882842
ZONE: R&PUD
USE: BUSINESS

EXTENT OF FLOOD PRONE SOIL PER WAKE GIS

15' TYPE 2 PERIMETER BUFFER

CULVERT 4

WETLAND

BUFFER SECTION 2A SEE SHEET L1-2

EXISTING STREAM

MITS (TYP)

PROPOSED 10' PUBLIC UTILITY EASEMENT

20' PRIVATE SDE

5' PRIVATE UTILITY EASEMENT (TYP)

PROPOSED 10' ASPHALT GREENWAY WITH 20' EASEMENT

PARKING LOT 'B'

EXISTING STREAM

20' PRIVATE SDE

20' PUBLIC SDE

20' PRIVATE SDE

20' PUBLIC SDE

STREET E

EXISTING 30' COR PUBLIC UTILITY EASEMENT

OPEN SPACE #5
0.85 AC

20'X40' SIGN EASEMENT (TYP)

REDFORD PLACE DRIVE (60' PUBLIC R/W)

EXTENT OF FLOOD PRONE SOIL PER WAKE GIS

20' PUBLIC SDE

PARALLEL PARKING

RIM OF EXISTING MH TO BE REPLACED WITH JUNCTION BOX LID

10' CORPUE

ALLEY 3 (PUBLIC)

PHASE 1A

20' LANDSCAPE BUFFER

OPEN SPACE #6
1.12 AC

10' CORPUE

20' PRIVATE SDE

20' PUBLIC SDE

EXISTING ROLESVILLE PARK

BUFFER SECTION 2B SEE SHEET L1-2

15' TYPE 2 PERIMETER BUFFER

20' LANDSCAPE BUFFER

25' TYPE 3 PERIMETER BUFFER

BUFFER SECTION 3A SEE SHEET L1-2

EX. STREET TREE, TYP.

ALLEY 4 (PRIVATE)

20' PRIVATE ACCESS EASEMENT

LONG HEREFORD DRIVE

PHASE 1B

PHASE 2

20' EXISTING SANITARY SEWER EASEMENT

PROPOSED RETAINING WALL #5 WITH 5' ACCESS EASEMENT (DESIGN BY OTHERS)

10' PRIVATE SDE

STREET C

N

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

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

REV	DATE	
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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

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ROLESVILLE / NORTH CAROLINA / 27571

ENLARGED LANDSCAPE PLAN (2 OF 6)

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

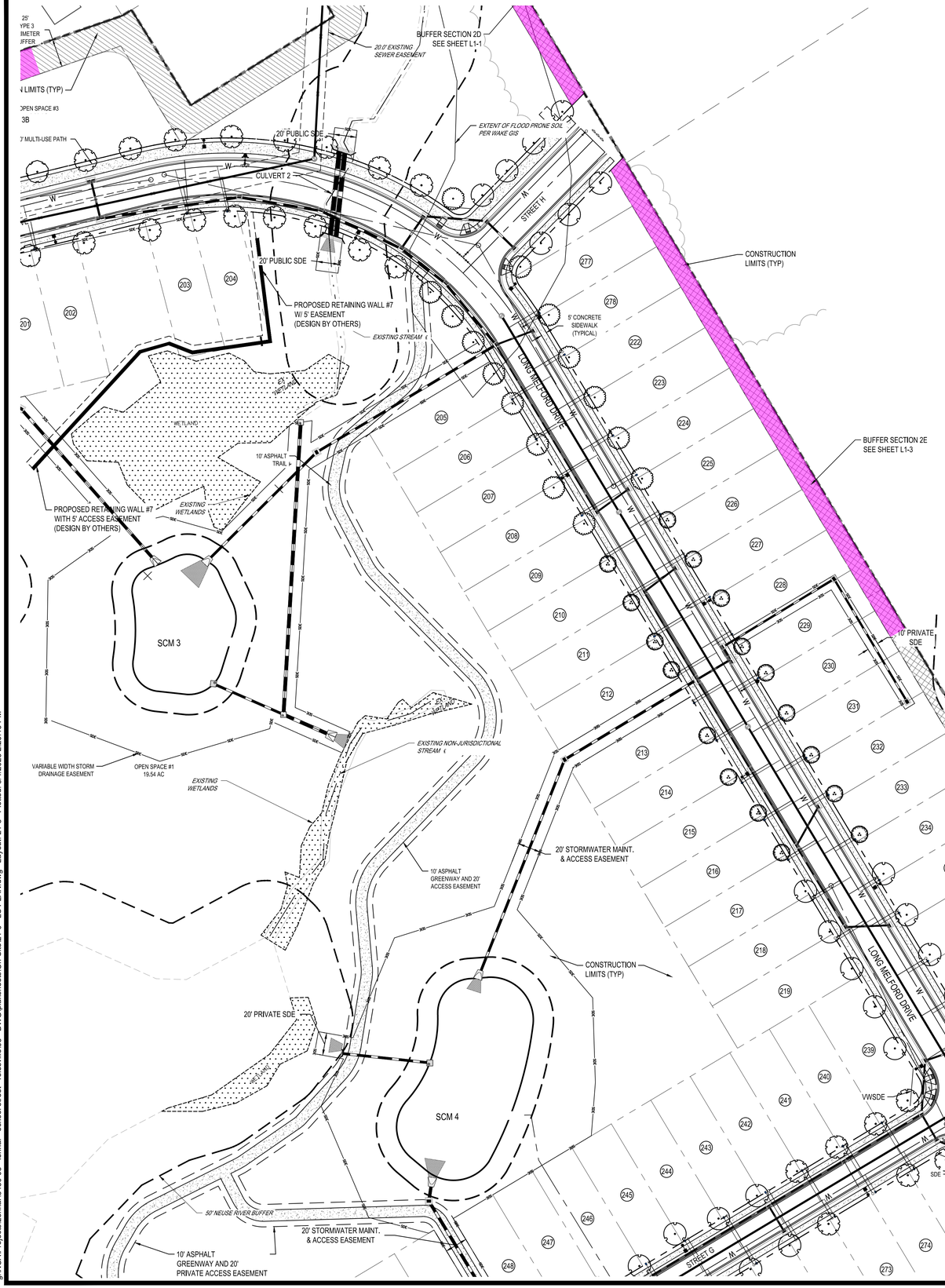
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FILE NUMBER: 8430-03

DATE: 08/01/2023

L1-2

g:\NCA\Projects\Lennar\8430-03 - lennar - school street - rolesville\03 - DWG\plansheets\On-Site\L1-0 - LS PLAN.dwg Layout: L1-2 Plotted: 8/1/2023 2:28:59 PM



BUFFER SECTION 2E: 486 LF	
CANOPY TREES	COMMON NAME
5	Lacebark Elm
5	Nuttall Oak
5	Sugar Maple
UNDERSTORY TREES	COMMON NAME
5	Star Magnolia
SHRUBS	COMMON NAME
112	Dwarf Yaupon
73	Glossy Abelia
58	Japanese Holly

LANDSCAPE BUFFERS

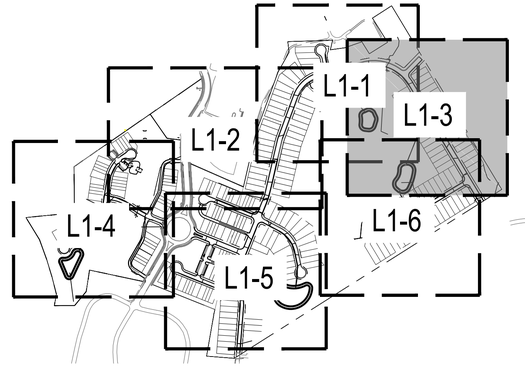
PERIMETER BUFFER TYPE 2 (15' WIDTH)

PERIMETER BUFFER TYPE 3 (25' WIDTH)

PERIMETER BUFFER TYPE 4 (50' WIDTH)

STREET BUFFER (20' WIDTH)

PLANT KEY	
CANOPY TREES	COMMON NAME
	Sugar Maple
	Golden Rain Tree
	Chinese Pistache
	Nuttall Oak
	Lacebark Elm
	Sawleaf Zelkova
SHRUBS	COMMON NAME
	Glossy Abelia
	Dwarf Yaupon



N

0 25' 50' 100'

SCALE: 1" = 50'

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

REV	DATE	
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ENLARGED LANDSCAPE PLAN (3 OF 6)

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

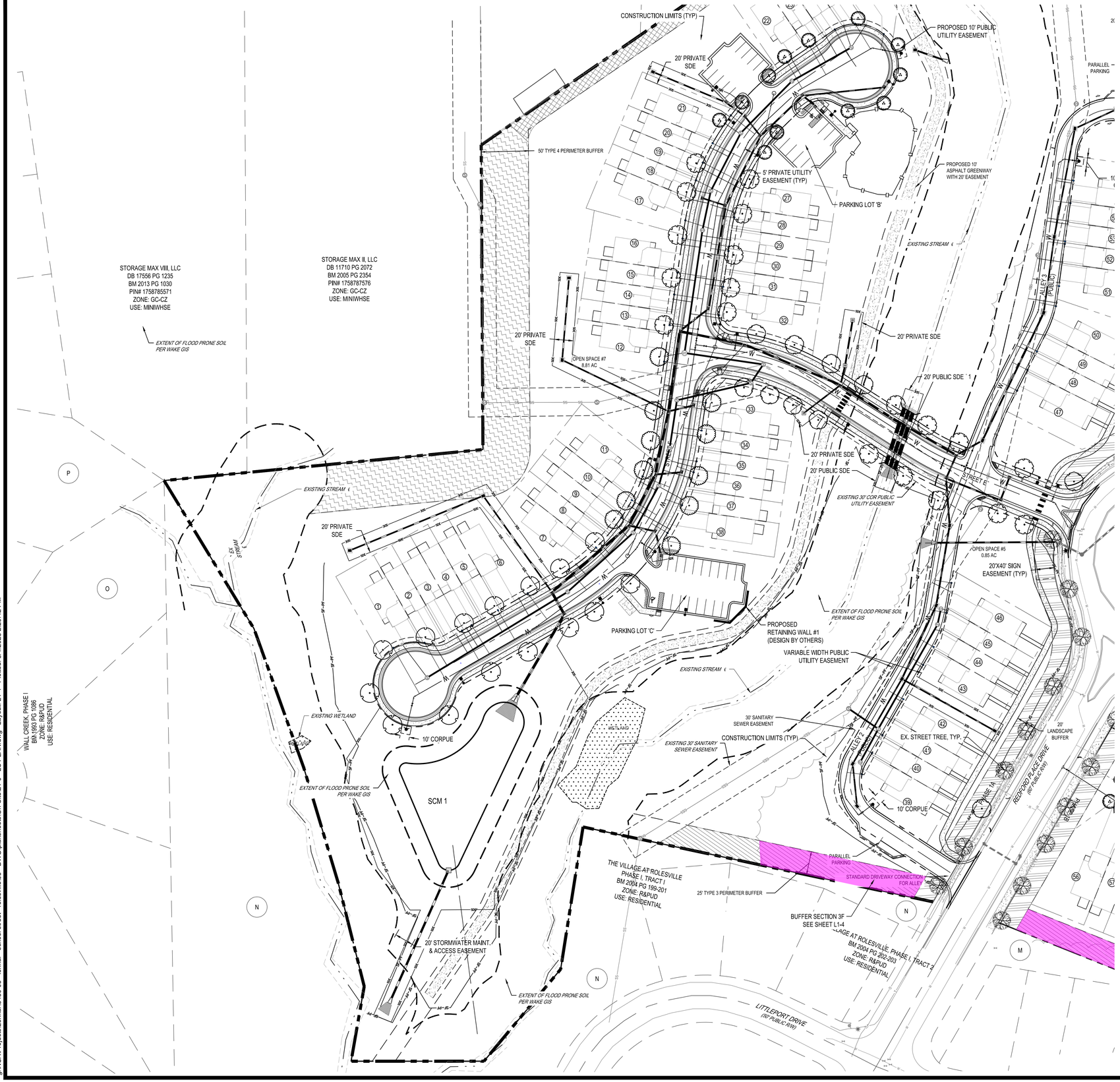
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

L1-3

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BUFFER SECTION 3F: 172 LF	
CANOPY TREES	COMMON NAME
2	Sugar Maple
3	Nuttall Oak
2	Lacebark Elm
UNDERSTORY TREES	COMMON NAME
2	Eastern Redbud
2	Star Magnolia
SHRUBS	COMMON NAME
24	Glossy Abelia
41	Dwarf Burford Holly
28	Inkberry Holly
10	Chinese Fringe Flower

LANDSCAPE BUFFERS

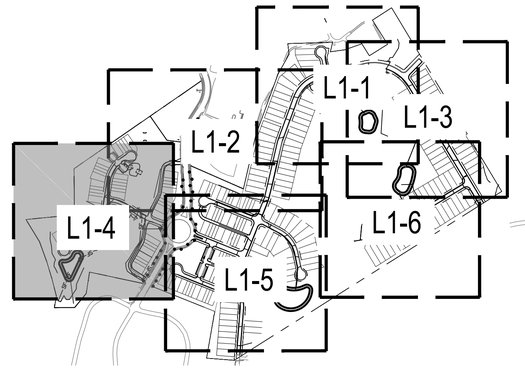
PERIMETER BUFFER TYPE 2 (15' WIDTH)

PERIMETER BUFFER TYPE 3 (25' WIDTH)

PERIMETER BUFFER TYPE 4 (50' WIDTH)

STREET BUFFER (20' WIDTH)

PLANT KEY	
CANOPY TREES	COMMON NAME
	Sugar Maple
	Golden Rain Tree
	Chinese Pistache
	Nuttall Oak
	Lacebark Elm
	Sawleaf Zelkova
SHRUBS	COMMON NAME
	Glossy Abelia
	Dwarf Yaupon



N

0 25' 50' 100'

SCALE: 1" = 50'

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

REV	DATE	DESCRIPTION
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ENLARGED LANDSCAPE PLAN (4 OF 6)

NORTH CAROLINA REGISTERED No.1155 LANDSCAPE ARCHITECT ROBERT C. ZUMMO, JR.

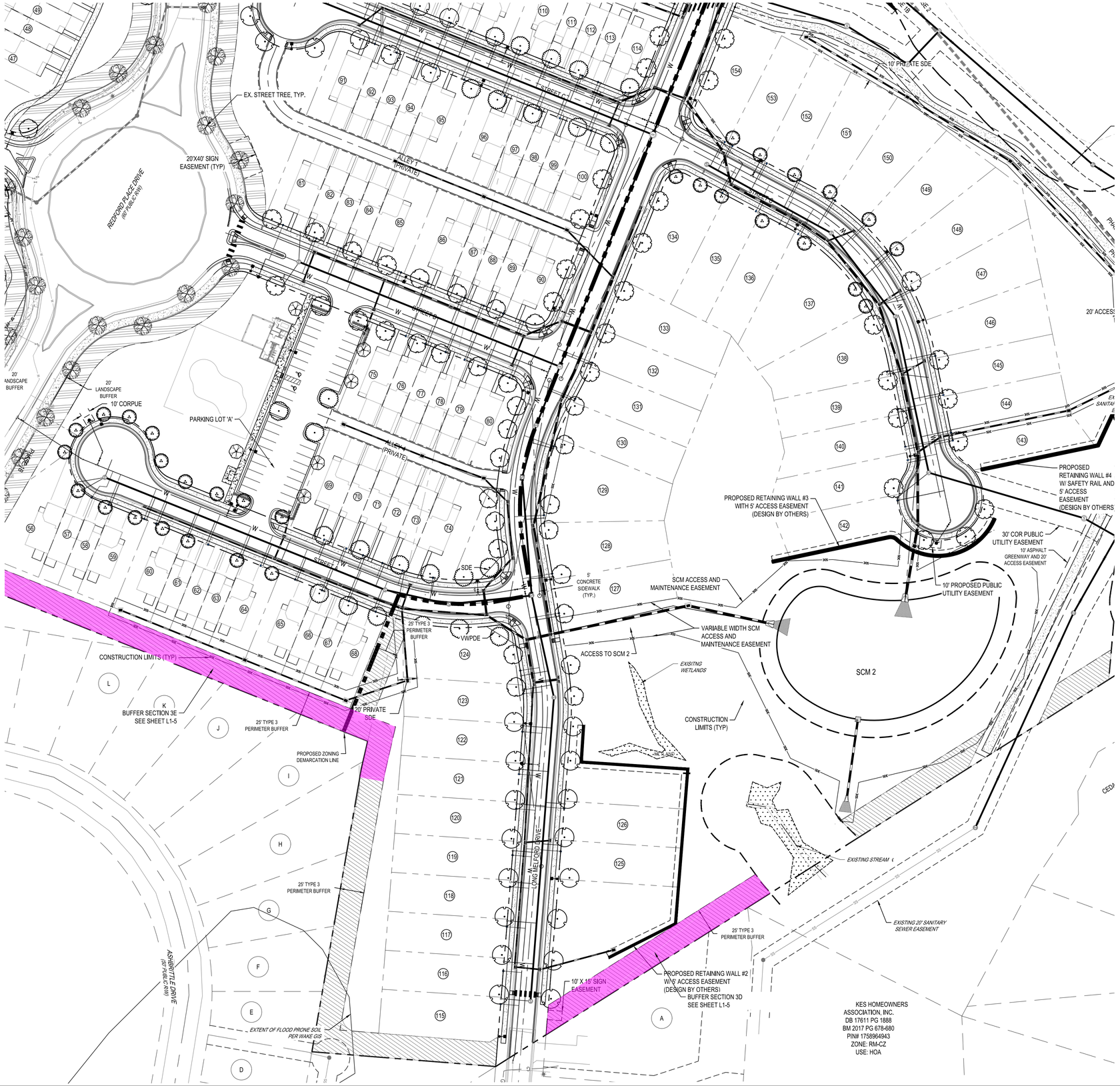
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

L1-4

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BUFFER SECTION 3D: 265 LF	
CANOPY TREES	COMMON NAME
3	Sugar Maple
5	Nuttall Oak
3	Lacebark Elm
UNDERSTORY TREES	COMMON NAME
3	Eastern Redbud
3	Star Magnolia
SHRUBS	COMMON NAME
37	Glossy Abelia
64	Dwarf Burford Holly
42	Inkberry Holly
16	Chinese Fringe Flower

BUFFER SECTION 3E: 506 LF	
CANOPY TREES	COMMON NAME
5	Sugar Maple
10	Nuttall Oak
5	Lacebark Elm
UNDERSTORY TREES	COMMON NAME
5	Eastern Redbud
5	Star Magnolia
SHRUBS	COMMON NAME
71	Glossy Abelia
121	Dwarf Burford Holly
81	Inkberry Holly
30	Chinese Fringe Flower

PLANT KEY	
CANOPY TREES	COMMON NAME
	Sugar Maple
	Golden Rain Tree
	Chinese Pistache
	Nuttall Oak
	Lacebark Elm
	Sawleaf Zelkova
SHRUBS	COMMON NAME
	Glossy Abelia
	Dwarf Yaupon

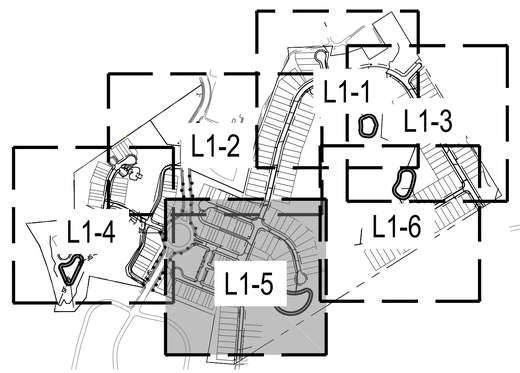
LANDSCAPE BUFFERS

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'

Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ENLARGED LANDSCAPE PLAN (5 OF 6)

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

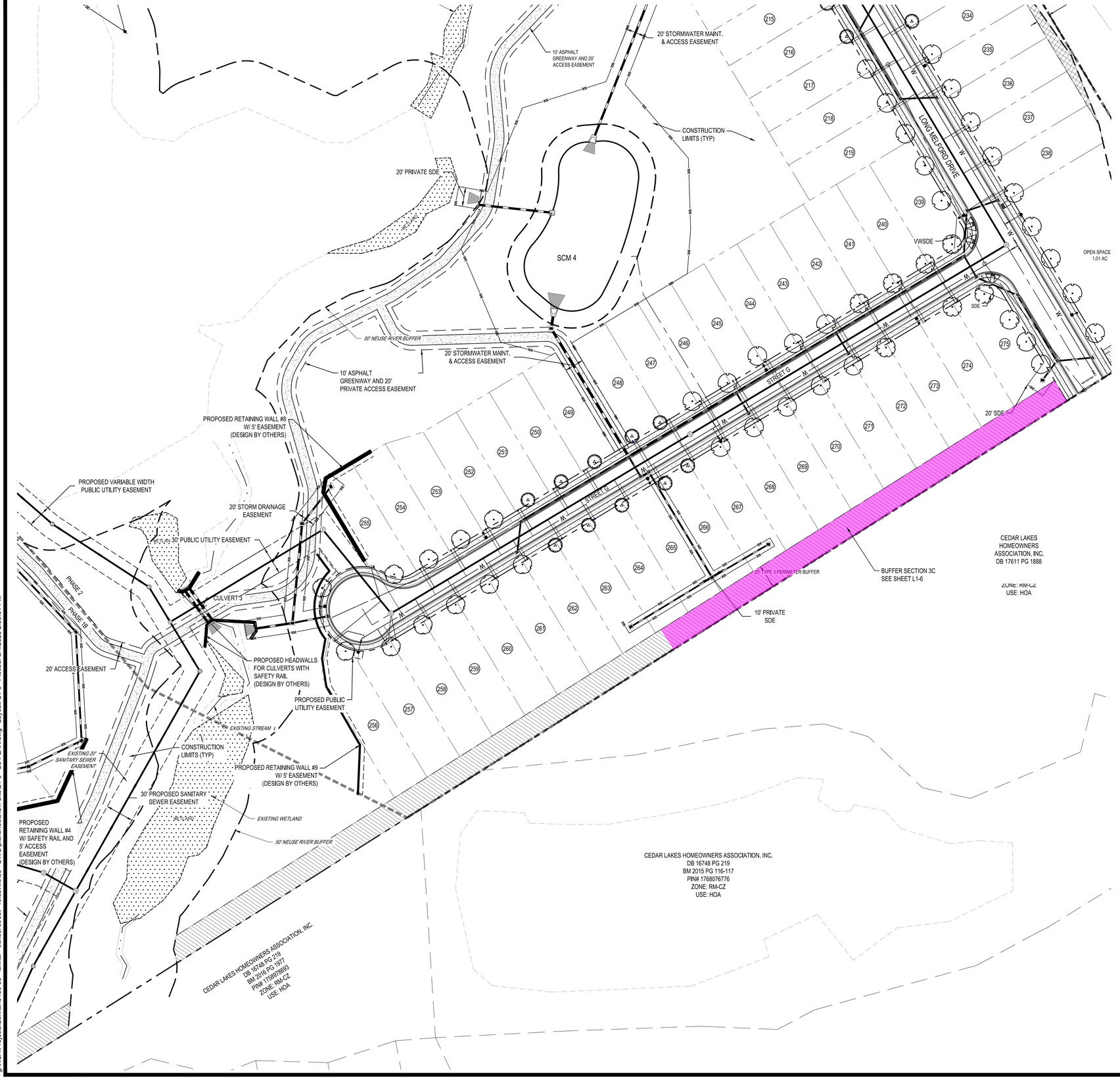
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FILE NUMBER: 8430-03

DATE: 08/01/2023

L1-5

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BUFFER SECTION 3C: 494 LF	
CANOPY TREES	COMMON NAME
5	Sugar Maple
10	Nuttall Oak
5	Lacebark Elm
UNDERSTORY TREES	COMMON NAME
5	Eastern Redbud
5	Star Magnolia
SHRUBS	COMMON NAME
69	Glossy Abelia
119	Dwarf Burford Holly
79	Inkberry Holly
30	Chinese Fringe Flower

LANDSCAPE BUFFERS

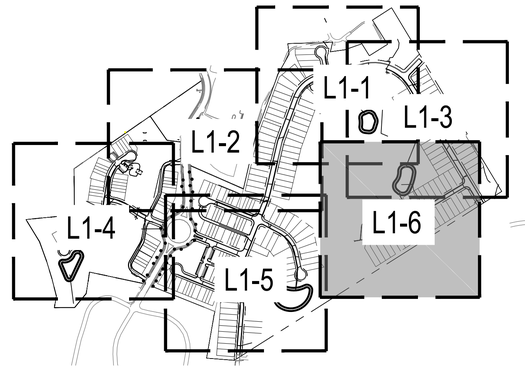
PERIMETER BUFFER TYPE 2 (15' WIDTH)

PERIMETER BUFFER TYPE 3 (25' WIDTH)

PERIMETER BUFFER TYPE 4 (50' WIDTH)

STREET BUFFER (20' WIDTH)

PLANT KEY	
CANOPY TREES	COMMON NAME
	Sugar Maple
	Golden Rain Tree
	Chinese Pistache
	Nuttall Oak
	Lacebark Elm
	Sawleaf Zelkova
SHRUBS	COMMON NAME
	Glossy Abelia
	Dwarf Yaupon



REV	DATE	DESCRIPTION
	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

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

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ENLARGED LANDSCAPE PLAN (6 OF 6)

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

NOT FOR CONSTRUCTION

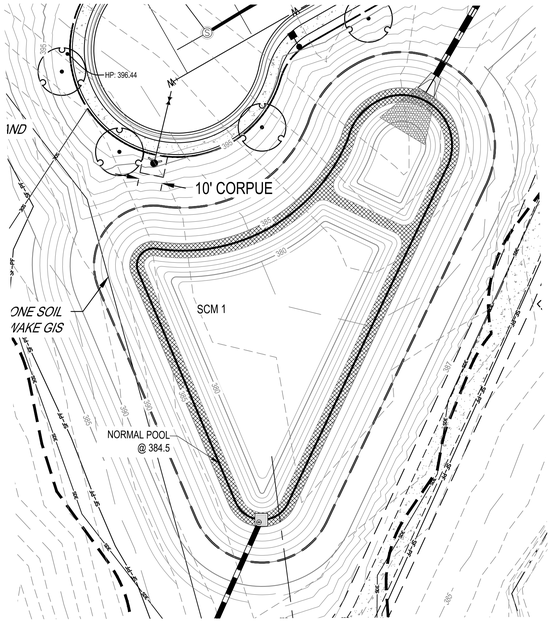
FILE NUMBER: 8430-03

DATE: 08/01/2023

L1-6

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

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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.)

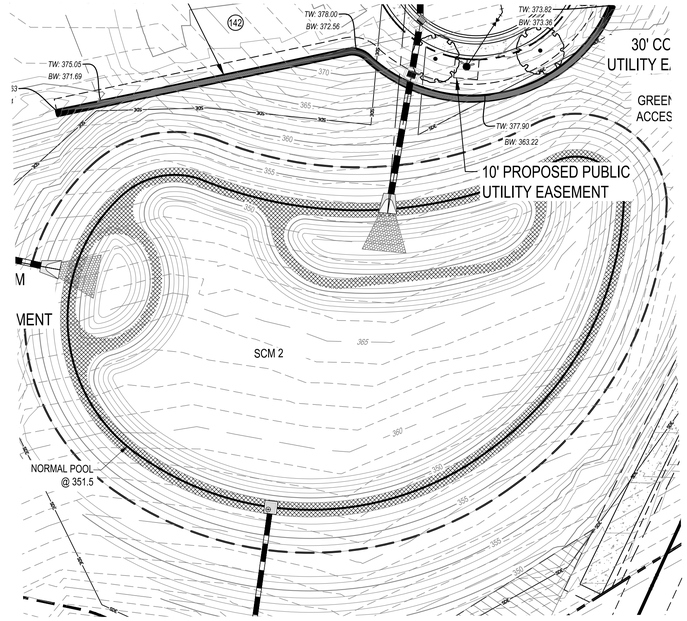
REQUIRED: .25 PLANTS PER SQUARE FOOT (3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 3,065 SF = 766 PLANTS

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.)

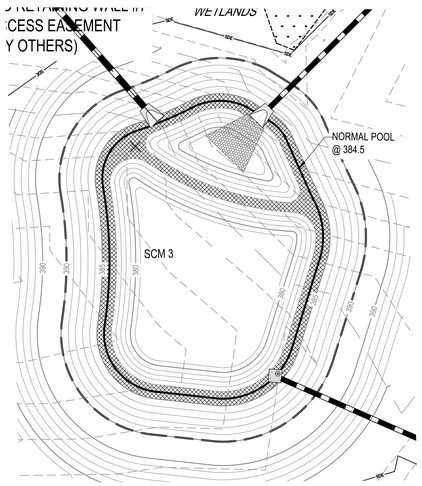
REQUIRED: .25 PLANTS PER SQUARE FOOT (3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 5,108 SF = 1,277 PLANTS

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



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.)

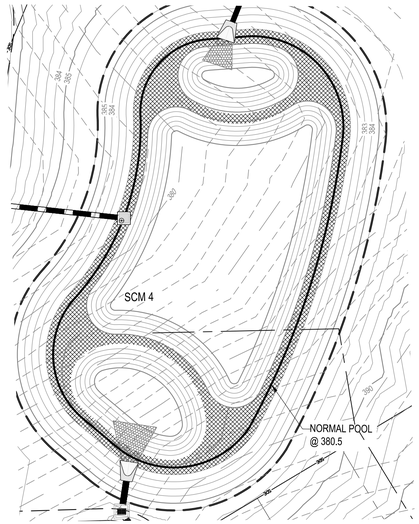
REQUIRED: .25 PLANTS PER SQUARE FOOT (3 MINIMUM HERBACEOUS SPECIES)
0.25 PLANTS x 2,574 SF = 644 PLANTS

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

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.

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

REV	DATE	
1	06/01/2023	INITIAL SUBMITTAL
2	08/01/2023	PER TOWN OF ROLESVILLE COMMENT

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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SCM PLANTINGS

NORTH CAROLINA PROFESSIONAL SEAL 028892 ENGINEER DEBRA M. FERN

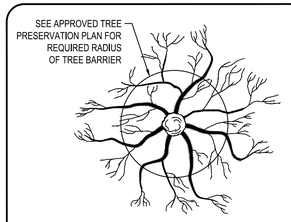
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FILE NUMBER: 8430-03

DATE: 08/01/2023

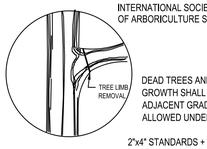
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PLAN VIEW OF ROOT ZONE

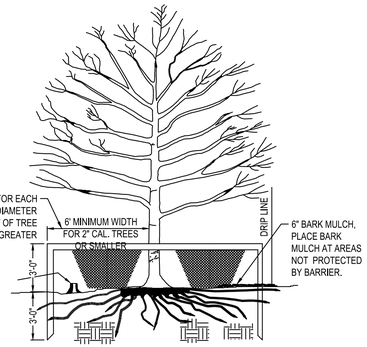
NOTES:
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
2. LANDSCAPING PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
3. REFER TO MUNICIPALITY FOR LANDSCAPE CONSTRUCTION STANDARDS
4. FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION.



FOR PRUNING SEE INTERNATIONAL SOCIETY OF ARBORICULTURE SPECS.

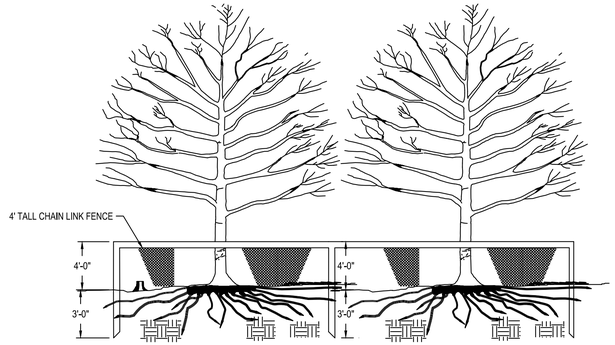
DEAD TREES AND SCRUB OR UNDER GROWTH SHALL BE CUT FLUSH WITH ADJACENT GRADE. NO GRUBBING ALLOWED UNDER DRIP LINE.

2"x4" STANDARDS + 1"x4" RAILS OR ORANGE SAFETY FENCING MAY BE USED.



NOT TO SCALE

TREE PROTECTION DETAIL

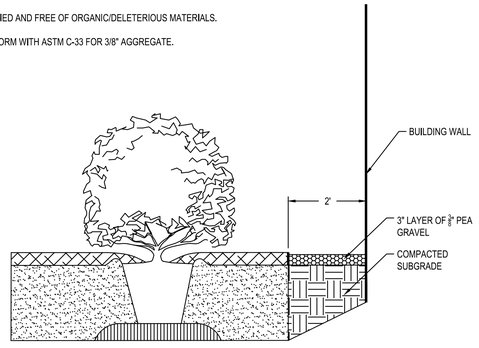


NOTES:
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT
2. LANDSCAPING PLANS SHALL SHO2W THE LOCATIONS OF ALL THREE PROTECTION FENCES
3. REFER TO MUNICIPALITY FOR LANDSCAPE CONSTRUCTION STANDARDS
4. FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION

NOT TO SCALE

TREE PROTECTION BARRICADE WITH 4' CHAIN LINK FENCE DETAIL

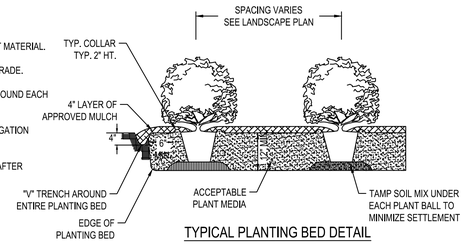
NOTES:
1. PEA GRAVEL SHALL BE DRIED AND FREE OF ORGANIC/DELETERIOUS MATERIALS.
2. PEA GRAVEL SHALL CONFORM WITH ASTM C-33 FOR 3/8" AGGREGATE.



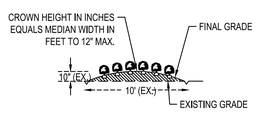
NOT TO SCALE

FOUNDATION PEA GRAVEL DETAIL

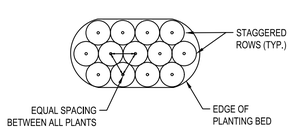
NOTES:
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINSHED GRADE.
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



TYPICAL PLANTING BED DETAIL



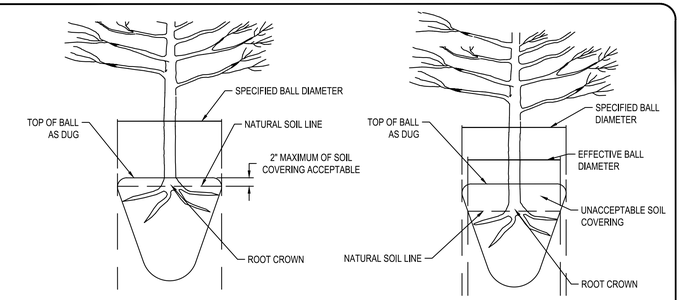
TYPICAL BED CROWNING



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)

REV						
					08/01/2023	PER TOWN OF ROLESVILLE COMMENT
					06/01/2023	INITIAL SUBMITTAL

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

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LANDSCAPE DETAILS

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

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

L2-0

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PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
- EASEMENT TEXT
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
- TREE PROTECTION FENCE
- TREE TO BE SAVED
- TREE TO BE REMOVED

TREE CONSERVATION DATA

TOTAL QUALIFYING TREES ON SITE (>18" DBH)	1,315 TREES
TREE SAVE REQUIRED	132 TREES (10% OF TOTAL)
TREE SAVE PROVIDED	236 TREES (17.95% OF TOTAL)

N

0 75 150 300
SCALE: 1" = 150

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REV		
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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REVIEWED BY: DF

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OVERALL TREE CONSERVATION PLAN

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

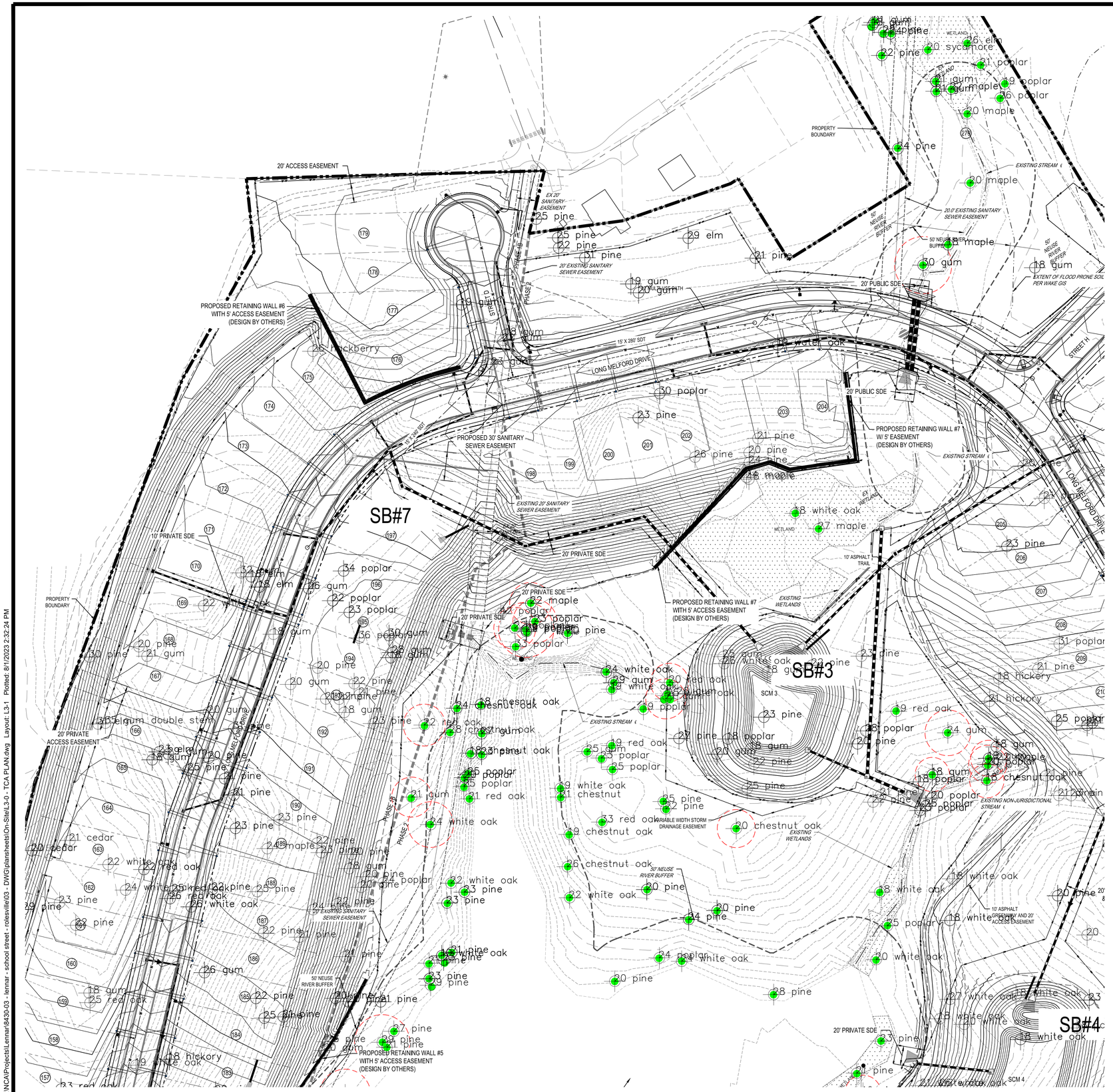
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 08/01/2023

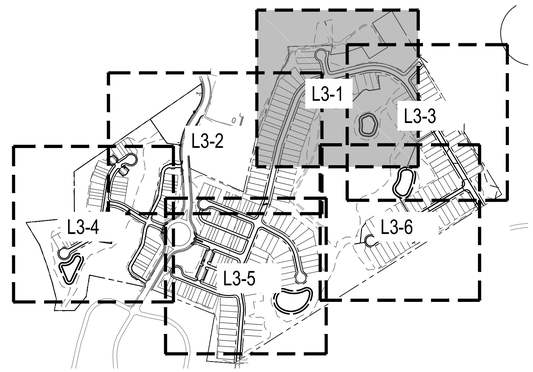
L3-0

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PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
  EASEMENT TEXT
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
- SF—PF — TREE PROTECTION FENCE
- TREE TO BE SAVED
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE (1 FT FROM TREE TRUNK FOR EACH 1 INCH OF TREE DIAMETER) ROOT ZONES SHOWN ONLY ON TREES CLOSE TO TREE PROTECTION FENCING.



N

0 75 150 300
SCALE: 1" = 150

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REV	DATE	DESCRIPTION
1	06/01/2023	INITIAL SUBMITTAL
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ENLARGED TCA PLAN
(1 OF 6)

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

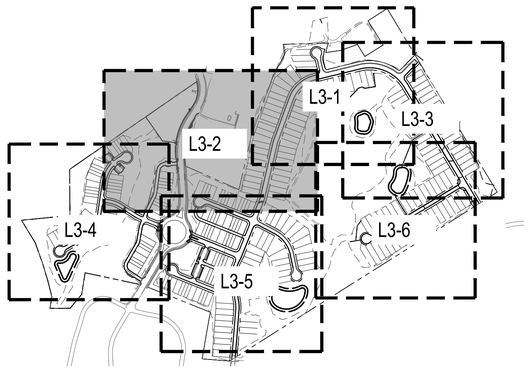
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FILE NUMBER: 8430-03

DATE: 08/01/2023

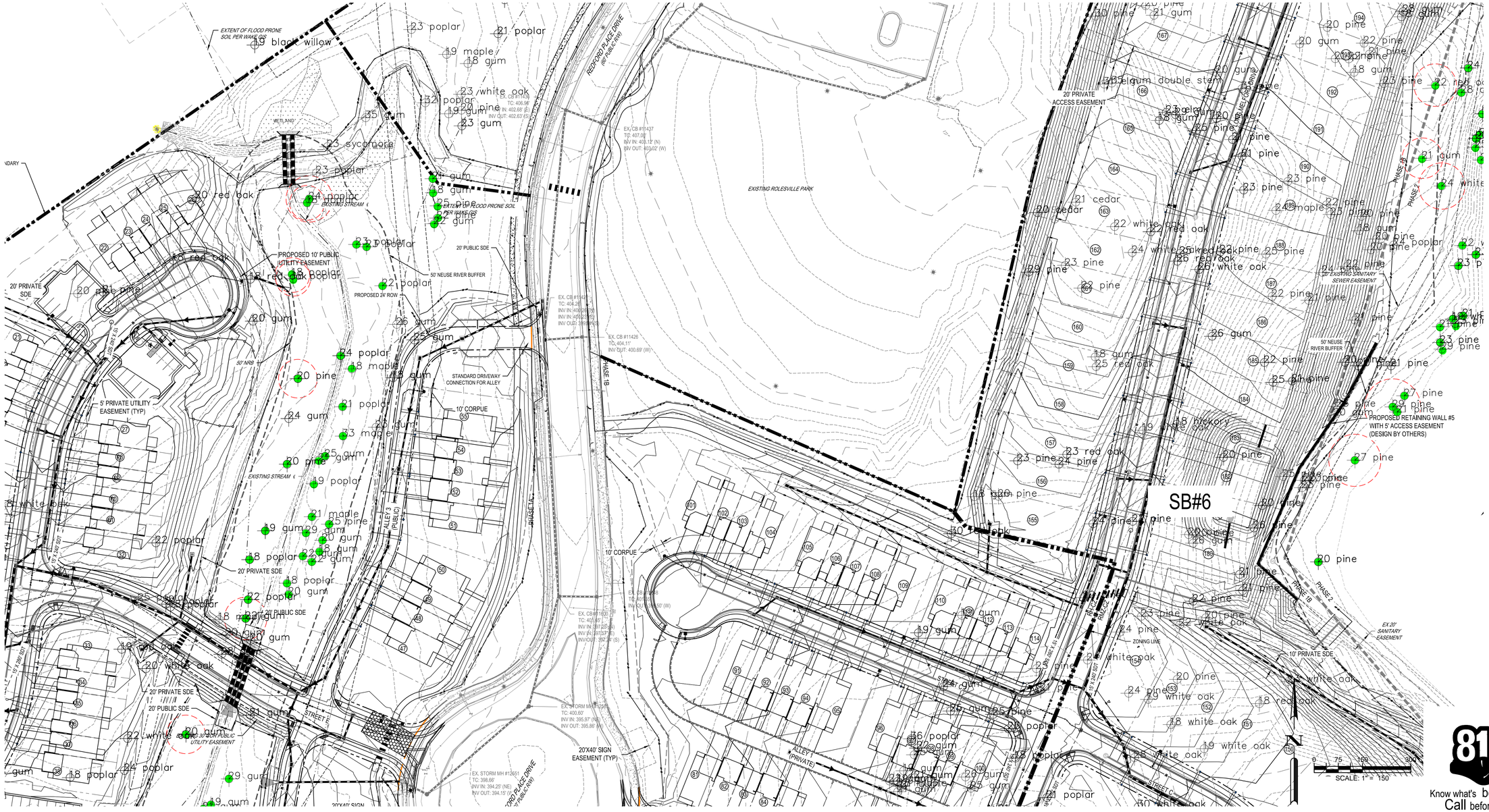
L3-1

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PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
- EASEMENT TEXT
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
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ENLARGED TCA PLAN (2 OF 6)

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

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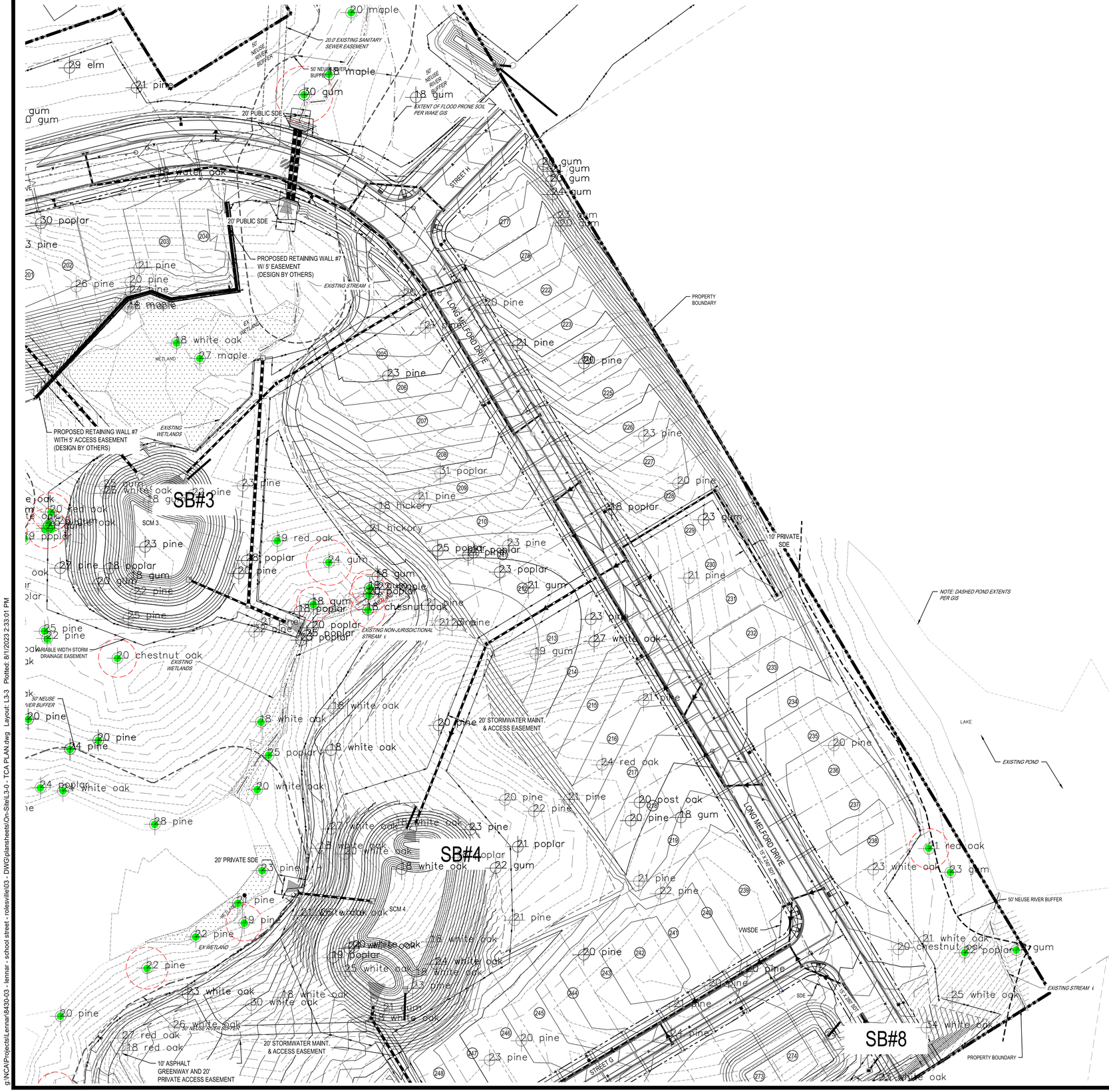
FILE NUMBER: 8430-03

DATE: 08/01/2023

L3-2

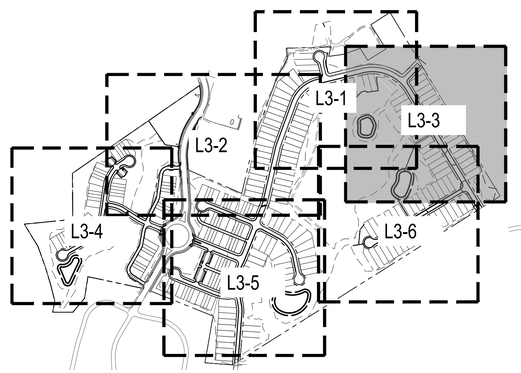
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PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
  EASEMENT TEXT
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
- TREE PROTECTION FENCE
- TREE TO BE SAVED
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE (1 FT FROM TREE TRUNK FOR EACH 1 INCH OF TREE DIAMETER) ROOT ZONES SHOWN ONLY ON TREES CLOSE TO TREE PROTECTION FENCING.



N

0 75 150 300
SCALE: 1" = 150

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REV	DATE	
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	INITIAL SUBMITTAL

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ENLARGED TCA PLAN
(3 OF 6)

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

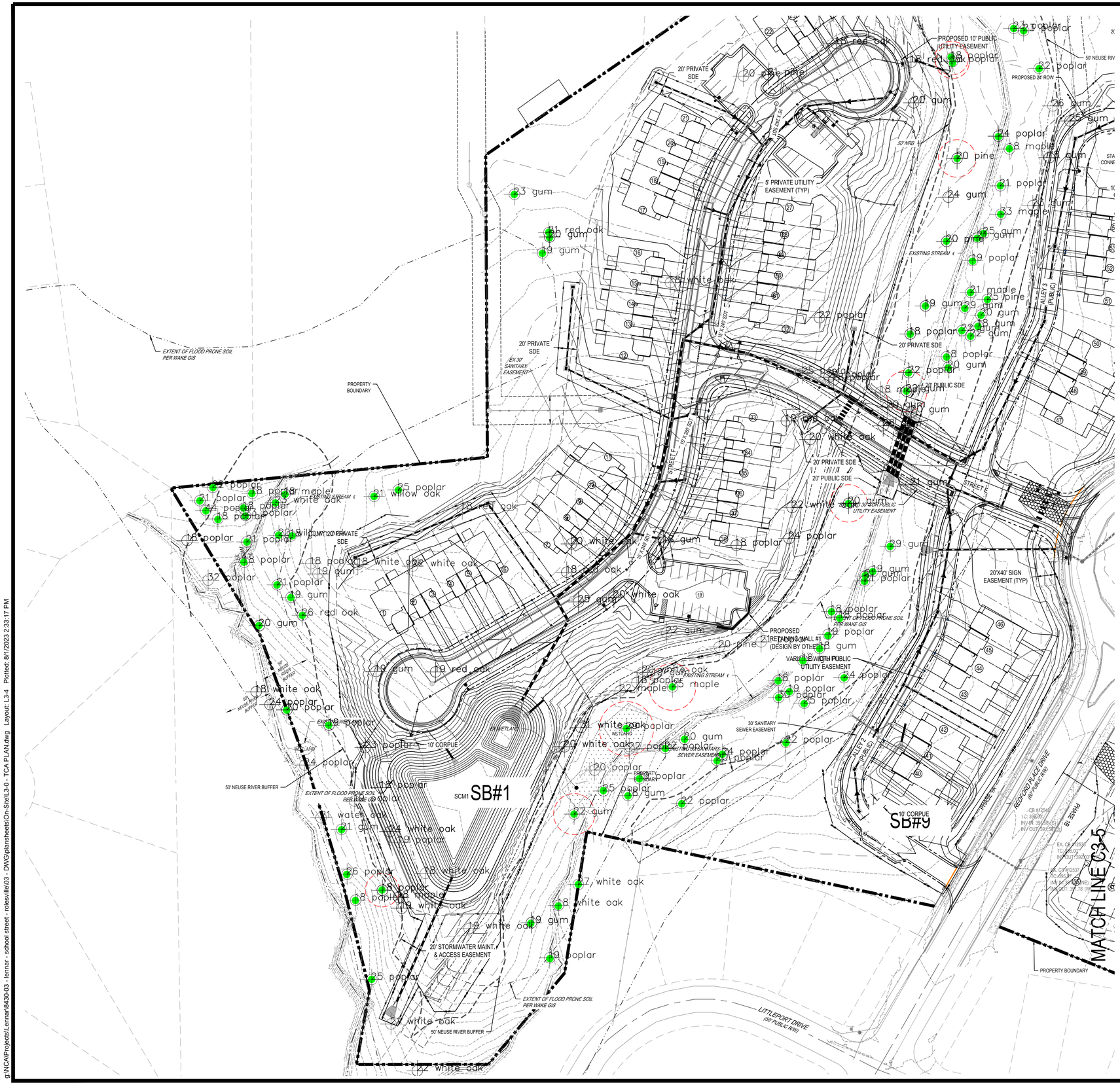
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DATE: 08/01/2023

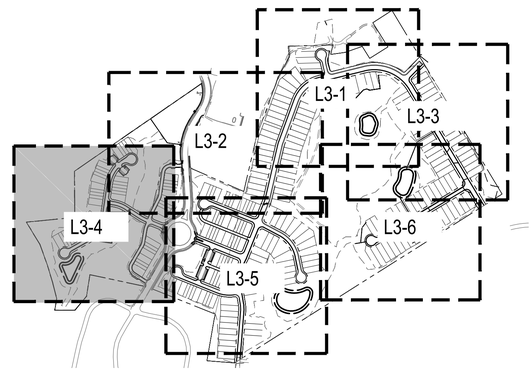
L3-3

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PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
- EASEMENT TEXT
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
- TREE PROTECTION FENCE
- TREE TO BE SAVED
- TREE TO BE REMOVED
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N

0 75 150 300

SCALE: 1" = 150

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2	08/01/2023	PER TOWN OF ROLESVILLE COMMENT

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ENLARGED TCA PLAN
(4 OF 6)

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

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FILE NUMBER: 8430-03

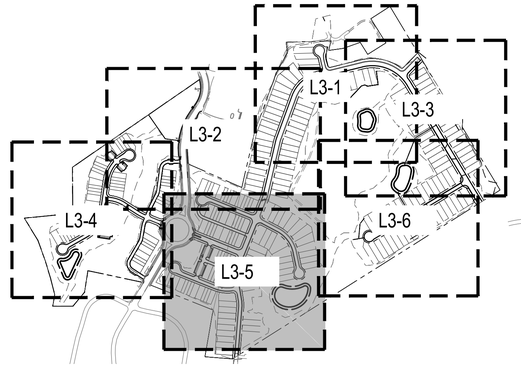
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L3-4

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PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
- *EASEMENT TEXT*
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
- TREE PROTECTION FENCE
- TREE TO BE SAVED
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE (1 FT FROM TREE TRUNK FOR EACH 1 INCH OF TREE DIAMETER) ROOT ZONES SHOWN ONLY ON TREES CLOSE TO TREE PROTECTION FENCING.



N

0 75 150 300
SCALE: 1" = 150

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0	06/01/2023	INITIAL SUBMITTAL

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REVIEWED BY: DF

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ENLARGED TCA PLAN (5 OF 6)

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

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FILE NUMBER: 8430-03

DATE: 08/01/2023

L3-5

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SB#4

SB#8

EXISTING POND

EX WETLAND

50' NEUSE RIVER BUFFER

20' STORMWATER MAINT. & ACCESS EASEMENT

LONG MELFORD DRIVE

STREET G

10' ASPHALT GREENWAY AND 20' PRIVATE ACCESS EASEMENT

PROPOSED RETAINING WALL #6 W/ 5' EASEMENT (DESIGN BY OTHERS)

PROPOSED RETAINING WALL #4 W/ SAFETY RAIL AND 5' ACCESS EASEMENT (DESIGN BY OTHERS)

PROPOSED RETAINING WALL #9 W/ 5' EASEMENT (DESIGN BY OTHERS)

PROPOSED HEADWALLS FOR CULVERTS WITH SAFETY RAIL (DESIGN BY OTHERS)

PROPOSED PUBLIC UTILITY EASEMENT

PROPOSED VARIABLE WIDTH PUBLIC UTILITY EASEMENT

20' STORM DRAINAGE EASEMENT

30' PUBLIC UTILITY EASEMENT

20' ACCESS EASEMENT

30' PROPOSED SANITARY SEWER EASEMENT

EXISTING SANITARY SEWER EASEMENT

20' PRIVATE SDE

10' PRIVATE SDE

VWSDE

SDE

20' SDE

EXISTING STREAM

WETLAND

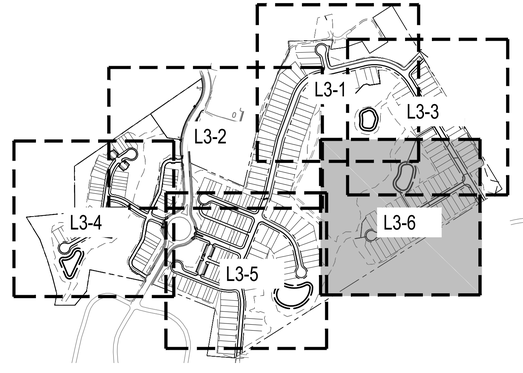
50' NEUSE RIVER BUFFER

PHASE 1

PHASE 2

PLAN LEGEND

- EXISTING PROPERTY / BOUNDARY LINE
- EXISTING EASEMENT
- *EASEMENT TEXT*
- PROPOSED CURB AND GUTTER
- WETLANDS
- 50' STREAM BUFFER
- 50' PT — TREE PROTECTION FENCE
- TREE TO BE SAVED
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE (1 FT FROM TREE TRUNK FOR EACH 1 INCH OF TREE DIAMETER) ROOT ZONES SHOWN ONLY ON TREES CLOSE TO TREE PROTECTION FENCING.



N

0 75 150 300

SCALE: 1" = 150

Know what's below. Call before you dig.

REV	DATE	DESCRIPTION
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
0	06/01/2023	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

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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

ENLARGED TCA PLAN (6 OF 6)

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

NOT FOR CONSTRUCTION

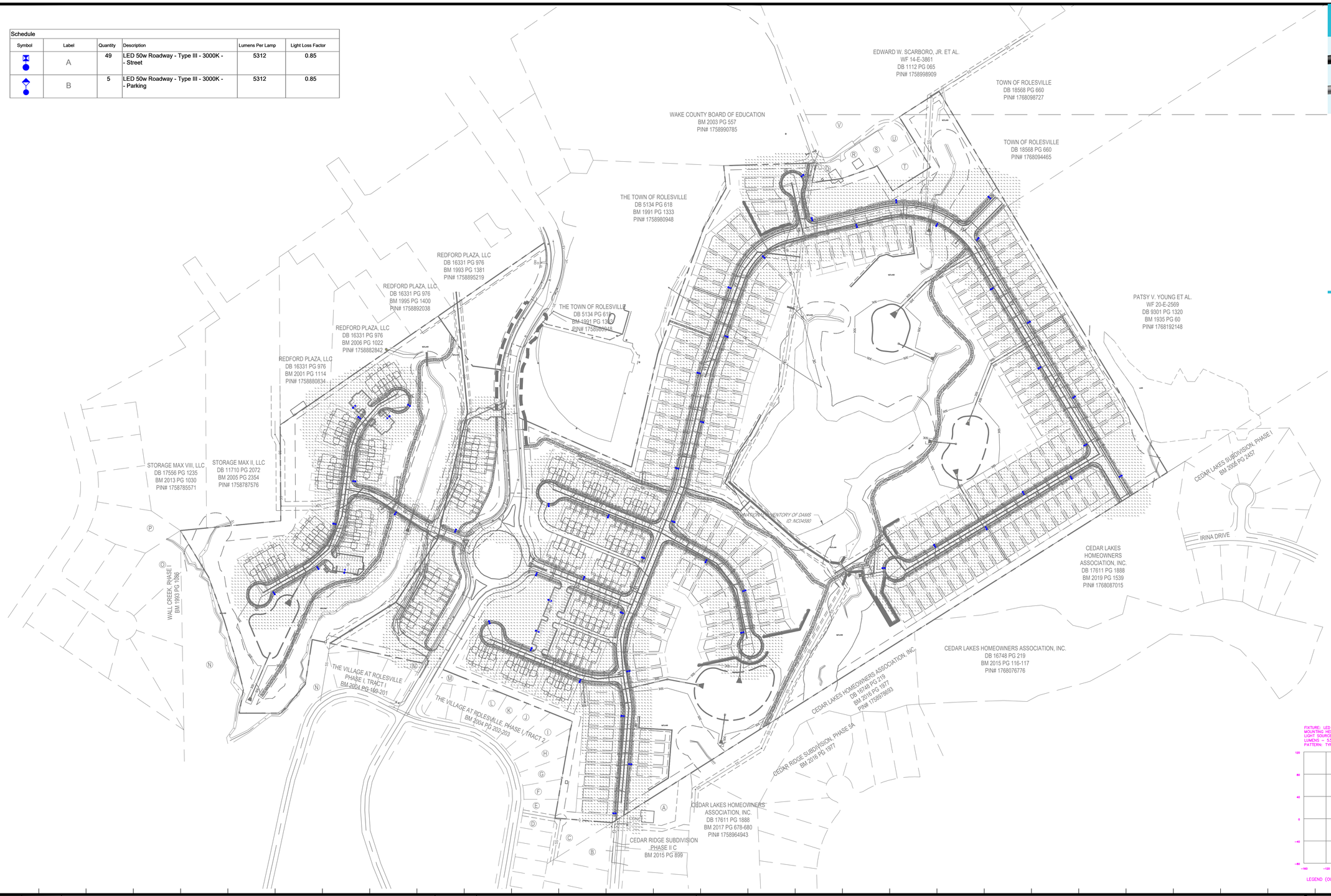
FILE NUMBER: 8430-03

DATE: 08/01/2023

L3-6

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Schedule					
Symbol	Label	Quantity	Description	Lumens Per Lamp	Light Loss Factor
	A	49	LED 50w Roadway - Type III - 3000K - - Street	5312	0.85
	B	5	LED 50w Roadway - Type III - 3000K - - Parking	5312	0.85



Outdoor Lighting



MICRO LED ROADWAY
(Meets Dark Sky Criteria)

LED (Light-emitting diode)	50 watts
Mounting height	20', 25', 35'
Color	Gray | Black
Pole	Fiberglass Metal Wood
Applications	Neighborhoods Parks Streets

Light source: LED (white)
Wattage: 50 watts, 70 watts
Lumens: 5,232 – 8,170
Light pattern: IESNA Type II, III, V
IESNA cutoff classification: Full-cutoff
BUG rating: Type II – B1U0G2 (50w) B2U0G2 (70w)
Type III – B1U0G1
Type V – B3U0G1 (50w only)
Color temperature: 3,000K



light distribution patterns

POLE AVAILABLE	MOUNTING HEIGHT	COLOR
Fiberglass	25', 30', 35'	Gray, Black (additional cost)
Wood	25', 30', 35'	Standard
Metal (Special conditions)	25', 30', 35'	Galvanized

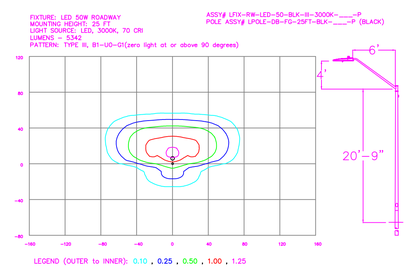
FEATURES	BENEFITS
Turnkey operation	Provides hassle-free installation and service
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance, electricity & warranty included	Eliminates high and unexpected repair bills
One low monthly cost on your electric bill	Convenience and savings for you

For additional information, contact us at ODLCarolinas@duke-energy.com.

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ISOFOOTCANDLE CURVES



NO.	DATE	REVISION	BY

DISTANCE CALIBRATION (INCHES)
0 0.5 1.0 2.0 3.0 4.0

LIGHTING DESIGN TOLERANCE

The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will also affect results.

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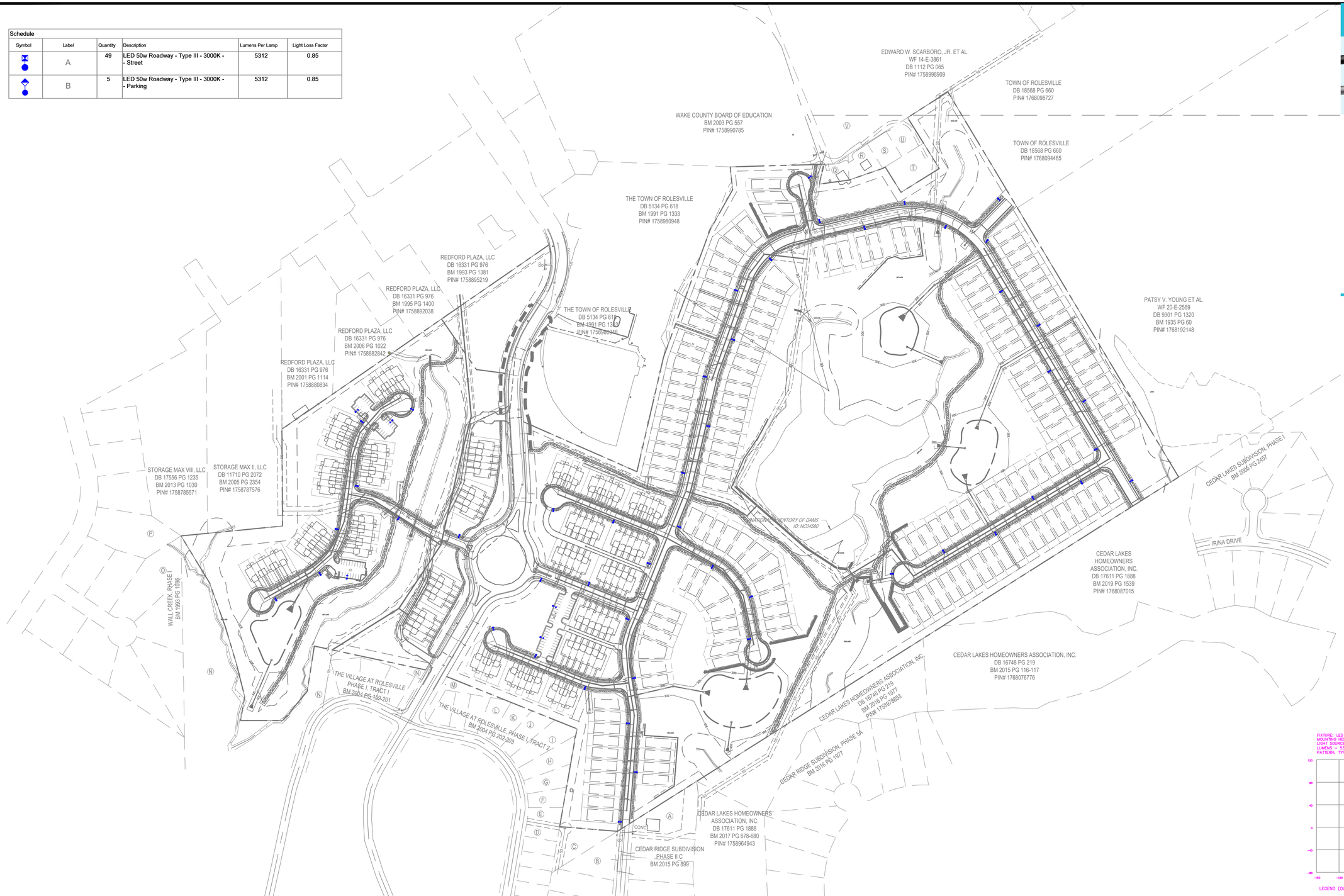
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PARKER RIDGE
Rolesville, NC
SITE LIGHTING ARRANGEMENT

Designed by DUKE ENERGY PROGRESS LIGHTING SOLUTIONS
Reviewed by N. Johnson
Scale 1" = 150'
Date 07/18/2023
Size Drawing size "D"
Description LED Roadway
Drawing No. 23-0308A
Sht. 1 OF 1

Schedule					
Symbol	Label	Quantity	Description	Lumens Per Lamp	Light Loss Factor
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	B	5	LED 50w Roadway - Type III - 3000K - - Parking	5312	0.85



Outdoor Lighting



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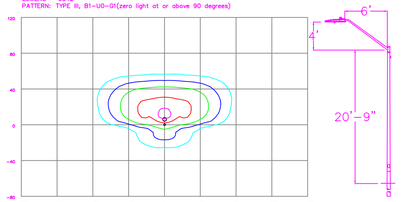
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ISOFOOTCANDLE CURVES

FIXTURE: LED 50W ROADWAY
MOUNTING HEIGHT: 25 FT
LIGHT SOURCE: LED, 3000K, 70 CRI
LUMENS = 5342
PATTERN: TYPE III, B1-U0-G1(zero light at or above 90 degrees)

ASSY# LFIX-RW-LED-50-BLK-III-3000K-____-P
POLE ASSY# LPOLE-DB-FG-25FT-BLK-____-P (BLACK)



LEGEND (OUTER to INNER): 0.10 , 0.25 , 0.50 , 1.00 , 1.25

NO.	DATE	REVISION	BY

DISTANCE CALIBRATION (INCHES)
0 0.5 1.0 2.0 3.0 4.0

LIGHTING DESIGN TOLERANCE

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Drawing No. 23-0308A Sht. 1 OF 1