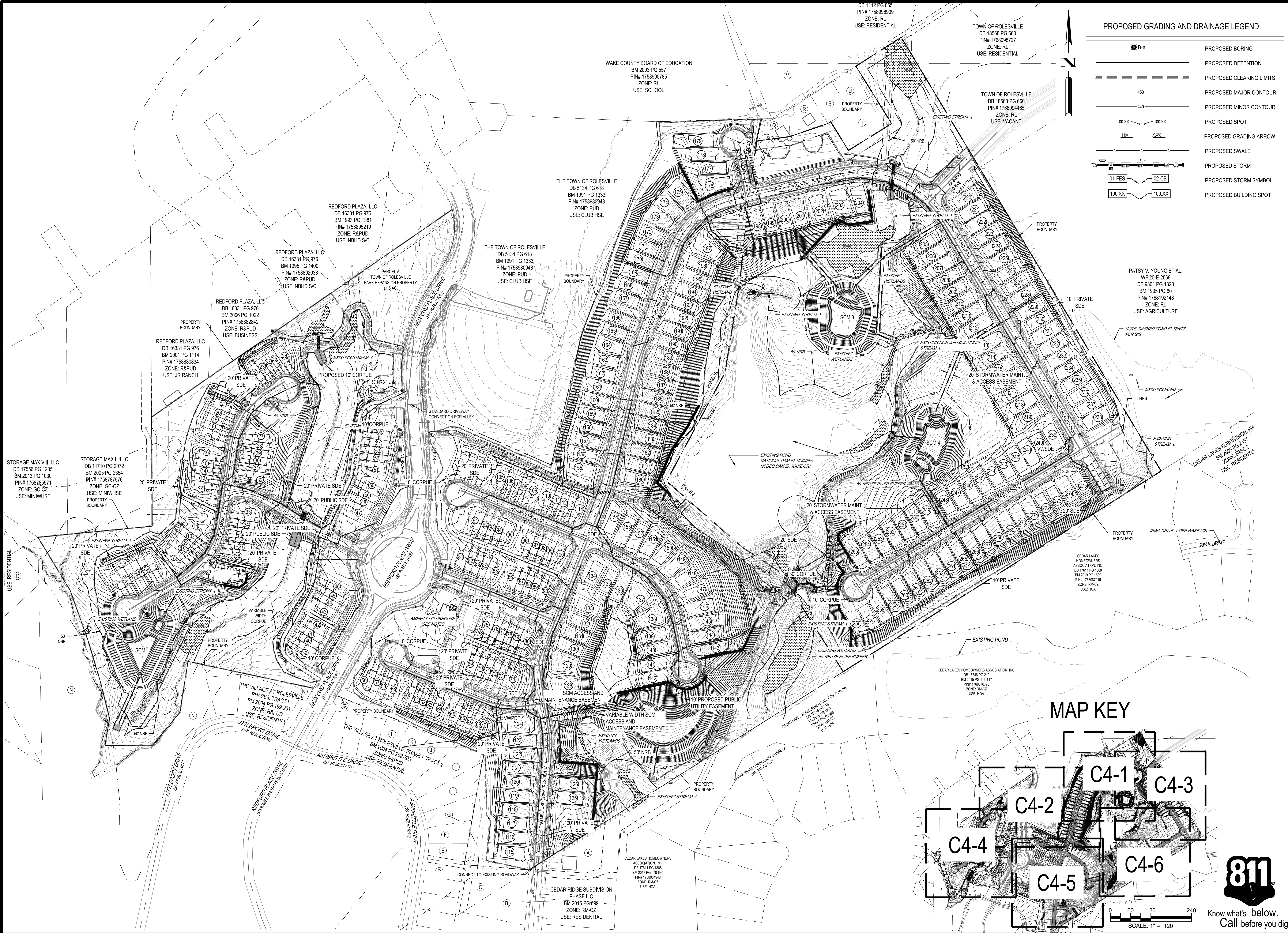
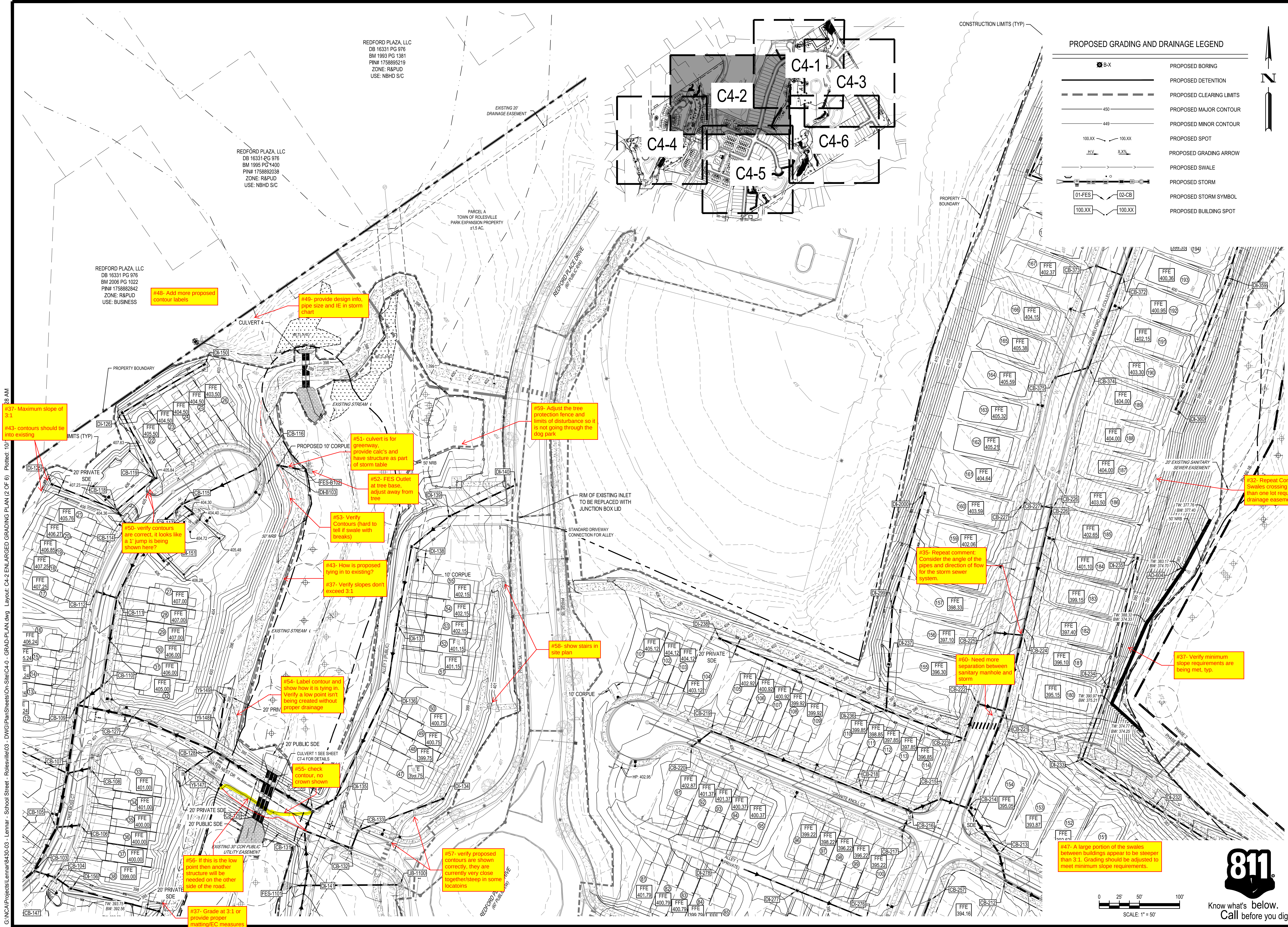




G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - DWG\PlanSheets\On-Site\C4-0 - GRAD-PLAN.dwg Layout: C4-2 ENLARGED GRADING PLAN (2 OF 6) Plotted: 10/28 AM



DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

10/02/2023

08/01/2023

06/01/2023

PER TOWN OF ROLESVILLE COMMENT

PER TOWN OF ROLESVILLE COMMENT

INITIAL SUBMITTAL

LENNAR

CORPORAION

1100 PERIMETER PARK DRIVE, SUITE 112

MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE

82 SCHOOL STREET

ROLESVILLE / NORTH CAROLINA / 27571

ENLARGED GRADING

PLAN (2 OF 6)

PROFESSIONAL ENGINEER

EDWARD M. FARR

10-12-23

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 10/02/2023

C4-2

811

Know what's below. Call before you dig.

0

25

50

100'

SCALE: 1" = 50'

BCE

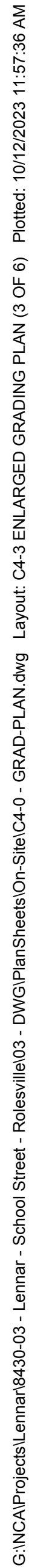
5440 WADE PARK BLVD, SUITE 102

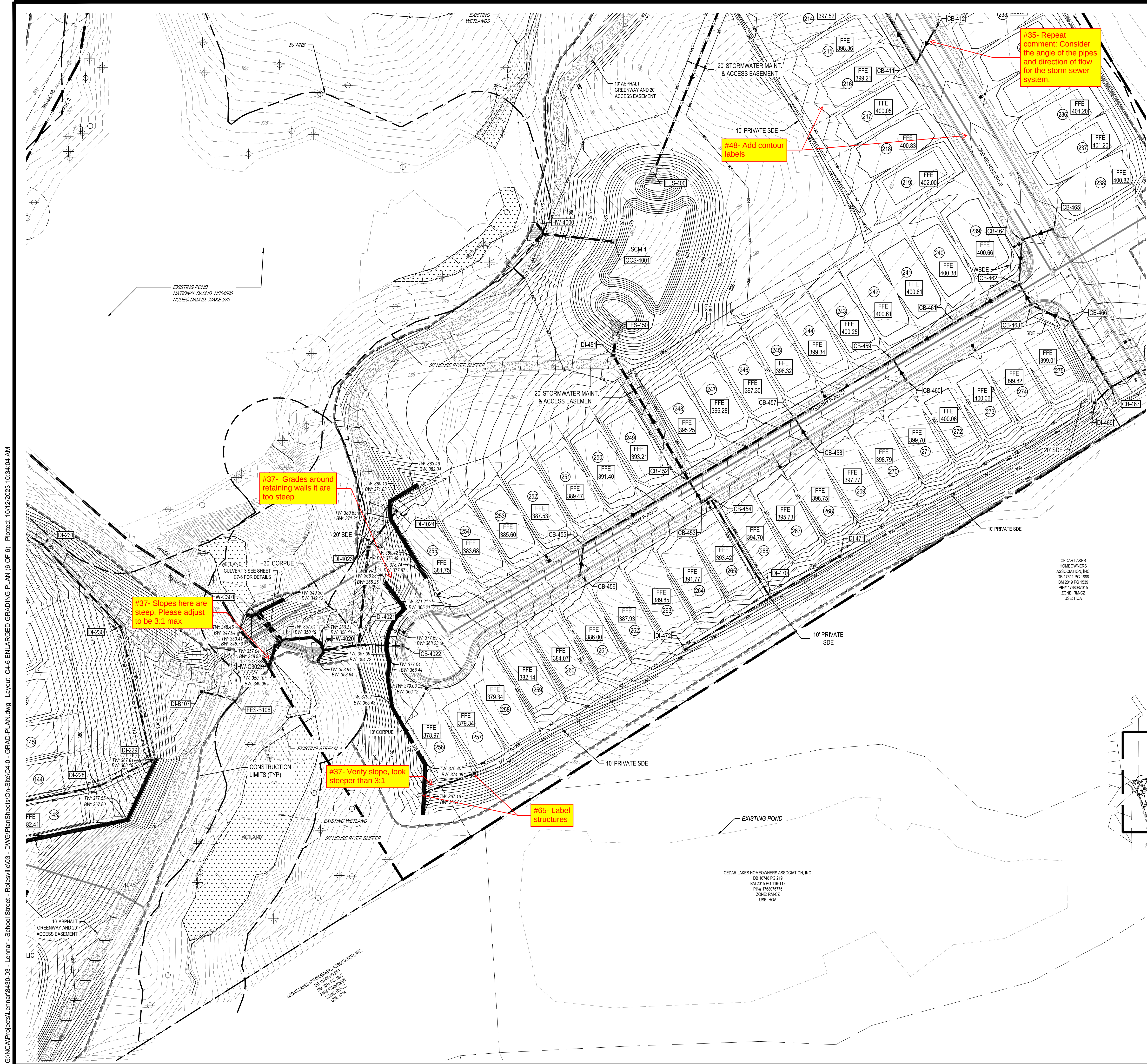
RALEIGH NC 27607

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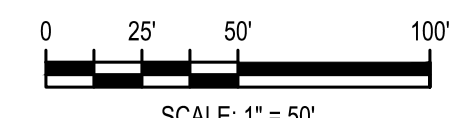
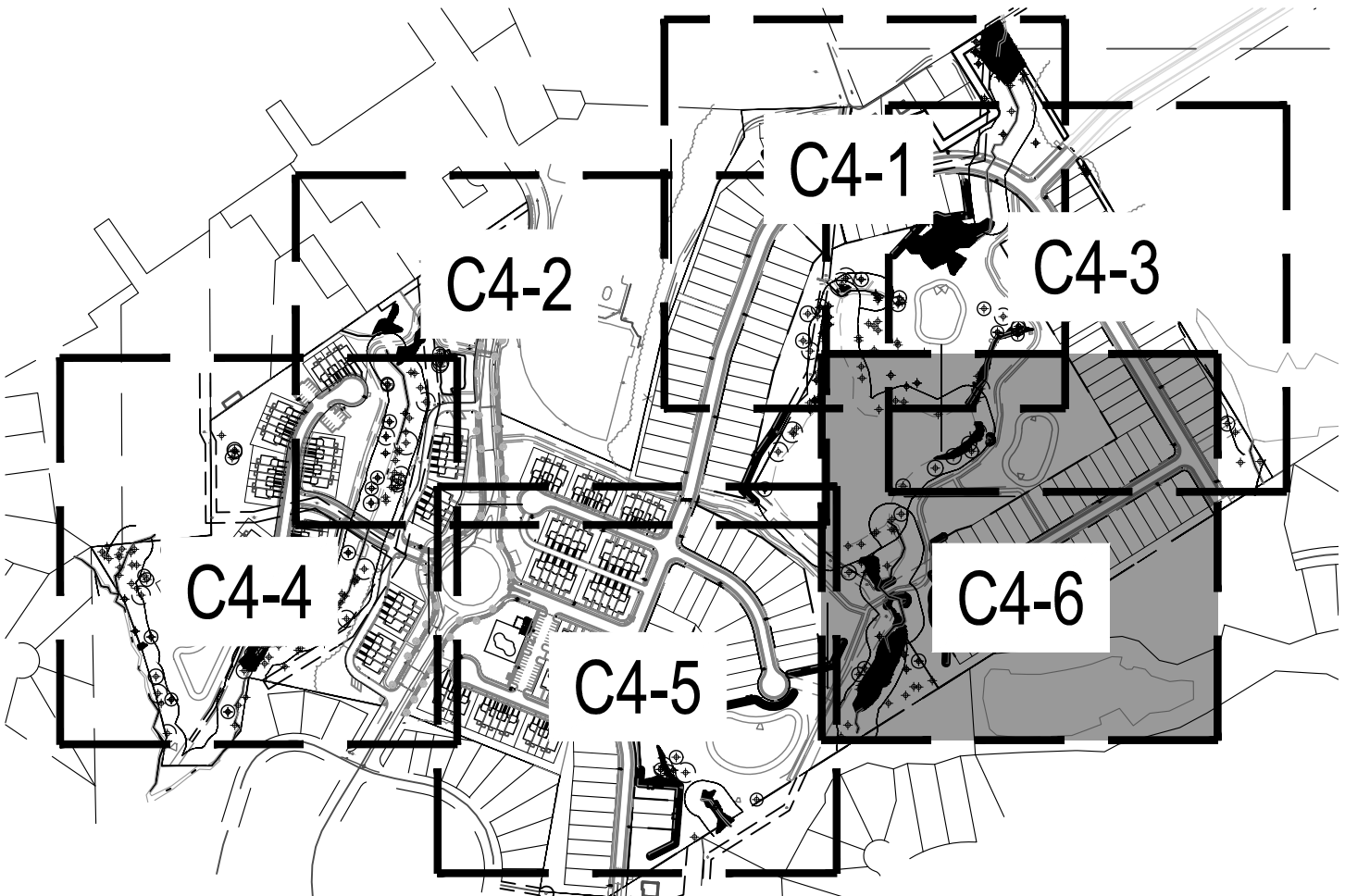




PROPOSED GRADING AND DRAINAGE LEGEND

	PROPOSED BORING
	PROPOSED DETENTION
	PROPOSED CLEARING LIMITS
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED SPOT
	PROPOSED GRADING ARROW
	PROPOSED SWALE
	PROPOSED STORM
	PROPOSED STORM SYMBOL
	PROPOSED BUILDING SPOT

#47- A large portion of the swales between buildings appear to be steeper than 3:1. Grading should be adjusted to meet minimum slope requirements.



Know what's below.
Call before you dig.

PER TOWN OF ROLESVILLE COMMENT
10/02/2023

PER TOWN OF ROLESVILLE COMMENT
08/01/2023

INITIAL SUBMITTAL
06/01/2023

DESIGNED BY: DFF/CD

DRAWN BY: DFF/JWM

REVIEWED BY: DFF

5440 WADE PARK BLVD, SUITE 102
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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

ENLARGED GRADING
PLAN (6 OF 6)

PRELIMINARY
ENGINEER
PEDRO M. FERRER
10-12-23
NOT FOR
CONSTRUCTION
FILE NUMBER:
8430-03
DATE: 10/02/2023

C4-6

SCM 1

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-101	393.56	30" 15"	383.53 (NW) 385.73 (NE)	383.53 (SW)	30"	106.48	0.50%	FES-100
CB-102	395.62	30" 15"	383.67 (NE) 386.14 (NW)	383.67 (SE)	30"	27.02	0.50%	CB-101
CB-103	396.67	30" 18"	384.21 (NE) 384.28 (E)	384.21 (SW)	30"	107.87	0.50%	CB-102
CB-104	396.33	18"	384.62 (SE)	384.42 (W)	18"	27.29	0.51%	CB-103
CB-105	398.35	18" 30"	392.36 (E) 384.51 (N)	384.51 (SW)	30"	60.86	0.50%	CB-103
CB-106	398.72			392.50 (W)	18"	28.91	0.50%	CB-105
CB-107	400.35	18" 30" 15"	391.93 (E) 384.95 (N) 390.94 (NW)	384.85 (S)	30"	68.34	0.50%	CB-105
CB-108	400.64			392.50 (W)	18"	28.99	1.98%	CB-107
CB-109	402.69	18" 24"	393.61 (NE) 385.86 (E)	385.38 (S)	30"	85.91	0.50%	CB-107
CB-110	403.46	18"	394.01 (N)	393.81 (SW)	18"	39.10	0.50%	CB-109
CB-111	405.81	18" 15"	394.76 (NE) 400.04 (W)	394.56 (S)	18"	110.53	0.50%	CB-110
CB-112	405.83			400.55 (E)	15"	27.01	1.88%	CB-111
CB-113	405.16	15" 18" 15"	398.09 (NW) 395.37 (NE) 399.13 (SE)	395.17 (SW)	18"	81.51	0.50%	CB-111
CB-114	405.26	15"	398.33 (NW)	398.23 (SE)	15"	25.97	0.53%	CB-113
CB-115	404.56	18" 15"	399.45 (SE) 395.88 (NE)	395.69 (SW)	18"	63.25	0.51%	CB-113
CB-116	402.91			397.75 (SW)	15"	101.81	1.83%	CB-115
CB-117	404.75			399.56 (NW)	18"	17.58	0.68%	CB-115
CB-118	406.65	15" 15"	398.68 (W) 398.60 (NE)	398.48 (SE)	15"	25.24	0.60%	CB-114
CB-119	404.87	15"	399.14 (NW)	398.94 (SW)	15"	61.82	0.55%	CB-118
CB-127	400.02	24"	386.34 (SE)	386.24 (W)	24"	70.28	0.51%	CB-109
CB-128	397.21	24" 15" 18"	387.10 (SE) 388.75 (SW) 388.25 (N)	386.90 (NW)	24"	110.35	0.51%	CB-127

PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
CB-129 TO CB-130	24"	79.74'	0.50%	RCP
CB-130 TO DI-135	18"	31.87'	0.85%	RCP
DI-135 TO DI-136	18"	150.09'	0.59%	RCP
DI-136 TO DI-137	15"	81.24'	1.13%	RCP
DI-137 TO DI-138	15"	98.47'	0.59%	RCP
DI-138 TO DI-139	15"	60.78'	0.53%	RCP
CB-130 TO CB-131	18"	27.01'	0.50%	RCP
CB-131 TO DI-141	18"	49.93'	0.50%	RCP
DI-141 TO DI-142	18"	85.84'	0.50%	RCP
DI-142 TO DI-143	18"	86.04'	0.50%	RCP
DI-143 TO DI-144	15"	104.03'	0.50%	RCP
DI-144 TO DI-145	15"	45.07'	1.17%	RCP
CB-128 TO CB-129	24"	63.69'	0.50%	RCP
CB-110 TO CB-111	18"	110.53'	0.50%	RCP
CB-111 TO CB-113	18"	81.51'	0.50%	RCP
CB-115 TO CB-116	15"	101.81'	1.83%	RCP
CB-113 TO CB-115	18"	63.25'	0.51%	RCP
CB-114 TO CB-118	15"	25.24'	0.60%	RCP
CB-111 TO CB-112	15"	27.01'	1.88%	RCP
CB-109 TO CB-110	18"	39.10'	0.50%	RCP

PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
CB-109 TO CB-127	24"	70.28'	0.51%	RCP
CB-107 TO CB-108	18"	28.99'	1.95%	RCP
CB-105 TO CB-107	30"	68.34'	0.50%	RCP
CB-105 TO CB-106	18"	28.91'	0.50%	RCP
CB-103 TO CB-105	30"	60.86'	0.50%	RCP
CB-102 TO CB-103	30"	107.87'	0.50%	RCP
FES-100 TO CB-101	30"	106.48'	0.50%	RCP
CB-113 TO CB-114	15"	25.97'	0.53%	RCP
CB-103 TO CB-104	18"	27.29'	0.51%	RCP
CB-127 TO CB-128	24"	110.35'	0.51%	RCP
CB-115 TO CB-117	18"	17.58'	0.68%	18" RCP
CB-107 TO CB-109	30"	85.91'	0.50%	RCP
CB-128 TO YI-147	15"	48.11'	0.52%	RCP
CB-128 TO YI-148	18"	26.68'	1.87%	RCP
CB-101 TO CB-102	30"	27.02'	0.50%	RCP
YI-148 TO YI-149	18"	43.33'	5.42%	RCP
DI-139 TO DI-140	18"	91.26'	0.51%	RCP
CB-131 TO CB-132	18"	62.19'	1.00%	RCP
CB-132 TO CB-133	18"	23.95'	8.35%	RCP
CB-118 TO DI-125	15"	86.36'	0.50%	RCP

#71- any opportunity to lower to allow WL to go over storm? see profile C6-5

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-129	396.75	24"	387.52 (SE)	387.42 (NW)	24"	63.69	0.50%	CB-128
CB-130	397.35	18" 18"	388.12 (SW) 389.59 (NE)	387.92 (NW)	24"	79.74	0.50%	CB-129
CB-131	397.79	18" 18"	388.26 (S) 388.89 (E)	388.26 (NE)	18"	27.01	0.50%	CB-130
CB-132	397.61	18"	389.50 (N)	389.50 (W)	18"	62.19	1.00%	CB-131
CB-133	397.59	15"	391.70 (E)	391.50 (S)	18"	23.95	8.35%	CB-132
CB-147	395.59	18"	387.38 (E)	387.18 (SW)	15"	47.80	3.04%	CB-101
CB-153	396.47			385.00 (SE)	18"	46.33	1.08%	FES-152
CB-154	393.79	18"	388.00 (E)	387.80 (W)	18"	80.81	0.52%	CB-147
CB-155	392.91			388.41 (W)	18"	60.52	0.68%	CB-154
DI-120	392.85	15"	386.77 (W)	386.77 (SE)	15"	125.38	0.50%	CB-102
DI-121	392.98			387.53 (E)	15"	152.82	0.50%	DI-120
DI-122	389.80			385.50 (W)	18"	112.80	0.50%	DI-156
DI-123	397.62	15"	391.67 (N)	391.57 (SE)	15"	125.93	0.50%	CB-107
DI-124	400.65			395.04 (S)	15"	94.14	3.57%	DI-123
DI-125	402.36			396.74 (E)	15"	86.36	0.50%	CB-118
DI-126	403.09	15"	400.15 (NE)	399.95 (SE)	15"	90.56	0.89%	CB-119
DI-134	396.58			392.32 (W)	15"	112.24	0.55%	CB-133
DI-135	397.35	18"	389.87 (NE)	389.77 (SW)	18"	31.87	0.85%	CB-130
DI-136	398.88	15"	390.85 (N)	390.75 (SW)	18"	150.09	0.59%	DI-135
DI-137	399.66	15"	391.67 (N)	391.77 (S)	15"	81.24	1.13%	DI-136
DI-138	400.75	15"	392.55 (NE)	392.45 (S)	15"	98.47	0.59%	DI-137

#72- If possible, refrain from using the same numbers for structure labels so as to minimize any confusion

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
DI-139	401.77	18"	392.97 (NE)	392.87 (SW)	15"	60.78	0.53%	DI-138
DI-140	405.20			393.44 (SW)	18"	91.26	0.51%	DI-139
DI-141	395.83	18"	388.51 (S)	388.51 (N)	18"	49.93	0.50%	CB-131
DI-142	393.43	18"	389.05 (SW)	388.94 (N)	18"	85.84	0.50%	DI-141
DI-143	392.52	15" 15"	389.58 (SW) 389.56 (SE)	389.48 (NE)	18"	86.04	0.50%	DI-142
DI-144	393.57	15"	390.20 (S)	390.10 (NE)	15"	104.03	0.50%	DI-143
DI-145	394.10			390.73 (N)	15"	45.07	1.17%	DI-144
DI-146	393.10			390.16 (NW)	15"	107.22	0.54%	DI-143
DI-150	403.69			400.75 (SW)	15"	118.16	0.51%	DI-126
DI-151	404.38			400.13 (NW)	15"	35.76	2.81%	CB-113
DI-156	393.62	18"	384.94 (E)	384.74 (NW)	18"	24.06	0.50%	CB-104
FES-100		30"	383.00 (NE)					
FES-152		18"	384.50 (NW)					
YI-147	394.95			389.00 (NE)	15"	48.11	0.52%	CB-128
YI-148	395.82	18"	388.85 (N)	388.75 (S)	18"	26.68	1.87%	CB-128
YI-149	394.63			391.20 (S)	18"	43.33	5.42%	YI-148

The following applies to all storm/all stormwater tables:

#74- Several rim elevations shown on these tables don't match what the contours indicate. Per notes, provide a note on storm chart sheets for how rims for catch basins should be set (top of curb or other)?

#75- Several drops between inverts across all tables are not adhering to industry standard drop requirements. 0.2' drop required when change in alignment is 45-90 degrees or pipe size increases. 0.1' drop allowed if alignment change is between 0-45 degrees.

#76- Ensure minimum cover requirements are being met. A minimum of 2' above top of pipe is required for all pipes in paved areas.

#77- Minimum allowable slope for storm pipes NCDOT road design is 0.5%. Town recommends 1.0% min lot drainage areas.

#78- There are a few areas that have culverts/storm system (BYPASS). Provide table and design in storm package as required.

STORM STRUCTURE NOTES:

- FES = FLARED END SECTION
- DI = GRATED YARD INLET
- CB = CATCH BASIN
- DCB = DOUBLE CATCH BASIN
- TCB = TRIPLE CATCH BASIN
- HW = HEADWALL

- ALL YARD INLETS SHALL HAVE 4'X4' INSIDE DIMENSION UNLESS OTHERWISE NOTED.
- RIM ELEVATION GIVEN FOR DI IS FLOW LINE.
- RIM ELEVATION GIVEN FOR YI IS FLOW LINE, NOT TOP OF SLAB.
- RIM ELEVATION GIVEN FOR CB IS TOP OF CURB, NOT FLOW LINE.
- PIPE LENGTH INCLUDES FES LENGTH.

NOTE: HP STORM (POLYPROPYLENE) PIPE THAT EXCEEDS OR MEETS ASTM F2881 AND AASHTO M330 MAY BE USED IN LIEU OF RCP IN ALL AREAS EXCEPT SCM OUTLET PIPE.

DISSIPATOR SUMMARY TABLE

OUTLET	MEDIAN STONE DIAMETER (D ₅₀)	MINIMUM APRON LENGTH	WIDTH AT PIPE	WIDTH AT END	MAX STONE DIAMETER	APRON THICKNESS
FES100	0.60 FT	19.00 FT	9.00 FT	22.00 FT	0.90 FT	1.35 FT
FES152	0.25 FT	9.00 FT	4.50 FT	10.50 FT	0.38 FT	0.56 FT
FES200	0.85 FT	19.00 FT	9.00 FT	22.00 FT	1.28 FT	1.91 FT
FES250	0.66 FT	12.00 FT	7.50 FT	14.50 FT	0.99 FT	1.49 FT
FES300	0.85 FT	19.00 FT	9.00 FT	22.00 FT	1.28 FT	1.91 FT
FES350	0.85 FT	19.00 FT	9.00 FT	22.00 FT	1.28 FT	1.91 FT
FES400	0.55 FT	11.00 FT	6.00 FT	13.00 FT	0.83 FT	1.24 FT
FES450	0.85 FT	16.00 FT	7.50 FT	18.50 FT	1.28 FT	1.91 FT
FES1000	0.60 FT	18.00 FT	6.00 FT	20.00 FT	0.90 FT	1.35 FT
FES2000	0.50 FT	35.00 FT	9.00 FT	38.00 FT	0.75 FT	1.13 FT
FES3001	0.60 FT	19.00 FT	9.00 FT	22.00 FT	0.90 FT	1.35 FT
HW4000	0.40 FT	12.00 FT	6.00 FT	14.00 FT	0.60 FT	0.90 FT

MINIMUM RIP RAP BY PIPE SIZE

OUTLET	MEDIAN STONE DIAMETER (D ₅₀)	MINIMUM APRON LENGTH	WIDTH AT PIPE	WIDTH AT END	MAX STONE DIAMETER	APRON THICKNESS
12"	0.25 FT	5.00 FT	3.00 FT	8.00 FT	0.38 FT	0.56 FT
15"	0.33 FT	8.00 FT	3.75 FT	11.75 FT	0.50 FT	0.75 FT
18"	0.50 FT	9.00 FT	4.50 FT	13.50 FT	0.75 FT	1.13 FT

NOTE: Any outlet not listed above shall conform to minimum dissipation per pipe size above. Design of energy dissipators for culverts is not included in this sheet.

#73- MAJOR CULVERT DESIGN (1-4) rip rap for the culverts



Know what's below.
Call before you dig.

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

PER TOWN OF ROLESVILLE COMMENT

10/02/2023

PER TOWN OF ROLESVILLE COMMENT

08/01/2023

INITIAL SUBMITTAL

06/01/2023

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PARKER RIDGE

82 SCHOOL STREET

ROLESVILLE / NORTH CAROLINA / 27571

STORM SEWER TABLE

(1 OF 3)

PRELIMINARY

10-12-23

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 10/02/2023

C4-7

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-202	379.46	30"	353.32 (N)	353.22 (S)	30"	22.49	5.00%	DI-201
CB-203	380.71	24" 18" 15"	371.00 (N) 355.19 (NE) 374.84 (W)	357.10 (S)	30"	78.32	4.83%	CB-202
CB-204	381.18	18"	359.00 (E)	358.90 (SW)	18"	28.28	2.53%	CB-203
CB-205	383.23	24" 15"	375.27 (N) 379.07 (NE)	375.17 (S)	24"	81.43	5.12%	CB-203
CB-206	383.52			379.50 (SW)	15"	28.49	1.50%	CB-205
CB-207	385.66	24" 15"	373.70 (NW) 360.78 (NE)	378.60 (S)	24"	76.88	4.33%	CB-205
CB-208	385.73			380.92 (SW)	15"	27.34	0.51%	CB-207
CB-209	386.36	24" 15"	382.56 (NW) 383.51 (E)	382.46 (SE)	24"	85.79	4.38%	CB-207
CB-210	387.96			383.81 (W)	15"	30.36	1.00%	CB-209
CB-211	389.47	24"	384.54 (NW)	384.54 (SE)	24"	34.94	5.68%	CB-209
CB-212	391.93	24"	385.07 (N)	385.07 (SE)	24"	81.82	0.65%	CB-211
CB-213	392.62	24"	385.73 (NW)	385.53 (S)	24"	35.51	1.30%	CB-212
CB-214	394.65	18" 24"	387.30 (W) 388.75 (N)	386.65 (SE)	24"	69.24	1.32%	CB-213
CB-215	394.64	18"	389.80 (SW)	387.70 (E)	18"	35.06	1.14%	CB-214
CB-216	395.29	18" 15"	390.80 (W) 390.90 (SW)	390.80 (NE)	18"	39.35	2.54%	CB-215
CB-217	395.27			391.17 (NE)	15"	27.01	1.01%	CB-216
CB-218	396.64	15"	392.37 (W)	392.12 (E)	15"	66.89	1.97%	CB-216
CB-219	400.86	15"	396.16 (SW)	396.16 (E)	15"	200.10	1.89%	CB-218
CB-220	401.19			396.41 (NE)	15"	31.34	0.80%	CB-219
CB-221	393.55	18" 24"	388.29 (W) 388.32 (N)	388.09 (S)	24"	128.87	1.04%	CB-214

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
DI-201	362.46	30"	352.10 (N)	352.00 (S)	30"	58.92	0.89%	FES-200
DI-228	378.15	18"	360.15 (NE)	360.05 (W)	18"	137.00	0.77%	CB-204
DI-229	368.00	18"	360.66 (N)	360.46 (SW)	18"	62.68	0.50%	DI-228
DI-230	369.25	18"	361.50 (NW)	361.40 (S)	18"	146.44	0.50%	DI-229
DI-231	376.52	18"	370.50 (NW)	370.40 (SE)	18"	122.68	7.25%	DI-230
DI-232	381.69	18"	375.50 (NW)	375.40 (SE)	18"	127.04	3.86%	DI-231
DI-233	386.66	15"	381.75 (N)	381.50 (SE)	18"	107.21	5.60%	DI-232
DI-234	387.77	15"	385.58 (N)	385.38 (S)	15"	95.83	3.78%	DI-233
DI-235	396.47			393.03 (S)	15"	163.99	4.54%	DI-234
DI-236	397.50	18" 18"	389.65 (N) 391.78 (NW)	389.55 (E)	18"	103.44	0.50%	CB-223
DI-237	394.77	18"	391.10 (N)	389.90 (S)	18"	57.56	0.43%	DI-236
DI-238	402.00			398.50 (SE)	18"	225.44	2.98%	DI-236
DI-251	373.04	30" 15"	362.00 (W) 365.00 (N)	355.00 (E)	30"	98.40	3.82%	FES-250
DI-274	385.65			381.00 (W)	15"	79.57	0.50%	CB-273
DI-275	384.93			380.00 (W)	15"	133.35	0.50%	CB-271
DI-276	393.28	15"	388.58 (W)	388.48 (SE)	15"	69.90	2.80%	CB-256
DI-277	396.15	15"	391.95 (W)	391.85 (E)	15"	93.80	3.49%	DI-276
DI-278	398.35			394.10 (E)	15"	100.00	2.15%	DI-277
DI-290	388.14	15"	383.53 (W)	383.53 (SE)	15"	34.75	8.03%	CB-262
DI-291	390.96	15"	386.98 (W)	386.98 (E)	15"	68.73	5.02%	DI-290

STORM STRUCTURE NOTES:

- FES = FLARED END SECTION
- DI = GRATED YARD INLET
- CB = CATCH BASIN
- DCB = DOUBLE CATCH BASIN
- TCB = TRIPLE CATCH BASIN
- HW = HEADWALL

- ALL YARD INLETS SHALL HAVE 4'X4' INSIDE DIMENSION UNLESS OTHERWISE NOTED.
- RIM ELEVATION GIVEN FOR DI IS FLOW LINE.
- RIM ELEVATION GIVEN FOR YI IS FLOW LINE, NOT TOP OF SLAB.
- RIM ELEVATION GIVEN FOR CB IS TOP OF CURB, NOT FLOW LINE.
- PIPE LENGTH INCLUDES FES LENGTH.

NOTE: HP STORM (POLYPROPYLENE) PIPE THAT EXCEEDS OR MEETS ASTM F2881 AND AASHTO M330 MAY BE USED IN LIEU OF RCP IN ALL AREAS EXCEPT SCM OUTLET PIPE.

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-222	393.64	18"	388.69 (S)	388.47 (E)	18"	35.00	0.51%	CB-221
CB-223	393.22	18"	389.03 (W)	388.93 (N)	18"	47.15	0.51%	CB-222
CB-224	394.75	15" 15"	390.07 (W) 390.90 (N)	389.00 (S)	24"	97.07	0.70%	CB-221
CB-225	394.63			390.25 (E)	15"	35.32	0.50%	CB-224
CB-226	401.24	15"	396.57 (W)	396.47 (S)	15"	162.66	3.43%	CB-224
CB-227	401.17			396.75 (E)	15"	35.07	0.50%	CB-226
CB-252	384.35	30" 24"	373.28 (W) 376.79 (N)	373.08 (E)	30"	138.38	7.56%	DI-251
CB-253	386.49	24"	379.40 (N)	379.40 (S)	24"	115.30	2.27%	CB-252
CB-254	389.23	24"	382.40 (NE)	382.30 (S)	24"	134.60	2.15%	CB-253
CB-255	390.68	24" 24"	384.85 (W) 384.28 (W)	384.28 (SW)	24"	77.88	2.41%	CB-254
CB-256	391.87	15" 18"	386.66 (NW) 385.41 (N)	385.41 (S)	24"	61.65	1.83%	CB-255
CB-257	393.39			387.54 (S)	18"	78.86	2.70%	CB-256
CB-258	390.67	18"	385.25 (SW)	385.15 (E)	24"	35.00	0.86%	CB-255
CB-259	390.99	15" 18"	386.37 (S) 386.47 (W)	386.37 (NE)	18"	41.21	2.72%	CB-258
CB-260	391.21			387.02 (N)	15"	34.14	1.90%	CB-259
CB-261	394.55	18"	389.96 (W)	389.86 (E)	18"	82.19	4.12%	CB-259
CB-262	396.74	15" 15"	392.45 (S) 392.64 (W)	392.45 (E)	18"	75.27	3.31%	CB-261
CB-263	396.89	15"	392.83 (S)	392.73 (N)	15"	34.30	0.82%	CB-262
CB-264	396.56			393.04 (N)	15"	26.33	0.80%	CB-263
CB-265	397.49	15"	393.42 (S)	393.42 (E)	15"	79.97	0.99%	CB-262

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
DI-292	394.59			390.75 (E)	15"	88.66	4.28%	DI-291
DI-293	383.68	15" 18"	380.60 (W) 380.41 (S)	380.21 (N)	18"	72.48	0.50%	CB-283
DI-294	388.87	15"	385.24 (W)	385.14 (E)	15"	70.56	6.43%	DI-293
DI-295	392.33	15"	388.08 (W)	387.98 (E)	15"	114.04	2.40%	DI-294
DI-296	396.79			392.54 (E)	15"	140.31	3.18%	DI-295
DI-297	386.00	18"	381.70 (S)	381.50 (N)	18"	94.77	1.15%	DI-293
DI-298	398.71			395.50 (N)	18"	145.20	9.50%	DI-297
DI-299	396.00	18"	381.70 (N)	381.50 (S)	18"	71.63	0.55%	DI-237
DI-2000	402.00			397.50 (S)	18"	146.78	3.95%	DI-299
DI-2001	376.97	15"	371.80 (N)	371.80 (S)	15"	114.99	5.91%	DI-251
DI-2002	381.96	15"	376.00 (N)	376.00 (S)	15"	116.86	5.31%	DI-2001
DI-2003	389.73			386.00 (S)	15"	95.48	8.38%	DI-2002
DI-2004	379.22	15"	375.55 (N)	375.55 (E)	15"	124.23	0.57%	CB-203
DI-2005	383.78			380.77 (S)	15"	109.25	4.78%	DI-2004
DI-2007	396.75			392.50 (S)	15"	22.01	3.41%	CB-2006
FES-200		30"	351.50 (N)					
FES-250		30"	351.50 (W)					

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-266	397.84			393.70 (N)	15"	33.60	0.83%	CB-265
CB-267	384.33	24" 24"	373.75 (S) 374.50 (NW)	373.50 (E)	30"	27.03	0.81%	CB-252
CB-268	384.00	24" 15"	374.15 (E) 376.25 (S)	374.05 (N)	24"	45.61	0.86%	CB-267
CB-269	384.04			374.45 (W)	24"	26.97	1.11%	CB-268
CB-270	385.94	15" 15"	378.12 (E) 377.86 (S)	377.48 (N)	15"	120.16	1.02%	CB-268
CB-271	385.88	15"	379.33 (E)	378.32 (W)	15"	27.04	0.74%	CB-270
CB-272	391.61	15"	378.77 (E)	378.57 (N)	15"	178.50	0.50%	CB-270
CB-273	391.63	15"	380.60 (E)	378.90 (W)	15"	26.99	0.50%	CB-272
CB-279	386.77	24" 18"	374.85 (N) 378.86 (W)	374.75 (SE)	24"	48.64	0.51%	CB-267
CB-280	386.78	18"	379.10 (NE)	374.99 (S)	24"	27.00	0.50%	CB-279
CB-281	385.90	15"	379.57 (N)	379.57 (SW)	18"	44.85	1.05%	CB-280
CB-282	387.00	15"	380.74 (NW)	380.74 (S)	15"	59.41	1.97%	CB-281
CB-283	390.51	15" 18" 18"	383.07 (N) 383.07 (W) 379.85 (S)	379.65 (E)	18"	89.27	0.88%	CB-279
CB-284	390.43			384.56 (S)	15"	27.09	5.49%	CB-283
CB-285	392.15	18"	385.49 (W)	385.49 (E)	18"	69.27	3.50%	CB-283
CB-286	393.69	15" 15"	387.95 (NE) 387.74 (W)	387.74 (E)	18"	74.03	3.04%	CB-285
CB-287	393.67	15"	388.20 (N)	388.10 (SW)	15"	27.01	0.56%	CB-286
CB-288	393.22			389.15 (S)	15"	24.78	3.83%	CB-287
CB-289	396.85	15"	391.40 (NE)	390.15 (E)	15"	146.68	1.64%	CB-286
CB-2906	396.61	15"	391.75 (N)	391.55 (SW)	15"	29.43	0.50%	CB-289

PIPE TABLE					
NAME	SIZE	LENGTH	SLOPE	MATERIAL	
CB-203 TO CB-205	24"	81.43	5.12%	RCP	
CB-205 TO CB-206	15"	28.49	1.50%	RCP	
CB-205 TO CB-207	24"	76.88	4.33%	RCP	
CB-207 TO CB-209	24"	85.79	4.38%	RCP	
CB-209 TO CB-211	24"	34.94	5.68%	RCP	
CB-211 TO CB-212	24"	81.82	0.65%	RCP	
CB-207 TO CB-208	15"	27.34	0.51%	RCP	
CB-209 TO CB-210	15"	30.36	1.00%	RCP	
CB-270 TO CB-272	15"	178.50	0.50%	RCP	
CB-268 TO CB-270	15"	120.16	1.02%	RCP	
CB-267 TO CB-268	24"	45.61	0.86%	RCP	
CB-270 TO CB-271	15"	27.04	0.74%	RCP	
CB-268 TO CB-269	24"	26.97	1.11%	RCP	
CB-286 TO CB-289	15"	146.68	1.64%	RCP	
CB-286 TO CB-287	15"	27.01	0.56%	RCP	
CB-285 TO CB-286	18"	74.03	3.04%	RCP	
CB-283 TO CB-285	18"	69.27	3.50%	RCP	
CB-279 TO CB-283	18"	89.27	0.88%	RCP	
CB-279 TO CB-280	24"	27.00	0.50%	RCP	
CB-267 TO CB-279	24"	48.64	0.51%	RCP	

PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
CB-252 TO CB-253	24"	115.30	2.27%	RCP
CB-282 TO DI-290	15"	34.75	8.03%	RCP
CB-223 TO DI-236	18"	103.44	0.50%	RCP
DI-236 TO DI-237	18"	225.44	2.98%	RCP
DI-236 TO DI-237	18"	57.56	0.43%	RCP
CB-283 TO DI-293	18"	72.48	0.50%	RCP
DI-201 TO CB-202	30"	22.49	5.00%	RCP
CB-202 TO CB-203	30"	78.32	4.83%	RCP
FES-200 TO DI-201	30"	58.92	0.85%	RCP
CB-222 TO DI-223	18"	47.15	0.51%	RCP
DI-295 TO DI-296	15"	40.31	3.18%	RCP
DI-294 TO DI-295	15"	114.04	2.40%	RCP
DI-293 TO DI-294	15"	70.56	6.43%	RCP
CB-273 TO DI-274	15"	79.57	0.50%	RCP
DI-232 TO DI-233	18"	107.21	5.60%	RCP
DI-231 TO DI-232	18"	127.04	3.86%	RCP
DI-230 TO DI-231	18"	122.68	7.25%	RCP
DI-229 TO DI-230	18"	148.44	0.50%	RCP
DI-228 TO DI-229	18"	62.68	0.50%	RCP
CB-204 TO DI-228	18"	137.00	0.77%	RCP

SCM 3

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-302	404.84	15" 15" 24"	398.70 (E) 398.70 (SE) 394.58 (NW)	388.46 (SW)	24"	186.13	1.05%	DI-301
CB-303	404.57			398.00 (W)	15"	35.61	0.84%	CB-302
CB-304	407.87	24"	396.00 (NW)	396.00 (SE)	24"	70.79	2.01%	CB-302
CB-305	409.47	18" 24"	399.62 (NE) 397.00 (NW)	397.00 (SE)	24"	50.05	2.00%	CB-304
CB-306	409.26	18"	400.00 (E)	399.80 (SW)	18"	35.01	0.50%	CB-305
CB-307	407.46	18"	401.00 (SE)	400.80 (W)	18"	56.05	1.43%	CB-306
CB-308	407.46			401.43 (NW)	18"	35.00	1.23%	CB-307
CB-309	409.91	24"	397.50 (W)	397.40 (SE)	24"	79.23	0.50%	CB-305
CB-310	408.28	24"	398.20 (W)	398.10 (E)	24"	80.77	0.74%	CB-309
CB-311	406.64	18"	399.32 (N)	398.83 (E)	24"	117.96	0.53%	CB-310
CB-312	406.64			399.50 (S)	18"	35.00	0.50%	CB-311
CB-313	397.44	15"	390.00 (NE)	390.00 (NW)	15"	173.95	0.52%	CB-302
CB-314	397.56			390.20 (SW)	15"	35.14	0.57%	CB-313
CB-361	402.17	15" 15" 24"	397.80 (NE) 394.82 (NW) 389.64 (SW)	389.14 (S)	30"	41.39	0.50%	DI-356
CB-362	404.31	15"	399.00 (N)	398.80 (SW)	15"	93.93	1.28%	CB-361
CB-363	404.19	15"	399.30 (NE)	399.20 (S)	15"	33.50	0.60%	CB-362
CB-364	407.00	15"	395.73 (E)	399.63 (SW)	15"	43.52	0.76%	CB-363
CB-365	406.71	15"	400.00 (N)	398.90 (W)	15"	29.18	0.58%	CB-364
CB-366	411.92			403.75 (S)	15"	93.63	4.00%	CB-365
CB-367	402.25	12"	399.70 (N)	395.18 (SE)	15"	35.23	1.01%	CB-361

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-368	399.57	15" 24"	391.01 (NW) 390.24 (S)	390.14 (NE)	24"	99.93	0.50%	CB-361
CB-369	399.60			391.19 (SE)	15"	34.94	0.51%	CB-368
CB-372	398.74	15" 15"	392.06 (W) 392.16 (S)	391.96 (N)	15"	79.15	0.52%	DCB-370
CB-373	398.74			392.23 (E)	15"	35.00	0.50%	CB-372
CB-374	402.09	15"	397.58 (W)	397.04 (N)	15"	122.19	3.99%	CB-372
CB-375	402.55			397.80 (E)	15"	43.43	0.50%	CB-374
DCB-370	397.92	15" 24"	391.55 (S) 390.90 (W)	390.80 (N)	24"	111.73	0.50%	CB-368
DCB-371	397.92	18"	392.80 (W)	391.25 (E)	24"	35.10	1.00%	DCB-370
DI-301	395.35	24"	386.50 (NE)	386.50 (SW)	24"	144.68	1.96%	FES-300
DI-351	394.68	30" 18"	384.78 (W) 386.00 (N)	384.68 (SE)	30"	191.43	0.53%	FES-350
DI-352	405.69	18"	400.06 (E)	399.86 (W)	18"	119.76	8.77%	DI-379
DI-353	407.60			401.09 (W)	18"	112.62	0.92%	DI-352
DI-354	392.28	30"	387.98 (W)	387.88 (E)	30"	128.74	2.41%	DI-351
DI-355	394.37	30" 18"	388.48 (NW) 389.80 (SW)	388.38 (E)	30"	79.21	0.50%	DI-354
DI-356	400.02	30"	388.93 (N)	388.83 (SE)	30"	69.34	0.50%	DI-355
DI-357	399.69	18"	390.20 (S)	390.10 (NE)	18"	29.90	1.00%	DI-355
DI-358	399.08	18"	390.85 (S)	390.75 (N)	18"	50.89	1.08%	DI-357
DI-359	396.58	18"	392.06 (S)	391.88 (N)	18"	104.35	0.99%	DI-358
DI-360	400.04			395.50 (N)	18"	175.33	1.95%	DI-359
DI-368	407.39			400.00 (S)	12"	25.32	1.18%	CB-367

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
DI-376	399.14	18"	393.64 (N)	393.43 (E)	18"	115.70	0.56%	DCB-371
DI-377	401.54	18"	394.50 (NE)	394.40 (S)	18"	151.40	0.50%	DI-376
DI-378	403.16			397.47 (SW)	18"	107.94	2.76%	DI-377
DI-379	406.47	18" 18"	398.30 (W) 399.37 (E)	398.17 (S)	18"	36.11	8.78%	DI-351
DI-380	404.66			400.13 (E)	18"	112.70	1.62%	DI-379
FES-300		24"	383.67 (NE)					
FES-350		30"	383.67 (NW)					
FES-300		36"	378.00 (NW)					
JB-3002	383.43	24" 36"	378.43 (NW) 378.43 (N)	378.43 (SE)	36"	50.33	0.85%	FES-3001
OCS-3003	385.00			379.00 (SE)	24"	50.81	1.13%	JB-3002
Y13004	396.06			380.50 (S)	36"	258.07	0.80%	JB-3002

#80- Outlet Structures should also be shown for SCM 1, 2 and 4

What is the reason for tying into the SCM outfall pipe with the Outfall and bypass. These should be kept separate or provide in calcs for SCM at the flow will be an issue

SCM 4

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-405	394.49	15" 15" 18"	385.28 (SE) 384.04 (NE) 385.20 (NW)	383.84 (SW)	24"	134.57	0.88%	DI-401
CB-406	394.49	18"	385.05 (NW)	384.21 (SW)	18"	35.00	0.50%	CB-405
CB-407	394.47	18"	385.22 (NE)	385.12 (SE)	18"	13.25	0.50%	CB-406
CB-408	395.18	15"	390.45 (NE)	386.16 (SE)	15"	91.00	1.06%	CB-405
CB-409	395.22			390.80 (SW)	15"	35.08	1.00%	CB-408
CB-410	395.73	15"	386.18 (SE)	385.98 (NW)	15"	93.29	0.75%	CB-405
CB-411	397.37	15"	391.93 (NE)	390.25 (NW)	15"	79.39	5.13%	CB-410
CB-412	396.96			392.21 (SW)	15"	40.36	0.70%	CB-411
CB-452	391.82	18" 24"	380.10 (SW) 382.05 (NE) 382.50 (SE)	380.00 (NW)	30"	158.96	0.62%	DI-451
CB-453	391.82	18"	382.82 (NE)	382.72 (NW)	18"	27.00	0.81%	CB-452
CB-454	392.19	18"	382.87 (SE)	382.87 (SW)	18"	9.96	0.50%	CB-453
CB-455	385.73	15"	381.13 (S)	380.88 (NE)	18"	133.49	0.58%	CB-452
CB-456	384.76			381.30 (N)	15"	34.00	0.50%	CB-455
CB-457	395.52	18" 15"	383.29 (NE) 387.87 (SE)	382.79 (SW)	24"	133.00	0.56%	CB-452
CB-458	395.52			388.01 (NW)	15"	27.02	0.50%	CB-457
CB-459	398.48	15" 18"	391.54 (SE) 384.17 (NE)	384.07 (SW)	18"	123.74	0.63%	CB-457
CB-460	398.48			391.68 (NW)	15"	27.00	0.50%	CB-459
CB-461	398.63	18"	384.66 (NE)	384.56 (SW)	18"	78.01	0.50%	CB-459
CB-462	397.25	15" 15"	385.16 (SE) 385.16 (N)	385.06 (SW)	18"	80.71	0.50%	CB-461
CB-463	397.22	15"	385.40 (SE)	385.30 (NW)	15"	27.00	0.50%	CB-462

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
CB-464	398.44	15"	391.37 (E)	390.00 (S)	15"	47.55	10.18%	CB-462
FES-400	398.27	24"	391.75 (W)	391.75 (W)	15"	35.77	1.06%	CB-464
CB-466	394.87	15"	385.74 (SE)	385.64 (NW)	15"	47.08	0.50%	CB-463
CB-467	390.35	15" 15"	386.37 (NE) 387.50 (SW)	386.27 (NW)	15"	81.60	0.65%	CB-466
CB-468	389.69			386.59 (SW)	15"	35.02	0.61%	CB-467
CB-4022	377.89			365.00 (W)	18"	47.21	16.94%	DI-4021
DI-401	393.75	24" 18"	382.65 (NE) 385.00 (NW)	382.55 (S)	24"	212.79	0.50%	FES-400
DI-402	390.76	18"	386.79 (NW)	386.59 (SE)	18"	89.29	1.78%	DI-401
DI-403	398.87	18"	393.04 (NW)	392.84 (SE)	18"	128.27	4.72%	DI-402
DI-404	401.76			397.32 (SE)	18"	84.41	5.07%	DI-403
DI-415	394.75	18"	385.90 (SE)	385.80 (SW)	18"	115.97	0.50%	CB-407
DI-416	396.45			388.07 (NW)	18"	126.25	1.72%	DI-415
DI-451	387.43	30"	379.01 (SE)	378.91 (N)	30"	21.13	0.90%	FES-450
DI-469	392.34			389.15 (NE)	15"	23.64	6.98%	CB-467
DI-470	388.63	15" 15"	384.26 (NE) 383.57 (SW)	383.52 (NW)	18"	125.59	0.52%	CB-454
DI-471	389.89			385.80 (SW)	15"	87.27	1.76%	DI-470
DI-472	387.08			384.12 (NE)	15"	107.31	0.52%	DI-470
DI-4021	360.75	24" 18"	357.00 (N) 357.00 (E)	356.80 (W)	24"	40.27	4.47%	HW-4020
DI-4023	367.74	18"	361.00 (NE)	357.90 (S)	24"	106.33	0.85%	DI-4021
DI-4024	379.72			366.00 (SW)	18"	49.80	10.04%	DI-4023

STRUCTURE DATA TABLE								
STRUCTURE NAME	RIM ELEV.	PIPE IN SIZE	INV. IN	INV. OUT	PIPE OUT SIZE	PIPE OUT LENGTH (LF)	PIPE OUT SLOPE	PIPE OUT TO NODE
DI-4101	376.73			371.30 (W)	15"	65.61	4.50%	FES-4100
FES-400		24"	381.49 (N)					
FES-450		30"	378.72 (S)					
FES-4100		15"	368.35 (E)					
HW-4020	357.75	24"	355.00 (E)					

PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
FES-300 TO DI-301	24"	144.68'	1.96%	RCP
DI-301 TO CB-302	24"	186.13'	1.05%	RCP
CB-302 TO CB-303	15"	35.61'	0.84%	RCP
CB-302 TO CB-313	15"	173.95'	0.52%	RCP
CB-313 TO CB-314	15"	35.14'	0.57%	RCP
CB-302 TO CB-304	24"	70.79'	2.01%	RCP
CB-305 TO CB-309	24"	78.23'	0.50%	RCP
CB-304 TO CB-305	24"	50.05'	2.00%	RCP
CB-365 TO CB-366	15"	93.63'	4.00%	RCP
CB-363 TO CB-364	15"	43.52'	0.76%	RCP
CB-362 TO CB-363	15"	33.50'	0.60%	RCP
CB-310 TO CB-311	24"	117.96'	0.53%	RCP
CB-372 TO CB-374	15"	122.19'	3.99%	RCP
DCB-370 TO CB-372	15"	79.15'	0.52%	RCP
CB-374 TO CB-375	15"	43.43'	0.50%	RCP
CB-372 TO CB-373	15"	35.00'	0.50%	RCP
DCB-370 TO DCB-371	24"	35.10'	1.00%	RCP
CB-368 TO DCB-370	24"	111.73'	0.50%	RCP
CB-361 TO CB-368	24"	99.93'	0.50%	RCP
CB-361 TO CB-362	15"	93.93'	1.28%	RCP

PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
CB-368 TO CB-369	15"	34.94'	0.51%	RCP
CB-361 TO CB-367	15"	35.23'	1.01%	RCP
CB-364 TO CB-365	15"	29.18'	0.58%	RCP
DCB-371 TO DI-376	18"	115.70'	0.55%	RCP
CB-311 TO CB-312	18"	35.00'	0.50%	RCP
CB-305 TO CB-306	18"	35.01'	0.50%	RCP
CB-306 TO CB-307	18"	56.05'	1.43%	RCP
CB-307 TO CB-308	18"	35.00'	1.23%	RCP
DI-356 TO CB-361	30"	41.39'	0.50%	RCP
DI-355 TO DI-356	30"	69.34'	0.50%	RCP
FES-350 TO DI-351	30"	191.43'	0.53%	RCP
DI-351 TO DI-354	30"	128.74'	2.41%	RCP
JB-3001 TO OCS-3003	24"	50.81'	1.13%	RCP
FES-3000 TO JB-3001	36"	50.33'	0.85%	RCP
JB-3001 TO Y1-3002	36"	258.07'	0.80%	RCP
CB-309 TO CB-310	24"	80.77'	0.74%	RCP
DI-355 TO DI-357	18"	29.90'	1.00%	RCP
DI-357 TO DI-358	18"	50.89'	1.08%	RCP
DI-358 TO DI-359	18"	104.35'	0.99%	RCP
DI-359 TO DI-360	18"	175.33'	1.95%	RCP