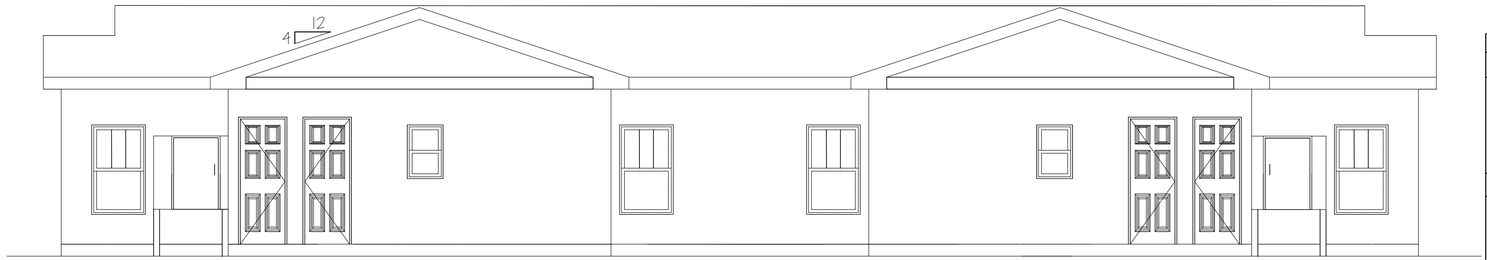
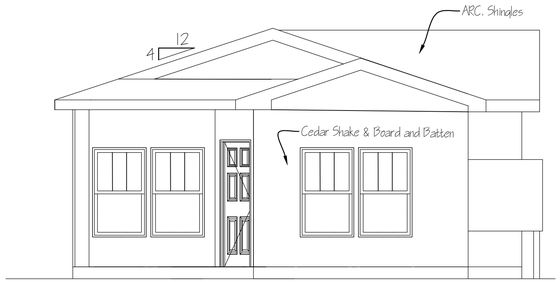
CODE DATA	CODE REFERENCE: NCRC 2021 & USBC 2021
OCCUPANCY GROUP	R-5
CONSTRUCTION TYPE	5B
WIND LOAD	120 MPH
ASCE-7, 3 SEC GUST	EXPOSURE B
SOIL BEARING VALUE	1500 PSF

DESIGN LOADS	LIVE LOADS	DEAD LOADS.
LIVING AREAS	40 PSF	10 PSF
SLEEPING AREAS	30 PSF	10 PSF
CEILING JOIST	20 PSF	10 PSF
ROOF AREAS	30 PSF	10 PSF
LIMITED STORAGE	30 PSF	7 PSF



Right Side Elevation

Scale: 1/4" = 1'-0"



Front Elevation

Scale: 1/4" = 1'-0"

Floor Plan

Scale: 1/4" = 1'-0"

REVISIONS

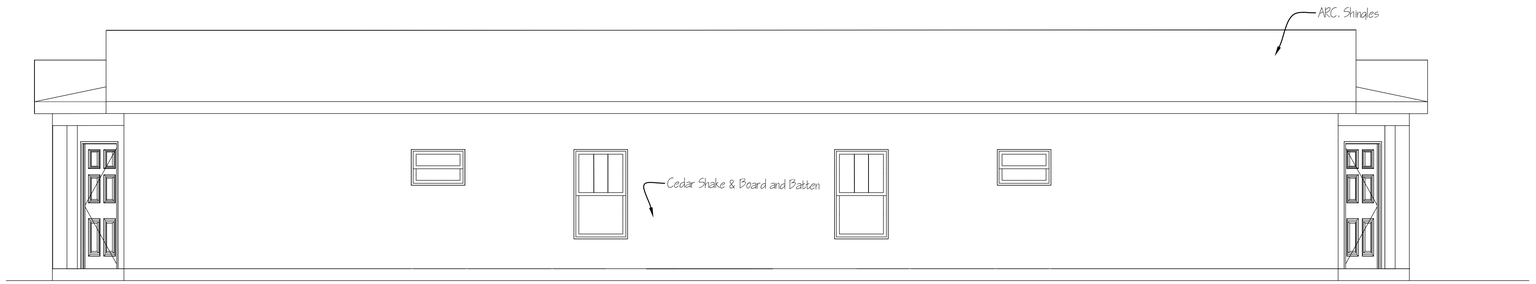
1	
2	
3	

SINGLE STORY DUPLEX

FLOOR PLAN & ELEVATION

CURRITUCK COUNTY, NC

DATE	2/27/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET	
OF	

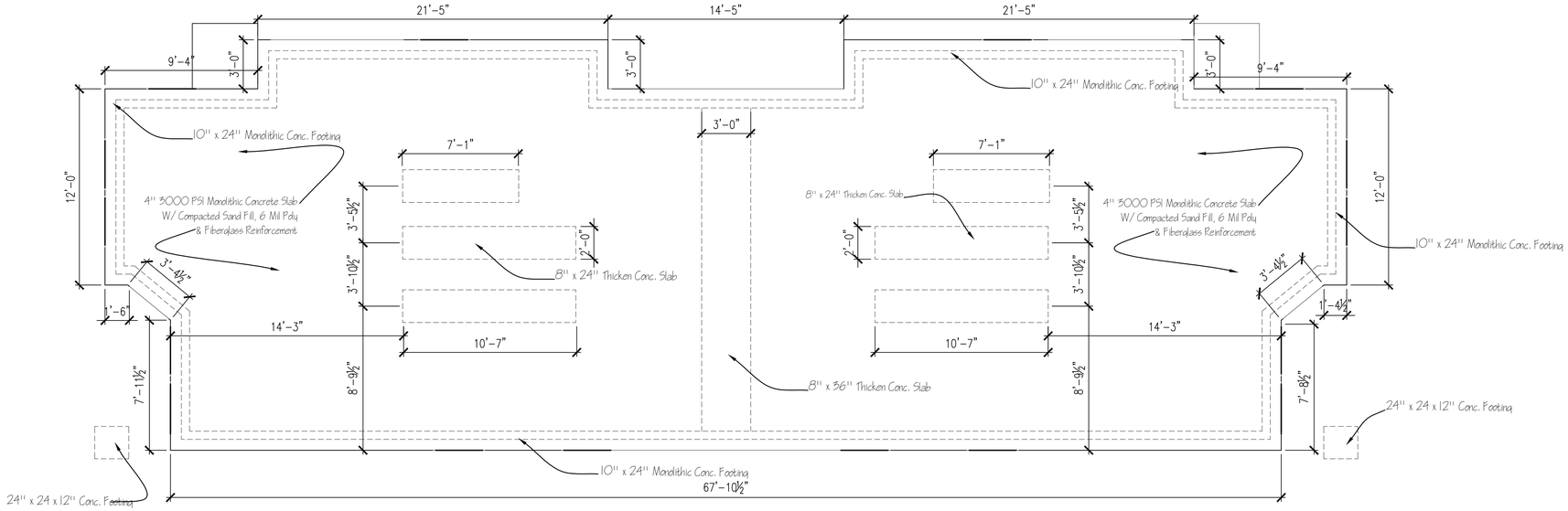


Left Side Elevation

Scale: 1/4" = 1'-0"

Rear Elevation

Scale: 1/4" = 1'-0"



Foundation Plan

Scale: 1/4" = 1'-0"

REVISIONS

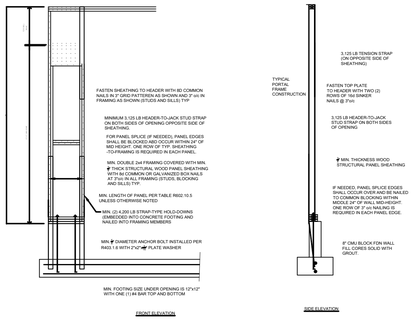
1	
2	
3	

SINGLE STORY DUPLEX

ELEVATIONS & FOUNDATION

CURRITUCK COUNTY, NC

DATE	2/27/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	2

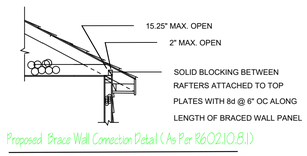


FRONT ELEVATION

SIDE ELEVATION

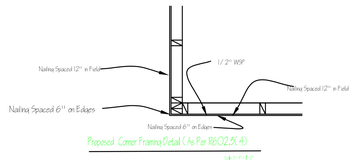
House Portal Frame Detail

Scale: 3/4" = 1'-0"



Proposed Brace Wall Connection Detail (As Per R602.10.8.1)

Scale: 3/4" = 1'-0"



Proposed Corner Framing Detail (As Per R602.10.4)

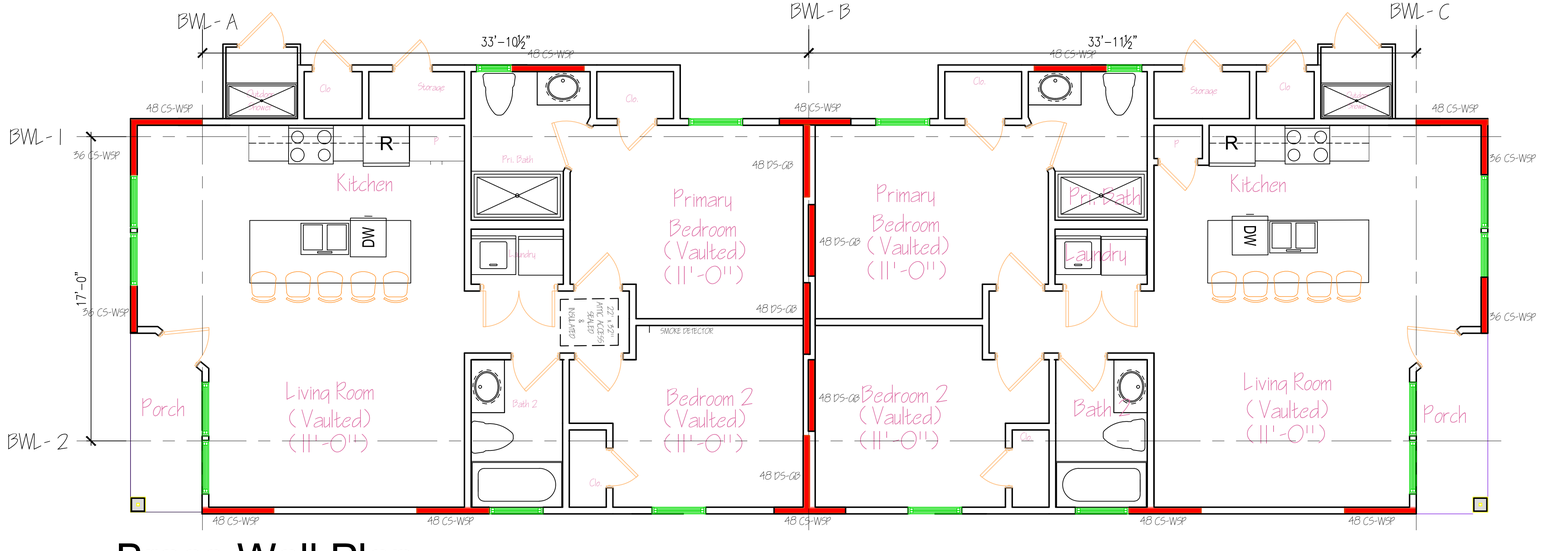
Scale: 3/4" = 1'-0"

Classic Wall Bracing Worksheet

per 2021 North Carolina Residential Code Section R602.10

Ultimate Wind Speed (mph)		120																			
BWL Designation		1		2		A		B		C											
No. of Floors above BWL		0		0		0		0		0											
BWP Method		CS-WSP		CS-WSP		CS-PF		GB		CS-PF											
Average BWL Spacing (ft)		17		17		33		33		33											
Tabular Requirement (ft)		3.05		3.05		5.45		11.40		5.45											
Adjustments	Exposure	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00										
	Eave-to-Ridge Ht. (ft)	5.00	0.70	5.00	0.70	5.00	0.70	5.00	0.70	5.00	0.70										
	Max. Wall Ht. (ft)	9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95										
	No. of BWLs	2	1.00	2	1.00	3	1.30	3	1.30	3	1.30										
	Omit Interior Finish?	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00										
	Added Hold-downs?	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00										
	Joints Blocked?	No	2.00	No	2.00	Yes	1.00	No	2.00	Yes	1.00										
	Fasteners @ 4" o.c.?	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00										
Required BWP Length (ft)		4.06		4.06		4.71		19.71		4.71											
Actual BWPs	BWP	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length
	Contributing Length (ft) 1	CS-WSP	4.00	CS-WSP	4.00	CS-PF	3.00	GB (ds)	4.00	CS-PF	3.00										
	Contributing Length (ft) 2	CS-WSP	4.00	CS-WSP	4.00	CS-PF	3.00	GB (ds)	4.00	CS-PF	3.00										
	3	CS-WSP	4.00	CS-WSP	4.00			GB (ds)	4.00												
	4	CS-WSP	4.00	CS-WSP	4.00			GB (ds)	4.00												
	5							GB (ds)	4.00												
	6																				
	7																				
Actual BWP Length (ft)		16.00		16.00		6.00		20.00		6.00											
Actual ≥ Required?		PASS		PASS		PASS		PASS		PASS											
BWPs ≤ 20' Apart?		Yes		Yes		Yes		Yes		Yes											
≥ 2 Panels in BWL?		Yes		Yes		Yes		Yes		Yes											
BWP 10' from Ends?		Yes		Yes		Yes		Yes		Yes											
Continuous Sheathing		End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2
End Conditions		3	3	3	3	3	3	3	3	3	3										
BWL Compliance		PASS		PASS		PASS		PASS		PASS											

WSP=actual
SFB=actual
GB(ds)=actual
GB(sb)=actual
CS-PF=1.5xactual
PFH=1.5xactual
PFH=4'
ABW=4'



Brace Wall Plan

Scale: 1/4" = 1'-0"

REVISIONS

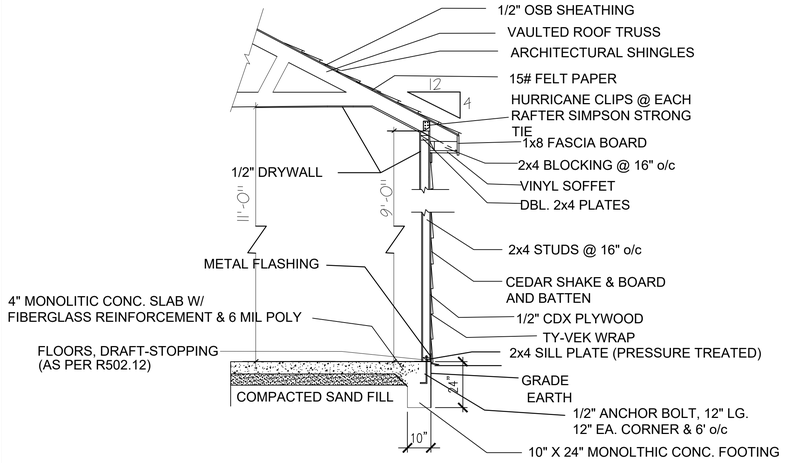
1	
2	
3	

SINGLE STORY DUPLEX

BRACE WALL PLAN

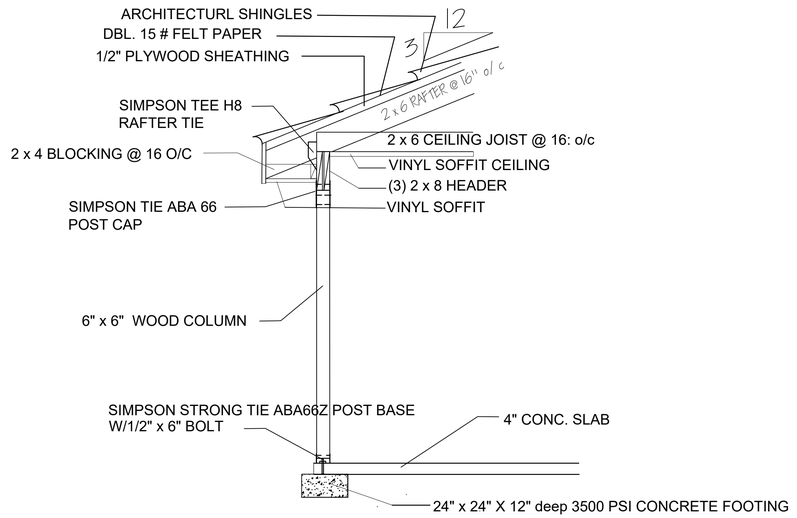
CURRITUCK COUNTY, NC

DATE	2/27/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET	3
OF	



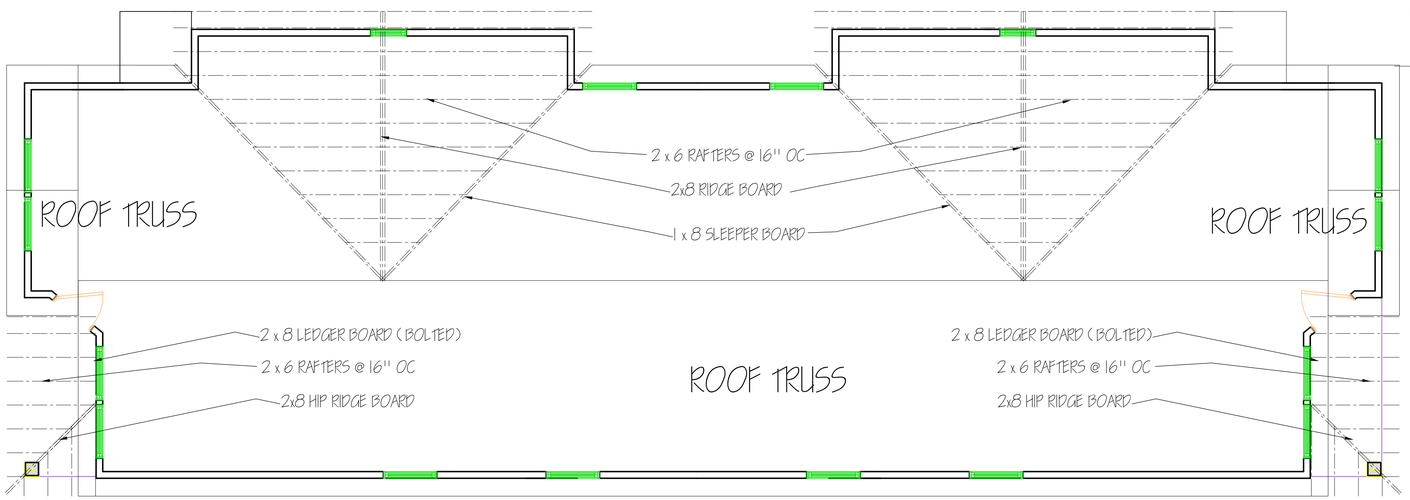
WALL DETAIL

SCALE: 3/4"=1'-0"



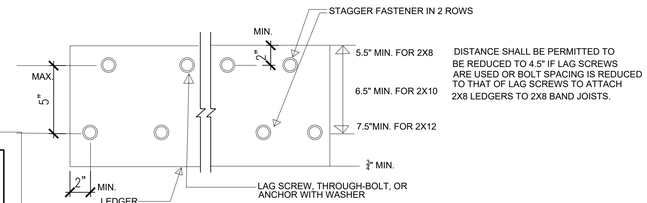
PORCH COLUMN DETAIL

NO SCALE



Roof Framing Plan

Scale: 1/4" = 1'-0"



DISTANCE SHALL BE PERMITTED TO BE REDUCED TO 4.5" IF LAG SCREWS ARE USED OR BOLT SPACING IS REDUCED TO THAT OF LAG SCREWS TO ATTACH 2X8 LEDGERS TO 2X8 BAND JOISTS.

P 1-HOUR FIRE RATED WALL

STC = 35 (MIN)

2x6 WOOD STUDS AT 16" O.C. WITH ⅝" TYPE "X" GYPSUM WALLBOARD APPLIED VERTICALLY OR HORIZONTALLY NAILED WITH 6d COATED OR WALLBOARD NAILS AT 7" O.C. WITH END JOINTS ON NAILING MEMBERS. STAGGER JOINTS ON EACH SIDE ⅝" MOISTURE RESISTANT GYP BOARD, OR ⅝" FIRE RATED DENSSHIELD GYPSUM TILE BACKER (AT ALL AREAS WITH WALL TILE OR TUB/SHOWER SURROUNDS) TO BE USED AT BATHROOMS.

REVISIONS

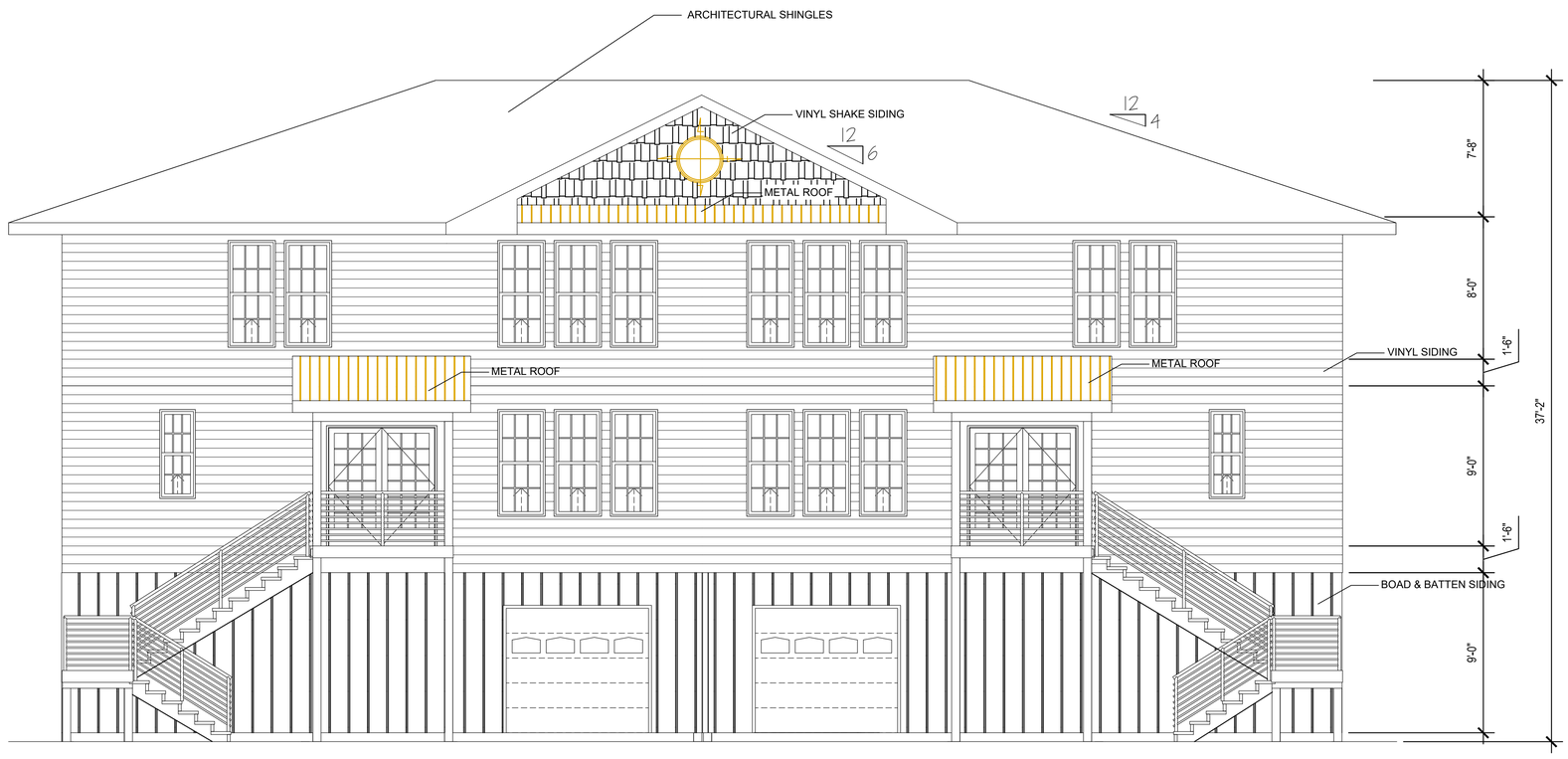
1	
2	
3	

SINGLE STORY DUPLEX

ROOF PLAN & DETAILS

CURRITUCK COUNTY, NC

DATE	2/27/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	4



Front Duplex Elevation

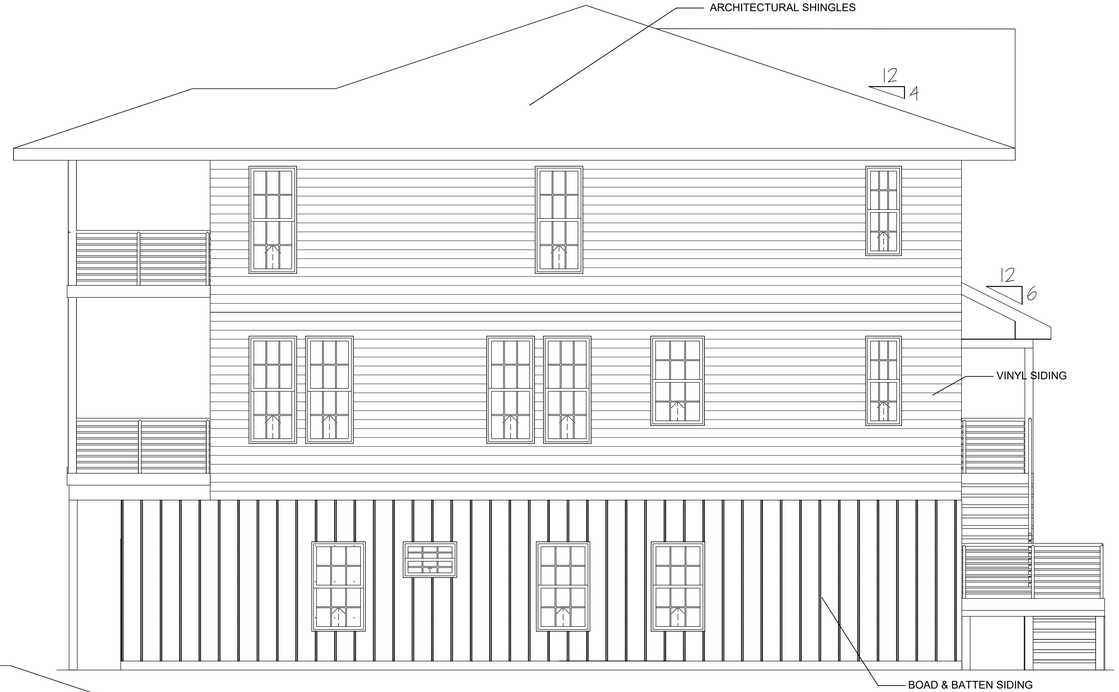
Scale: 1/4" = 1'-0"

REVISIONS

1	
2	
3	

ELEVATIONS
3 STORY 6 BED DUPLEX
COROLLA, NC 27927

DATE	4/22/2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET	4
OF	



Left Side Elevation

Scale: 1/4" = 1'-0"

Right Side Elevation

Scale: 1/4" = 1'-0"

REVISIONS

1	
2	
3	

ELEVATIONS

3 STORY 6 BED DUPLEX

COROLLA, NC 27927

DATE	4/22/2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	6

Rear Elevation

Scale: 1/4" = 1'-0"

REVISIONS

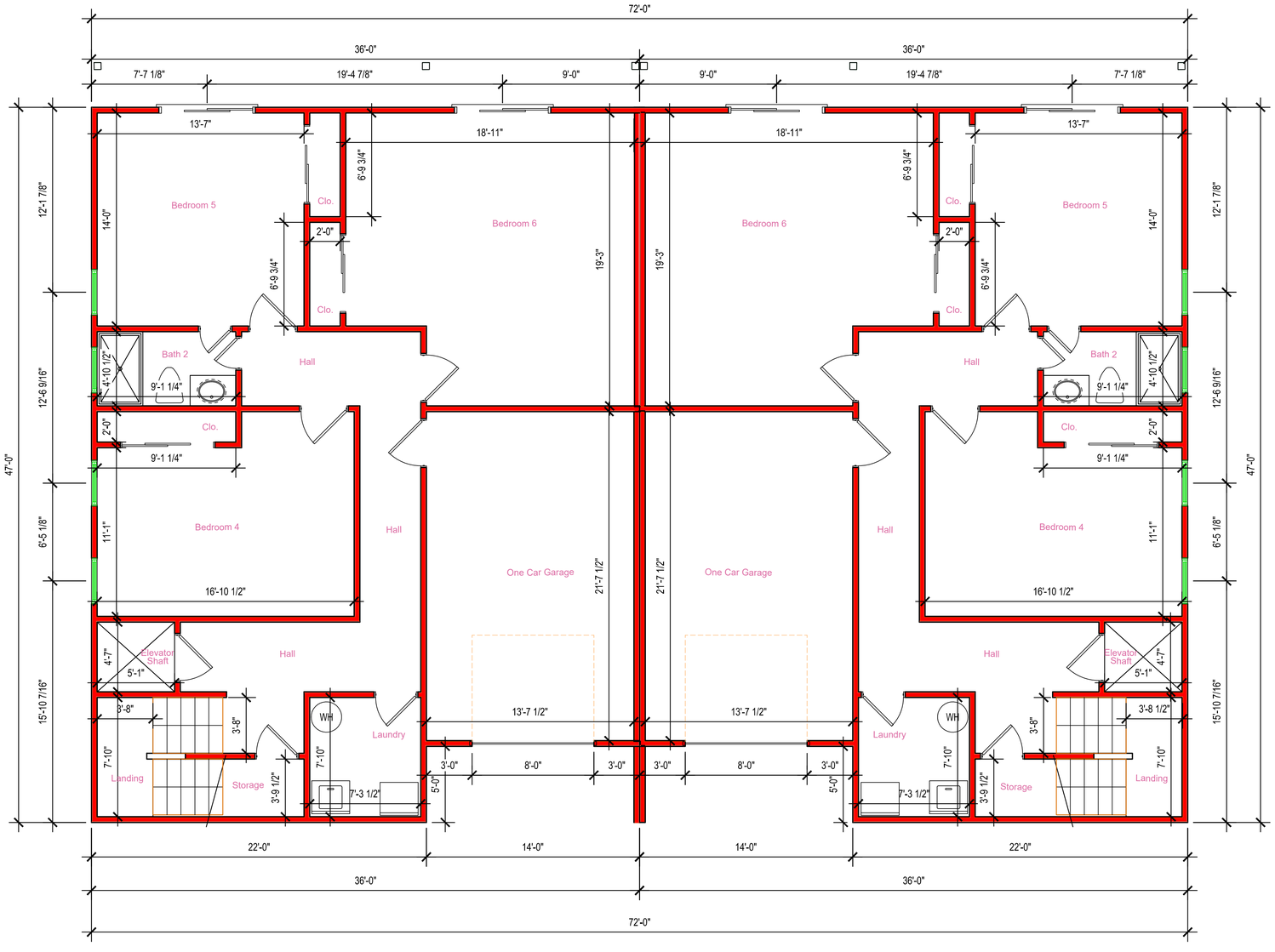
1	
2	
3	

ELEVATIONS

3 STORY 6 BED DUPLEX

COROLLA, NC 27927

DATE	4/22/2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	5



First Floor Plan

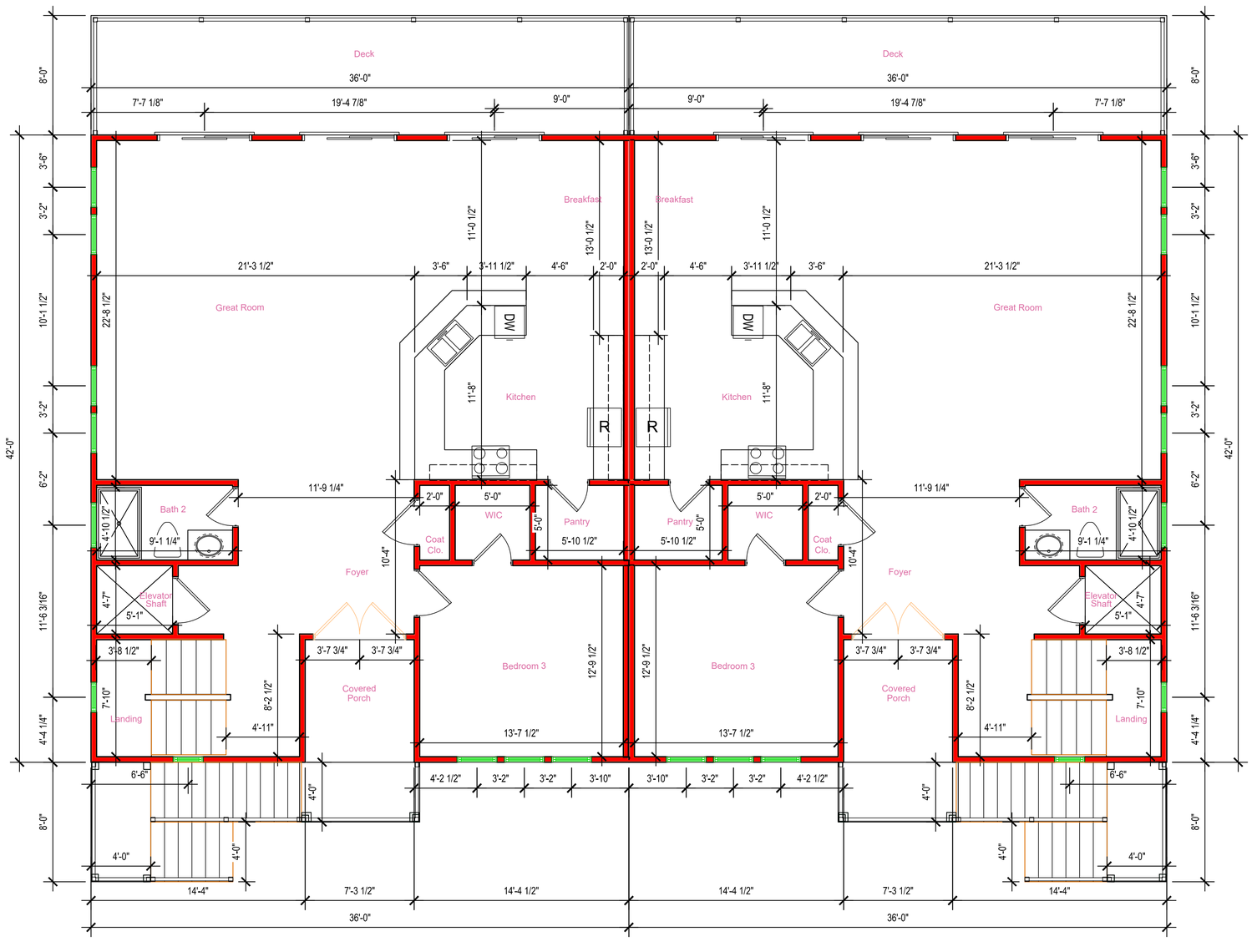
Scale: 1/4" = 1'-0"

REVISIONS

1	
2	
4	

FLOOR PLAN
3 STORY 6 BED DUPLEX
COROLLA, NC 27927

DATE	4/22/2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET	
OF	



Second Floor Plan

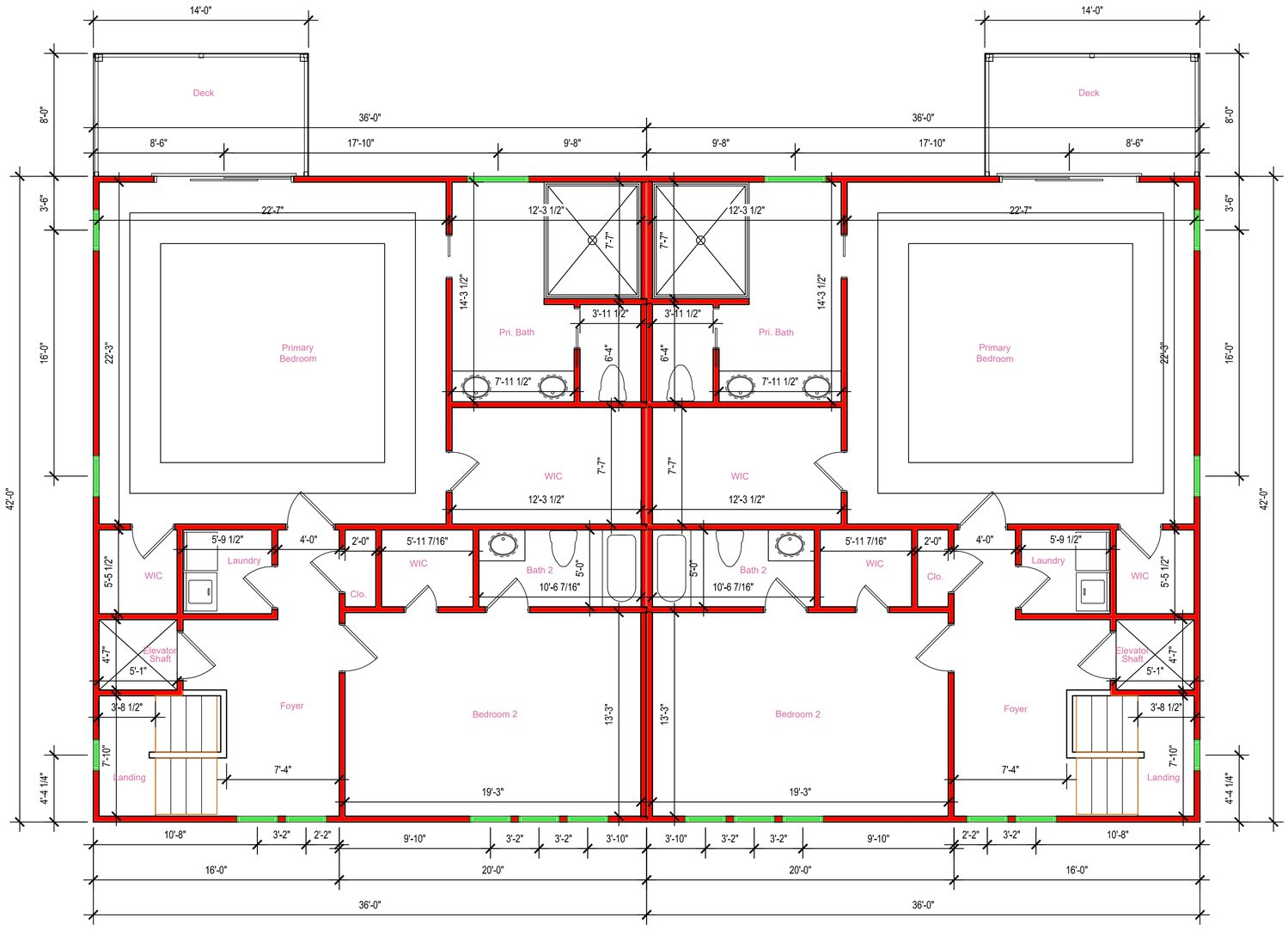
Scale: 1/4" = 1'-0"

REVISIONS

1	
2	
3	

FLOOR PLAN
3 STORY 6 BED DUPLEX
COROLLA, NC 27927

DATE	4/22/2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET	2
OF	



Third Floor Plan

Scale: 1/4" = 1'-0"

REVISIONS

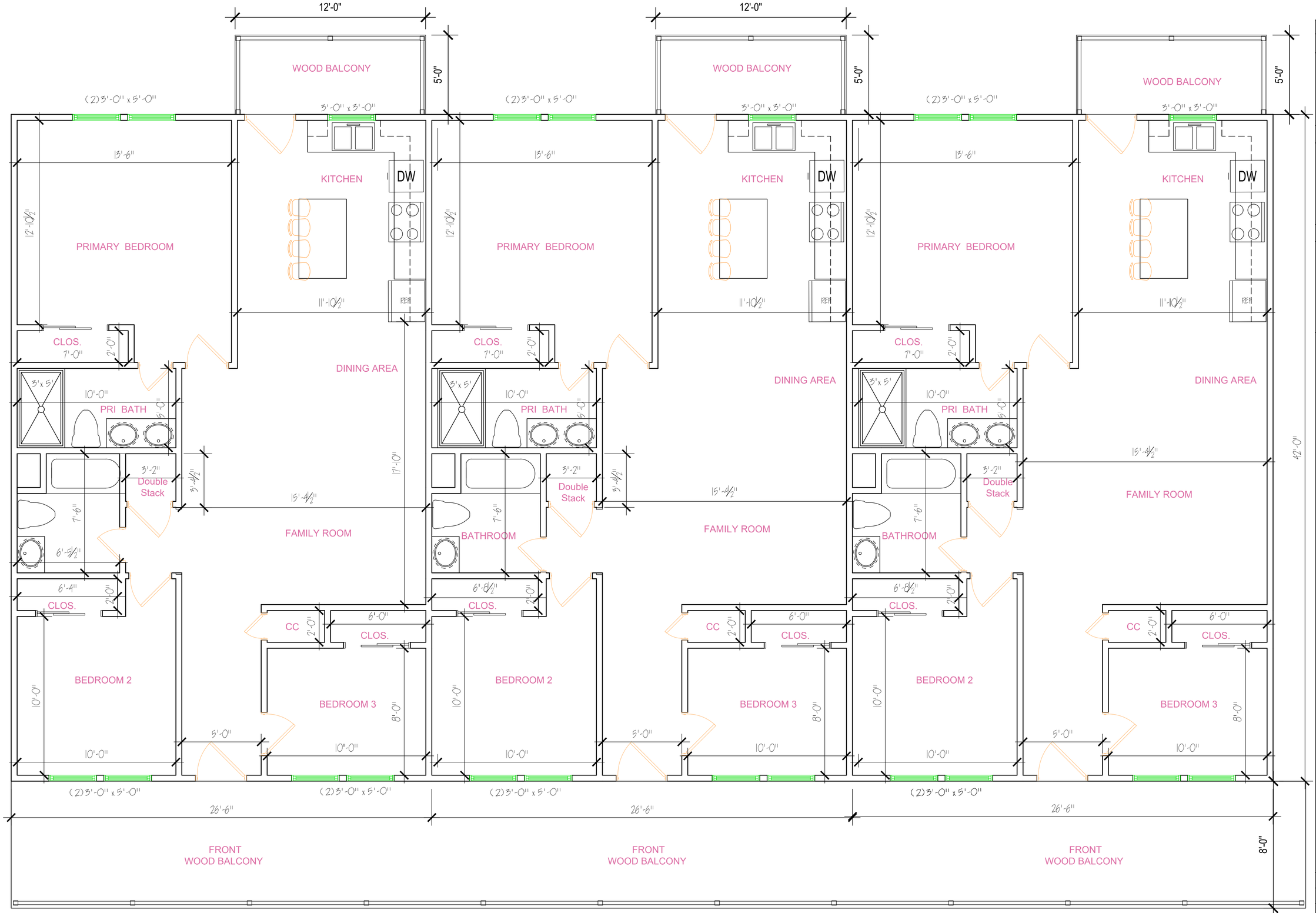
1	
2	
3	

FLOOR PLAN

3 STORY 6 BED DUPLEX

COROLLA, NC 27927

DATE	4/22/2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET	3
OF	



First Floor Plan

Scale: 1/4" = 1'-0"

REVISIONS

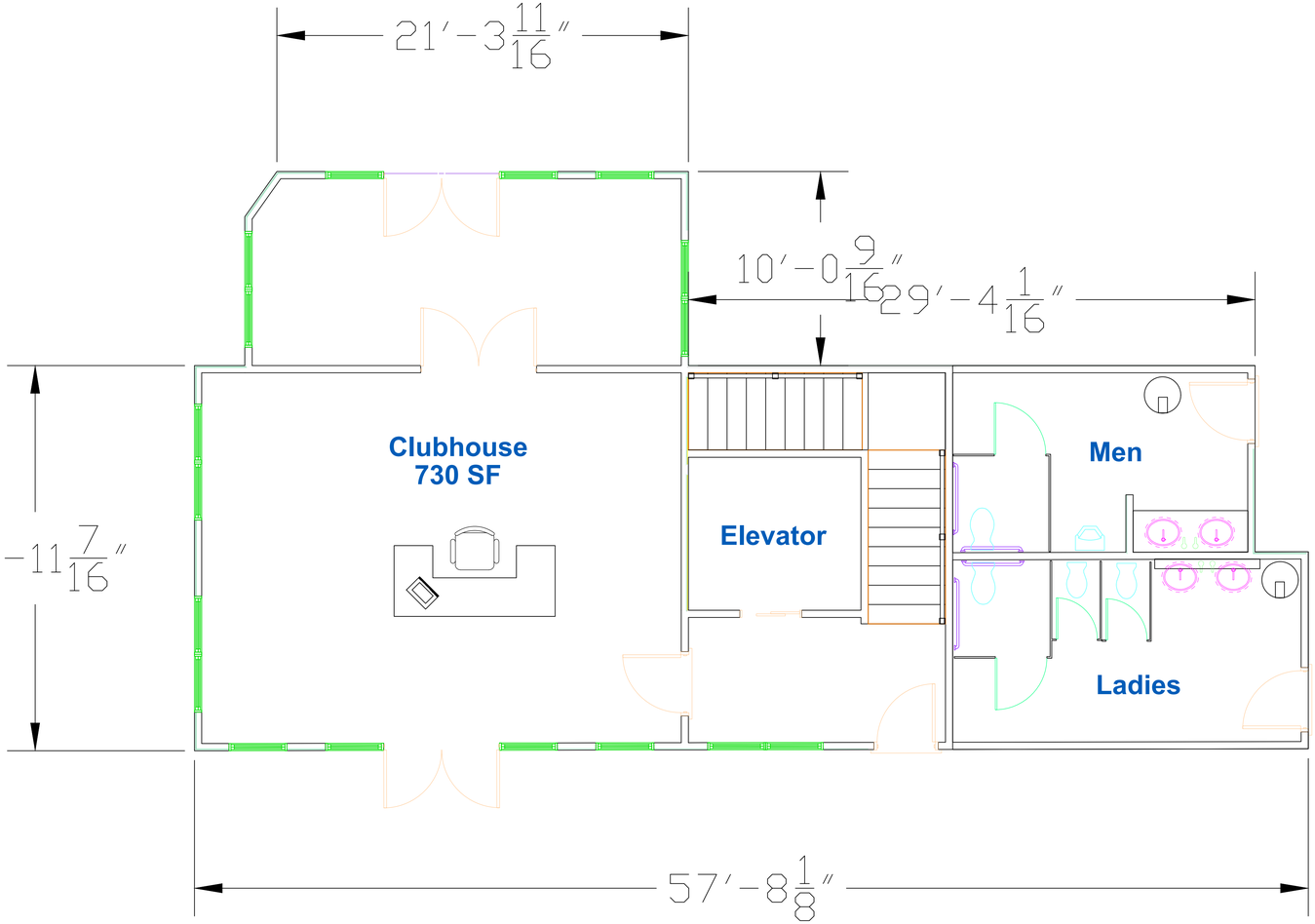
1	
2	
3	

APARTMENTS 1,092 Sq Ft

FLOOR PLAN

CURRITUCK COUNTY, NC

DATE	2/12/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	1/1



First Floor Plan

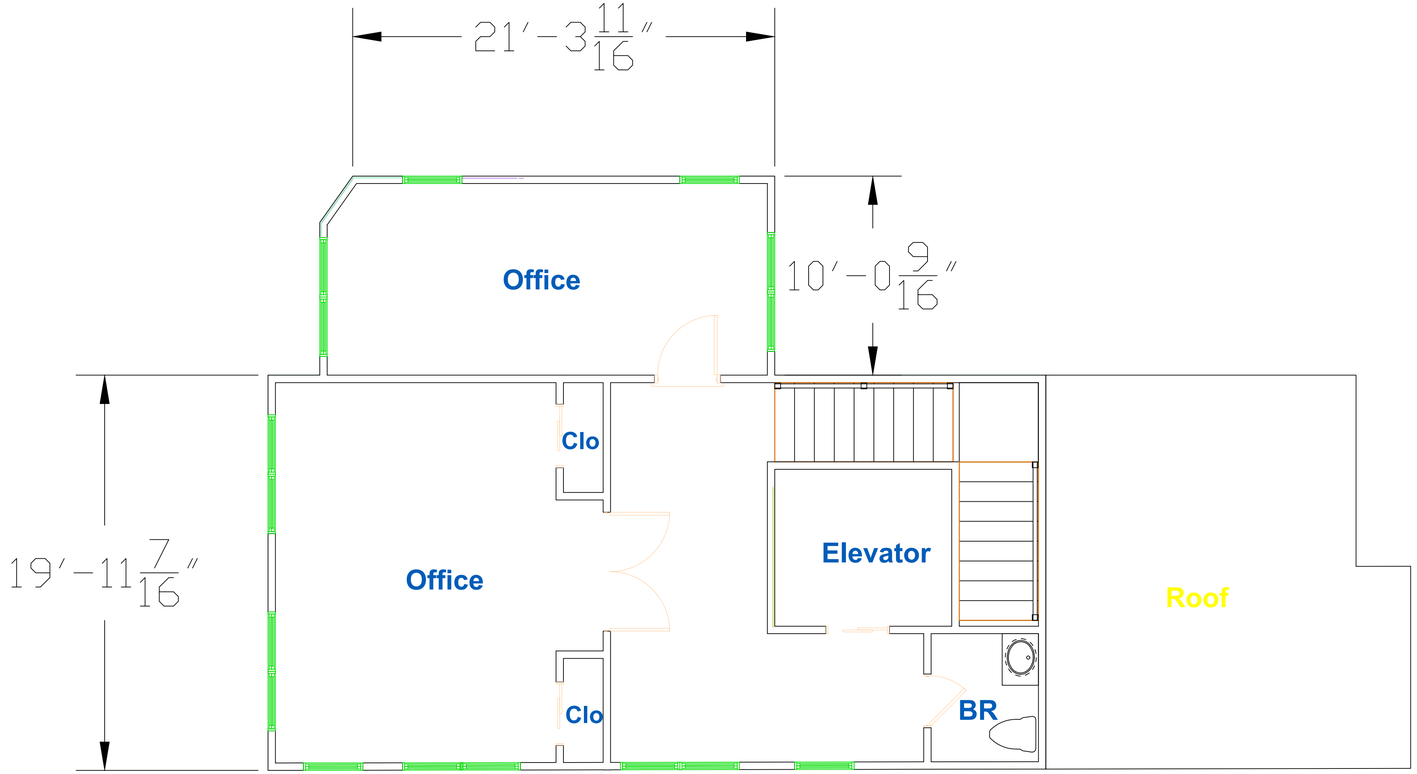
Scale: 1/4″ = 1′-0″

REVISIONS

2	
3	

COROLLA BOAT CLUB
FIRST FLOOR PLAN
CURRITUCK COUNTY, NC

DATE 2/12/ 2024
SCALE 1/4"=1'-0"
GOLDEN KEYES, LLC
ALISHA STEVENSON
SHEET 1/4
OF



Second Floor Plan

Scale: 1/4″ = 1′-0″

REVISIONS

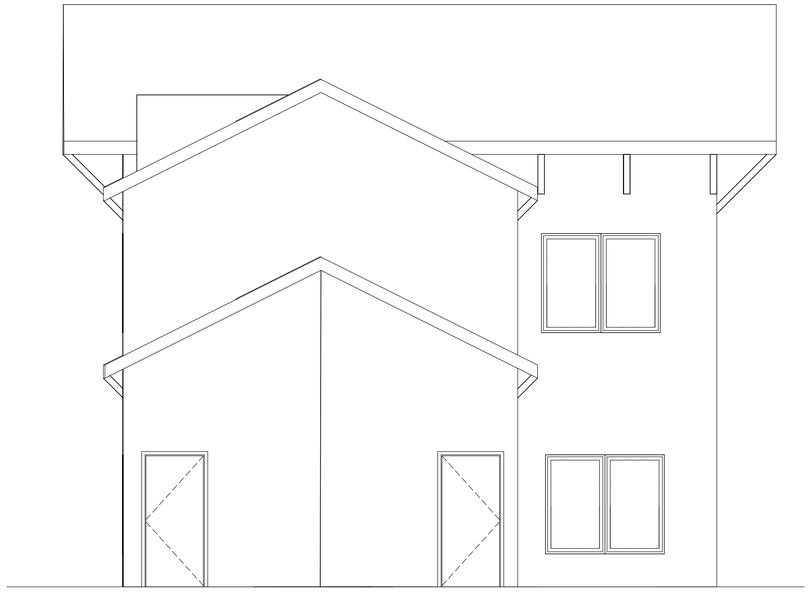
1	
2	
3	

COROLLA BOAT CLUB
SECOND FLOOR PLAN
CURRITUCK COUNTY, NC

DATE 2/12/ 2024
SCALE 1/4"=1'-0"
GOLDEN KEYES, LLC
ALISHA STEVENSON
SHEET 2/4

South Elevations

Scale: 1/4" = 1'-0"



East Elevations

Scale: 1/4" = 1'-0"

REVISIONS

1

2

3

COROLLA BOAT CLUB

ELEVATIONS

CURRITUCK COUNTY, NC

DATE 2/12/ 2024

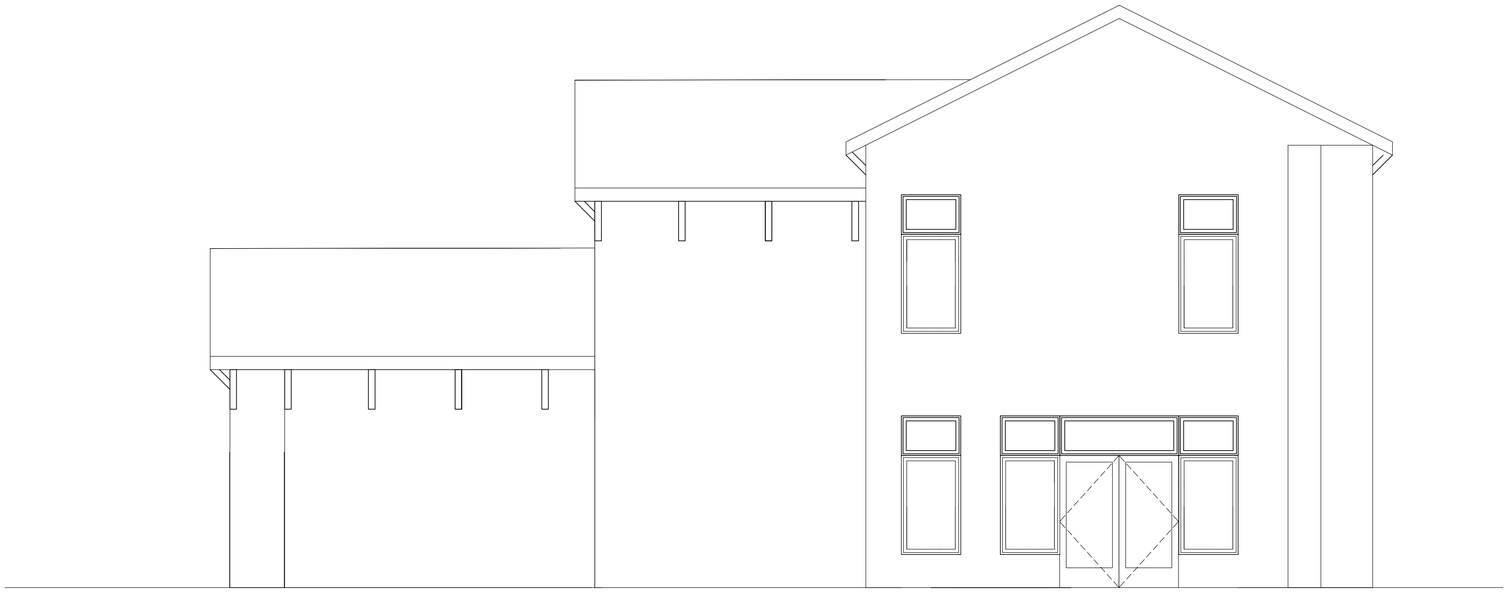
SCALE 1/4"=1'-0"

GOLDEN KEYES, LLC

ALISHA STEVENSON

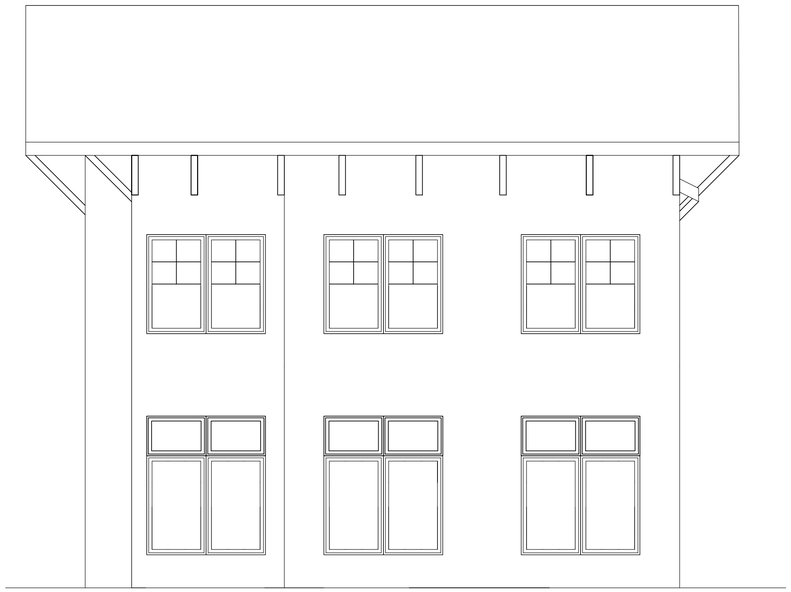
SHEET 3/4

OF



North Elevations

Scale: 1/4" = 1'-0"



West Elevations

Scale: 1/4" = 1'-0"

REVISIONS

1

2

3

COROLLA BOAT CLUB

ELEVATIONS

CURRITUCK COUNTY, NC

DATE 2/12/ 2024

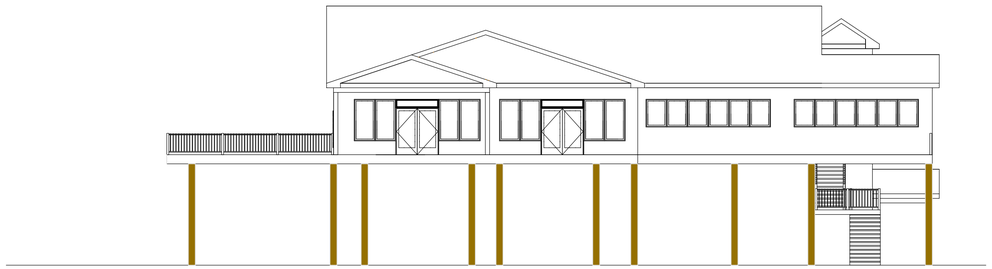
SCALE 1/4"=1'-0"

GOLDEN KEYES, LLC

ALISHA STEVENSON

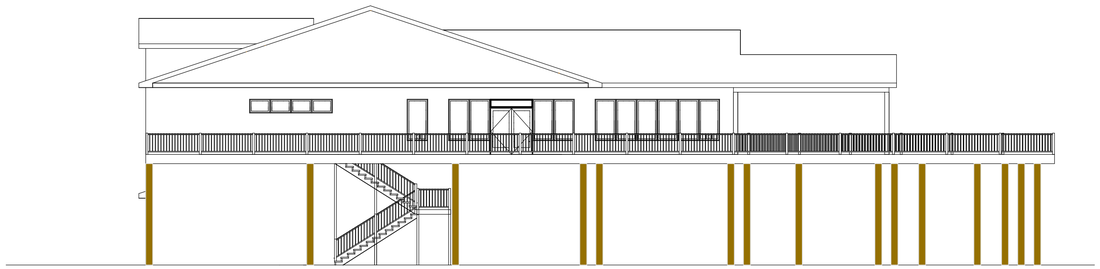
SHEET 4/4

OF



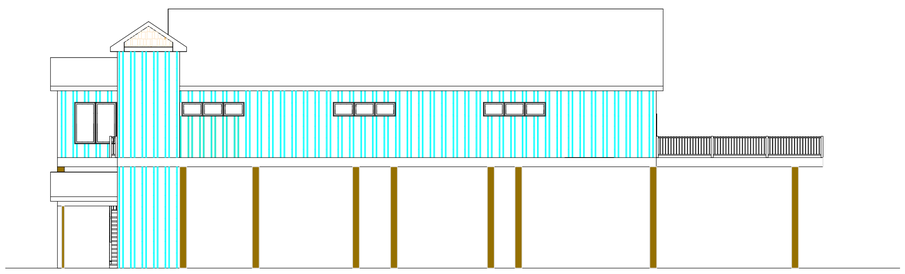
West Elevation

Scale: 1/4" = 1'-0"



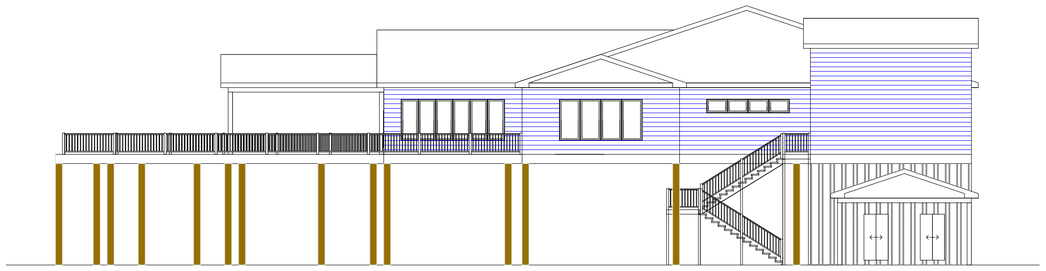
South Elevation

Scale: 1/4" = 1'-0"



East Elevation

Scale: 1/4" = 1'-0"



North Elevation

Scale: 1/4" = 1'-0"

REVISIONS

1

2

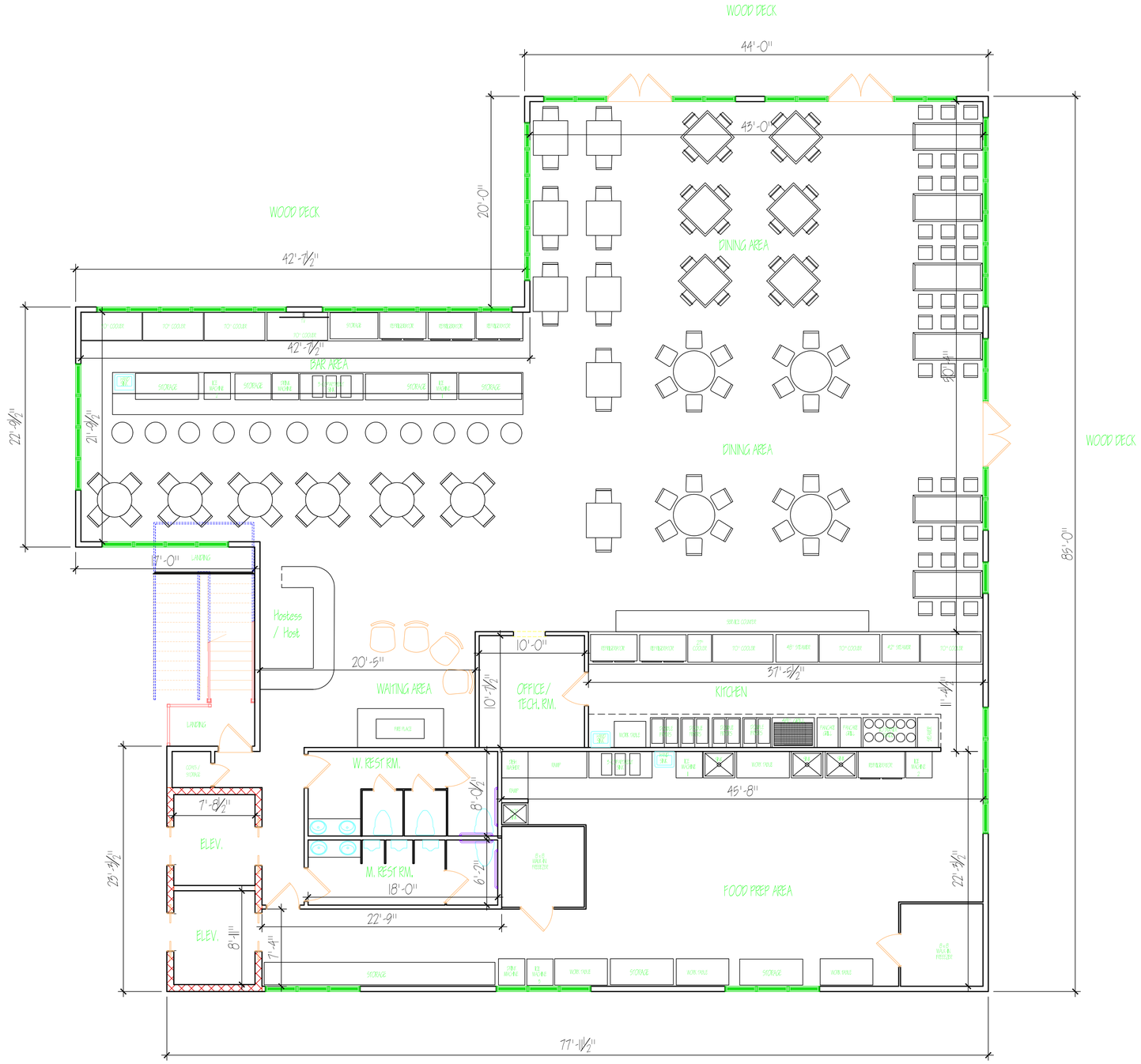
3

RESTAURANT

ELEVATIONS

CURRITUCK COUNTY, NC

DATE	2/12/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	2/ 2



Floor Plan

Scale: 1/4" = 1'-0"

REVISIONS

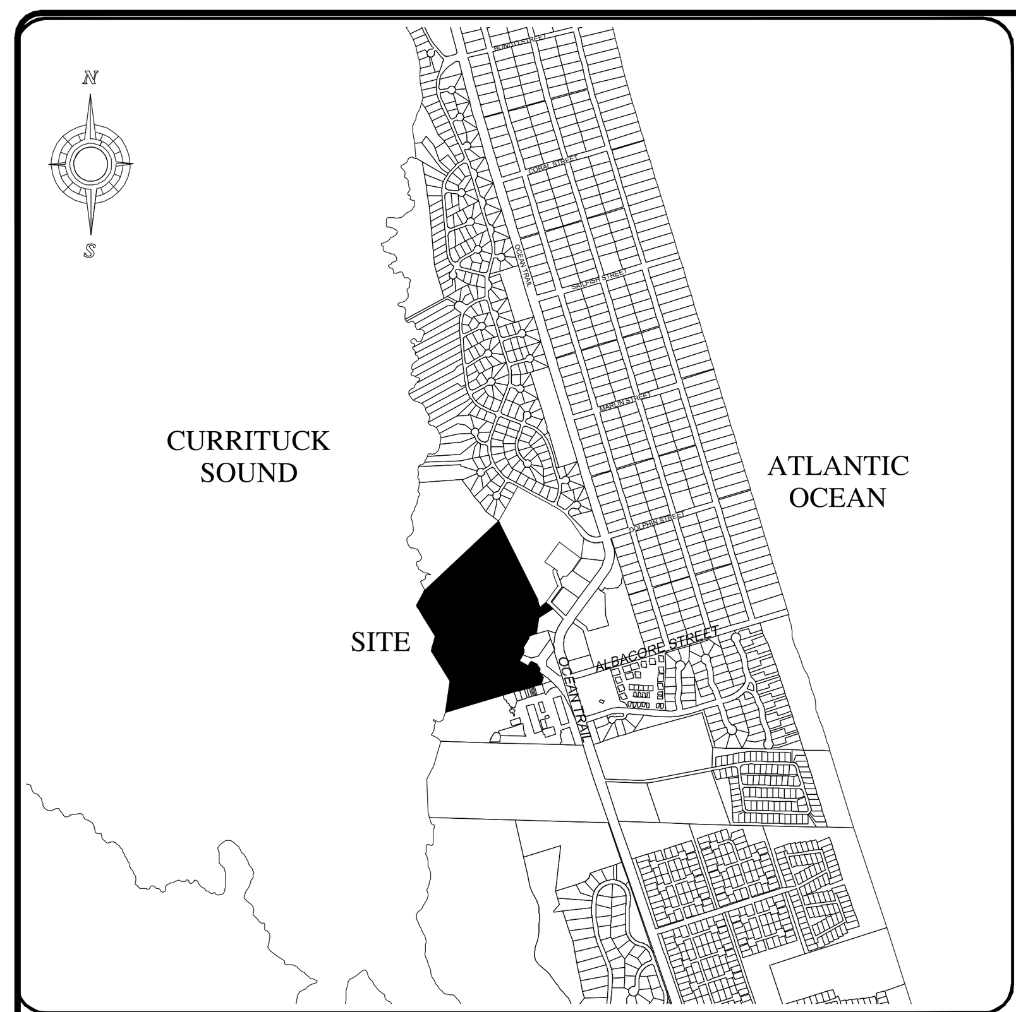
1	
2	
3	

THE TWISTED FISH

FLOOR PLAN

CURRITUCK COUNTY, NC

DATE	2/12/ 2024
SCALE	1/4"=1'-0"
GOLDEN KEYES, LLC	
ALISHA STEVENSON	
SHEET OF	1/ 2



VICINITY MAP
SCALE: 1" = 1000'

CONSTRUCTION DRAWINGS FOR

COROLLA BOAT CLUB

MIXED USE DEVELOPMENT
MONTERAY SHORES PHASE 10

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

GENERAL NOTES:
1. PROJECT NAME: COROLLA BOAT CLUB
2. APPLICANT/DEVELOPER: COROLLA BOAT CLUB, LLC
P.O. BOX 549
COROLLA, NC 27927
3. PROPERTY DATA:
ADDRESS: MALIA DRIVE, COROLLA, NC
PIN: 0116-000-010A-0000; 0116-000-010D-0000; 0116-000-010C-0000
RECORD DOCUMENT(S): DB:1161, PG:734; PC:K, SL:49; P.C. R, SL 372
PROPERTY ZONING: SFO-PUD
4. F.I.R.M. DATA:
ZONES X, AE (3') AND SHADED X PER F.E.M.A. F.I.R.M. MAP NUMBER 3721803200 K, EFFECTIVE DATE DECEMBER 21, 2018. USE OF LAND WITHIN A FLOODWAY OR FLOOD PLAIN IS SUBSTANTIALLY RESTRICTED BY CHAPTER 7 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE.
5. THIS PROPERTY CONTAINS ACOE "404' JURISDICTIONAL WETLANDS AS SHOWN AND CONFIRMED BY USACOE AND MAY REQUIRE U.S. CORP OF ENGINEERS APPROVAL PRIOR TO DEVELOPMENT OF THE PROPERTY.
6. SECTION 7.6.5 OF THE CURRITUCK U.D.O. SUBSTANTIALLY RESTRICTS DEVELOPMENT WITHIN A 30' RIPARIAN BUFFER TO CERTAIN WETLANDS.
7. EXISTING CONDITION INFORMATION BASED ON A COMBINATION OF THE FOLLOWING:
   - 2022 AERIAL IMAGERY OBTAINED FROM NCONEMAP.COM
   - FIELD TOPOGRAPHIC SURVEY DATA BY BISSELL PROFESSIONAL GROUP.
   - ELEVATIONS ARE REFERENCED TO NAVD 1988 VERTICAL DATUM.
   - WATER DEPTHS PER PLAN TITLED "WATER DEPTH SURVEY/CAMA FEASE" BY QUIBLE AND ASSOCIATES
8. ALL UTILITIES ARE TO BE UNDERGROUND.
9. A NON-EXCLUSIVE DRAINAGE EASEMENT IS HEREBY DEDICATED ACROSS ALL OPEN SPACE AREAS FOR PURPOSES OF OPERATION AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEM.

DEVELOPMENT NOTES:
1. TOTAL PROPERTY AREA: 36.19 AC.

   COASTAL WETLANDS AREA: 9.15 AC.

   404 WETLANDS AREA: 13.92 AC.
   UPLAND AREA: 13.07 AC.
   TOTAL PROJECT AREA, NET OF CAMA WETLANDS: 27.04 AC.
2. DEVELOPMENT SUMMARY
   OPEN SPACE AREA: 30.976 AC.

   # OF DUPLEX LOTS: 56
   # OF COMMERCIAL/MIXED USE LOTS: 9

   COMMERCIAL USE AREA: 1.208 AC.
   PROPOSED PAVED ROADWAY WIDTH: VARIES (20'-24')
   LINEAR FEET OF ROADWAY: 2,240 L.F.±
3. IMPERVIOUS COVERAGE DATA (BUA):
   BUILDINGS: 77,752 SF
   ROADWAYS: 50,836 SF
   PARKING: 53,759 SF
   SIDEWALKS: 21,581 SF
   ALLOWANCE FOR MISC. AMENITIES: 1,500 SF
   TOTAL COVERAGE: 205,428 SF (17.44%)
4. TOTAL PROPOSED DISTURBED AREA: 12.6 ACRES

PLAN LEGEND
- ROADWAY CENTERLINE
- RIGHT-OF-WAY
- PROPERTY BOUNDARY
- ADJOINING PROPERTY LINE
- EXISTING DITCH CENTERLINE
- EXISTING DITCH TOP OF BANK
- EXISTING WETLANDS
- 30' UNDISTURBED BUFFER (COUNTY)
- PROPOSED SWALE W/ FLOW ARROW
- PROPOSED SWALE HIGH POINT
- EXISTING DITCH TO BE FILLED
- FEMA — FEMA: FEMA BOUNDARY LINE
- 6: EXISTING GRADE CONTOUR
- 6: PROPOSED GRADE CONTOUR
- X 0.00: EXISTING SPOT GRADE
- •0.00: PROPOSED SPOT GRADE
- EXISTING CULVERT
- PROPOSED CULVERT
- BH — BH: PROPOSED BULKHEAD
- EWL — EWL: EXISTING WATER LINE
- WL — WL: PROPOSED WATER LINE (SIZE AS NOTED)
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED WATER SERVICE
- PROPOSED VALVE
- PROPOSED BLOW-OFF ASSEMBLY
- PROPOSED REDUCER
- FM — FM: PROPOSED SEWER FORCE MAIN
- PROPOSED SEWER COLLECTION MAIN
- Ⓢ: PROPOSED SEWER MANHOLE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED TEMPORARY CHECK DAM

PROFILE LEGEND
- EXISTING GRADE @ ROAD C/L
- PROPOSED GRADE @ ROAD C/L
- WL — WL: PROPOSED WATER LINE (SIZE AS NOTED)
- PROPOSED HYDRANT ASSEMBLY
- PROPOSED GATE VALVE
- PROPOSED REDUCER

SURVEY LEGEND

SCM	SET CONCRETE MONUMENT
ECM	EXISTING CONCRETE MONUMENT
SIR ◉	SET IRON ROD
EIR ○	EXISTING IRON ROD
EIP ○	EXISTING IRON PIPE
CP ○	CALCULATED POINT
M.B.L.	MAXIMUM BUILDING LIMIT
N.T.S.	NOT TO SCALE
P.C.	PLAT CABINET
D.B.	DEED BOOK
SL	SLIDE
SF	SQUARE FEET
AC	ACRES

THE FOLLOWING PERMITS ARE REQUIRED PRIOR TO PROJECT CONSTRUCTION:

PERMIT	AGENCY	REFERENCE NUMBER	DATE OF ISSUANCE
SEDIMENTATION AND EROSION CONTROL PERMIT	N.C.D.E.Q. - DIVISION OF LAND RESOURCES		
STORMWATER MANAGEMENT PERMIT	N.C.D.E.Q - DIVISION OF LAND RESOURCES		
WATERLINE EXTENSION AUTHORIZATION TO CONSTRUCT	N.C.D.E.Q - PUBLIC WATER SUPPLY		
WASTEWATER COLLECTION SYSTEM PERMIT	N.C.D.E.Q - DIVISION OF WATER RESOURCES		
NATIONWIDE PERMIT	U.S.A.C.O.E.		
CURRITUCK COUNTY PRELIMINARY PLAT & USE PERMIT	CURRITUCK COUNTY BOARD OF COMMISSIONERS		
CURRITUCK COUNTY CONSTRUCTION AUTHORIZATION	CURRITUCK COUNTY PLANNING STAFF		

STORMWATER CERTIFICATE

I,____________________, OWNER/AGENT HEREBY CERTIFY THE INFORMATION INCLUDED ON THIS AND ATTACHED PAGES IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ON THE PLAN ENTITLED, COROLLA BOAT CLUB – CONSTRUCTION DRAWINGS – GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN, STORMWATER DRAINAGE IMPROVEMENTS SHALL BE INSTALLED ACCORDING TO THESE PLANS AND SPECIFICATIONS AND APPROVED BY CURRITUCK COUNTY. YEARLY INSPECTIONS ARE REQUIRED AS PART OF THE STORMWATER PLAN. THE OWNER IS RESPONSIBLE FOR ALL MAINTENANCE REQUIRED. CURRITUCK COUNTY ASSUMES NO RESPONSIBILITY FOR THE DESIGN, MAINTENANCE, OR PERFORMANCE OF THE STORMWATER IMPROVEMENTS.

____________ DATE ____________________ OWNER/AGENT

North Carolina One-Call Center Inc.
811
Know what's below Call before you dig.

NOTE:
EXISTING SITE INFORMATION DESCRIBED HEREON IS BELIEVED TO BE ACCURATE, HOWEVER, BPG INC. MAKES NO WARRANTY AS TO THE ACCURACY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THIS INFORMATION BEFORE RELYING ON IT. THE CONTENT OF THESE DOCUMENTS MAY ALSO INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. IF SUCH CONDITIONS EXIST, THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO PROCEEDING WITH THE SCHEDULED WORK AND MAY CONTINUE AFTER AN AUTHORIZATION TO PROCEED HAS BEEN GRANTED.

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-956
3512 North Croatan Highway
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Kitty Hawk, North Carolina 27949
(252) 261-3266
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

COVER SHEET, DEVELOPMENT NOTES & SITE LOCATION

PROJECT: COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE: 04/22/24	SCALE: N/A
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 1 OF 21
CAD FILE: 459600B1
PROJECT NO: 4596

S:\projects\4596 – OBV Monterey Shores\dwg\Construction\459600B1.dwg 4/25/2024 Plotted: 4/25/2024 9:33 AM HP Designjet T2500 PS HPGL2.pc3

NC GRID NAD83

CURRITUCK SOUND

ZONING:
(SFO)
SINGLE FAMILY
RESIDENTIAL OUTER
BANKS W/ P.U.D.
OVERLAY

LOT 3
654296 S.F.
15/71 AC. TOTAL
(EXCLUDING SUBMERGED LAND)
629143 S.F.
14.44 AC. NET

CAMA AREA:
9.15 AC.±

NON-CAMA
AREA:
27.04 AC.±

LOT 2
436036 S.F.
10.01 AC.

LOT 1
437957 S.F.
10.05 AC.

LOT LINES TO BE VACATED

EXISTING
AMENITY/FIRE
PROTECTION POND

404 WETLAND LINE LAST CONFIRMED 7/8/21 AMENDED 9/29/24

404 WETLAND LIN (2012)

CAMA 75' FEDERAL WATERWAYS BOUNDARY

CONFIRMED 8" OAK 10/7/21

OAK GROVE WETLANDS REF. BOUNDARY

EXISTING HERITAGE LIVE OAK (TO BE PROTECTED)

TO BE REMOVED

EXISTING POND

DOCK

N/F
MONTERAY SHORES
OWNERS ASSOCIATION
D.B. 343, PG. 323
P.C. D, SL. 54

N/F
CAROLINA WATER SERVICES
INC. OF NC & ROBERT R.
DeGABRIELLE
D.B. 1024, PG. 31
P.C. K, SL. 49

N/F
ROBERT R. & LAURIE
T. DeGABRIELLE
D.B. 1220, PG. 264
P.C. K, SL. 49

N/F
GOLASA HOLDINGS LLC
D.B. 1430, PG. 6

N/F
G HOLDINGS LLC
D.B. 1125, PG. 943
P.C. L, SL. 109
COROLLA ADVENTURE GOLF

N/F
G HOLDINGS LLC
D.B. 1105, PG. 164
P.C. L, SL. 194
COROLLA ADVENTURE GOLF

N/F
NC DEPT. OF
TRANSPORTATION
D.B. 989, PG 469

N/F
NC DEPT. OF TRANSPORTATION
D.B. 376, PG. 690

N/F
B&B PARTNERS LLC
D.B. 1111, PG. 881

N/F
GOLASA HOLDINGS, LLC
D.B. 1668, PG. 569
P.C. 1026, SL. 598

N/F
WP NAGS
HEAD, LLC
D.B. 1252, PG. 1
P.C. E, SL. 102

N/F
BEACH
PROPERTY
D.B. 1242, PG. 1
P.C. E, SL. 102

N/F
PHANTOM
ENTERPRISES
D.B. 320, PG. 14
P.C. E, SL. 102

N/F
THE COTTAGE, INC.
D.B. 928, PG. 1
P.C. E, SL. 102

N/F
JOHN & CHRISTINE RZESZUT
DB 489, PG. 123

N/F
MARY & DENNIS UMBERGER
DB 519, PG. 778

N/F
JOHN & CHRISTINE RZESZUT
DB 937, PG. 920

N/F
PEACEFUL ENDEAVORS, LLC
DB 1235, PG. 357

N/F
WILD GOOSE WINE BAR, LLC
DB 1645, PG. 725

N/F
JOHN & CHRISTINE RZESZUT
DB 937, PG. 920

CURRITUCK CO.
STORMWATER EASEMENT
PER DB 1135, PG 302

TIMBUCK II SHOPPING CENTER

UTILITY EASEMENT
PER PC K, SL 50

EX. JUNCTION BOX
RIM=6.58'
INV.: 1.39'

EX. 48" CPP
INV.: 0.38'

CAROLINE CT
(40' R/W)

MALIA DR. (50' R/W)

SUNSET BLVD.

OCEAN FRONT

EXIST. 8" WATER MAIN

SANITARY
FORCE MAIN
VALVE BOX

Cu
Os
CoB
NhC
CrB

LINE TABLE		
LINE	LENGTH	BEARING
L1	57.93	N37° 34' 20"E
L2	54.23	S65° 23' 21"E
L3	72.84	S36° 53' 44"E
L4	24.88	S24° 21' 21"W
L5	71.75	S32° 26' 53"E
L6	69.81	S14° 36' 25"W
L29	30.11	N7° 54' 17"W
L30	50.00	N84° 49' 05"W
L31	19.50	N5° 10' 55"E
L32	60.00	N84° 49' 05"W
L33	75.96	S87° 40' 28"W
L34	22.67	S11° 58' 17"W
L36	43.95	S0° 45' 52"E

SOILS LEGEND	
— — —	SOILS LINE
CoB	COROLLA FINE SAND
CrB	COROLLA-DUCKSTON COMPLEX
Cu	CURRITUCK MUCKY PEAT
NhC	NEWHAN-COROLLA COMPLEX
Os	OSIER FINE SAND
W	WATER

80 0 40 80 160 320

1" = 80'

GRAPHIC SCALE

S:\projects\4596 — OBV Monterey Shores\Dwg\Construction\4596OBV.dwg 4/25/2024 Plotted: 4/25/2024 9:33 AM HP DesignJet T1500 PS HPGL2.pc3

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BISSELL PROFESSIONAL GROUP

Engineers, Planners, Surveyors
and Environmental Specialists

EXISTING CONDITIONS &
SITE FEATURES MAP

COROLLA BOAT CLUB

NORTH CAROLINA

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY

CONSTRUCTION DRAWINGS

PROJECT:

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
FOR REVIEW
PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=80'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 2 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

LOT 1
437957 S.F.
10.05 AC.

EXISTING AMENITY/FIRE PROTECTION POND

ZONING:
(SFD)
SINGLE FAMILY RESIDENTIAL OUTER BANKS W/ P.U.D. OVERLAY

404 WETLAND LINE LAST CONFIRMED 7/8/21 AMENDED 2/15/24

MATCHLINE

CURRITUCK SOUND

75' RESTORMINE NATURAL AREA BOUNDARY

POTABLE WATER

ELEVATED BOARDWALK TO BOAT DOCKS (896 LF TO GATE)

6'X30' FLOATING PLATFORM (KAYAK LAUNCH)

ELEVATE 4 FEET ABOVE MARSH SUBSTRATE

ELEVATED CONNECTOR FROM UPPER DECK (258 LF)

6'W (335 LF) DOCK TO KAYAK LAUNCH (PORTION TO BE FLOATING)

CAMA COASTAL WETLANDS AEC BOUNDARY

DUPLEX LOT LINES (TYP.)

50' RIPARIAN BUFFER

(12) DUPLEX RENTAL UNITS

M-1 M-2 M-3 M-4 M-5 M-6 M-7 M-8 M-9 M-10 M-11 M-12

DOG PARK

RAMP

FISHING PIER

FIRE PIT W/ BENCHES

PERGOLA WITH SWINGING SEATS

GARDEN AREA

ELEVATED 8' MULTI-USE DECK (TYP.)

VIRGINIA LANE
(NOT A STREET OR R.O.W.)

PARKING PAVERS (TYP.)

6' SIDEWALK (TYP.)

S-1 S-2 S-3 S-4 S-5 S-6 S-7 S-8 S-9 S-10 S-11 S-12 S-13 S-14 S-15 S-16 S-17 S-18 S-19 S-20 S-21 S-22 S-23 S-24

S-25 S-26 S-27 S-28 S-29 S-30 S-31 S-32 S-33 S-34 S-35 S-36 S-37 S-38 S-39 S-40 S-41 S-42 S-43 S-44

(42) DUPLEX RENTAL UNITS

ELEVATED 5' BOARDWALK (TYP.)

POND

RESIDENTIAL MAIL C.B.U.

ENTRANCE FEATURE

FIRE WELL

DRY HYDRANT

FISHING PIER

FISHING PIER W/ GAZEBO

PICKLEBALL COURT

SHUFFLEBOARD COURT

TRASH ENCLOSURE

OBSERV. SHELTER

POOL

BATHHOUSE

1,000 GAL. PROPANE TANK

1'7"X40' LOADING ZONE

2ND FLOOR RESTAURANT W/ DECK & PARTIAL W/ UNDERWING

C-1

8' WIDE ELEVATED BOARDWALK

PROP. BULKHEAD (TYP.)

CLUBHOUSE /OFFICE

8'W MULTI-USE PATH

BERM & OUTLET STRUCTURE

N/F B&B FISHING D.B. 1144, PG. 881

BULKHEAD

RESIDENTIAL BALCONY (TYP.)

(2) 8 12'X30' PARKING SPACES

30' FIRE ACCESS TURNAROUND

10' M.B.L.

5' M.B.L.

12'X30' LOADING ZONE

1,000 GAL. PROPANE TANK

(3) 3,000 S.F. RETAIL W/ RESIDENTIAL ABOVE

C-10/U-9 C-9/U-8 C-8/U-7 C-7/U-6 C-6/U-5 C-5/U-4 C-4/U-3 C-3/U-2 C-2/U-1

FLOATING DOCK (PADDLE BOAT CONCESSION)

2ND FLOOR WALKWAY (TYP.)

RESIDENTIAL MAIL C.B.U.

TRASH ENCLOSURE

N/F WB AND JE ENTERPRISES II LLC D.B. 1522, PG. 911 P.C. 1, SL. 102
2-1/2 STORY WOOD FRAME COMMERCIAL BUILDING

N/F BEACH BACK PROPERTIES, LLC D.B. 1243, PG. 127 P.C. 1, SL. 102

N/F ET AL MCELROY D.B. 1301, PG. 276 P.C. 1, SL. 102

2 STORY WOOD FRAME COMMERCIAL BUILDING

2-1/2 STORY WOOD FRAME COMMERCIAL BUILDING

N/F HAMPTON ENTERPRISES D.B. 1229, PG. 14 P.C. 1, SL. 102

N/F B&B PARTNERS LLC D.B. 1111, PG. 881

SEAGLASS FARM MARKET

1 STORY WOOD FRAME COMMERCIAL BUILDING

N/F GLASS LLC D.B. 1308, PG. 868

OCEAN TRAIL

CURRIE LANE
(NOT A STREET OR R.O.W.)

COROLLA ADVENTURE GOLF

N/F D HOLDINGS, LLC D.B. 1308, PG. 854 P.C. C, SL. 184

N/F D HOLDINGS, LLC D.B. 1308, PG. 854 P.C. C, SL. 184

N/F D HOLDINGS, LLC D.B. 1308, PG. 854 P.C. C, SL. 184

N/F NC DEPT. OF TRANSPORTATION D.B. 989, PG 469

N/F NC DEPT. OF TRANSPORTATION D.B. 376, PG. 690

HYDRANT MS-7

RIGHT TURN & ACCEL. TAPER

DECEL. TAPER

NC GRID NAD83

EXIST. WASTEWATER TREATMENT FACILITY

N/F ROBERT R. & LAURIE T. DeGABRIELLE D.B. 1220, PG. 264 P.C. K, SL. 49

CAROLINE CT.
(40' R/W)

5' SIDEWALK (TYP.)

5' SIDEWALK (TYP.)

N/F 4045A HOMES LLC D.B. 1430, PG. 1

N/F ROBERT R. & LAURIE T. DeGABRIELLE D.B. 1220, PG. 264 P.C. K, SL. 49

ALIA PL. (40' R/W)

50 0 25 50 100 200
1"=50'
GRAPHIC SCALE

S:\projects\4596 - OBV Monterey Shores\Dwg\Construction\459600B1.dwg 4/25/2024 Plotted: 4/25/2024 9:53 AM HP Designjet T2500 PS (4PG).2.pc3

BISSELL PROFESSIONAL GROUP

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Southern Shores, Carolina 27949
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Engineers, Planners, Surveyors and Environmental Specialists

DEVELOPMENT OVERVIEW PLAN

PROJECT:

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
FOR REVIEW PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=50'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 3 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

LOT 2
436036 S.F.
10.01 AC.

EXISTING AMENITY/FIRE PROTECTION POND

ELEVATED BOARDWALK W/ HANDRAILS (TYP.)

ALL SWALES BETWEEN DUPLEX UNITS SHALL BE LINED WITH DECORATIVE RIVER STONE

10' U.B.L.

NC GRID NAD83

EXIST. WASTEWATER TREATMENT FACILITY

CAROLINE CT.
(40' R/W)

VIRGINIA LANE
(NOT A STREET OR R.O.W.)

MALIA DR. (60' R/W)

EX. JUNCTION BOX RIM=5.58' INV.= 1.39'

EX. 48" CSP INV.= 0.36'

EXISTING 6" GROUNDWATER DISCHARGE PIPE (APPROX.)

RELOCATE EXISTING 6" GROUNDWATER DISCHARGE PIPE (APPROX.)

ELEVATED BOARDWALK W/ HANDRAILS (TYP.)

40' BUFFER PER TC-1 OF ZONING 778.05
AMENDED 2/15/24

CONC. ALLEY GUTTER (SEE DET., SHT. 14)

30' BUFFER

CONVEYANCE SWALE LINED W/ RIVER STONE

30 LF 15" HDPE @ 0.25%

S-1 FFE: 7.50'
S-2 FFE: 7.50'
S-3 FFE: 7.50'
S-4 FFE: 7.50'
S-5 FFE: 7.50'
S-6 FFE: 7.50'
S-7 FFE: 7.50'
S-8 FFE: 7.50'
S-9 FFE: 7.50'
S-10 FFE: 7.50'
S-11 FFE: 7.50'
S-12 FFE: 7.50'
S-13 FFE: 7.50'
S-14 FFE: 7.50'
S-15 FFE: 7.50'
S-16 FFE: 7.50'
S-17 FFE: 7.50'
S-18 FFE: 7.50'
S-19 FFE: 7.50'
S-20 FFE: 7.50'
S-21 FFE: 7.50'
S-22 FFE: 7.50'
S-23 FFE: 7.50'
S-24 FFE: 7.50'
S-25 FFE: 7.50'
S-26 FFE: 7.50'
S-27 FFE: 7.50'
S-28 FFE: 7.50'
S-29 FFE: 7.50'
S-30 FFE: 7.50'
S-31 FFE: 7.50'
S-32 FFE: 7.50'
S-33 FFE: 7.50'
S-34 FFE: 7.50'
S-35 FFE: 7.50'
S-36 FFE: 7.50'
S-37 FFE: 7.50'
S-38 FFE: 7.50'
S-39 FFE: 7.50'
S-40 FFE: 7.50'
S-41 FFE: 7.00'
S-42 FFE: 7.00'
S-43 FFE: 6.95'
S-44 FFE: 6.95'

M-1 FFE: 6.80'
M-2 FFE: 6.80'
M-3 FFE: 7.00'
M-4 FFE: 7.00'
M-5 FFE: 6.80'
M-6 FFE: 6.80'
M-7 FFE: 7.00'
M-8 FFE: 7.00'
M-9 FFE: 6.80'
M-10 FFE: 6.80'
M-11 FFE: 6.80'
M-12 FFE: 6.80'

30 0 15 30 60 120
1" = 30'
GRAPHIC SCALE

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-356
3301 Hwy 158 Bypass
P.O. Box 1068
Elkin, North Carolina 27944
(336) 258-3266
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Engineers, Planners, Surveyors
and Environmental Specialists

COROLLA BOAT CLUB

NORTH CAROLINA

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY

GRADING, DRAINAGE & STORM -WATER MANAGEMENT PLAN

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
FOR REVIEW
PURPOSES ONLY

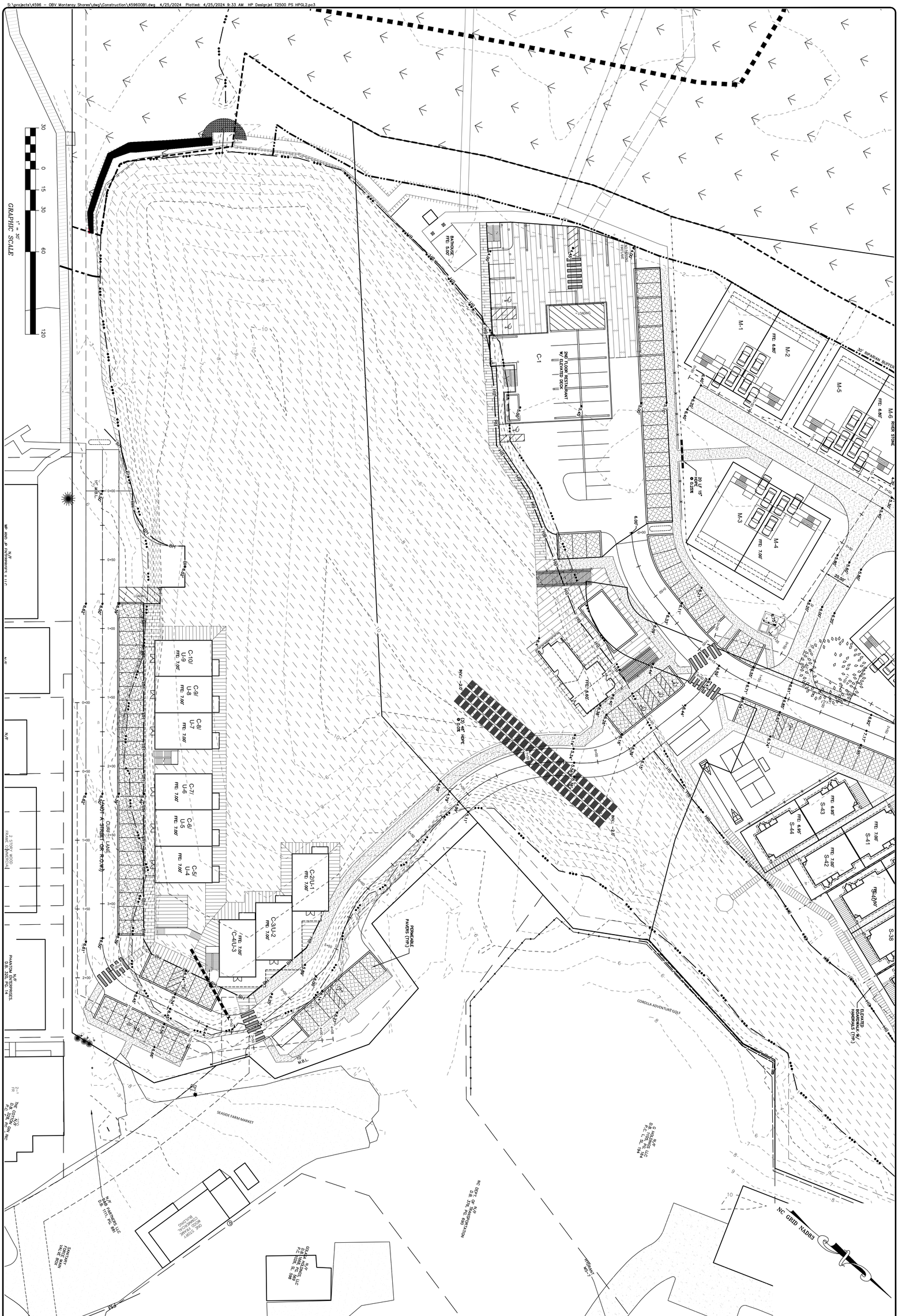
DATE: 4-22-24	SCALE: 1" = 30'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 4 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

S:\projects\4596 – OBV Monterey Shores\dwg\Construction\4596DB1.dwg 4/25/2024 Plotted: 4/25/2024 9:33 AM HP Designjet T2500 PS HP(3).pc3



PROJECT NO. 4596	DATE FILE 459600B1	SHEET 5 OF 21	DESIGNED BPG
DRAWN KTW	CHECKED BPG	APPROVED MSB	DATE 03-25-24
SCALE 1"=30'			

PRELIMINARY FOR REVIEW PURPOSES ONLY

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PROJECT:

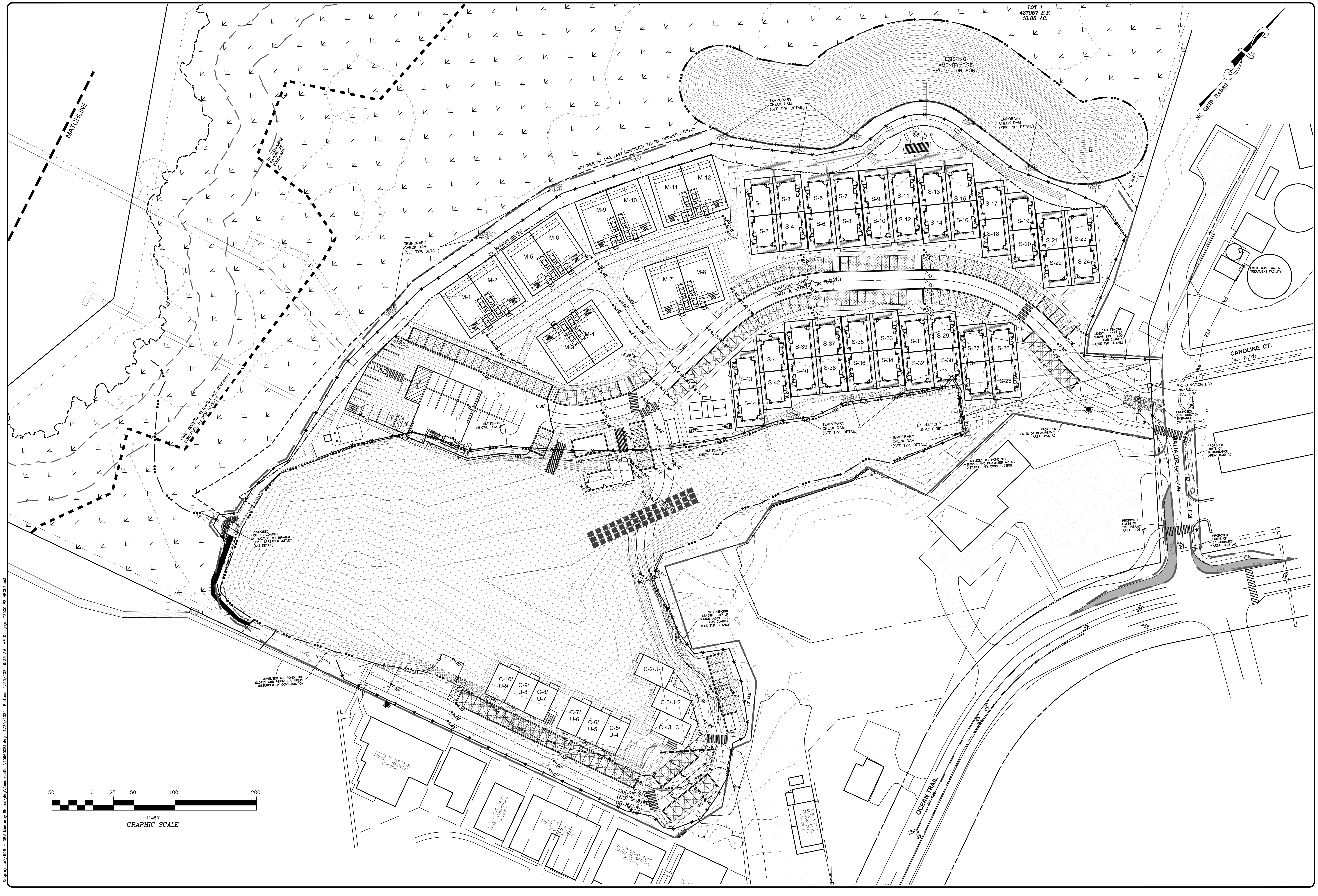
COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

GRADING, DRAINAGE & STORM -WATER MANAGEMENT PLAN

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-956
3512 North Croatan Highway
P.O. Box 1068
Kitty Hawk, North Carolina 27949
(252) 261-3266
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists



Bissell Professional Group
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Kitty Hawk, North Carolina 27949
(252) 261-3266
FAX (252) 261-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

EROSION & SEDIMENT CONTROL PLAN

PROJECT:

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION PLANS

REVISIONS

NO.	DATE	DESCRIPTION	BY

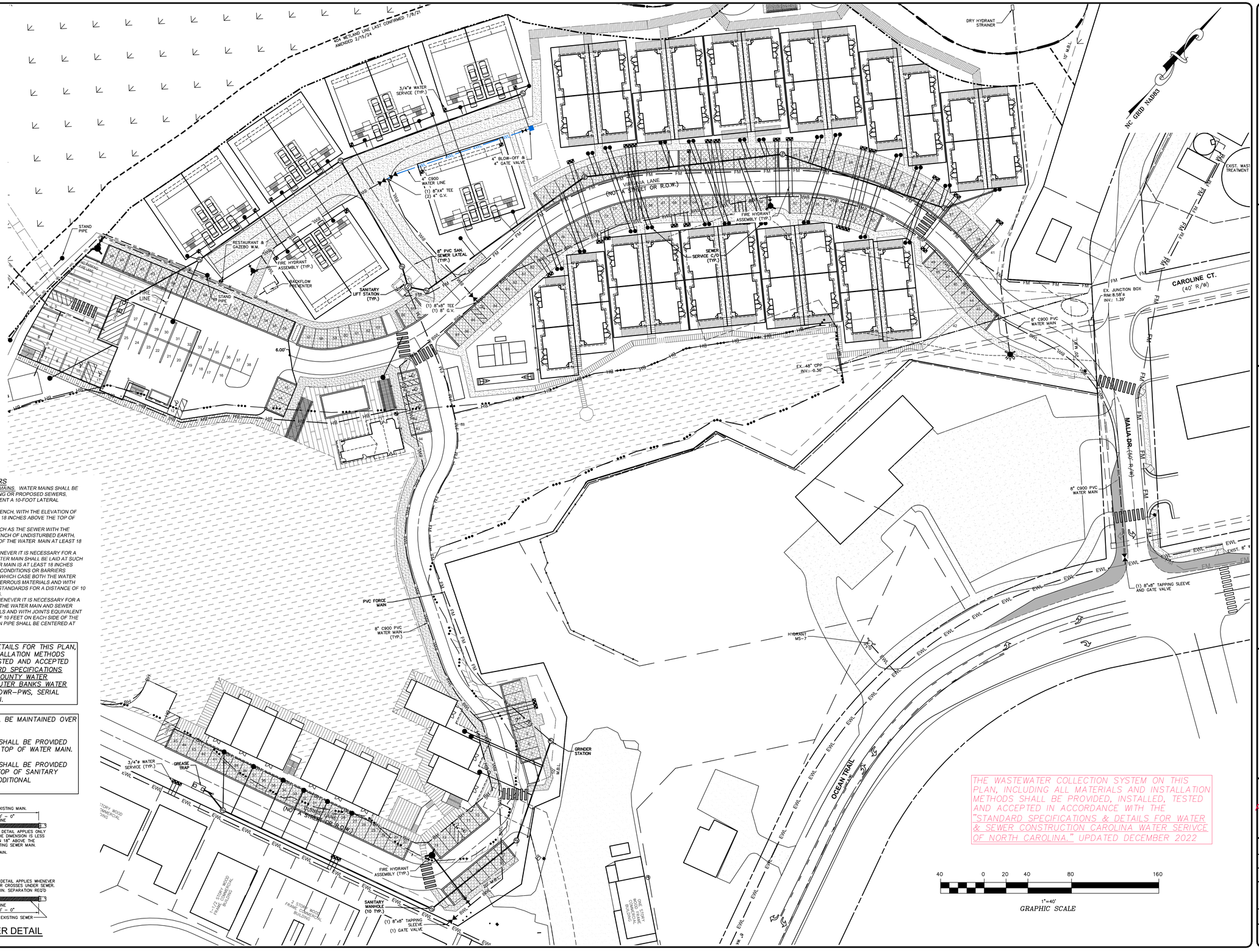
PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=50'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 6 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596



RELATION OF WATER MAINS TO SEWERS

(A) LATERAL SEPARATION OF SEWERS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION--IN WHICH CASE:

(1) THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER; OR

(2) THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATEBED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

(B) CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION--IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

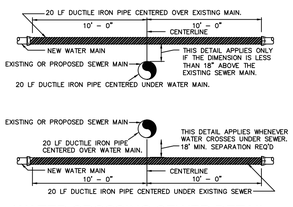
(C) CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

WATER MAIN SPECIFICATIONS AND DETAILS FOR THIS PLAN, INCLUDING ALL MATERIALS AND INSTALLATION METHODS SHALL BE PROVIDED, INSTALLED, TESTED AND ACCEPTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS AND DETAILS FOR THE CURRITUCK COUNTY WATER DEPARTMENT AND THE SOUTHERN OUTER BANKS WATER SYSTEM" AS APPROVED BY NCDEQ-DWR-PWS, SERIAL NUMBER 11-00630, LATEST REVISION.

A MINIMUM OF 36" OF COVER SHALL BE MAINTAINED OVER THE INSTALLED WATER MAIN.

A MINIMUM OF 18" OF SEPARATION SHALL BE PROVIDED FROM BOTTOM OF STORM DRAIN TO TOP OF WATER MAIN.

A MINIMUM OF 18" OF SEPARATION SHALL BE PROVIDED FROM BOTTOM OF WATER MAIN TO TOP OF SANITARY SEWER. (SEE SEWER DETAILS FOR ADDITIONAL INFORMATION)



WATER CROSSING SEWER DETAIL

BISSELL PROFESSIONAL GROUP
Bissell Professional Group
Firm License # C-356
5302 Caratoke Highway
P.O. Box 1068
Currituck, North Carolina 27949
(252) 261-3266
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

WATER MAIN EXTENSION, WASTE-WATER COLLECTION & SERVICES

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

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DATE: 4-22-24	SCALE: 1"=40'
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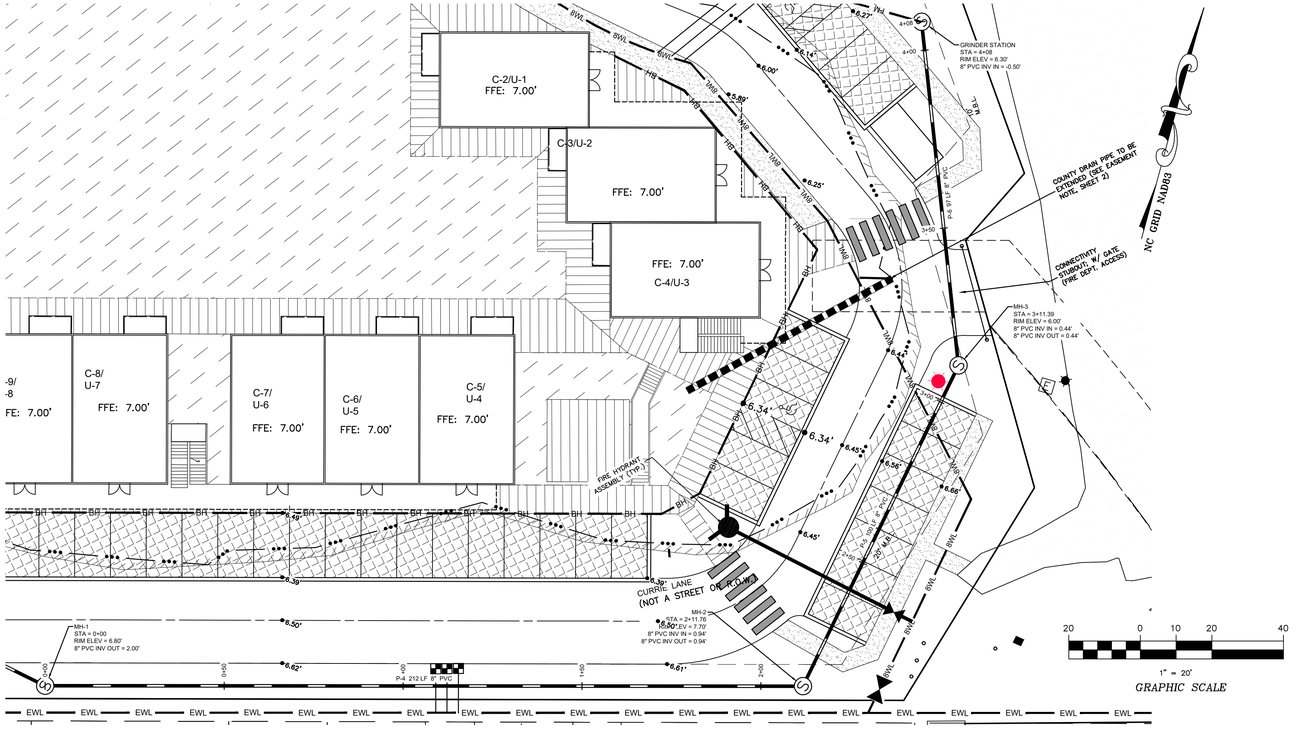
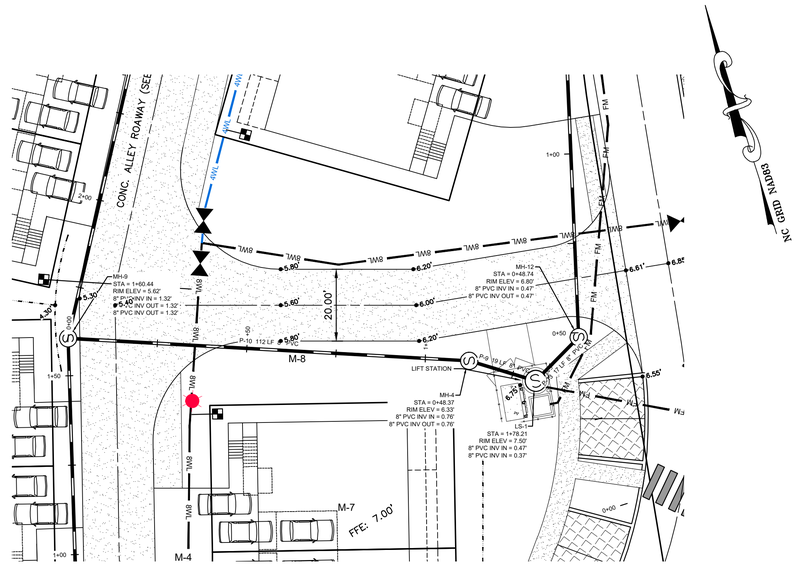
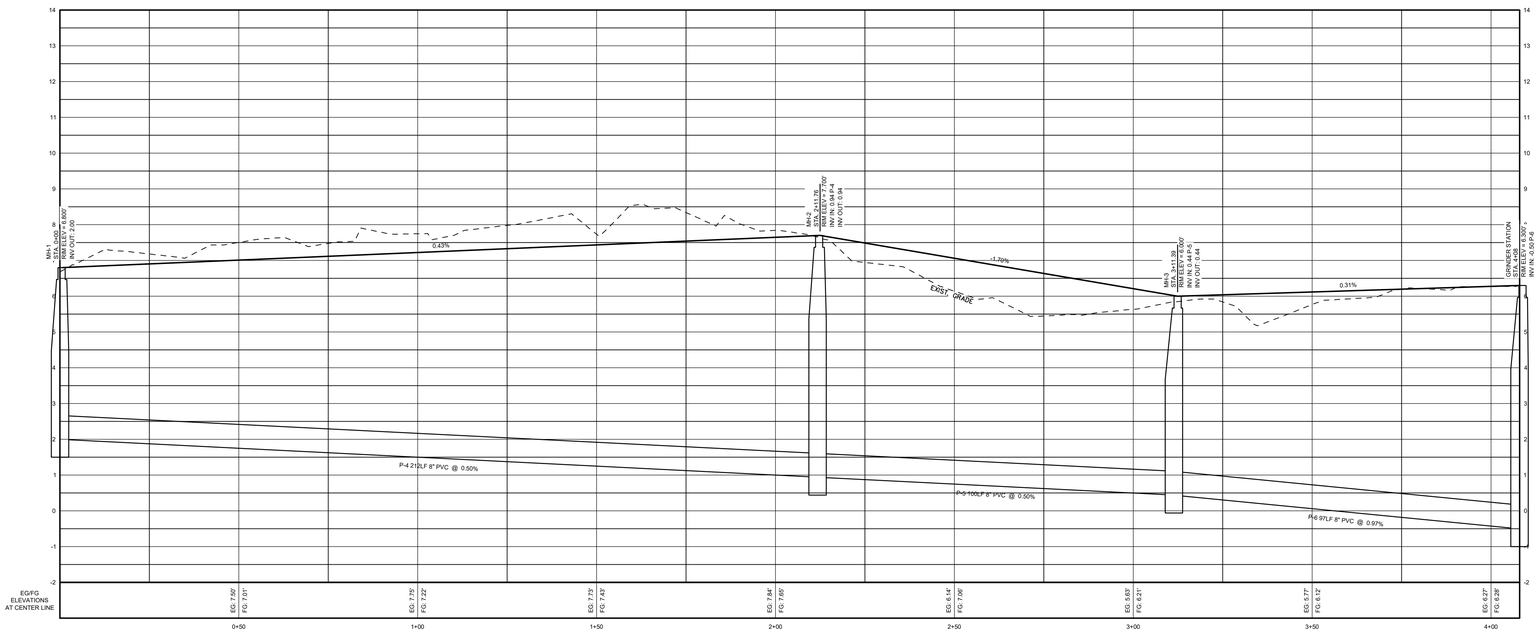
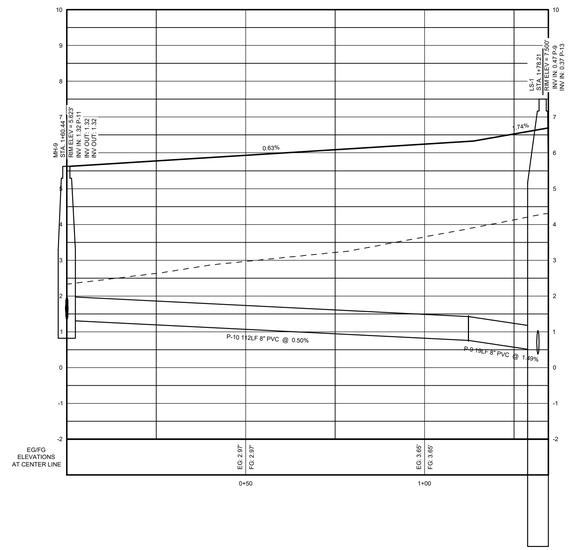
SHEET: 7 OF 21	
CAD FILE: 459600B1	
PROJECT NO: 4596	









Bissell Professional Group
Firm License # C-356
3101 Industrial Drive, Highway
P.O. Box 1088
Wilson, North Carolina 27894
(252) 291-3266
FAX (252) 281-1760

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

SANITARY PLANS & PROFILES
CURRIE LN GRINDER STA. & LIFT STA.

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

PROJECT:

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DATE: 4-22-24	SCALE: 1"=20', 1"=2'
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SHEET: 8 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

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BISSELL PROFESSIONAL GROUP
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Bissell Professional Group
P.O. Box 1088
Kitty Hawk, North Carolina 27949
(252) 261-3266
FAX (252) 261-1760

Engineers, Planners, Surveyors and Environmental Specialists

SANITARY PLAN & PROFILE
VVIRGINIA LN. MH-4 TO MH-6

COROLLA BOAT CLUB

PROJECT: POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

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DATE: 4-22-24	SCALE: 1"=30', 1"=3'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 9 OF 16

CAD FILE: 459600B1

PROJECT NO: 4596

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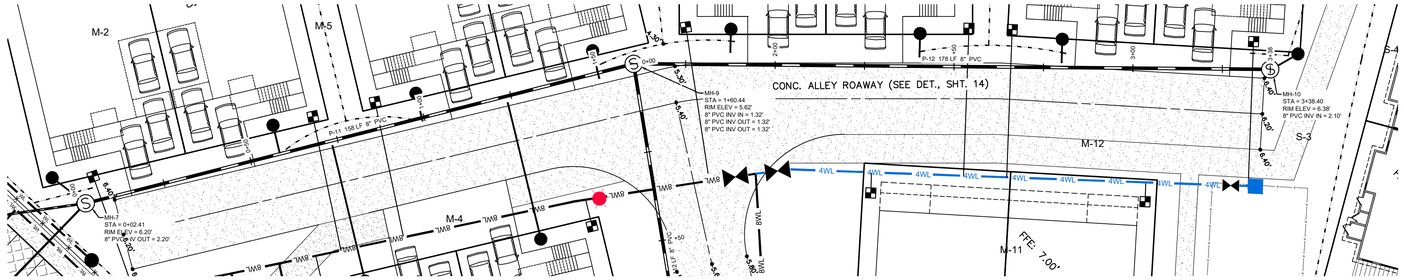

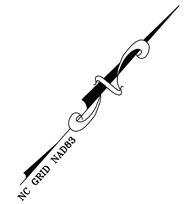

20 0 10 20 40

1" = 20'

GRAPHIC SCALE

BISSELL PROFESSIONAL GROUP

Bissell Professional Group
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3301 Bonner Bypass Highway
P.O. Box 1088
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Engineers, Planners, Surveyors
and Environmental Specialists

SANITARY PLAN & PROFILE
DUPLEX ALLEYWAY MH-7 TO MH-10

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT:

CONSTRUCTION DRAWINGS

REVISIONS

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SHEET: 10 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

VEHICULAR USE AREA LANDSCAPING (5.2.5)

REQUIREMENTS:

SHADING – NO PARKING SPACE TO BE MORE THAN 60' FROM THE TRUNK OF A CANOPY TREE

PERIMETER LANDSCAPING STRIPS COMPOSED OF:

SHRUBS @ 5 FT ON–CENTER ALONG ABUTTING STREET R/W OR OTHER DEVELOPMENT

SHRUBS @ 8 FT ON–CENTER ALONG ABUTTING VACANT LAND

ALL SHRUBS MUST BE EVERGREEN.

PROVISIONS:

SHADING – SEE PLAN FOR CANOPY TREES PROPOSED AROUND VEHICLE USE AREAS AND LOCATED WITHIN 60' OF ALL PARKING SPACES.

PERIMETER LANDSCAPING STRIPS COMPOSED OF:

SEE PLAN FOR EVERGREEN SHRUBS SPACED @ 5' O.C. ALONG PERIMETER OF PARKING AREAS AND 8' O.C. AROUND RV PARKING LOT.

TREE & SHRUB SPECIES AND PLANTING GUIDELINES:

ALL TREES AND SHRUBS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING STANDARDS SPECIFIED IN SECTION 3.5 OF THE CURRITUCK COUNTY ADMINISTRATIVE MANUAL AND THIS PLAN.

CANOPY AND UNDERSTORY TREE SPECIES SHALL BE OF THOSE LISTED UNDER "TABLE 3.4.6: RECOMMENDED PLANTINGS" IN THE SAME MANUAL.

TREE SPECIES SHALL BE DIVERSE. A MINIMUM OF (4) DIFFERENT SPECIES OF CANOPY AND UNDERSTORY TREES SHALL BE INSTALLED IN ROUGHLY EQUAL PROPORTIONS.

AT INSTALLATION, CANOPY TREES SHALL HAVE A MINIMUM CALIPER OF 2 INCHES MEASURED AT 6 INCHES. ABOVE GRADE. EIGHT FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.

AT INSTALLATION, UNDERSTORY TREES SHALL HAVE A MINIMUM CALIPER OF 1.5 INCHES MEASURES AT 6 INCHES ABOVE GRADE. SIX FOOT HIGH TREES MAY BE PLANTED AS AN ALTERNATIVE.

SHRUBS SHALL BE PLANTED AT THE SPACING NOTED ON THE PLANS AND FORM A VISUAL SCREEIN WITH A MIN. MATURE HEIGHT OF 36". SHRUBS SHALL BE EVERGREEN AS NOTED AND BE A MINIMUM OF (3) GALLON SIZE AT PLANTING. MATERIALS SHALL BE OF HIGH–QUALITY NURSERY GRADE.

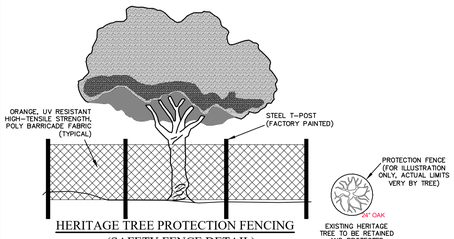
THE USE OF NATIVE, DROUGHT TOLERANT TREES IS ENCOURAGED.

A REPUTABLE LANDSCAPE CONTRACTOR OR SUPPLIER SHALL PREPARE AN ITEMIZED SCHEDULE OF TREES TO BE INSTALLED IN ACCORDANCE WITH THIS LANDSCAPE PLAN. THIS SCHEDULE SHALL BE REVIEWED BY CURRITUCK COUNTY AND THE ENGINEER TO DETERMINE COMPLIANCE BEFORE ORDERING AND INSTALLATION. ALTERNATE TREES AND SPECIFICATIONS MAY BE PRESENTED FOR REVIEW AND APPROVAL.

PERIMETER LANDSCAPE BUFFERS (5.2.6)

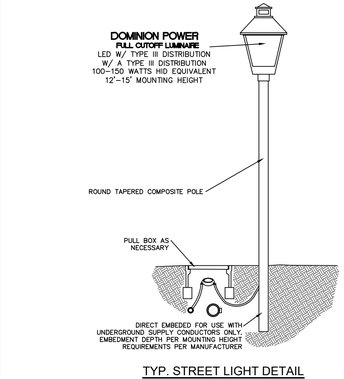
- REQUIREMENTS:
  - c. A GENERAL "VEGETATIVE BUFFER" SHALL BE PROVIDED ALONG THE DEVELOPMENTS BOUNDARY WITH THE ADJOINING RAILROAD AS PRESCRIBED BY THE DEVELOPMENTS APPROVED PRELIMINARY PLAT
  - d. PLANTING REQUIREMENTS OF THE "VEGETATIVE BUFFER" ARE AT THE DISCRETION OF THE DEVELOPER.
- PROVISIONS:
  - a. PROPOSED PLANTINGS SHALL BE CONSISTENT WITH THE PLANTING REQUIREMENTS OF THE FARMLAND BUFFER.
  - b. THE BUFFER SHALL INCLUDE AT LEAST 14 TREES, EQUALLY DISTRIBUTED, FOR EVERY 100 LINEAR FEET OF BUFFER LENGTH TO CREATE AN OPAQUE BUFFER. PLANTED TREES SHALL CONSIST OF MIXED HARDWOODS AND MAY CONTAIN UP TO 50% EVERGREEN, EXCLUDING PINE TREES. EXISTING VEGETATION CAN BE USED TO MEET THESE REQUIREMENTS.
  - c. PLANTED TREES SHALL BE STAGGERED IN TWO OR MORE ROWS WITHIN THE BUFFER.
  - d. PLANTED TREES ARE NOT SUBJECT TO THE MINIMUM SIZE STANDARDS DESCRIBED IN THE TREE SPECIES AND PLANTING NOTES BELOW.

SIDEWALK AND WALKING TRAIL NOTE:
ALL SIDEWALKS AND WALKING TRAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ACCESSIBILITY CODE. WALKS, TRAILS AND PATHS SHALL BE HARD SURFACE WITH CROSS SLOPES NOT EXCEEDING 2% AND LONGITUDINAL SLOPES NOT EXCEEDING 20:1. WALKWAYS LESS THAN 5' IN WIDTH SHALL PROVIDE A 5' WIDE PASSING ZONE EVERY 200'.

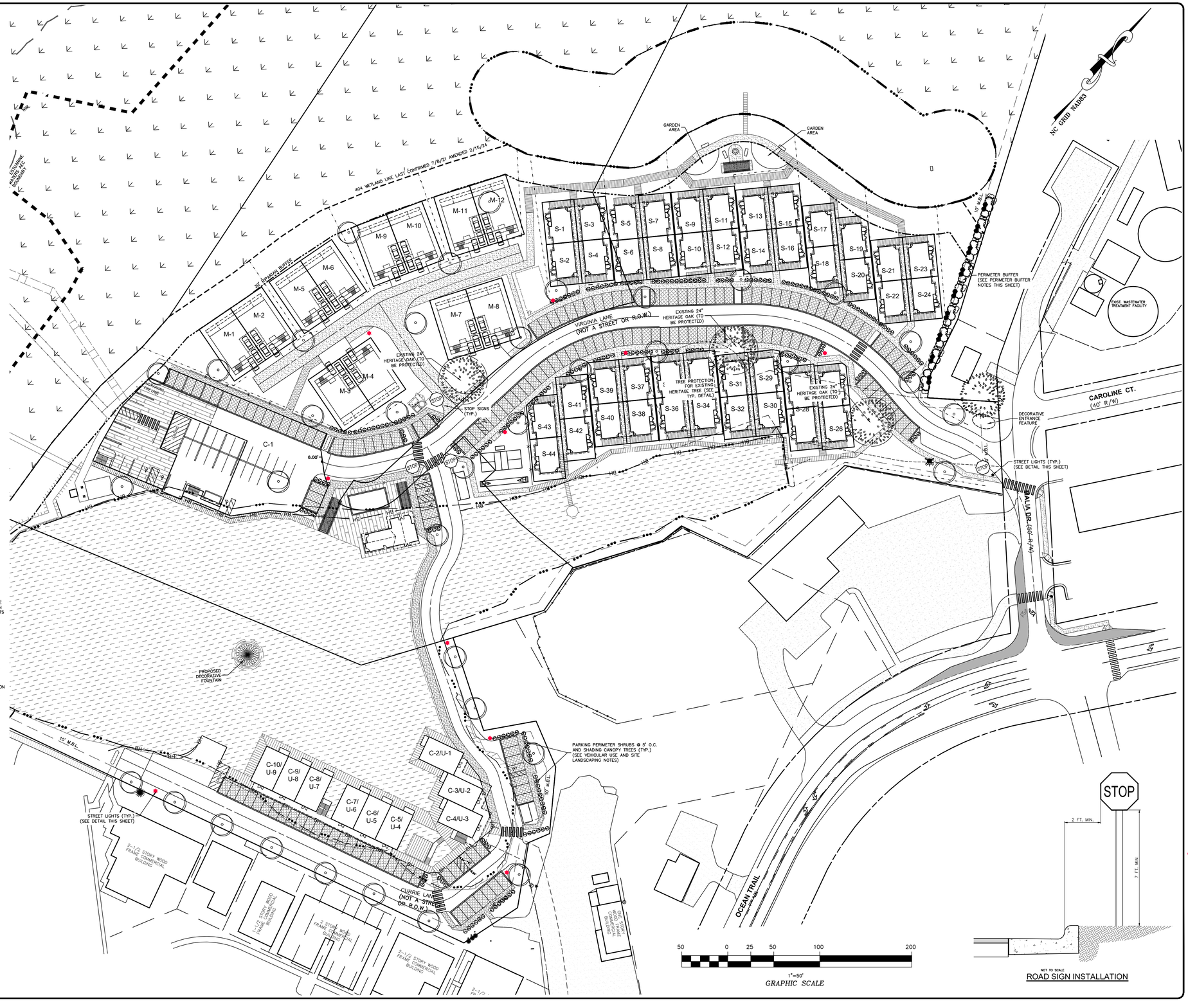


HERITAGE TREE PROTECTION FENCING
(SAFETY FENCE DETAIL)

PROTECTIVE FENCING:
ORANGE VINYL CONSTRUCTION FENCING, CHAIN LINK FENCING, SNOW FENCING OR OTHER SIMILAR FENCING AT LEAST FOUR FEET (4') HIGH AND SUPPORTED AT A MAXIMUM OF TEN–FOOT (10') INTERVALS BY APPROVED METHODS SUFFICIENT ENOUGH TO KEEP THE FENCE UPRIGHT AND IN PLACE. THE FENCING SHALL BE OF A HIGHLY VISIBLE MATERIAL THAT IS CLEARLY VISIBLE TO THE WORKERS ON–SITE.
PRIOR TO CONSTRUCTION:
THE CONTRACTOR OR SUBCONTRACTOR SHALL CONSTRUCT AND MAINTAIN, FOR EACH PROTECTED HERITAGE TREE AS IDENTIFIED ON THE PLAN, A PROTECTIVE FENCING WHICH ENCIRCLES THE OUTER LIMITS OF THE AREA AND/OR CRITICAL ROOT ZONE OF TREES, TO PROTECT THEM FROM CONSTRUCTION ACTIVITY. ALL PROTECTIVE FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK AND REMAIN IN PLACE UNTIL ALL EXTERIOR WORK HAS BEEN COMPLETED.



TYP. STREET LIGHT DETAIL
NOT TO SCALE LOCATION AS NOTED ON PLAN
LOCATED @ 200'–300' INTERVALS AND AT CROSSWALKS (BOTH SIDES OF DIVIDED BOULEVARDS; AT LEAST ON ONE SIDE OF STANDARD STREETS.)



BISSELL PROFESSIONAL GROUP
Bissell Professional Group
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5301 Virginia Beach Highway
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Kitty Hawk, North Carolina 27949
(252) 261–3266
FAX (252) 261–1760
Engineers, Planners, Surveyors and Environmental Specialists

LANDSCAPING, BUFFERING, LIGHTING & SIGNAGE PLAN

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

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SHEET: 11 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

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BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

VIRGINIA LANE
ROADWAY PLAN & PROFILE

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

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SHEET: 12 OF 16
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PROJECT NO: 4596

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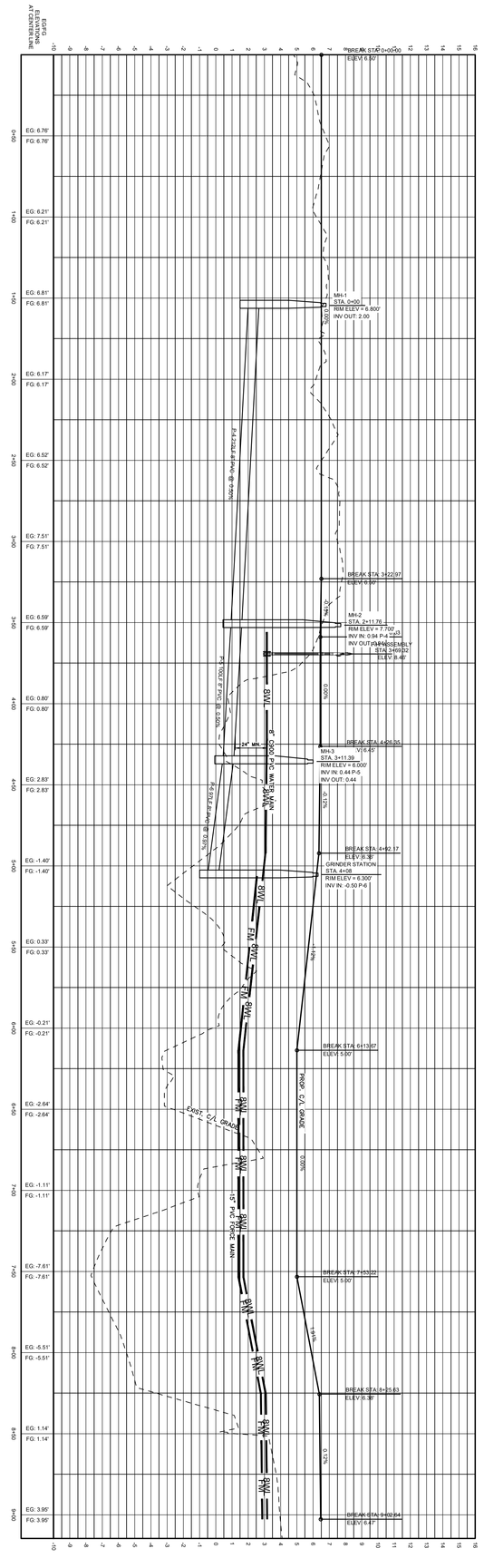

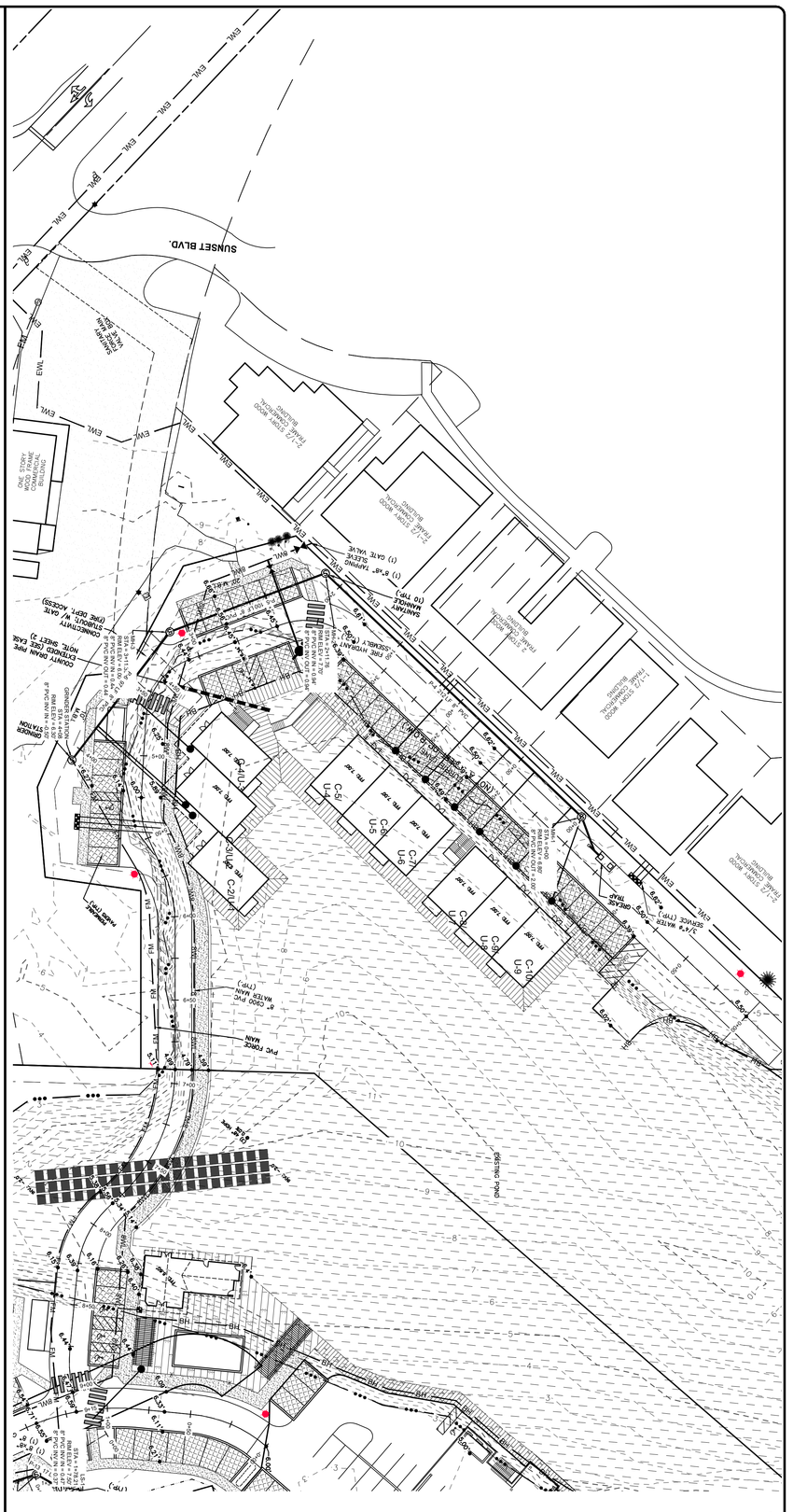

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			DATE 04-25-24
			SCALE 1"=40'

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REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJECT:

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

CURRIE LANE

ROADWAY PLAN & PROFILE

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Bissell Professional Group
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3512 North Croatan Highway
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Kitty Hawk, North Carolina 27949
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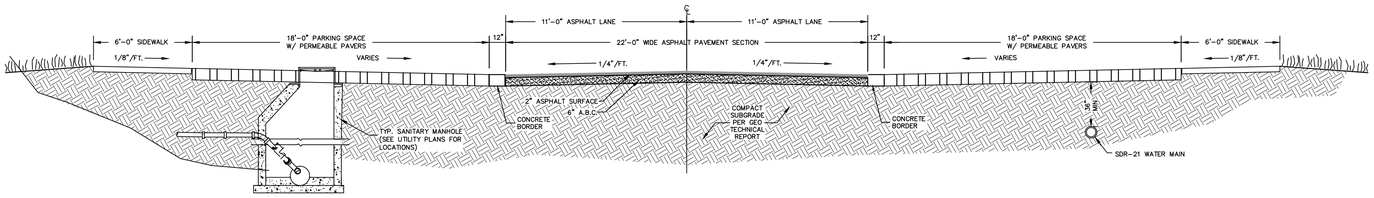
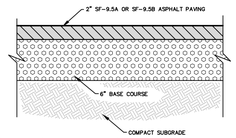
FAX (252) 261-1760



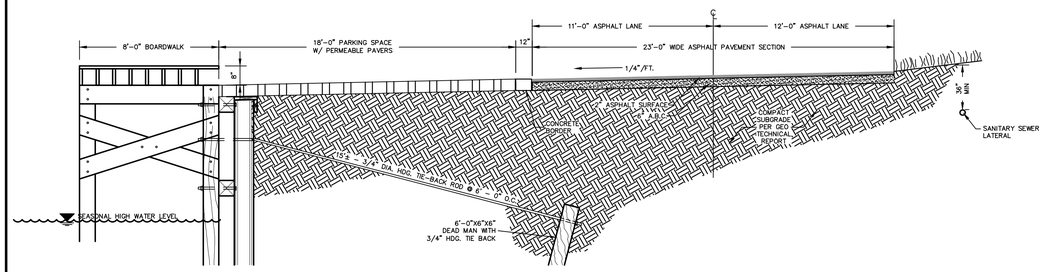
TYPICAL VIRGINIA LANE ROADWAY SECTION W/ UTILITIES



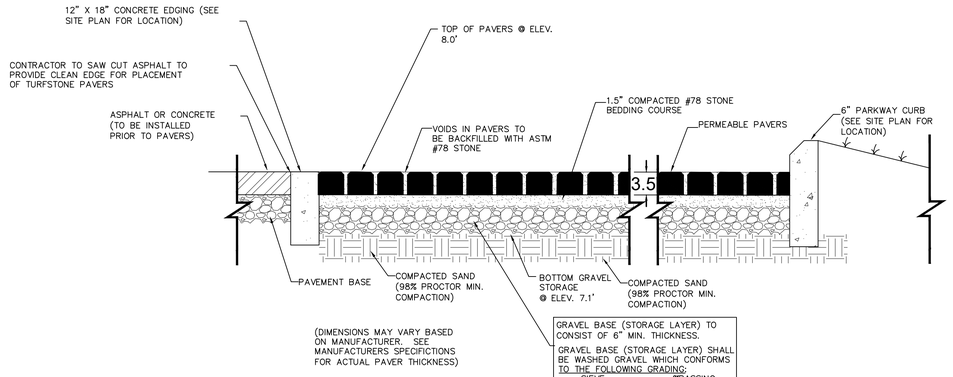
TYPICAL RESIDENTIAL ROADWAY PAVEMENT SECTION

NOT TO SCALE

NOTE:
PAVING SHALL CONSIST OF FINE GRADING THE SPECIFIED PARKING & DRIVE AREAS AND INSTALLING 2" SF-9.5A OR SF-9.5B ASPHALT CONCRETE SURFACE COURSE IN CONJUNCTION WITH A 6" AGGREGATE BASE COURSE. THE SOIL SUBGRADE BENEATH PAVEMENTS SHALL BE COMPACTED TO AT LEAST 95% OF ASTM D 698 PRIOR TO ANY PLACEMENT OF SUBBASE FILL OR STONE BASE COURSE. ALL SITE PREPARATION AND THE DESIGN AND CONSTRUCTION OF ALL FOUNDATIONS, GROUND SLABS, AND PAVEMENTS SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS PROVIDED BY A GEOTECHNICAL ENGINEER.



TYPICAL CURRIE LANE ROADWAY SECTION W/ UTILITIES



(DIMENSIONS MAY VARY BASED ON MANUFACTURER. SEE MANUFACTURERS SPECIFICTIONS FOR ACTUAL PAVER THICKNESS)

GRAVEL BASE (STORAGE LAYER) TO CONSIST OF 6" MIN. THICKNESS.

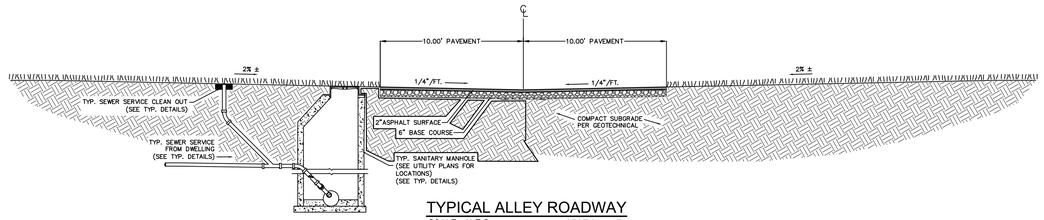
GRAVEL BASE (STORAGE LAYER) SHALL BE WASHED GRAVEL WHICH CONFORMS TO THE FOLLOWING GRADING:

SIEVE	%PASSING
1.5"	100%
1.0"	95%(±5%)
0.5"	45%(±5%)
No.4	<5%
No.200	<2%

COMPACTED STONE TO HAVE 40% VOID SPACE.

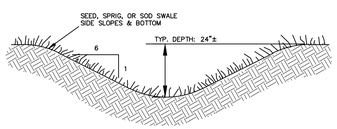
PERMEABLE PAVER DETAIL

N.T.S.



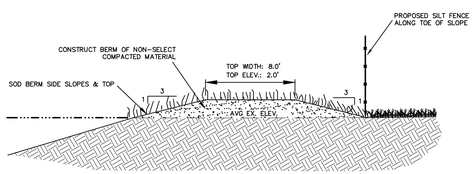
TYPICAL ALLEY ROADWAY

SCALE: N.T.S. SECTION VIEW



TYPICAL PRIMARY SWALE SECTION

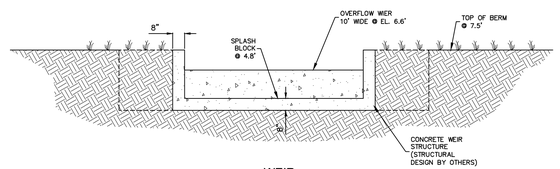
NOT TO SCALE SLOPE PER INVERTS ON PLAN



TYPICAL EARTHEN BERM SECTION

NOT TO SCALE LOCATION PER PLAN

EROSION CONTROL NOTE:



WEIR SECTION D-D

OUTLET CONTROL STRUCTURE DETAIL

N.T.S.

THE CONTRACTOR SHALL CONFIRM ALL STRUCTURE DIMENSIONS AND COORDINATE WITH MANUFACTURER BEFORE FABRICATION

OUTLET STRUCTURE NOTES:

1. STRUCTURE DESIGN SPECIFICATIONS SHALL CONFORM TO LATEST ASTM C913 SPECIFICATIONS FOR "PRECAST CONCRETE WATER & WASTEWATER STRUCTURES;
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 3,000PSI.
3. STEEL REINFORCING DESIGN TO CONFORM TO THE REQUIREMENTS OF ASTM C890 SPECIFICATIONS FOR "STRUCTURAL DESIGN LOADING FOR WATER & WASTEWATER STRUCTURES" AND SHALL UTILIZE GRADE 60 RE-BARS CONFORMING TO THE REQUIREMENTS OF ASTM A615 OR WWF CONFORMING TO THE REQUIREMENTS OF ASTM A185 OR BOTH.
4. PIPE PENETRATION TO BE AS SPECIFIED. PIPE TO BE INSTALLED AS PER NCDOT STANDARDS FOR MORTAR JOINT CONNECTIONS.
5. JOINTS TO BE SEALED WITH BUTYL RUBBER JOINT SEALANT CONFORMING TO THE REQUIREMENTS OF ASTM C990, OR MORTAR AS PER NCDOT REQUIREMENTS OR BOTH.
6. ANY DEVIATIONS FROM THE APPROVED PLAN & SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

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Engineers, Planners, Surveyors and Environmental Specialists

ROADWAY, SIDEWALK & ASSORTED DETAILS

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE:	SCALE:
4-22-24	1"=50'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 14 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

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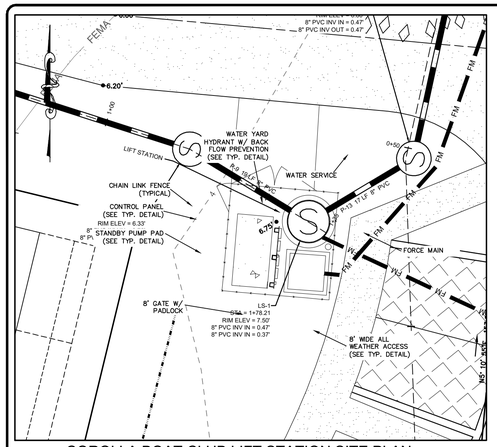


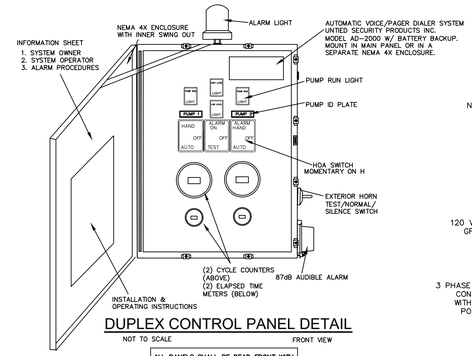
COROLLA BOAT CLUB LIFT STATION SITE PLAN

SCALE: 1"=10' (PLAN VIEW)

NOTES:
1. THIS PUMP STATION HAS BEEN DESIGNED TO COMPLY WITH NCAC 15A 2T.0305 AND MEETS OR EXCEEDS ALL REQUIREMENTS OF FAST-TRACK PERMITTING, MINIMUM DESIGN CRITERIA.
2. DESIGN PUMPING CAPACITY: 82 GPM, @ 39.0 TDH
3. PUMP SELECTION: MYERS 6VC50MC (OR APPROVED EQUAL).
4. ALL HATCHES SHALL BE PADLOCKED AT ALL TIMES.
5. ALL DISCHARGE PIPING SHALL BE SCH 40 PVC CONFORMING TO ASTM D1785.
6. ALL CONTROL SYSTEM ENCLOSURES SHALL BE NEMA 4X RATED.
7. ALL TANKS SHALL BE LEAK TESTED IN ACCORDANCE UTILIZING A STATIC WATER TEST AS SPECIFIED.
8. ALL COMPONENTS WITHIN THE PUMP TANK SHALL BE STAINLESS STEEL INCLUDING GUIDE RAILS, BRACKETS, BOLTS, LIFTING CHAIN, ETC.
9. PRECAST INLET BOOTS SHALL BE PROVIDED BY PRECAST LIFT STATION MANUFACTURER. ALL OPENINGS SHALL BE GROUTED.
10. PUMP LIFT-OUT RAIL SYSTEM SHALL BE MYERS WITH STAINLESS STEEL COMPONENTS, OR APPROVED EQUAL.
11. ACCESS HATCHES SHALL BE HALLIDAY MODELS, AS SPECIFIED ON DRAWINGS.
12. AN ALL WEATHER ACCESS ROAD SHALL BE PROVIDED TO THE LIFT STATION.
13. THE WET WELL, VALVE VAULT & CONTROL PANELS SHALL BE SECURELY LOCKED AT ALL TIMES.
14. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING EXISTING POWER VOLTAGE AND PHASE PRIOR TO ORDERING PUMPS & CONTROLS
15. PUMP STATION DESIGN SPECIFICATIONS TO CONFORM TO LATEST ASTM C478 SPECIFICATIONS FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS." CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI MINIMUM. MANHOLE STEPS SHALL BE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS WHICH CONFORM TO LATEST ASTM C478 SPECIFICATIONS IN BOTH MATERIAL & DESIGN.
16. ADDITIONAL WASTEWATER FLOWS SHALL NOT BE MADE TRIBUTARY TO THE LIFT STATION UNTIL A REQUEST FOR A PERMIT MODIFICATION IS SUBMITTED & APPROVED BY NCDENR-DWQ.

WASTEWATER COLLECTION SYSTEM LIFT STATION SCHEDULE

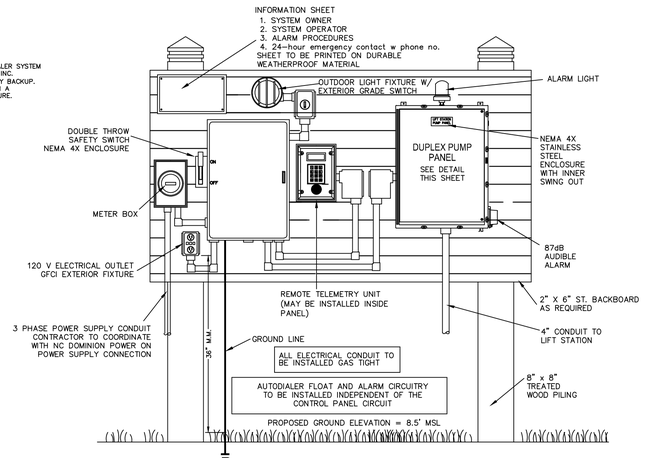
DIMENSION	
A: TOP OF TANKS	7.50 M.S.L.
B: GROUND ELEV. (FINISHED)	7.00 M.S.L.
C: HEIGHT OF WET WELL	12.0'
D: INV. IN	0.25
E: BOTTOM OF WET WELL	-4.50 M.S.L.
F: DIAMETER OF TANK	6'ø INSIDE
G: VALVE CHAMBER	5'X5' INSIDE
H: F.M. ELEV. OUT	4.00 M.S.L.
I: F.M. DIAMETER	4"ø
J: ALARM LEVEL	-0.25 M.S.L.
K: LAG PUMP ON	-0.75 M.S.L.
L: LEAD PUMP ON	-1.20 M.S.L.
M: BOTH PUMPS OFF	-2.50 M.S.L.
N: D-E	4.75'
O: BOTTOM OF VALVE VAULT	2.0 M.S.L.
P: AUTO DIALER FLOAT	-0.25 M.S.L.
PUMP AND MOTOR DATA	
DESIGN FLOW (Q)	80 GPM
TOTAL DYNAMIC HEAD (TDH)	41.0'
RECOMMENDED PUMP OR APPROVED EQUAL	MYERS 6VC50M6-23 9.875" IMPELLER, 5 HP (OR APPROVED EQUAL)



DUPLEX CONTROL PANEL DETAIL

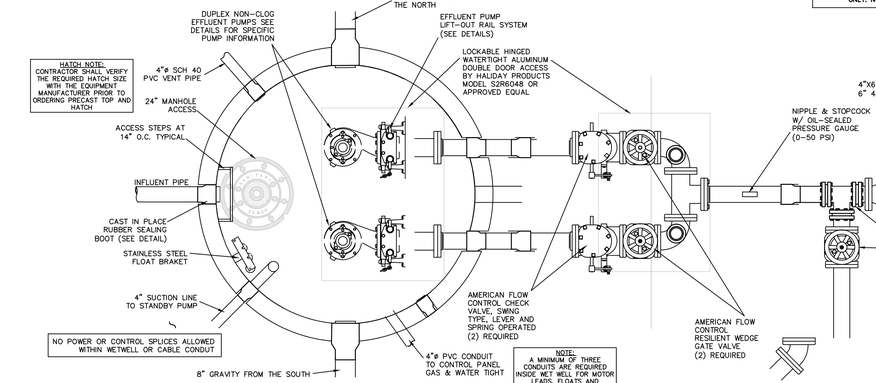
NOT TO SCALE — FRONT VIEW

ALL PANELS SHALL BE DEAD FRONT WITH INNER SWING OUT DOORS ONLY. ALL ENCLOSURES SHALL BE NEMA 4X RATED ONLY. NO EXCEPTIONS

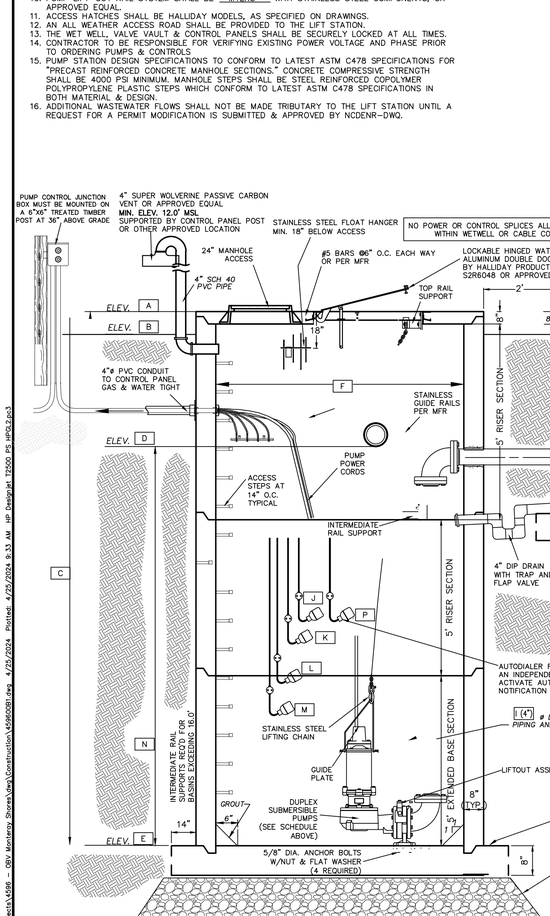


LIFT STATION CONTROL PANEL

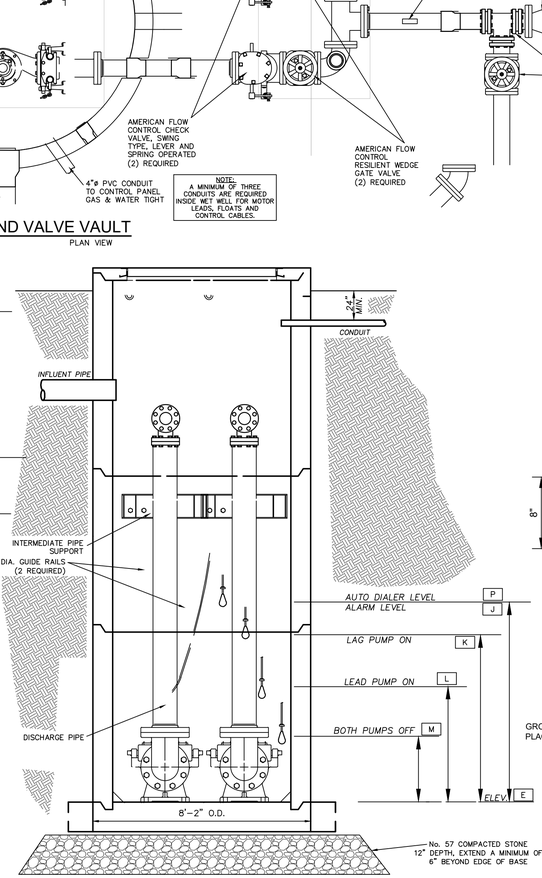
NOT TO SCALE



WETWELL AND VALVE VAULT



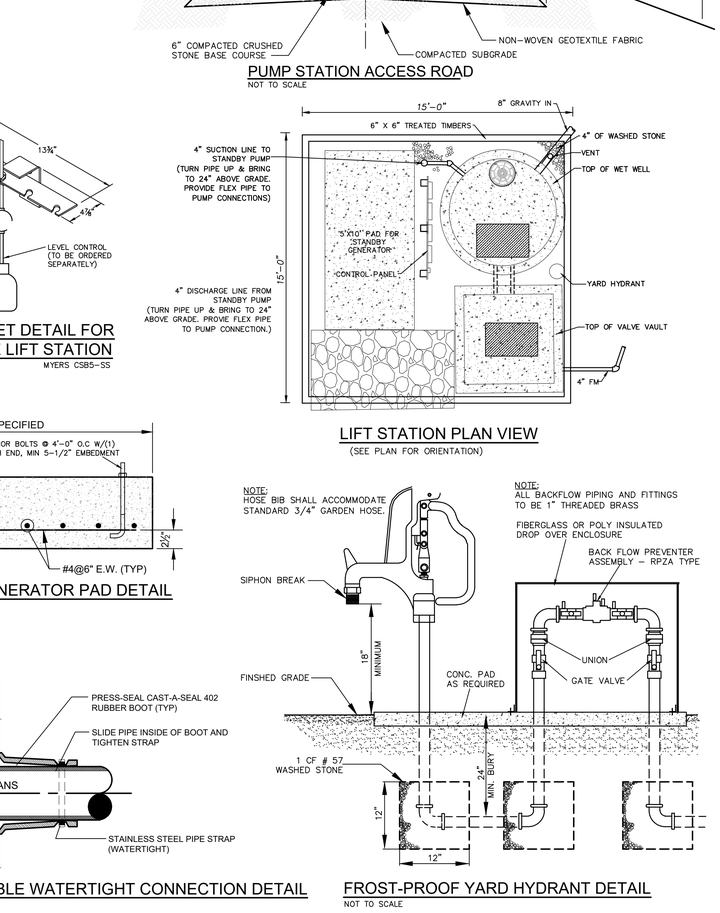
SECTION A-A



WETWELL AND VALVE VAULT SECTION

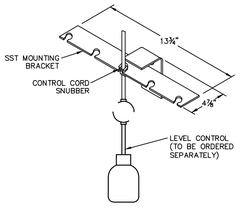
NOT TO SCALE — SECTION VIEW

SECTION B-B



PUMP STATION ACCESS ROAD

NOT TO SCALE



FLOAT BRACKET DETAIL FOR SUBMERSIBLE LIFT STATION

NOT TO SCALE — MYERS CSB5-SS

LIFT STATION PLAN VIEW

(SEE PLAN FOR ORIENTATION)

STANDBY GENERATOR PAD DETAIL

NOT TO SCALE

GASKETED FLEXIBLE WATERTIGHT CONNECTION DETAIL

NOT TO SCALE

FROST-PROOF YARD HYDRANT DETAIL

NOT TO SCALE

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WASTEWATER LIFT STATION CONSTRUCTION DETAILS

COROLLA BOAT CLUB

NORTH CAROLINA

PROJECT: POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY

PRELIMINARY ZERO LOT LINE PLAN

REVISIONS

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PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE:	SCALE:
4-22-24	1"=50'
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DRAWN: KFW	APPROVED: BPG

SHEET: 15 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

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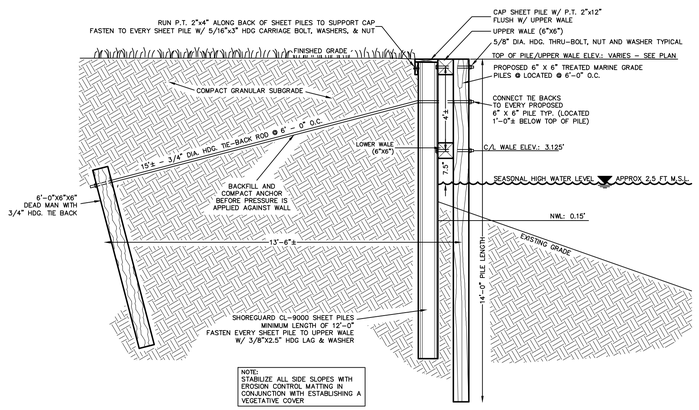
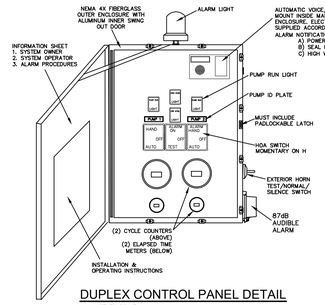


TYPICAL BULKHEAD DETAIL

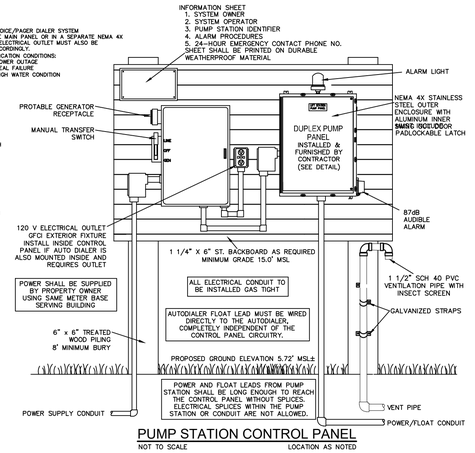
NOT TO SCALE



DUPLEX CONTROL PANEL DETAIL

NOT TO SCALE — FRONT VIEW

ALL PANELS SHALL BE DEAD FRONT WITH INNER DWNG OUT DOORS ONLY. ALL ENCLOSURES SHALL BE NEMA 4X RATED ONLY AND PADLOCKABLE. NO EXCEPTIONS



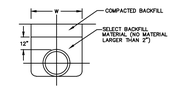
PUMP STATION CONTROL PANEL

NOT TO SCALE — LOCATION AS NOTED

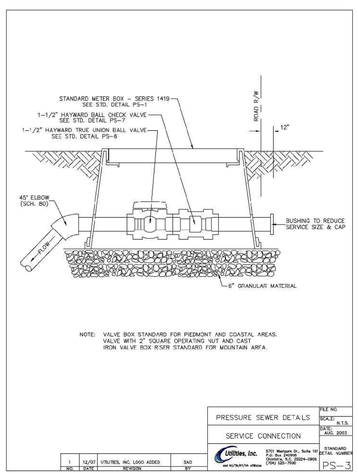
WASTEWATER COLLECTION SYSTEM LIFT STATION SCHEDULE	
DIMENSION	
A: TOP OF TANK	6.8'
B: GROUND ELEVATION	6.3'
C: HEIGHT OF WET WELL	9.4'
D: INVERT IN	0.50'
E: BOTTOM OF WET WELL ELEVATION	-2.60'
G: FORCE MAIN ELEVATION OUT	3.30'
H: FORCE MAIN DIAMETER	15"
I: HIGH WATER ALARM ELEVATION	0.25'
J: LAG PUMP ON ELEVATION	0.0'
K: LEAD PUMP ON ELEVATION	-0.25'
L: BOTH PUMPS OFF ELEVATION	-1.50'
M: AUTO DIALER FLOAT ELEVATION	0.25'
N: D-E	3.10'
PUMP AND MOTOR DATA	
DESIGN FLOW (Q)	15 GPM
TOTAL DYNAMIC HEAD (TDH)	22.0'
RECOMMENDED PUMP OR APPROVED EQUAL	SULZER S10/40TW

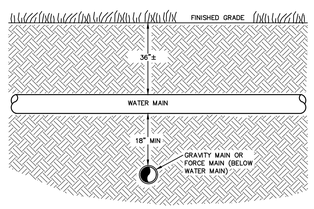
GENERAL NOTES:

1. THIS PUMP STATION HAS BEEN DESIGNED TO COMPLY WITH NCAC 15A 2T.0305 AND MEETS OR EXCEEDS ALL REQUIREMENTS OF FAST-TRACK PERMITTING, MINIMUM DESIGN CRITERIA.
2. DAILY DESIGN WASTEWATER FLOW TO THE PUMP STATION = 1920 GPD
3. ALL PORTS OF ENTRY TO PUMP STATION STRUCTURE AND CONTROL PANELS MUST BE SECURELY LOCKED AT ALL TIMES.
4. ALL CONTROL SYSTEM ENCLOSURES SHALL BE NEMA 4X RATED.
5. ALL TANKAGE SHALL BE LEAK TESTED UTILIZING A STATIC WATER TEST AS SPECIFIED:
   PRIOR TO BACKFILLING AND COVERING TANKAGE, PERFORM 24 HOUR LEAKAGE TEST AS FOLLOWS:
   a. NOTIFY ENGINEER PRIOR TO BEGINNING TEST.
   b. FILL TANKS WITH CLEAR WATER.
   c. OBSERVE LEAKAGE OVER 24 HOUR PERIOD.
   d. WITH SOIL DEWATERED, WATER LEVEL IN TANK MUST NOT DROP MORE THAN ONE-HALF (1/2") INCH.
   e. REPLASTER TANK AND REPEAT TEST UNTIL SUCCESSFUL.
6. ALL COMPONENTS WITHIN THE PUMP STATION SHALL BE STAINLESS STEEL INCLUDING GUIDE RAILS, BRACKETS, BOLTS, LIFTING CHAIN, ETC.
7. ALL PIPE CONNECTIONS TO THE PUMP BASIN SHALL BE MADE WATERTIGHT.
8. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING EXISTING POWER VOLTAGE AND PHASE PRIOR TO ORDERING PUMPS & CONTROLS
9. POWER AND FLOAT LEADS FROM THE PUMP STATION SHALL BE LONG ENOUGH TO REACH THE CONTROL PANEL WITHOUT SPLICES. ELECTRICAL SPLICES WITHIN THE PUMP STATION OR CONDUIT ARE NOT ALLOWED.
10. AN ADDITIONAL FLOAT IS REQUIRED TO ACTIVATE THE AUTODIALER AT A HIGH WATER ALARM CONDITION. THE AUTODIALER FLOAT LEAD MUST BE WIRED DIRECTLY TO THE AUTODIALER, COMPLETELY INDEPENDENT OF THE CONTROL PANEL CIRCUITRY.



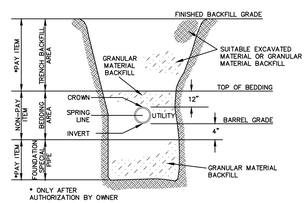
TYPE "A" SANITARY SEWER LATERAL & SCH 80 PVC FORCEMAIN





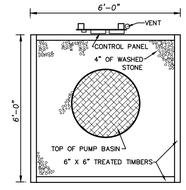
WATER MAIN / GRAVITY & SS COLLECTION MAIN & FORCE MAIN CROSSING DETAIL

NO SCALE



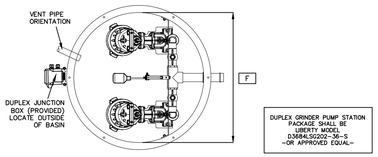
FORCE MAIN & GRAVITY SEWER SERVICE TRENCH DETAIL

NOT TO SCALE

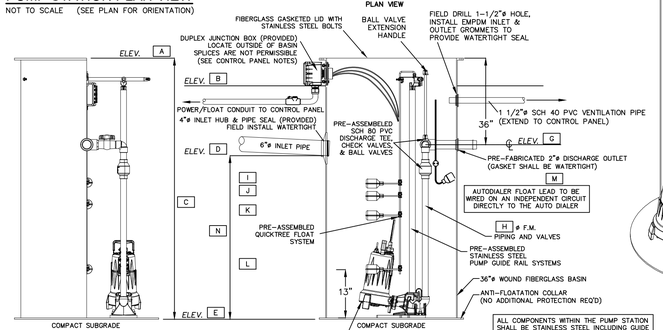


PUMP STATION PLAN VIEW

NOT TO SCALE (SEE PLAN FOR ORIENTATION)

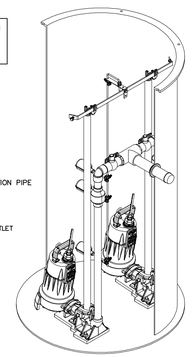


DUPLEX GRINDER PUMP STATION PACKAGE SHALL BE LIBERTY MODEL D36B4L3S2D2-36-S -OR APPROVED EQUAL-



DUPLEX GRINDER PUMP STATION DETAILS

NOT TO SCALE — LOCATION AS NOTED ON PLAN



ISOMETRIC VIEW

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BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists

BULKHEADS, BOARDWALKS & MISCELLANEOUS DETAILS

PROJECT: COROLLA BOAT CLUB
NORTH CAROLINA
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY

CONSTRUCTION DRAWINGS

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=50'
DESIGNED: BPG	CHECKED: MSB
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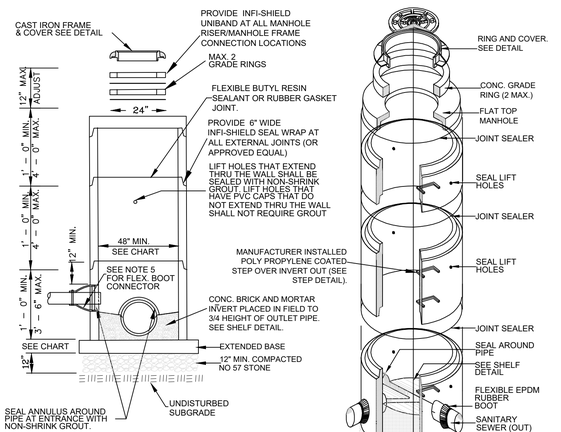


STANDARD PRECAST CONCRETE MANHOLE

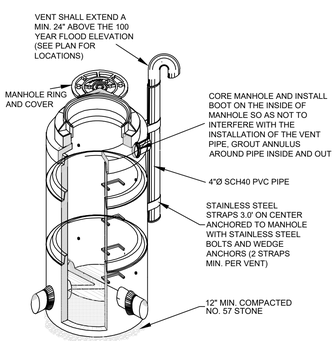
NOT TO SCALE (ALL MH SHALL HAVE EX. BASES)

A FILLETED INVERT FOR A SMOOTH TRANSITION OF FLOW BETWEEN INLET & OUTLET PIPE SHALL BE PROVIDED.

NOTES:
1. PRECAST REINFORCED CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH ASTM C-478
2. MIN. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
3. ALL MANHOLES SHALL HAVE MIN. 6" EXTENDED BASE.
4. FLEXIBLE BUTYL RESIN JOINT SEALANT SHALL BE IN ACCORDANCE W/ ASTM C990. RUBBER GASKET JOINTS SHALL BE IN ACCORDANCE W/ASTM C-443.
5. FLEXIBLE EPDM RUBBER BOOT CONNECTORS SHALL BE IN ACCORDANCE W/ ASTM C923, INSTALLED BY MANUFACTURER W/STAIN- LESS STEEL COMPRESSION RING AND TAKE-UP CLAMP. CONNECTION TO MAIN SHALL BE BY CONTRACTOR WITH STAINLESS STEEL PIPE CLAMP.
6. MORTAR SHALL BE QUICK SETTING, NON-SHRINK GROUT MIXED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. MANHOLE STEPS SHALL BE IN ACCORDANCE WITH ASTM C478 AND OSHA REGULATIONS ALIGN W/INVERT OUT.
8. PREFORMED MANHOLE INVERTS ARE NOT ACCEPTABLE UNLESS SPECIFICALLY APPROVED BY THE PROJECT ENGINEER. STANDING WATER IN INVERT OF MANHOLE IS NOT ACCEPTABLE.
9. ALL MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C1244 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE (VACUUM) TEST PRIOR TO BACKFILL.

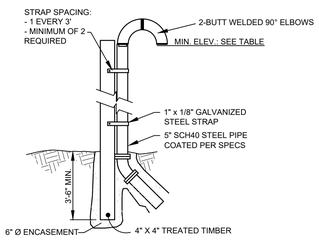
JOINT SEAL DETAIL

NOT TO SCALE



STANDARD PRECAST CONCRETE MANHOLE WITH VENT PIPING

NOT TO SCALE



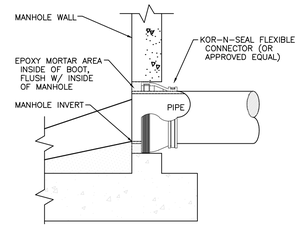
VENT PIPING DETAIL

NOT TO SCALE

NOTES:
1. VENT PIPE OPENING IN PRECAST CONCRETE MANHOLE WALL SHALL BE CAST OR CORED WITH A CONCRETE CORING MACHINE.
2. LOCATION OF VENT PIPE SHALL BE AS DIRECTED BY THE CONSTRUCTION INSPECTOR WITH WATERTIGHT RING AND COVER VENT TOP TO BE ELEVATED AT LEAST 12" ABOVE THE 100 YEAR FLOOD PLAIN ELEVATION.
3. PASSIVE CARBON VENT FILTERS SHALL ONLY BE INSTALLED ON LIFT STATIONS AND MANHOLES WITH VENT PIPING. (SEE VENTED MANHOLE SCHEDULE)

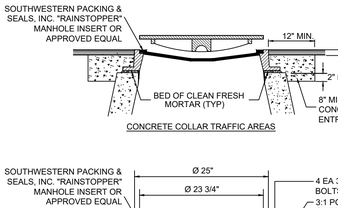
VENTED MANHOLE SCHEDULE

MANHOLE #	MIN. ELEVATION
MH-01	10.0'
MH-03	10.0'

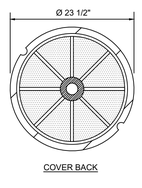


FLEXIBLE MANHOLE CONNECTION DETAIL

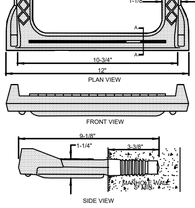
NOT TO SCALE



CONCRETE COLLAR TRAFFIC AREAS



COVER BACK COVER SECTION



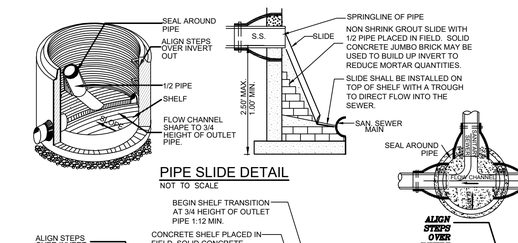
SERRATED TREADS WIDE ENOUGH TO STAND ON WITH BOTH FEET

ISOMETRIC VIEW OF STEP

NOTES:
1. COPOLYMER POLYPROPYLENE PLASTIC STEP SHALL BE PLACED 16" O.C. IN ALL STRUCTURES 5' DEPTH OR GREATER.
2. STEPS SHALL BE INSTALLED BY MANUFACTURER AND SHALL BE ALIGNED OVER STRUCTURE INVERT OUT.
3. DIMENSIONS SHOWN ARE TO CONVEY THE DESIRED SIZE OF THE STEP. STEPS OF SIMILAR SIZE AND CONSTRUCTION MAY BE ACCEPTABLE PROVIDED MATERIAL SUBMITTAL IS APPROVED BY ENGINEER.
4. MATERIALS OF CONSTRUCTION AND METHOD OF INSTALLATION SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND ASTM C-478.

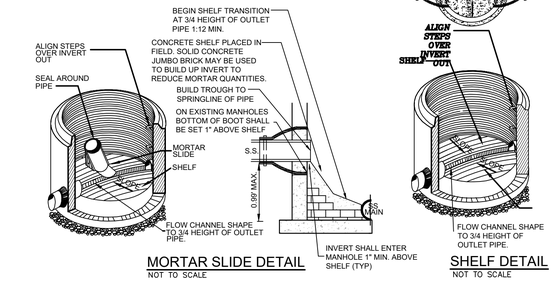
MANHOLE STEP DETAIL

NOT TO SCALE



PIPE SLIDE DETAIL

NOT TO SCALE



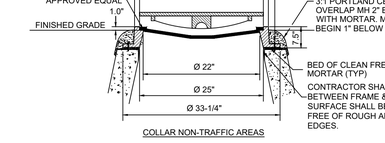
MORTAR SLIDE DETAIL

NOT TO SCALE

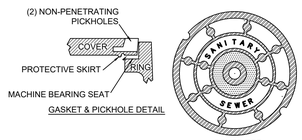
SHELF DETAIL

NOT TO SCALE

MORTAR AND PIPE SLIDE NOTES:
1. MORTAR SLIDE SHALL BE USED FOR LESS THAN 1 FOOT SEPARATION BETWEEN INVERT OUT & INVERT OF INCOMING PIPE.
2. PIPE SLIDE REQ'D WHERE VERTICAL SEPARATION BETWEEN PIPE INVERTS IS GREATER THAN 1 " AND LESS THAN, OR EQUAL TO 2.5'.
3. OUTSIDE DROP STRUCTURE REQUIRED WHERE VERTICAL SEPARATION BETWEEN INVERTS EXCEEDS 2.50'. SEE OUTSIDE DROP MANHOLE DETAIL.
4. VERIFY SLIDE INSTALLATION WITH PROJECT COORDINATOR PRIOR TO CONSTRUCTION.
5. MANHOLE AND CONNECTIONS SHALL BE IN ACCORDANCE WITH STANDARD MANHOLE DETAIL.
6. BRICK USED FOR INVERT AND SHELF CONSTRUCTION SHALL BE NCDOT STANDARD CONCRETE JUMBO BRICK. MEETING ASTM C55 GRADE S-II EXCEPT ABSORPTION LESS THAN 10 LBS/CU.FT.
7. MANHOLES GREATER THAN 12' IN DEPTH SHALL HAVE MIN. 6" EXTENDED BASE.
8. THE MINIMUM SLOPE ACROSS THE INVERT OF THE MANHOLE SHALL BE 2% UNLESS OTHERWISE APPROVED BY ENGINEER
9. SEE STANDARD MANHOLE DETAIL FOR ADDITIONAL REQUIREMENTS.
10. DROP AND / OR SLIDE REQUIREMENTS SHALL APPLY TO ALL LATERALS ENTERING MANHOLES AS OUTLINED IN NOTES 1, 2 & 3. NO MORE THAN 4, FOUR INCH LATERALS OR 3, SIX INCH LATERALS SHALL ENTER A 4' DIAMETER TERMINAL MANHOLE. NO MORE THAN 2 LATERALS (REGARDLESS OF SIZE) SHALL ENTER ALL OTHER 4' DIAMETER MANHOLES. ALL LATERALS SHALL HAVE AN INDIVIDUAL TROUGH. 5' DIAMETER MANHOLES SHALL BE USED IF THE ABOVE CONDITIONS ARE NOT MET. THE INVERT OF THE LATERAL SHALL BE A MINIMUM OF 1" ABOVE THE SHELF.

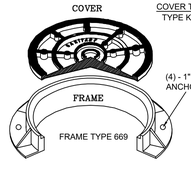


COLLAR NON-TRAFFIC AREAS



STANDARD MANHOLE RING AND COVER

NOTES: NOT TO SCALE (TO BE USED ON ALL MANHOLES)
1. MANHOLE FRAME AND COVER SHALL BE MADE OF GRAY CAST IRON CONFORMING TO ASTM-A48 CLASS 35B, MANUFACTURED BY SAME MANUFACTURER. ALL CASTINGS SHALL CONFORM TO THE SHAPE AND DIMENSIONS SHOWN. THEY SHALL BE CLEAN AND PERFECT, WITHOUT BLOW OR SAND HOLES OR DEFECTS OF ANY KIND, TENDING TO IMPAIR THEIR STRENGTH. NO PLUGGING OR STOPPING OF DEFECTIVE HOLES WILL BE PERMITTED.
2. CASTINGS SHALL BE UNPAINTED AND SHALL HAVE THE LETTERS "SANITARY SEWER" CAST INTO COVER. LETTERS SHALL BE RAISED AND CLEARLY VISIBLE.
3. MANHOLE RING AND COVER SHALL WITHSTAND H-20 VEHICULAR TRAFFIC LOADING CONDITIONS.
4. MINIMUM AVERAGE WEIGHT: PLUS OR MINUS 5% RING 190 LBS., COVER 125 LBS, UNIT 315 LBS.
5. COVERS SHALL HAVE (2) NON-PENETRATING PICKHOLES.
6. RING AND COVER SHALL BE US FOUNDRY & MFG. CORP RING MODEL 669 & COVER MODEL KL (ALTERNATES SHALL BE APPROVED BEFORE INSTALLATION)



PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"
4"	1'-0" x 1'-0"
6"	1'-3" x 1'-3"
8"	1'-6" x 1'-6"
10"	2'-0" x 2'-0"
12"	2'-3" x 2'-3"

PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"
4"	1'-0" x 1'-0"
6"	1'-3" x 1'-3"
8"	1'-6" x 1'-6"
10"	2'-0" x 2'-0"
12"	2'-3" x 2'-3"

PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"
4"	1'-0" x 1'-0"
6"	1'-3" x 1'-3"
8"	1'-6" x 1'-6"
10"	1'-8" x 1'-8"
12"	2'-0" x 2'-0"

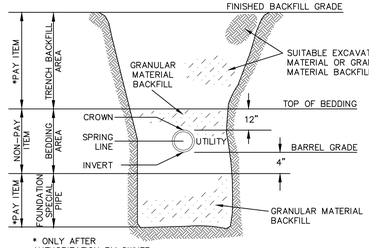
PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"
4"	1'-0" x 1'-0"
6"	1'-3" x 1'-3"
8"	1'-6" x 1'-6"
10"	1'-9" x 1'-9"
12"	2'-0" x 2'-0"

PIPE	AREA AGAINST UNDISTURBED SOIL
2"	1'-0" x 1'-0"
4"	1'-2" x 1'-2"
6"	1'-6" x 1'-6"
8"	1'-9" x 1'-9"
10"	2'-2" x 2'-2"
12"	2'-8" x 2'-8"

NOTES:
1. PIPING LESS THAN 2" IN DIAMETER SHALL HAVE THE SAME REQUIREMENTS AS 2" DIAMETER PIPE
2. CONCRETE THRUST BLOCKING SHALL ONLY BE USED WHERE MECHANICAL RESTRAINTS ARE NOT FEASIBLE. PRIOR APPROVAL MUST BE OBTAINED FROM ENGINEER PRIOR TO USING THRUST BLOCKING

CONCRETE THRUST BLOCKING DETAILS

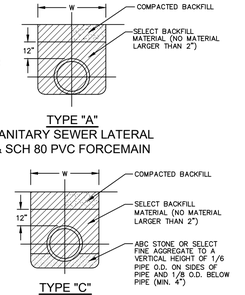
NOT TO SCALE



* ONLY AFTER AUTHORIZATION BY OWNER

FORCE MAIN & GRAVITY SEWER SERVICE TRENCH DETAIL

NOT TO SCALE



1. EMBEDMENT MATERIALS, CLASSES I, II, OR III AS DESCRIBED IN ASTM D 2321, SHALL BE USED FOR BEDDING FOR BEDDING, HAUNCHING AND INITIAL BACKFILL AND CAREFULLY COMPACTED FOR ALL FLEXIBLE PIPE.
2. BEDDING CLASSES A, B, C OR CRUSHED STONE AS DESCRIBED IN ASTM C 12 SHALL BE USED AND CAREFULLY COMPACTED FOR ALL RIGID PIPE.
3. ALL EXCAVATIONS SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION", CHAPTER XVII OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON THE JOB AT ALL TIMES AND SHALL EMPLOY A PROFESSIONAL ENGINEER TO ACT UPON ALL PERTINENT MATTERS OF THE WORK.

GRAVITY SANITARY SEWER PIPE SCHEDULE

PIPE MATERIAL	PIPE SIZE INCHES	BEDDING TYPE FOR DEPTH OF COVER SHOWN TYPE "B"	TYPE "C"
PVC	8"	0 – 24"	N/A
PVC	15"	0 – 24"	N/A
DIP	8"	N/A	ALL DEPTHS
DIP	16"	N/A	ALL DEPTHS

NOTES:
1. ALL SEWER SERVICE PIPE SHALL HAVE TYPE "A" BEDDING
2. CHANGES IN PIPE BEDDING CLASSIFICATION SHALL ONLY BE MADE AT MANHOLES.
3. DUCTILE IRON FORCE MAIN SHALL HAVE TYPE "A" BEDDING.

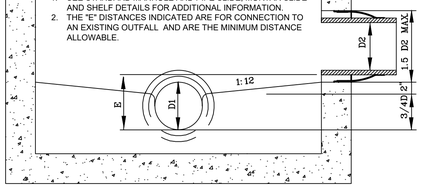
TRENCH EXCAVATION LIMITS W

INTERNAL DIAMETER	MAX. WIDTH OF TRENCH MIN.
4"–6"	NO LIMIT 2'–0"
8"–10"	NO LIMIT 2'–2"
12"	3'–9" O.D.+2'
14"–16"	4'–2" O.D.+2'
18"	4'–4" O.D.+2'
20"	4'–8" O.D.+2'
24"	4'–11" O.D.+2'
30"	5'–6" O.D.+2'
36"	6'–0" O.D.+2'

W = TRENCH WIDTH AT TOP OF PIPE
S = PAVEMENT REPLACEMENT WIDTH (S = W + 3'–0")

MAIN OR LATERAL MIN SLOPE

4" Ø	2.00% MIN.
6" Ø	0.67% MIN./MAIN
6" Ø	2.00% MIN./LATERAL
8" Ø	0.40% MIN.
12" Ø	0.22% MIN.
15" Ø	0.15% MIN.
18" Ø	0.12% MIN.

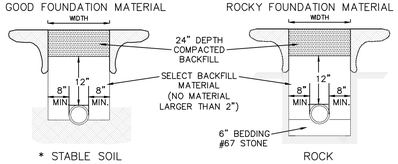


1. TO FIND "E" ENTER CHART AT LEFT WITH EFFLUENT PIPE SIZE AND ENTER PIPE AT TOP WITH INFLUENT PIPE SIZE. "E" DISTANCE IS POINT OF CONVERGENCE OF COLUMN AND ROW.
2. WHERE A 5' MH IS REQUIRED ADD 1/2" TO "E" DISTANCE TO ACCOUNT FOR THE ADDITIONAL 6" OF SHELF SLOPE.

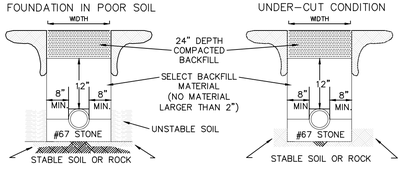
D1 \ D2	4"	6"	8"	12"	15"	18"	24"
8	9.00	9.50	10.00	–	–	–	–
12	11.00	11.50	12.00	13.00	–	–	–
15	14.25	14.75	15.25	16.25	17.00	–	–
18	16.50	17.00	17.50	18.50	19.25	20.00	–
24	21.00	21.50	22.00	23.00	23.75	24.50"	26.00

MANHOLE CONNECTION GUIDE

NOT TO SCALE



*SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #67 STONE.

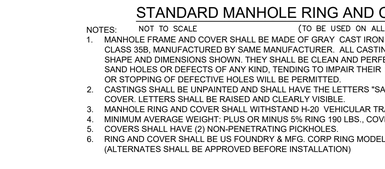


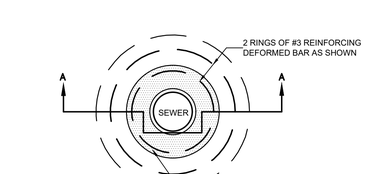
TYPICAL SEWER PIPE INSTALLATION & BEDDING

NOT TO SCALE

NOTES:
1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

5-1/4" DROP LID

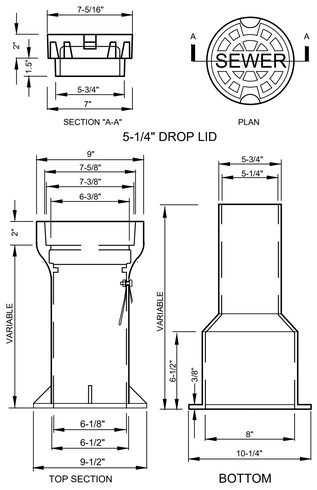




NOTES:
1. CONCRETE PROTECTOR RING SHALL BE 2500 P.S.I. PRECAST REINFORCED CONCRETE
2. VALVE BOX SHALL BE AT GRADE W/PROTECTOR RING EXTENDING 1/2" ABOVE GRADE
3. SEE GATE VALVE AND BOX DETAIL
4. VALVE BOX PROTECTOR RINGS SHALL BE INSTALLED AROUND VALVE BOX IN UNPAVED NON-TRAFFIC AREAS, AND SHALL NOT CREATE A HINDERANCE TO MOWING OPERATIONS.

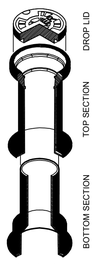
VALVE BOX PROTECTOR RING DETAIL

SCALE: NONE



VALVE BOX DETAIL

SCALE: NONE



VALVE BOX NOTES:
1. SHALL BE 3 PART SLIP-TYPE MANUFACTURED BY ALABAMA PIPE CO., CHAPMAN VALVE CO., COLOMBIAN IRON WORKS, R.D. WOOD CO. OR APPROVED EQUAL.
2. SHALL CLOSE GRAINED CAST IRON SLIP-TYPE VALVE BOX WITH A MINIMUM THICKNESS OF 3/16".
3. SHALL HAVE RAISED LETTERS "SEWER" CAST INTO COVER.
4. SHALL ACCOMMODATE 4" THRU 12" VALVES.
5. SHALL HAVE 3/8" HOLE DRILLED IN TOP SECTION THRU WHICH A 1/4" X 1-1/2" GALVANIZED BOLT SHALL BE USED TO SECURE A 12GA. THIN TRACER WIRE FOR NON-FERROUS PIPE. A 1/2" WASHER SHALL BE USED BETWEEN NUT AND INSIDE OF BOX. TIGHTEN HAND TIGHT.
6. SCREW TYPE VALVE BOXES ARE NOT ACCEPTABLE
7. DIMENSIONS ARE FOR INFORMATION ONLY AND VARY BASED UPON THE MANUFACTURER.

Bissell Professional Group
Firm License # P-0598
3512 North Croatan Highway
Kitty Hawk, North Carolina 27949
(252) 261-3113
FAX (252) 261-1760
Engineers, Planners, Surveyors and Environmental Specialists

PROJECT:
COROLLA BOAT CLUB
NORTH CAROLINA
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY

CONSTRUCTION DRAWINGS

WASTEWATER COLLECTION
TYP. CONSTRUCTION DETAILS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

DATE: 4-22-24 SCALE: NO SCALE
DESIGNED: BPG CHECKED: MSB
DRAWN: KFW/DMK APPROVED: BPG
SHEET: 17 OF 21
CAD FILE: 459600B3
PROJECT NO: 4596

ORDER OF PRECENDENCE GENERAL NOTES/TECHNICAL SPECIFICATIONS

1. THE NOTES CONTAINED HEREIN ARE INTENDED TO SUPPLEMENT THE TECHNICAL SPECIFICATIONS AND PROVIDE EASY REFERENCE FOR THE CONTRACTOR. IN NO CASE SHALL THESE NOTES VOID ANY PART, SECTION OR REQUIREMENT OUTLINED IN THE TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS. IF CONFLICTS OCCUR BETWEEN THE TECHNICAL SPECIFICATIONS AND THE NOTES CONTAINED HEREIN, THE TECHNICAL SPECIFICATIONS SHALL SUPERSEDE.
2. CONTRACTOR IS CHARGED WITH PERFORMING SITE INVESTIGATIONS TO ASCERTAIN EXISTING SITE CONDITIONS. PHOTOGRAPHIC DOCUMENTATION OF PRE-EXISTING CONSTRUCTION CONDITIONS WILL BE CONDUCTED BY THE ENGINEER FOR DETERMINATION OF COMPLIANCE WITH CONDITIONS NOTED HEREON.

GENERAL NOTES

1. ACCESS TO SITES SHALL BE BY PUBLIC RIGHT-OF-WAYS AND UTILITY EASEMENTS. OTHER ACCESS LOCATIONS REQUIRED SHALL BE SECURED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. SUPPLEMENTAL EROSION CONTROL MEASURES SHALL BE REQUIRED TO INCLUDE CONSTRUCTION ENTRANCES, SILT FENCING, RESTORATION, ETC. ADDITIONAL MEASURES SHALL BE INCLUDED AS PART OF A SUPPLEMENTAL EROSION CONTROL PLAN PREPARED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE CONSTRUCTION STAGING AREA AT HIS EXPENSE.
3. THE CONTRACTOR IS EXPECTED AND REQUIRED TO COOPERATE WITH THE PROPERTY OWNERS AFFECTED BY THE WORK. MAIL ADJOINING PROPERTY OWNER LETTERS TO EFFECTED PROPERTY OWNERS NOTIFYING THEM THAT WORK WILL BE OCCURRING WITHIN THE AREAS ADJOINING THEIR PROPERTIES. THIS LETTER SHALL GIVE PROPERTY OWNERS A MINIMUM OF 14 DAYS WRITTEN NOTICE PRIOR TO COMMENCEMENT OF CONSTRUCTION FOR REMOVAL OF ANY PERSONAL ITEMS FROM THE RIGHT- OF-WAY. THE LETTER OUTLINES THE EXTENT OF THE WORK TO BE PERFORMED TO INCLUDE DRIVEWAY DISRUPTIONS.
4. CONTRACTOR SHALL MAINTAIN A NEAT AND CLEAN JOB-SITE TO INCLUDE STAGING/STORAGE AREAS AS FOLLOWS:
   - PERFORM DUST CONTROL BY WATERING DAILY OR AS DIRECTED BY THE ENGINEER AND/OR CURRITUCK COUNTY.
   - SWEEP STREETS A MINIMUM OF ONCE WEEKLY (FRIDAY) OR AS DIRECTED BY THE ENGINEER AND/OR CURRITUCK COUNTY.
   - BLADE, LEVEL AND RE-COMPACT ALL EXPOSED TRENCHES WEEKLY (OR AS DIRECTED BY THE ENGINEER) TO PRODUCE A SMOOTH "RIDE".
   - PERFORM DAILY CLEAN-UP OF ALL DIRT, DEBRIS AND SCRAP MATERIALS.
   - REMOVE EXCESS EQUIPMENT, MATERIALS, TOOLS, ETC. NOT NEEDED.
   - ANY DRIVEWAY REMOVALS MUST HAVE A TEMPORARY SURFACE INSTALLED WITHIN THE SAME DAY AS REMOVAL. APPROVED SURFACES MAY CONSIST OF EITHER ABC OR MILLINGS.

   THE WORK WITHIN RIGHT OF WAY AREAS MUST BE KEPT IN AN ORDERLY AND NEAT FASHION. NO MATERIAL (SOILS, GRAVEL OR OTHER PROJECT FILL) CAN BE PLACED DIRECTLY ON ANY STREET SURFACE WITHOUT MATTING BEING PUT DOWN FIRST. ANY DAMAGE TO ANY ROAD SURFACE FROM CONSTRUCTION ACTIVITIES MUST BE REPAIRED AT OWNERS EXPENSE.
5. EXCESS SUITABLE SOIL EXCAVATED DURING CONSTRUCTION SHALL BE STOCKPILED FOR USE ON THE PROJECT OR DISPOSED OF OFF-SITE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT BE ALLOWED TO STOCKPILE MATERIALS OR EXCESS MATERIALS IN THE STREET RIGHT-OF-WAYS AT ANY TIME. THE CONTRACTOR SHALL PROVIDE A SUFFICIENT AND SUITABLE STOCKPILE AREA AND LOCATION AT THE CONTRACTOR'S EXPENSE.
6. CONTRACTOR SHALL PROVIDE MEASURES DURING CONSTRUCTION TO SECURE THE SITE AND EXCAVATION FROM THE GENERAL PUBLIC AND COMPLY WITH ALL OSHA REGULATIONS. JOB SITE SAFETY IS THE EXCLUSIVE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. OPEN EXCAVATION LEFT UNATTENDED OR OVER NIGHT IS NOT ACCEPTABLE AND SHALL BE FILLED IMMEDIATELY.
7. CONTRACTOR SHALL REPAIR OR REPLACE DRIVES DISTURBED BY CONSTRUCTION TO EXISTING OR BETTER CONDITIONS. NO SEPARATE PAYMENT UNLESS OTHERWISE INDICATED.
8. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING WHERE FENCES ARE REMOVED FOR CONSTRUCTION. CONTRACTOR SHALL COORDINATE FENCE REMOVAL OR REINSTALLATION WITH INDIVIDUAL PROPERTY OWNERS PRIOR TO REMOVAL. CONTRACTOR SHALL REINSTALL ALL SHEDS, FENCES, ETC. TO AS GOOD OR BETTER THAN EXISTING CONDITIONS UNLESS OTHERWISE INDICATED. (NO SEPARATE PAYMENT).
9. CONTRACTOR SHALL REPLACE ALL DISTURBED MAILBOXES, SIGNS, ETC. DISTURBED DURING CONSTRUCTION WITHIN 24 HOURS OF DISTURBANCE. PERMANENT ROAD SIGNAGE DISTURBED SHALL BE REPLACED IMMEDIATELY AND IF NECESSARY ROADWAY SIGNS SHALL BE TEMPORARILY INSTALLED IN A LOCATION CONSISTENT WITH THE NCMUTCD TO PROVIDE CONTINUOUS TRAFFIC AWARENESS OF ROADWAY CONDITIONS. (NO SEPARATE PAYMENT).
10. CONTRACTOR SHALL PROVIDE SECURITY FENCING, SECURITY GUARD, AND ANY AND ALL OTHER MEASURES CONTRACTOR DEEMS NECESSARY TO PROTECT EQUIPMENT AND MATERIALS STORED ON THE PROJECT. (NO SEPARATE PAYMENT).
11. WHERE CONTRACTOR CEASES WORK OPERATIONS FOR A 72 HOUR PERIOD OR LONGER, SUCH AS HOLIDAYS, ETC., THE FOLLOWING SHALL BE ACCOMPLISHED PRIOR TO THE WORK STOPPAGE.
    A. CONTRACTOR SHALL STORE ALL EQUIPMENT IN THE CONTRACTOR STAGING AREA OR OFF SITE.
    B. THE CONTRACTOR SHALL SWEEP ALL STREETS, PERFORM GENERAL CLEANUP AND SHALL PERFORM MAINTENANCE ON ALL EXPOSED PATCHES.
12. CONTRACTOR SHALL SCHEDULE WORK AND MATERIAL DELIVERIES SO THAT STORED MATERIAL QUANTITIES ON THE JOB SITE SHALL BE MINIMIZED.
13. CONTRACTOR SHALL STORE ALL MATERIALS IN THE CONTRACTOR STAGING AREA 72 HOURS PRIOR TO INCORPORATING INTO THE WORK TO REDUCE OBSTRUCTIONS TO TRAFFIC AND INCONVENIENCE TO RESIDENTS. WHERE UTILITIES ARE BEING CONSTRUCTED IN EASEMENTS OUT OF TRAFFIC AREAS CONTRACTOR MAY STORE MATERIALS AHEAD OF CONSTRUCTION FOR A DISTANCE NOT GREATER THAN 1800 FEET UNLESS APPROVED OTHERWISE BY THE ENGINEER.
14. CLEARING AND GRUBBING SHALL BE RESTRICTED TO PERMANENT EASEMENTS ONLY. CONTRACTOR SHALL LIMIT TREE/BUSH CLEARING IN THE TEMPORARY EASEMENTS, BETWEEN HOUSES AND ALONG PROPERTY LINES TO ONLY ABSOLUTELY NECESSARY FOR CONSTRUCTION.

RELATION OF WATER MAINS TO SEWERS

(A) LATERAL SEPARATION OF SEWERS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION--IN WHICH CASE:
(1) THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER; OR
(2) THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
(B) CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION--IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
(C) CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

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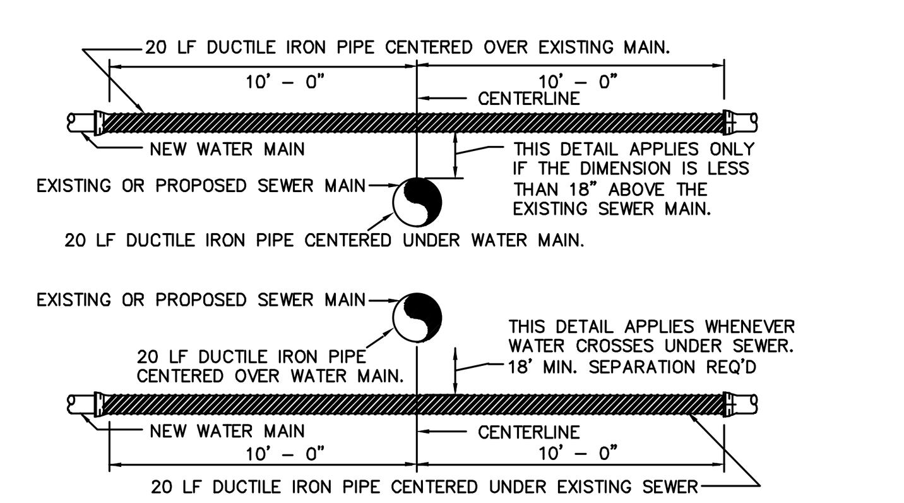
CONSTRUCTION SEQUENCE NOTES

1. PRIOR TO COMMENCEMENT OF ANY WORK WITHIN EASEMENTS OR RIGHTS-OF-WAYS THE CONTRACTOR IS REQUIRED TO NOTIFY CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH GS 87-102. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NO SEPARATE PAYMENT. EXISTING UTILITIES SHOWN ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED (I.E. TELEPHONE, GAS, CABLE, ETC.).
2. THE CONTRACTOR SHALL DIG UP EACH UTILITY WHICH MAY CONFLICT WITH CONSTRUCTION 14 DAYS IN ADVANCE TO VERIFY LOCATIONS (HORIZONTALLY AND VERTICALLY) TO ALLOW THE ENGINEER AN OPPORTUNITY TO ADJUST THE DESIGN TO AVOID CONFLICTS (NO SEPARATE PAYMENT).
3. ALL SANITARY SEWER & WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS OF THE NCDENR-DWQ & NCDENR-PWS. STORM DRAINAGE, STREET CONSTRUCTION AND PAVING SHALL BE IN ACCORDANCE WITH THE N.C.D.O.T.
4. UTILITY SERVICES TO INDIVIDUAL PROPERTIES ARE NOT SHOWN IN THE PROFILES FOR SIMPLICITY OF THE DRAWINGS. SERVICES MAY INCLUDE WATER LATERALS, TELEPHONE, ELECTRIC, CABLE, GAS, ETC.
5. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES AND SIGNS AND/OR UTILITIES IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS DURING THE UTILITY MAIN INSTALLATION AND STREET CONSTRUCTION. (NO SEPARATE PAYMENT).
6. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR UTILITY CROSSINGS AND REPAIR DAMAGES DUE TO CONSTRUCTION TO THE SATISFACTION OF THE UTILITY INVOLVED AT NO ADDITIONAL EXPENSE TO THE OWNER. UNDERGROUND ELECTRICAL CROSSINGS SHALL BE CROSSED IN ACCORDANCE WITH THE NEC AND TECHNICAL SPECIFICATION SECTION UNDERGROUND ELECTRICAL CROSSING
7. WHERE DEEMED NECESSARY BY THE ENGINEER THAT A SUBSURFACE DRAINAGE SYSTEM IS REQUIRED, THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, TIE-IN'S TO EXISTING DRAINAGE STRUCTURES AND ALL OTHER INCIDENTALS NECESSARY TO PROVIDE COMPLETE INSTALLATION. IMPROPERLY INSTALLED AND NON-FUNCTIONING DRAINAGE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING FRENCH DRAINAGE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND OR REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
8. STORM DRAINAGE REPAIRS BY CONTRACTOR DUE TO CONSTRUCTION DAMAGE AND JOINTS EXPOSED DURING CONSTRUCTION SHALL BE INSPECTED BY THE OWNER PRIOR TO BACKFILLING.
9. CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIAL AND PERFORM ALL WORK REQUIRED FOR INSTALLATION OF SEWER LINES, MANHOLES AND APPURTENANCES AS OUTLINED ON DRAWINGS AND ON SPECIFICATIONS, ALL OF WHICH BECOME PART OF THE CONTRACT DOCUMENTS.
10. ALL CONSTRUCTION OF SANITARY SEWER MAINS AND APPURTENANCES IN THE COLLECTION SYSTEMS SHALL BE IN STRICT ACCORDANCE WITH PLANS AND SPECIFICATIONS PREPARED AS PART OF THE CONTRACT DOCUMENTS AND AS APPROVED BY THE BPG, INC. ENGINEER. ALL MATERIALS SHALL BE NEW AND UNUSED. PRIOR TO CONSTRUCTION OF THE APPROVED SANITARY SEWER, CONTRACTOR SHALL PROVIDE FIELD STAKEOUT INCLUDING ADEQUATE LINE AND GRADE STAKES IN ORDER THAT SANITARY SEWER AND APPURTENANCES MAY BE CONSTRUCTED IN ACCORDANCE WITH CONTRACT DRAWINGS.
11. A PRECONSTRUCTION CONFERENCE SHALL BE HELD AT THE COMPLETION OF THE FIELD STAKEOUT WITH THE ENGINEEER AN HIS/HER REPRESENTATIVE, CURRITUCK COUNTY REPRESENTATIVE, NCDENR REPRESENTATIVE, AND ANY REQUISITE UTILITY REPRESENTATIVES THAT WILL REQUIRE COORDINATION WITH DURING THE COURSE OF CONSTRUCTION. A MINIMUM OF 2 DAYS NOTICE SHALL BE GIVEN FOR MEETING REPRESENTATIVES.
12. PREPARE PHOTOGRAPHIC DOCUMENTATION OF PRE-EXISTING CONDITIONS OF THE PROJECTED CONSTRUCTION ROUTE PRIOR TO COMMENCING WORK.
13. IF ANY DEVIATION IS CONTEMPLATED IN LOCATION OR LINE GRADE OF ANY SEWER, STRUCTURE OR APPURTENANCE AS SHOWN ON THE CONTRACT DRAWINGS, A REVISION OF THE DRAWINGS SHOWING THE PROPOSED DEVIATION SHALL BE SUBMITTED TO THE BPG, INC. ENGINEER FOR REVIEW AND APPROVAL BEFORE ANY CHANGES ARE CONSTRUCTED. MINOR FIELD CHANGES MAY BE MADE WITH APPROVAL OF BPG, INC. APPOINTED FIELD INSPECTOR. SHOULD CONTRACTOR DISCOVER AND/OR DAMAGE ANY UNDERGROUND UTILITY FACILITIES, WHICH ARE NOT SHOWN ON DRAWINGS AND/OR MARKED ON THE GROUND, CONTRACTOR SHALL PROMPTLY NOTIFY UTILITY OWNER AND OWNER'S PROJECT REPRESENTATIVE. RELOCATION OF ANY UTILITIES SHALL BE APPROVED AND COORDINATED WITH THE APPROPRIATE UTILITY OWNER.
14. EXCAVATION SHALL CONFORM TO THE LINES AND GRADES SHOWN ON THE PLANS. THE WIDTH OF EXCAVATION FOR TRENCHES SHALL BE A MINIMUM OF 24". EXCAVATION SHALL NOT BE CARRIED BELOW THE ESTABLISHED GRADES AND ANY EXCAVATION BELOW THE REQUIRED LEVEL SHALL BE BACKFILLED WITH SUITABLE, THOROUGHLY COMPACTED GRANULAR BEDDING MATERIAL. CONTRACTOR SHALL INSTALL ALL SHEETING, BRACING, AND SHORING NECESSARY TO PERFORM THE WORK, TO PROTECT EXISTING STRUCTURES AND ALL EXCAVATIONS AS REQUIRED UNDER NORTH CAROLINA OSHA REGULATIONS. COMPLIANCE WITH PROVISIONS OF THE OVERHEAD HIGH VOLTAGE LINE SAFETY ACT IS REQUIRED.
15. DEWATERING EQUIPMENT SHALL BE SIZED TO MAINTAIN THE TRENCH IN A SATISFACTORY DEWATERED CONDITION SUITABLE FOR PIPE LAYING AND BACKFILLING. PIPE LAYING WILL BE PERMITTED ONLY WHERE THE DEPTH OF WATER IS MAINTAINED BELOW THE BEDDING MATERIAL. BEDDING MATERIAL SHALL NOT BE PLACED ON UNSTABLE TRENCH MATERIAL.
16. NOT MORE THAN ONE HUNDRED FIFTY FEET (150') OF TRENCH SHALL BE OPENED IN ADVANCE OF THE COMPLETED PIPE LAYING. TRENCH WALLS SHALL BE PROTECTED IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. EXCAVATION AT MANHOLES AND SIMILAR STRUCTURES SHALL PROVIDE A MINIMUM CLEARANCE OF EIGHTEEN INCHES (18") BETWEEN THE OUTER SURFACE OF THE STRUCTURE AND THE EMBANKMENT OR SHEETING.
17. WHEREVER FOUNDATION MATERIAL IS UNSUITABLE, IT SHALL BE EXCAVATED UNTIL A STABLE FOUNDATION IS ACHIEVED. GRANULAR MATERIAL, #67 STONE PER ASTM C 12, SHALL THEN BE PLACED IN SIX INCH (6") LAYERS AND COMPACTED UNTIL THE TRENCH BOTTOM HAS BEEN STABILIZED. STANDARD GRANULAR PIPE BEDDING MATERIAL SHALL BE PLACED IN ACCORDANCE WITH ASTM D 2321 FOR PVC PIPE AND ASTM C 12 FOR DIP.
18. ALL GRAVITY SEWER MAINS, SERVICE LATERALS AND FORCE MAINS SHALL HAVE A MINIMUM COVER OF THREE FEET (3') AS MEASURED FROM TOP OF PIPE TO FINISH GRADE. THE BPG, INC. ENGINEER MAY REQUIRE ADDITIONAL COVER AS NEEDED FOR PIPE PROTECTION. SEWERS, WHICH HAVE A DEPTH OF COVER LESS THAN THREE FEET (3'), SHALL BE APPROVED AND INSTALLED AS PER BPG, INC. ENGINEER'S WRITTEN INSTRUCTIONS.
19. PIPE SHALL BE LAID TRUE TO LINE AND GRADE WITH BELLS UPSTREAM AND SHALL BE JOINTED TOGETHER SUCH THAT THE COMPLETED PIPE WILL HAVE A SMOOTH INVERT. PIPE SHALL BE PUSHED HOME BY HAND. THE USE OF EQUIPMENT (I.E. BACKHOE) SHALL NOT BE PERMITTED. CUTTING OF PIPE SHALL BE PERFORMED BY SAWING. STANDARD BEDDING SHALL BE SHAPED TO THE CURVATURE OF BOTH THE BELL AND BARREL OF THE PIPE. THE TRENCH SHALL BE KEPT FREE OF WATER WHILE THE WORK IS IN PROGRESS. THE ENDS OF THE PIPE SHALL BE CLEANED SO THAT PROPER JOINTS CAN BE MADE. AS THE WORK PROGRESSES, THE INTERIOR OF THE PIPE SHALL BE CLEARED OF DIRT, CEMENT, OR OTHER DELETERIOUS MATERIAL.
20. EXCEPT AS REQUIRED FOR USE OF A LASER LEVEL, EXPOSED END OF ALL PIPE AND FITTINGS SHALL BE FULLY CLOSED TO PREVENT EARTH, WATER OR OTHER SUBSTANCES FROM ENTERING PIPE. TRENCH SHALL BE COMPLETELY BACKFILLED AT END OF EACH WORKDAY. WHEN NEW PIPE IS TIED INTO AN EXISTING MANHOLE, NEW PIPE SHALL BE PLUGGED WITH A STANDARD SEWER PLUG AND SHALL REMAIN PLUGGED UNTIL ALL NEW LINE(S) THAT WILL FLOW TO EXISTING MANHOLE HAVE BEEN COMPLETED, TESTED, AND ACCEPTED.
21. BACKFILL SHALL BEGIN AT THE TOP OF THE STANDARD GRANULAR BEDDING AND SHALL BE PLACED IN SIX INCH (6") LAYERS FOR THE INITIAL ONE FOOT OVER THE PIPE AND SHALL BE THOROUGHLY TAMPED TO NINETY-FIVE PERCENT (95%) OF THE MAXIMUM THEORETICAL COMPACTION DENSITY AS DETERMINED BY A STANDARD PROCTOR ON THE MATERIAL. REMAINDER OF THE BACKFILL SHALL BE IN TWO FOOT (2') LAYERS PROPERLY TAMPED.
22. COMPLETION: BEFORE CONNECTING TO AN ACTIVE SYSTEM, THE LEAKAGE TESTS SHALL PROMPTLY FOLLOW INSTALLATION OF WASTEWATER PIPE INCLUDING SERVICES AND KEPT WITHIN A MAXIMUM OF 1000 FEET BEHIND THE WASTEWATER PIPE LAYING OPERATION.
23. CONTRACTOR SHALL FURNISH WEIRS, STAND PIPES, PIPE PLUGS, WATER, PRESSURE GAUGES, STOP WATCHES, AIR COMPRESSOR, VACUUM PUMP, HOSE AND SUCH MATERIALS AND ASSISTANCE AS REQUIRED TO PERFORM THESE TESTS. ALL ACCEPTANCE TESTS SHALL BE CONDUCTED BY CONTRACTOR IN THE PRESENCE OF A BPG, INC. APPOINTED INSPECTOR.
24. ACCEPTANCE TESTS SHALL NOT BE MADE UNTIL SANITARY SEWER, MANHOLES AND PROPOSED SEWER SERVICE CONNECTIONS, AS SHOWN ON THE APPROVED SEWER PLANS, HAVE BEEN INSTALLED, THE SEWER TRENCHES (INCLUDING MANHOLES AND CLEANOUT STACKS) BACKFILLED AND COMPACTED TO FINISHED SUB-GRADE.
25. CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR MAINTAINING SEWER FLOWS DURING PROJECT TO INCLUDE ANY REQUIRED BY-PASS PUMPING OF WASTEWATER BETWEEN MANHOLES DURING INSTALLATION OF SEWER LINES AND/OR MANHOLES. BY-PASS PUMPING SYSTEM SHALL PROVIDE CONTINUOUS FULL CONVEYANCE AND CONTAINMENT OF WASTEWATER PRESENT DURING THE WORK AND SHALL NOT SURCHARGE THE UPSTREAM PUMP STATION BY MORE THAN TWO (2) FEET ABOVE THE NORMAL EFFLUENT LEVELS.
26. ONCE ACCEPTANCE AND START OF THE COLLECTION SYSTEM HAS BEEN RECIEVED, THE CONTRACTOR SHALL PROCEED WITH THE ABANDONMENT PROCEDURES OF THE EXISTING WASTEWATER COLLECTION SYSTEM AS DESCRIBED HEREON.
27. THE NOTES CONTAINED HEREIN ARE INTENDED TO SUPPLEMENT THE TECHNICAL SPECIFICATIONS AND PROVIDE EASY REFERENCE FOR THE CONTRACTOR. IN NO CASE SHALL THESE NOTES VOID ANY PART, SECTION OR REQUIREMENT OUTLINED IN THE TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS.



WATER CROSSING SEWER DETAIL

NOT TO SCALE

TRENCH DEWATERING DURING SEWER LINE INSTALLATION

1. ALL GROUND WATER WHICH MAY BE FOUND IN THE TRENCHES AND ANY WATER WHICH MAY GET INTO THEM FROM ANY CAUSE WHATSOEVER SHALL BE PUMPED OR BAILED OUT SO THAT THE TRENCH SHALL BE DRY DURING THE PIPE LAYING PERIOD. NO WATER SHALL BE PERMITTED TO REACH CONCRETE UNTIL IT HAS SET SUFFICIENTLY. ALL WATER PUMPED FROM THE TRENCHES SHALL BE DISPOSED OF IN A MANNER SATISFACTORY TO THE OWNER. CONTRACTOR SHALL PROVIDE AT LEAST TWO (2) PUMPS FOR EACH TRENCH OPENED IN WET GROUND AND AT THE SAME TIME, HE SHALL HAVE ONE (1) PUMP IN RESERVE.
2. IF, DURING ANY TIME THAT CONTRACTOR IS PERMITTED TO LAY PIPE IN A TRENCH CONTAINING UNAVOIDABLE TRENCH WATER AND CONSTRUCTION IS INTERRUPTED FOR ANY REASON, THE OPEN ENDS OF PIPE SHALL BE CLOSED BY WATERTIGHT PLUGS OR CAPS, OR OTHER MEANS APPROVED BY THE OWNER. IN ANY CASE, SUCH PROTECTION SHALL BE PROVIDED WHEN WORK IS SUSPENDED OVERNIGHT OR ON WEEKENDS AND HOLIDAYS, REGARDLESS OF THE CONDITION OF THE TRENCH WITH RESPECT TO WATER AT THE TIME THAT THE WORK IS SUSPENDED
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES, INCLUDING PIPES AND MANHOLES, AGAINST ANY TENDENCY TO FLOAT UNDER CONDITIONS OF HIGH WATER, WHETHER DUE TO HIGH GROUND WATER OR FLOOD CONDITIONS ON THE PROJECT SITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE WHATEVER STEPS MAY BE REQUIRED, INCLUDING THE INSTALLATION AND OPERATION OF PUMPS AND PUMPING SYSTEMS, WELL POINTS OR RELIEF DEVICES, TO PREVENT ANY STRUCTURE FROM FLOATING DURING CONSTRUCTION.
4. COST OF THE NECESSARY PUMPS, WELL POINTS OR OTHER APPURTENANCES REQUIRED TO PREVENT FLOTATION SHALL BE INCLUDED IN THE UNIT PRICES BID IN THE PROPOSAL FOR THE VARIOUS BID ITEMS, AND NO EXTRA COMPENSATION SHALL BE ALLOWED FOR SUCH WORK. ANY DAMAGE WHICH MAY OCCUR TO ANY PART OF THE WORK AS THE RESULT OF THE FLOTATION EFFECT OF GROUND OR FLOOD WATERS SHALL BE REPAIRED IN A MANNER FULLY SATISFACTORY TO THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL PROVIDE AND PLACE ALL NECESSARY FLUMES OR OTHER CHANNELS OF ADEQUATE SIZE TO CARRY TEMPORARILY ALL STREAMS, BROOKS, STORMWATER OR OTHER WATER, WHICH MAY FLOW ALONG OR ACROSS THE LINES OF THE PIPE LINE. ALL FLUMES OR CHANNELS THUS UTILIZED SHALL BE TIGHT SO AS TO PREVENT LEAKAGE INTO THE TRENCHES. WATER PUMPED FROM TRENCHES SHALL BE LED TO NATURAL WATERCOURSES. EXISTING SEWERS SHALL NOT BE EMPLOYED AS A DRAIN FOR THE REMOVAL OF DEWATERING WASTES.

SEWER SERVICE LATERAL NOTES

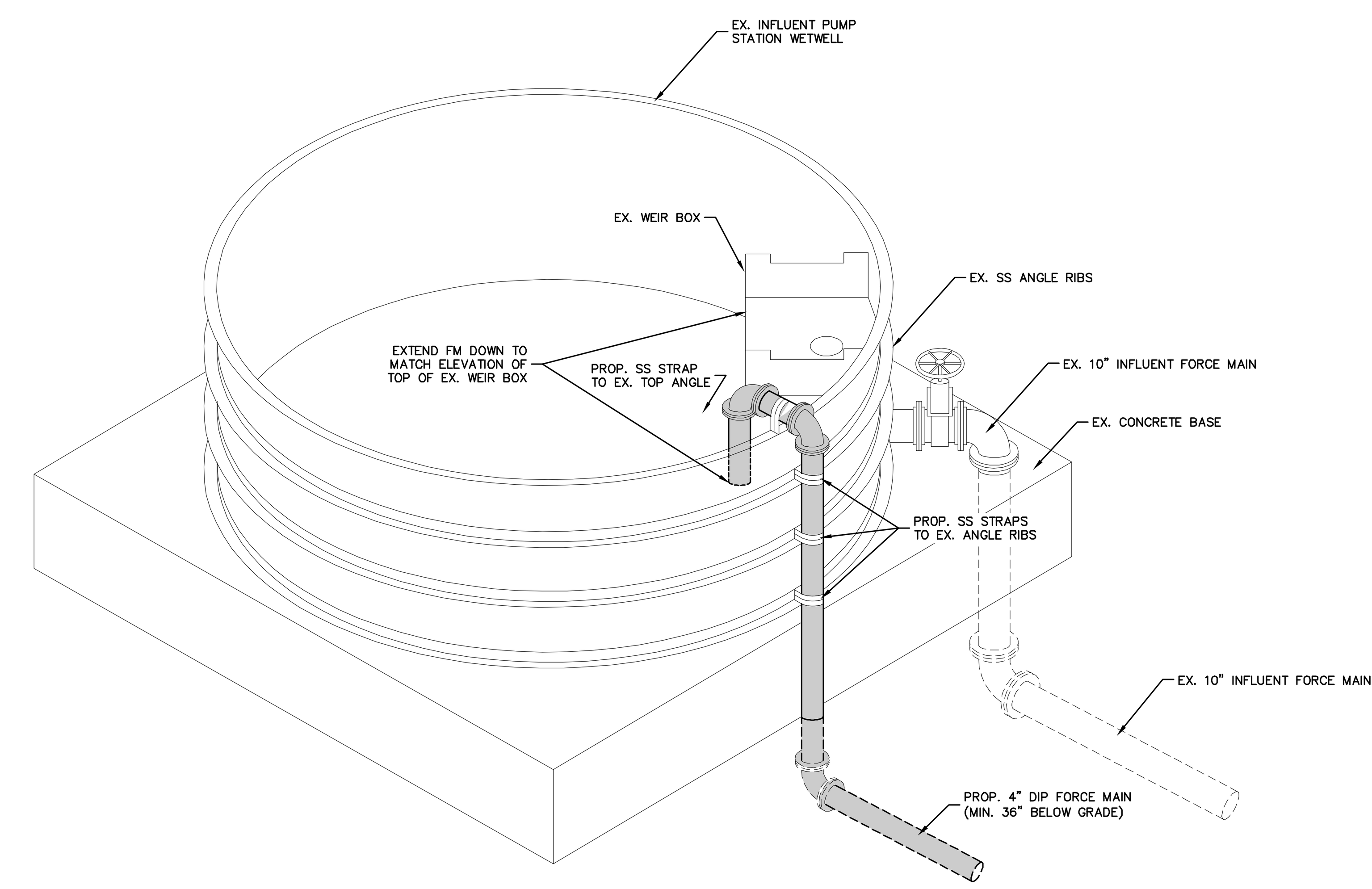
1. CONTRACTOR SHALL MAKE UP STACK AND SUBMIT TO ENGINEER FOR APPROVAL AND SHALL SUBMIT TAPPING SADDLE IF USED TO ENGINEER FOR APPROVAL.
2. HOLE IN SANITARY SEWER MAIN MUST BE CUT WITH SHELL CUTTER. NO HAMMER TAPS ALLOWED.
3. LATERAL SHALL CONFORM TO ASTM SPECS. D-3034 SDR-35 UNLESS OTHERWISE INDICATED AS DUCTILE IRON.
4. ALL PIPE AND FITTINGS SHALL BE 4" OR 6" UNLESS OTHERWISE SPECIFIED.
5. ALL D.I. PIPE SHALL HAVE AN INTERIOR LINING OF CERAMIC EPOXY OR FUSED CALCIUM ALUMINATE CEMENT WITH FUSED CALCIUM ALLUMINATE AGGREGATES. THE ENTIRE D.I. LATERAL SHALL BE COMPRISED OF D.I. PIPE AND MECHANICAL JOINT FITTINGS.
6. ALL CONNECTIONS SHALL HAVE RUBBER GASKET SEALS INSTALLED.
7. THE CONTRACTOR SHALL USE SDR 35 P.V.C. WYE FOR CONNECTION TO SDR 35 P.V.C. PIPE OR DI TEE FOR CONNECTION TO DUCTILE IRON PIPE. PVC WYE SHALL BE ONE PIECE MOLDED OR FABRICATED.
8. INSTALLATION OTHER THAN AS SHOWN MUST BE ENGINEER APPROVED
9. TAPPING PROCESS SHOWN SHALL BE USED FOR ALL SANITARY SEWER MAINS.
10. SLOPE AND DEPTH OF THE SERVICE LATERAL SHALL BE DETERMINED BY THE TOPOGRAPHY OF THE LOT AS APPROVED BY THE ENGINEER OR AS INDICATED ON THE DRAWINGS.
11. SLOPE OF LATERALS SHALL CONFORM TO 1/4" PER FOOT MIN. FOR 4" PIPE AND 1/8" PER FOOT MIN. FOR 6" PIPE. MAXIMUM CLEAN OUT SPACING FOR 4" PIPE IS 75', 100' FOR 6" PIPE
12. ENTIRE SEWER LATERAL ASSEMBLY SHALL BE AIR TESTED CONCURRENTLY WITH SEWER MAIN.
13. INDIVIDUAL LATERALS SHALL BE CLEANED AND FLUSHED PRIOR TO FLUSHING SANITARY SEWER MAINS.
14. LATERAL SHALL NOT BE BACK-FILLED UNTIL INSPECTED BY THE PROJECT ENGINEER OR HIS REPRESENTATIVE.
15. WYE CONNECTIONS SHALL NOT BE USED TO TIE LATERALS INTO A MANHOLE, UNLESS OTHERWISE APPROVED BY ENGINEER.
16. IF BENDS ARE APPROVED BY THE PROJECT ENGINEER, STONE BEDDING IS REQUIRED TO BE INSTALLED FROM UNDISTURBED SOIL TO BOTTOM OF BEND.
17. PVC COMBINATION SHALL BE 2 PIECE TEE-WYE, GASKETED, SDR35, AS MANUFACTURED BY HARCO, GPK OR APPROVED EQUAL.

UTILITY GENERAL NOTES

1. PRIOR TO COMMENCEMENT OF ANY WORK WITHIN EASEMENTS OR RIGHTS-OF-WAYS THE CONTRACTOR IS REQUIRED TO NOTIFY CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH GS 87-102. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NO SEPARATE PAYMENT. EXISTING UTILITIES SHOWN ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED (i.e. TELEPHONE, GAS, CABLE, ETC.).
2. THE CONTRACTOR SHALL DIG UP EACH UTILITY WHICH MAY CONFLICT WITH CONSTRUCTION 14 DAYS IN ADVANCE TO VERIFY LOCATIONS (HORIZONTALLY AND VERTICALLY) TO ALLOW THE ENGINEER AN OPPORTUNITY TO ADJUST THE DESIGN TO AVOID CONFLICTS (NO SEPARATE PAYMENT).
3. ALL SANITARY SEWER & WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS OF THE NCDENR-DWQ & NCDENR-PWS. STORM DRAINAGE, STREET CONSTRUCTION AND PAVING SHALL BE IN ACCORDANCE WITH THE N.C.D.O.T.
4. UTILITY SERVICES TO INDIVIDUAL PROPERTIES ARE NOT SHOWN IN THE PROFILES FOR SIMPLICITY OF THE DRAWINGS. SERVICES MAY INCLUDE WATER LATERALS, TELEPHONE, ELECTRIC, CABLE, GAS, ETC.
5. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES AND SIGNS AND/OR UTILITIES IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS DURING THE UTILITY MAIN INSTALLATION AND STREET CONSTRUCTION. (NO SEPARATE PAYMENT).
6. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR UTILITY CROSSINGS AND REPAIR DAMAGES DUE TO CONSTRUCTION TO THE SATISFACTION OF THE UTILITY INVOLVED AT NO ADDITIONAL EXPENSE TO THE OWNER. UNDERGROUND ELECTRICAL CROSSINGS SHALL BE CROSSED IN ACCORDANCE WITH THE NEC AND TECHNICAL SPECIFICATION SECTION UNDERGROUND ELECTRICAL CROSSING
7. WHERE DEEMED NECESSARY BY THE ENGINEER THAT A SUBSURFACE DRAINAGE SYSTEM IS REQUIRED, THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, TIE-IN'S TO EXISTING DRAINAGE STRUCTURES AND ALL OTHER INCIDENTALS NECESSARY TO PROVIDE COMPLETE INSTALLATION IN ACCORDANCE WITH CITY OF FAYETTEVILLE STANDARDS. IMPROPERLY INSTALLED AND NON-FUNCTIONING DRAINAGE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING FRENCH DRAINAGE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND OR REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
8. ANY DRIVEWAY CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE EITHER REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE. FILTER FABRIC CLOTH SHALL BE PLACED OVER EITHER CULVERT ENDS DURING THE COURSE OF CONSTRUCTION. ALL EX. DRAINAGE INFRASTRUCTURE WILL BE RETURNED TO PRE-EXISTING CONDITIONS PRIOR TO FINAL PROJECT APPROVALS.

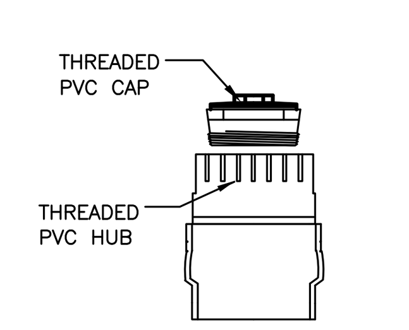
GENERAL NOTES SANITARY SEWER UTILITY

1. CLEANOUT ELEVATIONS AND/OR LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER WHEN NECESSARY. CLEANOUT STACK TOP ELEVATION IS DETERMINED BY INTERPOLATING FIELD DATA AND MAY NOT BE EXACT. CLEANOUT ELEVATION TOP SHALL BE SET IN ACCORDANCE WITH THE TYPICAL DETAIL DESCRIBED HEREON. (NO SEPARATE PAYMENT).
2. WHERE SANITARY SEWER MAINS ARE TO BE CONSTRUCTED WITHIN 20' OF EXISTING RESIDENCES SPECIAL CONSIDERATION SHALL BE GIVEN TO MINIMIZE UNDERMINING OR OTHERWISE DISTURBING EXISTING RESIDENCES ADJACENT TO THE SEWER MAIN. THE CONTRACTOR SHALL USE A RUBBER TIRED BACK HOE AND NO MECHANICAL COMPACTION EQUIPMENT IN THESE AREAS. THE TRENCH SHALL BE SHORED ADEQUATELY TO PREVENT ANY SLOTHING OF THE SIDE SLOPES. SUITABLE BACK FILL SHALL BE PLACED IN THE TRENCH. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR REPAIR OF STRUCTURES, FOUNDATIONS, FOOTINGS, ETC. DAMAGED DUE TO CONSTRUCTION.
3. SANITARY SEWER MANHOLE DEFLECTION ANGLE'S ARE 180 DEGREES UNLESS NOTED OTHERWISE. ALL INVERT ELEVATIONS ARE SHOWN TO THE MANHOLE CENTERLINE.



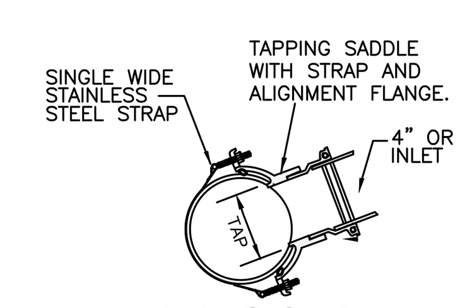
INFLUENT WETWELL FORCE MAIN CONNECTION DETAIL

NOT TO SCALE



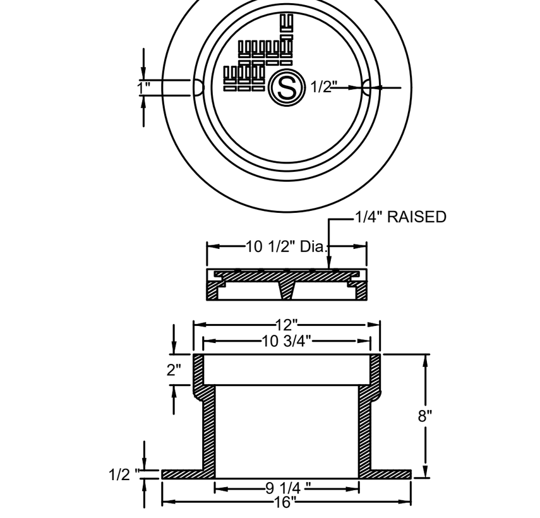
SERVICE PLUG/ C/O CAP ASSEMBLY

NOT TO SCALE — SEE CLEANOUT COVER ASSEMBLY DETAIL FOR USE IN TRAFFIC AREAS



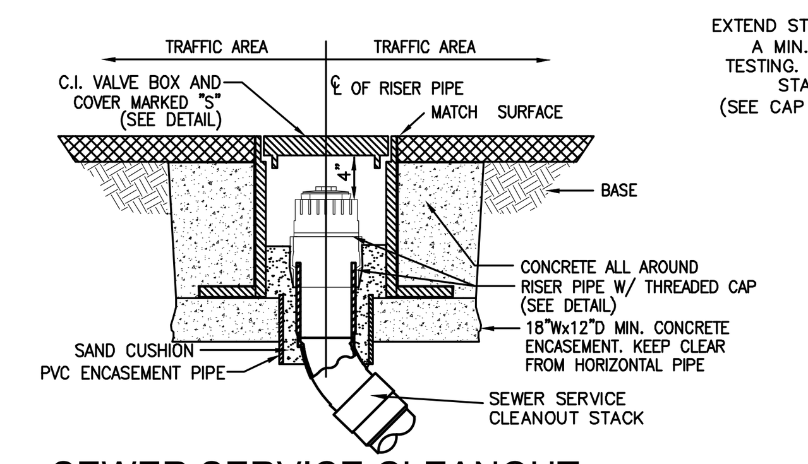
TAPPING SADDLE (OPTIONAL)

NOTE: TAP SHALL BE 4 1/2" FOR 4" LATERAL, AND SHALL BE 6 1/2" FOR 6" LATERAL.



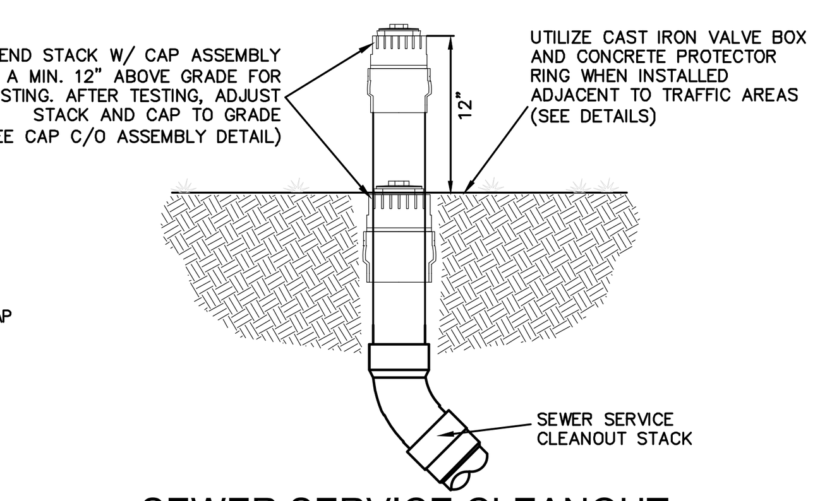
CLEANOUT COVER ASSEMBLY

NOT TO SCALE (FOR TRAFFIC AREAS)



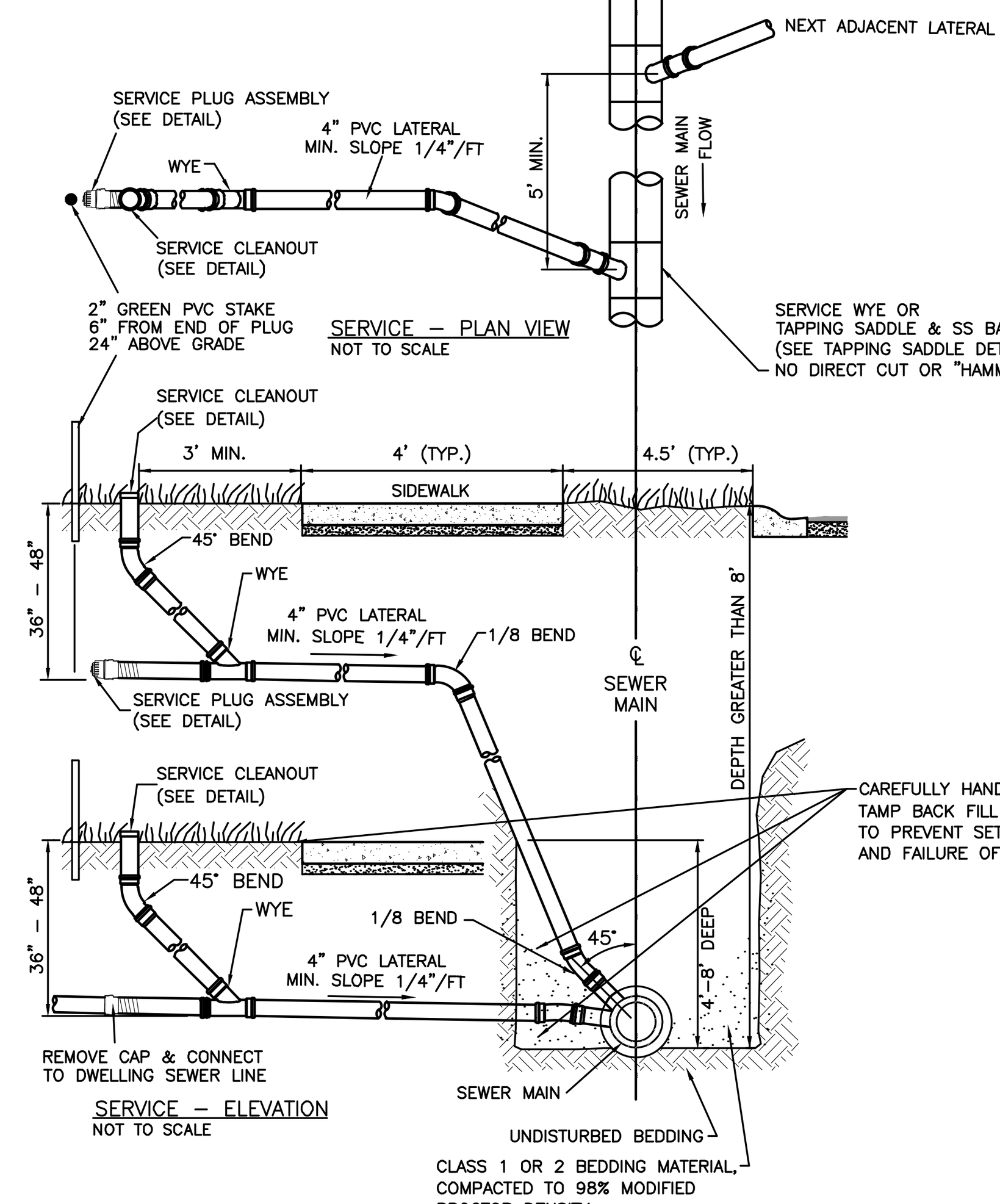
SEWER SERVICE CLEANOUT

NOT TO SCALE (FOR TRAFFIC AREAS)



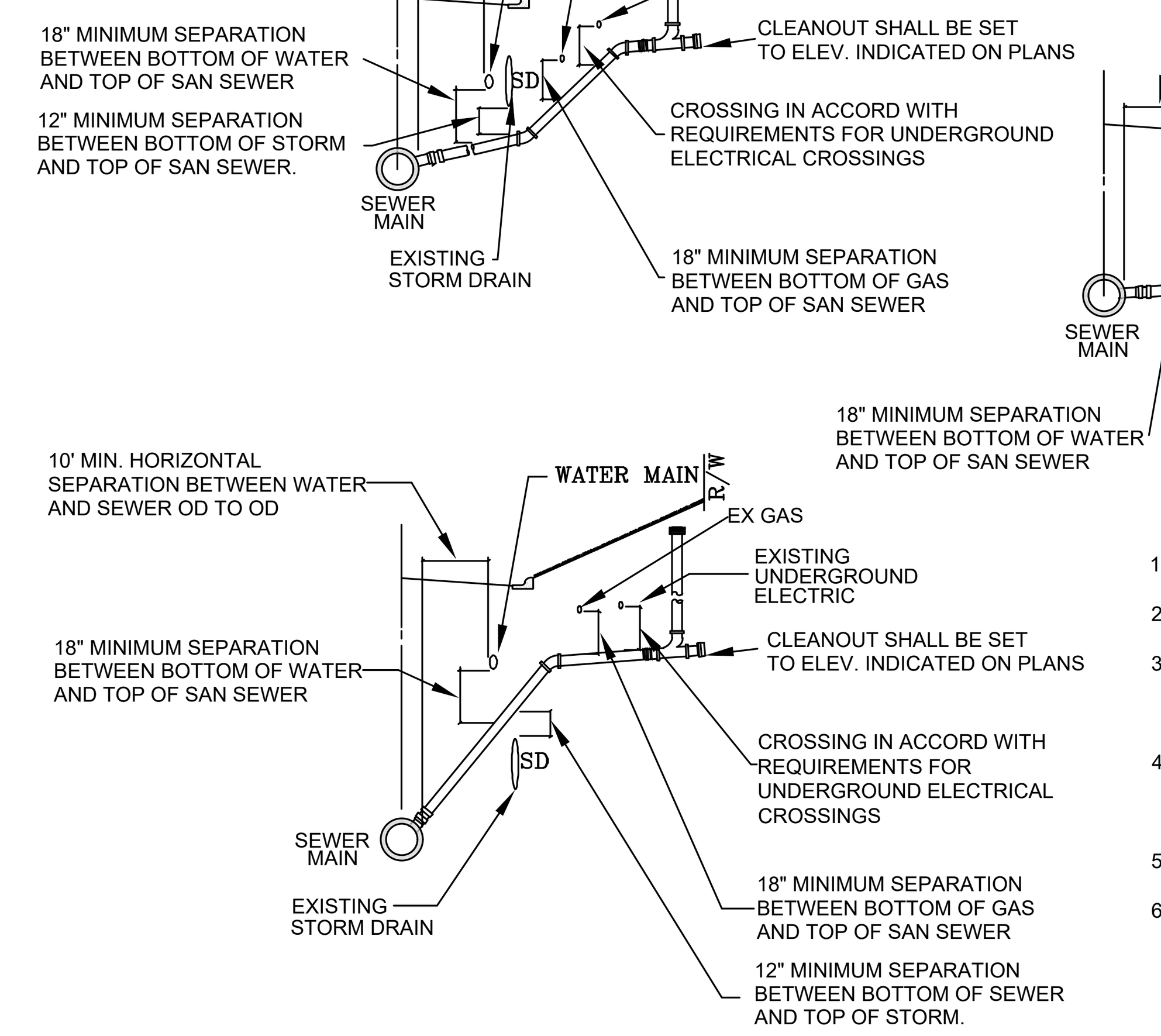
SEWER SERVICE CLEANOUT

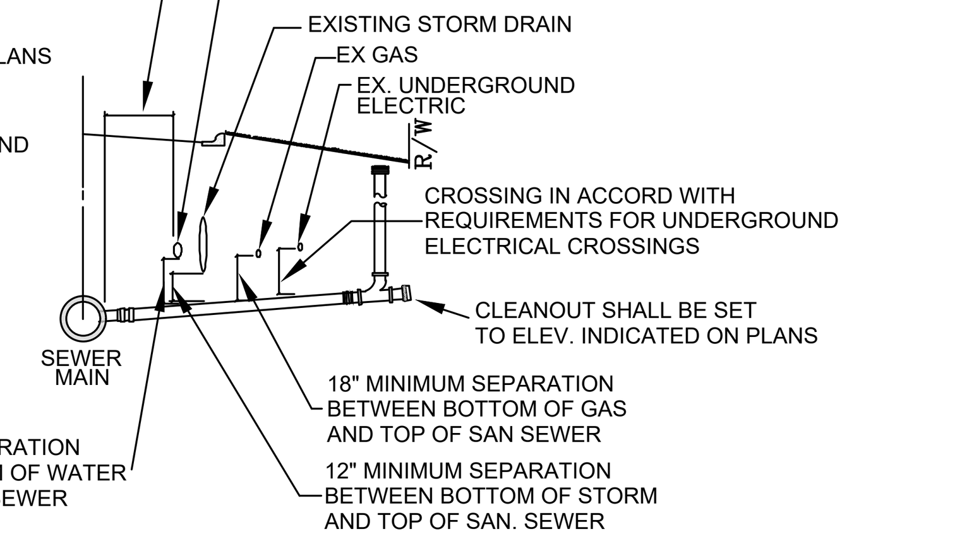
NOT TO SCALE (FOR NON–TRAFFIC AREAS)



4"Ø LATERAL SEWER SERVICE CONNECTION DETAIL

NOT TO SCALE — LOCATIONS AS NOTED





1. ALL VERTICAL AND HORIZONTAL SEPARATION SHALL BE IN ACCORDANCE WITH STATE REGULATIONS.
2. THE SKETCHES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY.
3. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY AT EACH CROSSING PRIOR TO CONSTRUCTION OF LATERAL TO INSURE PROPER CLEARANCES ARE MAINTAINED.
4. ALL PIPE BEND LOCATIONS AND MAX. NUMBER OF BENDS INSTALLED ON LATERALS SHALL BE APPROVED BY THE PROJECT COORDINATOR PRIOR TO INSTALLATION OF BEND OR EXTENDING THE LATERAL FROM THE MAIN.
5. ALL REQUIREMENTS FOR SEWER LATERAL NOTES AND DETAILS SHALL BE APPLICABLE.
6. REFER TO UNDERGROUND ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION WHEN CROSSING UNDERGROUND ELECTRICAL FACILITIES.

SEWER SERVICE LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS

NOT TO SCALE

BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors and Environmental Specialists
Bissell Professional Group
Firm License # C-956
3512 North Croatan Highway
P.O. Box 1068
Kitty Hawk, North Carolina 27949
(252) 261-3266
FAX (252) 261-1760

WASTEWATER COLLECTION
TYP. CONSTRUCTION DETAILS

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY DO NOT USE FOR CONSTRUCTION

DATE: 4-22-24	SCALE: NO SCALE
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW/DMK	APPROVED: BPG

SHEET: 18 OF 21

CAD FILE: 459600B3

PROJECT NO: 4596

GENERAL PROJECT NOTES:

1. PROJECT NAME: COROLLA BOAT CLUB
   POPLAR BRANCH, CURRITUCK COUNTY, NORTH CAROLINA
2. APPLICANT: OUTER BANKS VENTURES, INC.
   P.O. BOX 549
   COROLLA, NC 27927
3. PROJECT DESCRIPTION: 6 LOT SUBDIVISION & TOWNHOMES
4. NEAREST RECEIVING STREAM: SANDERS BAY - INDEX NUMBER: 30-1-11
5. STREAM CLASSIFICATION: SC - PASQUOTANK RIVER BASIN
6. PROJECT AREA TABULATION:

TOTAL PROPERTY AREA :	36 AC.
TOTAL PROPOSED DISTURBED AREA :	13.0 AC.

AREA CALCULATION NOTE:
All areas have been calculated utilizing properties within the Autocad software.

MATERIAL BALANCE NOTE:
All excavated material occurring during the course of construction shall remain on-site for roadway construction and lot grading. See SCHEDULE OF LAND DISTURBING ACTIVITIES provided on Sheet 5 of this set for an estimated cut fill material balance for the project.

WETLAND NOTE:
No 404 jurisdictional wetlands have been identified on the property.

STABILIZATION NOTE:
The angle of graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control devices or structures.
In any event, all disturbed areas left exposed will, WITHIN 14 CALENDAR DAYS OF COMPLETION of any phase of grading, be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.
Additionally, certain critical areas as identified on the plan, such as, but not limited to, perimeter dikes, swales, slopes steeper than 3:1, and areas located within High Quality Water Zones, must be temporarily or permanently stabilized WITHIN 7 CALENDAR DAYS OF COMPLETION of any phase of grading in these areas.
A permanent ground cover for all disturbed areas must be provided WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (whichever is shorter) following completion of construction or development.

SEDIMENTATION AND EROSION CONTROL NOTES:

A. NARRATIVE AND SITE DATA

COROLLA BOAT CLUB IS A MIXED USE DEVELOPMENT SLATED FOR CONSTRUCTION ON A VACANT TRACT OF LAND LOCATED WEST OF NC HWY 12 ALONG THE SOUTH SIDE OF MALIA DR IN THE COROLLA, CURRITUCK COUNTY. THIS DEVELOPMENT IS ALSO DECRIBED AS PHASE 10 OF THE MONTERY SHORES PUD AND INCLUDES 1 COMMERCIAL LOT, 5 RESIDENTIAL SINGLE FAMILY HOME LOTS AND 5 5-UNIT TOWNHOME BUILDINGS ALL SERVED BY PROPOSED ROADWAY, DRAINAGE, UTILITY AND AMENITY IMPROVEMENTS.

THE SITE'S EXISTING TOPOGRAPHY IS GENERALLY FLAT, WITH SLOPES RANGING BETWEEN 0-1% AND ELEVATIONS RANGING FROM 10 FT MSL TO BELOW 1 FT MSL. THE PROPERTY IS BOUNDED TO THE NORTH BY MALIA DR, TO THE EAST AND SOUTH BY EXISTING COMMERCIAL DEVELOPMENT AND TO THE WEST BY SANDERS BAY. THE PROPERTY IS CURRENTLY VACANT SURROUNDING DEVELOPMENT IS PRIMARILY COMMERCIAL. APPROX. 21 ACRES OF CAMA AND 404 JURISDICTIONAL WETLANDS EXISTT BETWEEN THE SOUTHEASTERN UPLAND AREAS AND THE BAY.

ON-SITE DRAINAGE IS LIMITED TO AN EXISTING CULVERT EXTENDING FROM MALIA DR. TO AN EXISTING POND LOCATED ON THE PROPERTY. THE EXISTING CULVERT SERVICES AS A DRAINAGE OUTLET TO SURROUNDING COMMERCIAL DEVELOPMENTS.

PURSUANT TO THE USDA SOIL SURVEY MANUAL OF CURRITUCK COUNTY, SITE SOILS ARE PRIMARILY COMPOSED OF OSIER FINE SAND ACROSS THE DEVELOPABLE UPLAND AREA AND CURRITUCK MUCKY PEAT ACROSS THE WETLANDS.

CONSTRUCTION SEQUENCE SCHEDULE

CONSTRUCTION ACTIVITY
Construction Access– Construction entrance, construction routes, equipment parking areas

Sediment Traps & Barriers
Basin traps, sediment fences, & outlet protection

Runoff Control–
Diversions, perimeter dikes, water bars, and outlet protection

Runoff Conveyance System–
Stabiles stream banks, storm drains, channels, inlet & outlet protection, slope drains

Land Clearing & Grading–
Site preparation– cutting, filling & grading, sediment traps, barriers, diversions, drains, surface roughening

Surface Stabilization–
Temporary & permanent seeding, mulching, sodding, rip rap.

Building Construction–
Buildings, utilities, paving.

Landscaping & Final Stabilization–
Topsoiling, trees & shrubs, permanent seeding, mulching, sodding, rip rap

SCHEDULE CONSIDERATION
First land–disturbing activity–Stabilize bare areas immediately with gravel & temporary vegetation as construction takes place.

Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading.

Install key practices after principal sediments traps and before land grading. Install additional runoff–control conveyance measures during grading.

Where necessary, stabilize stream banks as early as possible. Install principal runoff conveyance system with runoff–control measures. Install remainder of system after grading.

Begin major clearing and grading after principal & key runoff–control measures area installed. Clear borrow & disposal areas as needed. Install additional control measures as grading progresses. Mark trees & buffer areas for preservation.

Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete.

Install necessary erosion & sedimentation control practices as work takes place.

Stabilize all open areas, including borrow & spoil areas. Remove & stabilize all temporary control measures.

LAND GRADING CONSTRUCTION SPECIFICATIONS

1. Construct & maintain all erosion & sedimentation control practices & measures in accordance with the approved sedimentation control plan and construction schedule.

2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.

3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.

4. Clear & grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of fill.

5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.

6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.

7. Do not incorporate frozen material or soft, mucky, or highly compressible materials into fill slopes.

8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.

9. Keep diversions and other water conveyance measures free of sediment during all phases of development.

10. Handle seeps or springs encountered during construction in accordance with approved methods.

11. Following completion of any phase of grading, provide a groundcover (temporary or permanent) on all exposed slopes within 14 calendar days, or 7 calendar days in critical areas identified on the plan; and, a permanent groundcover for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development.

12. Provide adequate protection from erosion for all topsoil stockpiles, borrow areas, and spoil areas.

MAINTENANCE
Periodically check all graded areas & the supporting erosion & sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversions and other water–disposal practices. If washouts or breaks occur, repair them immediately. Prompt maintenance of small–eroded areas before they become significant gullies is an essential part of an effective erosion & sedimentation control plan.

PERMANENT SEEDING

The purpose of permanent seeding is to reduce erosion and decrease sediment yield from disturbed areas, and to permanently stabilize such areas in a manner that is economical, adapts to site conditions, and allows selection of the most appropriate plant materials. These areas must be seeded or planted within 15 working days or 90 calendar days after final grade is reached, unless temporary stabilization is applied.

PERMANENT SEEDING SPECIFICATIONS
Seeding Recommendations for Summer
SEEDING DATES – April to July
SEEDING MIXTURE

Species	Rate
Common bermudagrass	10/1,000 sf (sprigs)
	1–2 lb/1,000 sf (seed)
	SOD (See Sodding Notes)

Seeding Recommendations for Early Fall through Early Spring
SEEDING DATES – August to March (early fall and spring recommended)

Species	Rate
Kentucky 31 Tall Fescue	6 lb/1,000 sf (broadcast seed)

SEEDING NOTES–
1. Sprig or sod. Moisture is essential during initial establishment. Sod must be kept watered for 2–3weeks, but can be planted earlier or later than sprigs.

Soil Amendments–
It is highly recommended that soils be tested and amended as found necessary. If a sois are not tested follow these recommendations:
Apply 3,000 lb/acre of ground agricultural limestone and 500 lb/acre of 10–10–10 starter fertilizer, or 50 lb/acre nitrogen from turf–type slow–release fertilizer. Add 25–50 lb/acre nitrogen at 2–3 week intervals through midsummer.

Sprigging–
Plant sprigs in furrows with a tractor–drawn transplanter, or broadcast by hand. (Not recommended for Tall Fescue)

Furrows should be 4–6 inches deep and 2 feet apart. Place sprigs about 2 ft. apart in a row with one end at or above ground level.

Broadcast at rates shown above, and press sprigs into the top 1/2–2 inches of soil with a disk set straight so that sprigs are not brought back toward the surface.

Mulch–
Do not mulch Bermuda Grass. For Tall Fesuce seed, apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Water as needed. Mow bermuda to 3/4 to 1–inch height and tall fescue to 2.5 – 3.5 inch height. Topdress bermuda with 40 lb/acre nitrogen in April, 50 lb in May, 50 lb in June, 50 lb in July, and 25 lb in August. Top dress tall fescue in mid September,again in November and February with turf–grade 3–1–2 or 4–1–2 ratio turf–grade fertilizer. Fertilize with 1 lb of actual nitrogen per 1,000 sf. Do not fertilze tall fescue between Mid March and Early September.

TEMPORARY SEEDING

The purpose of temporary seeding is to temporarily stabilize denuded areas that will not be brought to final grade or permanently seeded for a period of more than 14 calendar days, **or 7 days in critical areas indentified on the plan.**

TEMPORARY SEEDING SPECIFICATIONS
Seeding Recommendations for Late Winter & Early Spring
SEEDING DATES– December 1 to April 15
SEEDING MIXTURE

Species	Rate (lb/acre)
Winter Rye (grain)	120 (Annual Ryegrass shall not be used)
Annual Lespedeza (Kobe)	50

*Omit Annual Lespedeza when duration of temporary cover is not to extend beyond June

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Refertilize if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Summer
SEEDING DATES– April 15 to August 15
SEEDING MIXTURE

Species	Rate (lb/acre)
German Millet	40

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Refertilize if growth is not fully adequate. Reseed, fertilize and mulch immediately following erosion or other damage.

Seeding Recommendations for Fall
SEEDING DATES– August 15 to December 30
SEEDING MIXTURE

Species	Rate (lb/acre)
Winter Rye (grain)	120

Soil Amendments–
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer.

Mulch–
Apply 4,000–lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch–anchoring tool. A disk with blades set nearly straight can be used as a mulch–anchoring tool.

Maintenance–
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 ld/acre Kobe Lespedeza in late February or Early March.

SODDING

The purpose of permanent seeding is to prevent erosion and damage from sediment and runoff by stabilizing the soil surface with permanent vegetation for the purpose of:
–the provision of immediate vegetative cover in critical areas
–to stabilize disturbed areas with a suitable plant material that cannot be established by seed.
–to stabilize drainage ways & channels and other areas of concentrated flow where flow velocities will not exceed that specified grass lining.

SODDING SPECIFICATIONS
Sod Quality
–Sod should be machine cut at a uniform depth of 1/2–2 inches
–Sod should not have been cut in excessively wet or dry weather.
–Sections of sod should be standard size as determined by the supplier, uniform, and untorn.
–Sections of sod should be strong enough to support their own weight and retain their size and shape when lifted by one end.
–Harvest, delivery, and installation of sod should take place within a period of 36 hours.

Soil Amendments–
Apply lime and fertilizer according to soil tests or apply 2 tons/acre of pulverized agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer in the fall, or 5–10–10 in spring.

Prior to laying sod, clear the soil surface of trash, debris, roots, branches, stones, and clods larger than 2 inches in diameter. Fill or level low spots in order to avoid standing water. Rake or harrow the site to achieve a smooth and level final grade. Complete soil preparation by rolling or
cultipacking to firm soil.

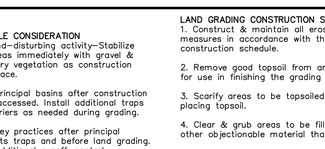
Sod Installation–
1. Moistening the sod after it is unrolled helps maintain viability. Store in shade during installation.
2. Rake the soil surface to break the crust just before laying sod. During the summer, lightly irrigate the soil, immediately before laying sod to cool the soil and reduce root burning & dieback.
3. Do not sod on grave, frozen soils, or soils that have been treated recently with sterilants or herbicides.
4. Lay the first row of sod in a straight line with subsequent rows placed parallel to and butting tightly against each other. Stagger strips in a brick–like pattern. Be sure that the sod is not stretched or overlapped and that all joints are butted tightly to prevent voids. Use a knife or sharp spade to trim and fit irregular shaped areas.
5. Install strips of sod with their longest dimension perpindicular to the slope. On slopes of 3:1 or greater, or wherever erosion may be a problem, secure sod with pegs or staples.
6. As sodding of clearly defined areas is completed, roll sod to provide good contact between roots and soil.
7. After installation, the soil is wet 4 inches below the sod.
8. Keep sodded areas moist to a depth of 4 inches until the grass takes root. This can be determined by tugging on the sod.
9. Mowing should not be attempted until the sod is firmly rooted, usually 2–3 weeks.

Sodded Waterways
1. Prepare soil as described above.
2. Lay sod strips perpindicular to the direction of flow, with the lateral joints staggered in a brick–like pattern. Butt edges tightly together.

Maintenance–
After the first week, water as necessary to maintain adequate moisture in the root zone & prevent dormancy of the sod.

Do not remove more than one–third of the shoot in any one mowing. Grass height should be maintained between 2–3 inches unless otherwise specified.

After first growing season, established sod requires fertilization, and may also require lime. Follow soil test recommendations.

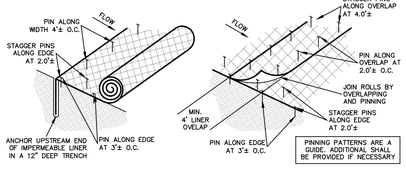


STRAW MULCHING:
1. FOR AREAS OF SITE WITH LESS THAN 30% SLOPE; 2–3 BALES OF STRAW EQUALS 2–INCHES OF STRAW MULCH OVER 1000 SQARE FEET.
2. MULCH SHALL BE WEED FREE STRAW.

TO PROVIDE TEMPORARY SOIL STABILIZATION BY PLANTING GRASSES AND LEGUMES TO AREAS THAT WOULD REMAIN BARE FOR MORE THAN 14 CALENDAR DAYS, OR 7 DAYS IN INDENTIFIED CRITICAL AREAS. WHERE PERMANENT COVER IS NOT NECESSARY OR APPROPRIATE.

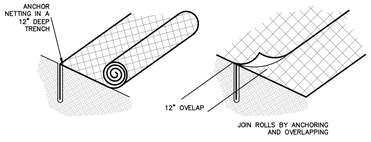
LAND DISTURBANCE & STABILIZATION DETAIL

NOT TO SCALE



ROLLED LINER CONNECTION DETAIL

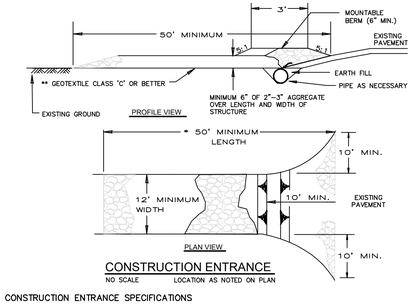
NOT TO SCALE — SECTION VIEW



ROLLED EROSION CONTROL MATTING DETAIL

NO SCALE — LOCATION AS NOTED ON PLAN

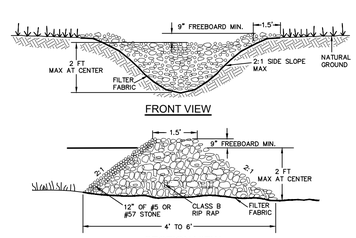
ROLLED EROSION CONTROL MATTING (R.E.C.M.) SPECIFICATIONS:
1. All areas identified on these plans as requiring an erosion control matting shall be lined with a protective covering to minimize erosion and protect seed until permanent vegetation is established.
2. Covering shall be composed of a bio or photo degradable material to minimize long term environmental impacts.
3. Mulching with straw or other organic materials can be utilized only when it will not impede the establishment of permanent vegetation. Mulches must be properly anchored which may be difficult in some environments. An example is straw mulch with jute netting stapled or pinned in place.
4. Pre–manufactured rolled erosion control products (RECP) are highly recommended for this application. RECP's shall be installed according to manufacturer specifications for channel linings. An example is a woven straw or wooden fiber Excelsior matting.



CONSTRUCTION ENTRANCE

NO SCALE — LOCATION AS NOTED ON PLAN

CONSTRUCTION ENTRANCE SPECIFICATIONS
1. Length – minimum of 50' (*30' for single residence lot).
2. Width – 12' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.



TEMPORARY STONE CHECK DAM CONSTRUCTION

NOT TO SCALE — LOCATIONS AS NOTED ON PLAN

TEMPORARY STONE CHECK DAM CONSTRUCTION SPECIFICATIONS:
1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND STOCKPILE OR DISPOSAL OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA.

2. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.

3. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.

4. EXTEND STONE AT LEAST 1.5 FEET BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.

5. ALL CUT AND FILL SLOPES SHOULD BE 2:1 OR FLATTER.

6. PROTECT THE CHANNEL AFTER THE LOWEST CHECK DAM FROM HEAVY FLOW THAT COULD CAUSE EROSION.

7. MATERIAL USED IN THE STONE SECTION SHOULD BE A WELL–GRADED MIXTURE OF STONE WITH A d50 SIZE OF 9 INCHES(CLASS B EROSION CONTROL STONE IS RECOMMENDED) AND A MAXIMUM STONE SIZE OF 14 INCHES. THE STONE MAY BE MACHINE PLACED AND THE SMALLER STONES WORKED INTO THE VOIDS OF THE LARGER STONES. THE STONE SHOULD BE HARD, ANGULAR, AND HIGHLY WEATHER–RESISTANT.

8. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREAS ABOVE THE SEDIMENT POOL AND DOWNSTREAM FROM THE TRAP IMMEDIATELY AFTER CONSTRUCTION.

9. ENSURE THAT OTHER AREAS OF THE CHANNEL, SUCH AS CULVERT ENTRANCES BELOW THE CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACES STONES.

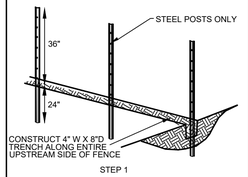
MAINTENANCE OF TEMPORARY STONE CHECK DAMS:
INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS WHEN NEEDED.

REMOVE SEDIMENT ACCUMULATION BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

POSTS MUST BE 1.33 LB/LINEAR FT. STEEL WITH A MIN. LENGTH OF 5'. POST SHALL HAVE PROJECTIONS TO FACILITATE FASTENING OF FILTER FABRIC.

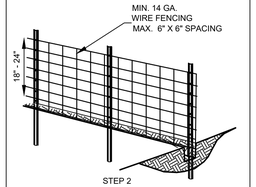
INSTALL POSTS 8' O.C. MAX WHEN STANDARD FABIRC & WIRE SUPPORT FENCE ARE UTILIZED.

INSTALL POSTS 6' O.C. MAX WHEN EXTRA STRENGTH FABIRC WITHOUT WIRE FENCE IS UTILIZED.



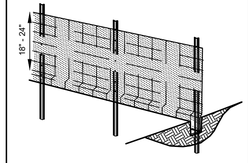
STEP 1

WHEN STANDARD STRENGTH FILTER FABRIC IS UTILIZED WIRE FENCING MUST ALSO BE INSTALLED ON UPSTREAM SIDE OF POSTS. EXTNED MAX. 24" ABOVE EXISTING GRADE TO BOTTOM OF TRENCH.



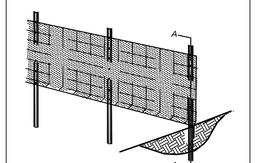
STEP 2

FASTEN THE FILTER FABRIC TO THE UPSTREAM SIDE OF POSTS OR WIRE FENCE IF UTILIZED. EXTEND FABRIC 8" DOWN & 4" FORWARD ALONG THE TRENCH.



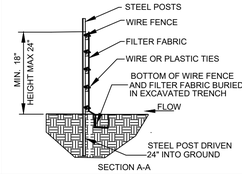
STEP 3

BACKFILL THE TRENCH AND COMPACT THE SOIL FIRMLY TO ANCHOR THE BOTTOM OF THE SILT FENCE. BURIED FABRIC SHALL NOT BE VISIBLE.



STEP 4

1. USE SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461. FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120°.
2. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD OR EXTRA STRENGTH SYNTHETIC FILTER FABRIC. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE.
3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FT MINIMUM OVERLAP TO THE NEXT POST.
4. SYNTHETIC FILTER FABRIC SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH MIN. 50 LB. TENSILE STRENGTH WIRE OR ZIP TIES AT TOP, MID–SECTION AND BOTTOM. FABRIC HEIGHT SHALL BE BETWEEN 18" MIN. TO 24" MAX. ABOVE GROUND LEVEL ON THE UPSLOPE SIDE OF THE POSTS. EXTRA STRENGTH FILTER FABRIC W/6' POST SPACING SHALL BE SECURELY FASTENED DIRECTLY TO POSTS.
5. 12 INCHES OF FILTER FABRIC SHALL BE BURIED IN AN EXCAVATED TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER. BACKFILL TRENCH WITH MECHANICALLY COMPACTED SOIL PLACED OVER THE FILTER FABRIC. DO NOT ATTACH FILTER FABRIC TO TREES.
6. SILT FENCE SHALL BE INSPECTED AT LEAST ONCE A WEEK & AFTER EACH RAINFALL EVENT. MAKE ANY REPAIRS IMMEDIATELY. SHOULD THE FABRIC COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
7. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
8. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



SECTION A-A

TYPICAL SILT FENCING DETAIL

NOT TO SCALE — LOCATION AS NOTED ON PLAN

Bissell Professional Group
Firm License # C–456
Post Office Box 1088
Kitty Hawk, North Carolina 27949
(252) 261–3266
FAX (252) 261–1760
BISSELL PROFESSIONAL GROUP
Engineers, Planners, Surveyors
and Environmental Specialists

EROSION & SEDIMENT CONTROL
NOTES & DETAILS

COROLLA BOAT CLUB
NORTH CAROLINA
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY
CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
FOR REVIEW
PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=50'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 19 OF 21
CAD FILE: 459600B1
PROJECT NO: 4596

S:\projects\4596 – OBV Monterey Shores\Dwg\Construction\4596091.dwg 4/25/2024 Plotted: 4/25/2024 9:33 AM HP DesignJet T2500 PS HPGL2.pc3

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

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

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

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

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

GROUND STABILIZATION SPECIFICATION

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

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

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

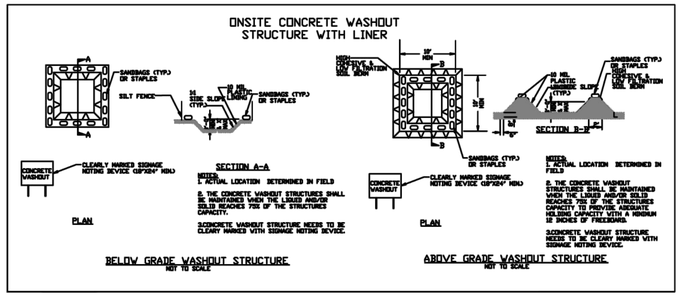
PORTABLE TOILETS

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

EARTHEN STOCKPILE MANAGEMENT

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

NORTH CAROLINA Environmental Quality



CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

HAZARDOUS AND TOXIC WASTE

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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NCG01 GROUND STABILIZATION, AND MATERIALS HANDLING NOTES

COROLLA BOAT CLUB

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE: 4-22-24	SCALE: AS NOTED
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: 20 OF 21

CAD FILE: 459600B1

PROJECT NO: 4596

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

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

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

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

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

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

2. Additional Documentation to be Kept on Site

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

(a) This General Permit as well as the Certificate of Coverage, after it is received.

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

3. Documentation to be Retained for Three Years

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

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

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

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

(d) Anticipated bypasses and unanticipated bypasses.

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

2. Reporting Timeframes and Other Requirements

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

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

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

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

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

NORTH CAROLINA *Environmental Quality*

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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NCG01 SELF-INSPECTION, RECORD -KEEPING & REPORTING NOTES

PROJECT: COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

CONSTRUCTION DRAWINGS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY FOR REVIEW PURPOSES ONLY

DATE: 4-22-24 | SCALE: N/A
DESIGNED: BPG | CHECKED: MSB
DRAWN: KFW | APPROVED: BPG
SHEET: 21 OF 21
CAD FILE: 459600B1
PROJECT NO: 4596

USE AREAS CHART		
TOTAL AREA:	36.194 AC.	
CAMA WETLANDS:	9.15 AC.±	
NET AREA:	27.044 AC.±	
COMMERCIAL USE AREA:	1.057 AC.	
RESIDENTIAL USE AREA:	2.679 AC	
ROADWAY & RESIDENTIAL PARKING SPACE:	1.417 AC.	
OPEN SPACE:	31.041 AC.±	

50 0 25 50 100 200

1"=50'

GRAPHIC SCALE

SITE DATA	
TOTAL AREA:	36.194 AC.
CAMA WETLANDS:	9.15 AC.±
NET AREA:	27.044 AC.±
ROADWAY & RESIDENTIAL PARKING AREA:	1.24 AC.±
RESIDENTIAL USE AREA:	2.80 AC.±
AREA OF COMMERCIAL DEVELOPMENT:	1.208 AC.±
OPEN SPACE:	30.976 AC.±

DEVELOPMENT SUMMARY	
COMMERCIAL BUILDINGS:	9,000 S.F.±
RESTAURANT:	5,083 S.F.±
OUTDOOR ENTERTAINMENT VENUE:	7,469 S.F.±

PARKING REQUIREMENT		
USE CATEGORY	REQUIRED	PROVIDED
GENERAL COMMERCIAL:	9,000 S.F. @ 1/300 S.F. = 30 SPACES	31 SPACES
RESTAURANT:	5,083 S.F./150 S.F. = 33.9 SPACES	34 SPACES
OUTDOOR ENTERTAINMENT VENUE:	7,469 S.F./250 = 29.9 SPACES	30 SPACES
UPPER STORY DWELLINGS:	0.5/UNIT X 9 = 4.5 SPACES	9 SPACES
(44) ONE STORY DUPLEX LOTS:	1.5 SPACES/UNIT = 66 SPACES	93 SPACES
(12) TWO STORY DUPLEX LOTS	1.5 SPACES/UNIT = 18 SPACES	36 SPACES
TOTAL SPACES REQUIRED:	182 SPACES	
TOTAL SPACES PROVIDED:		250 SPACES

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Southern Shores, North Carolina 27949
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BISSELL PROFESSIONAL GROUP

Engineers, Planners, Surveyors
and Environmental Specialists

DEVELOPMENT OVERVIEW
& USE DESIGNATIONS

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PRELIMINARY
FOR REVIEW
PURPOSES ONLY

DATE: 4-22-24
SCALE: 1"=50'
DESIGNED: BPG
CHECKED: MSB
DRAWN: KFW
APPROVED: BPG
SHEET: A OF 3
CAD FILE: 45960AD1
PROJECT NO: 4596

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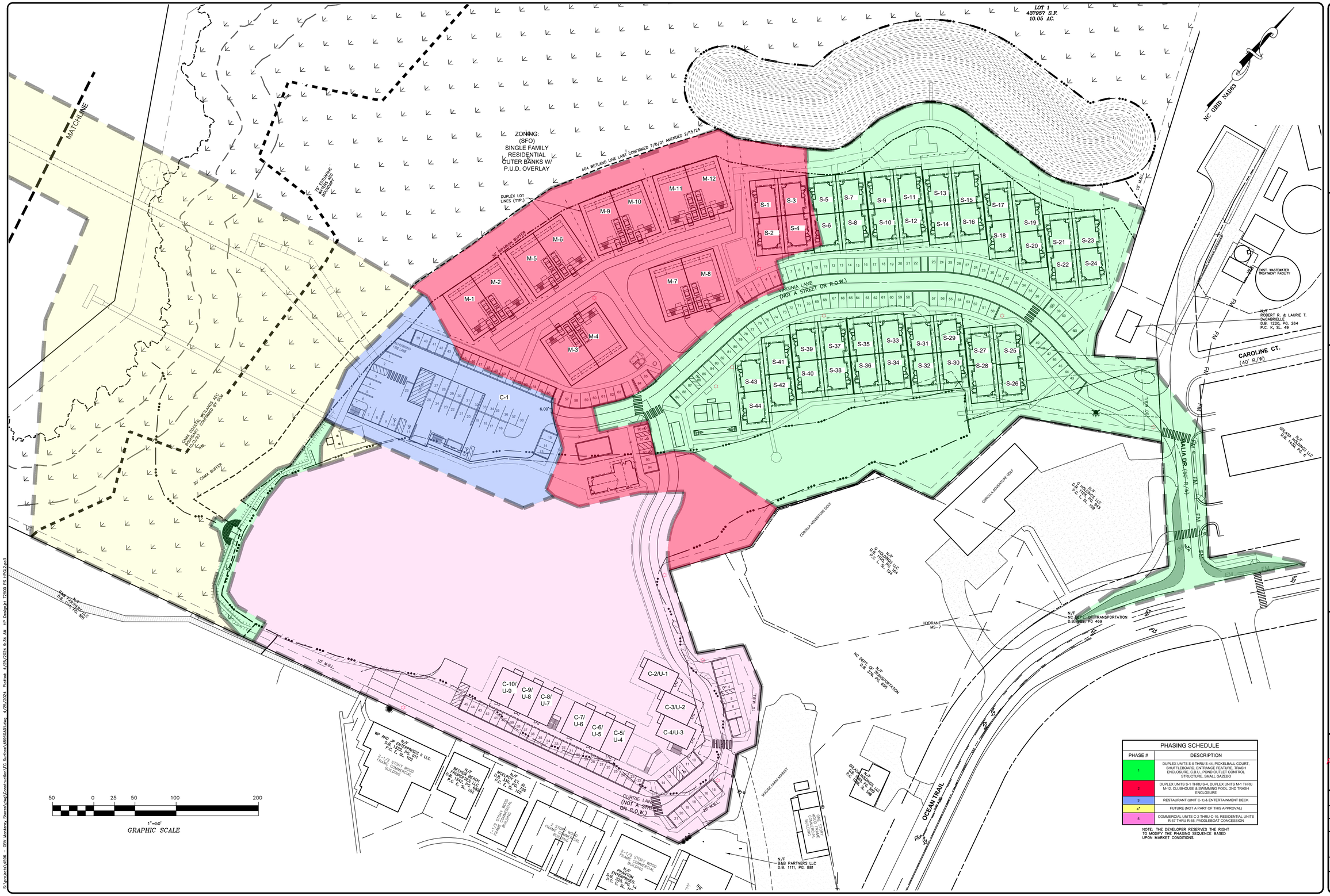

PHASING SCHEDULE	
PHASE #	DESCRIPTION
1	DUPLEX UNITS S-5 THRU S-44, PICKELBALL COURT, SHUFFLEBOARD, ENTRANCE FEATURE, TRASH ENCLOSURE, C.B.U., POND OUTLET CONTROL STRUCTURE, SMALL GAZEBO
2	DUPLEX UNITS S-1 THRU S-4, DUPLEX UNITS M-1 THRU M-12, CLUBHOUSE & SWIMMING POOL, 2ND TRASH ENCLOSURE
3	RESTAURANT (UNIT C-1) & ENTERTAINMENT DECK
4*	FUTURE (NOT A PART OF THIS APPROVAL)
5	COMMERCIAL UNITS C-2 THRU C-10, RESIDENTIAL UNITS R-57 THRU R-65, PADDLEBOAT CONCESSION

NOTE: THE DEVELOPER RESERVES THE RIGHT TO MODIFY THE PHASING SEQUENCE BASED UPON MARKET CONDITIONS.

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PHASING PLAN

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PRELIMINARY
FOR REVIEW
PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=50'
DESIGNED: BPG	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG

SHEET: B OF 3

CAD FILE: 45960AD1

PROJECT NO: 4596

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Engineers, Planners, Surveyors
and Environmental Specialists

DEVELOPMENT OVERVIEW
ACTIVE OPEN SPACE

PROJECT:
COROLLA BOAT CLUB
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

SITE PLAN

REVISIONS

NO.	DATE	DESCRIPTION	BY

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FOR REVIEW
PURPOSES ONLY

DATE: 4-22-24	SCALE: 1"=50'
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SHEET: C OF 3

CAD FILE: 45960AD1

PROJECT NO: 4596