

COORDINATION NOTES

1. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
2. ALL WORK IS TO BE IN ACCORDANCE WITH PENDER COUNTY AND THE STATE OF NORTH CAROLINA.
3. THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE CONTRACTOR IS TO COMPUTE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEGINNING ANY WORK ASSOCIATED WITH THE SUBJECT PLANS. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR TO PERFORM SITE IMPROVEMENT STAKEOUT(S).
4. ANYTIME WORK IS PERFORMED OFF-SITE OR WITHIN AN EXISTING EASEMENT, THE CONTRACTOR IS TO NOTIFY THE HOLDER OF SAID EASEMENT AS TO THE NATURE OF PROPOSED WORK, AND TO FOLLOW ANY GUIDELINES OR STANDARDS WHICH ARE ASSOCIATED WITH OR REFERENCED IN THE RECORDED EASEMENT.

GENERAL NOTES:

1. EXISTING TOPOGRAPHY, BOUNDARY AND UTILITIES, HAVE BEEN PREPARED BY FIELD SURVEYS BY ATLANTIC COAST SURVEY, PLLC (P-0822) AND OTHER AVAILABLE INFORMATION.
2. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF ALL EXISTING UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF DITCHING OPERATIONS BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES. IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF TRENCHING OPERATIONS SO AS TO ELIMINATE OR MINIMIZE DAMAGE TO EXISTING UTILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING LOSS OF UTILITY REVENUES. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC...
3. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.
4. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAGMEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE DOT.
5. ALL MATERIAL CLEARED OR DEMOLISHED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE.
6. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE WORK.
7. CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL CENTER AT 1 (800) 632-4949 AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.
8. CONTRACTOR SHALL REMOVE ASPHALT, AGGREGATE BASE COURSE, AND CONCRETE CURB & GUTTER WITHIN LIMITS OF DEMOLITION AS SHOWN ON PLAN.

DEMOLITION NOTES

1. CONTRACTOR TO COORDINATE WITH THE OWNER TO PROPERLY MAINTAIN OR RELOCATE EXISTING SERVICE CONNECTIONS WHEN NECESSARY.
2. CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE UNCLASSIFIED EXCAVATION.
3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE DITCHES, FOUNDATIONS, SLABS, STEPS, AND STRUCTURES; ABANDONED UTILITIES, BUILDINGS, PAVEMENTS AND ALL MATERIALS CLEARED AND STRIPPED TO THE EXTENT NECESSARY AS DIRECTED BY THE SOILS ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AND AS SHOWN ON THESE PLANS.
4. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY, STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO PROPERTIES OF OTHERS DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO OWNER.
5. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
6. EXISTING UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
7. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
8. CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING OVER HEAD AND UNDERGROUND UTILITIES INCLUDING CABLE, GAS, TELEPHONE AND ELECTRIC AND ANY OTHER UTILITIES THROUGH THE SITE WITH THE RESPECTIVE COMPANIES.
9. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
10. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
11. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL NOTES:

1. CLEAR AND REMOVE FROM SITE ALL TREES, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN DESIGNATED CLEARING LIMITS.
2. PLANT GRASS OVER ALL GRADED AREAS AS SHOWN IN THE TABLE ON THIS SHEET OF CEASE OF ANY GRADING ACTIVITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION MEASURES.
4. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED, CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY THE NCDENR DIVISION OF LAND QUALITY.
5. WATER, FERTILIZE, MOW AND MAINTAIN SPRIGGED, SODDED AND PLANTED AREAS UNTIL FINAL APPROVAL BY THE NCDENR DIVISION OF LAND QUALITY.
6. ANY BORROW MATERIAL BROUGHT ONTO SITE MUST BE FROM A LEGALLY OPERATED MINE OR OTHER APPROVED SOURCE.
7. ANY EXCESS MATERIAL REMOVED FROM SITE MUST BE HAULED TO A LEGALLY OPERATED MINE OR OTHER APPROVED SOURCE.

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. ANY SEDIMENT THAT IS TRACKED INTO THE STREET WILL BE IMMEDIATELY REMOVED.
3. SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES WILL BE SPACED 6 FEET APART UNLESS A WIRE BACKING IS USED WITH 8 FOOT STAKE SPACING.
4. INSPECT INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.
5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
6. INSPECT SKIMMER SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.

IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS.

IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.

CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.

FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

STABILIZATION NOTES

1. ALL DISTURBED AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS OF CEASE OF ANY PHASE OF ACTIVITY AND SLOPES WITHIN 21 CALENDAR DAYS.

PERMANENT SEEDING SCHEDULE – MIXTURE 5CP

SPECIES	RATE (LB/ACRE)
CENTPEDE GRASS	10-20

Seeding Dates
MARCH – JUNE

Soil Amendments
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 300 LB/ACRE 10-10-10 FERTILIZER.

Mulch
DO NOT MULCH.

Maintenance
FERTILIZE VERY SPARINGLY LB/ACRE NITROGEN IN SPRING WITH NO PHOSPHORUS. CENTPEDE GRASS CANNOT TOLERATE HIGH PH OR EXCESS FERTILIZER.

TEMPORARY SEEDING-LATE WINTER/EARLY SPRING

WINTER AND EARLY SPRING

SPECIES	RATE (LB/ACRE)
Rye (GRAIN)	120
*ANNUAL LESPEDEZA (KOBÉ IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

*OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SUMMER

SPECIES	RATE (LB/ACRE)
GERMAN MILLET	40

FALL

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120

Seeding dates

COASTAL PLAIN – DEC.1-APR. 15 – LATE WINTER AND EARLY SPRING
APRIL 15 – AUG. 15 – SUMMER
AUG. 15 – DEC. 30 – FALL

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, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

GENERAL GRADING NOTES

1. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF SUCH UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF THE DITCHING OPERATION BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF THE TRENCHING OPERATIONS SO AS TO AVOID AND PREVENT DAMAGE TO THE EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING BUT NOT LIMITED TO REPAIRS AND LOSS SERVICE REVENUE. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC...
2. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.
3. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAG MEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE NCDOT.
4. ALL MATERIAL CLEARED AND GRUBBED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK, SUCH AS TREES, VEGETATION, FENCING, ETC., SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE OR BURNED IF PROPER PERMITS ARE RECEIVED.

SITE NOTES

1. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO START OF CONSTRUCTION. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
2. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND R.O.W.'S PUBLIC OR PRIVATE, PRIOR TO WORKING IN THESE AREAS.
3. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
4. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
5. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
6. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
7. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
8. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
9. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE GIVEN TO THE OWNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENT SHALL BE MADE WITHOUT THE PERMISSION OF THE OWNER.
10. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COST HAVE LOCATED ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE, OTHER OBSTRUCTIONS OR FROM DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. CONTACT NORTH CAROLINA ONE CALL* TOLL FREE 1-800-632-4949 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NONSUBSCRIBING UTILITIES.
11. ALL PERMITS RELATIVE TO PROJECT MUST BE OBTAINED, PRIOR TO CONSTRUCTION
12. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES.
13. FOR BUILDING DIMENSIONS, SEE ARCHITECTURAL DRAWINGS.
14. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.
15. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
16. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

GENERAL STORM SEWER NOTES

1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PENDER COUNTY AND THE STATE OF NORTH CAROLINA REQUIREMENTS AS SPECIFIED ON THE DRAWINGS AND IN THE PROJECT SPECIFICATIONS.
2. BEDDING FOR ALL STORM SEWER PIPE SHALL BE AS SPECIFIED ON THE DRAWINGS, PROJECT SPECIFICATIONS, AND MANUFACTURER SPECIFICATIONS.
3. ALL STORM SEWER PIPES TO BE HDPE ADS N-12 OR EQUIVALENT, UNLESS OTHERWISE SPECIFIED.
4. ALL STORM SEWER PIPES SHOWN AS RCP ON THE PLANS SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, UNLESS INDICATED OTHERWISE ON PLANS.

SITE AREA DESCRIPTION	GROUND STABILIZATION	
	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

EXISTING UTILITY NOTES

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THE ACTUAL LOCATION AND AVAILABILITY OF ALL EXISTING AND PROPOSED UTILITIES IN THE FIELD PRIOR TO GROUND BREAKING.
2. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON A FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.

UTILITY CONTACTS:

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING AND DIGGING. 1-800-632-4949

NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED BY CONTRACTOR PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO ANY EXCAVATION OR DEMOLITION.

CONTACT "CAROLINA ONE CALL" AT
1-800-632-4949

EMERGENCY DIAL 911 POLICE - FIRE - RESCUE

PCU STANDARD NOTES

1. A PRECONSTRUCTION MEETING IS REQUIRED BEFORE BEGINNING WORK. THE MEETING MUST BE SCHEDULED WITH PENDER COUNTY UTILITIES (PCU) AT LEAST ONE WEEK IN ADVANCE. ATTENDEES MUST INCLUDE PCU, THE SELECTED CONTRACTOR'S SUPERINTENDENT, THE SUPPLIER, AND THE CONSULTING ENGINEER.
2. ALL MATERIALS USED SHALL CONFORM TO PENDER COUNTY UTILITIES REQUIREMENTS. NON-CONFORMING MATERIAL WILL NOT BE ACCEPTED FOR FINAL CERTIFICATION.
3. ALL PIPE SHALL BE PVC. PVC PIPE WITHIN A CASING TO BE C900 DR 18 (SEE PCU STANDARD DETAIL). ALL OTHER PVC PIPE TO BE SDR 21. THE USE OF DIP PIPE IS NOT ALLOWED. PCU MUST APPROVE THE USE OF DIP IN THE FIELD BEFORE INSTALLATION AND ONLY WHEN THERE ARE NO OTHER OPTIONS.
4. PCU STANDARD WATERLINE PIPE RESTRAINING METHOD IS MJ GRIP RINGS. AT A MINIMUM ALL FITTINGS, VALVES, ETC. MUST BE RESTRAINED. (SEE PCU STANDARD DETAIL).
5. PCU MUST INSPECT CASING INSTALLATIONS PRIOR TO BACK-FILL. PCU MUST WITNESS PRESSURE TESTS, AND WITHDRAWAL OF BACTERIOLOGICAL SAMPLES. CONTACT BOB FORAND TO SCHEDULE 910-259-0212.
6. CLOSE-OUT DOCUMENTS WHICH MUST BE RECEIVED PRIOR TO PCU SIGNING THE NC PWSS APPLICANT CERTIFICATION INCLUDE: BACTERIOLOGICAL TESTS, PRESSURE TESTS, DEED OF DEDICATION, AFFIDAVIT/RELEASE OF LIENS, WARRANTY, AND RECORD DRAWINGS (PDF & CAD).
7. AN 18 MONTH WARRANTY PERIOD APPLIES TO ALL WATERLINE CONSTRUCTION. THIS WARRANTY PERIOD DOES NOT BEGIN UNTIL FINAL APPROVAL OF THE SYSTEM HAS BEEN RECEIVED FROM NC PWSS.

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425



STANDARD NOTES
PCU WATER SYSTEMS
VERSION #1 - OCTOBER 2015



No.	Revision	Date	By

Designer	GSP	Scale	
Drawn By	GSP	Date	March 2016
License #	P-0718	Job No.	2015-0007

WYNDWATER - PHASE 4

Topsail Township Pender County North Carolina

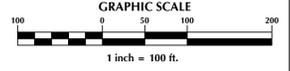
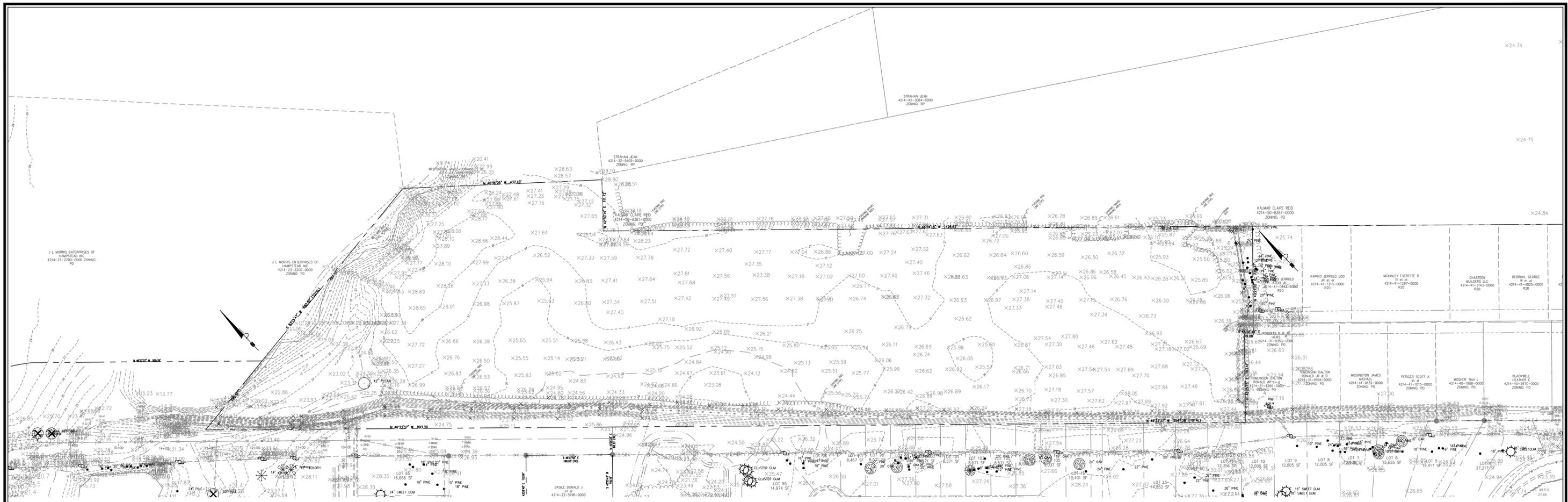
GENERAL NOTES

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

GSP CONSULTING, PLLC
ENGINEERING

6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-1



No.	Revision	Date	By

Designer	GSP	Scale	1" = 100'
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

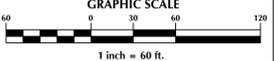
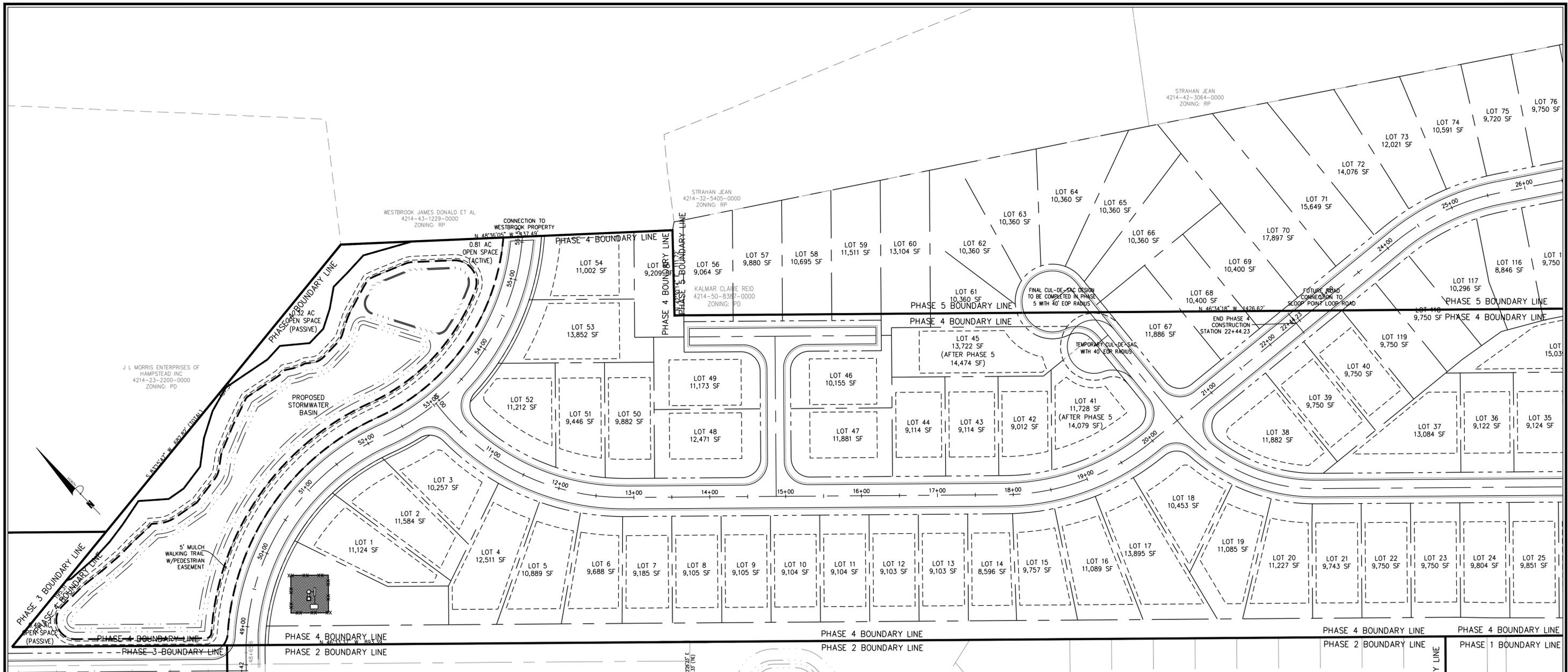
WYNDWATER - PHASE 4
 Pender County
 North Carolina

EXISTING CONDITIONS

PREPARED FOR:
 SIGNATURE TOP SAIL NC, LP
 9337B Katy Freeway #377
 Houston, TX 77024
 713-822-3891

GSP CONSULTING, PLLC
 ENGINEERING
 6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-2



No.	Revision	Date	By

Designer	GSP	Scale	1" = 60'
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

WYNDWATER - PHASE 4
 Topsail Township Pender County North Carolina

ULTIMATE BUILD-OUT SITE PLAN

PREPARED FOR:
 SIGNATURE TOP SAIL NC, LP
 9337B Katy Freeway #377
 Houston, TX 77024
 713-822-3891

GSP CONSULTING, PLLC
 ENGINEERING
 6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
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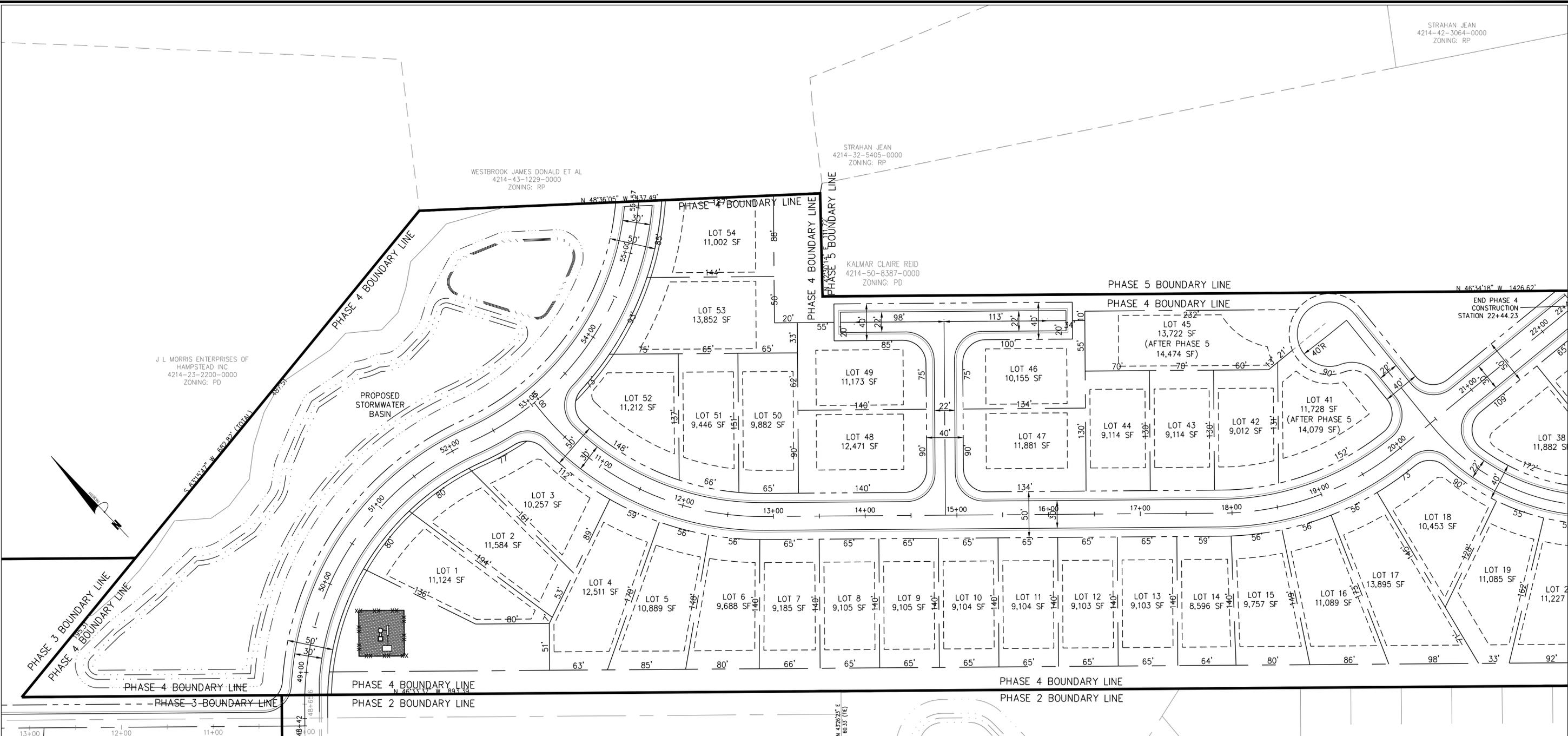
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WESTBROOK JAMES DONALD ET AL
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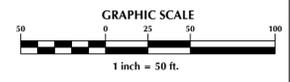
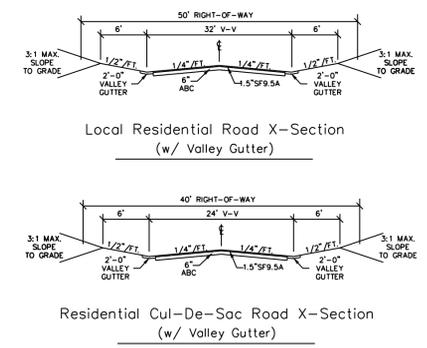
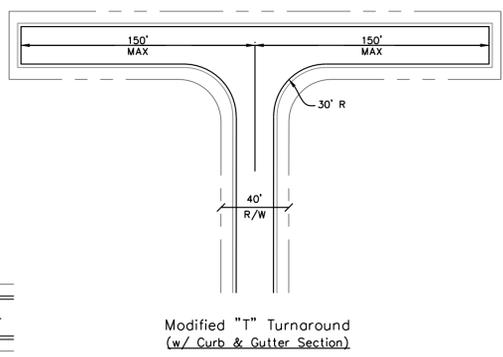
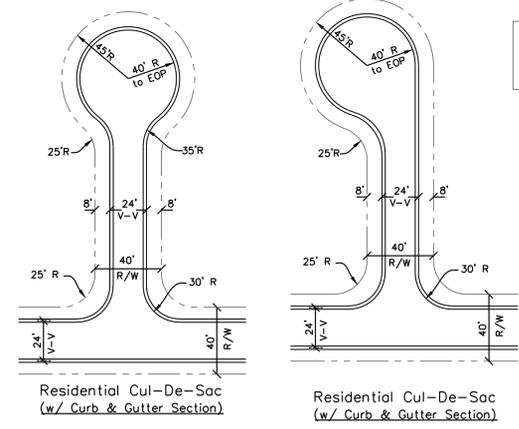
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4214-23-2200-0000
ZONING: PD



- GENERAL NOTES:**
1. ALL PHASE BOUNDARIES ADJACENT TO RESIDENTIAL LOTS TO HAVE A TYPE "C-3" BUFFER.
 2. ALL PORTIONS OF PROPERTY HAVING FRONTAGE ALONG AN EXISTING ROADWAY TO HAVE A TYPE "A" BUFFER.
 3. MAIN COLLECTOR ROADS THAT WILL CONNECT TO SLOOP POINT LOOP ROAD & TO WESTBROOK PROPERTY IN THE FUTURE TO BE PUBLIC ALL OTHER ONSITE ROADS TO BE PRIVATE.
 4. ALL FOC RADII AT INTERSECTIONS TO BE A MINIMUM OF 30'. ALL FOC RADII AT CUL-DE-SAC TO BE 35'. ALL CUL-DE-SAC TO HAVE 40' RADIUS TO EOP.



No.	Revision	Date	By

Designer: GSP
Scale: 1" = 50'
Date: March 2016
Drawn By: CSP
Job No.:
License #: P-0718
2015-0007

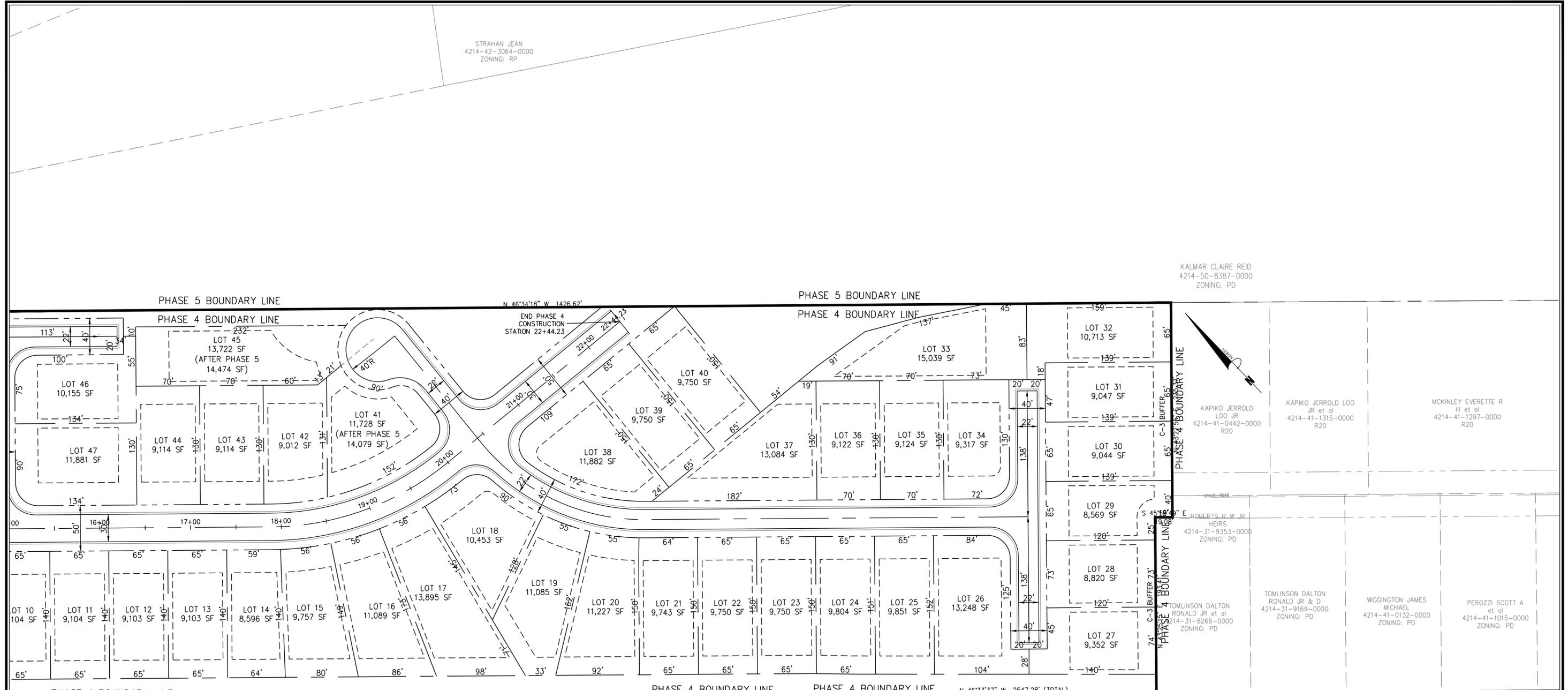
WYNDWATER - PHASE 4
Pender County
North Carolina

SITE PLAN

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-3.3



KALMAR CLAIRE REID
4214-50-8387-0000
ZONING: PD

KAPIKO JERROLD LOO JR
4214-41-0442-0000
R20

KAPIKO JERROLD LOO JR et al
4214-41-1315-0000
R20

MCKINLEY EVERETTE R III et al
4214-41-1297-0000
R20

E. ROBERTS, P. W. JR
HEIRS
4214-31-9353-0000
ZONING: PD

TOMLINSON DALTON RONALD JR et al
4214-31-8266-0000
ZONING: PD

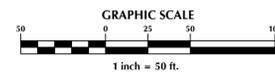
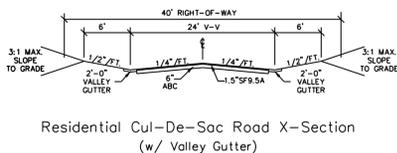
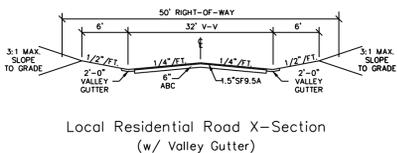
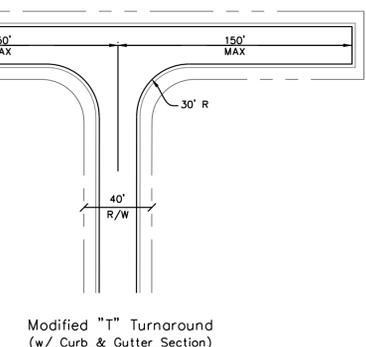
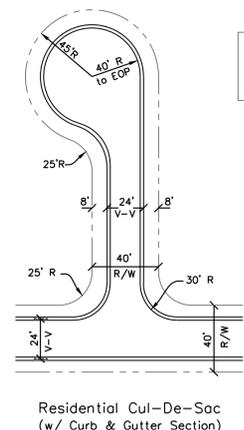
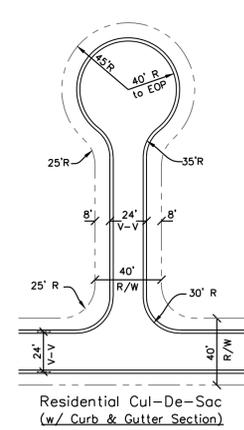
TOMLINSON DALTON RONALD JR & D
4214-31-9169-0000
ZONING: PD

WIGGINGTON JAMES MICHAEL
4214-41-0132-0000
ZONING: PD

PEROZZI SCOTT A et al
4214-41-1015-0000
ZONING: PD

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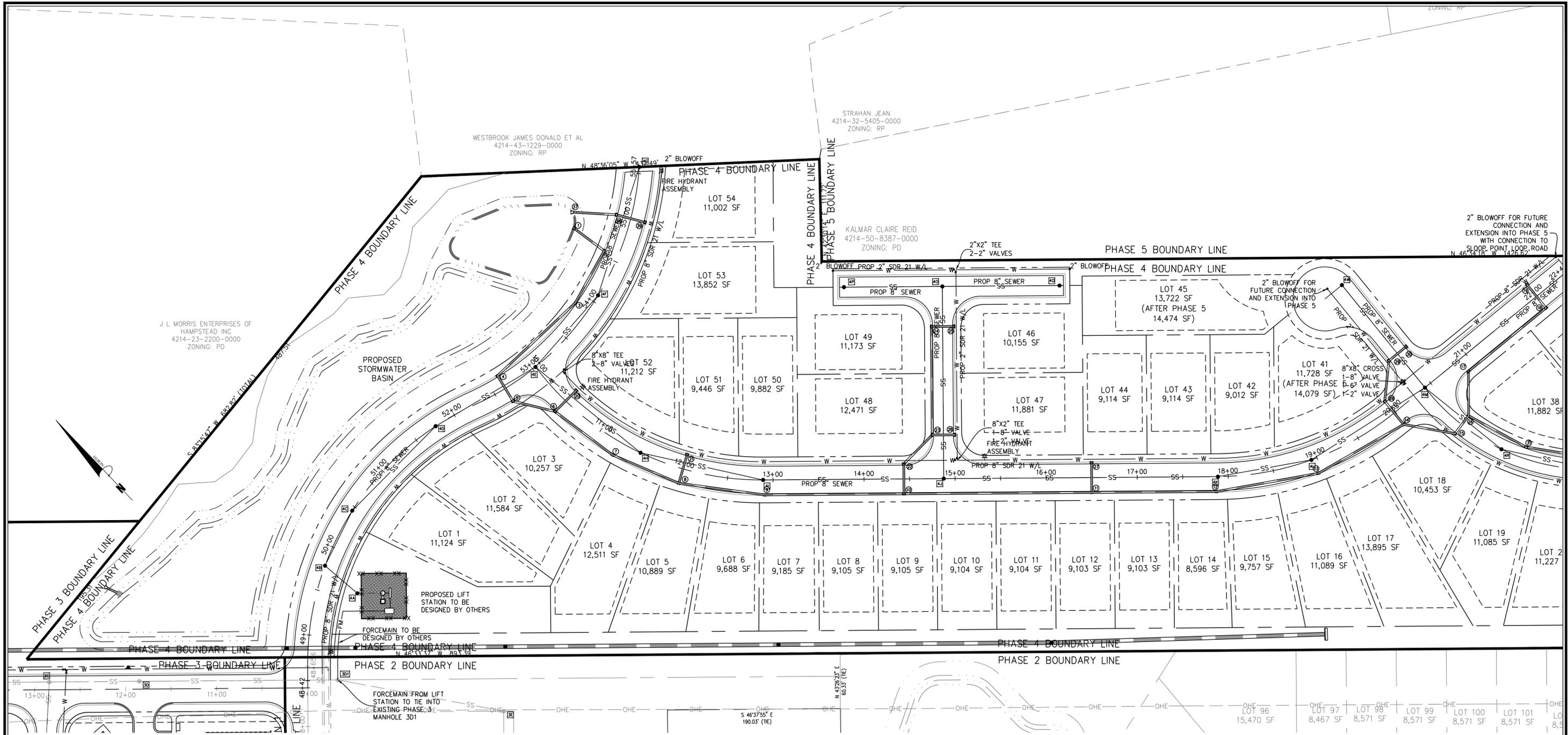
WYNDWATER - PHASE 4
Topsail Township Pender County North Carolina

SITE PLAN

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

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ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No. **C-3.4**



GENERAL UTILITY NOTES:

1. WATER SERVICE SHALL BE BUILT TO PENDER COUNTY UTILITIES STANDARDS AND SPECIFICATIONS.
2. ALL UTILITIES SHALL BE UNDERGROUND.
3. WATER SERVICE TO BE A PUBLIC PIPED DISTRIBUTION SYSTEM OWNED AND OPERATED BY PENDER COUNTY.
4. ALL WATER AND SANITARY SEWER SYSTEMS WILL BE DESIGNED TO MEET PENDER COUNTY, PLURIS, LLC AND STATE REQUIREMENTS. FINAL CONSTRUCTION PLANS WILL BE SUBMITTED TO ALL AGENCIES TO OBTAIN PERMITS TO CONSTRUCT PRIOR TO UTILITY INSTALLATION.
5. ALL WATERLINES SHOWN WILL BE SIZED IN ACCORDANCE WITH APPLICABLE PENDER COUNTY AND STATE REQUIREMENTS.
6. ALL WATER SERVICES TO BE INSTALLED BY DEVELOPER AND INSPECTED BY PENDER COUNTY UTILITIES.

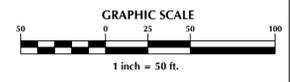
7. ALL MATERIALS SHALL CONFORM TO PENDER COUNTY UTILITIES REQUIREMENTS. NON-CONFORMING MATERIAL WILL NOT BE ACCEPTED FOR FINAL CERTIFICATION.
8. A ONE YEAR WARRANTY PERIOD APPLIES TO ALL UTILITIES CONSTRUCTION. THIS WARRANTY PERIOD DOES NOT BEGIN UNTIL NCDENR FINAL APPROVAL OF THE SYSTEM HAS BEEN RECEIVED. A WRITTEN COPY OF THE WARRANTY WILL BE REQUIRED PRIOR TO FINAL ACCEPTANCE.
9. PROPOSED WATERLINE TO BE LOCATED IN A MINIMUM OF 5' FROM BACK OF CURB.
10. RJ GRIP RINGS TO BE INSTALLED AT ALL FITTINGS.
11. ALL VALVES TO BE LOCATED OUTSIDE OF PAVEMENT.
12. ALL UTILITY CROSSINGS SHALL BE COORDINATED WITH PCU AT PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING CONSTRUCTION.
13. COORDINATE HYDRANT DETAIL, TAPPING SLEEVE & FUTURE CONNECTION DETAILS WITH PCU AT PRE-CONSTRUCTION MEETING.

GENERAL SEWER NOTES:

1. ALL WATERLINES TO HAVE MINIMUM 10' SEPARATION FROM ALL SEWER LINES, MANHOLES AND CLEANOUTS & TO HAVE 3" OF COVER AND 18" CLEARANCE WHERE WATER CROSSES OTHER UTILITY LINES
2. ANY SANITARY SEWER SYSTEM OR ANY PORTION THEREOF, INCLUDING THE PUMP CHAMBER AND SERVICE CONNECTION PIPE TO THE COLLECTION MAIN, SHALL BE LOCATED AT LEAST A MINIMUM OF 10'-FEET FROM ANY WATER LINE. SEWER LINES MAY CROSS A WATER LINE IF 18"-INCH CLEAR SEPARATION DISTANCE IS MAINTAINED, WITH THE SEWER LINE CROSSING UNDER THE WATER LINE. WHEN CONDITIONS PREVENT AN 18"-INCH CLEAR SEPARATION FROM BEING MAINTAINED OR WHENEVER IT IS NECESSARY FOR THE WATER LINE TO CROSS UNDER THE SEWER, THE SEWER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE OR ITS EQUIVALENT AND THE WATER LINE SHALL BE CONSTRUCTED OF FERROUS MATERIALS EQUIVALENT TO WATER MAIN STANDARDS WITH FOR A DISTANCE OF AT LEAST TEN FEET ON EACH SIDE OF THE POINT OF CROSSING, WITH FULL SECTIONS OF PIPE CENTERED AT THE POINT OF CROSSING.

TOTAL LINEAR FEET WATER PROPOSED

- 750' - 2" SDR-21 WATERLINE
- 825' - 6" SDR-21 WATERLINE
- 1,870' - 8" SDR-21 WATERLINE



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	Morch	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

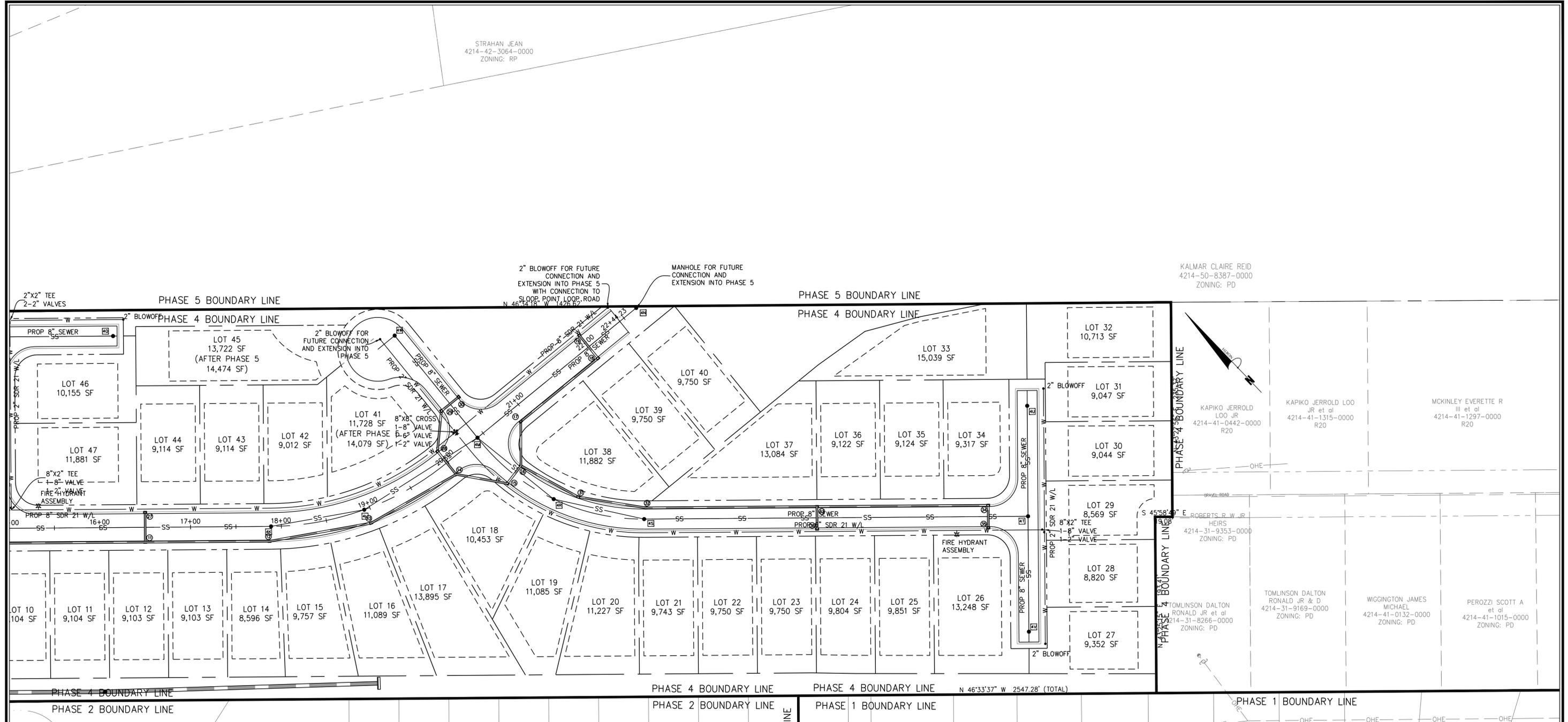
WYNDWATER - PHASE 4
Pender County North Carolina

UTILITY PLAN

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

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ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-4.1



STRAHAN JEAN
4214-42-3064-0000
ZONING: RP

KALMAR CLAIRE REID
4214-50-8387-0000
ZONING: PD

KAPIKO JERROLD LOO JR
4214-41-0442-0000
R20

KAPIKO JERROLD LOO JR et al
4214-41-1315-0000
R20

MCKINLEY EVERETTE R III et al
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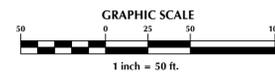
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TOTAL LINEAR FEET WATER PROPOSED

750' - 2" SDR-21 WATERLINE
825' - 6" SDR-21 WATERLINE
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No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

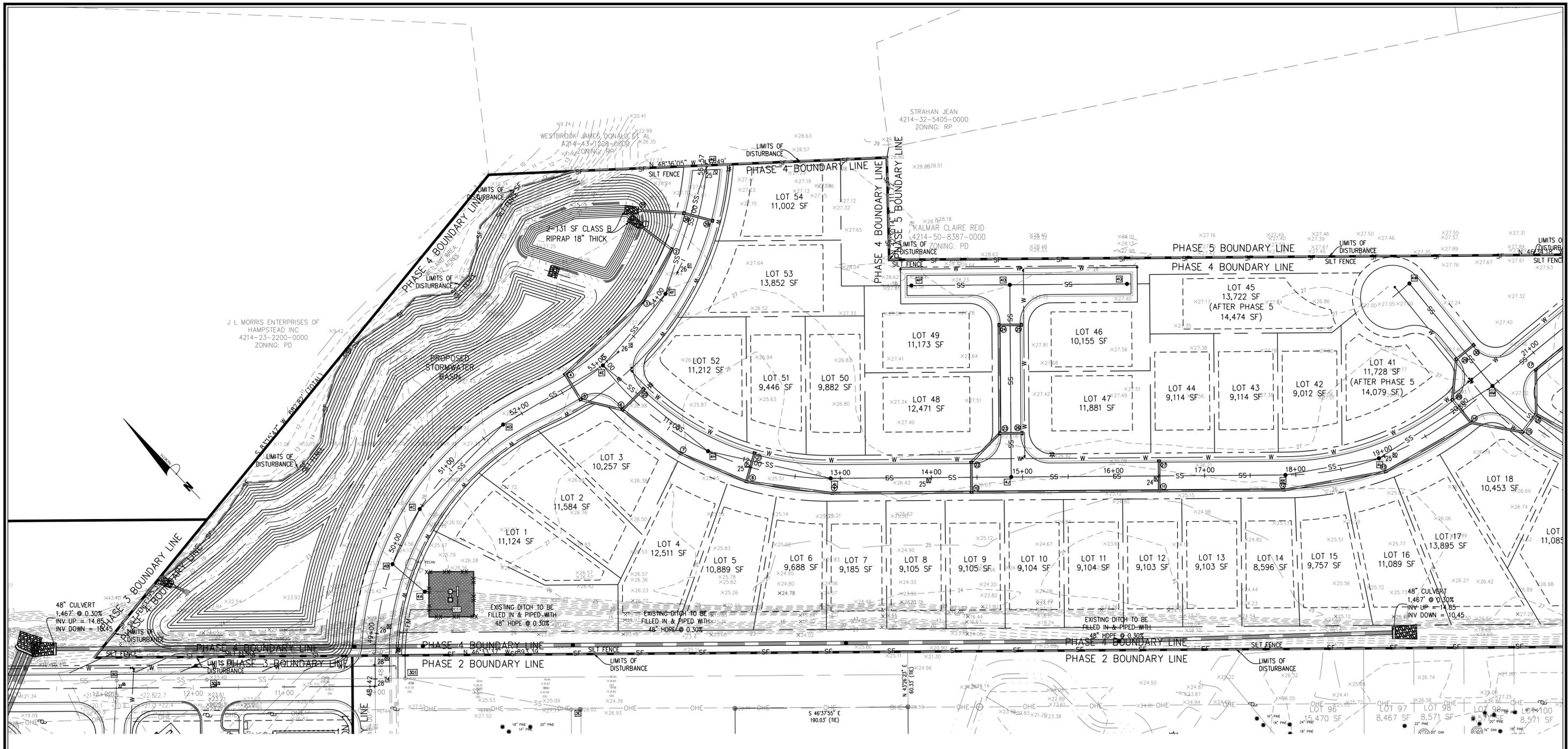
WYNDWATER - PHASE 4
Pender County North Carolina

UTILITY PLAN

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-4.2

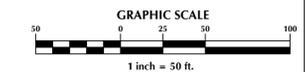


SEDIMENT BASIN CALCULATIONS

SEDIMENT TRAPPING DEVICE	DRAINAGE AREA (AC)	REQUIRED STORAGE (1,800CF/AC)	PROVIDED STORAGE (CF)	PEAK Q10 FLOW (CFS)	REQUIRED AREA (325 SF/CFS)	PROVIDED AREA (SF)	SKIMMER SIZE (in)
SEDIMENT BASIN #1	21.62	38,915	57,145	40.86	13,280	62,168	4.60

GENERAL STORMWATER NOTES:

1. ALL STORM DRAINAGE TO BE CONSTRUCTED PER NCDENR, NCDOT & PENDER COUNTY STANDARDS.
2. STORM WATER MEASURES FOR THIS DEVELOPMENT WILL BE DESIGNED TO CONTROL THE POST DEVELOPMENT PEAK DISCHARGE FOR THE 10-YEAR STORM EVENT SO AS NOT TO EXCEED THE PRE-DEVELOPMENT PEAK RUNOFF DISCHARGE RATE TO MEET PENDER COUNTY STORM WATER REGULATIONS
3. BEST MANAGEMENT PRACTICES FOR E&SC TO BE UTILIZED TO PREVENT EROSION FROM OCCURRING, ELIMINATE SEDIMENT TRANSPORT AND TO REDUCE RUNOFF VELOCITIES IN ORDER TO PREVENT SCOURING AND EROSION.
4. ALL DRAINAGE EASEMENTS ARE TO BE A MINIMUM OF 20' IN WIDTH.



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

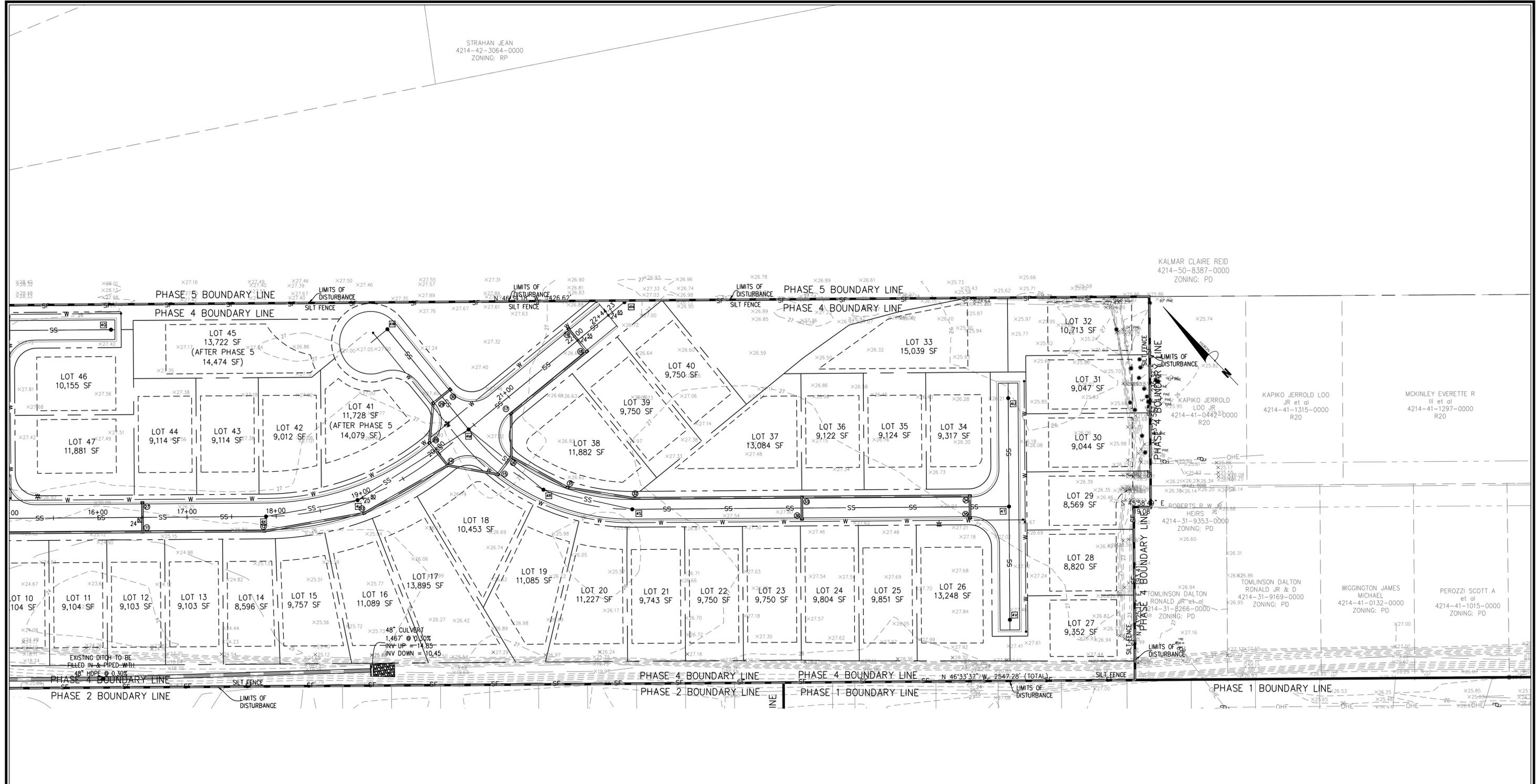
WYNDWATER - PHASE 4
 Topsail Township Pender County North Carolina

**GRADING, DRAINAGE & EROSION
 & SEDIMENT CONTROL PLAN**

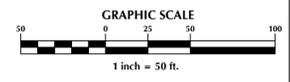
PREPARED FOR:
 SIGNATURE TOP SAIL NC, LP
 9337B Katy Freeway #377
 Houston, TX 77024
 713-822-3891

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 ENGINEERING**
 6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-5.1



- GENERAL STORMWATER NOTES:**
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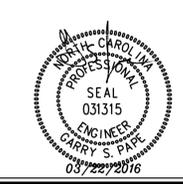
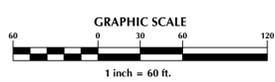
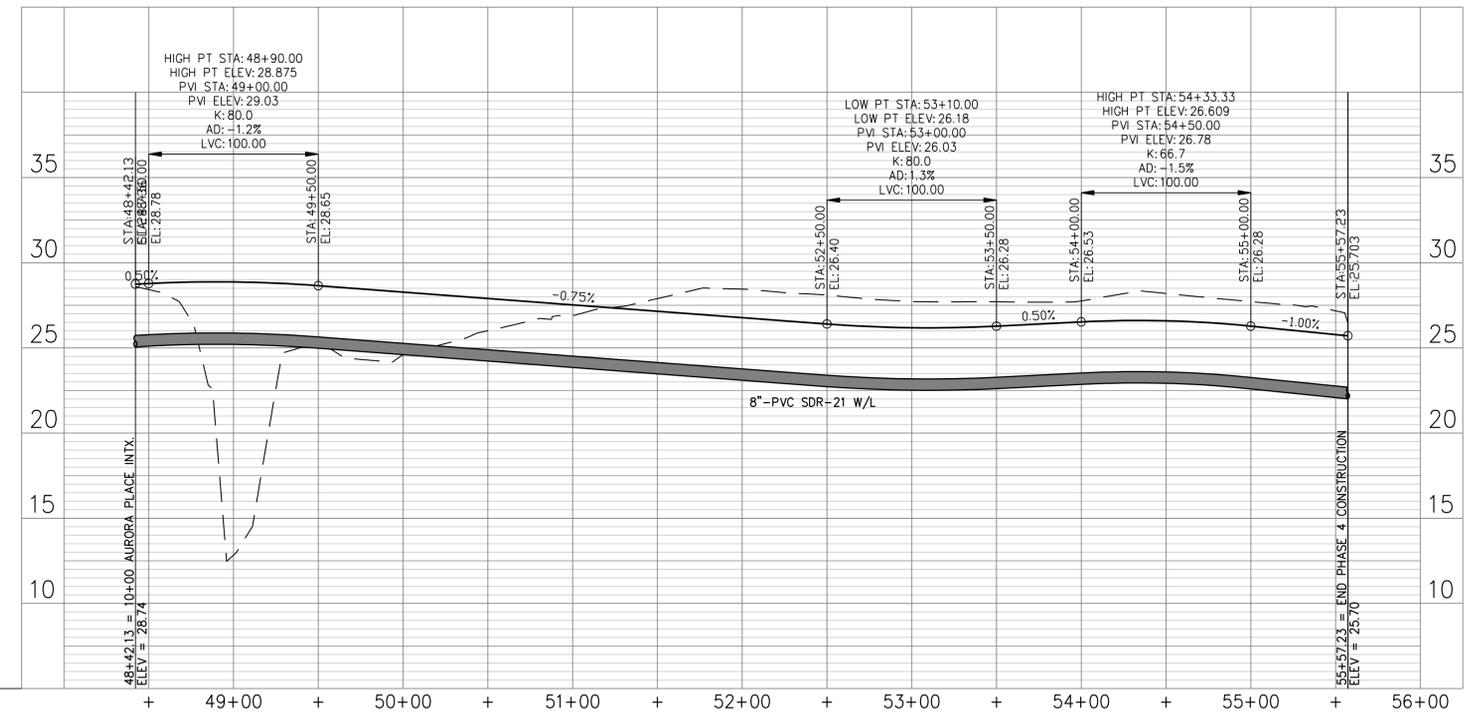
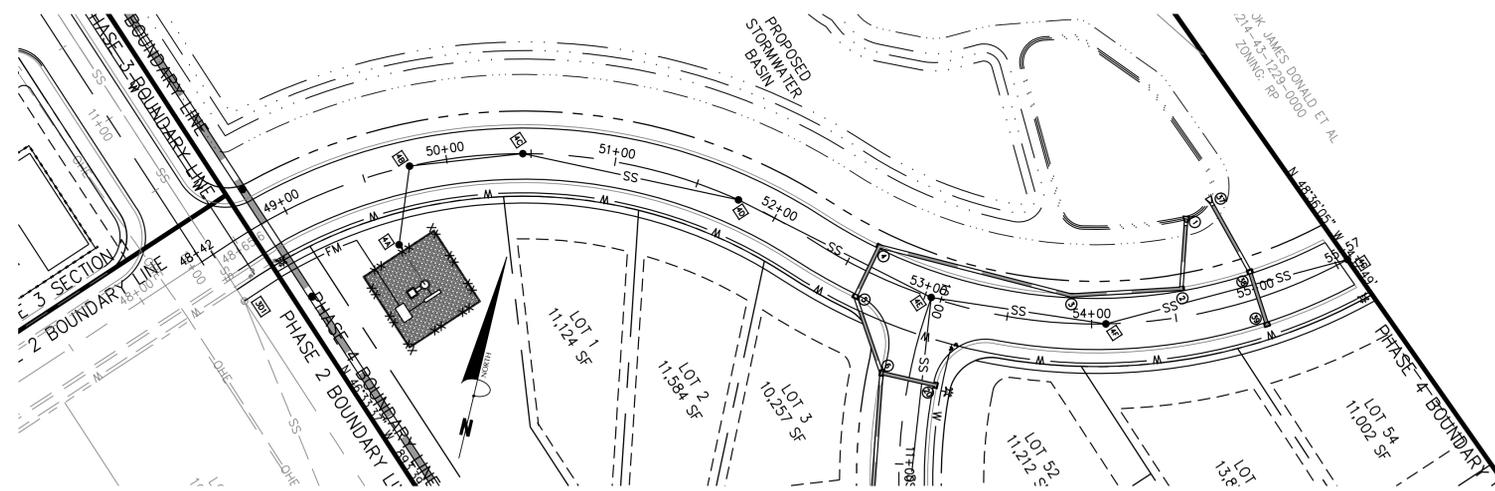
WYNDWATER - PHASE 4
 Topsail Township Pender County North Carolina

**GRADING, DRAINAGE & EROSION
 & SEDIMENT CONTROL PLAN**

PREPARED FOR:
 SIGNATURE TOP SAIL NC, LP
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Sheet No.
C-5.2



No.	Revision	Date	By

Designer	GSP	Scale	1" = 60'
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

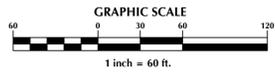
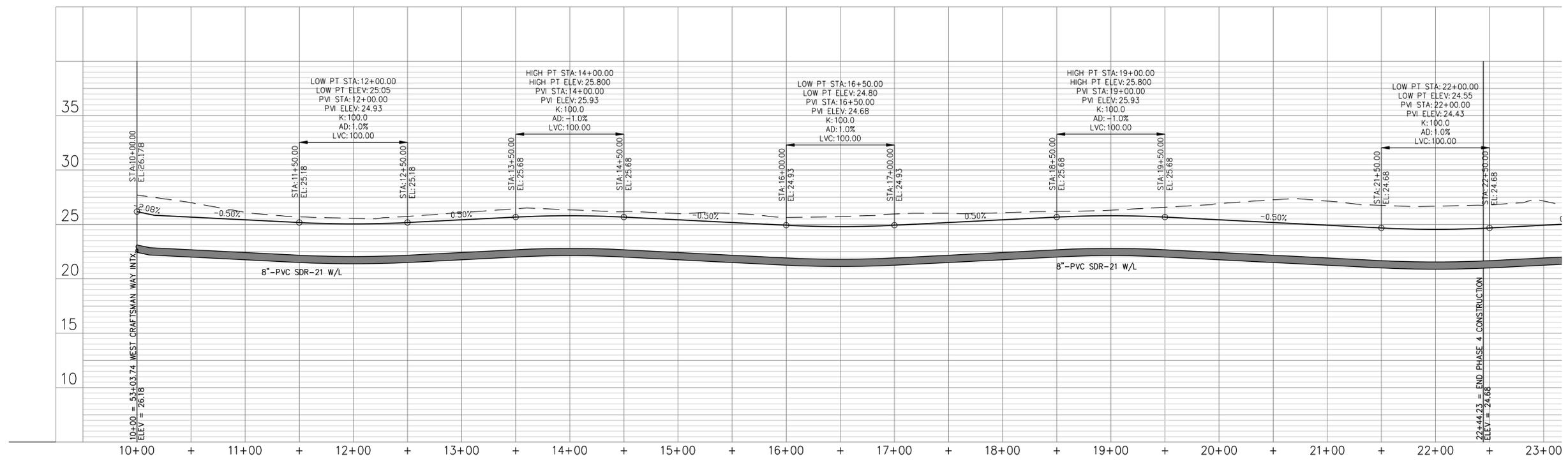
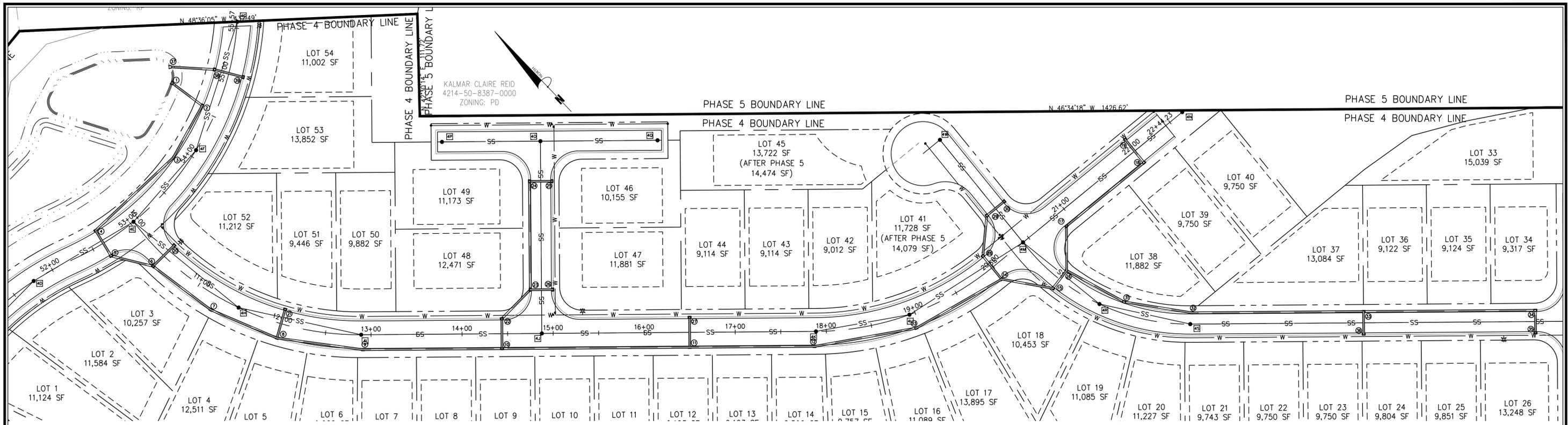
WYNDWATER - PHASE 4
Topsail Township Pender County North Carolina

**WEST CRAFTSMAN WAY
PLAN & PROFILE**

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

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ENGINEERING
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Sheet No.
C-6



No.	Revision	Date	By

Designer	GSP	Scale	1" = 60'
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

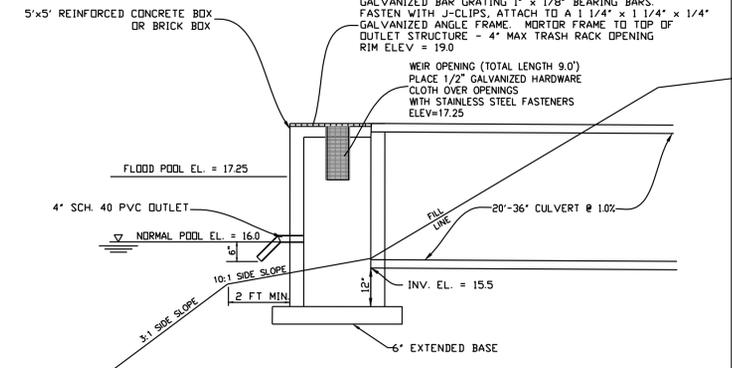
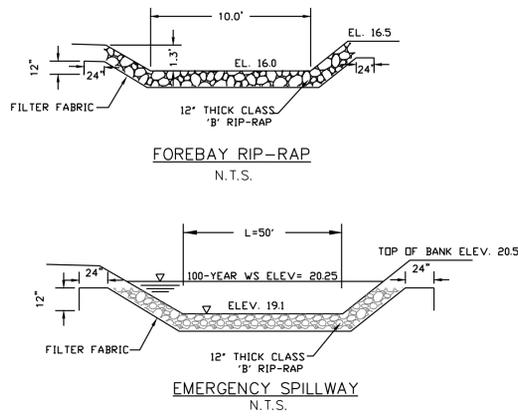
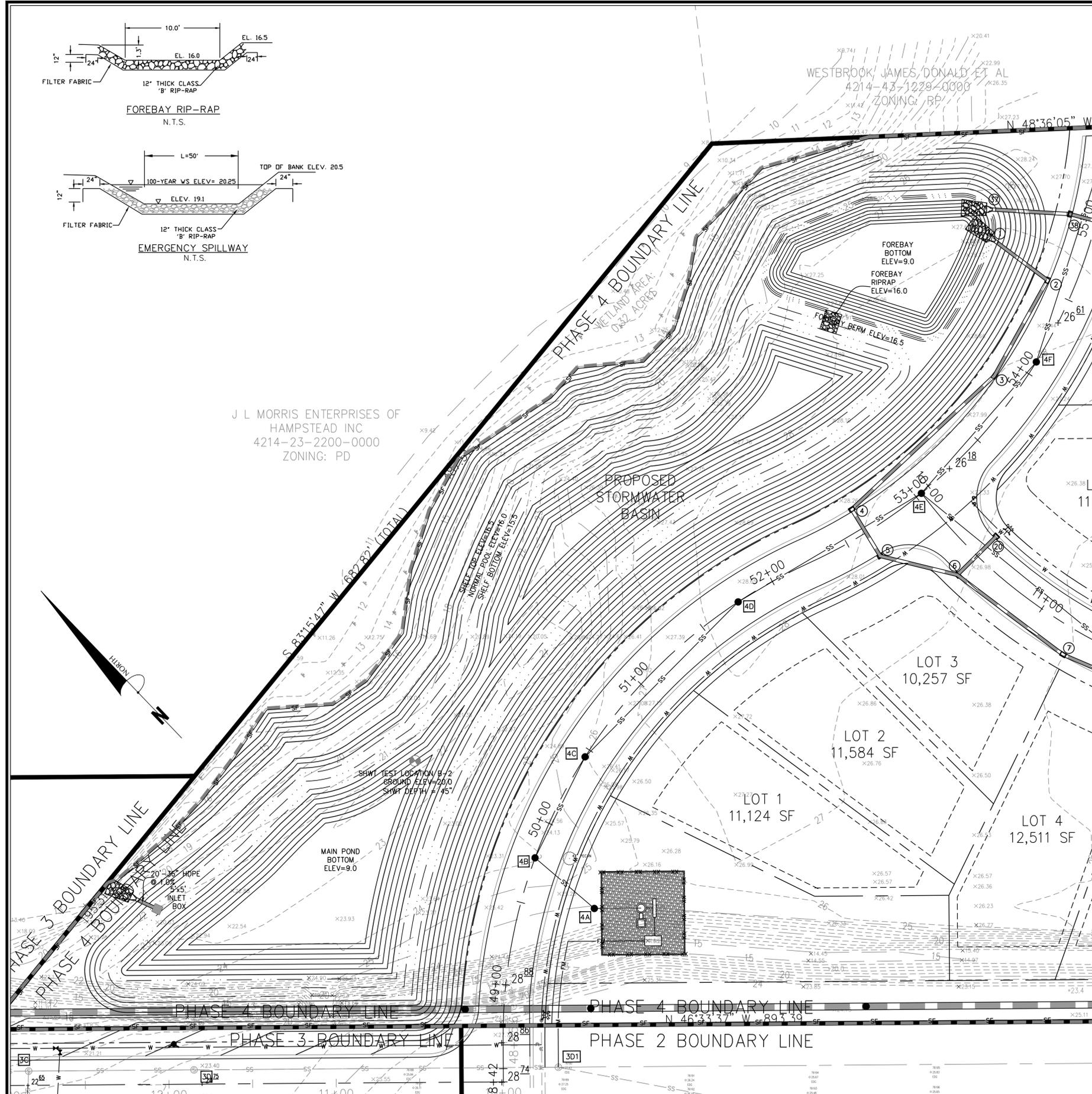
WYNDWATER - PHASE 4
 Topsail Township Pender County North Carolina

**COLLECTOR ROAD
 PLAN & PROFILE**

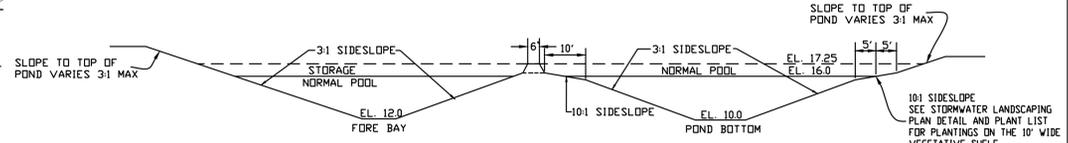
PREPARED FOR:
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 9337B Katy Freeway #377
 Houston, TX 77024
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 6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-7



- NOTES:**
- DESIGN ELEVATIONS FOR WET DETENTION BASIN ARE TO AN ELEVATION OF 10.0 IN THE MAIN POND AND 12.0 IN THE FOREBAY WITH SEDIMENT STORAGE DOWN TO 9.0 IN THE MAIN POND AND 11.0 IN THE FOREBAY.
 - SEASON HIGH WATER TABLE WAS TAKEN AT A GROUND ELEVATION OF 18.5 AND ESTIMATED TO BE 30 INCHES FOR AN ELEVATION OF 16.0, WHICH IS WITHIN 6\"/>



NORMAL POOL ELEVATION	SHELF BOTTOM ELEVATION	POND DEPTH (FT)	SHELF BOTTOM AREA (SF)	POND BOTTOM AREA (SF)	SURFACE AREA PROVIDED (SF)	SURFACE AREA REQUIRED (SF)	AVERAGE POND DEPTH (FT)	SWHT ELEVATION (FT)
16.0	15.5	7.0	39,811	11,329	46,859	45,627	5.0	16.5

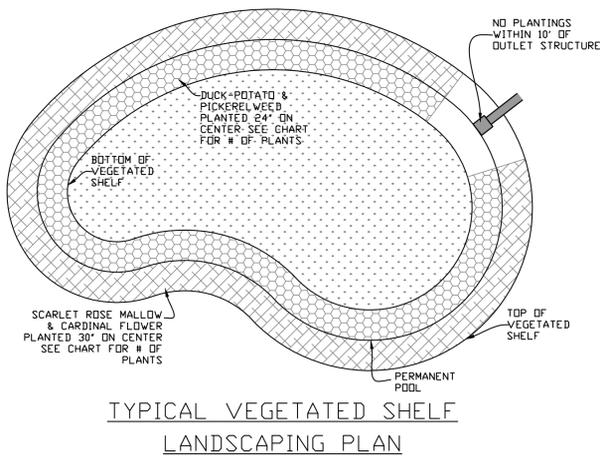
SHALLOW WATER COMMUNITY (NORMAL POOL TO SHELF BOTTOM) = 4,112 S.F.
@ 1 PLANT PER 4 SF (24\"/>

PLANT TYPE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	CALIPER	HEIGHT	NOTES
HERBACEOUS	514	Sagittaria latifolia	Duck Potato	CONT.	4\"/>		

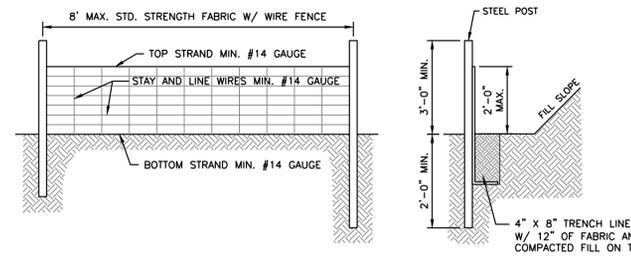
SHALLOW LAND COMMUNITY (NORMAL POOL TO SHELF TOP) = 4,224 S.F.
@ 1 PLANT PER 6.25 SF (30\"/>

PLANT TYPE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	CALIPER	HEIGHT	NOTES
HERBACEOUS	338	Hibiscus coccineus	Scarlet Rose Mallow	CONT.	4\"/>		

- NOTES:**
- NO PLANTINGS WITHIN 10' OF OUTLET STRUCTURE.
 - BECAUSE MOST STORMWATER BASINS ARE EXCAVATED TO DEEP SUB-SOILS, THEY OFTEN LACK THE NUTRIENTS AND ORGANIC MATTER NEEDED TO SUPPORT VIGOROUS GROWTH OF PLANTS. ALL LANDSCAPE MATERIAL, INCLUDING GRASS, SHOULD BE PLANTED IN GOOD TOPSOIL. NATIVE UNDERLYING SOILS MAY BE SUITABLE FOR PLANTING IF AMENDED WITH 4 INCHES OF WELL-AGED COMPOST TILLED INTO THE SUBGRADE. COMPOST SHOULD MEET SPECIFICATIONS FOR GRADE A COMPOST QUALITY.
 - A MINIMUM TWO-YEAR WARRANTY PERIOD STIPULATING REQUIREMENTS FOR PLANT SURVIVAL/REPLACEMENT.

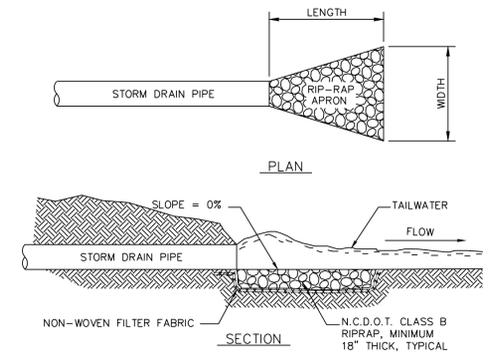


Professional Engineer Seal for Garry S. Pyle, License # 031315, State of North Carolina. Includes a graphic scale (1 inch = 30 feet) and a north arrow.



- NOTES:**
1. WIRE FENCE (IF USED) SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
 2. SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFIN'S OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
 3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

TEMPORARY SILT FENCE
NOT TO SCALE



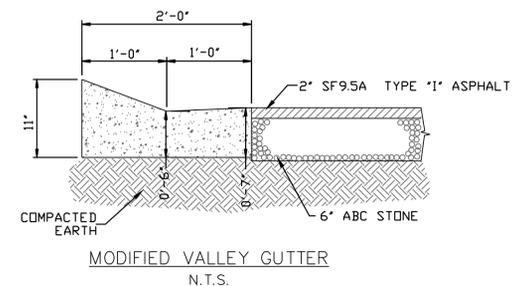
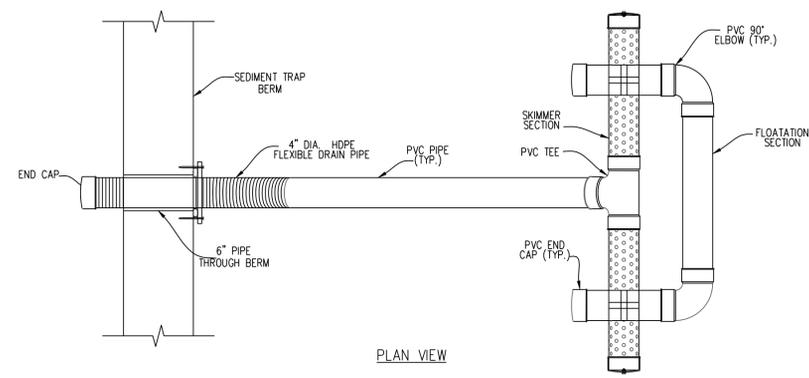
RIPRAP LOCATIONS	LENGTH (FT.)	UPSTREAM WIDTH (FT.)	DOWNSTREAM WIDTH (FT.)
15" CULVERT	7.5	3.75	5.0
18" CULVERT	9.0	4.5	6.0
24" CULVERT	12.0	6.0	8.0
30" CULVERT	15.0	7.5	10.0
36" CULVERT	18.0	9.0	12.0
48" CULVERT	24.0	12.0	16.0

RIP-RAP OUTLET PROTECTION
N.T.S.

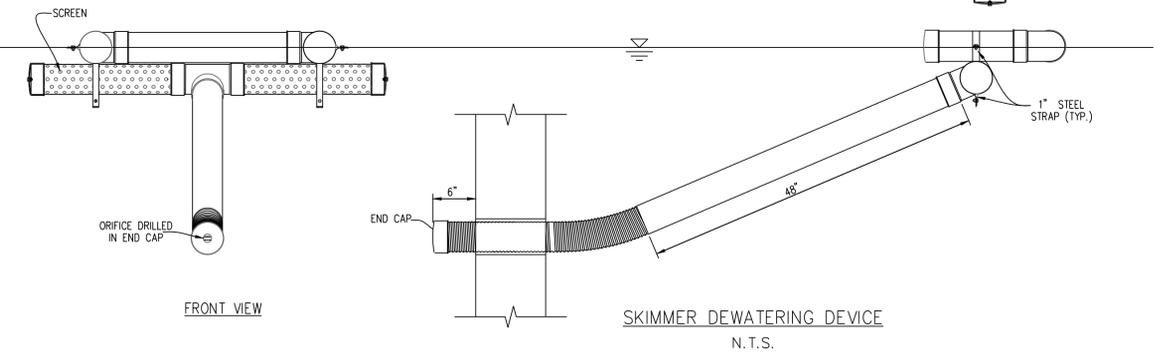
SEQUENCE OF CONSTRUCTION

1. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON EROSION & SEDIMENT CONTROL PLAN.
2. INSTALL PERIMETER CONTROLS (TEMPORARY SEDIMENT BASIN, SILT FENCE, TREE PROTECTION FENCING, ETC.) AS SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN. THIS STEP NEEDS TO BE COMPLETED PRIOR TO UPSLOPE LAND DISTURBING ACTIVITIES.
3. THE EXISTING POND WILL ACT AS TEMPORARY SEDIMENT BASIN DURING CLEARING AND GRUBBING ACTIVITIES.
4. ONCE PERIMETER CONTROLS AND SEDIMENT TRAPPING MEASURES ARE INSTALLED CLEAR AND GRUB SITE WITHIN LIMITS OF DISTURBANCE. POND WILL BE PUMPED DOWN BY MECHANICAL MEANS AS NEEDED TO MUCK OUT SEDIMENT WHEN THE SEDIMENT REACHES 50% CAPACITY.
5. UPON BRINGING THE SITE TO ROUGH GRADE, STABILIZE ALL AREAS WITH TEMPORARY VEGETATION IF LEFT UNDISTURBED FOR 15 WORKING DAYS AN ALL SLOPES WITHIN 21 CALENDAR DAYS.
6. UPON BRINGING THE ROAD BEDS TO SUBGRADE ELEVATIONS, STABILIZE THE AREAS BY PLACING STONE BASE AS EARLY AS POSSIBLE.
7. FOR TEMPORARY VEGETATIVE STABILIZATION OF ALL DENUDED AREAS SEE NOTE REFERENCING THE EROSION CONTROL PROGRAM AND SPECIFICATIONS.
8. AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED. SEDIMENT FROM TEMPORARY SEDIMENT TRAPPING DEVICES SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL. ALL DENUDED AREAS ARE TO BE PERMANENTLY STABILIZED WITH PERMANENT VEGETATION.

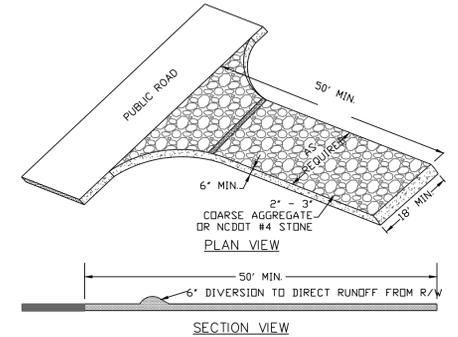
- NOTES:**
1. ALL P.V.C. PIPES ARE TO BE 4" I.D., SCHEDULE 40
 2. ALL JOINTS OF THE FLOATATION SECTION SHALL BE SOLVENT WELDED. JOINTS OF SKIMMER SECTION NEED NOT BE WATER-TIGHT.
 3. 4" HDPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE POND OUTLET STRUCTURE WITH WATER-TIGHT CONNECTIONS.
 4. ORIFICE IS TO BE SIZED ACCORDING TO STORAGE VOLUME AND TO SLOWLY RELEASE 1" RUNOFF FOR AT LEAST 24-HOURS.



MODIFIED VALLEY GUTTER
N.T.S.



SKIMMER DEWATERING DEVICE
N.T.S.



TEMPORARY CONSTRUCTION ENTRANCE
N.T.S.



No.	Revision	Date	By

Designer	GSP	Scale	NO SCALE
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

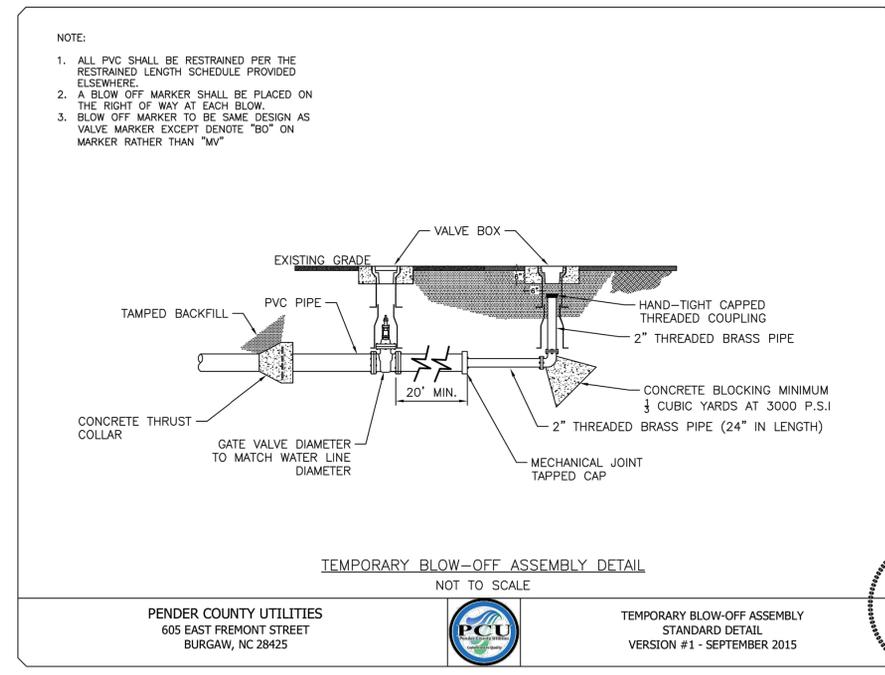
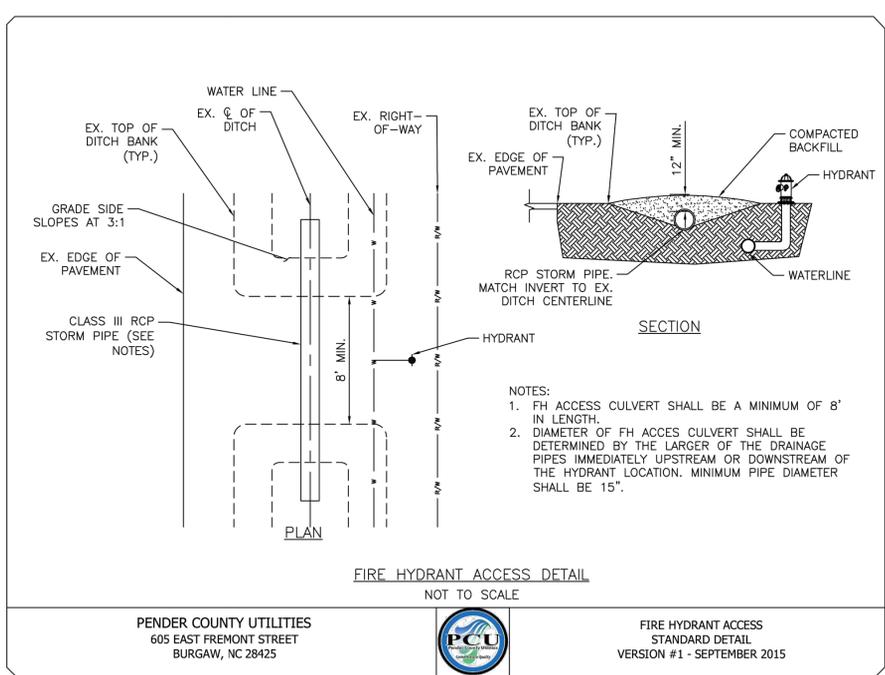
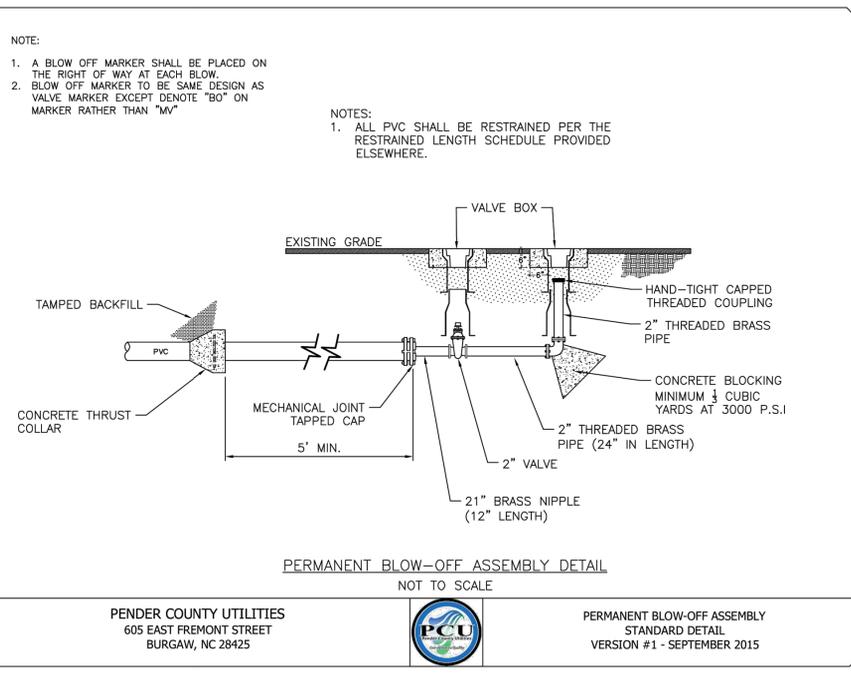
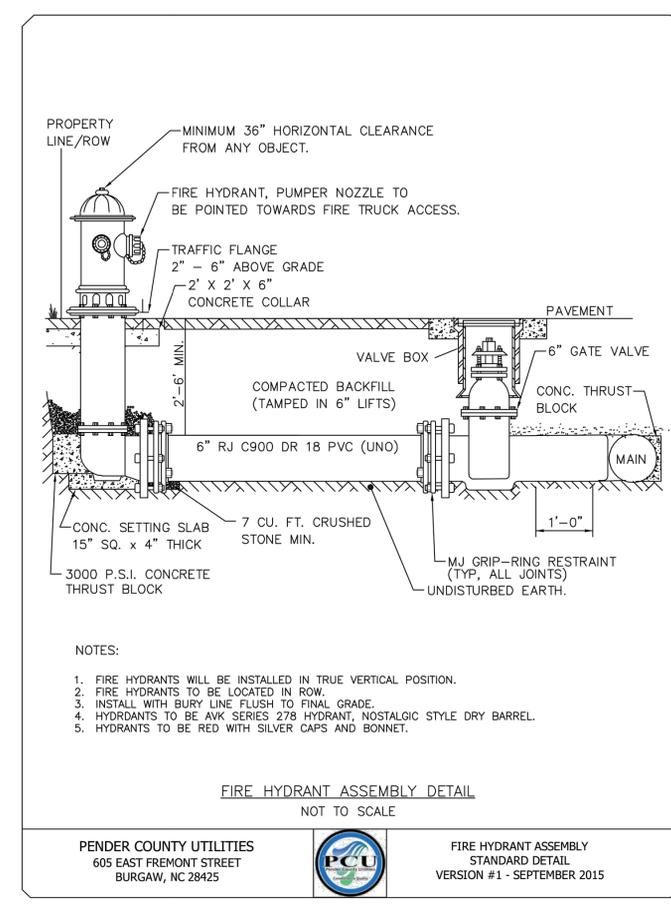
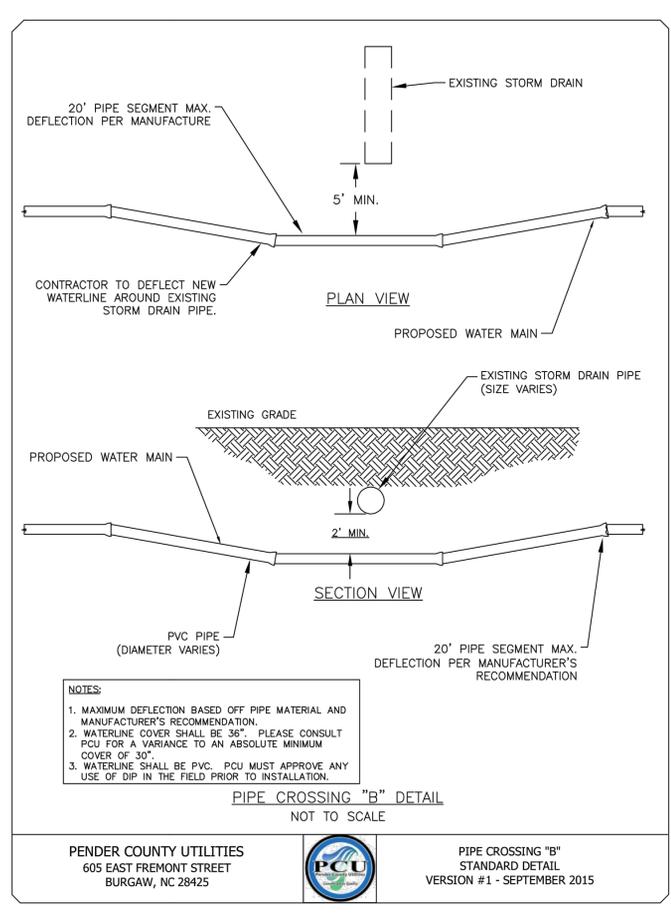
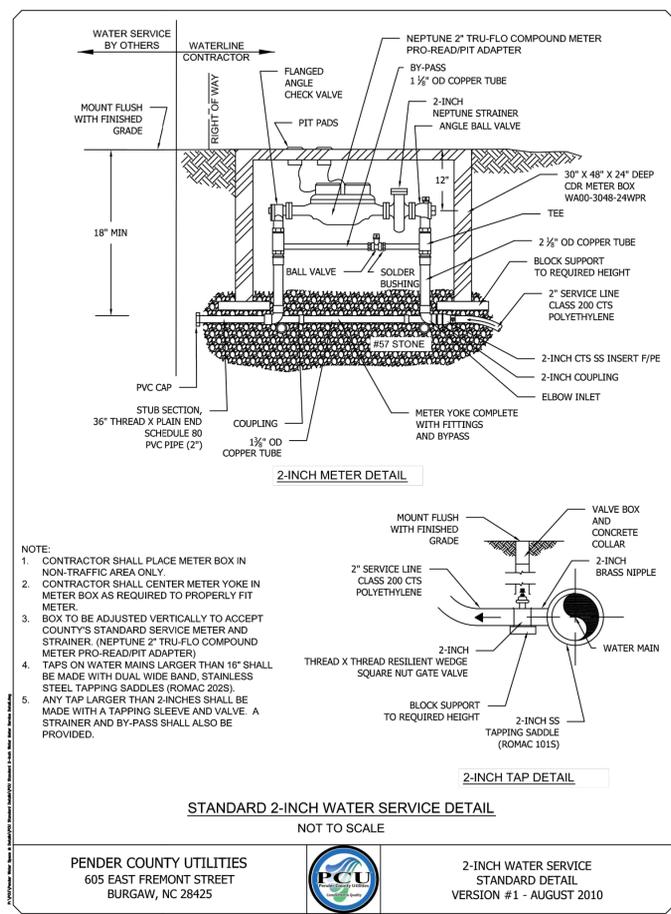
WYNDWATER - PHASE 4
Topsail Township Pender County North Carolina

STANDARD DETAILS

PREPARED FOR:
SIGNATURE TOP SAIL NC, LP
9337B Katy Freeway #377
Houston, TX 77024
713-822-3891

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-9



No.	Revision	Date	By

Designer	GSP	Scale	NO SCALE
Drawn By	GSP	Date	Morch 2016
License #	P-0718	Job No.	2015-0007

WYNDWATER - PHASE 4
Topsail Township Pender County North Carolina

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Sheet No.
C-11.1



Restrained Length In Feet Each Side of Fitting Joint

PIPE DIAMETER (INCHES)	D. I. P.				P. V. C.			
	90°	45°	22 1/2°	11 1/4°	90°	45°	22 1/2°	11 1/4°
3"	30"	15"	10"	5"	40"	20"	10"	5"
4"	35"	15"	10"	5"	50"	25"	10"	5"
6"	55"	25"	10"	5"	80"	35"	20"	10"
8"	65"	30"	15"	10"	90"	40"	20"	10"
10"	80"	35"	20"	10"	110"	50"	25"	15"
12"	95"	40"	20"	10"	130"	55"	30"	15"
16"	120"	50"	25"	15"	165"	70"	35"	20"
20"	150"	65"	30"	15"	200"	85"	40"	20"
24"	180"	70"	35"	20"	210"	90"	45"	25"
30"	190"	80"	40"	20"	250"	105"	50"	25"
36"	220"	95"	45"	25"	0"	0"	0"	0"
42"	245"	105"	50"	25"	0"	0"	0"	0"
48"	260"	120"	55"	30"	0"	0"	0"	0"

Restrained lengths for valves, dead ends and branches from tees shall be the same as for 90° (degree) bends

Restrained Length In Feet For Reducer

PIPE DIAMETER (INCHES)	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
3"	0	0	0	0	0	0	0	0	0	0
4"	40"	0	0	0	0	0	0	0	0	0
6"	50"	45"	0	0	0	0	0	0	0	0
8"	75"	70"	45"	0	0	0	0	0	0	0
10"	85"	80"	70"	45"	0	0	0	0	0	0
12"	120"	115"	100"	75"	45"	0	0	0	0	0
16"	150"	155"	140"	125"	100"	70"	0	0	0	0
20"	200"	195"	185"	170"	150"	130"	75"	0	0	0
24"	180"	155"	150"	140"	135"	120"	90"	50"	0	0
30"	195"	190"	185"	180"	170"	160"	120"	105"	70"	0
36"	225"	220"	215"	210"	205"	195"	180"	150"	125"	70"
42"	245"	240"	235"	230"	225"	220"	205"	180"	155"	105"
48"	255"	250"	245"	240"	235"	230"	215"	195"	175"	125"

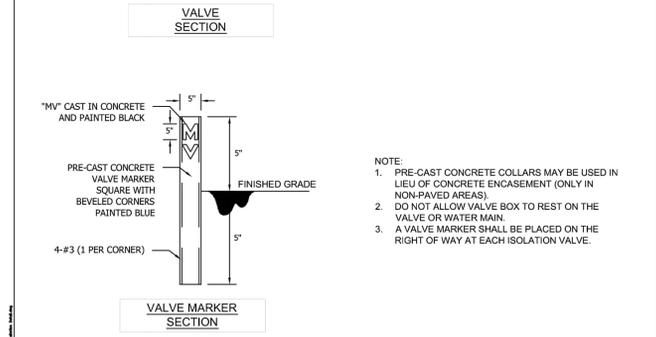
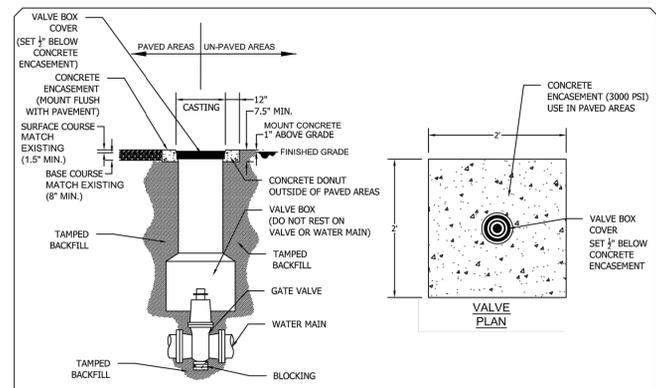
Length of restrained joint for larger diameter pipe

- NOTES:
- PENDER COUNTY STANDARD RESTRAINT METHOD IS MJ "GRIP RING" TYPE. ALL RJ TO BE MJ "GRIP RING" TYPE, UNLESS SPECIFICALLY APPROVED BY PCU IN WRITING.
 - ALL FITTINGS AND JOINTS SHALL BE RESTRAINED JOINT.
 - "L" ABOVE IS GIVEN IN FEET FROM FITTING JOINT.

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425



RESTRAINED JOINT TABLE
STANDARD DETAIL
VERSION #1 - OCTOBER 2015



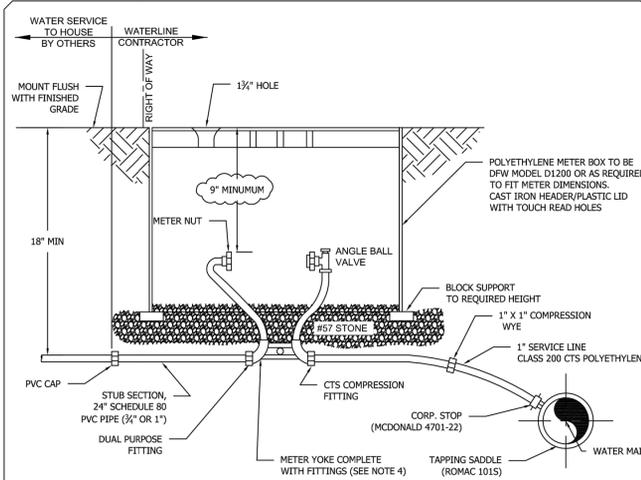
- NOTE:
- PRE-CAST CONCRETE COLLARS MAY BE USED IN LIEU OF CONCRETE ENCASEMENT (ONLY IN NON-PAVED AREAS).
 - DO NOT ALLOW VALVE BOX TO REST ON THE VALVE OR WATER MAIN.
 - A VALVE MARKER SHALL BE PLACED ON THE RIGHT OF WAY AT EACH ISOLATION VALVE.

VALVE INSTALLATION DETAIL
NOT TO SCALE

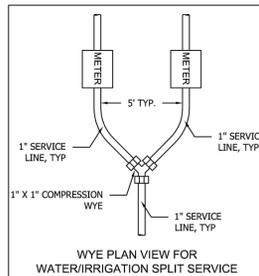
PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425



VALVE INSTALLATION
STANDARD DETAIL
VERSION #2 - SEPTEMBER 2015



- NOTE:
- CONTRACTOR SHALL PLACE METER BOX IN NON-Traffic AREA ONLY.
 - ALL TAPS TO BE MADE ON THE TOP QUARTER OF THE WATER MAIN.
 - CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
 - MCDONALD 26-702WX2D 33 (1/2") MCDONALD 26-410WX2D 44 (1")
 - BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER. (NEPTUNE T-10, PRO READ REGISTER, R600 MIU)
 - METER TO BE SET BY COUNTY UPON RECEIPT OF WATER SERVICE FEES, AND SATISFACTORY INSPECTION OF WATER SERVICE TO HOUSE.
 - TAPS ON WATER MAINS LARGER THAN 16" SHALL BE MADE WITH DUAL WIDE BAND, STAINLESS STEEL TAPPING SADDLES (ROMAC 2025).
 - 1 1/2" METERS REQUIRE 2" TAP AND 2" SQUARE NUT GATE VALVE PER 2" METER DETAIL. REDUCE TO 1 1/2" SERVICE PIPE.
 - INSTALL WYE TO PROVIDE A DOMESTIC METER SETTER AND IRRIGATION METER SETTER PER SPLIT SERVICE INSET.

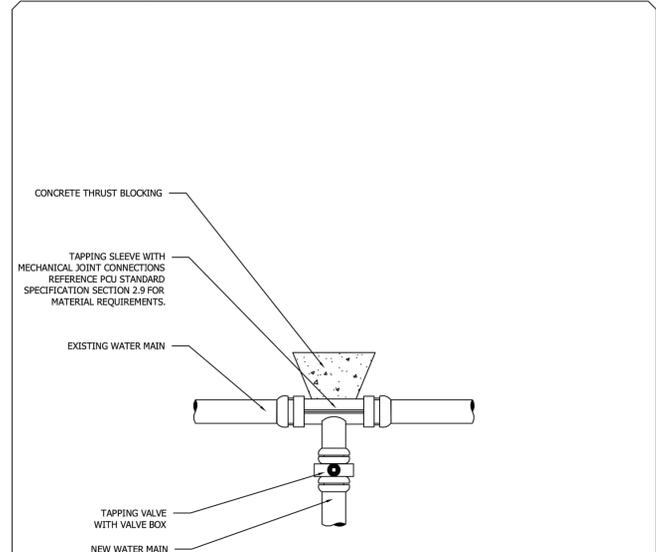


STANDARD WATER SERVICE DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425



WATER SERVICE (3/4" - 1")
STANDARD DETAIL
VERSION #3 - SEP 2015



TAPPING SLEEVE AND VALVE ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425



TAPPING SLEEVE AND VALVE ASSEMBLY
STANDARD DETAIL
VERSION #2 - SEPTEMBER 2015



No.	Revision	Date	By	Designer	Scale
				GSP	NO SCALE
				CSP	Morch 2016
				P-0718	2015-0007

WYNDWATER - PHASE 4
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