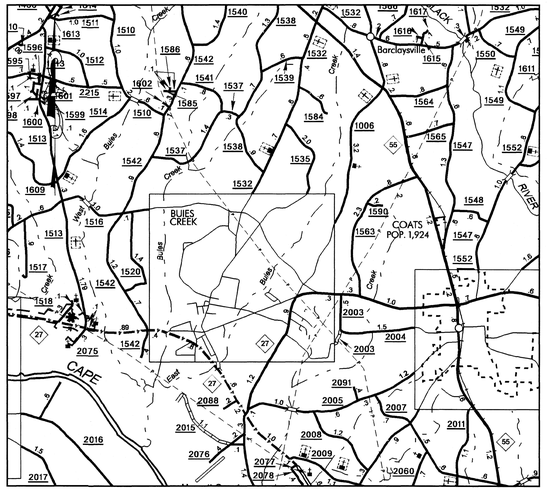
CAMPBELL POINTE TOWNHOMES
PHASE 5-6

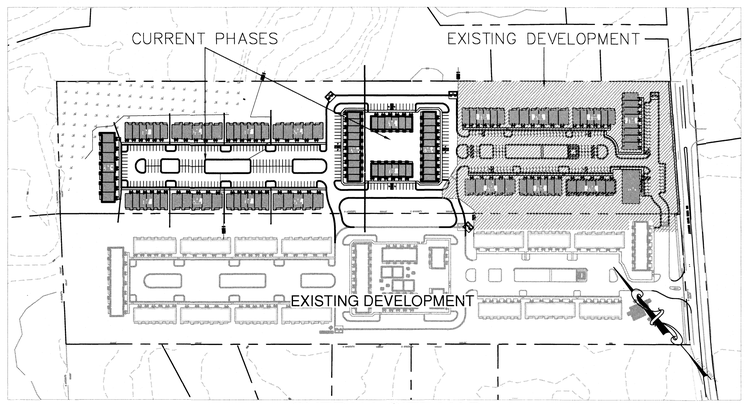
NEILL'S CREEK TOWNSHIP, HARNETT COUNTY, NORTH CAROLINA

PROJECT INFORMATION

NAME OF PROJECT:	CAMPBELL POINTE TOWNHOMES PHASES 5-6 WINSTON 104 GROUP, LLC CARE OF JASON PRICE 2323 KEITH HILLS RD LILLINGTON, NC 27546 910-814-4236
ENGINEER:	DRAPER ADEN ASSOCIATES 114 EDINBURGH SOUTH DRIVE, SUITE 200 CARY, NC 27511 919-827-0864
PIN:	0670-98-4821.000
DEED REFERENCE:	DB 826 PG 0754
ZONE CLASSIFICATION:	RA-30
FLOOD ZONE CLASS:	ZONE X, FIRM 3720066000J, UPDATED 2006
WATERSHED CLASSIFICATION:	WS-IV
SITE AREA:	14.52 ACRES
IMPERVIOUS AREA:	7.13 ACRES (±49.1%) TOTAL
DWELLING UNITS:	PHASE 5-6: 84 (111 BEDROOMS) TOTAL: 126 UNITS (169 BEDROOMS)
PARKING SPACES REQUIRED:	TOTAL: 293
PARKING SPACES PROVIDED:	TOTAL: 357
LANDSCAPE BUFFER:	TYPE A AND TYPE C
15% OPEN SPACE REQUIRED:	TOTAL: 2.18 ACRES
OPEN SPACE PROVIDED:	TOTAL: ±2.3 ACRES
5% ACTIVE RECREATION REQUIRED:	TOTAL: 0.73 ACRES
ACTIVE RECREATION PROV.:	TOTAL: ±0.8 ACRES
E&S CONTROL PLAN APPROVAL:	APPROVED, PERMIT NO: HARNE-2018-040
NCDOT DRIVEWAY PERMIT:	APPROVED



VICINITY MAP
NOT TO SCALE



OVERALL SITE MAP
SCALE: 1" = 200'

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AS THE OWNER OF RECORD, I HEREBY FORMALLY CONSENT TO THE PROPOSED DEVELOPMENT SHOWN ON THIS SITE PLAN AND ALL REGULATIONS AND REQUIREMENTS OF THE HARNETT COUNTY ORDINANCES

DATE _____ OWNER SIGNATURE _____

DRAPER ADEN ASSOCIATES REVIEW

THESE PLANS HAVE BEEN SUBJECTED TO TECHNICAL AND QUALITY REVIEWS BY:

NAME: ANDREW P. MERICLE, P.E. — SIGNATURE — DATE 8/21/19
PROJECT DESIGNER

NAME: C. TYRUS CLAYTON JR., P.E. — SIGNATURE — DATE 8.21.19
PROJECT MANAGER

NAME: KEVIN T. BARNES, L.A. — SIGNATURE — DATE 8.21.2019
QUALITY REVIEWER

CONDITIONAL USE PERMIT #BA-CU-09-15 WAS APPROVED 8/8/2017.
WATER SUPPLY WATERSHED SPECIAL INTENSITY ALLOCATION PERMIT APPROVED 8/8/2017.
THIS DEVELOPMENT IS WITHIN ONE MILE OF A VOLUNTARY AGRICULTURAL DISTRICT.
E&S CONTROL PLAN APPROVAL HARNE-2018-040 WAS ISSUED FEBRUARY 28, 2018
NCDOT DRIVEWAY PERMIT 15-043-017 ISSUED JUNE 2, 2015

REVIEW AND PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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COVER SHEET
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C1.0

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH THE CURRENT EDITION OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL MANUAL. ALL DEVICES REFERRED TO IN THESE PLANS CAN BE FOUND IN THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL MANUAL.
2. ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED PER THE NPDES SCHEDULE AFTER REACHING FINAL GRADE. AREAS WHICH HAVE BEEN DISTURBED AND HAVE NOT REACHED FINAL GRADE, BUT WHICH ARE TO REMAIN UNDISTURBED FOR LONGER THAN 14 DAYS ARE TO BE TEMPORARILY SEEDED AND MULCHED PER THE NPDES SCHEDULE. AS UPSTREAM AREAS ARE STABILIZED WITH PERMANENT GROUND COVER, DOWNSTREAM TEMPORARY DEVICES ARE TO BE REMOVED. CONTRACTOR SHALL FOLLOW THE STABILIZATION TIME TABLE INCLUDED IN THIS SET OF DRAWINGS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERIODICALLY INSPECT ALL SEDIMENT AND EROSION CONTROL DEVICES AND ENSURE THAT THEY ARE IN GOOD WORKING ORDER. AT A MINIMUM, ALL DEVICES SHALL BE INSPECTED DAILY AND AFTER MAJOR RAINFALL EVENTS. ANY DEVICE NEEDING REPAIRS SHALL BE REPAIRED WITHIN 24 HOURS.
4. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES IF DURING THE COURSE OF CONSTRUCTION THE ENGINEER OR HARNETT COUNTY INSPECTOR DETERMINES THAT THEY ARE REQUIRED.
5. SILT SHALL BE REMOVED FROM SILT FENCES WHEN THE SILT REACHES APPROXIMATELY ONE–THIRD THE HEIGHT OF THE BARRIER.
6. THE CONTRACTOR SHALL PERIODICALLY TOP DRESS THE CONSTRUCTION ENTRANCE WITH CLEAN STONE. IF THE CONSTRUCTION ENTRANCE FAILS TO REMOVE DIRT FROM THE TIRES OF VEHICLES ENTERING A PUBLIC RIGHT–OF–WAY A WASH RACK SHALL BE INSTALLED AND THE TIRES WASHED. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ANY REQUIRED WATER FOR THE WASHING OF TIRES. DIRT TRACKED ONTO THE PUBLIC RIGHT–OF–WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
7. ALL EROSION AND SILTATION MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING.
8. ALL STORM AND SANITARY SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED PER THE NPDES SCHEDULE AFTER BACKFILL. NO MORE THAN FIVE HUNDRED FEET OF TRENCH IS TO BE OPEN AT ONE TIME.
9. ALL TEMPORARY EARTH BERMS, DIVERSIONS, AND SILT DAMS ARE TO BE MULCHED AND SEEDED FOR VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO STOCKPILES ON SITE AS WELL AS SOIL (INTENTIONALLY) TRANSPORTED FROM THE PROJECT SITE.
10. ELECTRIC POWER, TELEPHONE, GAS SUPPLY, AND OTHER UTILITY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED IMMEDIATELY AFTER BACKFILL.
11. DURING CONSTRUCTION, ALL STORM SEWER INLETS SHALL BE PROTECTED BY INLET PROTECTION PRACTICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
12. ANY DISTURBED AREA NOT PAVED, SODDED, OR BUILT UPON, IS TO BE SEEDED PER THE TEMPORARY AND PERMANENT SEEDING SCHEDULE INCLUDED IN THESE DRAWINGS. MODIFY AS APPLICABLE DEPENDING ON PROPOSED TIME OF CONSTRUCTION.
13. CONTRACTOR STAGING AREA(S) SHALL BE RETURNED TO BETTER THAN ORIGINAL CONDITIONS AT THE COMPLETION OF THE WORK.
14. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION CONTROL MEASURES. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
15. A PRE–CONSTRUCTION MEETING IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBANCE PERMIT. THE CONTRACTOR SHALL SCHEDULE THE MEETING WITH THE HARNETT COUNTY INSPECTOR ASSIGNED TO THE PROJECT.
16. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL MANUAL AND THE NORTH CAROLINA SEDIMENTATION POLLUTION CONTROL ACT OF 1973.
17. AS A CONDITION OF NPDES PERMIT NO. NCG 010000, PERMANENT GROUNDCOVER SHOULD BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING THE COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION
CONSTRUCTION OF PHASES 4–6 OF A TOWN HOME DEVELOPMENT, ASSOCIATED PARKING AND INFRASTRUCTURE. THE TOTAL AREA OF LAND DISTURBANCE ASSOCIATED WITH THIS PROJECT WILL BE 15.0 ACRES. NO SIGNIFICANT CHANGES TO THE EXISTING DRAINAGE AND HYDROLOGIC PATTERNS ARE PROPOSED.

EXISTING CONDITIONS
THE EXISTING SITE IS A PRIMARILY CROPS WITH A WOODED AREA TO THE REAR OF THE SITE. THE SITE FALLS TOWARDS TO THE SOUTH, EAST, AND WEST WITH A KNOLL IN THE NORTHERN MIDDLE OF THE PROPERTY.

DEVELOPMENT IMPACTS
THE DEVELOPMENT IMPACTS TO THE TOPOGRAPHY, SOILS, HYDROLOGY, AND GEOLOGY WILL BE MINOR.

ADJACENT PROPERTIES
THE SUBJECT PROPERTY IS BORDERED ON THE NORTH BY EXISTING CROP FIELDS AND RESIDENTIAL, TO THE SOUTH BY EXISTING TOWNHOME DEVELOPMENT, TO THE EAST BY MAIN STREET, AND TO THE WEST BY WOODS.

SOILS
THE SITE IS A MIXTURE OF NORFOLK LOAMY SAND, BIBBS SOILS, COXVILLE LOAM, AND RAINS SANDY LOAM. THE NORFOLK LOAMY SAND ON THE HIGHER PORTIONS OF THE SITE (HYDROLOGIC GROUP A) WILL BE USED TO FILL IN THE LOWER PORTIONS OF THE SITE (BIBBS SOILS, HYDROLOGIC GROUP D).

CRITICAL EROSION AREAS
1. CARE MUST BE TAKEN TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ADJACENT ROADWAYS.
2. CARE MUST BE TAKEN TO PREVENT SEDIMENTATION EXITING THE PROJECT SITE AREA.
3. CARE MUST BE TAKEN TO PREVENT SEDIMENTATION INTO WETLANDS.

STOCKPILING
SOME TOPSOIL STOCKPILING IS ANTICIPATED ON–SITE.

STRUCTURAL PRACTICES
CONSTRUCTION ENTRANCE
SILT FENCE
SILT FENCE OUTLET
TEMP. DIVERSION BERM
SKIMMER SEDIMENT BASIN

VEGETATIVE PRACTICES
TOPSOILING
TEMPORARY SEEDING
PERMANENT SEEDING
MULCHING

MANAGEMENT STRATEGIES
1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING.
3. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
4. AFTER ACHIEVING ADEQUATE STABILIZATION AND UPON APPROVAL OF WAKE COUNTY EROSION CONTROL INSPECTOR, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

PERMANENT STABILIZATION
THE DISTURBED AREAS WILL BE PERMANENTLY STABILIZED THROUGH THE USE OF IMPERVIOUS SURFACES AND PERMANENT SEEDING.

MANAGEMENT STRATEGIES
1. THE SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES 1/3 THE WAY TO THE TOP OF THE BARRIER.
2. THE SEDIMENT TRAP AND BASIN SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

CONSTRUCTION SEQUENCE

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. FLAG THE WORK LIMITS.
3. HOLD REQUIRED PRE–CONSTRUCTION MEETING AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION. ALL PERMITS AND PAYMENTS MUST BE COMPLETED PRIOR TO THESE MEETINGS.
4. INSTALL THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE AS THE FIRST CONSTRUCTION ACTIVITY. INSTALL SEDIMENT FENCE, TEMPORARY DIVERSION BERMS AND SEDIMENT BASINS.
5. REMOVE TOPSOIL FROM AREA OF EXCAVATION AND STOCKPILE FOR USE DURING FINAL STABILIZATION WITHIN LIMITS OF DISTURBANCE.
6. CLEAR VEGETATION FROM THE WORK AREA AND ROUGH GRADE SITE LEAVING REAR SEDIMENT BASIN IN PLACE UNTIL IT MUST BE REMOVED TO COMPLETE GRADING AT REAR OF SITE.
7. ALL 3:1 SLOPES BEHIND BUILDINGS IN PHASE 6 AT REAR OF SITE ARE TO BE MATTED IMMEDIATELY UPON REACHING GRADE.
8. COMPLETE CONSTRUCTION, SPREAD TOPSOIL, AND PERMANENTLY VEGETATE AND MULCH.
9. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIRS SHALL BE MADE IMMEDIATELY.
10. AFTER THE SITE IS STABILIZED, REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT, UPON APPROVAL OF THE ENGINEER AND THE NCDEQ INSPECTOR REMOVE ALL TEMPORARY MEASURES AND BEGIN FINAL POND CONVERSION.
11. SEDIMENT BASIN TO BE DEWATERED, CLEARED OF ACCUMULATED SEDIMENT, SKIMMER REMOVED, ASSOCIATED DEWATERING HOLE PLUGGED, AND PERMANENT VEGETATION PLANTED.
12. RELOCATE SURFACE WATER CONTROLS OR EROSION CONTROL MEASURES SO THAT AS SITE CONDITIONS CHANGE, CONTROLS OR CONTROL MEASURES PREVENT SEDIMENT FROM LEAVING THE SITE.
13. SEEDING AND STABILIZATION SHALL OCCUR PER THE STABILIZATION TIME TABLE SHOWN IN THESE PLANS.
14. ESTIMATED TIME BEFORE FINAL STABILIZATION – 12 MONTHS.

GENERAL NOTES

1. DIMENSIONS AND RADII ARE TO FACE OF CURB, WHERE APPLICABLE, UNLESS OTHERWISE INDICATED.
2. DIMENSIONS AT BUILDING ARE TO OUTSIDE FACE, UNLESS OTHERWISE INDICATED.
3. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM THE LOCAL AND STATE AGENCIES.
4. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT HIS EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
5. ALL PAVING MATERIALS AND DRAINAGE STRUCTURES SHALL BE BUILT AND INSTALLED IN ACCORDANCE WITH NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
6. THE LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. FOR ASSISTANCE IN LOCATING EXISTING UTILITIES CALL "NC ONE CALL", DIAL 811.
7. ALL WATER AND SEWER CONSTRUCTION AND MATERIALS SHALL CONFORM WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES.
8. WHERE PAVEMENT IS BEING REMOVED, THE CONTRACTOR SHALL REMOVE AGGREGATE BASE MATERIAL TO SUB–GRADE.
9. DAMAGE TO UTILITIES (INCLUDING UNDERGROUND) OR PROPERTY OF OTHERS BY CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE–CONSTRUCTION CONDITIONS BY CONTRACTOR AT NO COST TO OWNER.
10. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO LIKE–NEW CONDITION.
11. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.
12. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY INSPECTORS.
13. PARKING SPACES SHALL BE DELINEATED BY FOUR INCH WIDE WHITE TRAFFIC PAINT.
14. LANDSCAPING AND SITE IMPROVEMENTS WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE NEEDS OF DRIVERS WITHIN THE PARKING AREA AND AT ENTRANCE/EXIT LOCATIONS.
15. THE CONTRACTOR SHALL NOTIFY THE ALL APPLICABLE REGULATORY AGENCIES AND THE ENGINEER AT LEAST 24 HOURS PRIOR TO STARTING WORK ON THIS PROJECT.
16. UNLESS OTHERWISE NOTED, ALL CONCRETE PIPE SHALL BE REINFORCED CONCRETE PIPE, CLASS III.
17. ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFR PART 1926).
18. VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
19. DEVIATIONS FROM, OR CHANGES TO THESE PLANS WILL NOT BE ALLOWED.
20. MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO THE PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT. TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. REPAIR AT YOUR OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. IF A UTILITY IS DAMAGED DURING CONSTRUCTION, STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
21. PROPERLY SECURE THE CONSTRUCTION AREA AT ALL TIMES AGAINST UNAUTHORIZED ENTRY AND ADEQUATELY PROTECT EQUIPMENT, MATERIALS, AND COMPLETED WORK FROM THEFT AND VANDALISM. THE OWNER IS NOT RESPONSIBLE FOR THE LOSS OF ANY MATERIAL STORED AT THE SITE.

GENERAL CONSTRUCTION AND GEOTECHNICAL NOTES

ENGINEERED FILL

1. ALL CONTROLLED FILL ZONES ARE TO BE MONITORED BY A FULL TIME GEOTECHNICAL ENGINEERING SERVICES FIRM.
2. ENGINEERED FILLS SHALL BE PROPERLY PLACED ACCORDING TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
3. ALL SUMMARY REPORTS FROM THE GEOTECHNICAL ENGINEER REPRESENTING THE PROJECT MUST STATE HIS PROFESSIONAL OPINION ON THE SATISFACTORILY COMPLETED PHASES OF CONSTRUCTION SUCH AS; SLOPE CUTS, SUBDRAINAGE SYSTEMS, PREPARATION OF SUBGRADES AND COMPACTION OF EARTH FILLS.
4. NO FILLS SHALL HAVE ZONES THAT EXCEED TWO (2) FEET IN ELEVATION WITHOUT CONDUCTING COMPACTION TEST AND OBTAINING RESULTS OF 95% OR GREATER.
5. THE GEOTECHNICAL ENGINEER MUST SUBMIT A DETAILED ANALYSIS, ITEMIZING THE FIELD DENSITY TEST RESULTS. THIS REPORT SHALL BE ACCOMPANIED WITH A COPY OF THE SITE PLAN SHEET AND INDICATE THE TEST LOCATIONS AND ELEVATIONS. THE GEOTECHNICAL ENGINEER MUST PROVIDE ENOUGH DESIGNATED TESTING IN ALL FILL ZONES TO ADEQUATELY EXAMINE AND CERTIFY THE INTEGRITY OF THE FILL.
6. THE GEOTECHNICAL ENGINEER MUST SUBMIT A CERTIFIED BUILDING PAD REPORT FOR EACH FILL PAD LOCATION. THIS REPORT SHALL PROFILE THE FILL MATERIAL PLACEMENT AND PROVIDE THE COMPACTION TEST RESULTS. ALL REPORTS WILL BE ACCOMPANIED BY THE SITE PLAN, INDICATING THE TEST LOCATIONS AND ELEVATIONS.
7. NO BUILDING PADS IN FILL ZONES WILL HAVE STRATUMS EXCEEDING TWO (2) FEET IN ELEVATION WITHOUT TEST VERIFYING DENSITY.
8. THESE GEOTECHNICAL NOTES SHALL IN NO WAY LESSEN THE REQUIREMENTS OF THE SUBMITTED SOILS REPORT.

ROAD SUBGRADE

1. INSPECTION AND APPROVAL OF THE SUBGRADE WILL BE REQUIRED PRIOR TO THE PLACEMENT OF THE APPROVED PAVEMENT SECTION MATERIAL.
2. ANY CLAY DEPOSITS IN THE TOP TWO FEET OF THE SUBGRADE MUST BE REMOVED OR ADDRESSED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
3. SUBGRADE APPROVAL SHALL BE ACCOMPANIED BY THE SUPPORTING DOCUMENTATION VERIFYING DENSITY TEST RESULTS OF 95% OR GREATER.
4. THE ENTIRE SUBGRADE WILL HAVE BEEN PROOF–ROLLED IN THE PRESENCE OF THE SITE INSPECTOR AND GEOTECHNICAL REPRESENTATIVE. PROOF–ROLLING SHALL BE A RUBBER TIRE VEHICLE SUCH AS A LOADED TEN (10) TON TRUCK OF APPROVED COMPACTION EQUIPMENT.
5. THE FINAL SUBGRADE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER AND SITE INSPECTOR BEFORE PLACEMENT OF PAVEMENT SECTION MATERIALS.

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1) — NCDENR/Division of Water Quality

NEW STABILIZATION TIMEFRAMES
(Effective Aug. 3, 2011)

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) 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' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

GENERAL UTILITY NOTES

1. FIRE HYDRANT VALVE AND ALL VALVE BOXES SHALL HAVE CONCRETE DONUT INSTALLED AT GRADE.
2. THE ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA; EITHER IN SERVICE OR ABANDONED. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION AS INDICATED. ALTHOUGH, HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION SO THAT CONTRACTOR IS FAMILIAR AND UNDERSTANDS EXISTING CONDITIONS.
4. FIELD CHANGES MAY BE NECESSARY DUE TO EXISTING UTILITY LOCATIONS. THE ENGINEER AND HARNETT REGIONAL WATER SHALL BE CONTACTED BEFORE MAKING THESE CHANGES.
5. WATER LINE TO BE INSTALLED A MINIMUM OF 3 FEET BELOW GRADE.
6. 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 A VERTICAL SEPARATION OF AT LEAST 18" SHALL BE MAINTAINED BY EITHER LAYING THE WATER MAIN IN A SEPARATE TRENCH WITH THE BOTTOM AT LEAST 18" ABOVE THE SEWER OR LAYING THE WATER MAIN ON A BENCH IN THE SAME TRENCH AT LEAST 18" ABOVE THE SEWER.
7. WHERE A WATER MAIN CROSSES OVER A SEWER, MAINTAIN AT LEAST 18" VERTICAL SEPARATION BETWEEN THE PIPES. IF AN 18" VERTICAL SEPARATION IS NOT POSSIBLE, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS (DIP) AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FT ON EACH SIDE OF THE POINT OF CROSSING.
8. WHERE A WATER MAIN CROSSES UNDER A SEWER, MAINTAIN AT LEAST 18" VERTICAL SEPARATION BETWEEN THE PIPES. BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS (DIP) AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FT ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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NOTES
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C2.0

2012 HRW REQUIRED UTILITY NOTES (REVISION 5 - MARCH 2012)
THE FOLLOWING UTILITY NOTES SHOULD BE ADDED TO THE COVER SHEET OF UTILITY PLANS FOR PROJECTS LOCATED IN HARNETT COUNTY:

WATER

A. THE FIRE MARSHAL'S OFFICE SHALL APPROVE ALL HYDRANT TYPES AND LOCATIONS IN NEW SUBDIVISIONS. HOWEVER, HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HRW) PREFERS THE CONTRACTORS TO INSTALL ONE OF THE FOLLOWING FIRE HYDRANTS:
1. MUELLER - SUPER CENTURION 250 A-423 MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE);
2. AMERICAN DARLING - MARK B-84-B MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE);
3. WATEROUS - PACER S-67-250 MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE) OR APPROVED EQUAL FOR STANDARDIZATION.

B. FIRE HYDRANTS ARE INSTALLED AT CERTAIN ELEVATIONS. ANY GRADE CHANGE IN THE VICINITY OF ANY FIRE HYDRANT WHICH IMPEDES ITS OPERATION SHALL BECOME THE RESPONSIBILITY OF THE UTILITY CONTRACTOR FOR CORRECTION. CORRECTIONS WILL BE MONITORED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND THE HARNETT COUNTY FIRE MARSHAL..

C. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND PROVIDE THE NCDENR "AUTHORIZATION TO CONSTRUCT" PERMIT TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE WATER LINE SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE NCDENR "AUTHORIZATION TO CONSTRUCT" PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES - DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION (NCDENR-DEH,PWSS) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS OF THE PROPOSED WATER LINES THAT WILL SERVE THIS PROJECT.

D. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HRW) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HRW UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HRW FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HRW WHICH IS 8:00 AM - 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HRW.

E. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HRW AND THE UTILITY CONTRACTOR WITH A SET OF NCDENR APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE PROFESSIONAL LAND SURVEYOR (PLS) SHOULD STAKE OUT ALL LOT CORNERS AND THE GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OF THE WATER LINE(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING AND UTILITY CONSTRUCTION.

F. THE UTILITY CONTRACTOR SHALL PROVIDE THE HRW UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY WATER LINE EXTENSION(S), AND ASSOCIATED WATER SERVICES IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HRW AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.

G. THE WATER MAIN(S), FIRE HYDRANTS, SERVICE LINES, METER SETTERS AND ALL ASSOCIATED APPURTENANCES SHALL BE CONSTRUCTED IN STRICT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HRW). THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED WATER MAIN(S), WATER SERVICE LINES AND ALL ASSOCIATED METER SETTERS AND METER BOXES FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW WATER MAIN(S) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES - DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION (NCDENR-DEH, PWSS)AND ACCEPTED BY HRW.

H. PRIOR TO ACCEPTANCE, ALL SERVICES WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL METER BOXES MUST BE FLUSH WITH THE GROUND LEVEL AT FINISH GRADE AND THE METER SETTERS MUST BE A MINIMUM OF 8" BELOW THE METER BOX LID. METER SETTERS SHALL BE CENTERED IN THE METER BOX AND SUPPORTED BY BRICK, BLOCK OR STONE.

I. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER (PE) AND HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE WATER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE WATER LINES AS WELL AS THE GATE VALVES, FIRE HYDRANTS, METER SETTERS, BLOW OFF ASSEMBLIES AND ALL ASSOCIATED APPURTENANCES FOR ALL WATER LINE(S) CONSTRUCTED IN HARNETT COUNTY. THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDENR APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

J. POTABLE WATER MAINS CROSSING OTHER UTILITIES AND NON-POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWENTY-FOUR (24") INCHES BETWEEN THE POTABLE WATER MAIN AND ALL OTHER UTILITIES. NCDOT REQUIRES THE NEW WATER MAINS TO BE INSTALLED UNDER THE STORM WATER LINES. THE POTABLE WATER MAIN SHALL BE INSTALLED WITH TWENTY-FOUR (24") INCHES OF VERTICAL SEPARATION AND WITH DUCTILE IRON PIPE WHEN DESIGNED TO BE PLACED UNDER A NON-POTABLE WATER LINE SUCH AS SANITARY SEWER OR STORM SEWER LINES. IF THESE SEPARATIONS CANNOT BE MAINTAINED THEN THE WATER MAIN SHALL BE INSTALLED WITH DUCTILE IRON PIPE. BOTH THE POTABLE WATER MAIN AND THE NON-POTABLE WATER LINE MUST BE CAST IRON OR DUCTILE IRON PIPE (DIP) IF THE STATE MINIMUM SEPARATIONS CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE MUST BE LAID SO THE MECHANICAL JOINTS ARE AT LEAST (10') FEET FROM THE POINT WHERE THE POTABLE WATER MAIN CROSSES THE NON-POTABLE WATER LINE.

K. POTABLE WATER MAINS INSTALLED PARALLEL TO NON-POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TEN (10') FEET BETWEEN THE POTABLE WATER MAIN AND SANITARY SEWER MAINS, SEWER LATERALS AND SERVICES. THE HORIZONTAL SEPARATION BETWEEN THE POTABLE WATER MAIN AND ANY OTHER UTILITY OR STORM SEWER SHALL NOT BE LESS THAN FIVE (5') FEET. THE POTABLE WATER MAIN MUST BE DUCTILE IRON PIPE IF THIS HORIZONTAL SEPARATION OF TEN (10') FEET CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST TEN (10') FEET BEYOND THE POINT WHERE THE MINIMUM REQUIRED HORIZONTAL SEPARATION OF TEN (10') FEET CAN BE RE-ESTABLISHED.

L. METER SETTERS SHALL BE INSTALLED IN PAIRS ON EVERY OTHER LOT LINE WHERE POSSIBLE TO LEAVE ADEQUATE SPACE FOR OTHER UTILITIES TO BE INSTALLED AT A LATER TIME. THE METER SETTERS SHALL BE INSTALLED AT LEAST ONE (1') FOOT INSIDE THE RIGHT-OF-WAY AND AT LEAST THREE (3') TO FIVE (5') FEET FROM THE PROPERTY LINE BETWEEN THE LOTS.

M. HRW REQUIRES THAT METER BOXES FOR ¾" SERVICES SHALL BE 12" WIDE X 17" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH CAST IRON LIDS/COVERS. METER BOXES FOR 1" SERVICES SHALL BE 17" WIDE X 21" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS. METER BOXES FOR 2" SERVICES SHALL BE 20" WIDE X 32" LONG ABS PLASTIC BOXES AT LEAST 20" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS.

N. MASTER METERS MUST BE INSTALLED IN CONCRETE VAULTS SIZED FOR THE METER ASSEMBLY AND ASSOCIATED APPURTENANCES SO AS TO PROVIDE AT LEAST EIGHTEEN (18") INCHES OF CLEARANCE BETWEEN THE BOTTOM OF THE CONCRETE VAULT AND THE BOTTOM OF THE METER SETTER. THE MASTER METER MUST BE PROVIDED TEST PORTS IF THE METER IS NOT EQUIPPED WITH TEST PORTS FROM THE MANUFACTURER IN ACCORDANCE WITH THE HRW ESTABLISHED STANDARD SPECIFICATIONS AND DETAILS. DUCTILE IRON PIPE MUST BE USED FOR THE MASTER METER VAULT PIPING AND VALVE VAULT PIPING. THE UTILITY CONTRACTOR MUST PROVIDE SHOP DRAWINGS FOR THE METER VAULTS TO HRW PRIOR TO ORDERING THE CONCRETE VAULTS.

O. THE UTILITY CONTRACTOR WILL INSTALL POLYETHYLENE SDR-9 WATER SERVICE LINES THAT CROSS UNDER THE PAVEMENT INSIDE A SCHEDULE 40 PVC CONDUIT TO ALLOW FOR REMOVAL AND REPLACEMENT IN THE FUTURE. TWO (2) INDEPENDENT ¾" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) - TWO (2") INCH SCHEDULE 40 PVC CONDUIT OR TWO (2) INDEPENDENT 1" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) - THREE (3") INCH SCHEDULE 40 PVC CONDUIT, BUT EACH WATER SERVICE SHALL BE TAPPED DIRECTLY TO THE WATER MAIN. SPLIT SERVICES ARE NOT ALLOWED BY HRW.

P. THE WATER MAIN(S), FIRE HYDRANTS, GATE VALVES, SERVICE LINES, METER SETTERS AND ASSOCIATED APPURTENANCES MUST BE RATED FOR 200 PSI AND HYDROSTATICALLY PRESSURE TESTED TO 200 PSI. THE HYDROSTATIC PRESSURE TEST(S) MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR MUST NOTIFY HRW WHEN THEY ARE READY TO BEGIN FILLING IN LINES AND COORDINATE WITH HARNETT COUNTY TO WITNESS ALL PRESSURE TESTING.

Q. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE(S) PRIOR TO MAKING THE TAP ON THE EXISTING WATER MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE IN HARNETT COUNTY. ALL NEW WATER LINE EXTENSIONS MUST BEGIN WITH A RESILIENT WEDGE TYPE GATE VALVE SIZED EQUAL TO THE DIAMETER OF THE NEW WATER LINE EXTENSION IN ORDER TO PROVIDE A MEANS OF ISOLATION BETWEEN HARNETT COUNTY'S EXISTING WATER MAINS AND THE NEW WATER LINE EXTENSIONS UNDER CONSTRUCTION.

R. ALL WATER MAINS WILL BE CONSTRUCTED WITH SDR-21 PVC PIPE OR CLASS 50 DUCTILE IRON PIPE RATED FOR AT LEAST 200 PSI OR GREATER. ALL PIPES MUST BE PROTECTED DURING LOADING, TRANSPORT, UNLOADING, STAGING, AND INSTALLATION. PVC PIPE MUST BE PROTECTED FROM EXTENDED EXPOSURE TO SUNLIGHT PRIOR TO INSTALLATION.

S. ALL WATER MAINS WILL BE FLUSHED AND DISINFECTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES. ALL WATER SAMPLES COLLECTED FOR BACTERIA TESTING WILL BE COLLECTED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND TESTED IN THE HRW LABORATORY.

T. ALL FITTINGS LARGER THAN TWO (2") INCHES DIAMETER SHALL BE DUCTILE IRON. HRW REQUIRES THAT MECHANICAL JOINTS BE ASSEMBLED WITH GRIP RINGS AS "MEGALUG" FITTINGS ARE NOT APPROVED BY HARNETT COUNTY FOR PIPE SIZES SMALLER THAN TWELVE INCHES (12") DIAMETER. PVC PIPE USED FOR WATER MAINS SHALL BE CONNECTED BY SLIP JOINT OR MECHANICAL JOINT WITH GRIP RINGS. GLUED PIPE JOINTS ARE NOT ALLOWED ON PVC PIPE USED FOR WATER MAINS IN HARNETT COUNTY.

U. HRW REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL WATER LINES. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING.

V. THE UTILITY CONTRACTOR WILL PROVIDE PROFESSIONAL ENGINEER (PE) AND THE HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE FIELD DRAWINGS TO IDENTIFY THE INSTALLED LOCATIONS OF THE WATER LINE(S) AND ALL ASSOCIATED SERVICES. ALL CHANGE ORDERS MUST BE PRE-APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

W. THE UTILITY CONTRACTOR SHALL SPOT DIG TO EXPOSE EACH UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED WATER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE WATER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER REQUIREMENTS DURING WATER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.

X. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT-OF-WAYS THE UTILITY CONTRACTOR IS REQUIRED TO HAVE A SIGNED NCDOT ENCROACHMENT AGREEMENT POSTED ON SITE AND NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87-102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 632-4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED OR VERIFIED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.). THE UTILITY CONTRACTOR WILL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES TO THE SATISFACTION OF THE RELATED UTILITY COMPANY.

Y. THE UTILITY CONTRACTOR SHALL PROVIDE HRW WITH AT LEAST ONE (1) FIRE HYDRANT WRENCH AND ONE (1) BREAK-AWAY FLANGE KIT FOR EVERY SUBDIVISION WITH FIRE HYDRANTS DEVELOPED IN HARNETT COUNTY. THESE ITEMS MUST BE PROVIDED TO HRW BEFORE THE FINAL INSPECTION WILL BE SCHEDULED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. IN ADDITION, THE UTILITY CONTRACTOR SHALL INSTALL A 4" X 4" CONCRETE VALVE MARKER AT THE EDGE OF THE RIGHT-OF-WAY TO IDENTIFY THE LOCATION OF EACH GATE VALVE INSTALLED IN THE NEW WATER SYSTEM WITH THE EXCEPTION OF THE FIRE HYDRANT ISOLATION VALVES. THE CONTRACTOR SHALL MEASURE THE DISTANCE FROM THE CENTER OF THE CONCRETE MARKER TO THE CENTER OF THE VALVE BOX. THIS DISTANCE (IN LINEAR FEET) SHALL BE STAMPED ON THE BRASS PLATE LOCATED ON THE TOP OF THE CONCRETE VALVE MARKER. IN LIEU OF INSTALLING THE CONCRETE VALVE MARKERS, THE UTILITY CONTRACTOR MAY PROVIDE AT LEAST TWO MEASUREMENTS FROM TWO INDEPENDENT PERMANENT ABOVE GROUND STRUCTURES TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS TO IDENTIFY THE VALVE LOCATIONS. THE PROFESSIONAL ENGINEER (PE) MUST INCLUDE THESE MEASUREMENTS IN THE AS-BUILT RECORD DRAWINGS SUBMITTED TO HRW.

Z. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO LEAKAGE DAMAGE FROM POOR WORKMANSHIP DURING THE ONE (1) YEAR WARRANTY PERIOD ONCE THE WATER SYSTEM IMPROVEMENTS HAVE BEEN ACCEPTED BY HARNETT COUNTY. HARNETT COUNTY WILL PROVIDE MAINTENANCE AND REPAIRS WHEN REQUESTED AND BILL THE DEVELOPER AND/OR UTILITY CONTRACTOR IF NECESSARY DUE TO LACK OF RESPONSE WITHIN 48 HOURS OF NOTIFICATION OF WARRANTY WORK. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW WATER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE WATER LINES HAVE BEEN APPROVED BY NCDENR AND ACCEPTED BY HRW. THE FINAL INSPECTION OF WATER SYSTEM IMPROVEMENTS CANNOT BE SCHEDULED WITH HRW UNTIL THE STREETS HAVE BEEN PAVED, THE RIGHTS-OF-WAY AND UTILITY EASEMENTS HAVE BEEN SEEDED AND STABILIZED WITH AN ADEQUATE STAND OF GRASS IN PLACE TO PREVENT EROSION ISSUES ON SITE.

AA. THE ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND APPROVED PLANS AND SPECIFICATIONS. NO FIELD CHANGES TO THE APPROVED PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY HRW. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HRW AS EACH SUCH INSPECTION IS MADE ON SYSTEM IMPROVEMENTS OR TESTING IS PERFORMED BY THE CONTRACTOR. WATER AND SEWER INFRASTRUCTURE MUST PASS ALL TESTS REQUIRED BY HRW SPECIFICATIONS AND THOSE OF ALL APPLICABLE REGULATORY AGENCIES. THESE TESTS INCLUDE, BUT ARE NOT LIMITED TO: AIR TEST, VACUUM TEST, MANDREL TEST, VISUAL TEST, PRESSURE TEST, BACTERIOLOGICAL TEST, ETC. A HRW INSPECTOR MUST BE PRESENT DURING TESTING AND ALL TEST RESULTS SHALL BE SUBMITTED TO HRW. ALL TESTS MUST BE SATISFIED BEFORE THE FINAL INSPECTION WILL BE SCHEDULED WITH THE HRW INSPECTOR. THE ENGINEER OF RECORD MUST REQUEST IN WRITING TO SCHEDULE THE FINAL INSPECTION ONCE ALL CONSTRUCTION IS COMPLETE. THE DEVELOPER'S ENGINEER OF RECORD AND THE HRW UTILITY CONSTRUCTION INSPECTOR SHALL PREPARE A WRITTEN PUNCH LIST OF ANY DEFECTS OR DEFICIENCIES NOTED DURING THE FINAL INSPECTION, SHOULD ANY EXIST. UPON COMPLETION OF THE PUNCH LIST, THE DEVELOPER'S ENGINEER OF RECORD WILL SCHEDULE ANOTHER INSPECTION. IN THE EVENT THE NUMBER OF INSPECTIONS PERFORMED BY THE HRW EXCEEDS TWO, ADDITIONAL FEES MAY BE ACCESSED TO THE DEVELOPER.

SANITARY SEWER

A. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND SUPPLY A COPY OF THE SEWER PERMIT FOR THE CONSTRUCTION AND OPERATION OF THE WASTEWATER COLLECTION SYSTEM TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE SANITARY SEWER LINE, SEWER LIFT STATION AND ASSOCIATED FORCE MAIN SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE SEWER PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES - DIVISION OF WATER QUALITY (NCDENR-DWQ) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE DURING THE CONSTRUCTION OF THE SEWER SYSTEM IMPROVEMENTS.

B. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HRW) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HRW UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HRW FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WASTEWATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HRW WHICH IS 8:00 AM - 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HRW.

C. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HRW WITH A SET OF NCDENR APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. HRW WILL STAMP THE APPROVED PLANS AS "RELEASED FOR CONSTRUCTION" AND PROVIDE COPIES TO THE UTILITY CONTRACTOR. THE PROFESSIONAL LAND SURVEYOR (PLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET AND SEWER LINE BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OR INSTALLATION OF THE MANHOLES, SANITARY SEWER GRAVITY LINE(S), SEWER LIFT STATIONS AND/OR SANITARY SEWER FORCE MAIN(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING OR UTILITY CONSTRUCTION.

D. THE UTILITY CONTRACTOR SHALL PROVIDE THE HRW UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY GRAVITY SEWER LINE(S), MANHOLE(S), SEWER LIFT STATION(S) AND ASSOCIATED FORCE MAIN(S) IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HRW AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.

E. THE SANITARY SEWER LATERAL CONNECTIONS SHCULD BE INSTALLED 90° (PERPENDICULAR) TO THE SANITARY SEWER GRAVITY LINES WITH SCHEDULE 40 PVC PIPE. HRW REQUIRES THE UTILITY CONTRACTOR TO PROVIDE THE PROFESSIONAL ENGINEER (PE) WITH ACCURATE MEASUREMENTS FOR LOCATING SANITARY SEWER SERVICE LATERAL AND ASSOCIATED EACH SANITARY SEWER CLEAN-OUT. THESE MEASUREMENTS SHOULD BE TAKEN FROM THE NEAREST DOWNSTREAM MANHOLE UP ALONG THE SANITARY SEWER MAIN TO THE IN-LINE WYE FITTING (OR TAPPING SADDLE) AND THEN ANOTHER MEASUREMENT FROM THE IN-LINE WYE FITTING (OR TAPPING SADDLE) TO THE 4" X 4" LONG SWEEP COMBINATION WYE FITTING AT THE BOTTOM OF THE SEWER CLEAN-OUT STACK. THESE FIELD MEASUREMENTS MUST BE PROVIDED TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS FROM THE UTILITY CONTRACTOR FOR PROPER DOCUMENTATION IN THE AS-BUILT RECORD DRAWINGS SUBMITTED TO HRW.

F. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER FORCE MAIN(S), SANITARY SEWER SERVICE LATERAL(S) AND ALL ASSOCIATED SEWER CLEAN-OUT(S) IN THE PROPOSED SANITARY SEWER SYSTEM FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER LINE(S) AND ASSOCIATED APPURTENANCES HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES - DIVISION OF WATER QUALITY (NCDENR-DWQ) AND ACCEPTED BY HRW. ALL NEW SANITARY SEWER LINES MUST HAVE AT LEAST THREE (3 FT.) FEET OF COVER AND EXTEND UNDER ALL EXISTING WATER MAIN AND STORM WATER LINES WITH A LEAST 24" OF VERTICAL CLEARANCE BELOW THE BOTTOM OF THE EXISTING WATER MAIN AND STORM WATER LINES.

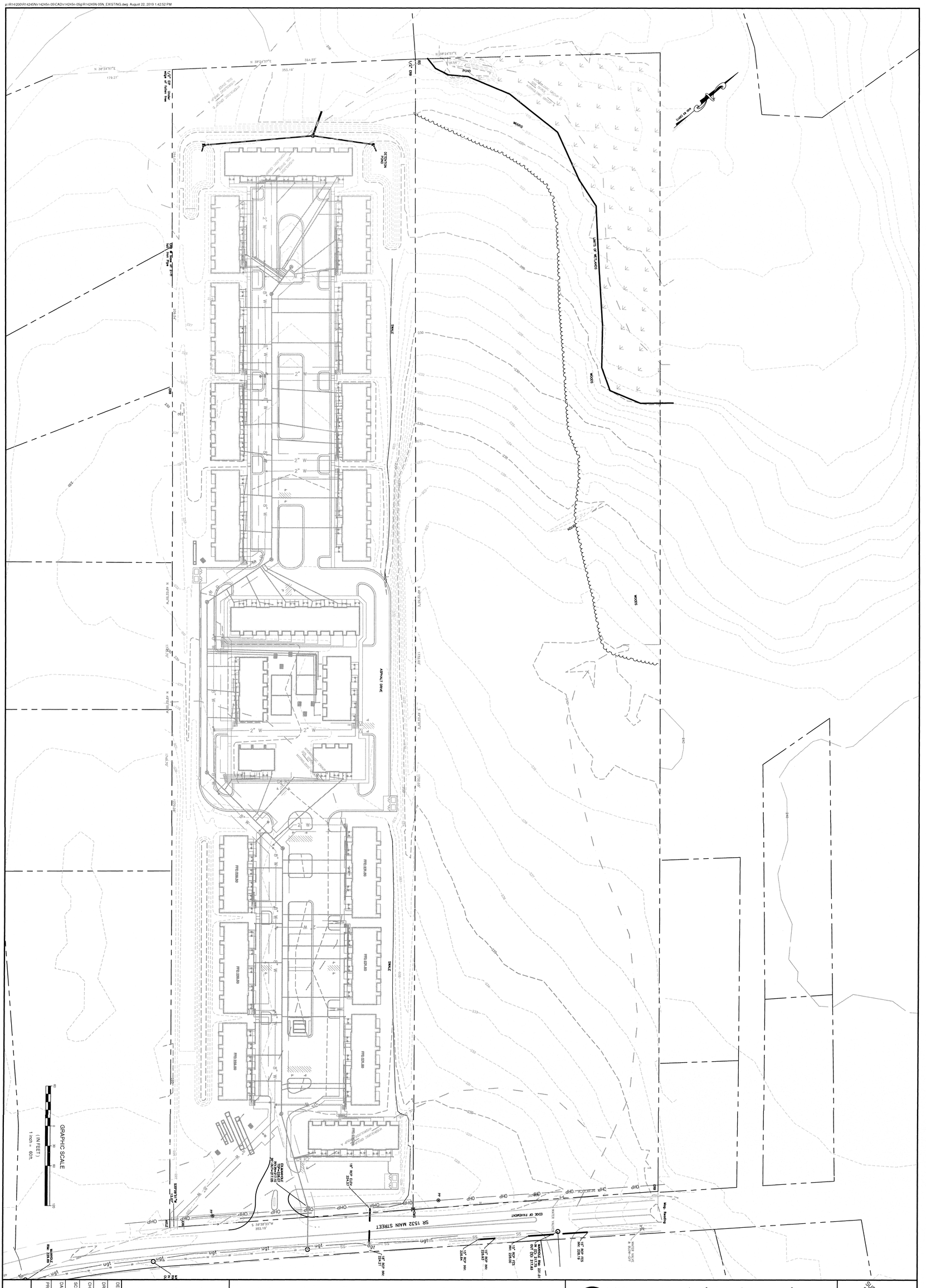
G. THE SANITARY SEWER GRAVITY LINE(S), MANHOLE(S), SANITARY SEWER SERVICE LATERAL(S) AND ASSOCIATED CLEAN-OUT(S) SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES. THE SANITARY SEWER GRAVITY LINE(S) MUST PNEUMATICALLY PRESSURE TESTED WITH COMPRESSED AIR AT 5 PSI AND THE SANITARY SEWER FORCE MAIN(S) MUST HYDROSTATICALLY PRESSURE TESTED WITH WATER OR AIR AT 200 PSI AND WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.

H. PRIOR TO ACCEPTANCE, ALL SEWER SERVICE LATERALS WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL SEWER CLEAN-OUTS MUST BE INSTALLED SO THE 4" X 4" LONG SWEEP COMBINATION WYE IS AT LEAST THREE (3') FEET BUT NO MORE THAN FOUR (4') FEET BELOW THE FINISH GRADE UNLESS OTHERWISE APPROVED IN WRITING BY HRW. THE SEWER CLEANOUTS SHALL HAVE A FOUR (4") SCHEDULE 40 PVC PIPE STUBBED UP FROM BOTH ENDS OF THE 4" X 4" LONG SWEEP COMBINATION WYE TO BE AT LEAST TWO (2') FEET ABOVE THE FINISH GRADE AND COVER EACH END WITH A FOUR (4") INCH TEMPORARY CAP TO KEEP OUT DIRT, SAND, ROCKS, WATER AND CONSTRUCTION DEBRIS. THE VERTICAL STACK ON EACH CLEAN-OUT MUST BE PROVIDED WITH A CONCRETE DONUT FOR PROTECTION.

I. ONCE THE SANITARY SEWER GRAVITY LINE(S) HAVE BEEN INSTALLED, PNEUMATICALLY PRESSURE TESTED AND IN PLACE FOR AT LEAST 30 DAYS, THE UTILITY CONTRACTOR MUST CONTACT THE HRW UTILITY CONSTRUCTION INSPECTOR TO WITNESS THE MANDREL TEST ON EACH PVC SANITARY SEWER GRAVITY LINE. THE UTILITY CONTRACTOR WILL NOTIFY HRW TO SCHEDULE THE MANDREL TESTING. THE MANDREL AND PROVING RING MUST BE SUPPLIED BY THE UTILITY CONTRACTOR. CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS (AT THE UTILITY CONTRACTOR'S EXPENSE) MAY BE REQUIRED BY THE HRW UTILITY CONSTRUCTION INSPECTOR IF THE MANDREL TESTING CANNOT BE COMPLETED WITH SATISFACTORY RESULTS. THE SANITARY SEWER LINES SHOULD BE FLUSHED CLEAN USING A SEWER BALL OF THE PROPER DIAMETER BEFORE ANY MANDREL TESTING CAN BE PERFORMED. THE UTILITY CONTRACTOR IS RESPONSIBLE TO REMOVE ALL DIRT, SAND, SILT, GRAVEL, MUD AND DEBRIS FROM THE NEWLY CONSTRUCTED SEWER LINES EXERCISING CARE TO KEEP THE HARNETT COUNTY'S EXISTING SANITARY SEWER SYSTEMS CLEAN. SANITARY SEWER FORCE MAIN(S) SHALL BE PRESSURE TESTED TO 200 PSI FOR AT LEAST 2 HOURS LIKE WATER LINES.

J. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER SYSTEM(S) FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER SYSTEM(S) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES - DIVISION OF WATER QUALITY (NCDENR-DWQ)AND ACCEPTED BY HRW.

K. HRW REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL SANIT



C3.0

R14245N-05

DESIGNED BY:	CTC Jr.
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 60'
DATE:	08.21.19
PROJECT NUMBER:	

REVISIONS

EXISTING CONDITIONS - MARCH 2017

CAMPBELL POINTE TOWNHOMES PH 5-6

HARNETT COUNTY, NORTH CAROLINA

Draper Aden Associates

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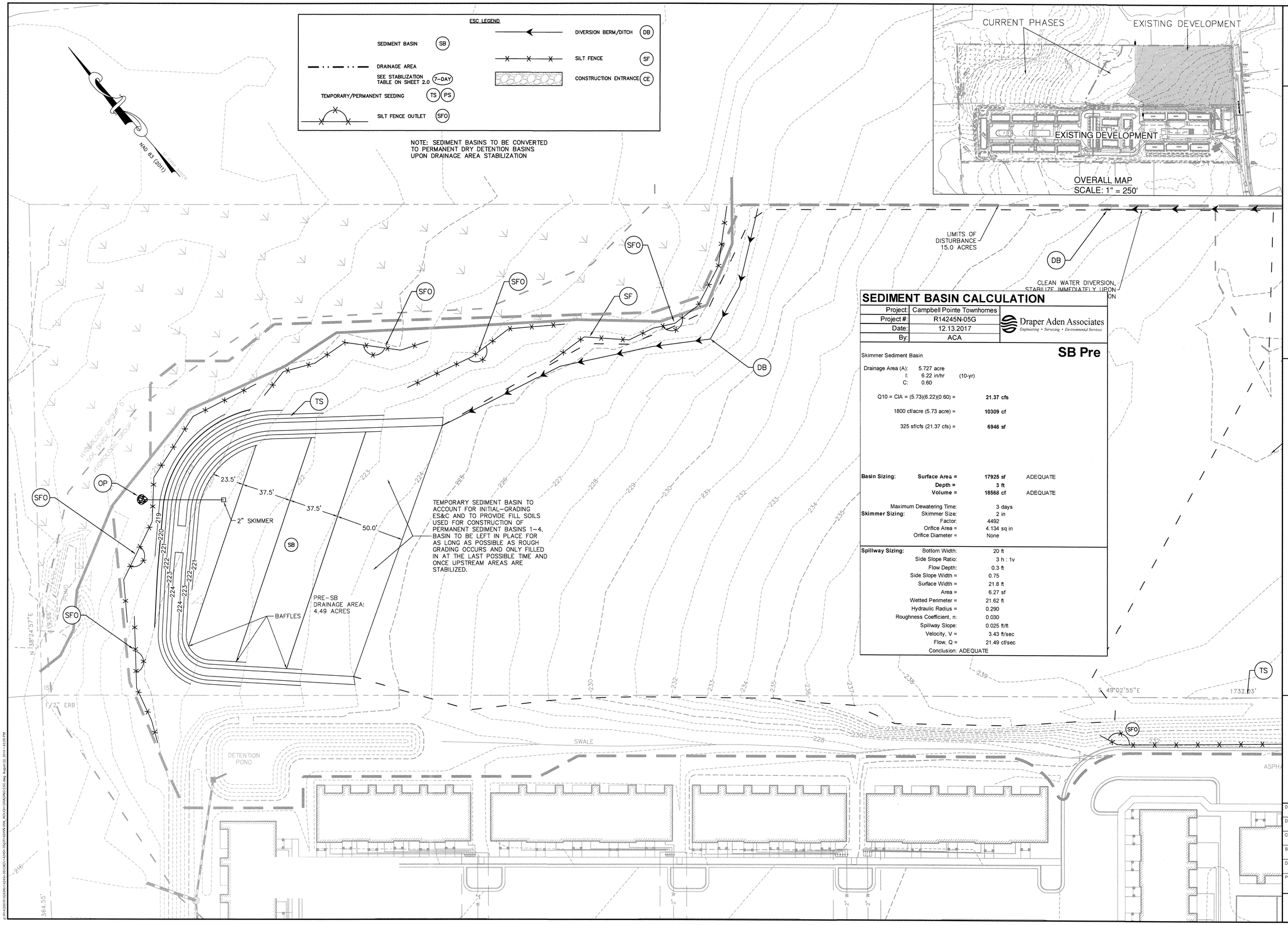
• Richmond, VA
• Blacksburg, VA
• Charlottesville, VA
• Hampton Roads, VA
• Fayetteville, NC
• Northern Virginia
• Virginia Beach, VA

SURVEY SOURCE NOTE:
SURVEY PROVIDED BY:
S. MERRIMAN SURVEYING
CONTACT: STEVE TAYLOR @
910-892-7705
A CERTIFIED TO OBTAIN
COPY



SEDIMENT BASIN CALCULATION

Project:	Campbell Pointe Townhomes
Project #:	R14245N-05G
Date:	12.13.2017
By:	ACA

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Engineering • Surveying • Environmental Services

SB Pre

Skimmer Sediment Basin

Drainage Area (A): 5.727 acre
I: 6.22 in/hr (10-yr)
C: 0.60

Q10 = CIA = (5.73)(6.22)(0.60) = **21.37 cfs**

1800 cf/acre (5.73 acre) = **10309 cf**

325 sf/cfs (21.37 cfs) = **6946 sf**

Basin Sizing:	**Surface Area =**	**17925 sf**	ADEQUATE
	Depth =	**3 ft**	
	Volume =	**18568 cf**	ADEQUATE
	Maximum Dewatering Time:	3 days	
Skimmer Sizing:	Skimmer Size:	2 in	
	Factor:	4492	
	Orifice Area =	4.134 sq in	
	Orifice Diameter =	None	

Spillway Sizing:	Bottom Width:	20 ft
	Side Slope Ratio:	3 h : 1v
	Flow Depth:	0.3 ft
	Side Slope Width =	0.75
	Surface Width =	21.8 ft
	Area =	6.27 sf
	Wetted Perimeter =	21.62 ft
	Hydraulic Radius =	0.290
	Roughness Coefficient, n:	0.030
	Spillway Slope:	0.025 ft/ft
	Velocity, V =	3.43 ft/sec
	Flow, Q =	21.49 cf/sec
	Conclusion: ADEQUATE	

NORTH CAROLINA PROFESSIONAL SEAL 041595 08.21.19 ENGINEER ANDREW P. MERICLE

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• Virginia Beach, VA

ROUGH GRADING EROSION & SEDIMENT CONTROL PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

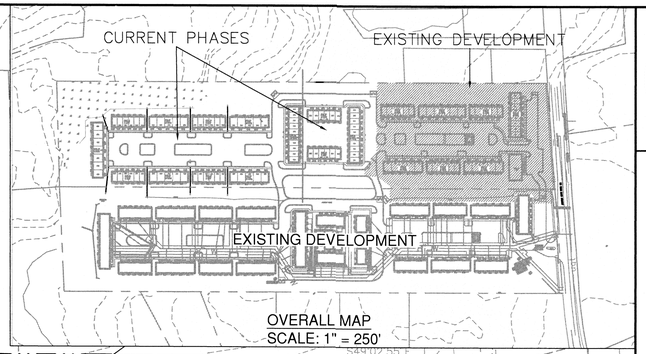
DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C4.0

ESC LEGEND

SEDIMENT BASIN (SB)
DRAINAGE AREA
SEE STABILIZATION TABLE ON SHEET 2.0
TEMPORARY/PERMANENT SEEDING (TS) (PS)
SILT FENCE OUTLET (SFO)
DIVERSION BERM/DITCH (DB)
SILT FENCE (SF)
CONSTRUCTION ENTRANCE (CE)
PHASE PREVIOUSLY CONSTRUCTED

NOTE: SEDIMENT BASINS TO BE CONVERTED TO PERMANENT DRY DETENTION BASINS UPON DRAINAGE AREA STABILIZATION



OVERALL MAP
SCALE: 1" = 250'

HATCHED AREA IS FUTURE PHASE
CLEAN WATER DIVERSION, STABILIZE IMMEDIATELY UPON INSTALLATION
LIMITS OF DISTURBANCE 15.0 ACRES
2" SKIMMER WITH 1.5" ORIFICE
BAFFLES
SB2 DA 2.77 ACRES
SB1 DA 2.91 ACRES
PHASE 4 PREVIOUSLY CONSTRUCTED
ASPHALT DRIVE
SWALE
2" SKIMMER
18" RCP ELEV: 224.57
SR 1532 MAIN STREET
EDGE OF PAVEMENT
VALVES
FFE: 231.50
FFE: 230.25
HYDROLOGIC GROUP A
SOIL LEGEND - HYDROLOGIC GROUP

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

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• Kernersville, NC • Roanoke, VA
• Charlottesville, VA • Virginia Beach, VA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

EROSION & SEDIMENT CONTROL PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C4.1

NOTE: SEDIMENT BASINS TO BE CONVERTED TO PERMANENT DRY DETENTION BASINS UPON DRAINAGE AREA STABILIZATION

ESC LEGEND

SEDIMENT BASIN	SB	DIVERSION BERM/DITCH	DB
DRAINAGE AREA		SILT FENCE	SF
SEE STABILIZATION TABLE ON SHEET 2.0		CONSTRUCTION ENTRANCE	CE
TEMPORARY/PERMANENT SEEDING	TS PS	OUTLET PROTECTION	OP
SILT FENCE OUTLET	SFO	INLET PROTECTION	IP

NAD 83 (2011)

CURRENT PHASE

EXISTING DEVELOPMENT

EXISTING DEVELOPMENT

LIMITS OF DISTURBANCE 15.0 ACRES

BAFFLES, TYP

PHASE 6
PHASE 5

STABILIZE ALL 3:1 SLOPES BEHIND BUILDINGS WITH MATTING IMMEDIATELY UPON REACHING FINAL GRADES

STABILIZE ALL 3:1 SLOPES BEHIND BUILDINGS WITH MATTING IMMEDIATELY UPON REACHING FINAL GRADES

STABILIZE ALL 3:1 SLOPES BEHIND BUILDINGS WITH MATTING IMMEDIATELY UPON REACHING FINAL GRADES

2" SKIMMER WITH 1.75" ORIFICE

13.2 20.8 20.4

CLEAN WATER DIVERSION, STABILIZE IMMEDIATELY UPON INSTALLATION

SB3 DA
1.72 ACRES

PROVIDE EXITS IN CURBING TO ALLOW FOR DRAINAGE TO SEDIMENT BASINS THROUGHOUT CONSTRUCTION.

SB4 DA
5.57 ACRES

2" SKIMMER

EXPAND EXISTING BASIN TO ACCOMMODATE NEW FLOW

BAFFLES

SWALE

EXISTING OUTLET HAS OUTLET PROTECTION

BLDG 41 6 UNITS 6 BEDS
BLDG 39 5 UNITS (10 BEDS)
BLDG 37 6 UNITS 6 BEDS
BLDG 35 5 UNITS (10 BEDS)
BLDG 42 7 UNITS 14 BEDS
BLDG 40 6 UNITS 6 BEDS
BLDG 38 5 UNITS (10 BEDS)
BLDG 36 6 UNITS 6 BEDS
BLDG 34 5 UNITS (10 BEDS)
BLDG 33 10 UNITS 276 (10 BEDS)

S49°02'55"E 1714.26'
N39°25'09"E 367.29'
N 38°24'57"E 119.66'
S 49°02'55"E 1732.03'

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30ft.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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EROSION & SEDIMENT CONTROL PLAN

CAMPBELL POINTE TOWNHOMES PH 5-6

HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C4.2

SITE NOTES

1. CONDITIONAL USE PERMIT APPROVAL: BA-CU-09-15, APPROVED AUGUST 8, 2017.
2. WATER SUPPLY WATERSHED SPECIAL INTENSITY ALLOCATION PERMIT APPROVED AUGUST 8, 2017.
3. THIS DEVELOPMENT IS WITHIN 1 MILE OF A VOLUNTARY AGRICULTURAL DISTRICT.
4. ALL MECHANICAL AREA LOCATED ON, BESIDE, OR ADJACENT TO ANY BUILDING OR DEVELOPMENTS SHALL BE SCREENED FROM THE VIEWS OF STREETS AND ADJACENT BUILDINGS (SEE LANDSCAPING PLAN, SHEET C8.1)
5. SITE LIGHTING TO BE PROVIDED BY LOCAL UTILITY (DUKE PROGRESS). FINAL LAYOUT FOR LIGHT PLACEMENT TO BE DICTATED BY UTILITY. LIGHTS ARE TO BE INSTALLED SO THAT THEY ARE SHIELDED AND LIGHT IS NOT DIRECTED TOWARD THE ADJACENT PROPERTIES.
6. PROPERTY MANAGER AND/OR HOME OWNERS ASSOCIATION WILL BE RESPONSIBLE FOR MAINTAINING PARKING AREAS, LANDSCAPING, RECREATIONAL AREAS, AND SIDEWALKS.
7. PROJECT WILL MEET ALL REQUIREMENTS OF NCDOT DRIVEWAY PERMIT. THIS INCLUDES ANY CONSTRAINTS ON FUTURE PHASES OF DEVELOPMENT BEING CONTINGENT UPON INSTALLATION OF FUTURE TURN LANE IMPROVEMENTS.
8. HARNETT COUNTY MAINTENANCE RESPONSIBILITY FOR THE WATER SYSTEM INCLUDES ALL WATER SUPPLY MAINS WITHIN THE HARNETT COUNTY EASEMENT/RIGHT OF WAY TERMINATING AT THE WATER SERVICE. ALL POINTS AFTER HARNETT COUNTY MAINTENANCE ENDS IS THE RESPONSIBILITY OF THE DEVELOPER AND/OR HOA INCLUDING WATER SERVICE LATERALS TO EACH DWELLING UNIT.

PROJECT INFORMATION

NAME OF PROJECT:	CAMPBELL POINTE TOWNHOMES PHASE 4-6 WINSTON 104 GROUP, LLC CARE OF JASON PRICE 2323 KEITH HILLS RD LILLINGTON, NC 27546 910-814-4236
ENGINEER:	DRAPER ADEN ASSOCIATES 114 EDINBURGH SOUTH DRIVE, SUITE 200 CARY, NC 27511 919-827-0864
PIN:	0670-98-4821.000
DEED REFERENCE:	DB 826 PG 0754
ZONE CLASSIFICATION:	RA-30
FLOOD ZONE CLASS:	ZONE X, FIRM 3720066000J, UPDATED 2006
WATERSHED CLASSIFICATION:	WS-IV
SITE AREA:	14.52 ACRES
IMPERVIOUS AREA:	7.13 ACRES (±49.1%) TOTAL
DWELLING UNITS:	PHASES 5&6: 83 UNITS (110 BEDROOMS)
TOTAL:	126 UNITS (169 BEDROOMS)
PARKING SPACES REQUIRED:	PHASES 5&6: 200 TOTAL: 293
PARKING SPACES PROVIDED:	PHASES 5&6: 230 TOTAL: 357
LANDSCAPE BUFFER:	TYPE A AND TYPE C
OPEN SPACE REQUIRED:	15% (2.18 ACRES)
OPEN SPACE PROVIDED:	±2.3 ACRES
ACTIVE RECREATION REQUIRED:	5% (0.73 ACRES)
ACTIVE RECREATION PROV.:	±0.8 ACRES
E&S CONTROL PLAN APPROVAL:	APPROVED, PERMIT NO: HARN-2018-040
NCDOT DRIVEWAY PERMIT:	APPROVED

TYPE A SIDE PROPERTY BUFFER: MINIMUM 15' WIDTH
A STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30' APART AND LOW GROWING EVERGREEN SHRUBS, EVERGREEN GROUND COVER, OR MULCH COVERING THE BALANCE OF THE BUFFER AREA. A ROW OF EVERGREEN SHRUBS PLACED NOT MORE THAN (4) TO (6) FEET APART WHICH WILL GROW TO FORM A CONTINUOUS HEDGE OF AT LEAST (6) FEET IN HEIGHT WITHIN (2) YEARS OF PLANTING.

TYPE C FRONT PROPERTY BUFFER
MINIMUM 10' WIDTH
A STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30' APART AND LOW GROWING EVERGREEN SHRUBS, EVERGREEN GROUND COVER, OR MULCH COVERING THE BALANCE OF THE BUFFER AREA. (5) LOW GROWING SHRUBS FOR EVERY REQUIRED LARGE MATURING TREE.

C5.1
C5.0
15' LANDSCAPE BUFFER
PHASE 5
PHASE 4
PROPOSED CONCRETE DUMPSTER PAD AND ENCLOSURE
ASPHALT PARKING
ADA SIGNS
24.0
R20.0
DRY DETENTION
BLDG 29
6 UNITS
(6 BEDS)
BLDG 27
6 UNITS
(12 BEDS)
BLDG 25
6 UNITS
(6 BEDS)
BLDG 23
8 UNITS
(8 BEDS)
BLDG 32
6 UNITS
(6 BEDS)
BLDG 30
10 UNITS
(10 BEDS)
BLDG 31
6 UNITS
6 BEDS
BLDG 28
5 UNITS
(10 BEDS)
BLDG 26
6 UNITS
(6 BEDS)
BLDG 24
5 UNITS
(10 BEDS)
BLDG 22
1 UNIT
CLUB HOUSE AND EXERCISE ROOM
MAIL BUILDING
R5.0 TYP.
R15.0
R39.5
R14.5
18.0
9.0
BUTLER COMMONS DR.
WINSTON DR.
R25.0
REMOVE EXISTING CONCRETE DUMPSTER PAD
REMOVE EXISTING CURB AND GUTTER
PROPOSED CONCRETE DUMPSTER PAD AND ENCLOSURE
TIE IN TO EXISTING
TIE TO EXISTING
REMOVE EXISTING CONRETE DUMPSTER PAD
CURB AND GUTTER, TYP.
EDGE OF PAVEMENT
ADA SPACES AND SIGNAGE
R44.0
WATER VALVES
Reading
S49°02'55"E 1714.26
S 49°02'55"E 1732.03'
S 36°58'43"W 396.20'
S 40°58'43"W 396.20'
SR 1532 MAIN STREET
FFE: 231.50
FFE: 230.25
18" RCP EV: 257.57
GRAPHIC SCALE
(IN FEET)
1 inch = 30ft.

CURRENT PHASE
EXISTING DEVELOPMENT
OVERALL MAP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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SITE LAYOUT PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C5.0

p:\R14\2009\R14245N\14245N-05\CAD\14245N-05grPH 14245N-05N_SITE.dwg, August 22, 2019 1:45:39 PM

NOTES:
CONDITIONAL USE PERMIT #BA-CU-09-15 WAS APPROVED 8/8/2017.
WATER SUPPLY WATERSHED SPECIAL INTENSITY ALLOCATION PERMIT APPROVED 8/8/2017.
THIS DEVELOPMENT IS WITHIN ONE MILE OF A VOLUNTARY AGRICULTURAL DISTRICT.

PROJECT INFORMATION

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OPEN SPACE REQUIRED:	15% (2.18 ACRES)
OPEN SPACE PROVIDED:	±2.3 ACRES
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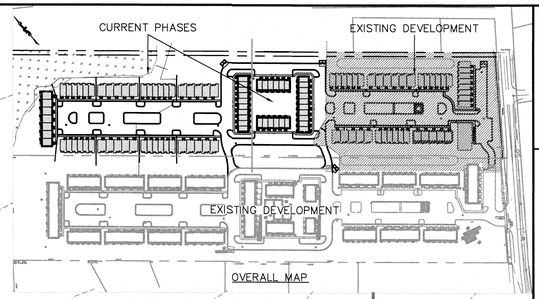
ACTIVE RECREATION PROV.:	±0.8 ACRES
E&S CONTROL PLAN APPROVAL:	APPROVED PERMIT NO: HARN-2018-040
NCDOT DRIVEWAY PERMIT:	APPROVED



NAD 83 (2011)
NORTH (GRID)

S49°02'55"E 1714.26'

RETAINING WALL

WETLANDS DISTURBANCE TO BE KEPT UNDER 0.1 ACRES

WETLANDS LINE

N39°25'09"E 367.29'

N 38°24'57"E 119.66'

S 49°02'55"E 1732.03'

ISS

1/2" ERB

364.55'

PHASE 6
PHASE 5

15' LANDSCAPE BUFFER

C5.1
C5.0

15' LANDSCAPE BUFFER

PROPOSED CONCRETE DUMPSTER PAD AND ENCLOSURE

DRY DETENTION

BLDG 41
6 UNITS
6 BEDS
388 384 380 376 372 368

BLDG 39
5 UNITS
(10 BEDS)
364 360 356 352 348

BLDG 37
6 UNITS
6 BEDS
344 340 336 330 326 322

BLDG 35
5 UNITS
(10 BEDS)
318 314 310 306 302

BLDG 33
10 UNITS 276
(10 BEDS)
298 294 290 286 282 272 268 264 260

252 250 230 226

416 412 408 404 400 396 392

BLDG 42
7 UNITS
14 BEDS

ASPHALT PARKING

R18.0

CURB AND GUTTER, TYP.

R5.0 TYP.

24.0

18.0

9.0

R5.0
R15.0
R15.0
R20.0
R20.0
R25.0
R20.0

BUTLER COMMONS DR.

BLDG 40
6 UNITS
6 BEDS
387 383 379 375 371 367

BLDG 38
5 UNITS
(10 BEDS)
363 359 355 351 347

BLDG 36
6 UNITS
6 BEDS
343 337 333 329 325 321

BLDG 34
5 UNITS
(10 BEDS)
317 313 309 305 301

REMOVE EXISTING CURB AND GUTTER

R25.0

TIE TO EXISTING

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30ft.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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SITE LAYOUT PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C5.1

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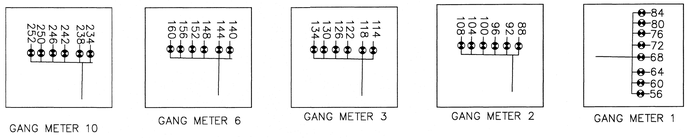
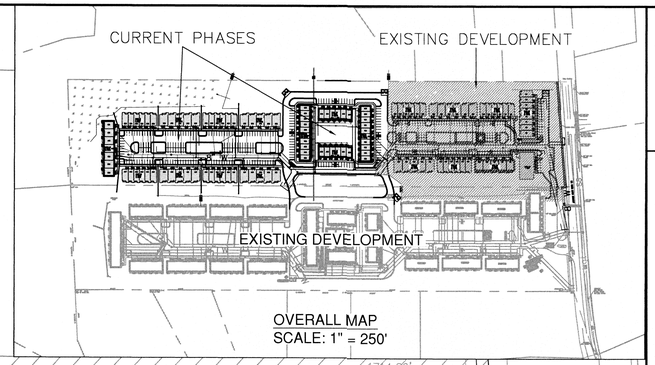
WATER AND SEWER NOTES

1. WATER SERVICE LINE TO EACH UNIT IS A 1" LINE WITH ¾" METER.
2. SEWER SERVICE LINE TO EACH UNIT IS A 4" LATERAL.
3. SEWER AND WATER SERVICE LINES TO BE HARNETT COUNTY STDS.
4. WATER LINES TO BE SDR 21 PVC UNLESS OTHERWISE NOTED.
5. GRAVITY SEWER LINES TO BE SDR 35 PVC UNLESS OTHERWISE NOTED.
6. ALL SANITARY LATERALS TO HAVE CLEANOUTS EVERY 100'.
7. THE FIRST SANITARY SEWER CLEANOUT FROM THE HARNETT COUNTY SEWER MAIN IS THE DESIGNATED TERMINATION POINT OF HARNETT COUNTY SANITARY MAINTENANCE RESPONSIBILITY. ALL POINTS AFTER COUNTY MAINTENANCE ENDS IS THE RESPONSIBILITY OF THE DEVELOPER AND/OR HOA INCLUDING SEWER SERVICE LATERALS TO EACH DWELLING UNIT.
8. HARNETT COUNTY MAINTENANCE RESPONSIBILITY FOR THE WATER SYSTEM INCLUDES ALL WATER SUPPLY MAINS WITHIN THE HARNETT COUNTY EASEMENT/RIGHT OF WAY TERMINATING AT THE WATER SERVICE. ALL POINTS AFTER HARNETT COUNTY MAINTENANCE ENDS IS THE RESPONSIBILITY OF THE DEVELOPER AND/OR HOA INCLUDING WATER SERVICE LATERALS TO EACH DWELLING UNIT.
9. ALL GANG METER SETS TO BE SET 3' MINIMUM OFF THE BACK OF SIDEWALK.





NOTE:
1. AS-BUILT SURVEY PROVIDED BY STREAMLINE SURVEYING INC. JUNE 2019.
2. IRRIGATION AND BLDG 22 BACKFLOW PREVENTERS TO BE WATTS TYPE BACKFLOW PREVENTER AND WILL BE INSTALLED BEFORE THE METER IS SET.

(1) 2" SERVICE SADDLE
(1) 2" GATE VALVE
(1) 8" GATE VALVE

GANG METER SET #6
(1) 2" SERVICE SADDLE
(1) 2" GATE VALVE
(1) 8" 45° BEND

BLDG 29 6 UNITS (6 BEDS): 160, 156, 152, 148, 144, 140
BLDG 27 6 UNITS (12 BEDS): 134, 130, 126, 122, 118, 114
BLDG 25 6 UNITS (6 BEDS): 108, 104, 100, 96, 92, 88
BLDG 23 8 UNITS (8 BEDS): 84, 80, 76, 72, 68, 64, 60, 56
BLDG 32 6 UNITS (6 BEDS): 252, 250, 246, 242, 238, 234
BLDG 31 6 UNITS 6 BEDS: 230, 226, 222, 218, 214, 210
BLDG 30 10 UNITS (10 BEDS): 206, 202, 198, 194, 190, 186, 182, 178, 174, 170
BLDG 28 5 UNITS (10 BEDS): 157, 153, 149, 145, 141
BLDG 26 6 UNITS (6 BEDS): 135, 131, 127, 123, 119, 115
BLDG 24 5 UNITS (10 BEDS): 105, 101, 97, 93, 89
BLDG 22 1 UNIT

GANG METER SET #1
GANG METER SET #2
GANG METER SET #3
GANG METER SET #4
GANG METER SET #5
GANG METER SET #7
GANG METER SET #8
GANG METER SET #9
GANG METER SET #10
GANG METER SET #11
GANG METER SET #12

SSMH 2 .5' MH WITH INSIDE DROP CONNECTION
SSMH 3
SSMH 4
SSMH 5
SSMH 6
SSMH 7
SSMH 11
SSMH 12

20' UTILITY EASEMENT
30' UTILITY EASEMENT
33' UTILITY EASEMENT

8" SDR 35 PVC
2" W
8" W

(1) 8"x6" TEE
(1) 6" GATE VALVE
(1) FIRE HYDRANT ASSEMBLY
*FIRE HYDRANT ASSEMBLY WILL ACT AS BLOW OFF FOR LINE PRIOR TO FUTURE PHASE INSTALLATION

(2) 2" SERVICE SADDLES
(2) 2" GATE VALVES
(1) 8" GATE VALVE

(1) 2" SERVICE SADDLE
(1) 2" GATE VALVE
(1) 8" GATE VALVE
(1) 8" 45° BEND
(1) 8" PLUG (PHASE 5)

(2) 2" SERVICE SADDLES
(2) 2" GATE VALVE
(1) 8" GATE VALVE

NOTE: PROVIDE 2' BETWEEN CLEANOUTS
TYPICAL CLEANOUT
CONCO EASEMENT

1" IRRIGATION METER WITH 1" CORP. STOP
1" CORP STOP
3/4" WATER METER

CONNECT 8" WATERLINE TO PROPOSED 8" WATERLINE EXTENSION WITH 8"x8" TEE WITH VALVE AND PLUG ON NORTH SIDE. TO BE INSTALLED AS PART OF THE WATERLINE EXTENSION PROJECT

PHASE 4 ALREADY CONSTRUCTED

PHASE 5
PHASE 4

C6.1
C6.0

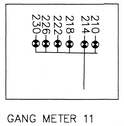
1714.26'
1732.03'
S 49°02'55"E

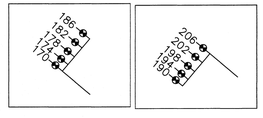
WATER VALVES
8" GATE VALVE

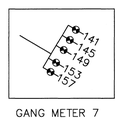
SR 1532 MAIN STREET
EDGE OF PAVEMENT
ASPHALT DRIVE
SWALE

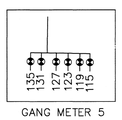
FFE: 231.50
FFE: 230.25
18" RCP ELEV: 224.57

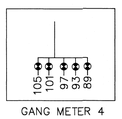
CONNECT TO EXISTING SSMH VIA CORE AND BORE











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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

SITE UTILITY PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr.
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C6.0

WATER AND SEWER NOTES

1. WATER SERVICE LINE TO EACH UNIT IS A 1" LINE WITH ¾" METER.
2. SEWER SERVICE LINE TO EACH UNIT IS A 4" LATERAL.
3. SEWER AND WATER SERVICE LINES TO BE HARNETT COUNTY STDS.
4. WATER LINES TO BE SDR 21 PVC UNLESS OTHERWISE NOTED.
5. GRAVITY SEWER LINES TO BE SDR 35 PVC UNLESS OTHERWISE NOTED.
6. ALL SANITARY LATERALS TO HAVE CLEANOUTS EVERY 100'.
7. THE FIRST SANITARY SEWER CLEANOUT FROM THE HARNETT COUNTY SEWER MAIN IS THE DESIGNATED TERMINATION POINT OF HARNETT COUNTY SANITARY MAINTENANCE RESPONSIBILITY. ALL POINTS AFTER COUNTY MAINTENANCE ENDS IS THE RESPONSIBILITY OF THE DEVELOPER AND/OR HOA INCLUDING SEWER SERVICE LATERALS TO EACH DWELLING UNIT.
8. HARNETT COUNTY MAINTENANCE RESPONSIBILITY FOR THE WATER SYSTEM INCLUDES ALL WATER SUPPLY MAINS WITHIN THE HARNETT COUNTY EASEMENT/RIGHT OF WAY TERMINATING AT THE WATER SERVICE. ALL POINTS AFTER HARNETT COUNTY MAINTENANCE ENDS IS THE RESPONSIBILITY OF THE DEVELOPER AND/OR HOA INCLUDING WATER SERVICE LATERALS TO EACH DWELLING UNIT.
9. ALL GANG METER SETS TO BE SET 3' MINIMUM OFF THE BACK OF SIDEWALK.

NAD 83 (2011)

GANG METER 20: 388 384 380 376 372 368
GANG METER 18: 364 360 356 352 348
GANG METER 16: 344 340 336 330 326 322
GANG METER 14: 318 314 310 306 302

S49°02'55"E 1714.26'
N39°25'09"E 367.29'
N 38°24'57"W 119.66'
S 49°02'55"E 1732.03'

PHASE 6
PHASE 5

C6.1
C6.0

416
412
408
404
400
396
392

(1) 8"x6" TEE
(1) 6" GATE VALVE
(1) FIRE HYDRANT ASSEMBLY

GANG METER SET #20
GANG METER SET #18
GANG METER SET #16
GANG METER SET #14

BLDG 41 6 UNITS 6 BEDS — 388 384 380 376 372 368
BLDG 39 5 UNITS (10 BEDS) — 364 360 356 352 348
BLDG 37 6 UNITS 6 BEDS — 344 340 336 330 326 322
BLDG 35 5 UNITS (10 BEDS) — 318 314 310 306 302

(1) 2" SERVICE SADDLE
(1) 2" GATE VALVE
(1) 8" GATE VALVE

SSMH 10
SSMH 9
SSMH 8
SSMH 12
SSMH 7
SSMH 6

8" SDR35 PVC SEWER
8" SDR 35 PVC

(1) 1" IRRIGATION METER
1" CORP STOP

TYPICAL CLEANOUT
CO=CO ENSHOTS

30' UTILITY EASEMENT

(1) 2" SERVICE SADDLE
(1) 2" GATE VALVE
(1) 8" GATE VALVE
(1) 8" 45° BEND

GANG METER SET #12
GANG METER SET #13

BLDG 42 7 UNITS 404 14 BEDS — 416 412 408 404 400 396 392

BLDG 40 6 UNITS 6 BEDS — 387 383 379 375 371 367
BLDG 38 5 UNITS (10 BEDS) — 363 359 355 351 347
BLDG 36 6 UNITS 6 BEDS — 343 337 333 329 325 321
BLDG 34 5 UNITS (10 BEDS) — 317 313 309 305 301

(2) 2" SERVICE SADDLES
(1) 8" PLUG W/2" THREADS
(3) 2" GATE VALVE

(1) 2" SERVICE SADDLE
(1) 2" GATE VALVE
(1) 8" GATE VALVE

(2) 2" SERVICE SADDLES
(2) 2" GATE VALVES
(1) 8" GATE VALVE

(1) 8"x8" TEE
(1) 8" GATE VALVE
(2) 8" 45° BEND
(1) 8" PLUG
(FUTURE POSSIBLE EXTENSION)

GANG METER SET #21
GANG METER SET #19
GANG METER SET #17
GANG METER SET #15

VARIABLE EASEMENT WIDTH

BLDG 33 10 UNITS 276 (10 BEDS) — 298 294 290 286 282 278 274 270
BLDG 32 6 UNITS 6 BEDS — 272 268 264 260
BLDG 30 6 UNITS 6 BEDS — 252 250 246 242
BLDG 28 6 UNITS 6 BEDS — 230 226 222 218

ISS
1/2" ERB
POND
SWALE

CURRENT PHASES
EXISTING DEVELOPMENT
EXISTING DEVELOPMENT
OVERALL MAP
SCALE: 1" = 250'

GANG METER 21: 387 383 379 375 371 367
GANG METER 19: 363 359 355 351 347
GANG METER 17: 343 337 333 329 325 321
GANG METER 15: 317 313 309 305 301
GANG METER 13: 298 294 290 286 282
GANG METER 12: 278 274 270 266 262

NORTH CAROLINA PROFESSIONAL SEAL 041595 ENGINEER ANDREW P. MERICLE 08.21.19

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SITE UTILITY PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
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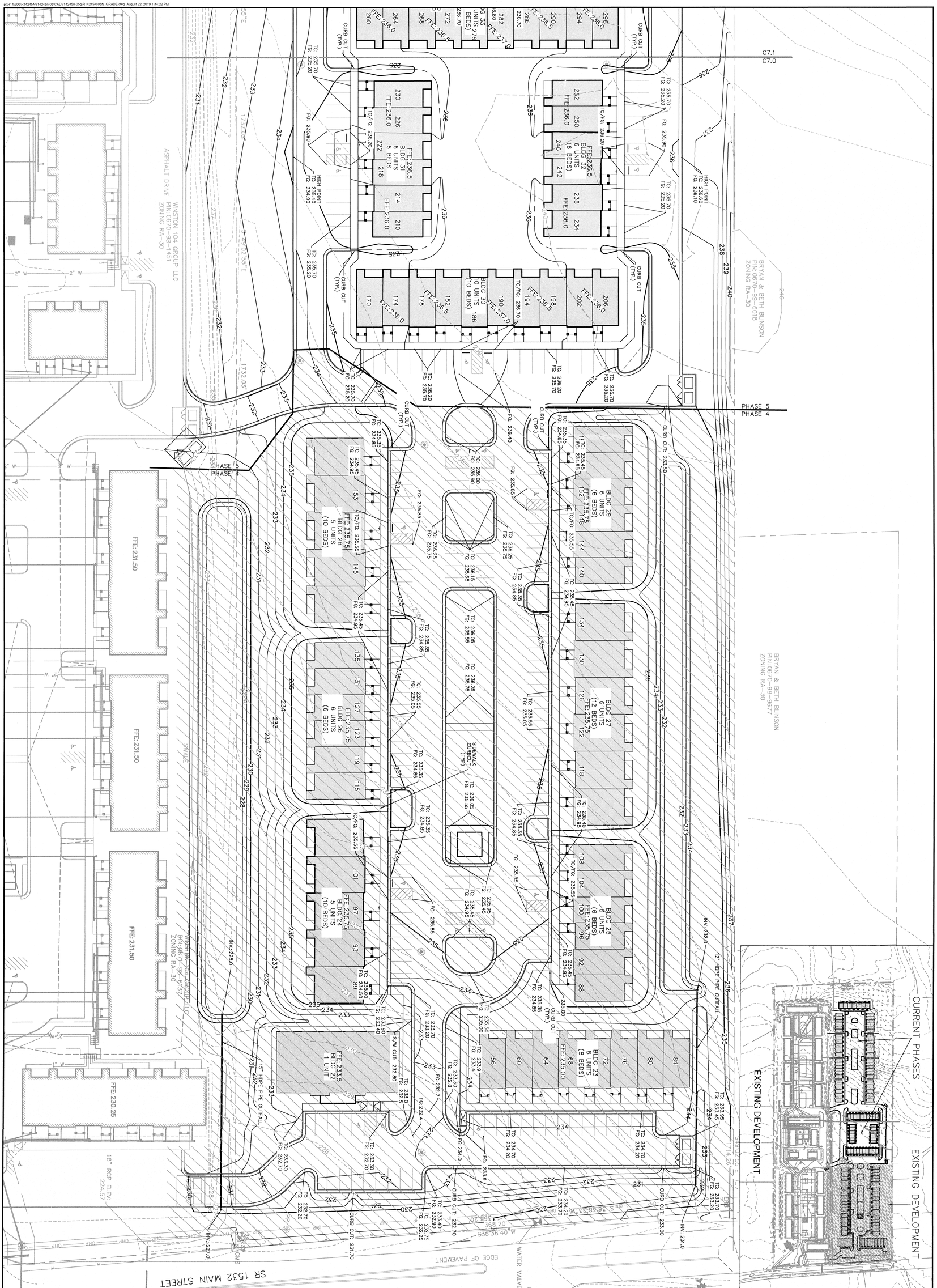
C6.1



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	C7.0

REVISIONS

GRADING AND DRAINAGE PLAN

CAMPBELL POINTE TOWNHOMES PH 5-6

HARNETT COUNTY, NORTH CAROLINA

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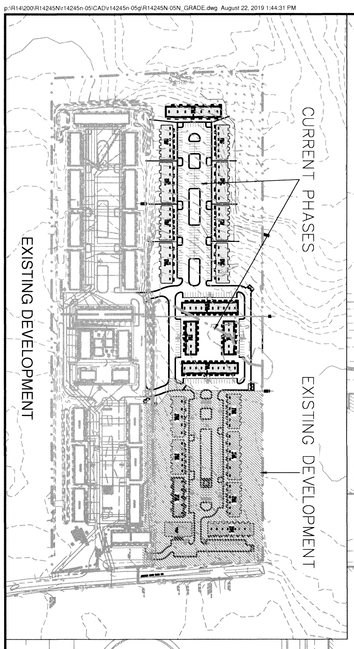
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 MATTHEW E. WHEELER



GRADING AND DRAINAGE PLAN

CAMPBELL POINTE TOWNHOMES PH 5-6

HARNETT COUNTY, NORTH CAROLINA

REVISIONS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 ASHLEY NICOLE HERICLE 08.21.19

PLANT LIST

COMMON NAME	BOTANICAL NAME	VARIETY	SIZE	LOCATION
RED MAPLE	ACER RUBRA		2" CALIPER 6" ABOVE GROUND	PROPERTY LINE & RIGHT-OF-WAY BUFFERS, PARKING AREAS
SHUMARD OAK	QUERCUS SHUMARDII		2" CALIPER 6" ABOVE GROUND OR 6' TALL	PROPERTY LINE & RIGHT-OF-WAY BUFFERS
WAX MYRTLE	MYRICA CERIFERA		7 GALLON	PROPERTY LINE BUFFERS
STEEDS HOLLY	ILEX CRENATA	'STEEDS'	10 GALLON	PROPERTY LINE BUFFERS
GAIETY EUONYMUS	EUONYMUS FORTUNEI	'EMERALD GAIETY'	3 GALLON	RIGHT-OF-WAY BUFFER
SNOW WHITE HAWTHORN	RAPHIOLEPIS UMBELLATA	'SNOW WHITE'	5 GALLON	RIGHT-OF-WAY BUFFER
COMPACT JAPANESE HOLLY	ILEX CRENATA	'COMPACTA'	10 GALLON	PARKING AREA-RIGHT-OF-WAY SCREENING

TYPE A SIDE PROPERTY BUFFER
MINIMUM 15' WIDTH
A STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30' APART AND LOW GROWING EVERGREEN SHRUBS, EVERGREEN GROUND COVER, OR MULCH COVERING THE BALANCE OF THE BUFFER AREA. A ROW OF EVERGREEN SHRUBS PLACED NOT MORE THAN (4) TO (6) FEET APART WHICH WILL GROW TO FORM A CONTINUOUS HEDGE OF AT LEAST (6) FEET IN HEIGHT WITHIN (2) YEARS OF PLANTING.

NOTES:
1. LARGE MATURING TREES SPACED 30' APART, MAXIMUM, IN STAGGERED ROWS, TYPICAL OF ALL BUFFERS.
2. EVERGREEN SHRUBS SPACED 6' APART, MAXIMUM TO FORM A HEDGE THAT WILL REACH 6' IN HEIGHT 2 YEARS AFTER PLANTING, TYPICAL ALONG NORTH & EAST PROPERTY LINES

TYPE C FRONT PROPERTY BUFFER
MINIMUM 10' WIDTH
A STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30' APART AND LOW GROWING EVERGREEN SHRUBS, EVERGREEN GROUND COVER, OR MULCH COVERING THE BALANCE OF THE BUFFER AREA. (5) LOW GROWING SHRUBS FOR EVERY REQUIRED LARGE MATURING TREE.

BRYAN & BETH BLINSON
PIN: 0670-99-6018
ZONING RA-30

BRYAN & BETH BLINSON
PIN: 0670-98-9677
ZONING RA-30

ROGER & GLENDA WINBERLY
PIN: 0680-08-1552
ZONING RA-30

WINSTON-104 GROUP, LLC
PIN: 0671-98-6137
ZONING RA-30

TRASH CONTAINERS SCREENED BY OPAQUE FENCE.

CB.1
CB.0

PHASE 5
PHASE 4

SWALE

FFE: 231.50
FFE: 231.50
FFE: 231.50
FFE: 230.25

18" RCP ELEV: 224.57

Mag. Reading

MAIN STREET
S. R. 1532
60' PUBLIC RIGHT OF WAY
EDGE OF PAVEMENT
SR 1532 MAIN STREET

CURRENT PHASES
EXISTING DEVELOPMENT
EXISTING DEVELOPMENT

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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LANDSCAPE PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C8.0

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PLANT LIST

COMMON NAME	BOTANICAL NAME	VARIETY	SIZE	LOCATION
RED MAPLE	ACER RUBRA		2" CALIPER 6" ABOVE GROUND	PROPERTY LINE & RIGHT-OF-WAY BUFFERS, PARKING AREAS
SHUMARD OAK	QUERCUS SHUMARDII		2" CALIPER 6" ABOVE GROUND OR 6' TALL	PROPERTY LINE & RIGHT-OF-WAY BUFFERS
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GAIETY EUONYMUS	EUONYMUS FORTUNEI	'EMERALD GAIETY'	3 GALLON	RIGHT-OF-WAY BUFFER
SNOW WHITE HAWTHORN	RAPHIOLEPIS UMBELLATA	'SNOW WHITE'	5 GALLON	RIGHT-OF-WAY BUFFER
COMPACT JAPANESE HOLLY	ILEX CRENATA	'COMPACTA'	10 GALLON	PARKING AREA-RIGHT-OF-WAY SCREENING

TYPE A REAR PROPERTY BUFFER
MINIMUM 15' WIDTH

EXISTING TREE COVERAGE WILL BE USED TO SATISFY REAR PROPERTY BUFFER REQUIREMENT.

TYPE A SIDE PROPERTY BUFFER
MINIMUM 15' WIDTH
A STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30' APART AND LOW GROWING EVERGREEN SHRUBS, EVERGREEN GROUND COVER, OR MULCH COVERING THE BALANCE OF THE BUFFER AREA. A ROW OF EVERGREEN SHRUBS PLACED NOT MORE THAN (4) TO (6) FEET APART WHICH WILL GROW TO FORM A CONTINUOUS HEDGE OF AT LEAST (6) FEET IN HEIGHT WITHIN (2) YEARS OF PLANTING.

NAD 83 (2011)

S49°02'55"E 1714.26'

N39°25'09"E 367.29'

N 38°24'57"E 195.65'

S 49°02'55"E 1732.03'

PHASE 6
PHASE 5

BLDG 41 6 UNITS 6 BEDS
BLDG 39 5 UNITS (10 BEDS)
BLDG 37 6 UNITS 6 BEDS
BLDG 35 5 UNITS (10 BEDS)
BLDG 33 10 UNITS (10 BEDS)
BLDG 42 7 UNITS 14 BEDS
BLDG 40 6 UNITS 6 BEDS
BLDG 38 5 UNITS (10 BEDS)
BLDG 36 6 UNITS 6 BEDS
BLDG 34 5 UNITS (10 BEDS)

WOODS
POND
SWALE
HYDROLOGIC GROUP D SOILS IN WAKE HYDROLOGIC SOILS GROUP

CURRENT PHASES
EXISTING DEVELOPMENT
EXISTING DEVELOPMENT

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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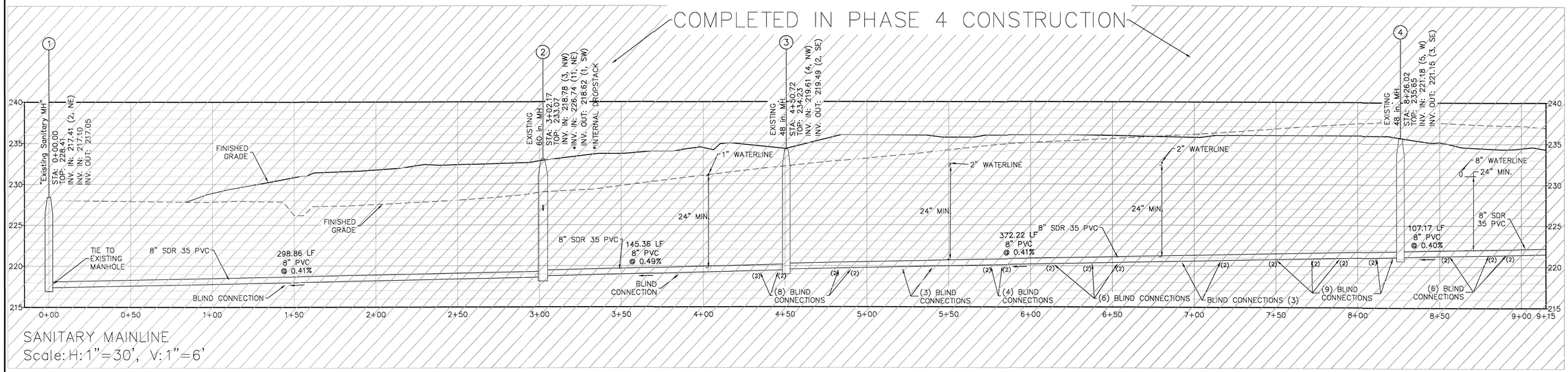
LANDSCAPE PLAN
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

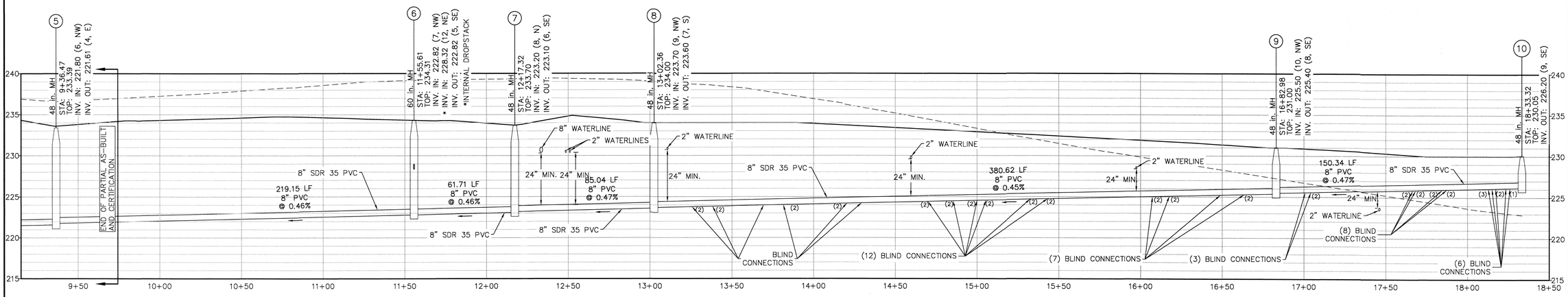
REVISIONS

DESIGNED BY:	CTC Jr
DRAWN BY:	AEB
CHECKED BY:	CTC Jr.
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

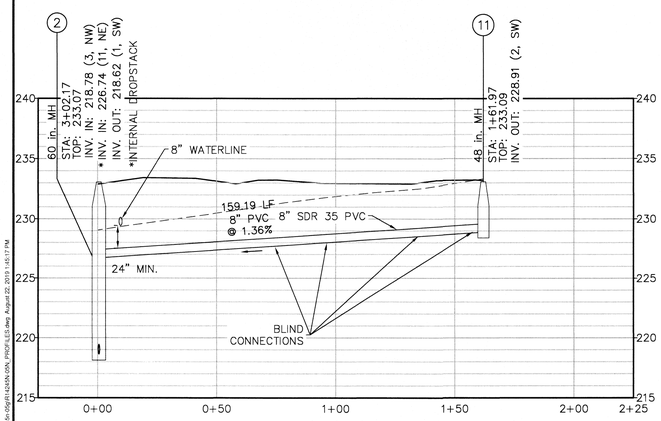
C8.1



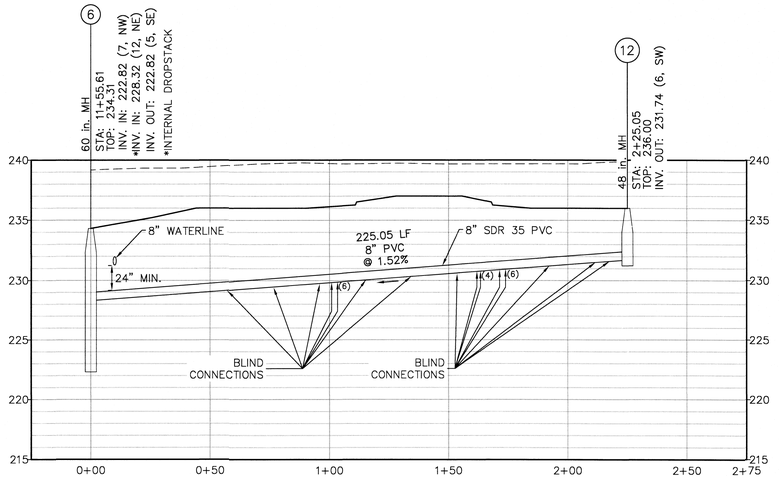
SANITARY MAINLINE
Scale: H: 1"=30', V: 1"=6'



SANITARY MAINLINE CONT.
Scale: H: 1"=30', V: 1"=6'



SANITARY MAINLINE 2
Scale: H: 1"=30', V: 1"=6'



SANITARY MAINLINE 3
Scale: H: 1"=30', V: 1"=6'

NOTE: AREAS SHOWN WITH A NUMBER IN PARENTHESIS DENOTE HOW MANY BLIND CONNECTIONS WILL BE MADE BETWEEN THE TWO ADJACENT LEADERS

P:\R14200\R14245N\14245n-05\CAD\r14245n-05SHEETS\r14245n-05SANITARY PROFILES.dwg August 22, 2019 1:45:17 PM

NORTH CAROLINA PROFESSIONAL SEAL 041595 08.21.19 ENGINEER ANDREW P. MERICLE

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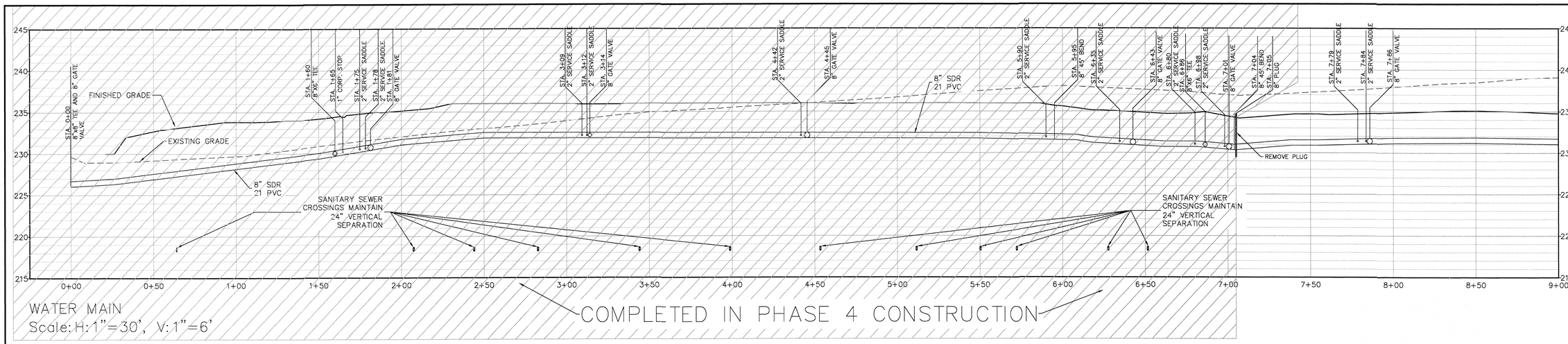
• Virginia Beach, VA

SANITARY PROFILES
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

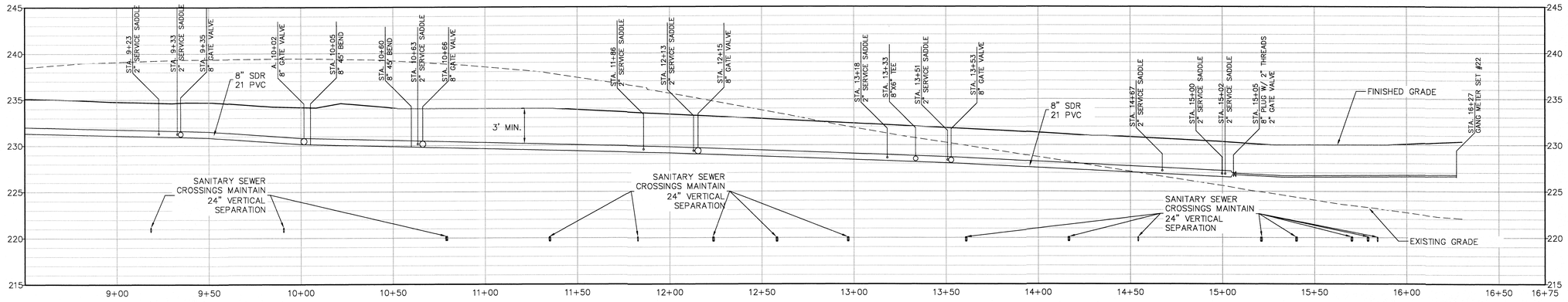
DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC JR
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C9.0



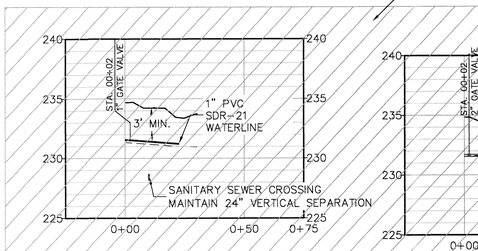
WATER MAIN
Scale: H: 1"=30', V: 1"=6'

COMPLETED IN PHASE 4 CONSTRUCTION

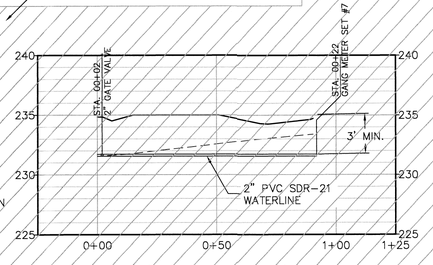


WATER MAIN CONTINUED
Scale: H: 1"=30', V: 1"=6'

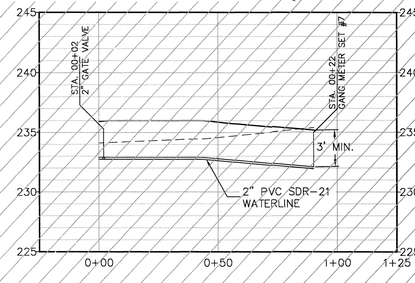
COMPLETED IN PHASE 4 CONSTRUCTION



CLUBHOUSE
Scale: H: 1"=30', V: 1"=6'



GANG METER 1 & 2
Scale: H: 1"=30', V: 1"=6'



GANG METER 3
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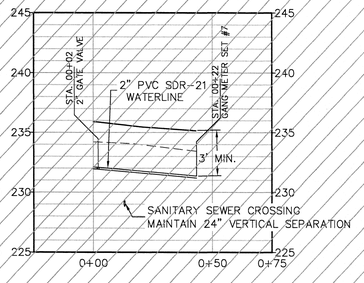

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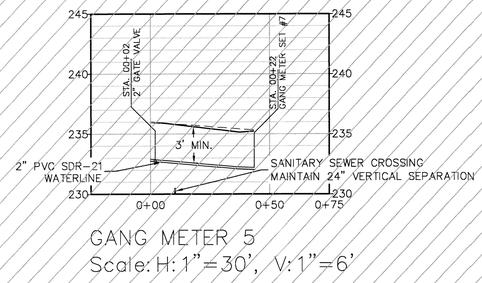

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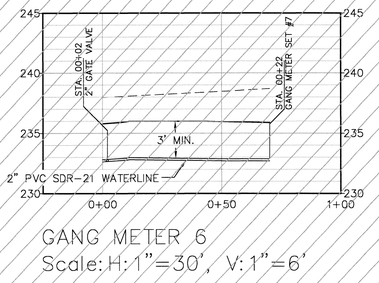

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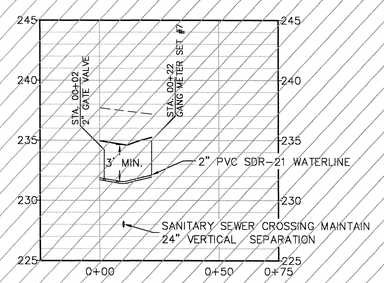

GANG METER 7
Scale: H: 1"=30', V: 1"=6'

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

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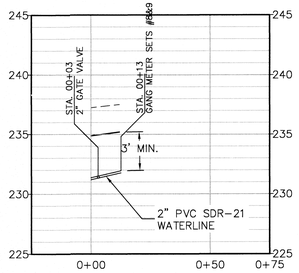
• Richmond, VA • Blacksburg, VA • Charlottesville, VA

WATER PROFILES
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC JR
SCALE:	1" = 30'
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C9.1



GANG METER 8 & 9
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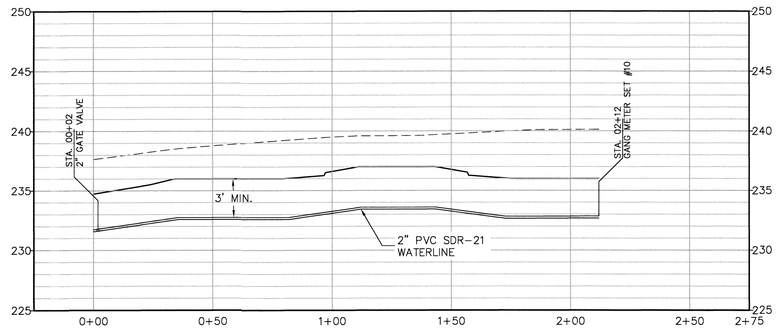

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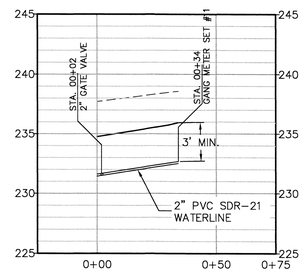

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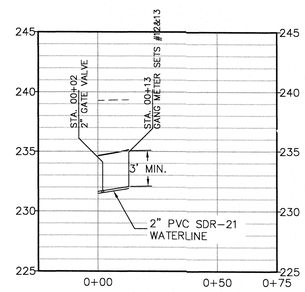

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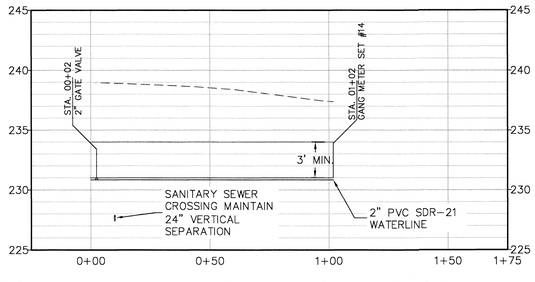

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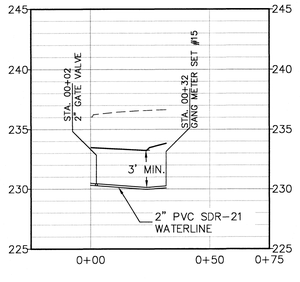

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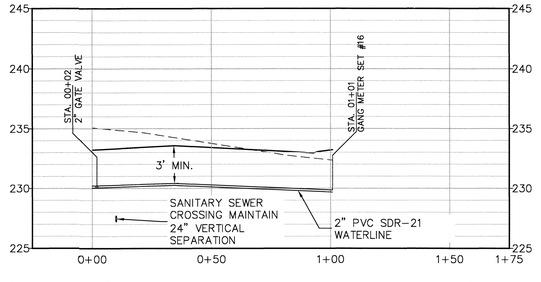

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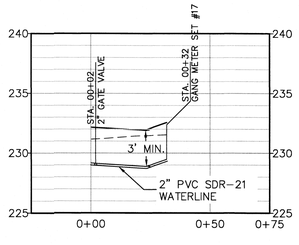

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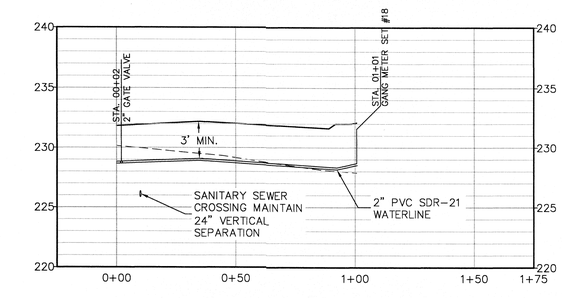
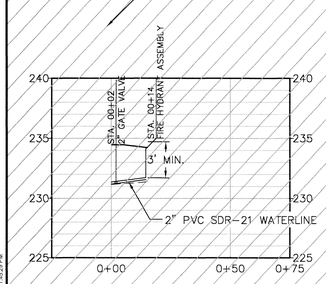


GANG METER 18
Scale: H: 1"=30', V: 1"=6'

COMPLETED IN PHASE 4 CONSTRUCTION



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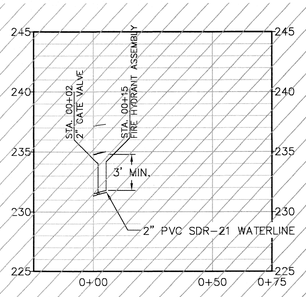

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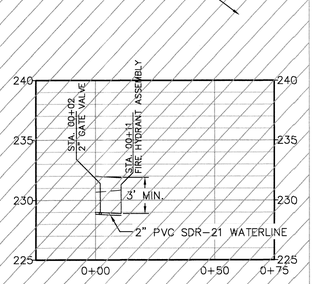

HYDRANT 3
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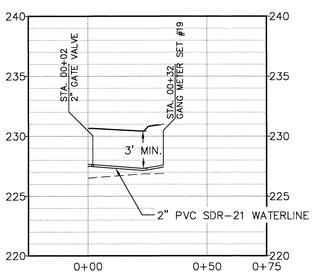

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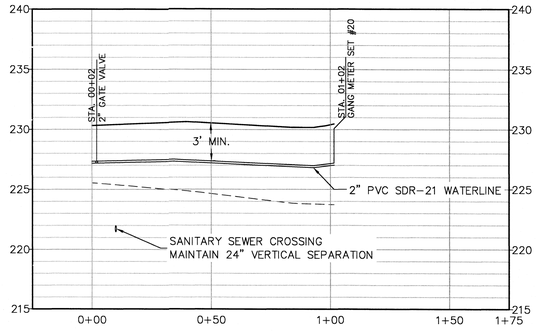

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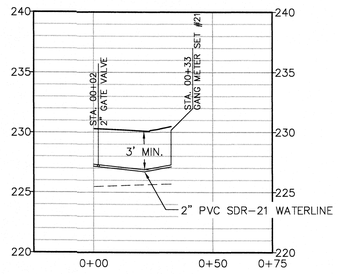

GANG METER 21
Scale: H: 1"=30', V: 1"=6'

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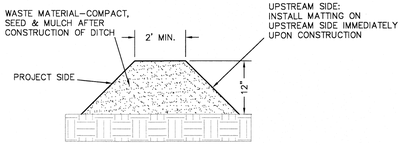
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

WATER PROFILES
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY: APM
DRAWN BY: APM
CHECKED BY: CTC JR
SCALE: 1" = 30'
DATE: 08.21.19
PROJECT NUMBER: R14245N-05

C9.2



CROSS SECTION

NOTES:

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

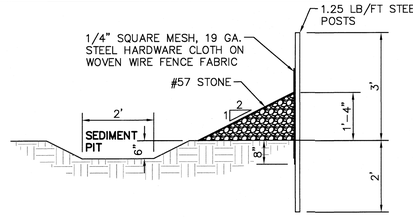
CONSTRUCTION

1. REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS OR OTHER OBJECTIONABLE MATERIAL. FILL AND COMPACT ALL DITCHES, SWALES OR GULLIES THAT WILL BE CROSSED TO NATURAL GROUND LEVEL OR ABOVE.
2. JUST BEFORE PLACEMENT OF FILL, THE BASE OF THE RIDGE SHOULD BE DISKED BY MACHINERY.
3. EXCAVATE, SHAPE AND STABILIZE THE DIVERSION TO LINE, GRADE AND CROSS SECTION, AS SHOWN ON THE DRAWINGS.
4. SEED AND MULCH IMMEDIATELY UPON COMPLETION.

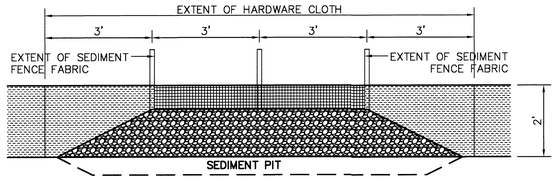
MAINTENANCE

1. INSPECT DIVERSIONS AFTER EVERY RAINFALL EVENT OF 1/2 INCH OR MORE. IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.

(DB) **DIVERSION BERM DETAIL**
NOT TO SCALE



SECTION



FRONT ELEVATION

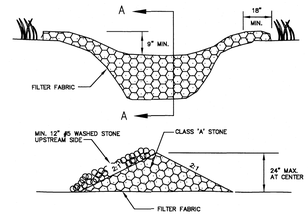
SPECIFICATIONS

1. REFER TO THE APPROVED EROSION CONTROL PLAN FOR LOCATION OF THE OUTLET BEFORE COMPLETING INSTALLATION OF THE SILT FENCE.

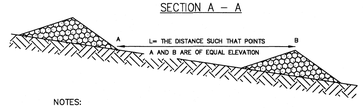
MAINTENANCE

1. INSPECT THE SEDIMENT FENCE OUTLET AFTER EACH SIGNIFICANT RAINFALL EVENT. REPAIR ANY EROSION AND PIPING HOLES IMMEDIATELY.
2. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO ONE–HALF THE DESIGN DEPTH; A STAKE SET AT THE CLEANOUT LEVEL IS HELPFUL.
3. CLEAN OR REPLACE STONE IF CLOGGED. REPLACE ANY STONE DISLODGED.
4. AFTER ALL SEDIMENT PRODUCING AREAS HAVE BEEN STABILIZED, INSPECTED, AND APPROVED, REMOVE THE STRUCTURE AND ALL UNSTABLE SEDIMENT. SMOOTH SITE TO BLEND WITH ADJOINING AREAS AND STABILIZE.

(SFO) **SEDIMENT FENCE OUTLET DETAIL**
NOT TO SCALE



SECTION A – A



NOTES:
(1) STONE SHOULD BE PLACED OVER THE CHANNEL BANKS TO KEEP WATER FROM CUTTING AROUND THE DAM.
(2) STONE CHECK DAMS SHOULD BE SPACED IN A CHANNEL SO THAT THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF UPSTREAM DAM.

(CD) **ROCK CHECK DAM DETAIL**
NOT TO SCALE

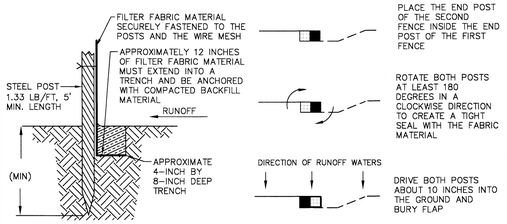
CONSTRUCTION SPECIFICATIONS

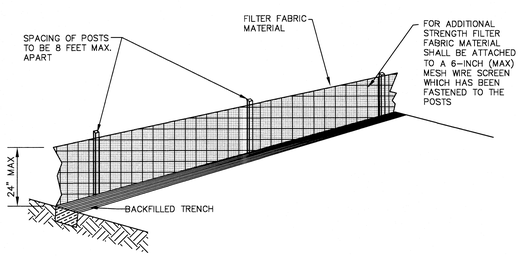
1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
2. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND STONE AT LEAST 1.5 FEET BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
4. SET SPACING BETWEEN DAMS TO ASSURE THAT THE ELEVATION AT THE TOP OF THE LOWER DAM IS THE SAM AS THE TOE ELEVATION OF THE UPPER DAM
5. PROTECT THE CHANNEL AFTER THE LOWEST CHECK DAM FROM HEAVY FLOW THAT COULD CAUSE EROSION.
6. MAKE SURE THAT THE CHANNEL REACH ABOVE THE MOST UPSTREAM DAM IS STABLE
7. ENSURE THAT OTHER AREAS OF THE CHANNEL, SUCH AS CULVERT ENTRANCES BELOW THE CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

MAINTENANCE

INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (.5" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED. ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, ADDITIONAL MEASURES CAN BE TAKEN SUCH AS, INSTALLING A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED 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.

ATTACHING TWO SEDIMENT FENCES





MATERIALS

1. USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461, WHICH IS SHOWN IN PART IN TABLE 6.62B. SYNTHETIC FILTER FABRIC SHOULD 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° F.
2. ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.33 LB/LINEAR FT STEEL WITH A MINIMUM LENGTH OF 5 FEET. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO FACILITATE FASTENING THE FABRIC.
3. FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

CONSTRUCTION

1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.)
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 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER (FIGURE 6.62A).
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH COMPACTED SOIL PLACED OVER THE FILTER FABRIC. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

SEDIMENT FENCE INSTALLATION USING THE SLICING METHOD

INSTEAD OF EXCAVATING A TRENCH, PLACING FABRIC AND THEN BACKFILLING TRENCH, SEDIMENT FENCE MAY BE INSTALLED USING SPECIALLY DESIGNED EQUIPMENT THAT INSERTS THE FABRIC INTO A CUT SLICED IN THE GROUND WITH A DISC.

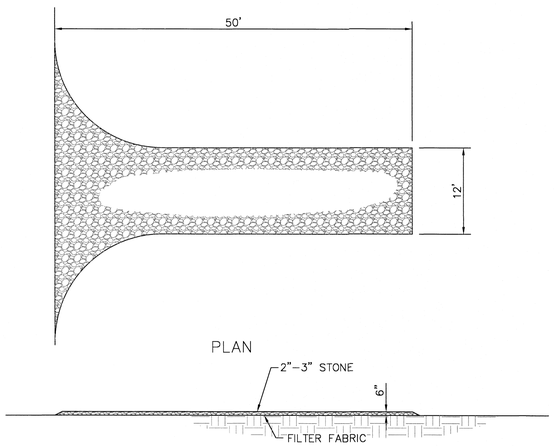
INSTALLATION SPECIFICATIONS

1. THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH A LEVEL IF NECESSARY.
2. INSTALL POSTS 4 FEET APART IN CRITICAL AREAS AND 6 FEET APART ON STANDARD APPLICATIONS.
3. INSTALL POSTS 2 FEET DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.
4. INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FABRIC.
5. ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITHIN THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
6. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
7. NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.
8. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.
9. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSTREAM SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.

MAINTENANCE

1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. 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.
4. 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.

(SF) **SEDIMENT FENCE DETAIL**
NOT TO SCALE



SECTION

CONSTRUCTION

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN AREAS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE

MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY PERIODIC TOPDRESSING WITH 2-3 INCH STONE. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

(CE) **TEMPORARY CONSTRUCTION ENTRANCE/EXIT**
SCALE: 1" = 10'

TEMPORARY SEEDING SCHEDULE FOR LATE WINTER AND EARLY SPRING

DATES	SPECIES	RATE (LB/ACRE)
JAN 1 – MAY 1	RYE (GRAIN)	120
	KOBE LESPEDEZA	50

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 4000 LB/ACRE SMALL GRAIN STRAW AND TACK WITH ASPHALT.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SCHEDULE FOR SUMMER

DATES	SPECIES	RATE (LB/ACRE)
MAY 1 – APR 15	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 4000 LB/ACRE SMALL GRAIN STRAW AND TACK WITH ASPHALT.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SCHEDULE FOR FALL

DATES	SPECIES	RATE (LB/ACRE)
AUG 15 – DEC 30	RYE (GRAIN)	120

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10–10–10 FERTILIZER.

MULCH
APPLY 4000 LB/ACRE SMALL GRAIN STRAW AND TACK WITH ASPHALT.

MAINTENANCE
REPAIR AND REFERTILIZE AND RESEED 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 LB/ACRE KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT SEEDING SCHEDULE FOR GRASS-LINED CHANNELS

DATES	SPECIES	RATE (LB/ACRE)
BEST AUG 15 – OCT 31 POSSIBLE FEB 1 – APR 15	TALL FESCUE	200

NURSE PLANTS
PRIOR TO MAY 1 OR AFTER AUG 15, ADD 40 LB/ACRE RYE (GRAIN).

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10–10–10 FERTILIZER. OPERATE TILLAGE EQUIPMENT ACROSS THE WATERWAY.

MULCH
USE A ROLLED EROSION CONTROL PRODUCT TO COVER THE BOTTOM OF CHANNELS AND DITCHES AND STAPLE SECURELY. THE LINING SHOULD EXTEND ABOVE THE HIGHEST CALCULATED DEPTH OF FLOW.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR USE 150 LB/ACRE OF 10–10–10. MOW REGULARLY TO A HEIGHT OF 2–4 INCHES.

PERMANENT SEEDING SCHEDULE FOR AREAS OTHER THAN CHANNELS

SPECIES	RATE (LB/ACRE) 3:1 AND STEEPER SLOPES	SLOPES FLATTER THAN 3:1
TALL FESCUE	100	80
SERICEA LESPEDEZA	30	20
KOBE LESPEDEZA	10	10
PENSACOLA BAHIAGRASS	25	NONE

AFTER AUGUST 15 USE UNSCARIFIED SERICEA SEED.

NURSE PLANTS
PRIOR TO MAY 1 OR AFTER AUG 15, ADD 40 LB/ACRE RYE (GRAIN).

SEEDING DATES

	BEST	POSSIBLE
FALL:	AUG 25 – SEP 15	AUG 20 – OCT 25
LATE WINTER:	FEB 15 – MAR 21	FEB 1 – APR 15

FALL IS BEST FOR TALL FESCUE AND LATE WINTER FOR LESPEDEZAS. OVERSEEDING OF KOBE LESPEDEZA OVER FALL–SEEDED TALL FESCUE IS VERY EFFECTIVE.

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10–10–10 FERTILIZER.

MULCH
APPLY 4,000–5,000 LB/ACRE GRAIN STRAW. ANCHOR BY TACKING WITH ASPHALT. ON SLOPE 3:1 OR STEEPER ANCHOR STRAW WITH NETTING.

MAINTENANCE
REFERTILIZE IN THE SECOND YEAR UNLESS GROWTH IS FULLY ADEQUATE. MAY BE MOWED ONCE OR TWICE A YEAR, BUT MOWING IS NOT NECESSARY. REFERTILIZE, RESEED AND MULCH DAMAGED AREAS IMMEDIATELY.

SPECIFICATIONS

1. PLOW COMPACTED AREAS 6 INCHES DEEP.
2.
3. APPLY TOPSOIL IF AVAILABLE.
4.
5. APPLY LIME AND FERTILIZER UNIFORMLY AND INCORPORATE INTO THE TOP 4–6 INCHES OF SOIL. IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.
6.
7. UNLESS HYDROSEEDING IS USED, BREAK UP LARGE CLODS. IF SURFACE IS SEALED, LOOSEN IT IMMEDIATELY BEFORE SEEDING BY RAKING, DISKING, HARROWING OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING.
8.
9. EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN ONE INCH DEEP, GRASSES AND LEGUMES NO MORE THAN 1/2 INCH.
10.
11. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPAKER. HYDROSEEDED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.
12.
13. IN AREAS NOT HYDROSEEDED, MULCH WITH GRAIN STRAW. SEE SEEDING SCHEDULES.

TEMPORARY & PERMANENT SEEDING

NORTH CAROLINA PROFESSIONAL SEAL 041595 08.21.19 ENGINEER ANDREW P. MERICLE

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ESC DETAILS
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C10.0

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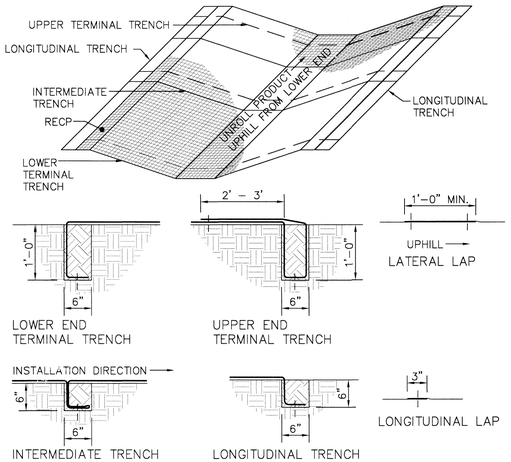


SPECIFICATIONS

1. GRADE THE SURFACE OF INSTALLATION AREAS SO THAT THE GROUND IS SMOOTH AND LOOSE. WHEN SEEDING PRIOR TO INSTALLATION, FOLLOW THE STEPS FOR SEED BED PREPARATION, SOIL AMENDMENTS AND SEEDING IN SEEDING SPECIFICATION. ALL GULLIES, RILLS AND OTHER DISTURBED AREAS MUST BE FINE GRADED PRIOR TO INSTALLATION. SPREAD SEED BEFORE RECP INSTALLATION. IMPORTANT; REMOVE ALL LARGE ROCKS, DIRT CLODS, STUMPS, ROOTS, GRASS CLUMPS AND OTHER OBSTRUCTIONS FROM THE SOIL SURFACE TO ALLOW FOR DIRECT CONTACT BETWEEN THE SOIL SURFACE AND THE RECP.
2. TERMINAL ANCHOR TRENCHES ARE REQUIRED AT RECP ENDS AND INTERMEDIATE TRENCHES MUST BE CONSTRUCTED ACROSS CHANNELS AT 25–FOOT INTERVALS. TERMINAL ANCHOR TRENCHES SHOULD BE A MINIMUM OF 12 INCHES IN DEPTH AND 6 INCHES IN WIDTH, WHILE INTERMEDIATE TRENCHES NEED BE ONLY 6 INCHES DEEP AND 6 INCHES WIDE.

INSTALLATION IN CHANNELS

3. EXCAVATE TERMINAL TRENCHES ACROSS THE CHANNEL AT THE UPPER AND LOWER ENDS OF THE LINED CHANNEL SECTIONS. AT 25–FOOT INTERVALS ALONG THE CHANNEL, ANCHOR THE RECP ACROSS THE CHANNEL EITHER IN 6 INCH BY 6 INCH TRENCHES OR BY INSTALLING TWO CLOSELY SPACED ROWS OF ANCHORS. EXCAVATE LONGITUDINAL TRENCHES 6 INCHES DEEP AND WIDE ALONG CHANNEL EDGES (ABOVE WATER LINE) IN WHICH TO BURY THE OUTSIDE RECP EDGES. PLACE THE FIRST RECP AT THE DOWNSTREAM END OF THE CHANNEL. PLACE THE END OF THE FIRST RECP IN THE TERMINAL TRENCH AND PIN IT AT 1 FOOT INTERVALS ALONG THE BOTTOM OF THE TRENCH.
NOTE: THE RECP SHOULD BE PLACED UPSIDE DOWN IN THE TRENCH WITH THE ROLL ON THE DOWNSTREAM SIDE OF THE TRENCH.
ONCE PINNED AND BACKFILLED, THE RECP IS DEPLOYED BY WRAPPING OVER THE TOP OF THE TRENCH AND UNROLLING UPSTREAM. IF THE CHANNEL IS WIDER THAN THE PROVIDED ROLLS, PLACE ENDS OF ADJACENT ROLLS IN THE TERMINAL TRENCH, OVERLAPPING THE ADJACENT ROLLS A MINIMUM OF 3 INCHES. PIN AT 1 FOOT INTERVALS, BACKFILL AND COMPACT. UNROLL THE RECP IN THE UPSTREAM DIRECTION UNTIL REACHING THE FIRST INTERMEDIATE TRENCH. FOLD THE RECP BACK OVER ITSELF, POSITIONING THE ROLL ON THE DOWNSTREAM SIDE OF THE TRENCH, AND ALLOW THE MAT TO CONFORM TO THE TRENCH.
THEN PIN THE RECP (TWO LAYERS) TO THE BOTTOM OF THE TRENCH, BACKFILL AND COMPACT. CONTINUE UP THE CHANNEL (WRAPPING OVER THE TOP OF THE INTERMEDIATE TRENCH) REPEATING THIS STEP AT OTHER INTERMEDIATE TRENCHES, UNTIL REACHING THE UPPER TERMINAL TRENCH.
AT THE UPPER TERMINAL TRENCH, ALLOW THE RECP TO CONFORM TO THE TRENCH, SECURE WITH PINS OR STAPLES, BACKFILL, COMPACT AND THEN BRING THE MAT BACK OVER THE TOP OF THE TRENCH AND ONTO THE EXISTING MAT (2 TO 3 FEET OVERLAP IN THE DOWNSTREAM DIRECTION), AND PIN AT 1 FOOT INTERVALS ACROSS THE RECP. WHEN STARTING INSTALLATION OF A NEW ROLL, BEGIN IN A TRENCH OR SINGLE–LAP ENDS OF ROLLS A MINIMUM OF 1 FOOT WITH UPSTREAM RECP ON TOP TO PREVENT UPLIFTING. PLACE THE OUTSIDE EDGES OF THE RECP(S) IN LONGITUDINAL TRENCHES, PIN, BACKFILL, AND COMPACT.

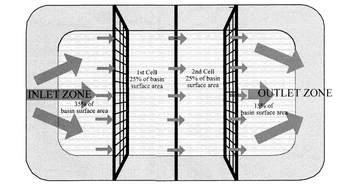
ANCHORING DEVICES

4. 11 GAUGE, AT LEAST 6 INCHES LENGTH BY 1 INCH WIDTH STAPLES OR 12 INCH MINIMUM LENGTH WOODEN STAKES ARE RECOMMENDED FOR ANCHORING THE RECP TO THE GROUND.
DRIVE STAPLES OR PINS SO THAT THE TOP OF THE STAPLE OR PIN IS FLUSH WITH THE GROUND SURFACE. ANCHOR EACH RECP EVERY 3 FEET ALONG ITS CENTER. LONGITUDINAL OVERLAPS MUST BE SUFFICIENT TO ACCOMMODATE A ROW OF ANCHORS AND UNIFORM ALONG THE ENTIRE LENGTH OF OVERLAP AND ANCHORED EVERY 3 FEET ALONG THE OVERLAP LENGTH. ROLL ENDS MAY BE SPLICED BY OVERLAPPING 1 FOOT (IN THE DIRECTION OF WATER FLOW), WITH THE UPSTREAM/USLOPE MAT PLACED ON TOP OF THE DOWNNSTREAM/ DOWNSLOPE RECP. THIS OVERLAP SHOULD BE ANCHORED AT 1 FOOT SPACING ACROSS THE RECP. WHEN INSTALLING MULTIPLE WIDTH MATS HEAT SEAMED IN THE FACTORY, ALL FACTORY SEAM AND FIELD OVERLAPS SHOULD BE SIMILARLY ANCHORED.

MAINTENANCE

4. INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. REPAIR IMMEDIATELY.
5. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
6. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
7. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

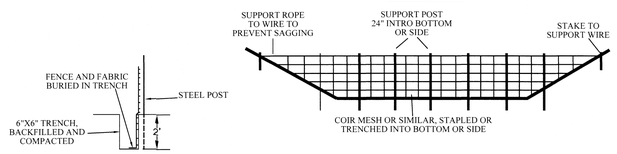
RECP ROLLED EROSION CONTROL PRODUCTS (RECP)
NOT TO SCALE



PLAN VIEW

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

CROSS SECTION



SECTION VIEW AT OPENING

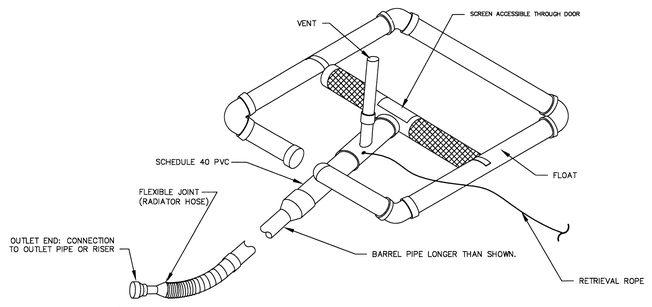
CONSTRUCTION

1. GRADE THE BASIN SO THAT THE BOTTOM IS LEVEL FRONT TO BACK AND SIDE TO SIDE.
2. INSTALL POSTS ACROSS THE WIDTH OF THE BASIN.
3. STEEL POSTS SHOULD BE DRIVEN TO A DEPTH OF 24 INCHES, SPACED A MAXIMUM OF 4 FEET APART, AND INSTALLED UP THE SIDES OF THE BASIN AS WELL. THE TOP OF THE FABRIC SHOULD BE 6 INCHES HIGHER THAN THE CREST OF THE SPILLWAY. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
4. INSTALL AT LEAST THREE ROWS OF BAFFLES BETWEEN THE INLET AND OUTLET DISCHARGE POINT. BASINS LESS THAN 20 FEET IN LENGTH MAY USE 2 BAFFLES.
5. WHEN USING POSTS, ADD A SUPPORT WIRE OR ROPE ACROSS THE TOP OF THE MEASURE TO PREVENT SAGGING.
6. WRAP COIR BLANKET OVER THE TOP WIRE. ATTACH FABRIC TO A ROPE AND A SUPPORT STRUCTURE WITH ZIP TIES, WIRE OR STAPLES.
7. THE BOTTOM AND SIDES OF THE FABRIC SHOULD BE ANCHORED IN A TRENCH OR PINNED WITH 8-INCH EROSION CONTROL MATTING STAPLES.
8. DO NOT SPLICE THE FABRIC, BUT USE A CONTINUOUS PIECE ACROSS THE BASIN.

MAINTENANCE

1. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS WEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEX RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH.
4. AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND STABILIZE IT.

SB STANDARD BAFFLES DETAIL

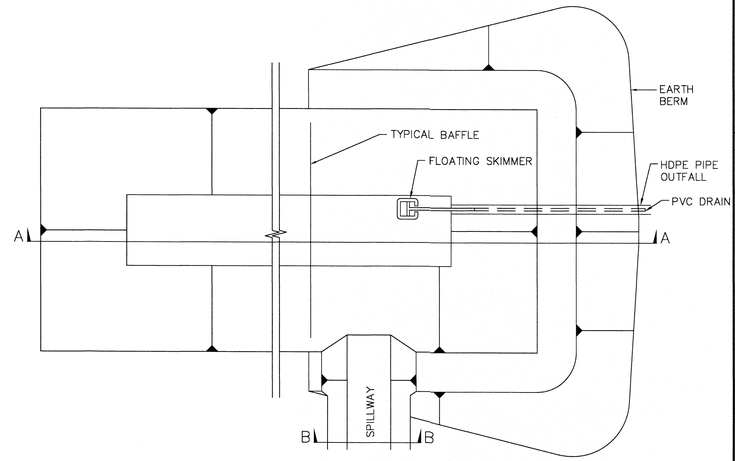


SB STANDARD SKIMMER DETAIL

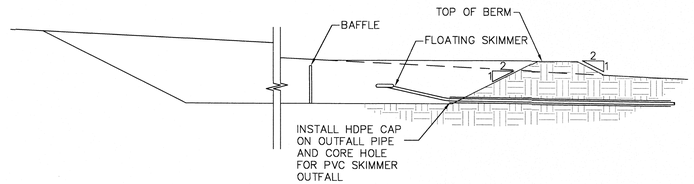
MAINTENANCE:
IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO 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

NOTES:

1. SKIMMER IS TO BE A SURFACE DEWATERING DEVICE SUCH AS BMP SKIMMER OR APPROVED DEVICE.
2. SKIMMER SHOULD RISE TO LEVEL OF WEIR HEIGHT IN TEMPORARY BASIN OR TO RISER INLET.
3. ROPE ATTACHED TO SKIMMER TO HELP KEEP CLEAN.



PLAN



SECTION A–A

SECTION B–B

DIMENSIONS						
NUMBER	BOTTOM WIDTH (FT)	BOTTOM LENGTH (FT)	DEPTH (FT)	SPILLWAY WIDTH (FT)	SKIMMER SIZE (IN)	ORIFICE DIAMETER (IN)
1	20	167	3	10	2	NONE
2	46	94	2	5	2	1.5
3	60	90	2	5	2	1.75
4	180	130	4	5	2	NONE

SPECIFICATIONS

1. SITE PREPARATIONS - CLEAR, GRUB, AND STRIP TOPSOIL FROM AREAS UNDER THE EMBANKMENT TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. DELAY CLEARING THE POOL AREA UNTIL THE DAM IS COMPLETE AND THEN REMOVE BRUSH, TREES, AND OTHER OBJECTIONABLE MATERIALS TO FACILITATE SEDIMENT CLEANOUT. STOCKPILE ALL TOPSOIL OR SOIL CONTAINING ORGANIC MATTER FOR USE ON THE OUTER SHELL OF THE EMBANKMENT TO FACILITATE VEGETATIVE ESTABLISHMENT. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW THE BASIN AS NEEDED.

2. CUT-OFF TRENCH - EXCAVATE A CUT-OFF TRENCH ALONG THE CENTER LINE OF THE EARTH FILL EMBANKMENT. CUT THE TRENCH TO STABLE SOIL MATERIAL, BUT IN NO CASE MAKE IT LESS THAN 2 FEET DEEP. THE CUT-OFF TRENCH MUST EXTEND INTO BOTH ABUTMENTS TO AT LEAST THE ELEVATION OF THE RISER CREST, OR THE SPILLWAY CREST IF THERE IS NO RISER. MAKE THE MINIMUM BOTTOM WIDTH WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT, BUT IN NO CASE LESS THAN 2 FEET. MAKE SIDE SLOPES OF THE TRENCH NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS ARE THE SAME AS THOSE FOR THE EMBANKMENT. KEEP THE TRENCH DRY DURING BACKFILLING AND COMPACTION OPERATIONS.

3. EMBANKMENT - TAKE FILL MATERIAL FROM THE APPROVED AREAS SHOWN ON THE PLANS. IT SHOULD BE CLEAN MINERAL SOIL, FREE OF ROOTS, WOODY VEGETATION, ROCKS, AND OTHER OBJECTIONABLE MATERIAL. SCARIFY AREAS ON WHICH FILL IS TO BE PLACED BEFORE PLACING FILL. THE FILL MATERIAL MUST CONTAIN SUFFICIENT MOISTURE SO IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN 6 TO 8 INCH CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL AREA AND COMPACT IT. COMPACTION MAY BE OBTAINED BY ROUTING THE CONSTRUCTION HAULING EQUIPMENT OVER THE FILL TO THAT THE ENTIRE SURFACE OF EACH LAYER IS TRAVERSED BY AT LEAST ON WHEEL OR TREAD TRACK OF HEAVY EQUIPMENT, OR A COMPACTOR MAY BE USED. CONSTRUCT THE EMBANKMENT TO AN ELEVATION 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLING.

4. CONDUIT SPILLWAYS - SECURELY ATTACH THE RISER TO THE BARREL OR BARREL STUB TO MAKE A WATERTIGHT STRUCTURAL CONNECTION. SECURE ALL CONNECTIONS BETWEEN BARREL SECTIONS BY APPROVED WATERTIGHT ASSEMBLIES. PLACE THE BARREL AND RISER ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NO USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLARS. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS, AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE FROM FIRM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE HAUNCHES.

PLACE A MINIMUM OF 2 FEET OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. ANCHOR THE RISER IN PLACE BY CONCRETE OR OTHER SATISFACTORY MEANS TO PREVENT FLOTATION. IN NO CASE SHOULD THE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.

5. EMERGENCY SPILLWAY - INSTALL THE EMERGENCY SPILLWAY IN UNDISTURBED SOIL. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADE, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE EMERGENCY SPILLWAY.

6. INLETS - DISCHARGE WATER INTO THE BASIN IN A MANNER TO PREVENT EROSION. USE DIVERSIONS WITH OUTLET PROTECTION TO DIVERT SEDIMENT-LADEN WATER TO THE UPPER END OF THE POOL TO IMPROVE BASIN TRAP EFFICIENCY.

7. EROSION CONTROL - CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED, DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION.

MAINTENANCE
INSPECT TEMPORARY SEDIMENT BASINS AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AREAS WITH SEDIMENT CONTROLS.

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 RISER AND POOL AREA.

CLEAR SKIMMER ORIFICE IF IT BECOMES CLOGGED.

SB TEMPORARY SKIMMER SEDIMENT BASIN DETAIL
NOT TO SCALE

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ESC DETAILS
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

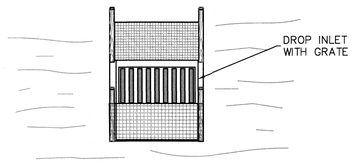
REVISIONS

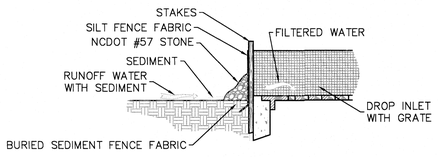
DESIGNED BY: APM
DRAWN BY: APM
CHECKED BY: CTC Jr.
SCALE: NONE
DATE: 08.21.19
PROJECT NUMBER: R14245N-05

C10.1

CONSTRUCTION SPECIFICATIONS

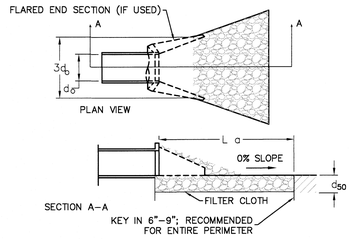
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NC DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUNDCOVER.



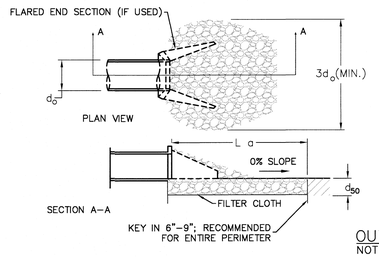


INLET PROTECTION
NOT TO SCALE

PIPE OUTLET CONDITION – PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL



PIPE OUTLET CONDITION – PIPE OUTLET TO WELL-DEFINED CHANNEL



OUTLET PROTECTION
NOT TO SCALE

SPECIFICATIONS

1. ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
2. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
3. FILTER CLOTH, WHEN USED, MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP A MINIMUM OF 1 FT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER CLOTH.
4. RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER.
5. THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.
6. RIPRAP MAY BE FIELD STONE OR ROUGH QUARRY STONE. IT SHOULD BE HARD, ANGULAR, HIGHLY WEATHER-RESISTANT AND WELL GRADED.
7. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFALL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
8. ENSURE THAT THE APRON IS PROPERLY ALIGNED WITH THE RECEIVING STREAM AND PREFERABLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED TO FIT SITE CONDITIONS, PLACE IT IN THE UPPER SECTION OF THE APRON.IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

MAINTENANCE

1. INSPECT RIP-RAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP-RAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. PROMPTLY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

NORTH CAROLINA PROFESSIONAL SEAL 041595 08.21.19 ENGINEER ANDREW P. MERICLE

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• Fayetteville, NC
• Northern Virginia
• Virginia Beach, VA

ESC DETAILS

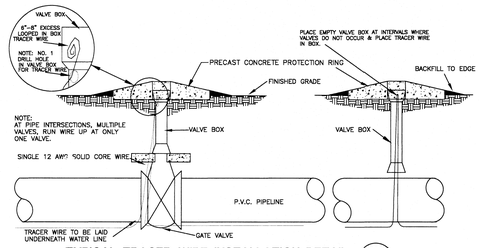
CAMPBELL POINTE TOWNHOMES PH 5-6

HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

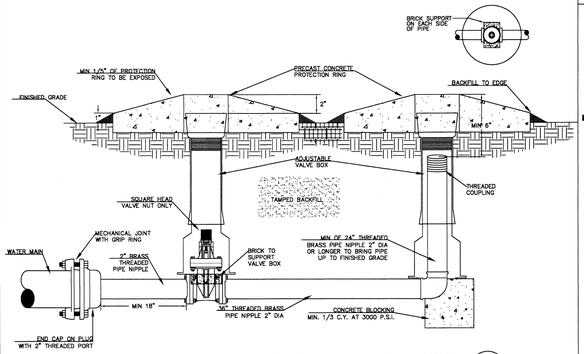
C10.2



TYPICAL TRACER WIRE INSTALLATION DETAIL W 3

NO SCALE

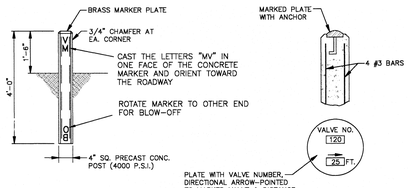
NOTES:
1. DRILL HOLE IN VALVE BOX TO INSERT TRACER WIRE,BRING UP TO INSIDE AND ROLL UP AT LEAST 6"-8" EXCESS
2. PLACE TRACER WIRE IN VALVE BOX AT 1,000' INTERVALS OR AS NOTED ON THE PLANS, TYPICAL.
3. DO NOT SPLICE WIRE WHEN BEGINNING A NEW SPOOL. INSTEAD INSTALL A VALVE BOX AND ATTACH EACH WIRE WITH A BRASS SCREW TO THE VALVE BOX.



TYPICAL PERMANENT BLOW-OFF ASSEMBLY DETAIL W 4

NO SCALE

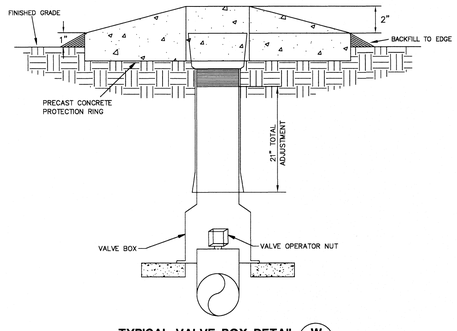
NOTE: SEE TYPICAL VALVE BOX DETAIL FOR BRICK INSTALLATION



TYPICAL VALVE MARKER DETAIL W 1

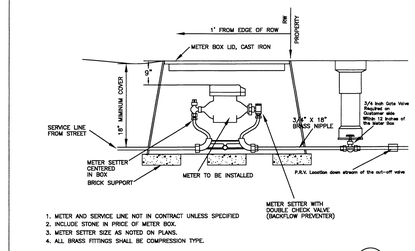
NO SCALE

NOTES:
PAINT MARKER BLUE AFTER INSTALLATION



TYPICAL VALVE BOX DETAIL W 2

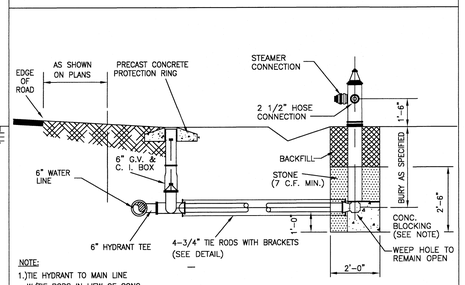
NO SCALE



1. METER AND SERVICE LINE NOT IN CONTRACT UNLESS SPECIFIED
2. INCLUDE STONE IN PRICE OF METER BOX.
3. METER SETTER SIZE AS NOTED ON PLANS.
4. ALL BRASS FITTINGS SHALL BE COMPRESSION TYPE.

TYPICAL 3/4" METER SETTER INSTALLATION DETAIL W 14

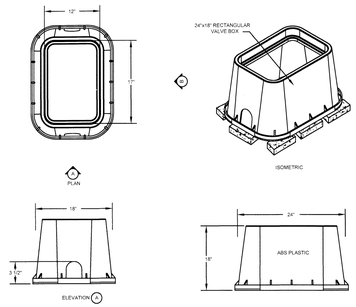
NO SCALE

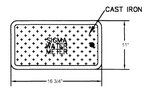


NOTE:
1.)TIE HYDRANT TO MAIN LINE W/TIE RODS IN LIEW OF CONC. BLOCKING IN SANDY SOIL.
2.)MECHANICAL JOINTS USED WITH GRIP RINGS

TYPICAL FIRE HYDRANT INSTALLATION DETAIL W 6

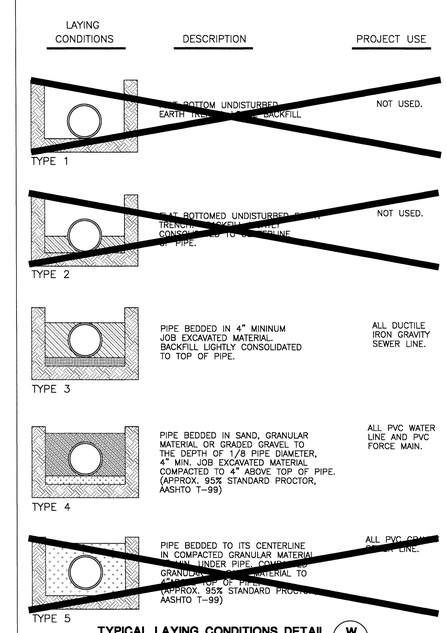
NO SCALE





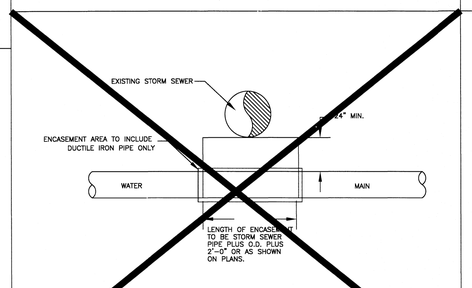
TYPICAL METER BOX DETAIL FOR 3/4" SERVICE W 15

NO SCALE



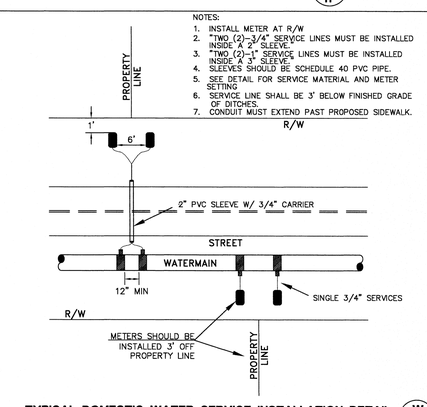
TYPICAL LAYING CONDITIONS DETAIL W 11

NO SCALE



TYPICAL STORM SEWER CROSSING DETAIL W 8

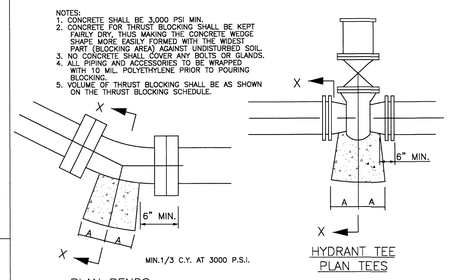
NO SCALE



NOTES:
1. INSTALL METER AT R/W
2. "TWO (2)-3/4" SERVICE LINES MUST BE INSTALLED INSIDE A 2" SLEEVE.
3. "TWO (2)-1" SERVICE LINES MUST BE INSTALLED INSIDE A 3" SLEEVE.
4. SLEEVES SHOULD BE SCHEDULE 40 PVC PIPE.
5. SEE DETAIL FOR SERVICE MATERIAL AND METER SETTING
6. SERVICE LINE SHALL BE 3' BELOW FINISHED GRADE OF DITCHES.
7. CONDUIT MUST EXTEND PAST PROPOSED SIDEWALK.

TYPICAL DOMESTIC WATER SERVICE INSTALLATION DETAIL W 12

NO SCALE

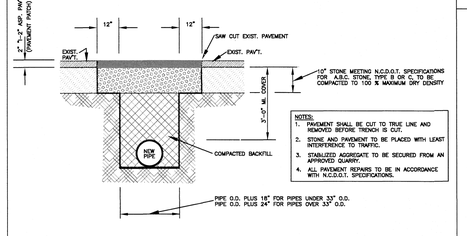


NOTES:
1. CONCRETE SHALL BE 3,000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL PIPING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL. POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	8"	9"	10"	16"
6"	10"	12"	8"	10"	8"	8"	8"	8"	10"	10"	12"	18"
8"	15"	13"	10"	10"	8"	8"	8"	8"	10"	12"	12"	24"
10"	16"	14"	10"	12"	6"	10"	6"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"

TYPICAL THRUST BLOCK DETAIL W 7

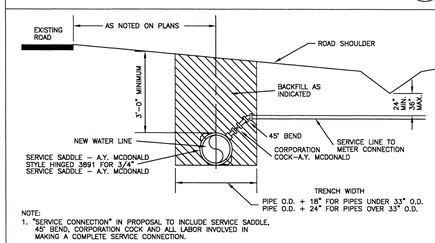
NO SCALE



NOTES:
1. PAVEMENT SHALL BE CUT TO TRUE LINE AND REMOVED BEFORE TRENCH IS CUT.
2. STONE AND PAVEMENT TO BE PLACED WITH LEAST INTERFERENCE TO TRAFFIC.
3. STABILIZED AGGREGATE TO BE SECURED FROM AN APPROVED QUARRY.
4. ALL PAVEMENT REPAIRS TO BE IN ACCORDANCE WITH N.C.D.O.T. SPECIFICATIONS.

TYPICAL TRENCH IN BITUMINOUS SURFACE AREAS DETAIL W 10

NO SCALE



NOTE:
1. "SERVICE CONNECTION" IN PROPOSAL TO INCLUDE SERVICE SADDLE, 45° BEND, CORPORATION COCK AND ALL LABOR INVOLVED IN MAKING A COMPLETE SERVICE CONNECTION.
2. SERVICE PIPING TO BE 3/4" COPPER OR POLYETHELENE (SEE SPECS)
3. ALL BRASS FITTINGS SHALL BE COMPRESSION TYPE

TYPICAL WATER SERVICE CONNECTION USING TAPPING SADDLE DETAIL W 13

NO SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

WATER DETAILS

CAMPBELL POINTE TOWNHOMES PH 5-6

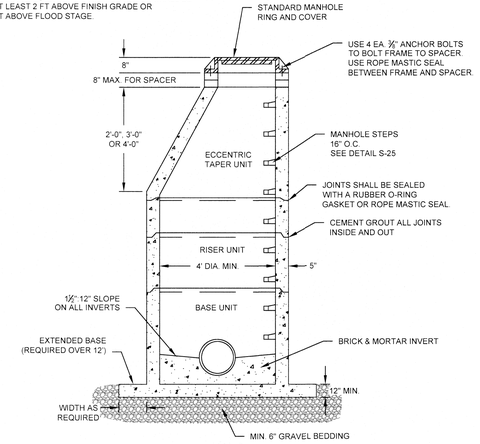
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C10.3

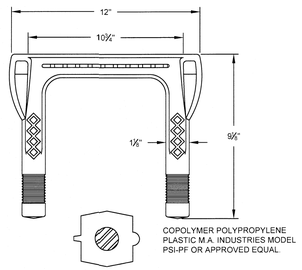
NOTE:
IN NON-TRAFFIC AREAS, TOP OF FRAME AND COVER SHALL BE INSTALLED AT LEAST 2 FT ABOVE FINISH GRADE OR AT LEAST 1 FT ABOVE FLOOD STAGE.



TYPICAL STANDARD PRECAST CONCRETE MANHOLE DETAIL — S 24

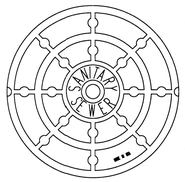
NO SCALE

NOTES:
1. SEE DETAIL S-28 FOR TYPICAL INVERT.

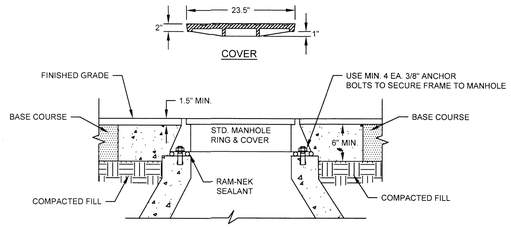


TYPICAL POLYPROPYLENE PLASTIC STEP DETAIL — S 27

NO SCALE



FRAME & COVER

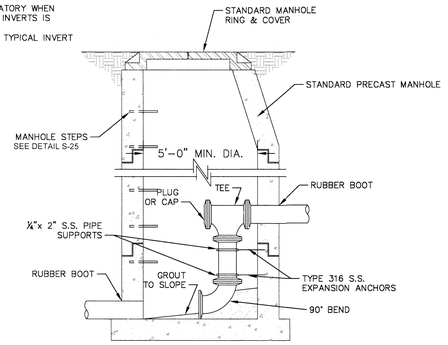


NOTE:
CONCRETE ENCASEMENT SHALL ONLY BE USED IN AREAS WHERE COVER IS TO BE FLUSH WITH PAVEMENT OR CONCRETE. CONCRETE ENCASEMENT SHALL NOT BE USED IN NON-TRAFFIC AREAS AND ABOVE GRADE INSTALLATIONS.

TYPICAL STANDARD MANHOLE FRAME & COVER DETAIL — S 21

NO SCALE

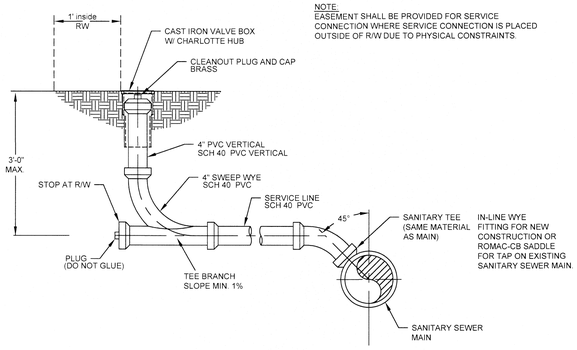
NOTE:
1. PIPE SIZE FOR DROP TO EQUAL INFLOW SEWER PIPE SIZE.
2. FITTINGS FOR DROPS SHALL BE C-900 OR SCHEDULE 40 PVC.
3. SAW-CUT OR DRILL ALL HOLES FOR PIPE AND BOLTS.
4. DROP-MANHOLE MANDATORY WHEN DIFFERENTIAL BETWEEN INVERTS IS GREATER THAN 24".
5. SEE DETAIL S-28 FOR TYPICAL INVERT



TYPICAL INSIDE DROP MANHOLE DETAIL — S 25

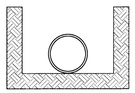
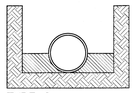
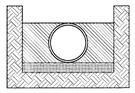
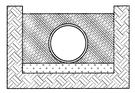
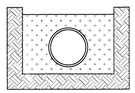
NO SCALE

NOTE:
EASEMENT SHALL BE PROVIDED FOR SERVICE CONNECTION WHERE SERVICE CONNECTION IS PLACED OUTSIDE OF R/W DUE TO PHYSICAL CONSTRAINTS.



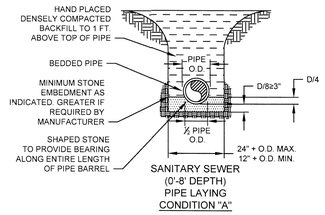
TYPICAL SEWER SERVICE CONNECTION DETAIL — S 29

NO SCALE

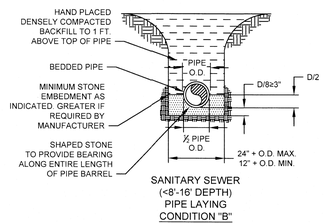
LAYING CONDITIONS	DESCRIPTION	PROJECT USE
 TYPE 1	FLAT BOTTOM UNDISTURBED EARTH TRENCH, LOOSE BACKFILL	NOT USED.
 TYPE 2	FLAT BOTTOMED UNDISTURBED EARTH TRENCH. BACKFILL LIGHTLY CONSOLIDATED TO CENTERLINE OF PIPE.	NOT USED.
 TYPE 3	PIPE BEDDED IN 4" MININUM JOB EXCAVATED MATERIAL. BACKFILL LIGHTLY CONSOLIDATED TO TOP OF PIPE.	ALL DUCTILE IRON GRAVITY SEWER LINE.
 TYPE 4	PIPE BEDDED IN SAND, GRANULAR MATERIAL OR GRADED GRAVEL TO THE DEPTH OF 1/8 PIPE DIAMETER, 4" MIN. JOB EXCAVATED MATERIAL COMPACTED TO 4" ABOVE TOP OF PIPE. (APPROX. 95% STANDARD PROCTOR, AASHTO T-99)	ALL PVC WATER LINE AND PVC FORCE MAIN.
 TYPE 5	PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL 4" MIN. UNDER PIPE. COMPACTED GRANULAR OR SAND MATERIAL TO 4"ABOVE TOP OF PIPE. (APPROX. 95% STANDARD PROCTOR, AASHTO T-99)	ALL PVC GRAVITY SEWER LINE.

TYPICAL LAYING CONDITIONS DETAIL — S 33

NO SCALE



SANITARY SEWER (0'-8' DEPTH) PIPE LAYING CONDITION "A"



SANITARY SEWER (<8'-16' DEPTH) PIPE LAYING CONDITION "B"

TYPICAL PIPE LAYING CONDITION DETAIL — S 16

NO SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041595 08.21.19 ANDREW P. MERICLE

SANITARY DETAILS

CAMPBELL POINTE TOWNHOMES PH 5-6

HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C10.4

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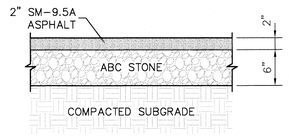
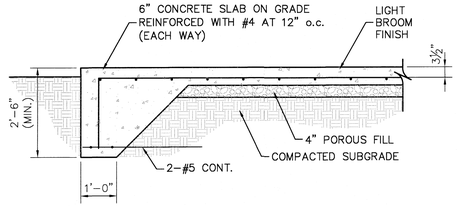
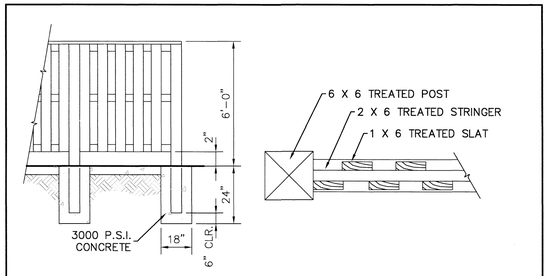
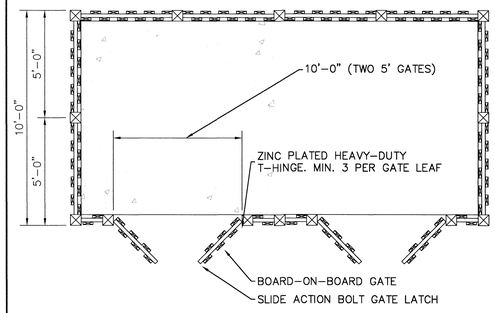


1 C5.0 C10.5 STANDARD DUTY ASPHALT PAVEMENT DETAIL
NOT TO SCALE

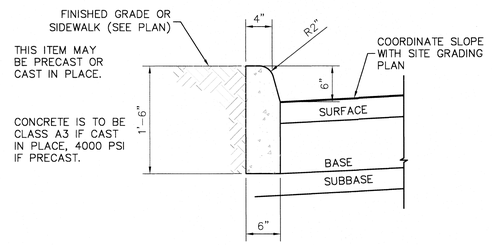


4 C5.0 C10.5 TYPICAL DUMPSTER PAD EDGE DETAIL
NOT TO SCALE

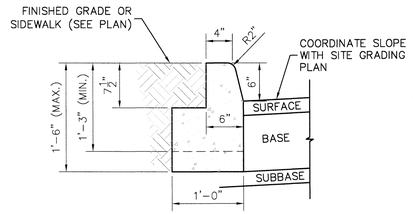




5 C5.0 C10.5 BOARD ON BOARD DUMPSTER SCREEN DETAIL
NOT TO SCALE

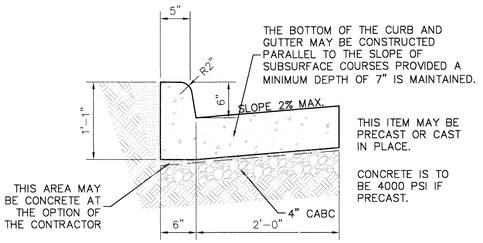


THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE THE DEPTH IS TO BE 18" AS SHOWN.

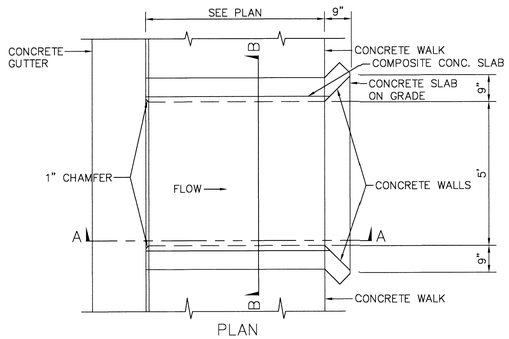


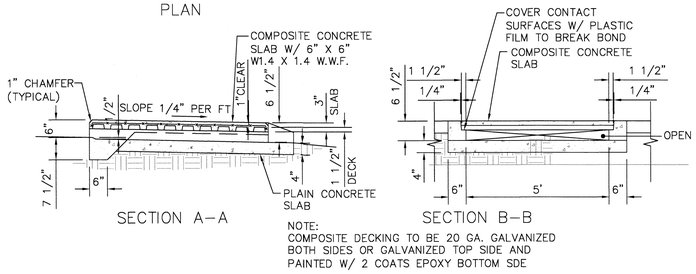
ACCEPTABLE ALTERNATE IF CURB IS EXTRUDED

2 C5.0 C10.5 STANDARD CURB
NOT TO SCALE



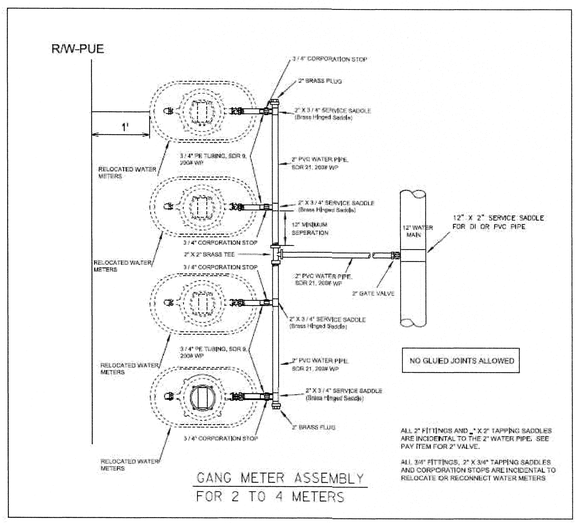
3 C5.0 C10.5 STANDARD CURB AND GUTTER
NOT TO SCALE





NOTE:
COMPOSITE DECKING TO BE 20 GA. GALVANIZED BOTH SIDES OR GALVANIZED TOP SIDE AND PAINTED W/ 2 COATS EPOXY BOTTOM SDE

TYPICAL WALK OPENING



GANG METER ASSEMBLY
FOR 2 TO 4 METERS

NORTH CAROLINA PROFESSIONAL SEAL 041595 08.21.19 ENGINEER ANDREW P. MERICLE

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• Charlottesville, VA

DETAILS
CAMPBELL POINTE TOWNHOMES PH 5-6
HARNETT COUNTY, NORTH CAROLINA

REVISIONS

DESIGNED BY:	APM
DRAWN BY:	APM
CHECKED BY:	CTC Jr.
SCALE:	NONE
DATE:	08.21.19
PROJECT NUMBER:	R14245N-05

C10.5