

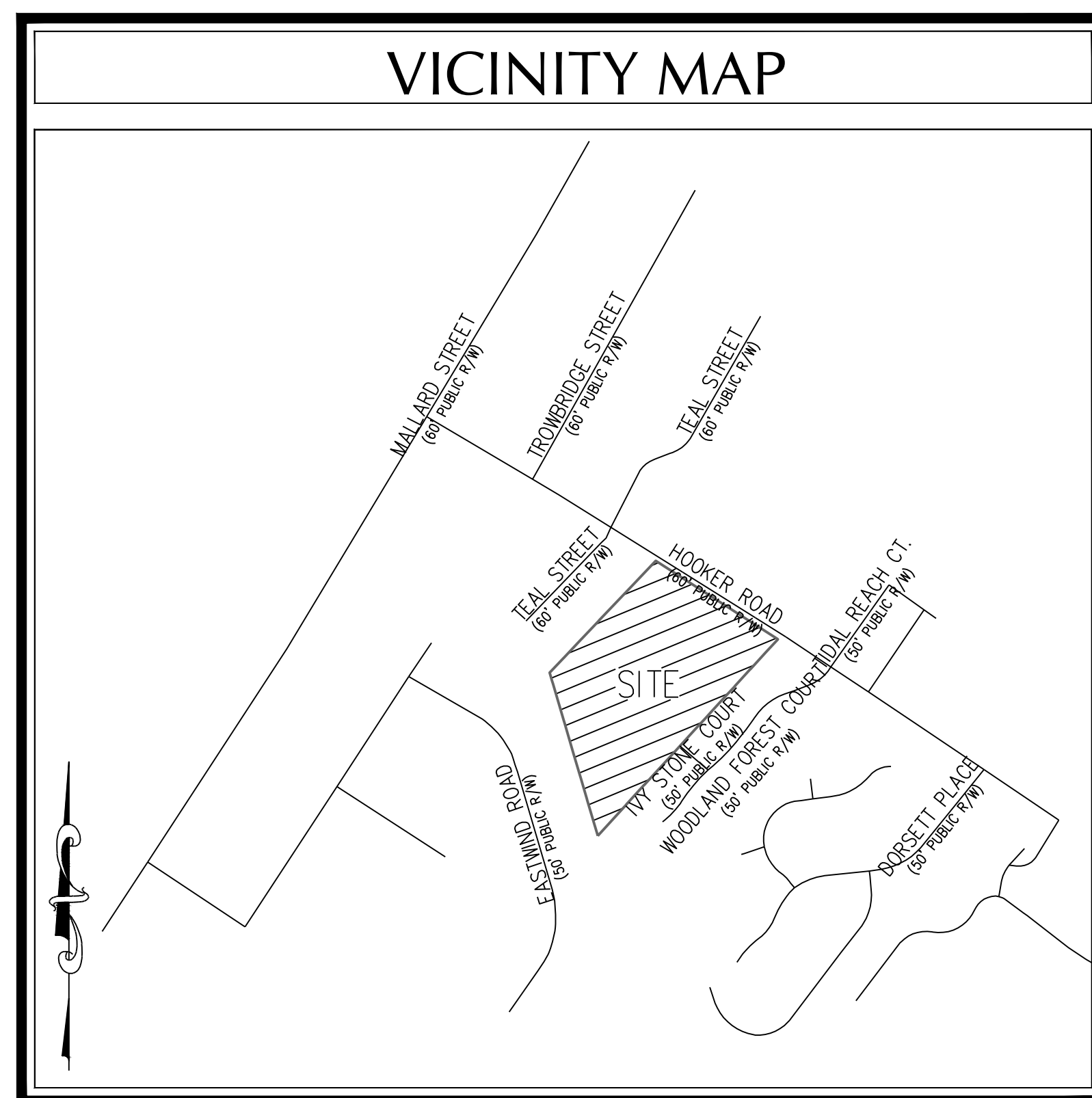
SITE DEVELOPMENT PLAN

FOR

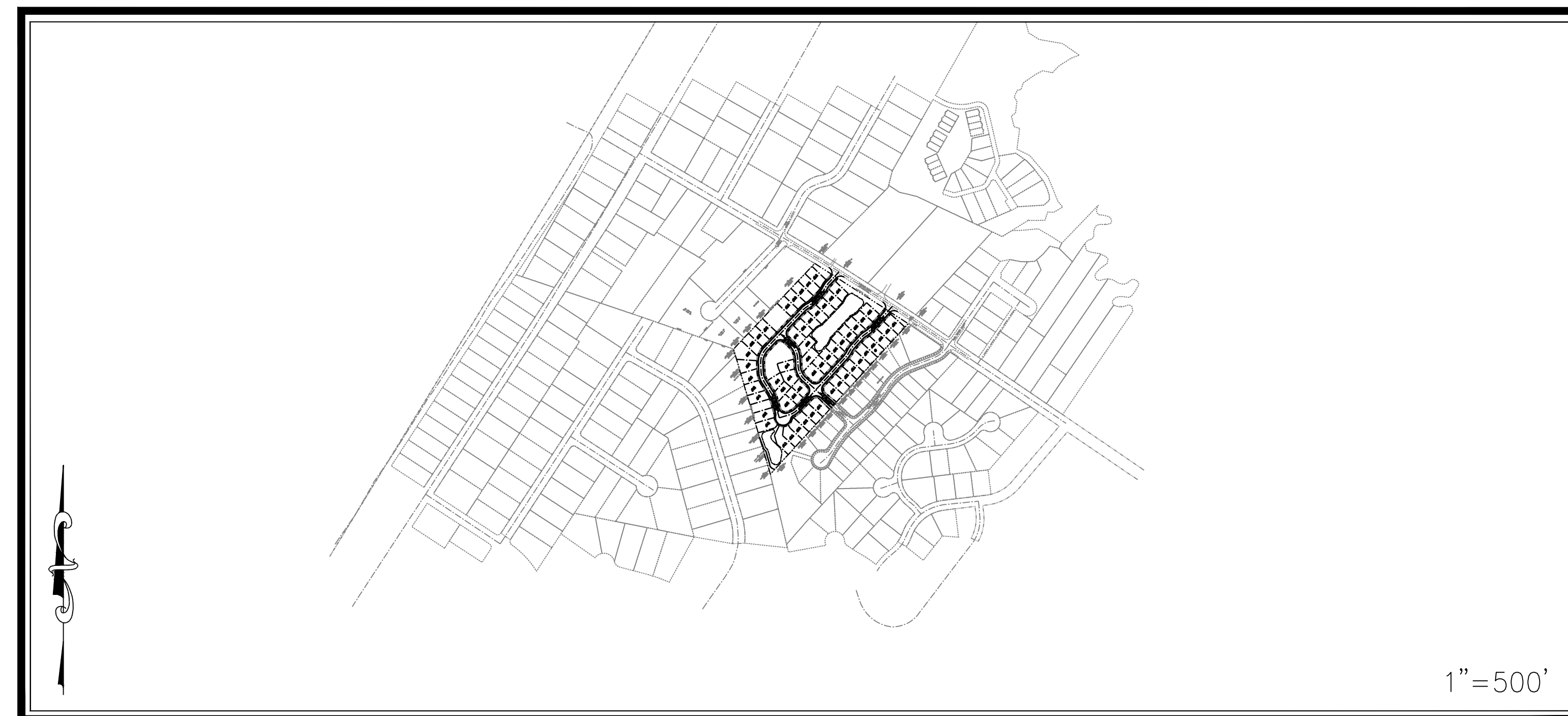
THE COTTAGES AT BRADLEY CREEK

WILMINGTON, NORTH CAROLINA

FEBRUARY 2021



VICINITY MAP
(NTS)



1" = 500'

DESCRIPTION	EXISTING	PROPOSED
1' CONTOUR INTERVAL	—	—
5' CONTOUR INTERVAL	----	----
PROPERTY LINE	----	----
ROADWAY CENTERLINE	----	----
RIGHT OF WAY LIMITS	----	----
EASEMENT LINE	----	----
CURB & GUTTER	----	----
SANITARY SEWER FACILITIES	—○—	—●—
STORM SEWER FACILITIES	—■—	—■—
WATERLINE	—□—	—□—
FIRE HYDRANT ASSEMBLY	⊕	⊕
WATERWAYS	—	N/A
PROPOSED LOT AND S.F.	⊗	⊗
OPEN SPACE LABEL	Ⓐ	Ⓐ
OPEN SPACE	▨	▨
BUILDING SET BACKS	----	----
PRIVATE SANITARY SET BACKS	----	----
	STREET SIGN	STREET SIGN
	404 WETLANDS	404 WETLANDS
	FLOW DIRECTION	FLOW DIRECTION

DEVELOPER/OWNER

The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

PREPARED BY:

GSP CONSULTING, PLLC
ENGINEERING

6626 Gordon Road, Unit C, Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659 License # P-0718

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SITE DATA TABLE
GENERAL NOTES:
1. NEW HANOVER COUNTY PARCEL NOS.: PIN# R0510-007-004-000 SITE ADDRESS: 321 HOOKER ROAD
2. TOTAL AREA: 467,344 SF ± = 10.73 AC. ± DISTURBED AREA - 10.5 AC. ±
3. ZONING: R-7 PUD-R (CD) SETBACKS - FRONT - 10' REAR - 20' SIDE - ZERO LOT LINE (10' STRUCTURE SEPARATION)
4. CAMA LAND CLASSIFICATION: WATER RESOURCE PROTECTION
5. THIS PROPERTY DOES NOT CONTAIN ANY WETLANDS.
6. THIS PROPERTY DOES NOT CONTAIN ANY A.E.C. AREAS OR IS UNDER CAMA JURISDICTION.
7. THIS PROPERTY IS NOT WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FLOOD INSURANCE RATE MAP #3720314700K, EFFECTIVE DATE AUGUST 28, 2018.
8. THIS SITE IS NOT IMPACTED BY ANY RECOGNIZED HISTORIC OR ARCHAEOLOGICAL SIGNIFICANCE
DEVELOPMENT DATA:
TOTAL TRACT AREA = 467,344 SF ± = 10.73 AC. ±
PERMITTED DENSITY (@ 6.2 UNITS/AC) = 67 UNITS
PROPOSED DENSITY 56 UNITS = 5.2 UNITS/AC
MAX. BLDG. HGTS. - 35' MEAN ROOF
CONSTRUCTION TYPE: 5B
BUILDING COVERAGE - 138,000 SF (29.6%)
TOTAL BEDROOMS - 56 3-BEDROOM UNITS = 168 TOTAL BEDROOMS
PARKING - MIN. REQUIRED - 2.5 SPACES/LOT = 140 PROVIDED - 2/LOT IN DRIVEWAY + 2/LOT IN GARAGE = 224
OPEN SPACE - (0.03 AC. PER LOT REQUIRED) 56 LOTS * 0.03 AC. = 1.68 AC. ** 1.79 AC. OPEN SPACE PROVIDED **
RECREATION AREA - (MIN. 50% OPEN SPACE) 0.84 AC. REC. SPACE REQUIRED 0.84 AC. REC. AREA PROVIDED
PROPOSED BUA -
LOTS - 168,000 S.F.
PAVEMENT - 59,283 S.F.
CONCRETE - 19,766 S.F.
TOTAL - 247,049 S.F. (52.9%)
EXISTING BUA TO BE REMOVED - 111,888 S.F.
UTILITY CAPACITY REQUESTS:
PROPOSED SEWER CAPACITY - 56 UNITS @ 360 GPD = 20,160 GPD
PROPOSED WATER CAPACITY - 56 UNITS @ 400 GPD = 22,400 GPD
Approved Construction Plan
Name: _____ Date: _____
APPROVED CONSTRUCTION PLAN Jeff Walton 8/25/21 City SW# 2021039 JW, BM, CW, ES, MB
Date: _____ Permit # _____
Signed: _____
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.
NOTE: ALL DESIGN AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE, TECHNICAL STANDARDS MANUAL & THE STATE OF NORTH CAROLINA

COORDINATION NOTES

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

GENERAL NOTES:

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

DEMOLITION NOTES

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

EROSION AND SEDIMENT CONTROL NOTES

GENERAL NOTES:

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

MAINTENANCE PLAN

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE, LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERY HALF INCH RAINFALL.

ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.

SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND BEAVER DAMS, WANDY SACKS AND SOOKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.

SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.

SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE.

SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR IF THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.

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

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

INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE, ALLOW THE CHANNEL TO DRAIN THROUGH THE CHECK DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DAM HEIGHT.

ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS.

FLOCCULANTS WILL BE USED TO ADDRESS TURBIDITY ISSUES. THE PUMPS, TANKS, HOSES AND INJECTION SYSTEMS WILL BE CHECKED FOR PROBLEMS OR TURBID DISCHARGES DAILY.

STABILIZATION NOTES

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

GENERAL STORM SEWER NOTES

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

EXISTING UTILITY NOTES

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

UTILITY CONTACTS:

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

NOTICE REQUIRED

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

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

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

EMERGENCY DIAL 911

POLICE - FIRE - RESCUE

SITE NOTES

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

TEMPORARY SEEDING-LATE WINTER/EARLY SPRING

WINTER AND EARLY SPRING

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120
*ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50
*OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.	

SUMMER

SPECIES	RATE (LB/ACRE)
GERMAN MILLET	40

FALL

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

SEEDING DATES

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

SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE

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

PERMANENT SEEDING SCHEDULE - MIXTURE 5CP

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

SEEDING DATES

MARCH - JUNE

SOIL AMENDMENTS

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

MULCH

DO NOT MULCH.

MAINTENANCE

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

1. GROUND STABILIZATION

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

2. BUILDING WASTES HANDLING

1. NO PAINT OR LIQUID WASTES IN STREAM OR STORM DRAINS.
2. DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
3. EARTHEN-MATERIALS STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
4. CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.

3. INSPECTIONS

1. SAME WEEKLY INSPECTION REQUIREMENTS.
2. SAME RAIN GAUGE & INSPECTIONS AFTER 0.5" RAIN EVENT.
3. INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS HOURS".
4. INSPECTION REPORTS MUST BE AVAILABLE ONSITE DURING BUSINESS HOURS UNLESS A SITE-SPECIFIC EXEMPTION IS APPROVED.
5. RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON REQUEST.
6. ELECTRONICALLY AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS.

4. SEDIMENT BASINS

1. OUTLET STRUCTURES MUST WITHDRAW FROM BASIN SURFACE UNLESS DRAINAGE AREA IS LESS THAN 1ACRE.
2. USE ONLY DWO-APPROVED FLOCCULENTS.

NPDES - SPECIFIC PLAN SHEETS NOTES

1. THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG010000.
2. THIS PAGE CAN BE APPROVED BY THE COUNTY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
3. THIS PAGE OF THE APPROVED PLANS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
4. THE COUNTY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR THE PURPOSES OF ENFORCEMENT ACTION UNDER THE COUNTY CODE.

GENERAL GRADING NOTES

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

SUBDIVISION REVIEW BOARD

1. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL COMPLY WITH ALL REGULATIONS AND REQUIREMENTS IMPOSED BY THE LAND DEVELOPMENT CODE, THE CITY OF WILMINGTON TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL AND ANY OTHER APPLICABLE FEDERAL, STATE OR LOCAL LAW, ORDINANCE OR REGULATION, AS WELL AS ANY CONDITION STATED BELOW. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT OR HIGHER STANDARD SHALL APPLY.
2. APPROVAL OF THIS PRELIMINARY PLAN DOES NOT CONSTITUTE TECHNICAL APPROVAL OF A SITE PLAN. FINAL APPROVAL BY THE TECHNICAL REVIEW COMMITTEE AND THE ISSUANCE OF ALL REQUIRED PERMITS MUST OCCUR PRIOR TO RELEASE OF THE PROJECT FOR CONSTRUCTION.
3. IF, FOR ANY REASON, ANY CONDITION FOR APPROVAL IS FOUND TO BE ILLEGAL OR INVALID OR IF THE APPLICANT SHOULD FAIL TO ACCEPT ANY CONDITION FOLLOWING APPROVAL, THE APPROVAL OF THE PRELIMINARY PLAN SHALL BE NULL AND VOID.
4. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE APPROVED PRELIMINARY PLAN AS SUBMITTED AND APPROVED.
5. UTILITIES SHALL BE LOCATED UNDER THE ASPHALT TO AVOID LANDSCAPING CONFLICTS.
6. A TREE PRESERVATION PLAN AND TREE REMOVAL PERMIT SHALL BE REQUIRED FOR THIS PROJECT AND CITY STAFF SHALL ISSUE THESE BASED ON ACCEPTABLE LIMITS OF CLEARING AND TREE PRESERVATION.
7. TREES DESIGNATED TO BE PRESERVED SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION AND TREE PROTECTION FENCING SHALL BE NOTED ON THE CONSTRUCTION PLANS. TREE CLEARING WILL BE LIMITED TO ESSENTIAL SITE IMPROVEMENTS WITHIN THE PROJECT LIMITS AS SHOWN ON THE APPROVED SITE PLAN.
8. IF NECESSARY, RESOURCE AREAS, BUFFERS AND SETBACKS PER REQUIREMENTS OF THE LDC SHALL BE SHOWN AND LABELED ON THE PRELIMINARY PLAN.
9. ALL EXISTING AND PROPOSED PUBLIC AND NON-MUNICIPAL EASEMENTS SHALL BE ADDED AS NECESSARY TO THE PRELIMINARY PLAN.
10. ALL PROPOSED PRIVATE STREETS SHALL REMAIN OPEN, GATES SHALL NOT BE PERMITTED AT EITHER ROAD CONNECTION ON HOOKER ROAD OR AT THE IVY STONE COURT CONNECTION.
11. AN ACCEPTABLE PRELIMINARY PLAN WHICH ADEQUATELY ADDRESSES ALL TRC/SRB COMMENTS SHALL BE SUBMITTED FOR SIGNATURE.
12. THE USE OF PINE STRAW AS GROUND COVER SHALL BE PROHIBITED WITHIN TEN (10) FEET OF ANY COMBUSTIBLE EXTERIOR CONSTRUCTION.
13. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE MET.
14. ALL TECHNICAL REVIEW COMMITTEE REQUIREMENTS SHALL BE MET.

WAIVERS

1. APPROVAL OF A WAIVER FROM THE MINIMUM TANGENT LENGTH BETWEEN HORIZONTAL CURVES DUE TO THE ENVIRONMENTAL FEATURES AND TRAFFIC CALMING EFFECTS.
2. CONDITIONAL APPROVAL OF A WAIVER FROM THE STANDARD CROSS-SECTION FOR A LOCAL STREET FOR TRAFFIC CALMING DUE TO SITE CONSTRAINTS AND AN EFFORT TO SAVE TREES. UTILITY EASEMENTS MUST BE CLEAR OF TREES.
3. APPROVAL OF A WAIVER TO ALLOW FOR AN INTERSECTION OFFSET OF LESS THAN 400 FEET DUE TO THE CIRCULATION AND EMERGENCY ACCESS.

CITY COUNCIL CONDITIONS

REZONING

1. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL COMPLY WITH ALL REGULATIONS AND REQUIREMENTS IMPOSED BY THE LAND DEVELOPMENT CODE, THE CITY OF WILMINGTON TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL AND ANY OTHER APPLICABLE FEDERAL, STATE OR LOCAL LAW, ORDINANCE OR REGULATION, AS WELL AS ANY CONDITION STATED BELOW. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT OR HIGHER STANDARD SHALL APPLY.
2. APPROVAL OF THIS CONDITIONAL DISTRICT REZONING DOES NOT CONSTITUTE TECHNICAL APPROVAL OF THE SITE PLAN. FINAL APPROVAL BY THE TECHNICAL REVIEW COMMITTEE AND THE ISSUANCE OF ALL REQUIRED PERMITS MUST OCCUR PRIOR TO RELEASE OF THE PROJECT FOR CONSTRUCTION.
3. IF, FOR ANY REASON, ANY CONDITION FOR APPROVAL IS FOUND TO BE ILLEGAL OR INVALID OR IF THE APPLICANT SHOULD FAIL TO ACCEPT ANY CONDITION FOLLOWING APPROVAL, THE APPROVAL OF THE SITE PLAN FOR THE DISTRICT SHALL BE NULL AND VOID AND OF NO EFFECT AND PROCEEDINGS SHALL BE INSTITUTED TO REZONE THE PROPERTY TO ITS PREVIOUS ZONING CLASSIFICATION.
4. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE SITE PLAN AS SUBMITTED (DATED RECEIVED, JUNE 1, 2020).
5. LANDSCAPING SHALL UTILIZE INDIGENOUS TREE SPECIES.
6. ALL EXISTING PROTECTED TREES NOT LOCATED WITHIN THE BUILDING FOOTPRINTS OR IMPACTED BY ESSENTIAL SITE IMPROVEMENTS SHALL BE PRESERVED.
7. A PAYMENT-IN-LIEU SHALL BE PROVIDED FOR THE REQUIRED MULTI-USE PATH ALONG THE HOOKER ROAD FRONTAGE.
8. A VEHICULAR AND PEDESTRIAN CONNECTION SHALL BE MADE TO IVY STONE COURT TO THE SOUTH IN ACCORDANCE WITH THE SITE PLAN AS SUBMITTED.
9. STRICT ADHERENCE TO THE DESIGN STANDARDS WILL BE CONFIRMED AS PART OF THE TECHNICAL REVIEW.
10. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE MET.
11. SIDEWALKS SHALL BE PROVIDED ON BOTH SIDES OF ALL PROPOSED PRIVATE STREET RIGHTS-OF-WAY.
12. NO TREES SHALL BE REMOVED FOR THE ADDITIONAL SIDEWALK. SIDEWALK LOCATIONS SHALL BE ADJUSTED TO AVOID ALL TREES IDENTIFIED AS BEING PRESERVED ON THE SITE PLAN (DATED RECEIVED 3/6/20).

SPECIAL USE PERMIT

1. THE PROPERTY SHALL BE SUBJECT TO ALL OF THE SPECIFIC REQUIREMENTS STATED IN THE LAND DEVELOPMENT CODE FOR THE PROPOSED USE AS WELL AS ANY ADDITIONAL CONDITIONS STATED BELOW.
2. THE USE AND DEVELOPMENT OF THE PROPERTY SHALL COMPLY WITH ALL OTHER SUPPLEMENTAL REGULATIONS AND REQUIREMENTS IMPOSED BY THE LAND DEVELOPMENT CODE OR ANY OTHER APPLICABLE FEDERAL, STATE OR LOCAL LAW, ORDINANCE OR REGULATION. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT OR HIGHER STANDARD SHALL APPLY.
3. IF, FOR ANY REASON, ANY CONDITION FOR APPROVAL IS FOUND TO BE ILLEGAL OR INVALID OR IF THE APPLICANT SHOULD FAIL TO ACCEPT ANY CONDITION FOLLOWING APPROVAL, THE APPROVAL OF THE SITE PLAN FOR THE DISTRICT SHALL BE NULL AND VOID AND OF NO EFFECT AND PROCEEDINGS SHALL BE INSTITUTED TO REZONE THE PROPERTY TO ITS PREVIOUS ZONING CLASSIFICATION.
4. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE PLAN AS SUBMITTED AND APPROVED (DATED RECEIVED, JUNE 1, 2020).



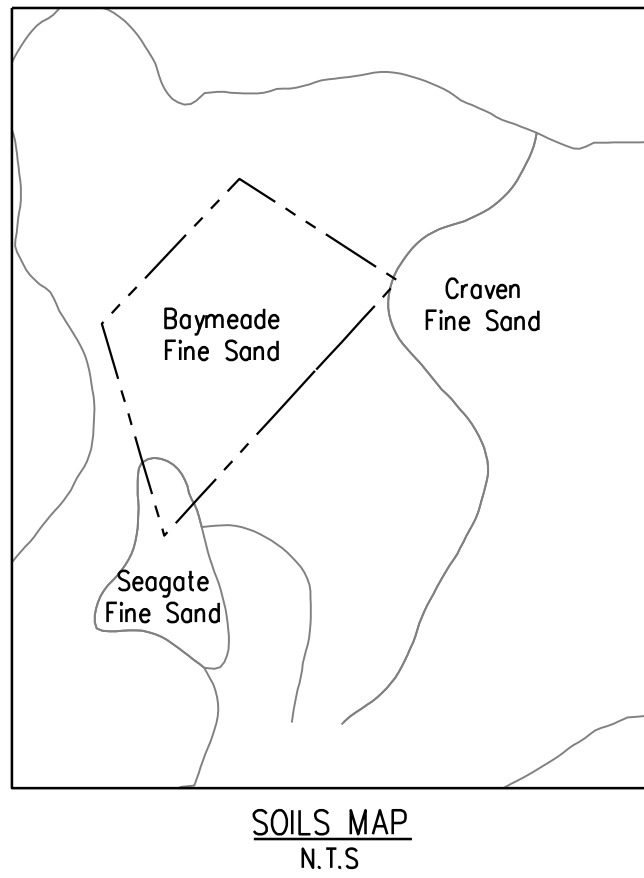
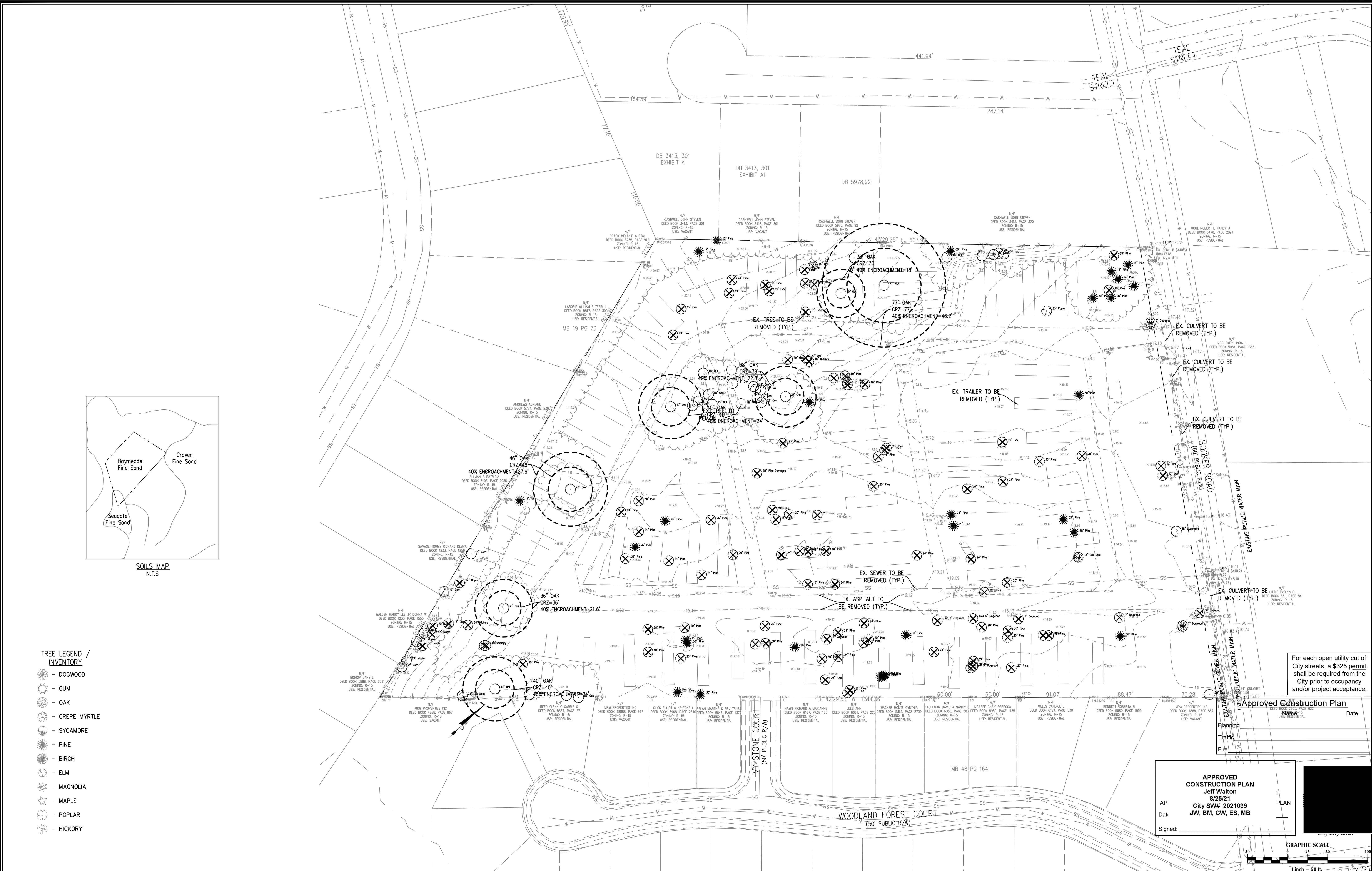
APPROVED
CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB

Fire

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

No.	Revision	Date	By

Designer	GSP	Scale	
Drawn By	GSP	Date	February 2021
License #	P		

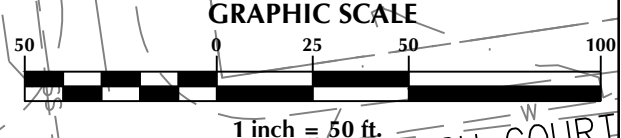


- TREE LEGEND / INVENTORY**
- DOGWOOD
 - GUM
 - OAK
 - CREPE MYRTLE
 - SYCAMORE
 - PINE
 - BIRCH
 - ELM
 - MAGNOLIA
 - MAPLE
 - POPLAR
 - HICKORY

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan
 Name: _____ Date: _____
 Planning
 Traffic
 Fire

APPROVED CONSTRUCTION PLAN
 Jeff Walton
 8/25/21
 City SW# 2021039
 JW, BM, CW, ES, MB
 Signed: _____



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

THE COTTAGES AT BRADLEY CREEK
 New Hanover County
 North Carolina
 Wilmington

EXISTING CONDITIONS PLAN

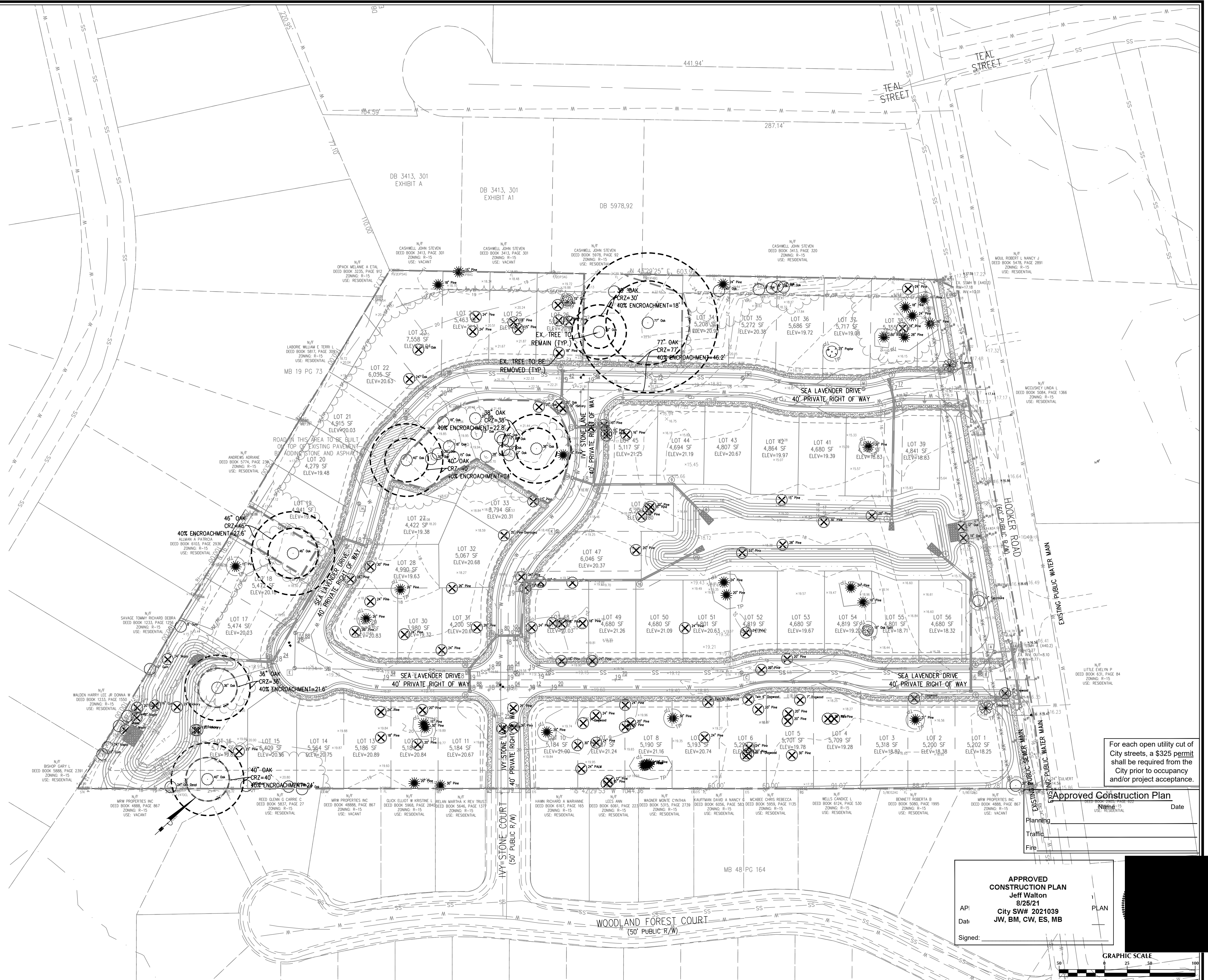
PREPARED FOR:
 The Cottages at Bradley Creek, LLC.
 PO Box 64
 Wrightsville Beach, NC 28480

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

Sheet No.
C-2.1

TREES TO BE REMOVED			
5" Dogwood	2	12" Maple	1
6" Dogwood	1	18" Maple	1
7" Dogwood	4	24" Maple	1
18" Gum	1	10" Pine	1
20" Gum	1	12" Pine	2
12" Hickory	1	15" Pine	8
18" Hickory	1	16" Pine	2
20" Hickory	1	18" Pine	10
24" Hickory	1	20" Pine	14
10" Oak	1	23" Pine	2
12" Oak	1	24" Pine	19
15" Oak	1	26" Pine	4
18" Oak	1	28" Pine	2
20" Oak	2	30" Pine	7
24" Oak	1	35" Pine	1
8" Palm	1		

TREES TO BE PRESERVED			
8" Gum	1	5" Dogwood	1
12" Gum	1	7" Dogwood	1
15" Gum	1	8" Pine	1
18" Gum	1	10" Pine	1
8" Oak	2	12" Pine	2
10" Oak	2	15" Pine	4
12" Oak	7	16" Pine	1
15" Oak	2	18" Pine	4
18" Oak	4	20" Pine	2
20" Oak	3	24" Pine	4
24" Oak	1	26" Pine	2
28" Oak	2	28" Pine	1
30" Oak	3	30" Pine	5
36" Oak	1	31" Pine	1
38" Oak	1	23" Poplar	1
40" Oak	3	24" Maple	2
46" Oak	1	18" Sycamore	1
77" Oak	1		



TREE LEGEND / INVENTORY

- DOGWOOD
- GUM
- OAK
- CREPE MYRTLE
- SYCAMORE
- PINE
- BIRCH
- ELM
- MAGNOLIA
- MAPLE
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- HICKORY

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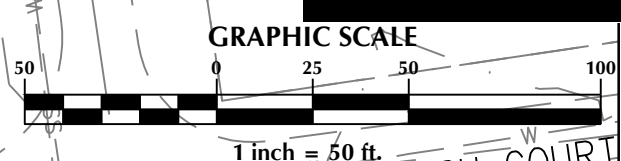
Approved Construction Plan

Name: _____ Date: _____

Planning
Traffic
Fire

APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
API City SW# 2021039 PLAN
Date: JW, BM, CW, ES, MB

Signed: _____



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina

SITE INVENTORY PLAN

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

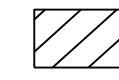
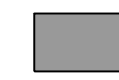
GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.
C-2.2

TREES TO BE REMOVED			
5" Dogwood	2	12" Maple	1
6" Dogwood	1	18" Maple	1
7" Dogwood	4	24" Maple	1
18" Gum	1	10" Pine	1
20" Gum	1	12" Pine	2
12" Hickory	1	15" Pine	8
18" Hickory	1	16" Pine	2
20" Hickory	1	18" Pine	10
24" Hickory	1	20" Pine	14
10" Oak	1	23" Pine	2
12" Oak	1	24" Pine	19
15" Oak	1	26" Pine	4
18" Oak	1	28" Pine	2
20" Oak	2	30" Pine	7
24" Oak	1	35" Pine	1
8" Palm	1		













TREES TO BE PRESERVED			
8" Gum	1	5" Dogwood	1
12" Gum	1	7" Dogwood	1
15" Gum	1	8" Pine	1
18" Gum	1	10" Pine	1
8" Oak	2	12" Pine	2
10" Oak	2	15" Pine	4
12" Oak	7	16" Pine	1
15" Oak	2	18" Pine	4
18" Oak	4	20" Pine	2
20" Oak	3	24" Pine	4
24" Oak	1	26" Pine	2
28" Oak	2	28" Pine	1
30" Oak	3	30" Pine	5
36" Oak	1	31" Pine	1
38" Oak	1	23" Poplar	1
40" Oak	3	24" Maple	2
46" Oak	1	18" Sycamore	1
77" Oak	1		

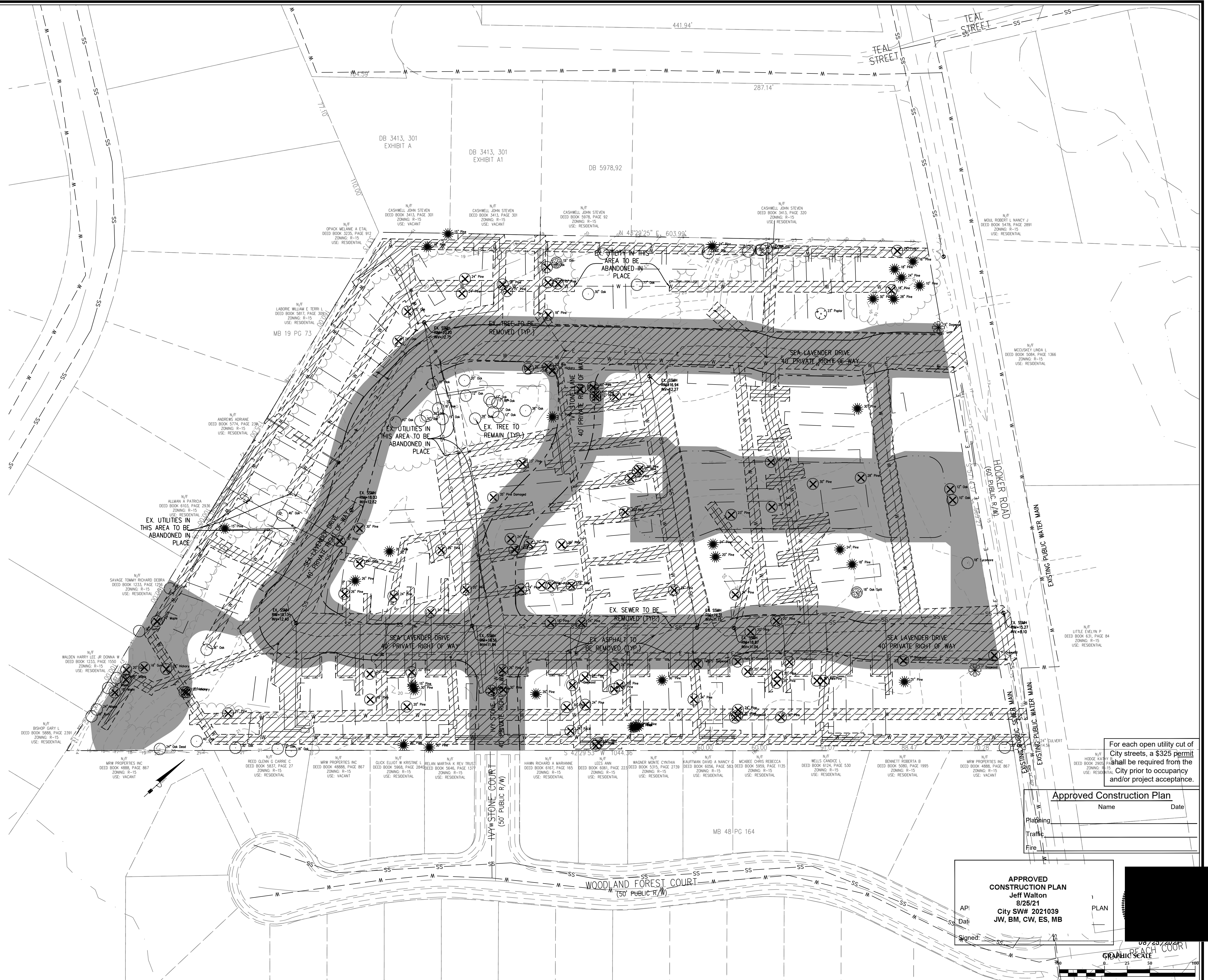
DEMO LIMITS LEGEND

-  - EXISTING UTILITIES DEMOLITION
-  - PROPOSED ROW & INFILTRATION BASIN DEMOLITION

EXISTING BUA TO BE REMOVED - 111,888 S.F.

TREE LEGEND / INVENTORY

-  - DOGWOOD
-  - GUM
-  - OAK
-  - CREPE MYRTLE
-  - SYCAMORE
-  - PINE
-  - BIRCH
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Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

APPROVED CONSTRUCTION PLAN
 Jeff Walton
 8/25/21
 City SW# 2021039
 JW, BM, CW, ES, MB

APL
 Date
 Signed

08/25/2021
 GRAPHIC SCALE
 1 inch = 50 ft.

No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

THE COTTAGES AT BRADLEY CREEK
 New Hanover County
 North Carolina
 Wilmington

DEMOLITION PLAN

PREPARED FOR:
 The Cottages at Bradley Creek, LLC.
 PO Box 64
 Wrightsville Beach, NC 28480

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

Sheet No.
C-2.3

NOTES:

1. THE DEVELOPER OR HOA IS RESPONSIBLE FOR MAINTENANCE OF COMMON AREAS, DRAINAGE EASEMENTS AND THE STORMWATER SYSTEM.
2. ALL DRAINAGE EASEMENTS MUST REMAIN FREE OF OBSTRUCTIONS, INCLUDING FENCES.
3. ALL IMPERVIOUS SURFACES MUST DRAIN TO THE ENGINEERED STORMWATER SYSTEM.
4. STREET LIGHTS AND STREET SIGNS TO BE INSTALLED AS REQUIRED.
5. SUBDIVISION MONUMENTATION TO BE INSTALLED AT ALL INTERSECTIONS. REFER TO CITY OF WILMINGTON MONUMENT DETAILS SD 14-05 & 15-01.

TRANSPORTATION NOTES:

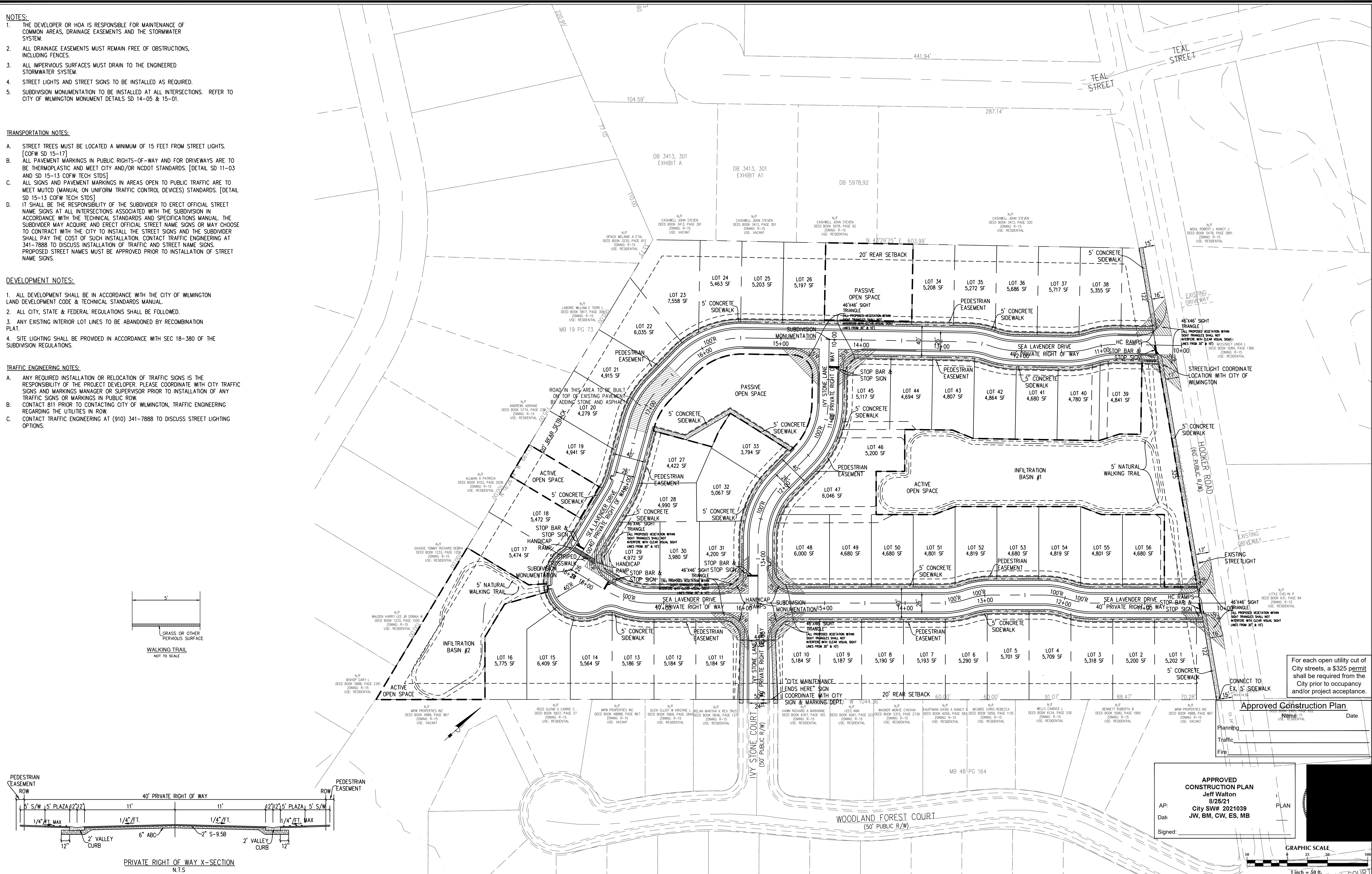
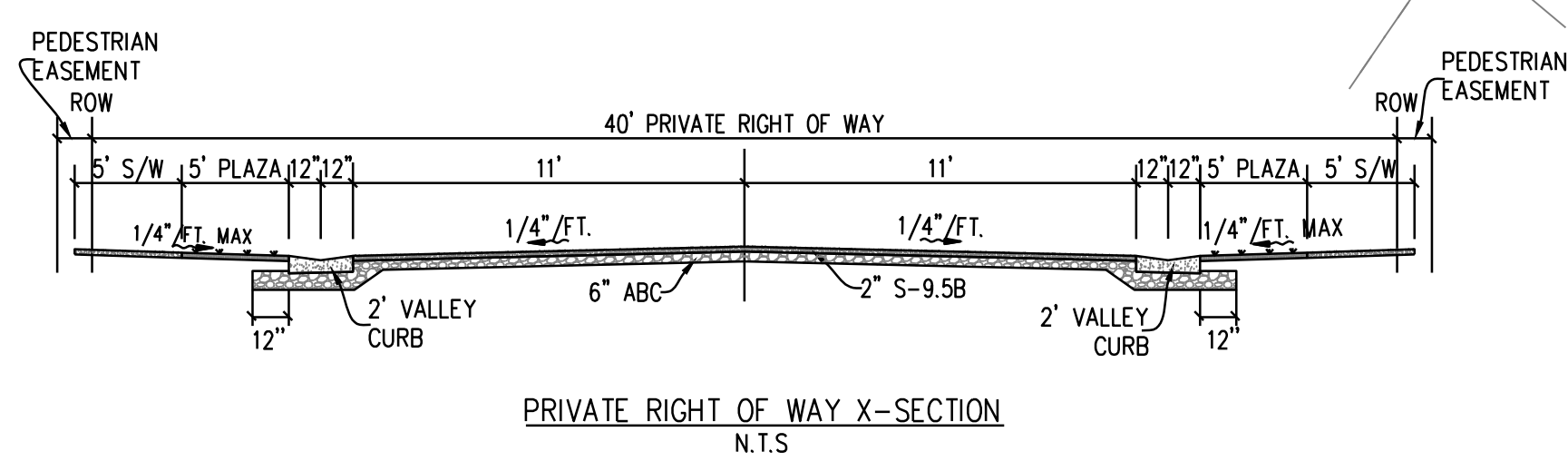
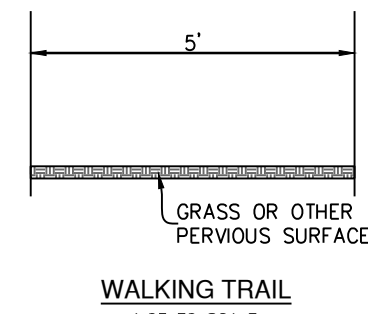
- A. STREET TREES MUST BE LOCATED A MINIMUM OF 15 FEET FROM STREET LIGHTS. [COFW SD 15-17]
- B. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. [DETAIL SD 11-03 AND SD 15-13 COFW TECH STDS]
- C. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS. [DETAIL SD 15-13 COFW TECH STDS]
- D. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.

DEVELOPMENT NOTES:

1. ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE & TECHNICAL STANDARDS MANUAL.
2. ALL CITY, STATE & FEDERAL REGULATIONS SHALL BE FOLLOWED.
3. ANY EXISTING INTERIOR LOT LINES TO BE ABANDONED BY RECOMBINATION PLAT.
4. SITE LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH SEC 18-380 OF THE SUBDIVISION REGULATIONS.

TRAFFIC ENGINEERING NOTES:

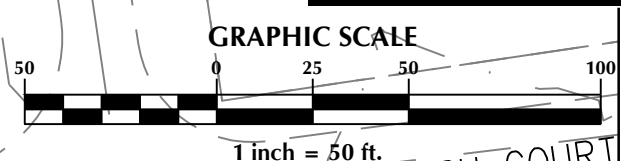
- A. ANY REQUIRED INSTALLATION OR RELOCATION OF TRAFFIC SIGNS IS THE RESPONSIBILITY OF THE PROJECT DEVELOPER. PLEASE COORDINATE WITH CITY TRAFFIC SIGNS AND MARKINGS MANAGER OR SUPERVISOR PRIOR TO INSTALLATION OF ANY TRAFFIC SIGNS OR MARKINGS IN PUBLIC ROW.
- B. CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.
- C. CONTACT TRAFFIC ENGINEERING AT (910) 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan
Name: _____ Date: _____

APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB
PLAN
Signed: _____



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

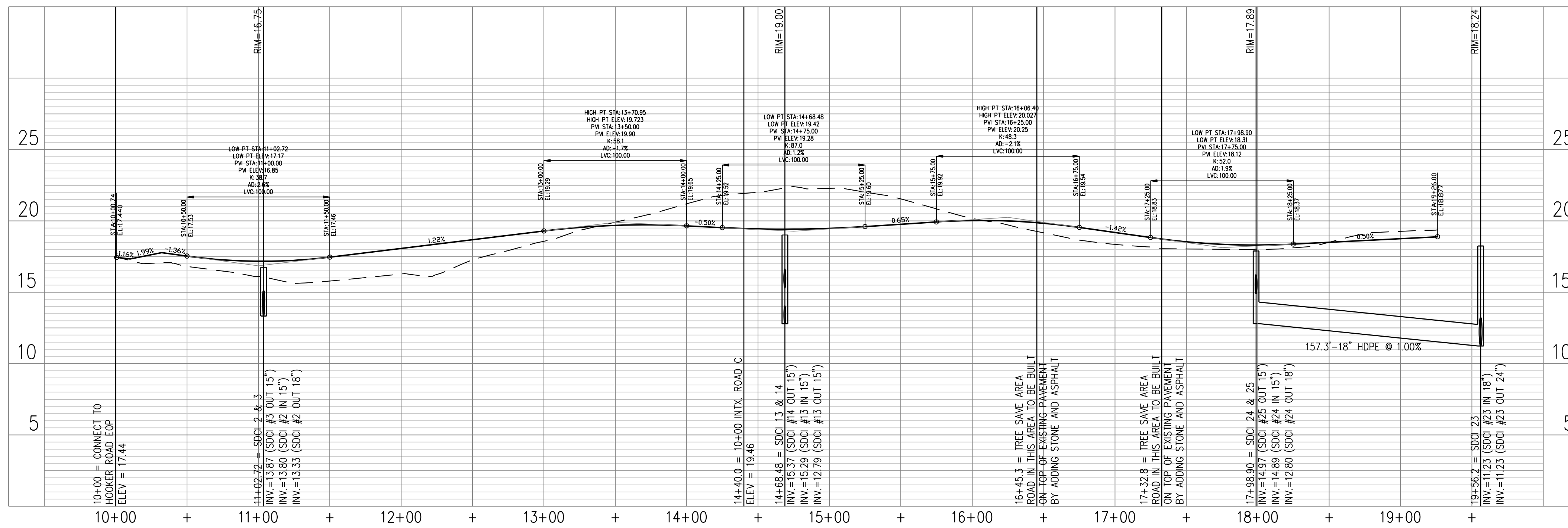
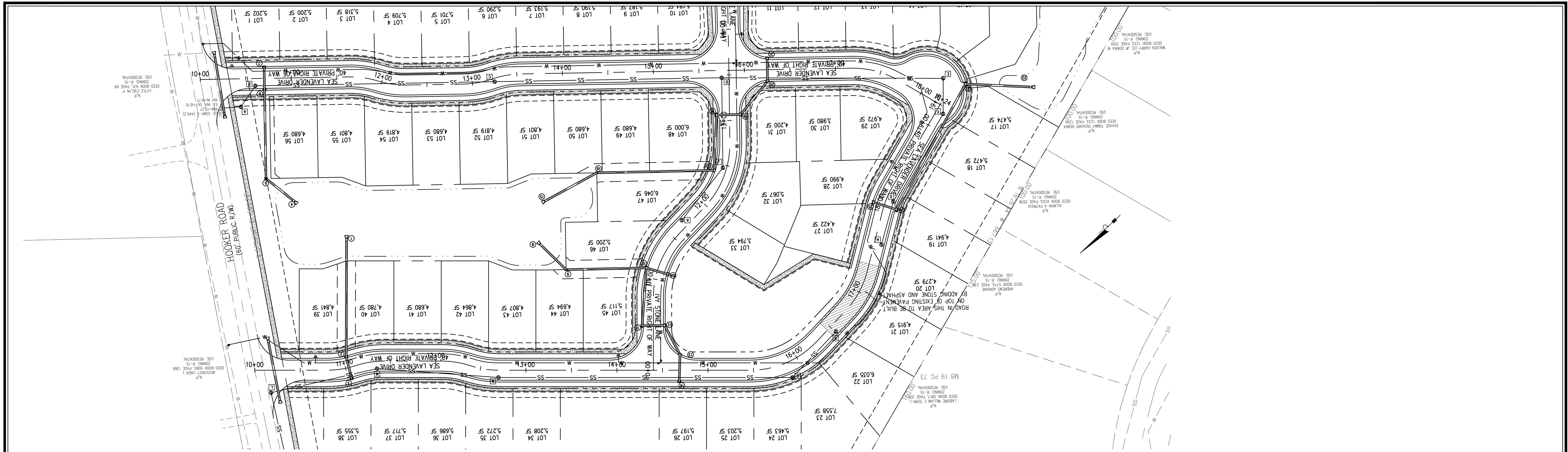
THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina
Wilmington

SITE PLAN

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

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

Sheet No.
C-3



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

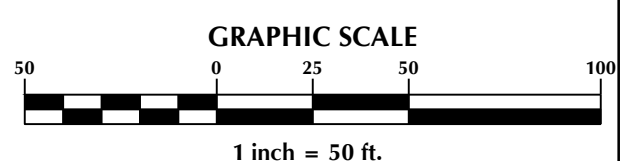
Name _____ Date _____

Planning _____

Traffic _____

Fire _____

APPROVED CONSTRUCTION PLAN
 Jeff Walton
 8/25/21
 City SW# 2021039
 JW, BM, CW, ES, MB
 Signed: _____



No.	Revision	Date	By

Designer: GSP
 Drawn By: GSP
 License #: P-0718

Scale: 1" = 50'
 Date: February 2021
 Job No.: 2021-0005

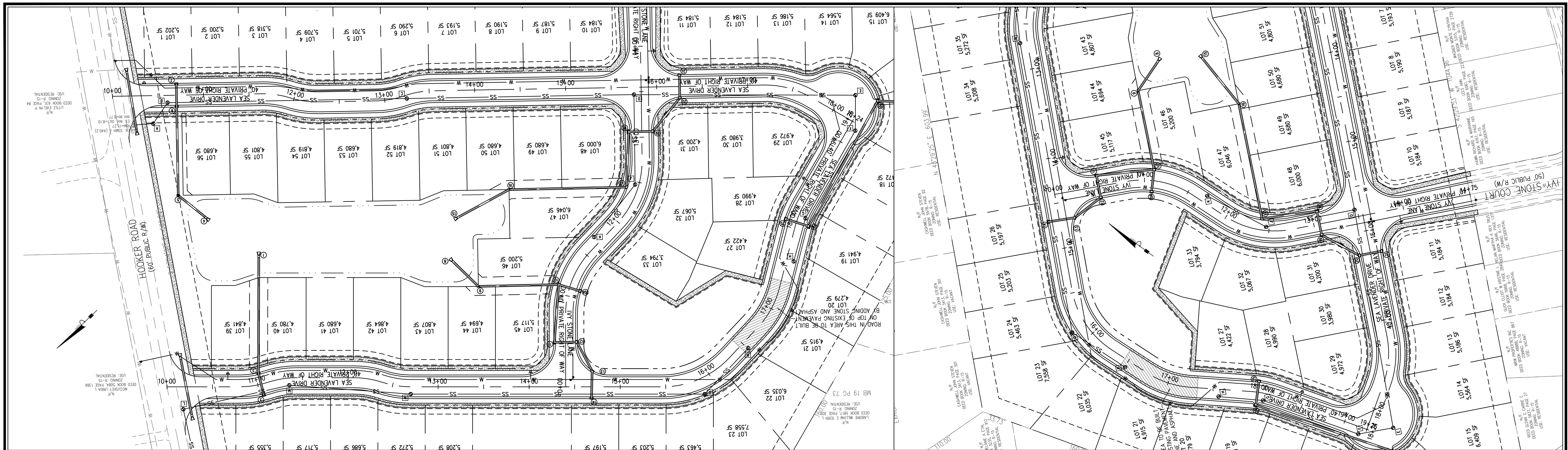
THE COTTAGES AT BRADLEY CREEK
 New Hanover County
 North Carolina

ROAD A PLAN & PROFILE

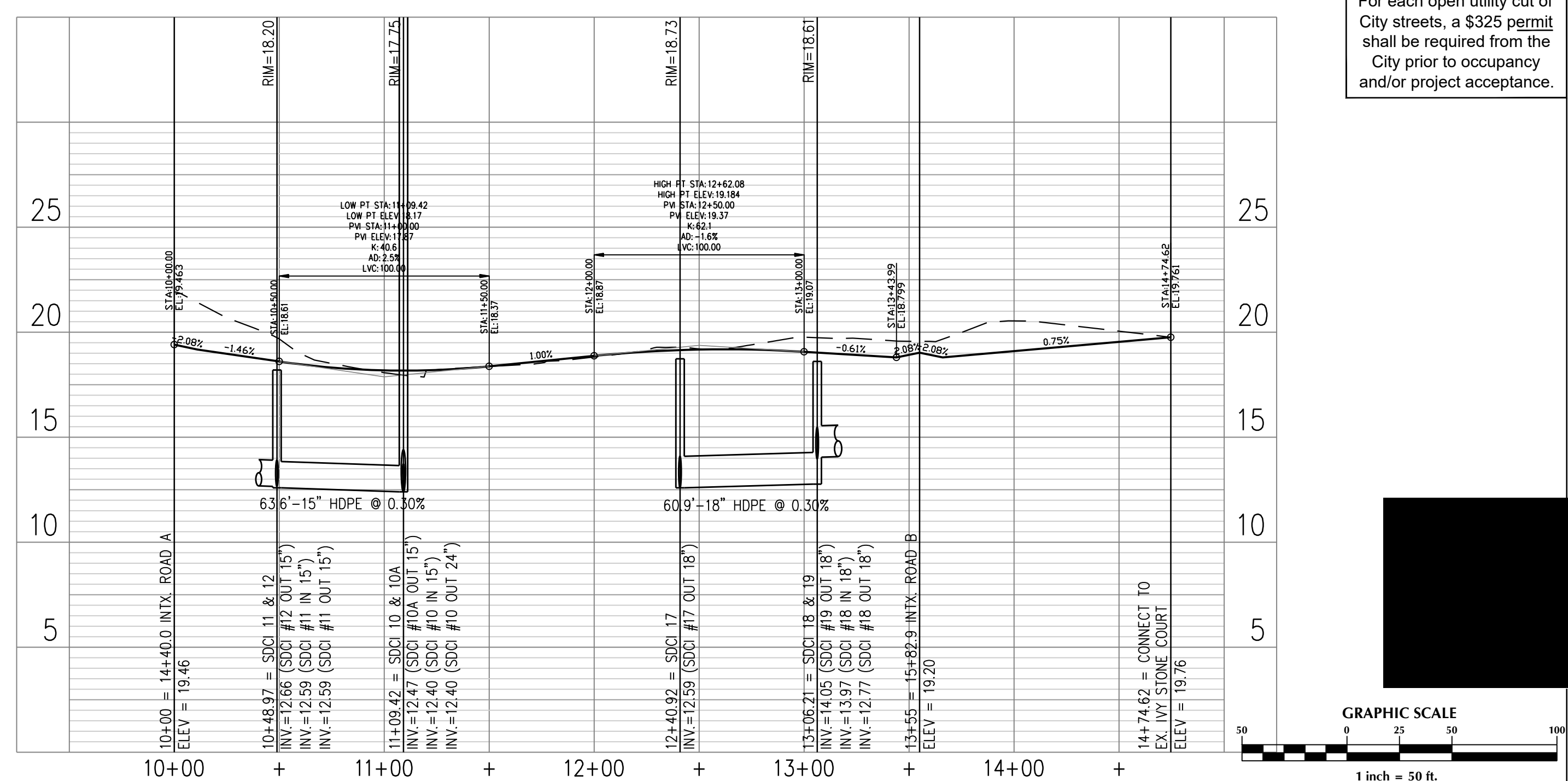
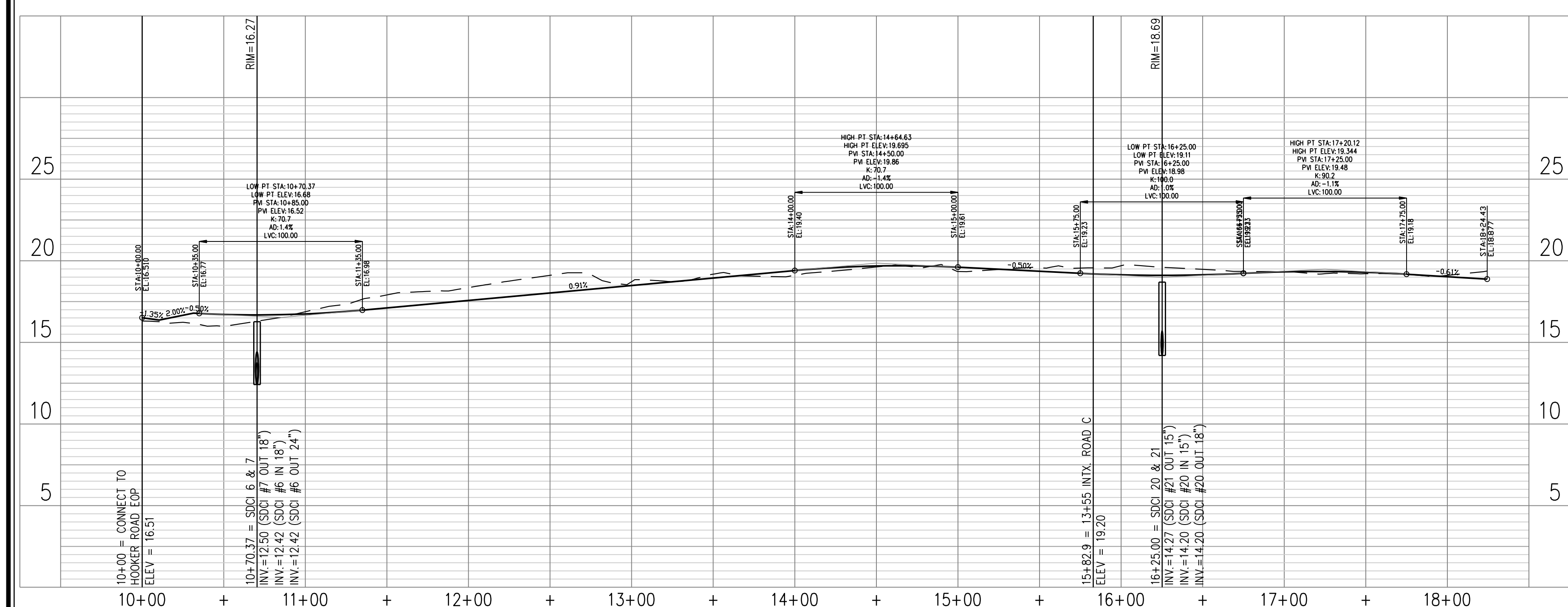
PREPARED FOR:
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 ENGINEERING
 6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

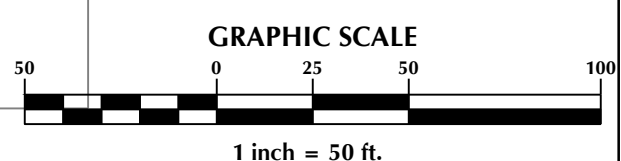
Sheet No.
C-3.1



APP	APPROVED	LAN
Date	CONSTRUCTION PLAN	
Sign	Jeff Walton	
	8/25/21	
	City SW# 2021039	
	JW, BM, CW, ES, MB	e
Planning		
Traffic		
Fire		



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina

ROAD B & C PLAN & PROFILES

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

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

Sheet No.
C-3.2

GENERAL UTILITY NOTES:

- PROJECT SHALL COMPLY WITH CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) CROSS CONNECTION REQUIREMENTS. WATER METER(S) CANNOT BE SET AND ACTIVATED ON NEW MAINS UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THEIR "FINAL APPROVAL". CALL 332-6558 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES AND FITTINGS. THIS WIRE IS TO BE ACCESSIBLE AT ALL VALVES, FIRE HYDRANTS, AND WATER METER BOXES TO AID IN FUTURE LOCATIONS OF FACILITIES.
- TREES ARE NOT TO BE PLANTED OVER WATER MAINS OR WITHIN UTILITY EASEMENTS.
- STATE WATER AND SEWER PERMITS SHALL BE OBTAINED PRIOR TO RELEASE OF THE PROJECT FOR CONSTRUCTION.
- ALL WATERMANS WITHIN PUBLIC RIGHT OF WAY TO BE PUBLIC AND ALL WATERMANS LOCATED ON PRIVATE PROPERTY TO BE PRIVATE.
- ALL WATERLINES TO HAVE MINIMUM 10' SEPARATION FROM ALL SEWER LINES, MANHOLES AND CLEANOUTS & TO HAVE 3' OF COVER AND 18" CLEARANCE WHERE WATER CROSSES OTHER UTILITY LINES.
- ANY SANITARY SEWER SYSTEM OR ANY PORTION THEREOF SHALL BE LOCATED AT LEAST A MINIMUM OF 10- FEET FROM ANY WATER LINE. SEWER LINES MAY CROSS A WATER LINE IF 18-INCH CLEAR SEPARATION DISTANCE IS MAINTAINED, WITH THE SEWER LINE CROSSING UNDER THE WATER LINE. WHEN CONDITIONS PREVENT AN 18-INCH CLEAR SEPARATION FROM BEING MAINTAINED OR WHENEVER IT IS NECESSARY FOR THE WATER LINE TO CROSS UNDER THE SEWER, THE SEWER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE OR ITS EQUIVALENT AND THE WATER LINE SHALL BE CONSTRUCTED OF FERROUS MATERIALS EQUIVALENT TO WATER MAIN STANDARDS WITH FOR A DISTANCE OF AT LEAST TEN FEET ON EACH SIDE OF THE POINT OF CROSSING, WITH FULL SECTIONS OF PIPE CENTERED AT THE POINT OF CROSSING.
- ALL FIRE HYDRANTS TO BE INSTALLED ON WATERLINES OF NOT LESS THAN 6".

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

NOTES:

WATER CROSSING STORM DRAIN:
IF SEPARATION BETWEEN W/L & STORM DRAIN IS LESS THAN 18" W/L TO BE DIP. DIP W/L TO CROSS STORM DRAIN A MINIMUM OF 12" ABOVE STORM DRAIN AND 18" BELOW STORM DRAIN OR STRUCTURAL BRIDGING TO BE USED.

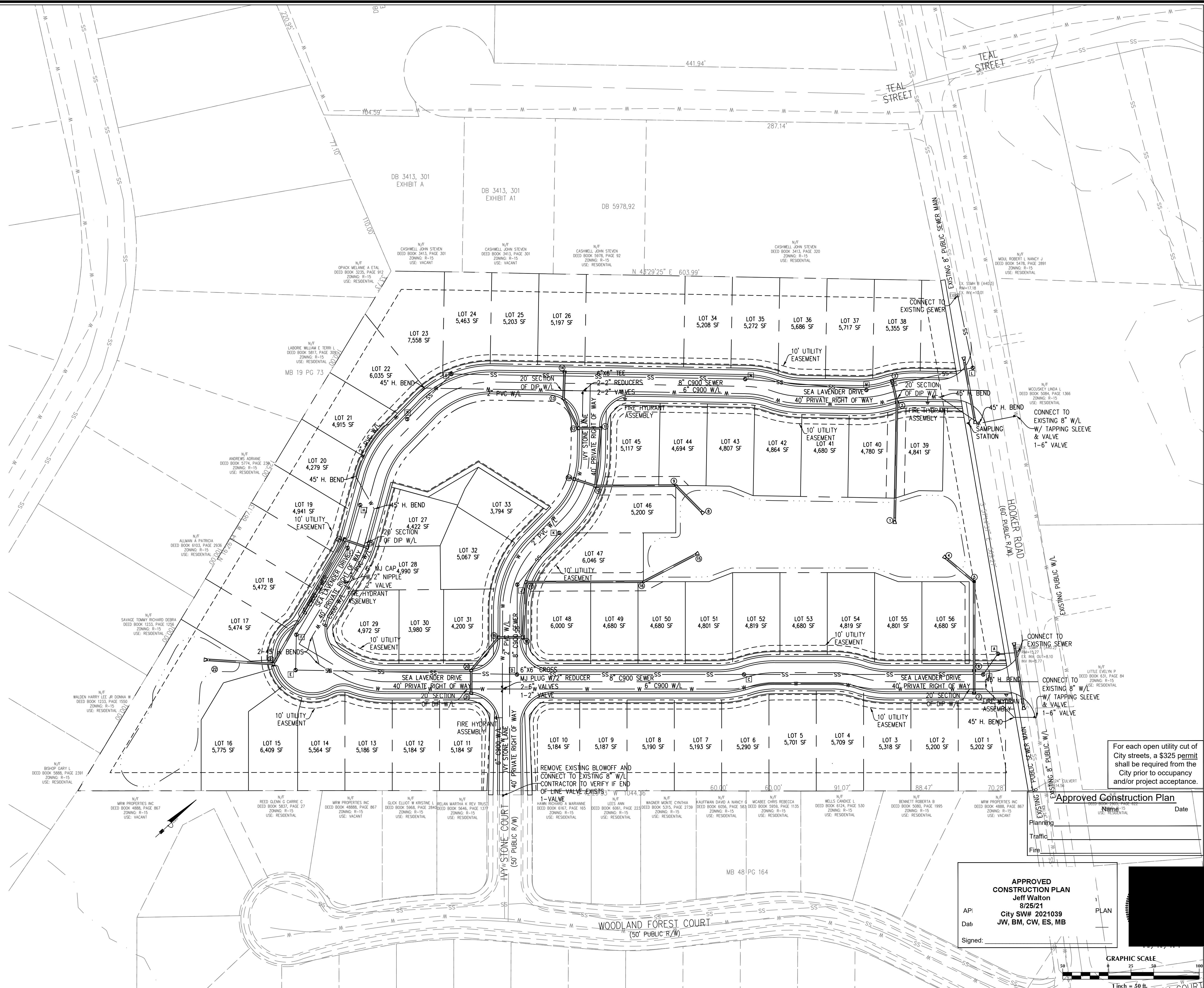
SEWER CROSSING STORM DRAIN:
IF SEPARATION BETWEEN SEWER & STORM DRAIN IS LESS THAN 12" STRUCTURAL BRIDGING TO BE USED.
IF SEPARATION IS BETWEEN 12" & 24" SEWER TO BE DIP OR USE OF STRUCTURAL BRIDGING.

FIRE DEPARTMENT NOTES:

- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE UNDERGROUND FIRE LINE PERMIT FROM THE WILMINGTON FIRE AND LIFE SAFETY DIVISION, 910-343-0696.

UTILITY DATA:

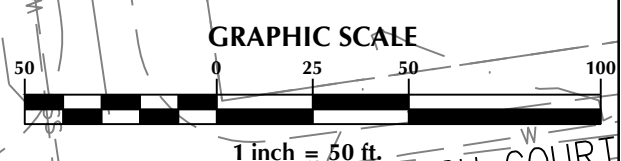
- 8" SEWER = 1,910 LF
- 6" WATER = 1,510 LF
- 2" WATER = 790 LF
- 5 - FIRE HYDRANTS



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan
Name: _____ Date: _____

APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB
Signed: _____



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina

UTILITY PLAN

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

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

Sheet No.
C-4

NOTES:

1. ALL IMPERVIOUS SITE AREA TO BE DRAINED TO PROPOSED STORM SEWER SYSTEM AND DISCHARGED TO INFILTRATION BASINS.
2. INFILTRATION BASINS WILL BE PUMPED DOWN BY MECHANICAL MEANS IN CASE OF EMERGENCY.
3. PRIOR TO USE AS INFILTRATION BASINS, ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF, THEN THE APPROPRIATE MODIFICATIONS TO THE BASINS CAN BE INCORPORATED.
4. ANY SWALES DIRECTING THE RUNOFF TO THE INFILTRATION BASINS MUST BE REGULARLY MAINTAINED TO ENSURE THAT THE STORMWATER SYSTEM FUNCTIONS AS DESIGNED.
5. ALL DITCH WORK WITHIN ROW TO BE COMPLETED AND EXCELSIOR MAT TO BE INSTALLED PRIOR TO ANY RAIN EVENT.
6. PRIOR TO THE CREATION OF ANY IMPERVIOUS SURFACES THE FINAL DESIGN SHOULD BE BUILT. SEE SHEETS C-6.1 FOR BASIN DETAILS.
7. ALL EXISTING/PROPOSED STORM INLETS WITHIN THE DISTURBANCE AREA TO HAVE EITHER INLET PROTECTION OR A SILT SACK INSTALLED, SEE DETAILS ON SHEET C-9.
8. SEDIMENT BASIN WILL BE PUMPED DOWN BY MECHANICAL MEANS WHEN SEDIMENT REACHES 50% STORAGE ELEVATION AND MUCKED OUT.
9. ALL CONSTRUCTION TRAFFIC TO ACCESS SITE OFF HOOKER ROAD. NO CONSTRUCTION TRAFFIC TO ACCESS SITE THROUGH WOODLAND FOREST COURT OR IVY STONE COURT.
10. EXISTING RCP CULVERTS WITHIN HOOKER ROAD DITCH ALONG PROPERTY FRONTAGE TO BE REMOVED.
11. CONTRACTOR SHALL ENSURE EXISTING 24" RCP OUTFALL PIPE LOCATED AT THE PROPERTY LINE WITH SOUTHERN OAKS AT BRADLEY CREEK DEVELOPMENT WITHIN HOOKER ROAD RIGHT OF WAY IS FREE FROM ALL VEGETATIVE DEBRIS AND APPURTENANCES TO ALLOW FOR POSITIVE DRAINAGE.

PUMPING NOTES:

1. SEDIMENT LADEN PUMP DISCHARGE IS ONLY ALLOWED IF ITS DISCHARGED AT OR BELOW 50 NTU'S WITHOUT EXCESSIVE VELOCITY AT THE POINT OF DISCHARGE, INFILTRATED ON-SITE OUTSIDE ANY WETLANDS WITH NO RUNOFF, OR BY USING PUMPS WITH A LIQUID INJECTION SYSTEM DISCHARGING INTO A DIRT BAG PLACED ON A STABLE SURFACE.

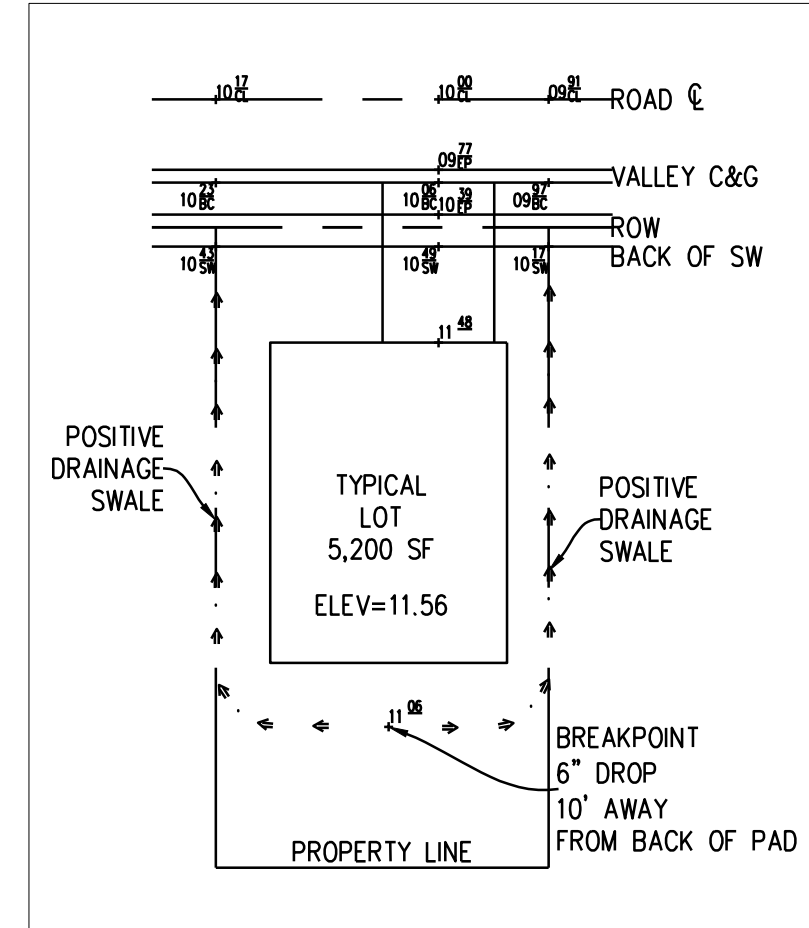
STORM WATER NOTES:

1. THERE ARE NO WETLANDS, REGULATORY FLOOD ZONES, SURFACE WATERS, PROTECTED VEGETATED SETBACKS, AND/OR PROTECTED RIPARIAN BUFFERS WITHIN THE LIMITS OF THE PROPERTY.

CERTIFICATION NOTE:

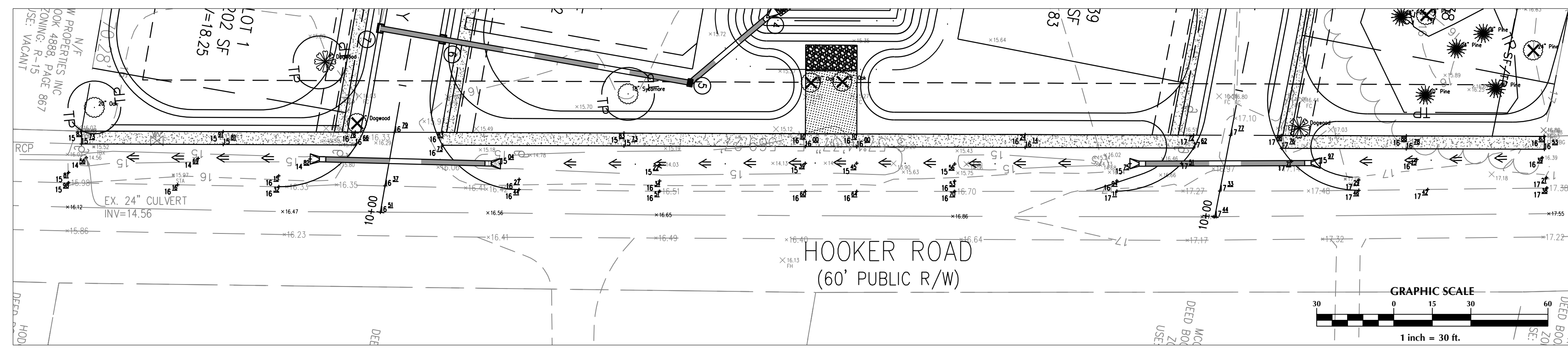
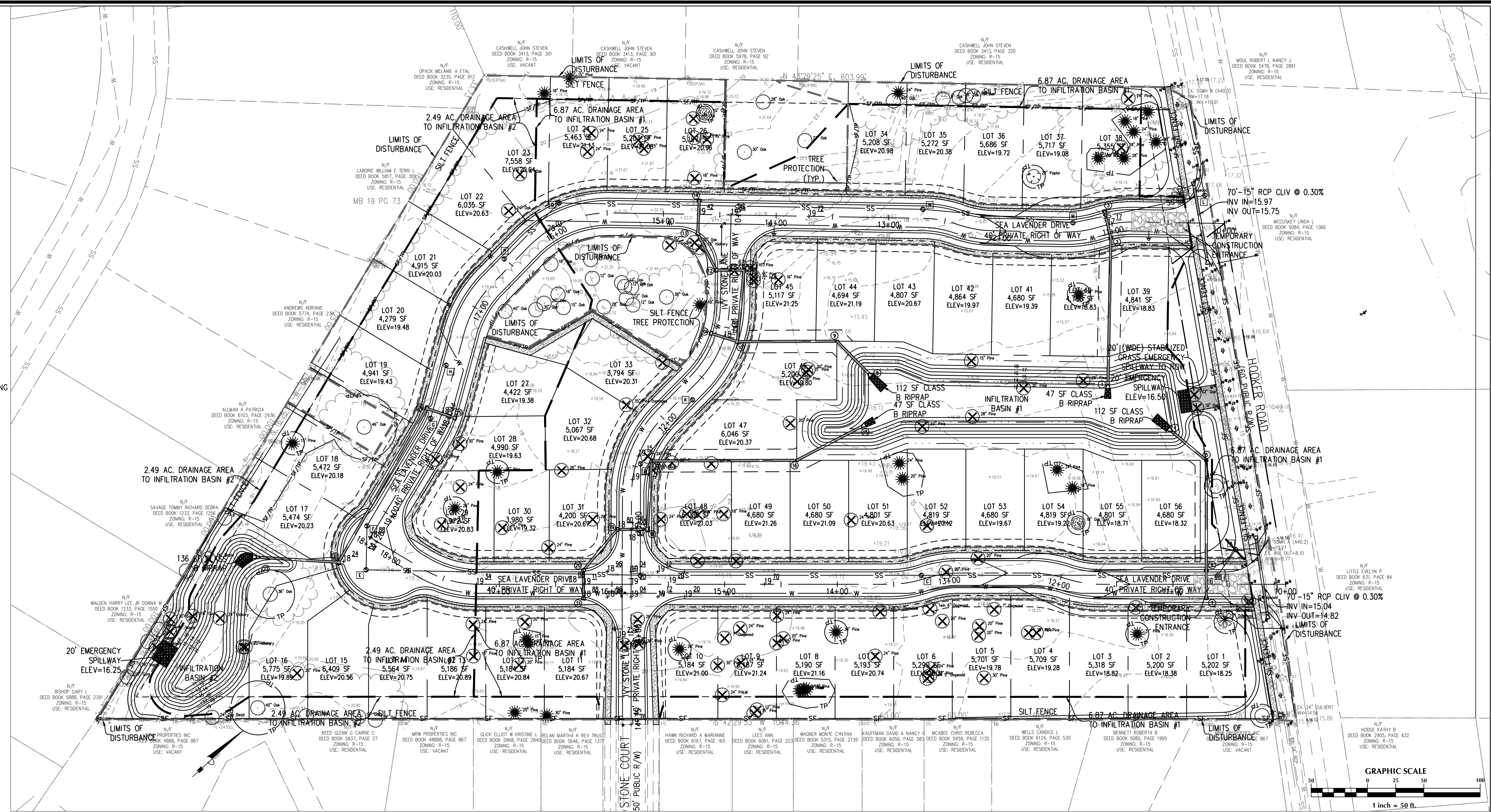
PER THE REQUIREMENTS OF THE STORMWATER PERMIT, THE FOLLOWING SHALL OCCUR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY OR OPERATION OF THE PERMITTED FACILITY.

- AS-BUILT DRAWINGS FOR ALL STORMWATER MANAGEMENT FACILITIES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON ENGINEERING DIVISION.
- AN ENGINEER'S CERTIFICATION SHALL ALSO BE SUBMITTED, ALONG WITH ALL SUPPORTING DOCUMENTATION THAT SPECIFIES, UNDER SEAL THAT THE AS-BUILT STORMWATER MEASURES, CONTROLS AND DEVICES ARE IN COMPLIANCE WITH THE APPROVED STORMWATER MANAGEMENT PLANS.
- A FINAL INSPECTION BY CITY OF WILMINGTON ENGINEERING PERSONNEL.



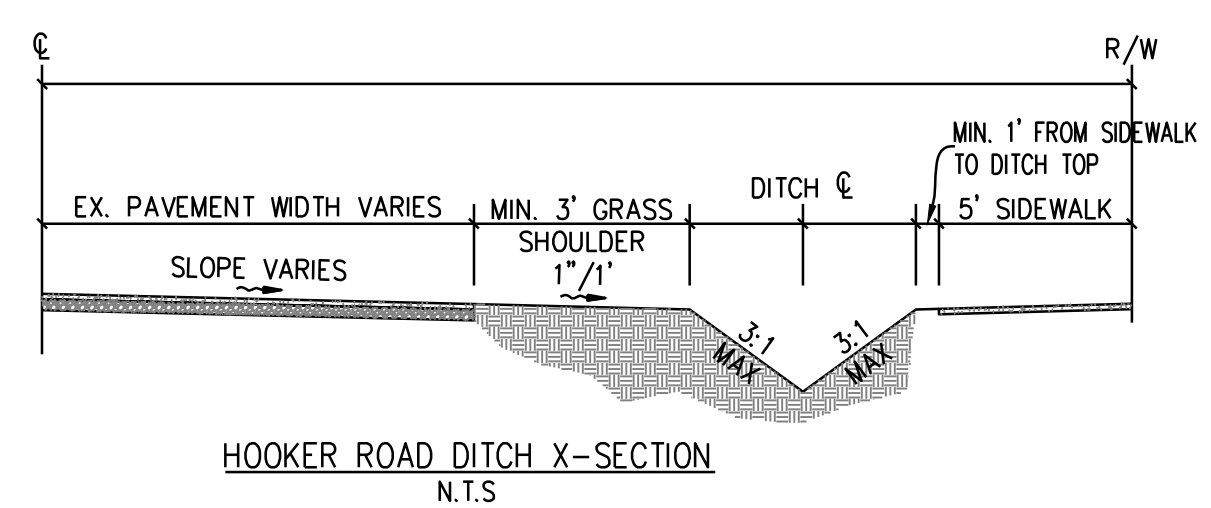
TYPICAL LOT GRADING DETAIL
1"=30'

FROM	TO	LENGTH (ft)	DIAMETER (in)	SLOPE (%)	INV. DN (ft)	INV. UP (ft)	RIM (ft)	MATERIAL
2	1	133.2	18	1.00	12.00	13.33	16.75	HDPE
3	2	24.8	15	0.30	13.80	13.87	16.75	HDPE
5	4	43.6	24	0.30	12.00	12.13	17.00	HDPE
6	5	97.7	24	0.30	12.13	12.42	16.27	HDPE
7	6	24.7	18	0.30	12.42	12.50	16.27	HDPE
9	8	43.5	24	0.30	12.00	12.13	18.00	HDPE
10	9	88.2	24	0.30	12.13	12.40	17.75	HDPE
11	10	63.6	15	0.30	12.40	12.59	18.20	HDPE
12	11	24.7	15	0.30	12.59	12.66	18.20	HDPE
13	12	41.9	15	0.30	12.66	12.79	19.00	HDPE
14	13	26.7	15	0.30	12.79	15.37	19.00	HDPE
10A	10	24.8	15	0.30	12.40	12.47	17.75	HDPE
16	15	68.3	18	0.30	12.00	12.20	18.00	HDPE
17	16	128.9	18	0.30	12.20	12.59	18.73	HDPE
18	17	60.9	18	0.30	12.59	12.77	18.61	HDPE
19	18	26.7	18	0.30	13.97	14.05	18.61	HDPE
20	19	46.9	18	0.30	14.05	14.20	18.69	HDPE
21	20	25.2	15	0.30	14.20	14.27	18.69	HDPE
23	22	76.3	24	0.30	11.00	11.23	18.24	HDPE
24	23	157.3	18	1.00	11.23	12.80	17.89	HDPE
25	24	26.7	15	0.30	14.89	14.97	17.89	HDPE



SEDIMENT BASIN CALCULATIONS

SEDIMENT TRAPPING DEVICE	DRAINAGE AREA (AC)	REQUIRED STORAGE (1,800CF/AC)	PROVIDED STORAGE (CF)	PEAK Q ₁₀ FLOW (CFS)	REQUIRED AREA (435 SF/CFS)	PROVIDED AREA (SF)	SKIMMER SIZE (in)	SKIMMER ORIFICE ELEVATION (ft)	SKIMMER STORAGE ELEVATION (ft)
SEDIMENT BASIN #1	6.87	12,358	15,092	12.98	4,217	16,217	2.25	14.50	15.50
SEDIMENT BASIN #2	2.49	4,483	4,971	4.71	1,530	4,282	1.25	13.00	14.40



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Approved Construction Plan
Name _____ Date _____

APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

No.	Revision	Date	By	Designer	Scale
				GSP	AS SHOWN
				GSP	February 2021
				P-0718	2021-0005

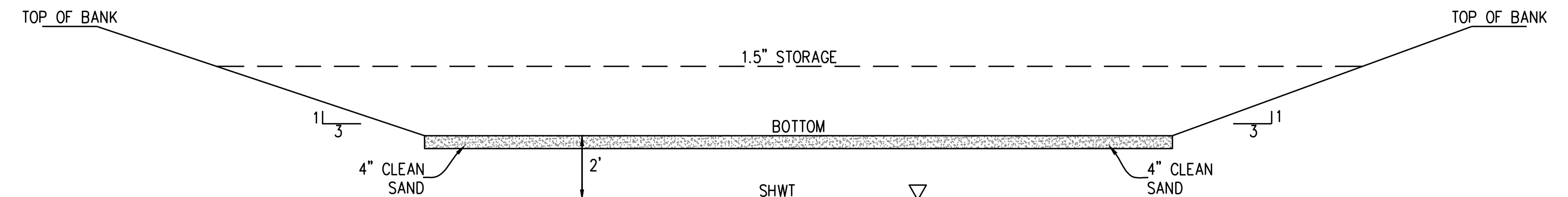
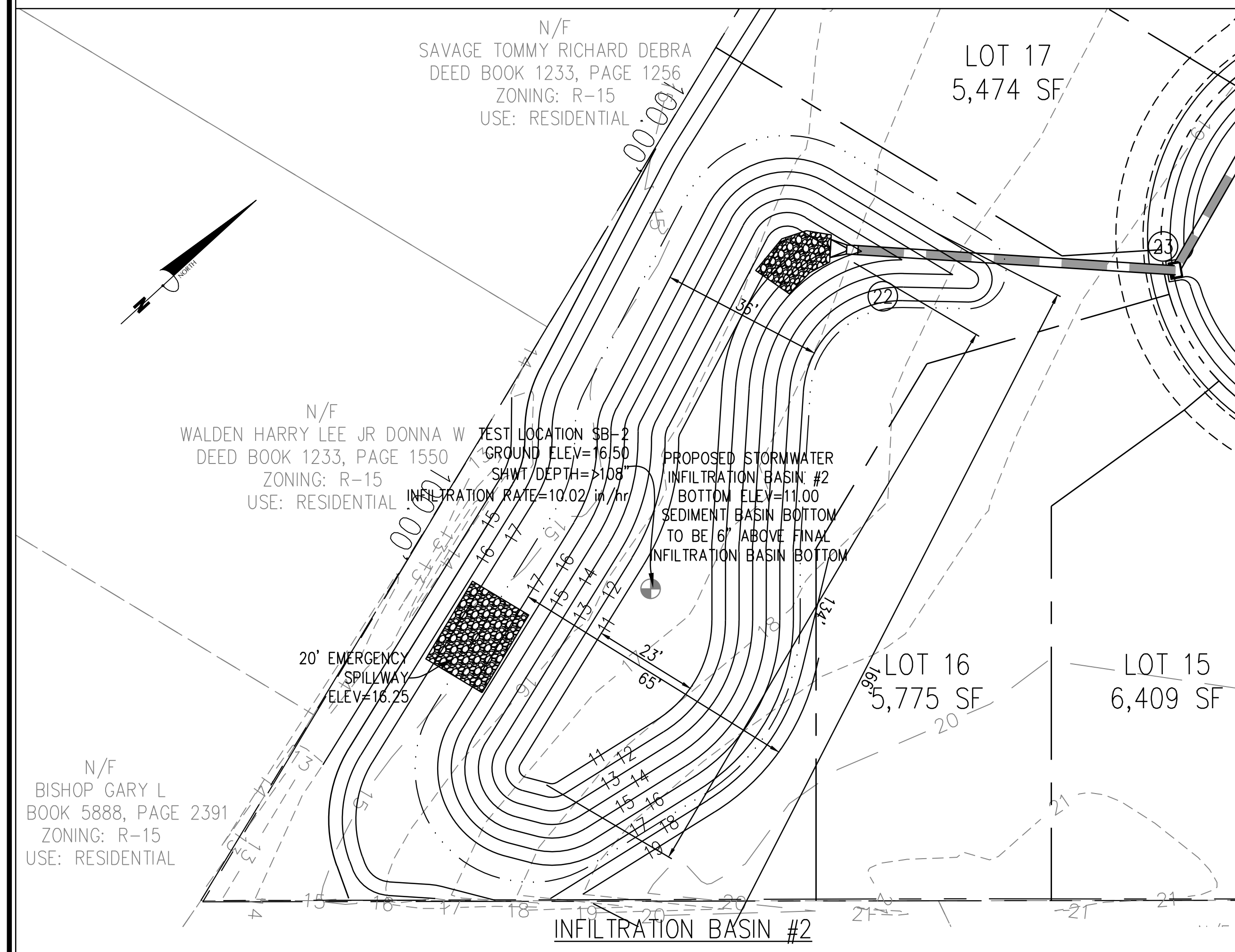
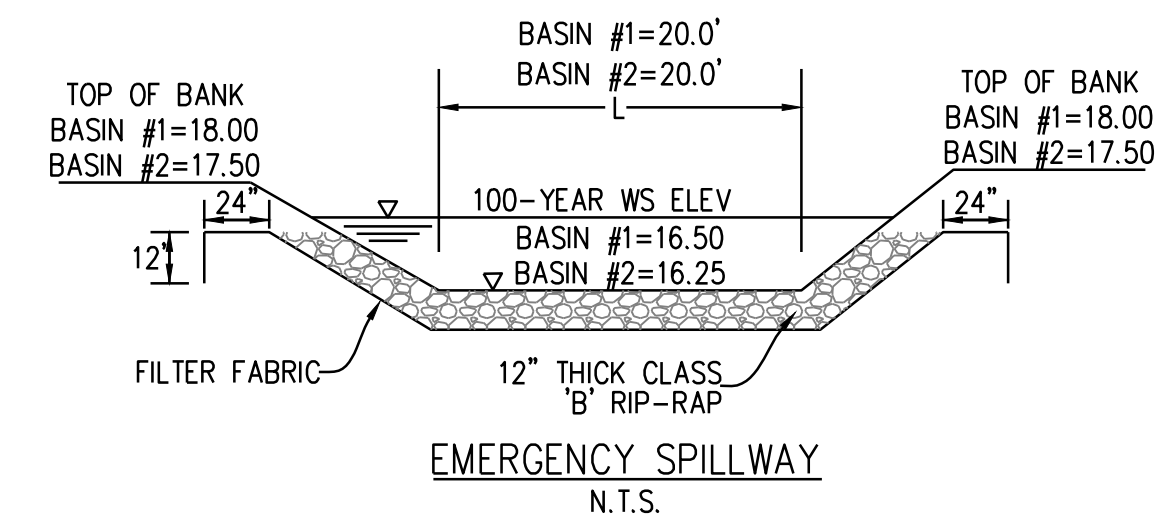
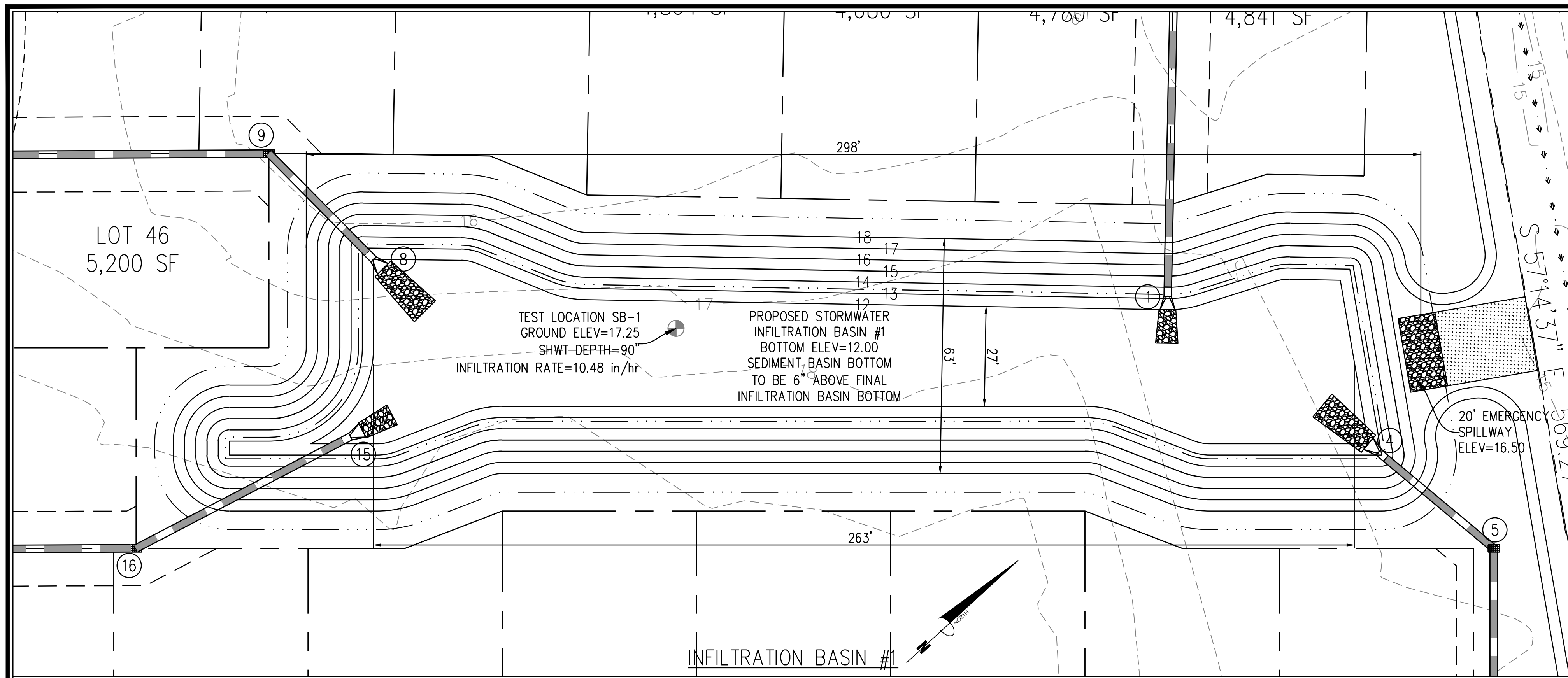
THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina
Wilmington

GRADING, DRAINAGE & EROSION & SEDIMENT CONTROL PLAN

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

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

Sheet No. **C-5**



INFILTRATION BASIN	GROUND ELEVATION	SHWT DEPTH	SHWT ELEVATION	BASIN BOTTOM ELEVATION	BASIN DEPTH (FT)	1.5" STORAGE ELEVATION	1.5" STORAGE VOLUME REQ. (CF)	1.5" STORAGE VOLUME PROV. (CF)	OVERFLOW DEVICE	50-YEAR ELEVATION	TOP OF BANK ELEVATION
BASIN #1	17.25	90"	9.75	12.00	6.0	13.35	13,038	13,569	SPILLWAY	16.71	18.00
BASIN #2	16.50	>108"	7.50	11.00	6.0	13.35	4,714	4,856	SPILLWAY	16.69	17.50

INFILTRATION BASIN CROSS-SECTION
N.T.S.

NOTES:

1. ALL IMPERVIOUS SITE AREA TO BE DRAINED TO PROPOSED STORM SEWER SYSTEM AND DISCHARGED TO INFILTRATION BASINS.
2. BASINS WILL BE PUMPED DOWN BY MECHANICAL MEANS IN CASE OF EMERGENCY.
3. PRIOR TO USE AS INFILTRATION BASINS, ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF, THEN THE APPROPRIATE MODIFICATIONS TO THE BASINS CAN BE INCORPORATED.
4. ESTABLISHED GRASS REQUIRED IN THE SWALES, DITCHES & BANKS OF THE INFILTRATION BASINS PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

APPROVED CONSTRUCTION PLAN

Jeff Walton

8/25/21

City SW# 2021039

JW, BM, CW, ES, MB



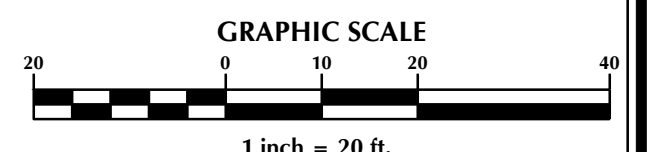
Public Services • Engineering Services

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

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No.	Revision	Date	By

Designer	GSP	Scale	1" = 20'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

Wilmington

**THE COTTAGES AT
BRADLEY CREEK**

New Hanover County

North Carolina

INFILTRATION BASIN DETAILS

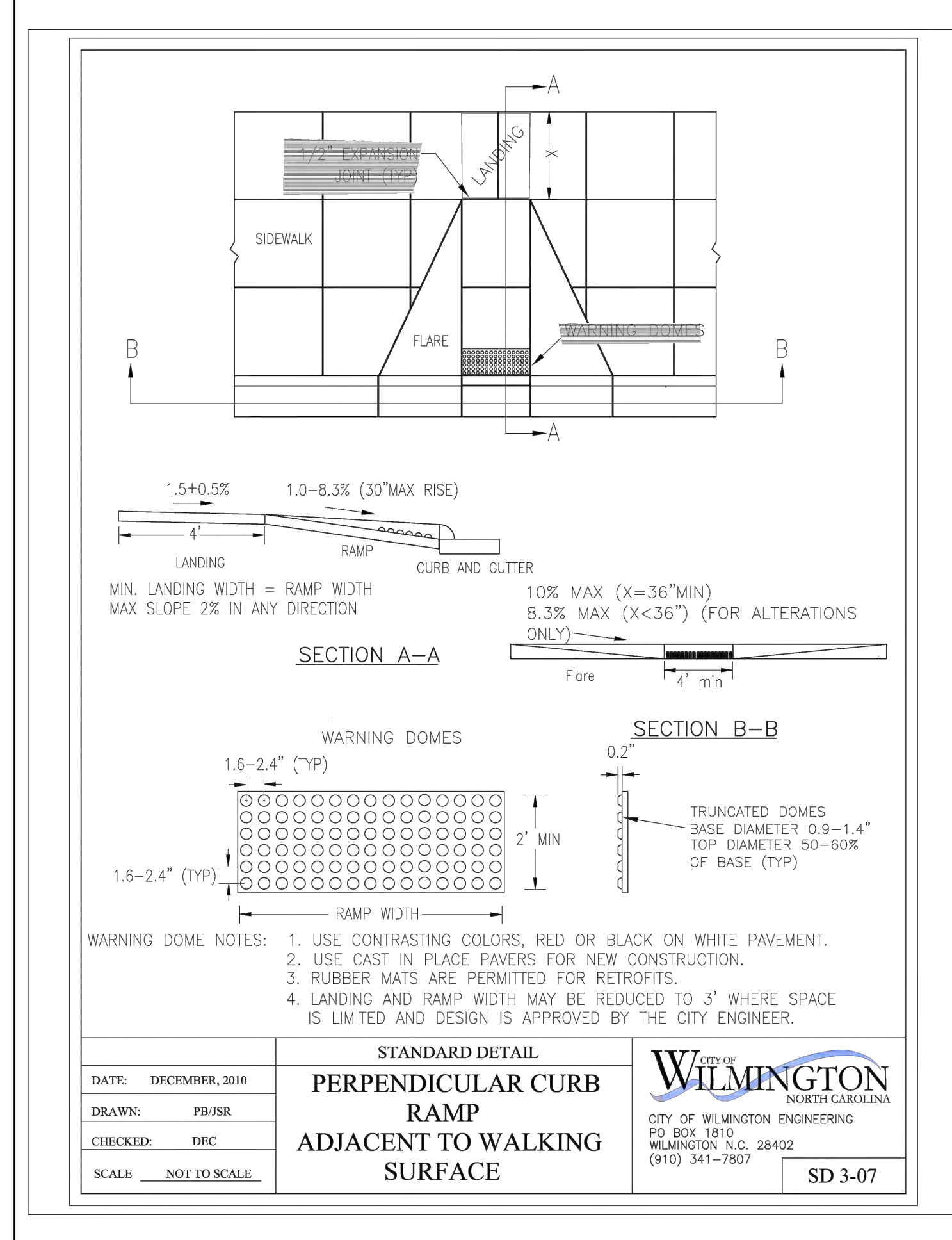
PREPARED FOR:
The Cottages at Bradley Creek, LLC.
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**GSP CONSULTING, PLLC
ENGINEERING**

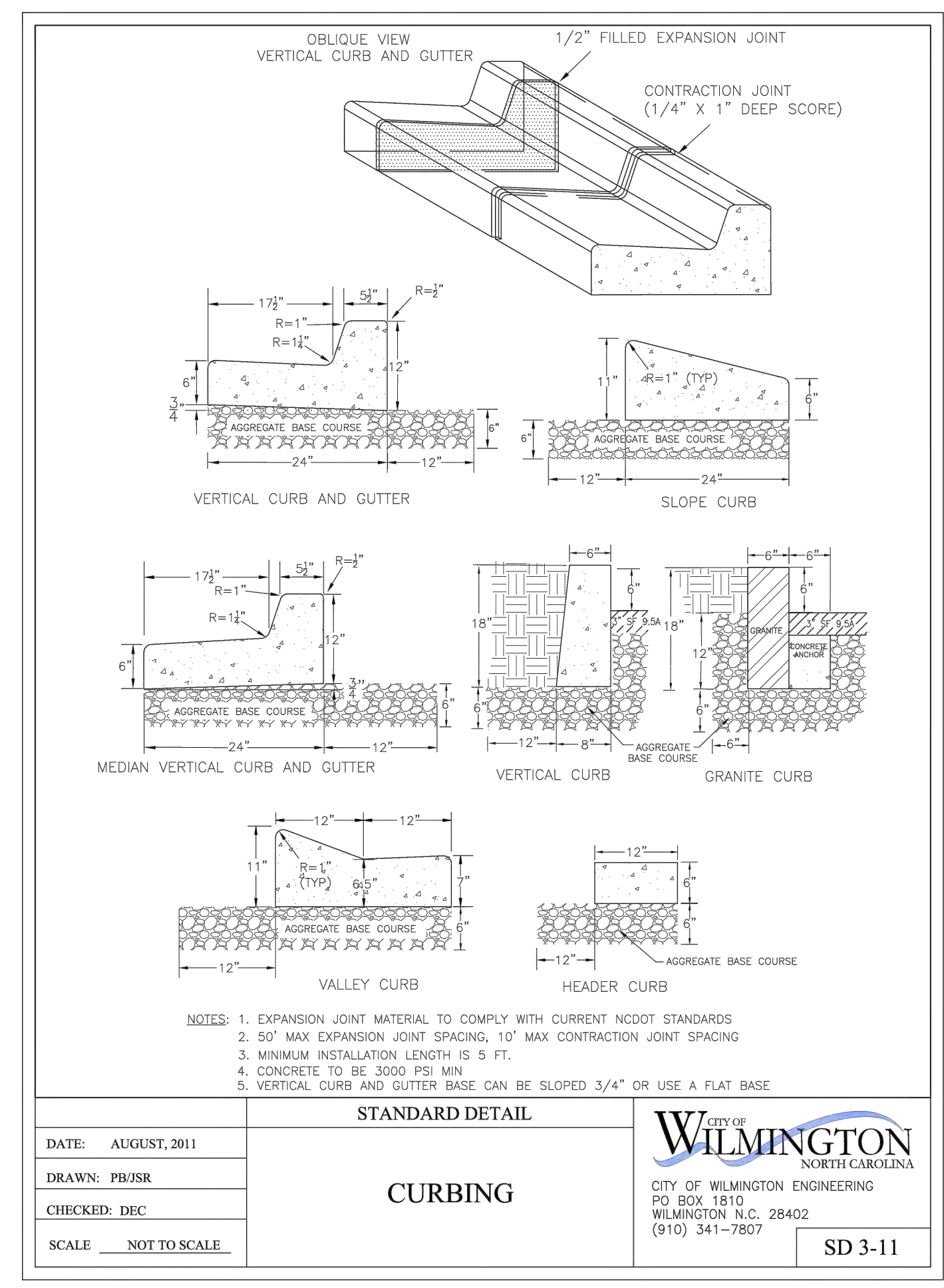
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.

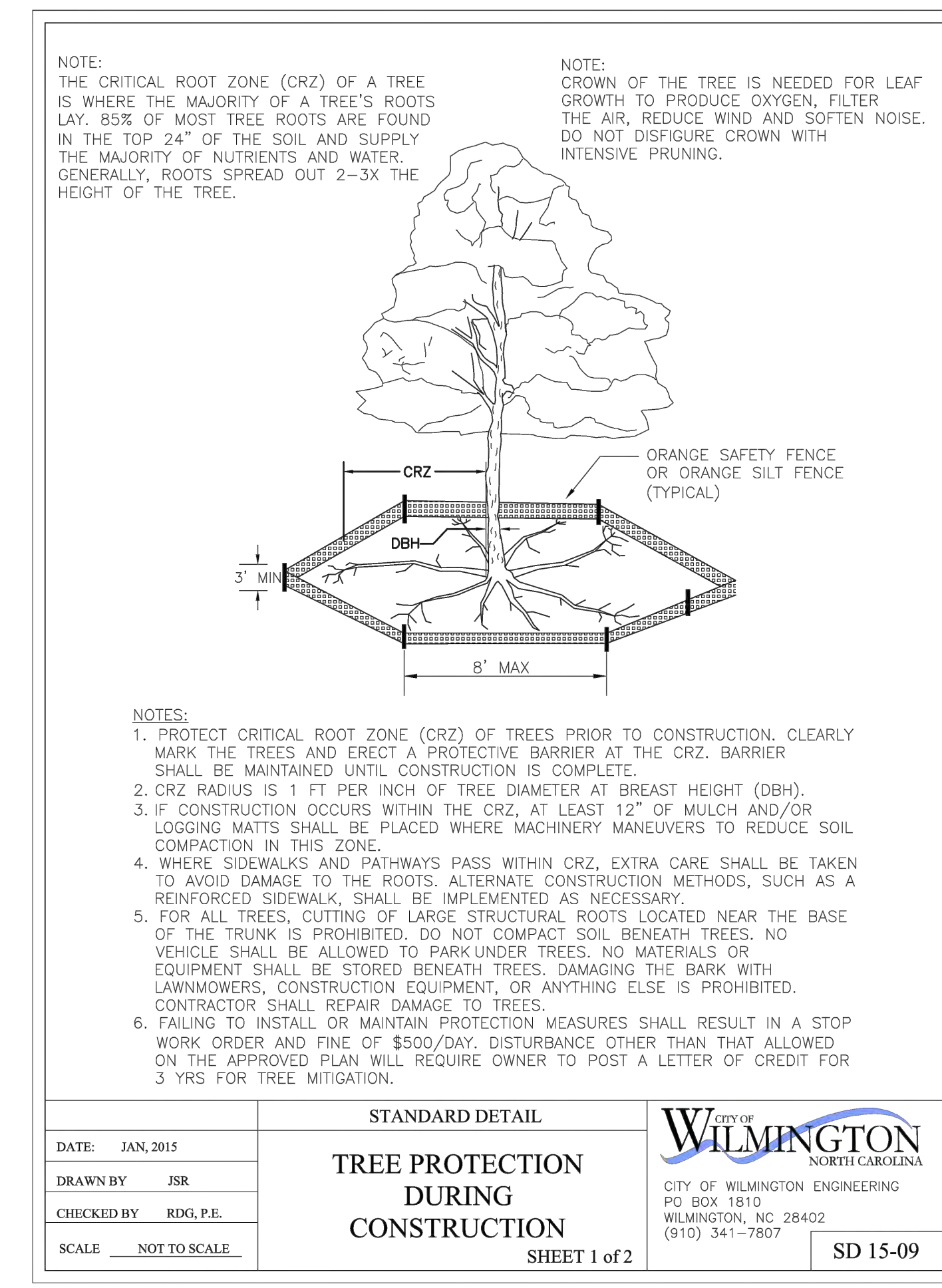
C-6.1



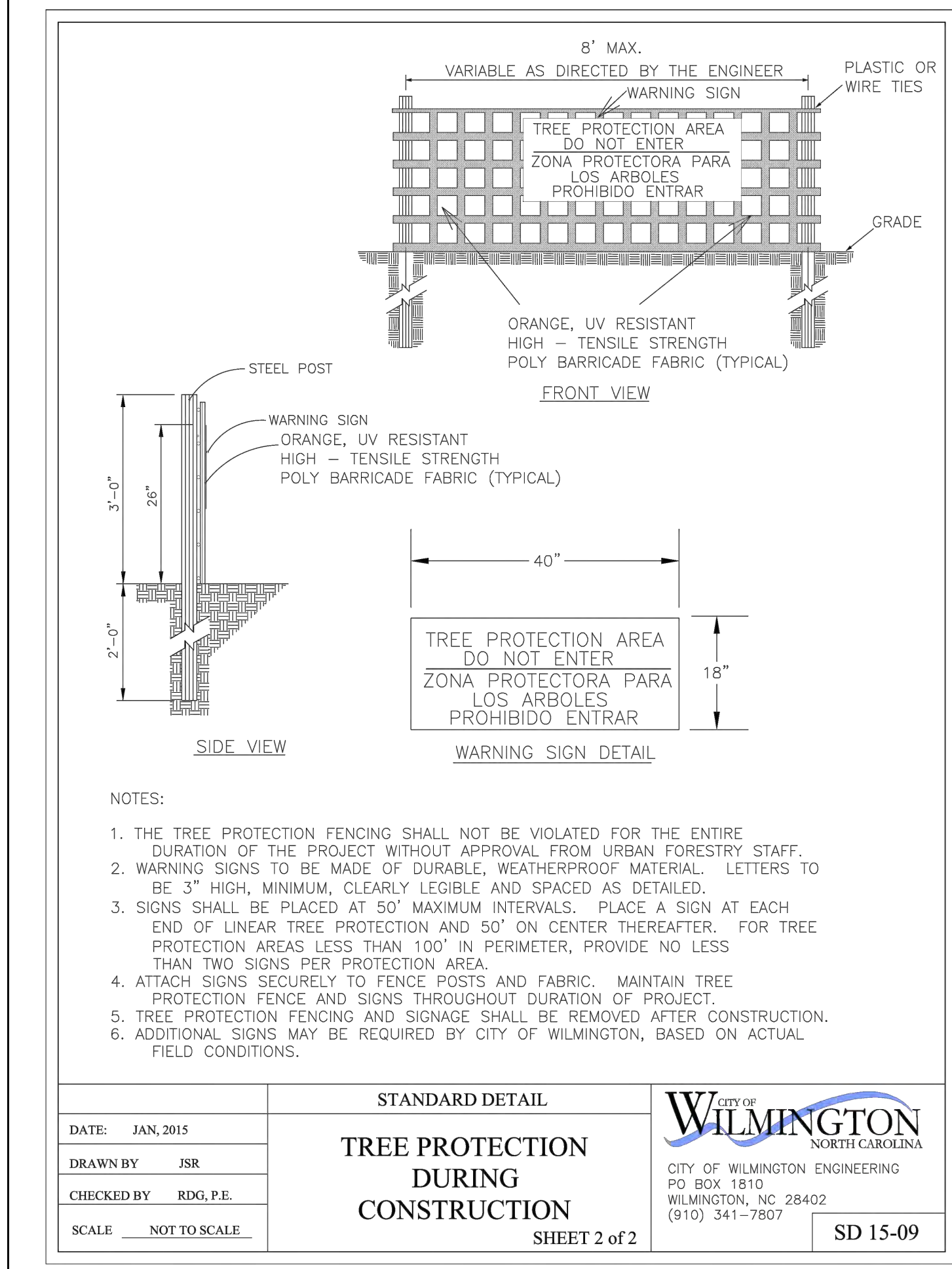
DATE: DECEMBER, 2010	STANDARD DETAIL	<p>CITY OF WILMINGTON NORTH CAROLINA CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>	SD 3-07
DRAWN: PBJSR	PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE		
CHECKED: DEC			
SCALE: NOT TO SCALE			



DATE: AUGUST, 2011	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>	SD 3-11
DRAWN: PBJSR	CURBING		
CHECKED: DEC			
SCALE: NOT TO SCALE			

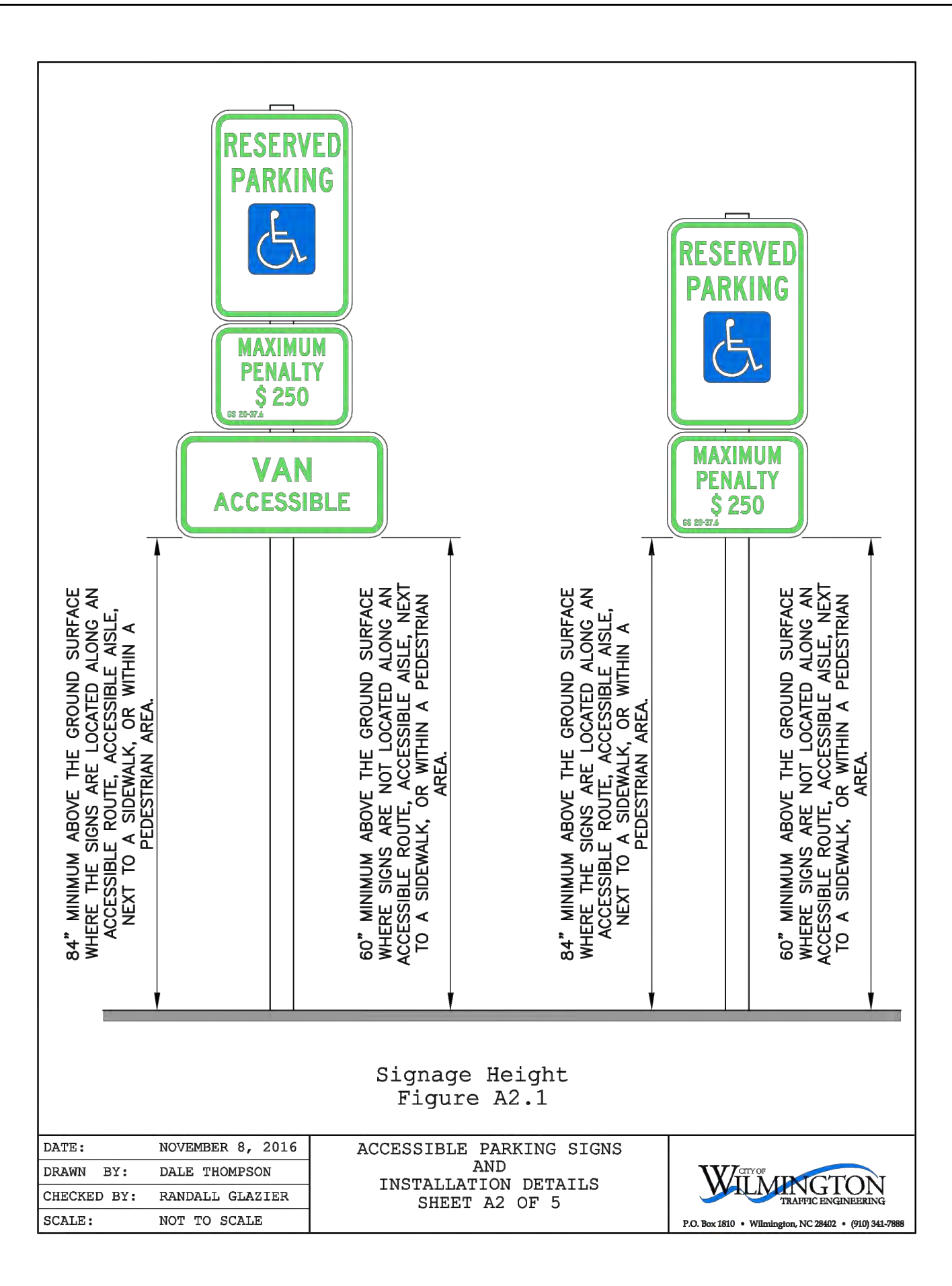


DATE: JAN, 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 15-09
DRAWN BY: JSR	TREE PROTECTION DURING CONSTRUCTION		
CHECKED BY: RDG, P.E.			
SCALE: NOT TO SCALE			

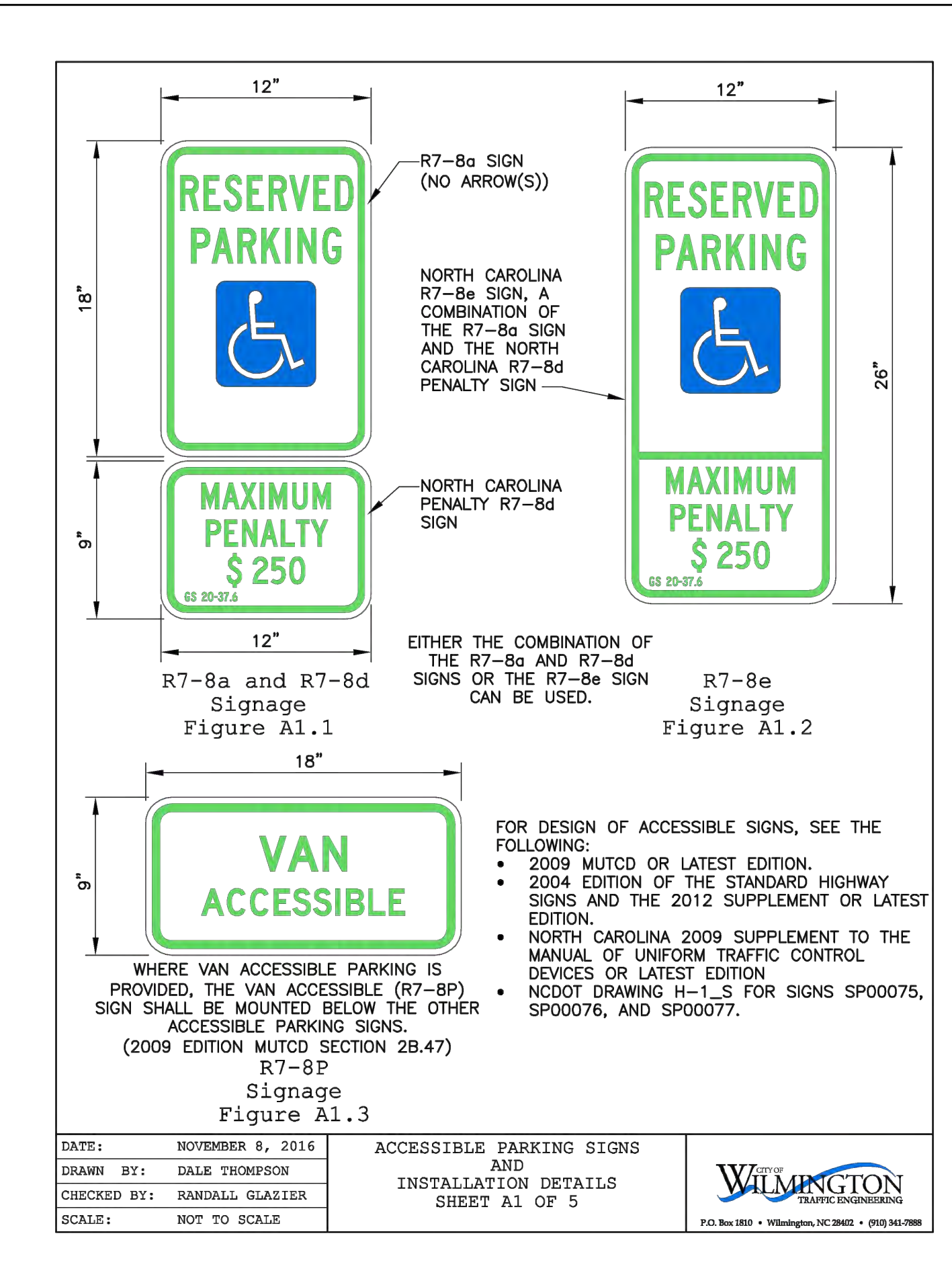


DATE: JAN, 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 15-09
DRAWN BY: JSR	TREE PROTECTION DURING CONSTRUCTION		
CHECKED BY: RDG, P.E.			
SCALE: NOT TO SCALE			

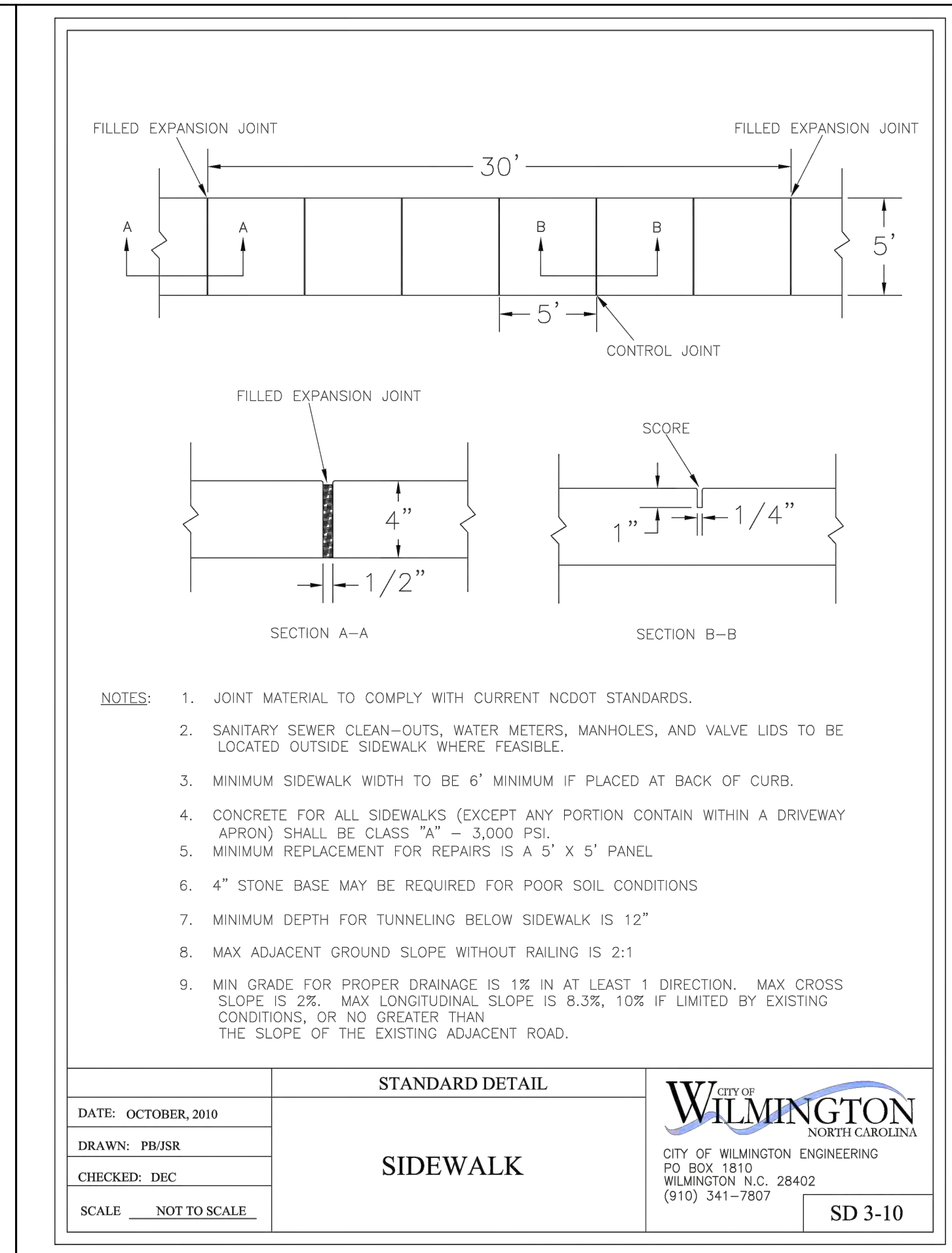
- SEQUENCE OF CONSTRUCTION**
LIMITS OF CONSTRUCTION = 10.46 ACRES
- INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON EROSION & SEDIMENT CONTROL PLAN.
 - INSTALL PERIMETER CONTROLS (TEMPORARY SILT FENCE, TREE PROTECTION FENCING) AS SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN. THIS STEP NEEDS TO BE COMPLETED PRIOR TO UPSLOPE LAND DISTURBING ACTIVITIES.
 - ONCE PERIMETER CONTROLS AND SEDIMENT TRAPPING MEASURES ARE INSTALLED CLEAR AND GRUB SITE WITHIN LIMITS OF DISTURBANCE.
 - UPON BRINGING THE SITE TO ROUGH GRADE, STABILIZE ALL AREAS WITH TEMPORARY VEGETATION IF LEFT UNDISTURBED FOR 15 WORKING DAYS AND ALL SLOPES WITHIN 21 CALENDAR DAYS.
 - ONCE THE ROADS, SANITARY SEWERS, WATERLINES AND STORM SEWERS ARE IN PLACE, INSTALL INLET PROTECTION AS SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN.
 - UPON BRINGING THE ROADS TO SUBGRADE ELEVATIONS, STABILIZE THE AREAS BY PLACING STONE BASE AS EARLY AS POSSIBLE.
 - FOR TEMPORARY VEGETATIVE STABILIZATION OF ALL DENUDED AREAS SEE NOTE REFERENCING THE EROSION CONTROL PROGRAM AND SPECIFICATIONS ON SHEET C-1.
 - AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED. SEDIMENT FROM TEMPORARY SEDIMENT TRAPPING DEVICES SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL. ALL DENUDED AREAS ARE TO BE PERMANENTLY STABILIZED WITH PERMANENT VEGETATION.



DATE: NOVEMBER 8, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>	SHEET A2 OF 5
DRAWN BY: DALE THOMPSON			
CHECKED BY: RANDALL GLAZIER			
SCALE: NOT TO SCALE			



DATE: NOVEMBER 8, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>	SHEET A1 OF 5
DRAWN BY: DALE THOMPSON			
CHECKED BY: RANDALL GLAZIER			
SCALE: NOT TO SCALE			



DATE: OCTOBER, 2010	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>	SD 3-10
DRAWN: PBJSR	SIDEWALK		
CHECKED: DEC			
SCALE: NOT TO SCALE			

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB

Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

No.	Revision	Date	By

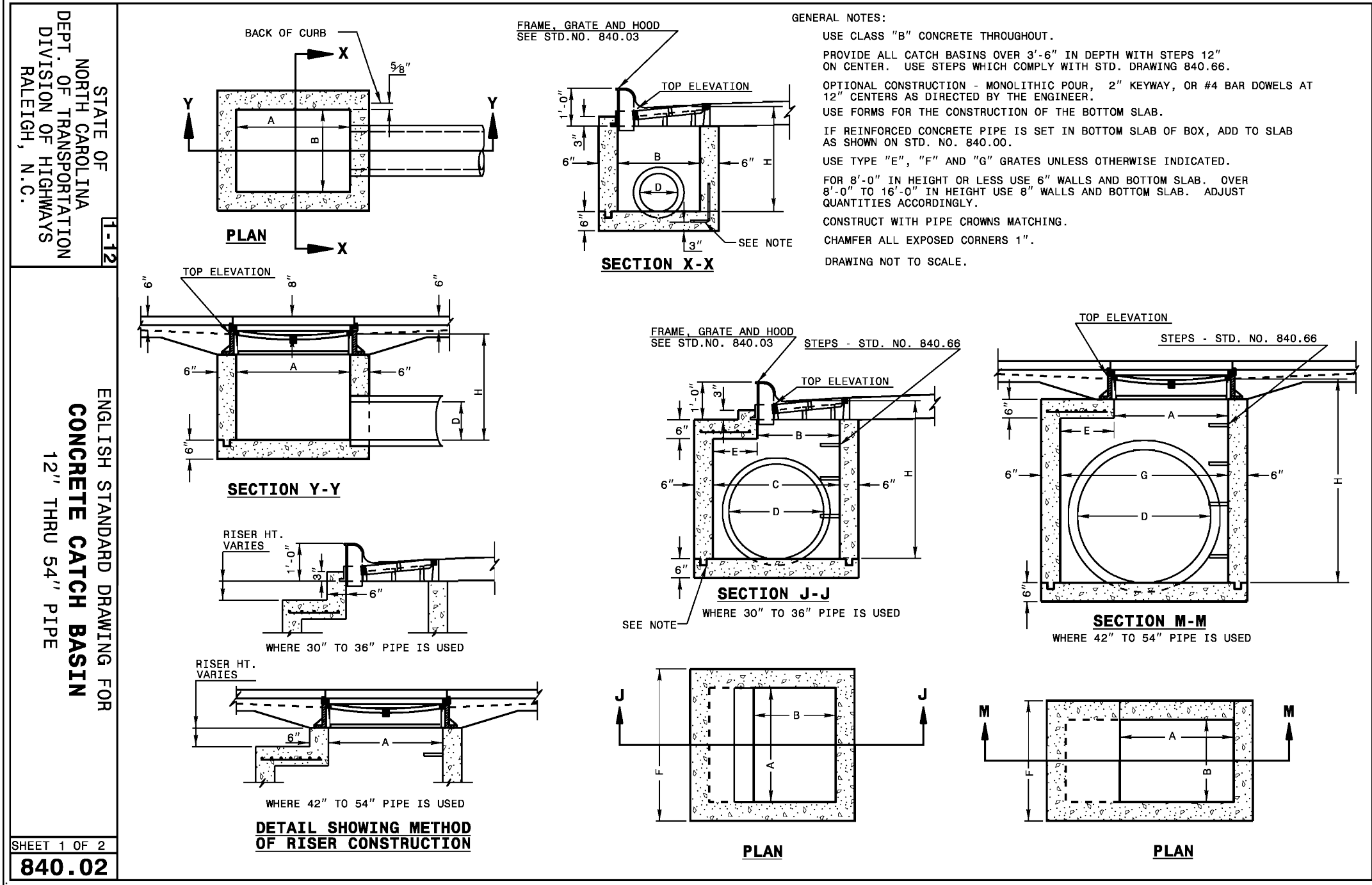
Designer	GSP	Scale	1" = 30'
Drawn By	GSP	Date	February 2021
License #	P-0718	Job No.	2021-0005

THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina

STANDARD DETAILS

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

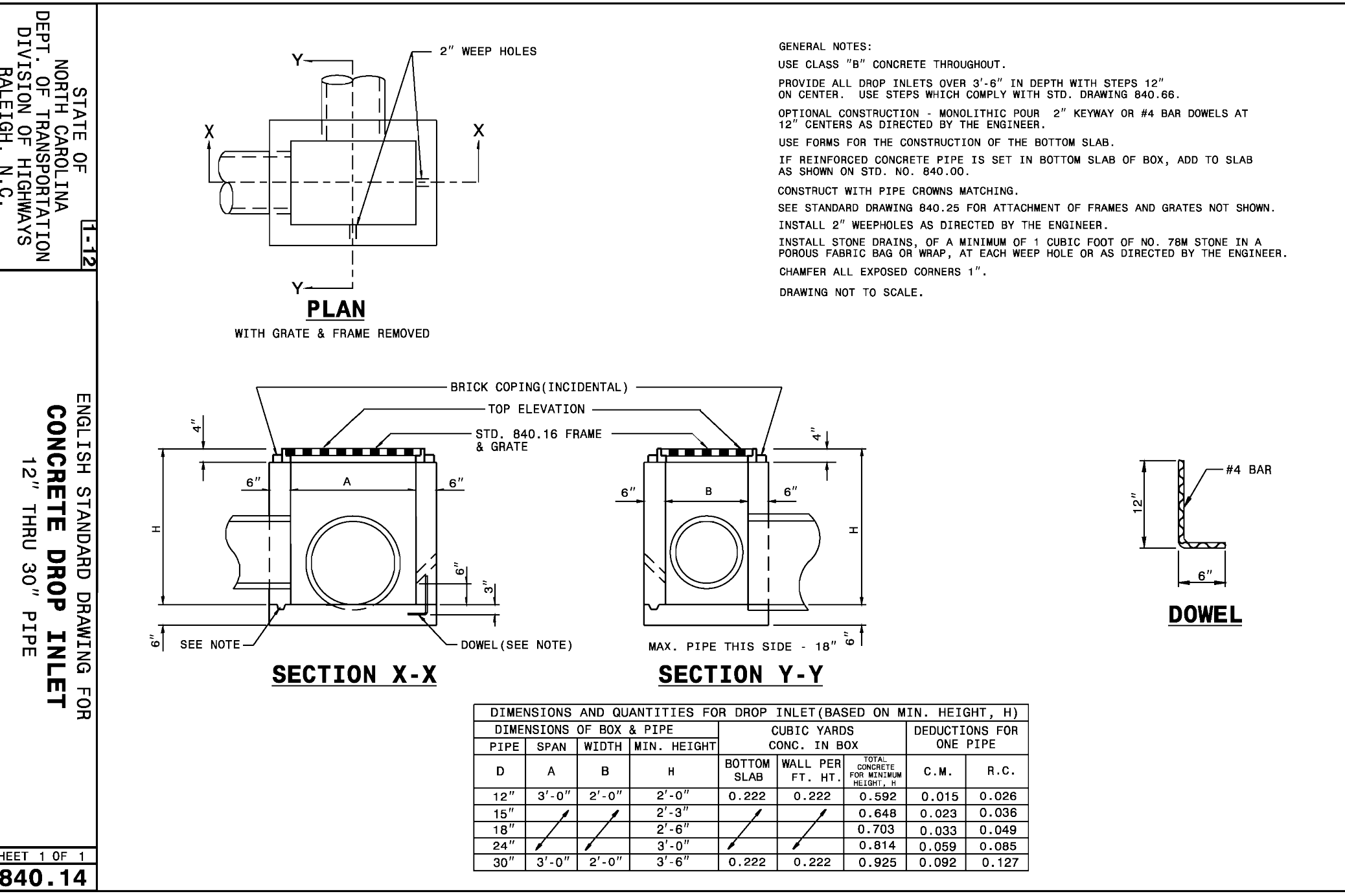
GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659



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

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

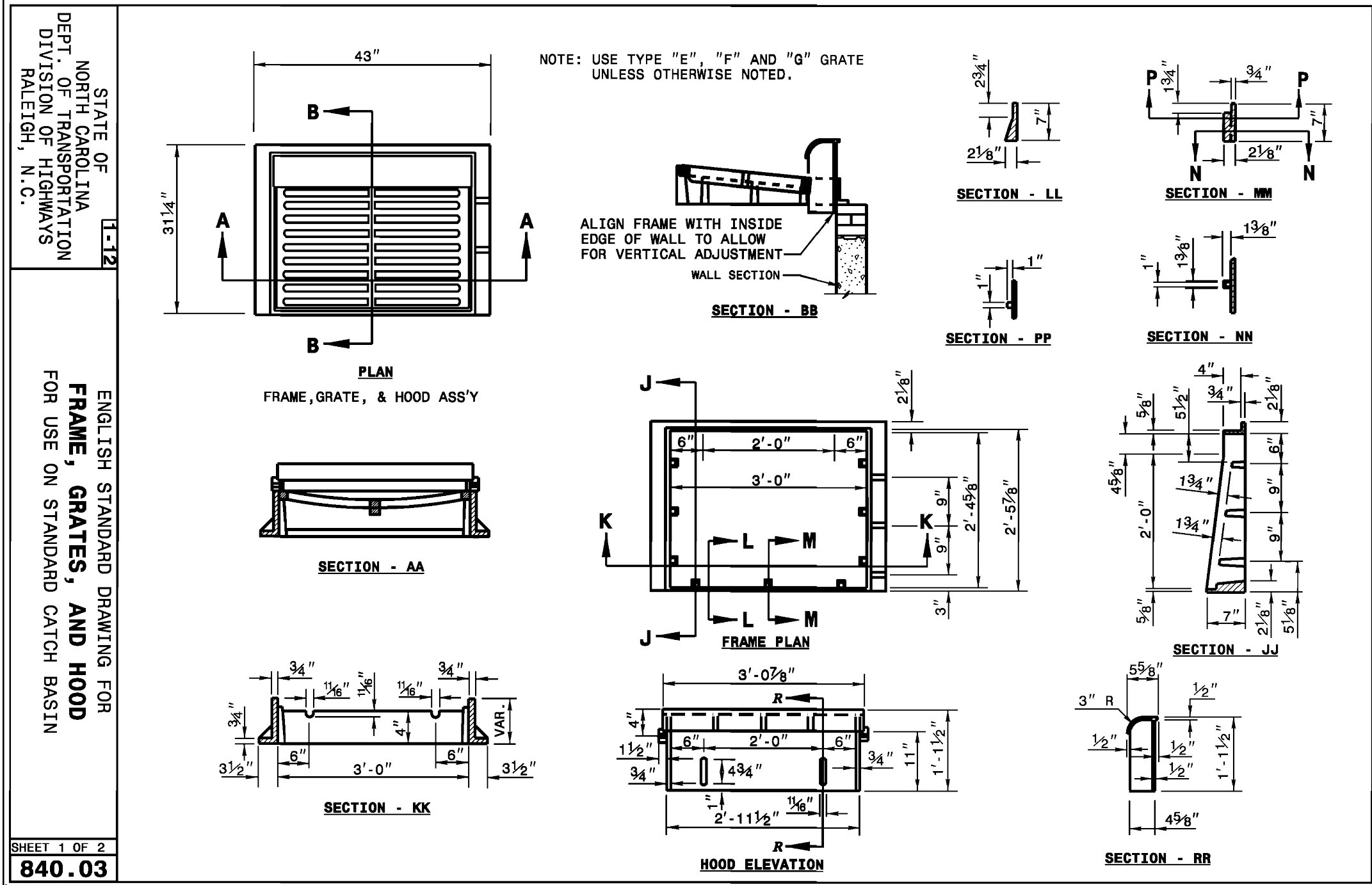
SHEET 1 OF 2
840.02



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

ENGLISH STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

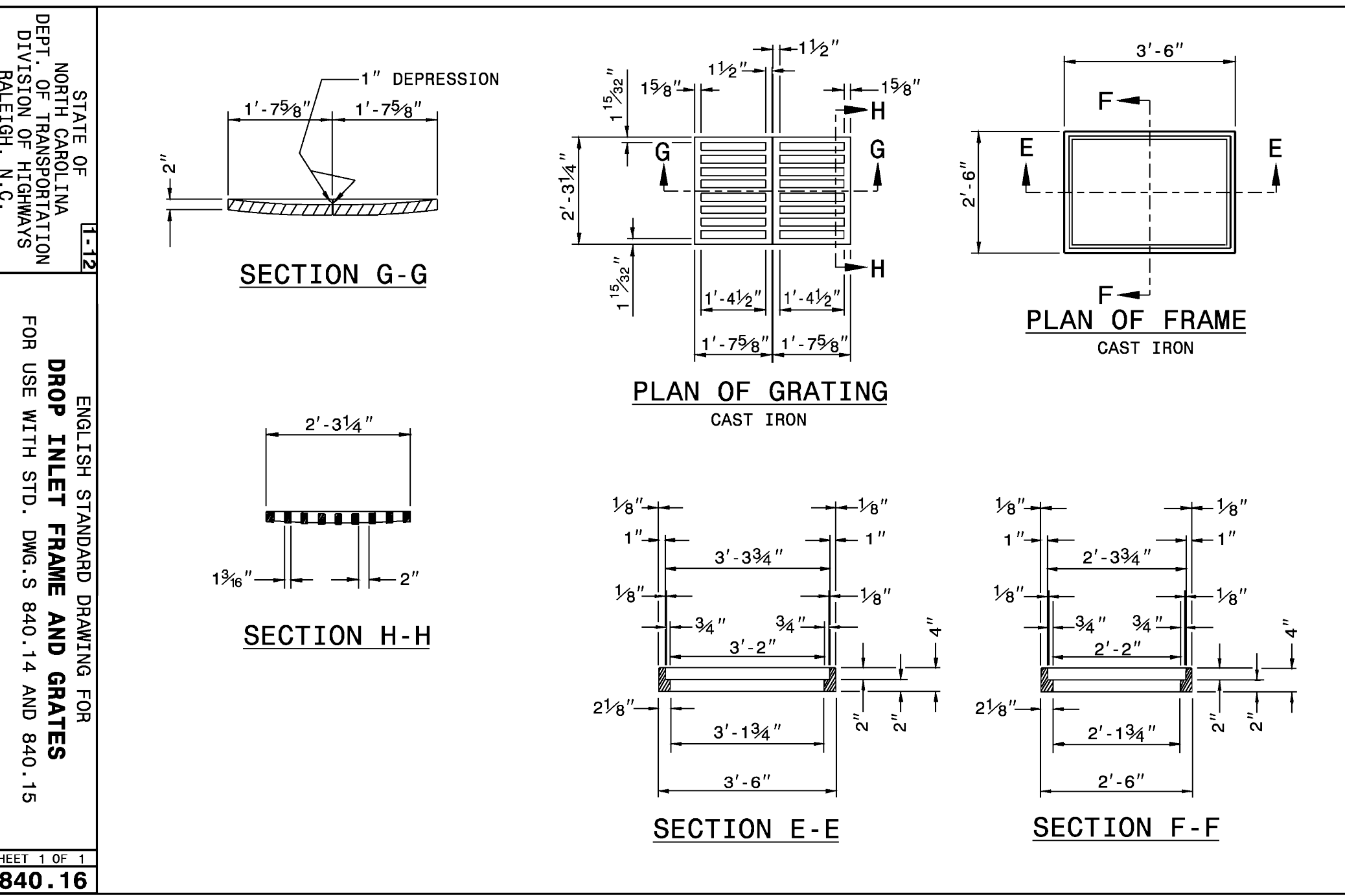
SHEET 1 OF 1
840.14



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

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

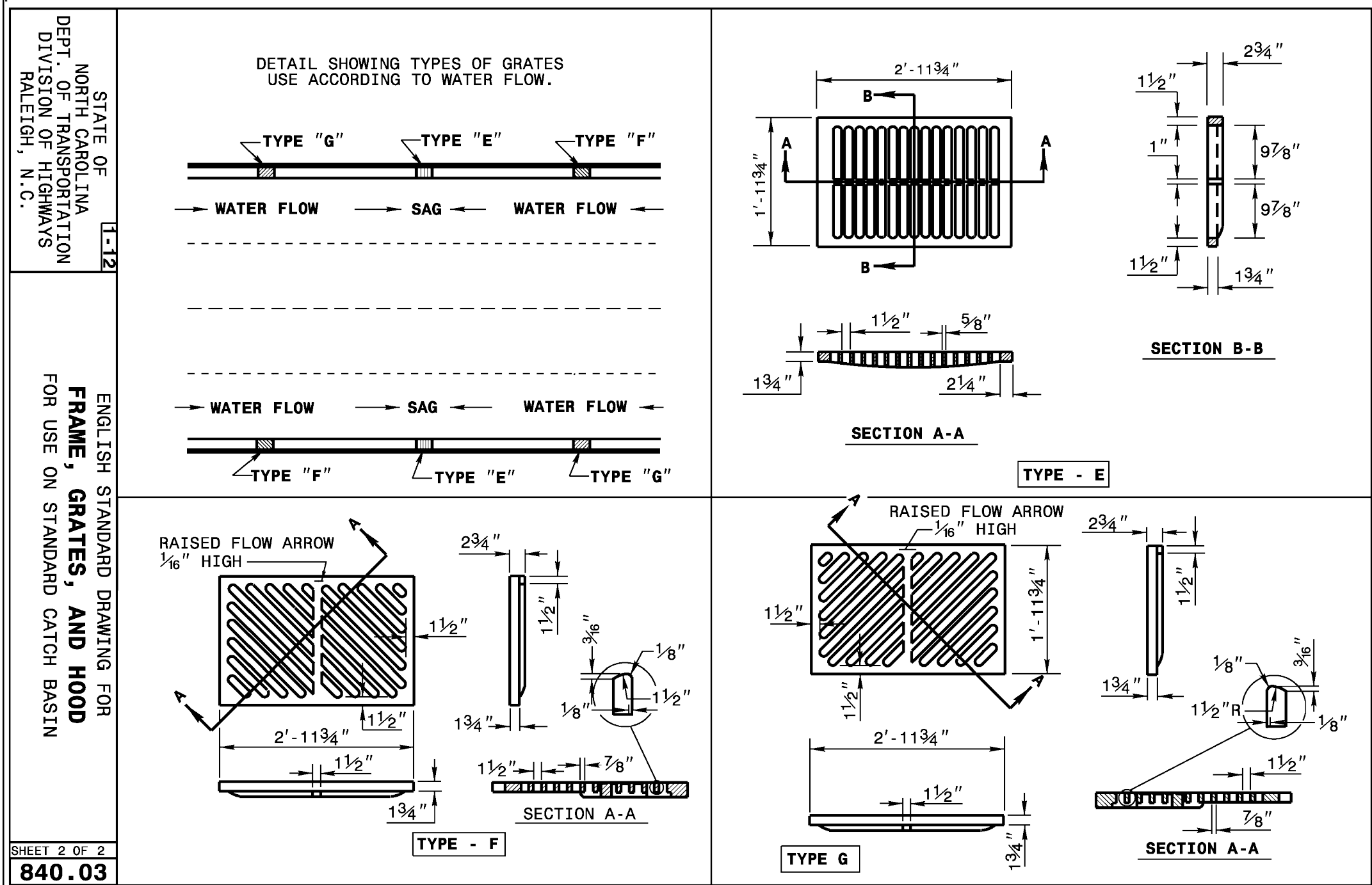
SHEET 1 OF 2
840.03



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

ENGLISH STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG. S 840.14 AND 840.15

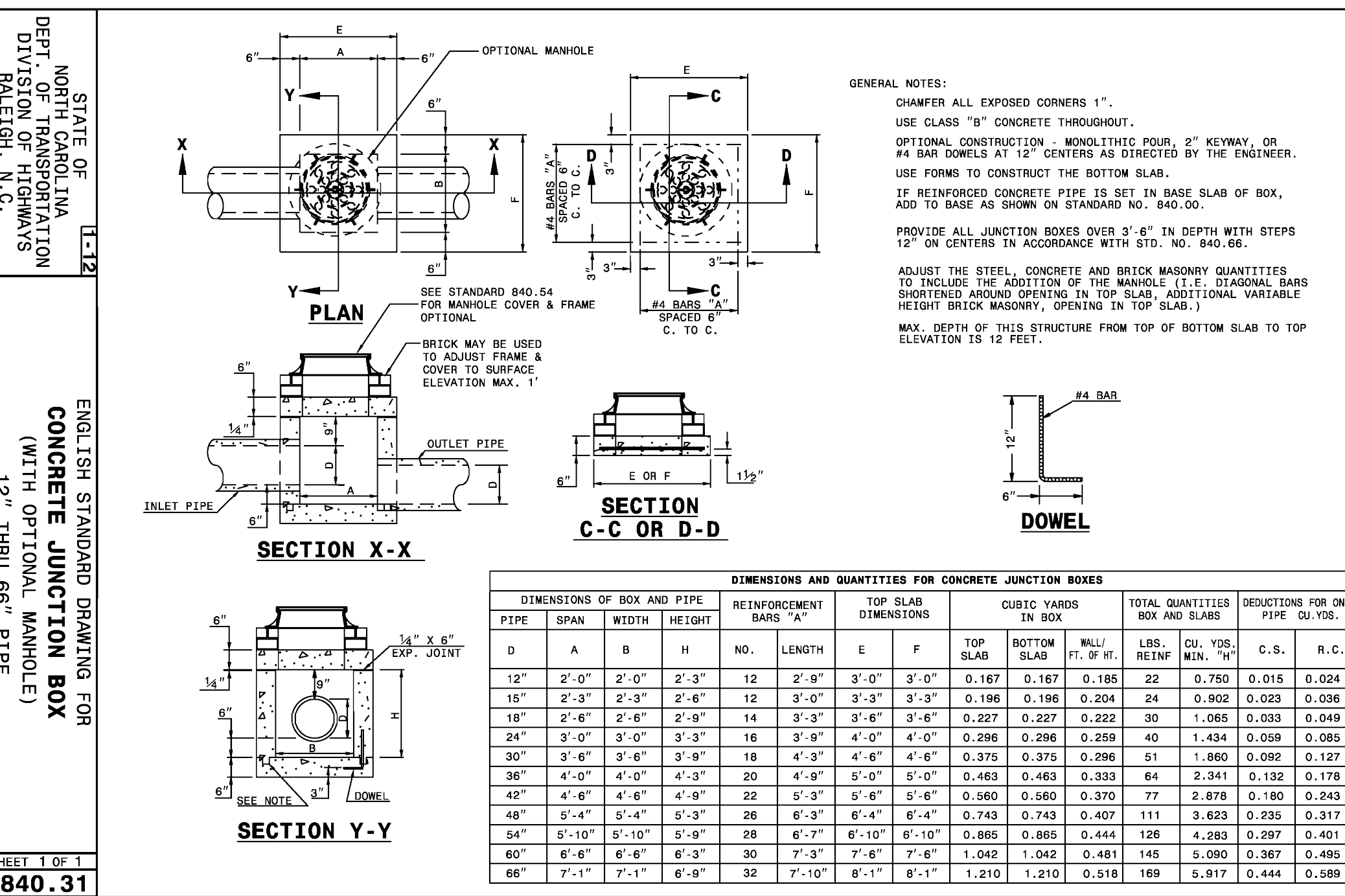
SHEET 1 OF 1
840.16



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

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2
840.03



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

ENGLISH STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

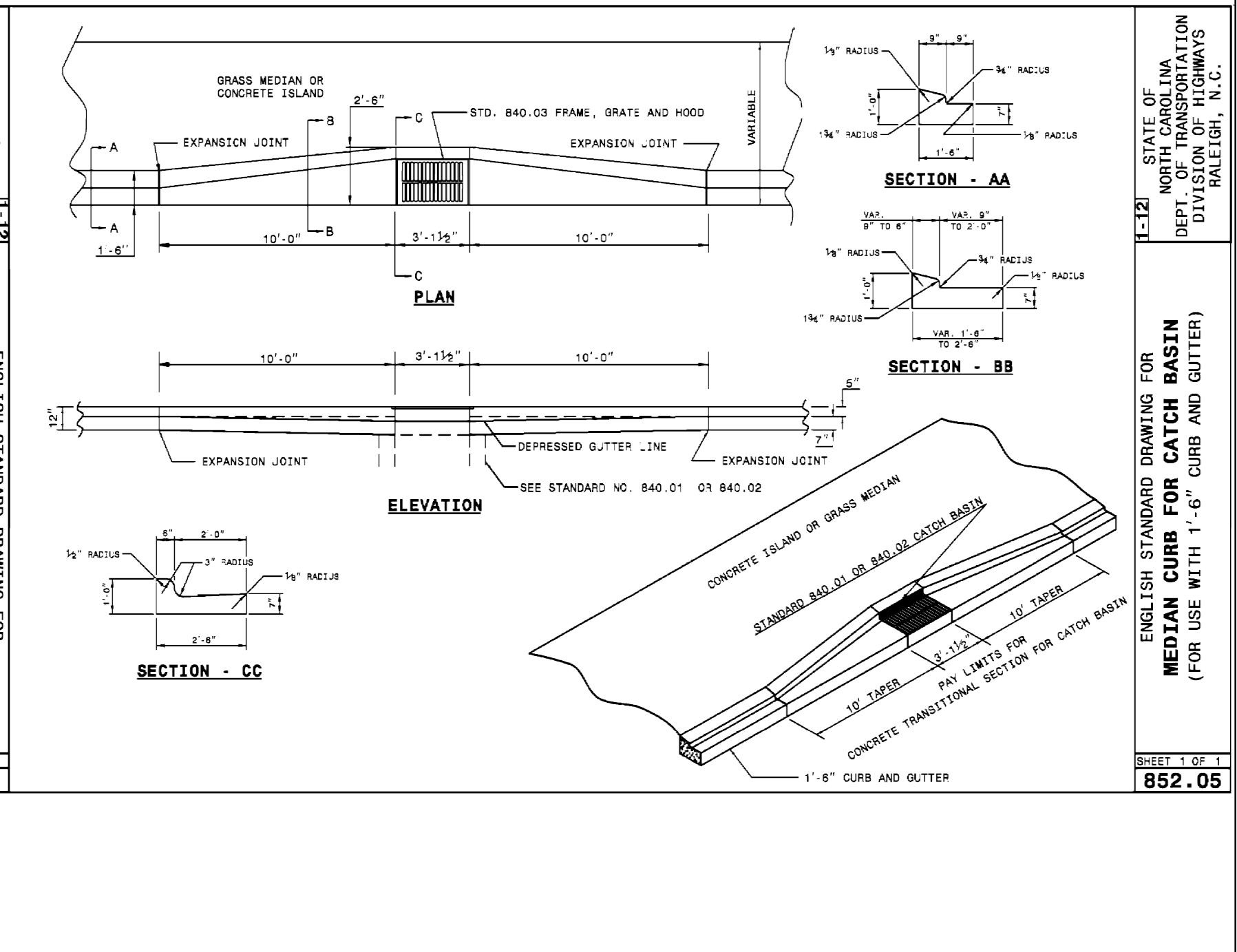
SHEET 1 OF 1
840.31



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

ENGLISH STANDARD DRAWING FOR
MEDIAN CURB FOR CATCH BASIN
(FOR USE WITH 1'-6" CURB AND GUTTER)

SHEET 1 OF 1
852.05



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

ENGLISH STANDARD DRAWING FOR
MEDIAN CURB FOR CATCH BASIN
(FOR USE WITH 1'-6" CURB AND GUTTER)

SHEET 1 OF 1
852.05

No.	Revision	Date	By

Designer: GSP
Scale: 1" = 30'
Drawn By: GSP
Date: February 2021
License #: P-0718
Job No.: 2021-0005

THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina

STANDARD DETAILS

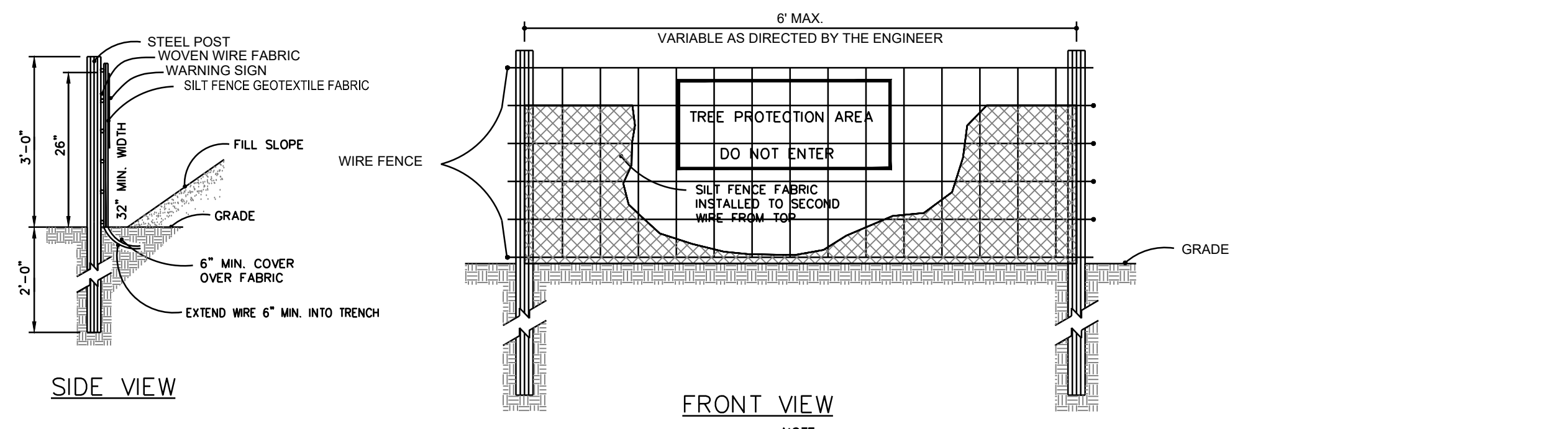
PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

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

Sheet No. **C-8**

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____
APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB
Public Services - engineering division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

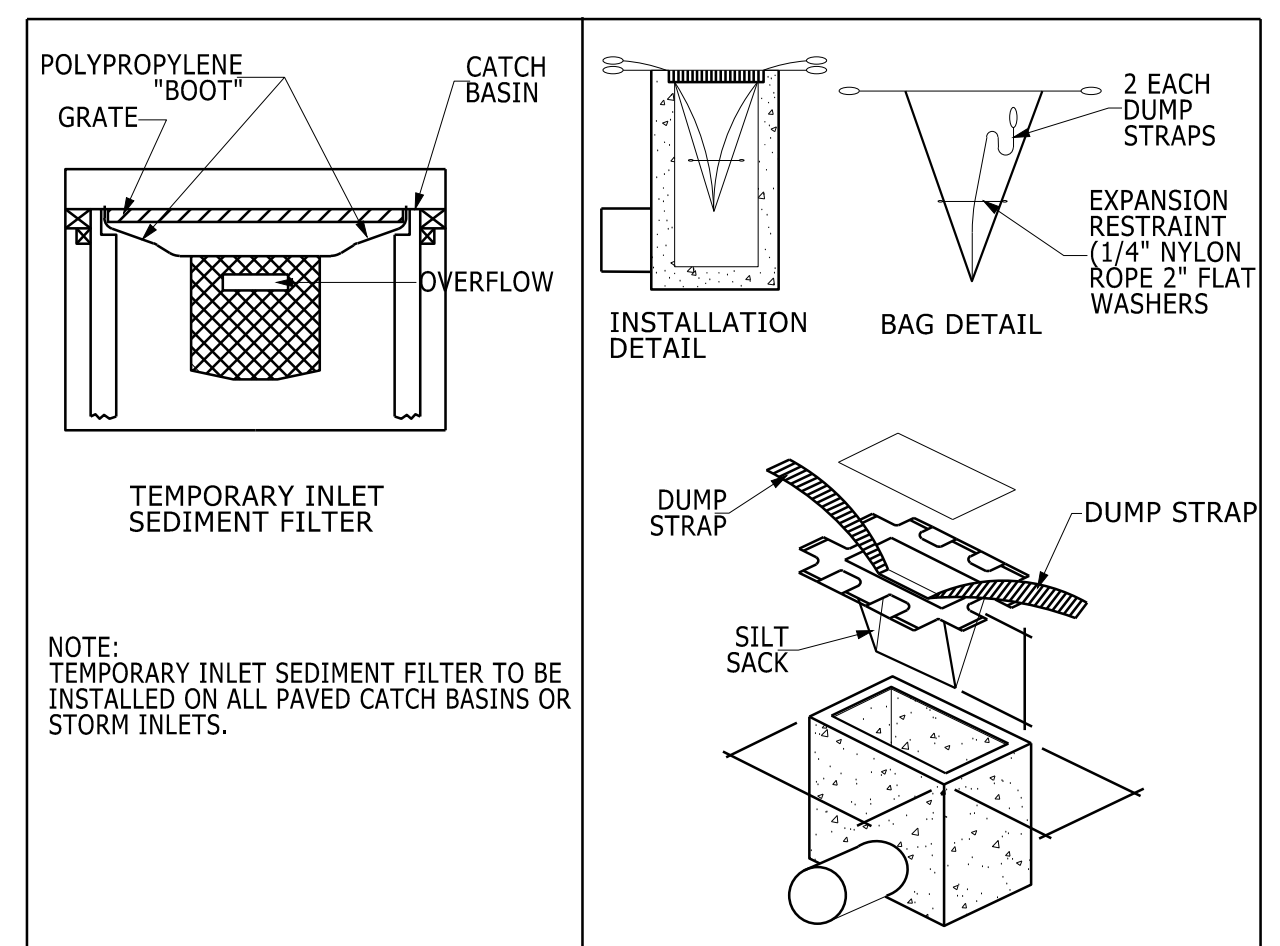
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



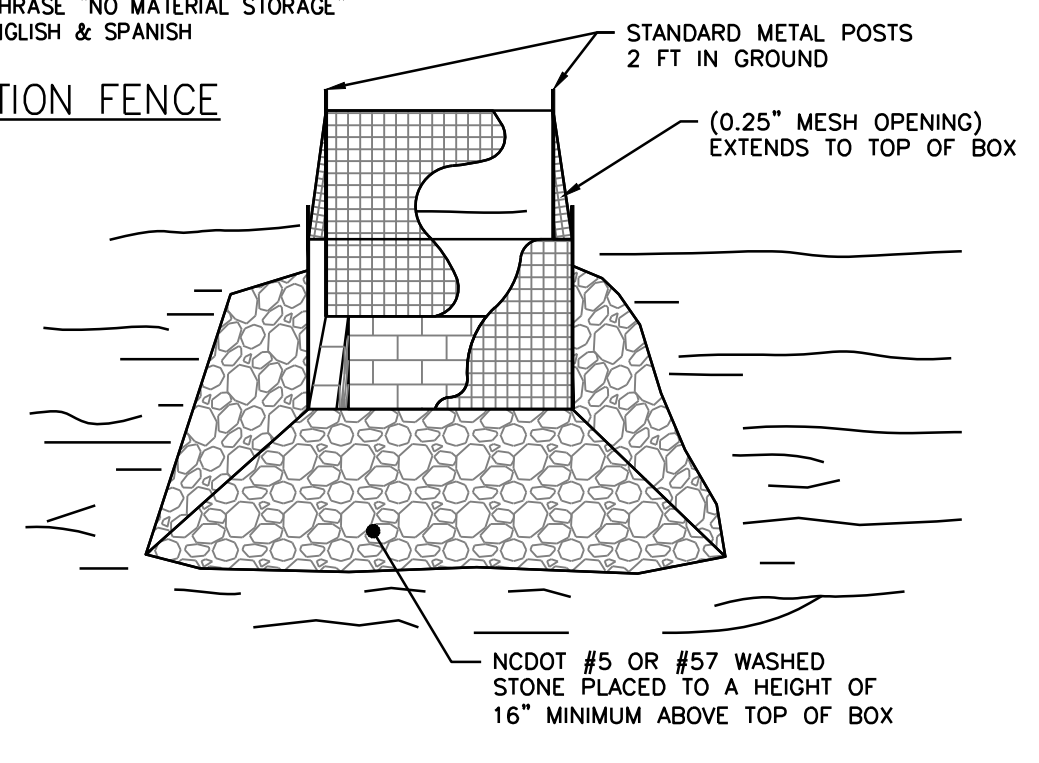
NOTE:
 1. SYNTHETIC FILTER FABRIC SHOULD BE OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER PER ASTM D 6461 AND SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS PER ASTM D 4355.
 2. WIRE FENCE SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
 3. SEE THE NC EROSION AND SEDIMENTATION CONTROL MANUAL FOR OTHER SPECIFICATIONS.

NOTE:
 WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER. PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
 *SIGN TO CONTAIN PHRASE "NO MATERIAL STORAGE"
 ** SIGN TO BE IN ENGLISH & SPANISH

STANDARD TEMPORARY SILT / TREE PROTECTION FENCE
 N.T.S.

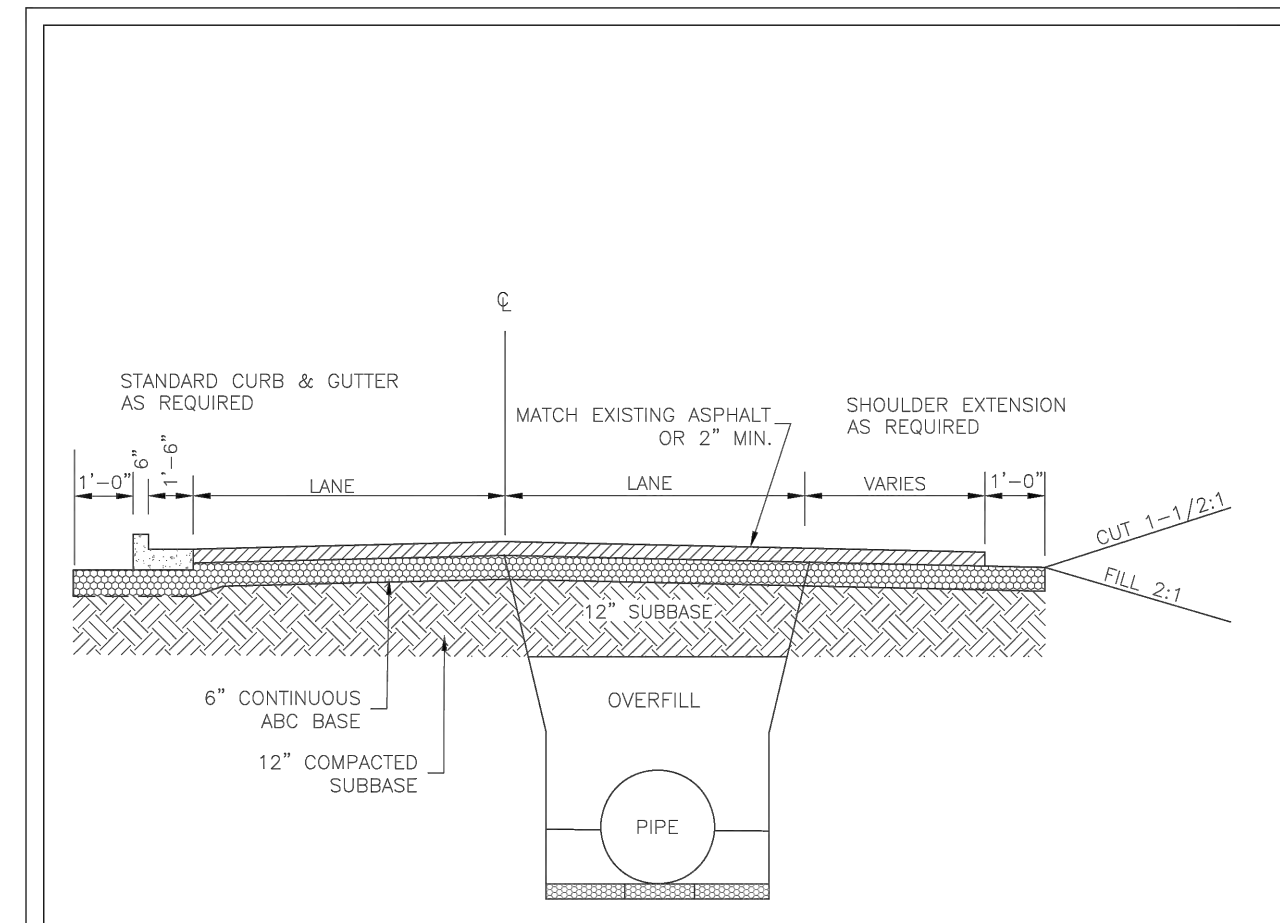


TEMPORARY INLET SEDIMENT FILTER
 NOT TO SCALE



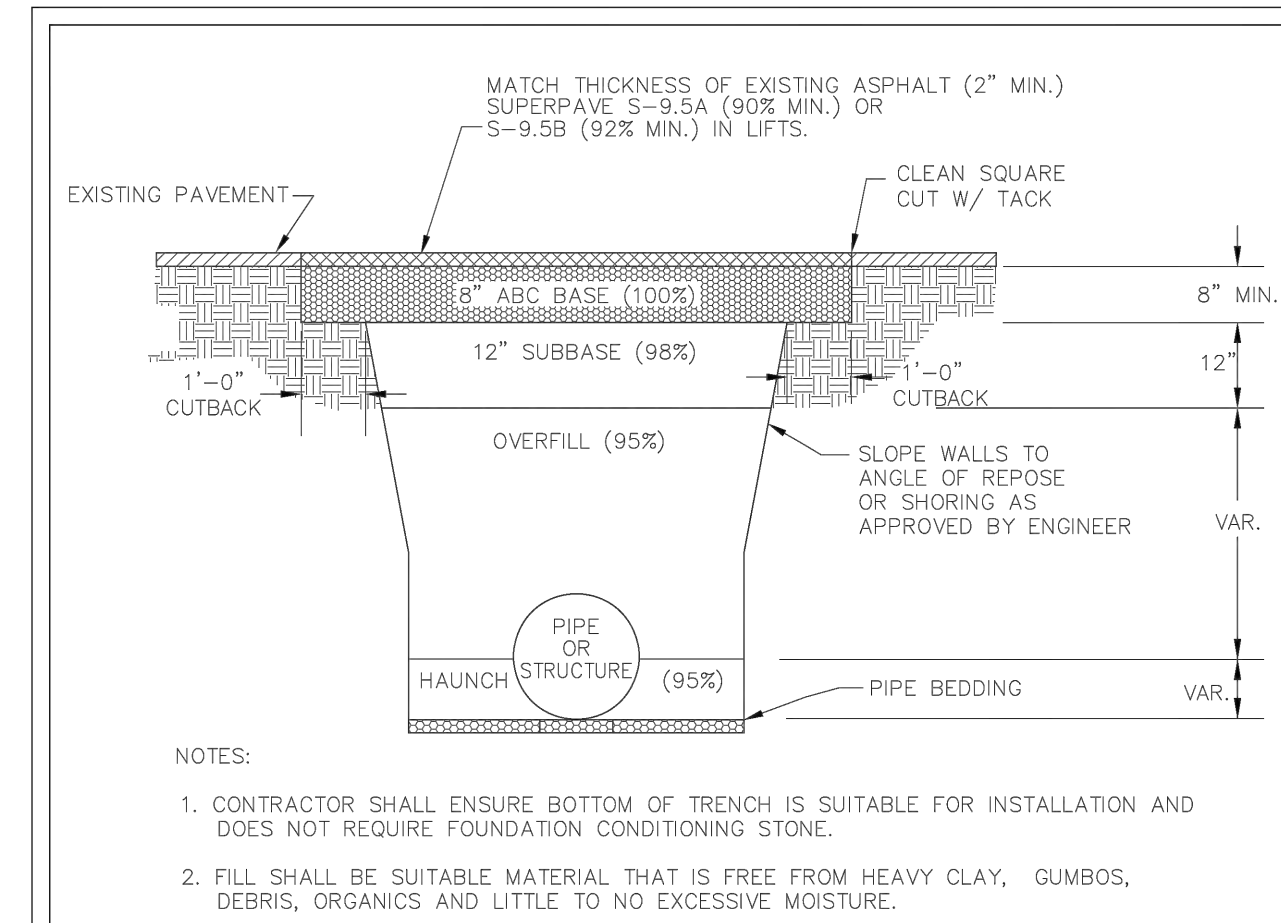
NOTE:
 1. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
 2. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 1-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
 3. PLACE CLEAN GRAVEL (NC DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A MIN HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.

STANDARD INLET PROTECTION
 NOT TO SCALE



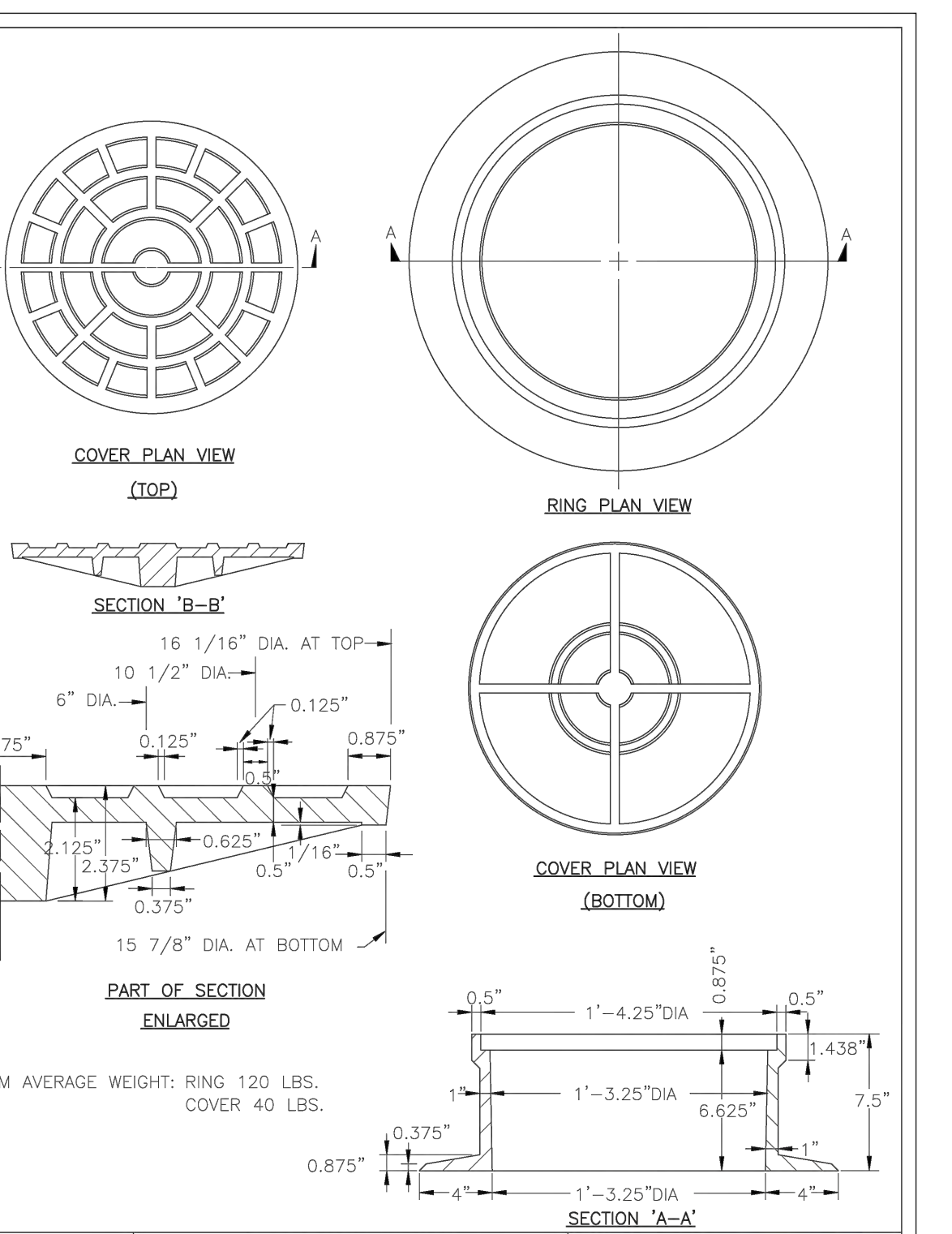
NOTE:
 1. PAVEMENT RESTORATION DESIGN IS DEPENDENT ON CITY STREET CUT POLICY AND PERMITTED CONDITIONS.
 2. PIPE TRENCH AND COMPACTION REQUIREMENTS PER SPECIFICATIONS. SEE SD 1-07 AND SD1-05.

STANDARD DETAIL
TYPICAL ROAD REBUILD
 DATE: MAY, 2013
 DRAWN BY: JSR
 CHECKED BY: B.R., P.E.
 SCALE: NOT TO SCALE
 CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 212 OPERATIONS CENTER DR.
 WILMINGTON, NC 28412
 (910) 341-7807
 SD 1-04

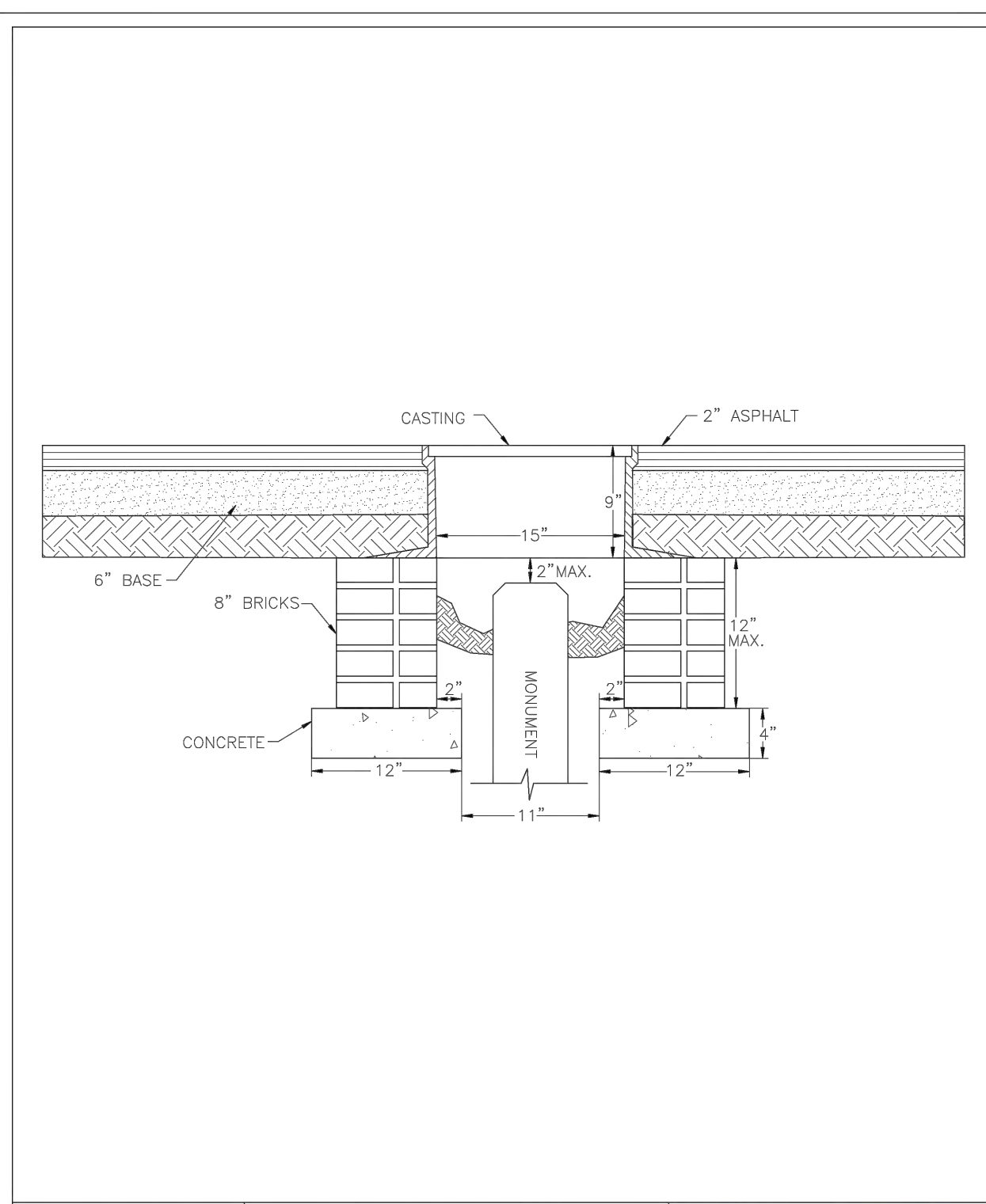


NOTE:
 1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
 2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
 3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
 5. SOIL SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
 6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
 7. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS; AND ASTM D-698-C FOR ABC STONE; AND BY NUCLEAR GAUGES OR CORE SAMPLE FOR ASPHALT.
 8. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

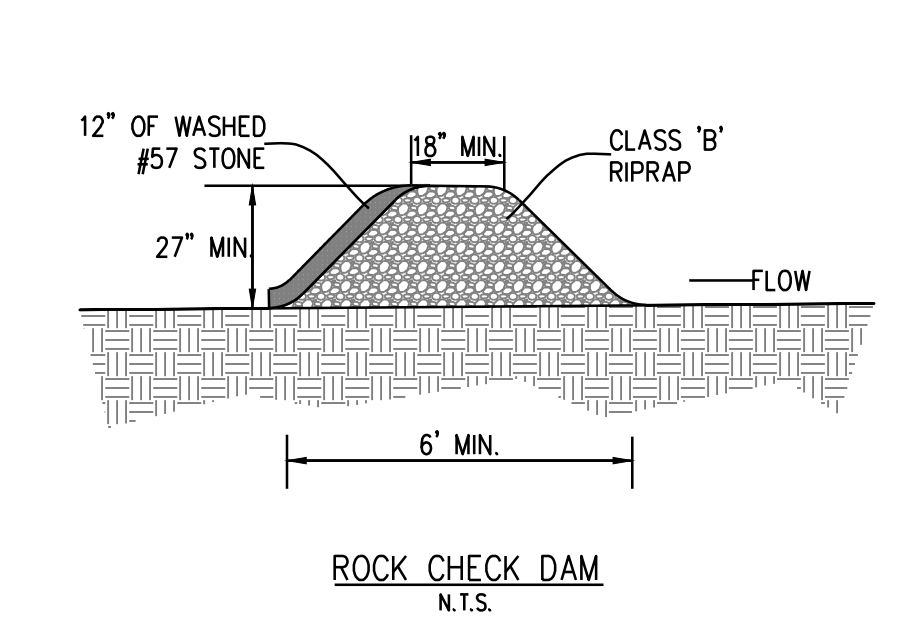
STANDARD DETAIL
PAVEMENT REPAIRS- UTILITY CUTS
 DATE: MAY, 2013
 DRAWN BY: JSR
 CHECKED BY: D.E.C., P.E.
 SCALE: NOT TO SCALE
 CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING OFFICE
 212 OPERATIONS CENTER DRIVE
 WILMINGTON, N.C. 28412
 (910) 341-7807
 SD 1-05



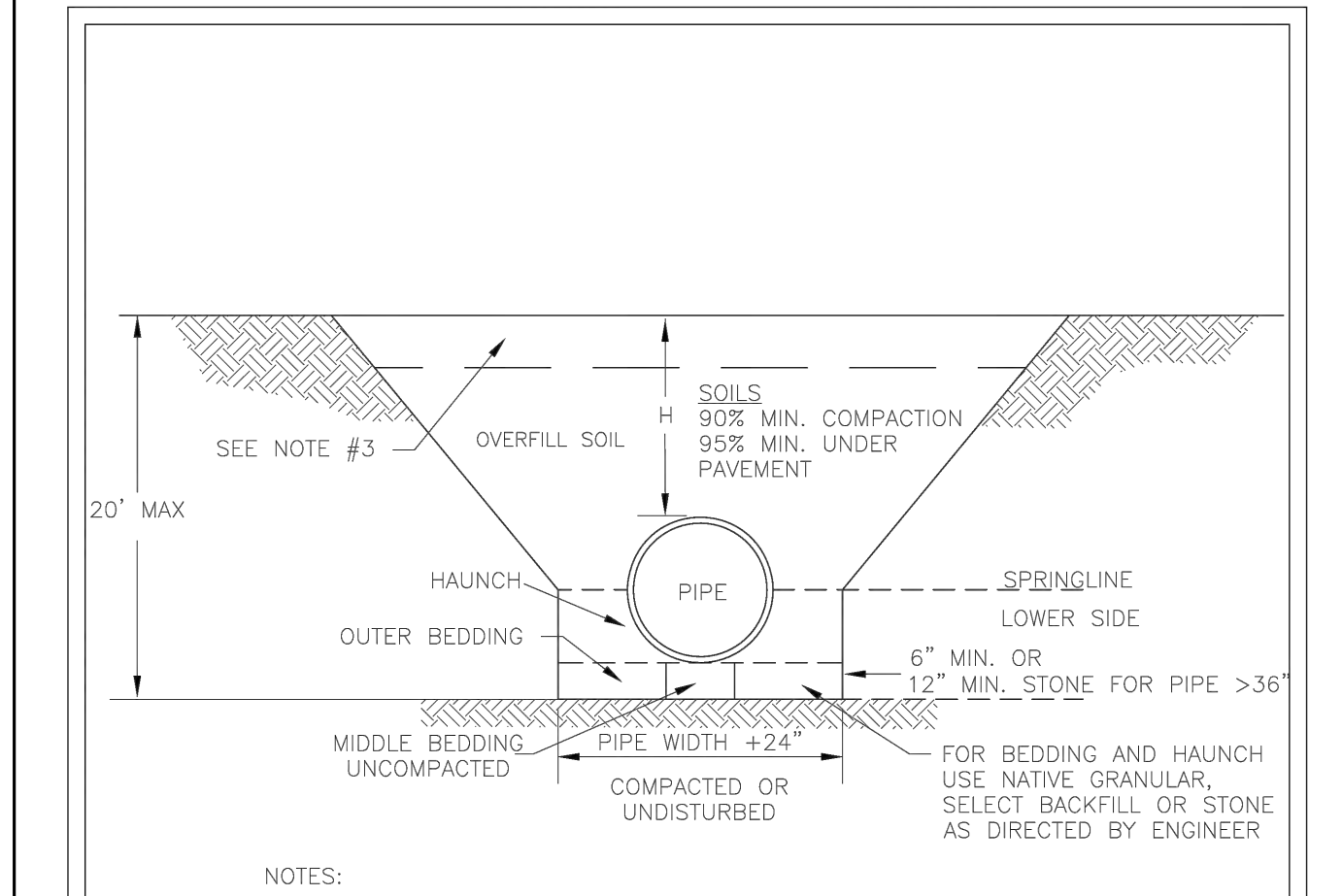
STANDARD DETAIL
MONUMENT CASTING DETAIL
 DATE: 2001
 DRAWN BY: JSR/CMR
 CHECKED BY: B.P., P.E.
 SCALE: NOT TO SCALE
 CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 PO BOX 1810
 WILMINGTON, NC 28402
 (910) 341-7807
 SD 14-05



STANDARD DETAIL
MONUMENT BASE
 DATE: OCTOBER, 2012
 DRAWN BY: JSR/CMR
 CHECKED BY: B.P., P.E.
 SCALE: NOT TO SCALE
 CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 PO BOX 1810
 WILMINGTON, NC 28402
 (910) 341-7807
 SD 15-01

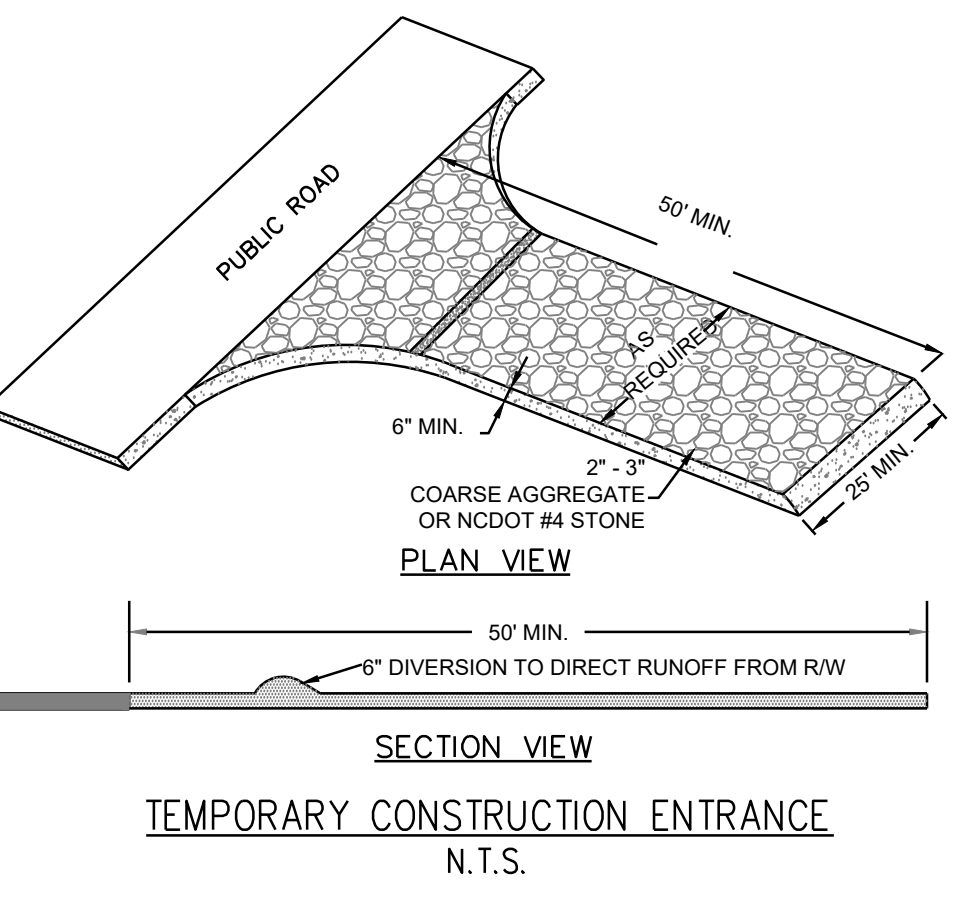


ROCK CHECK DAM
 N.T.S.

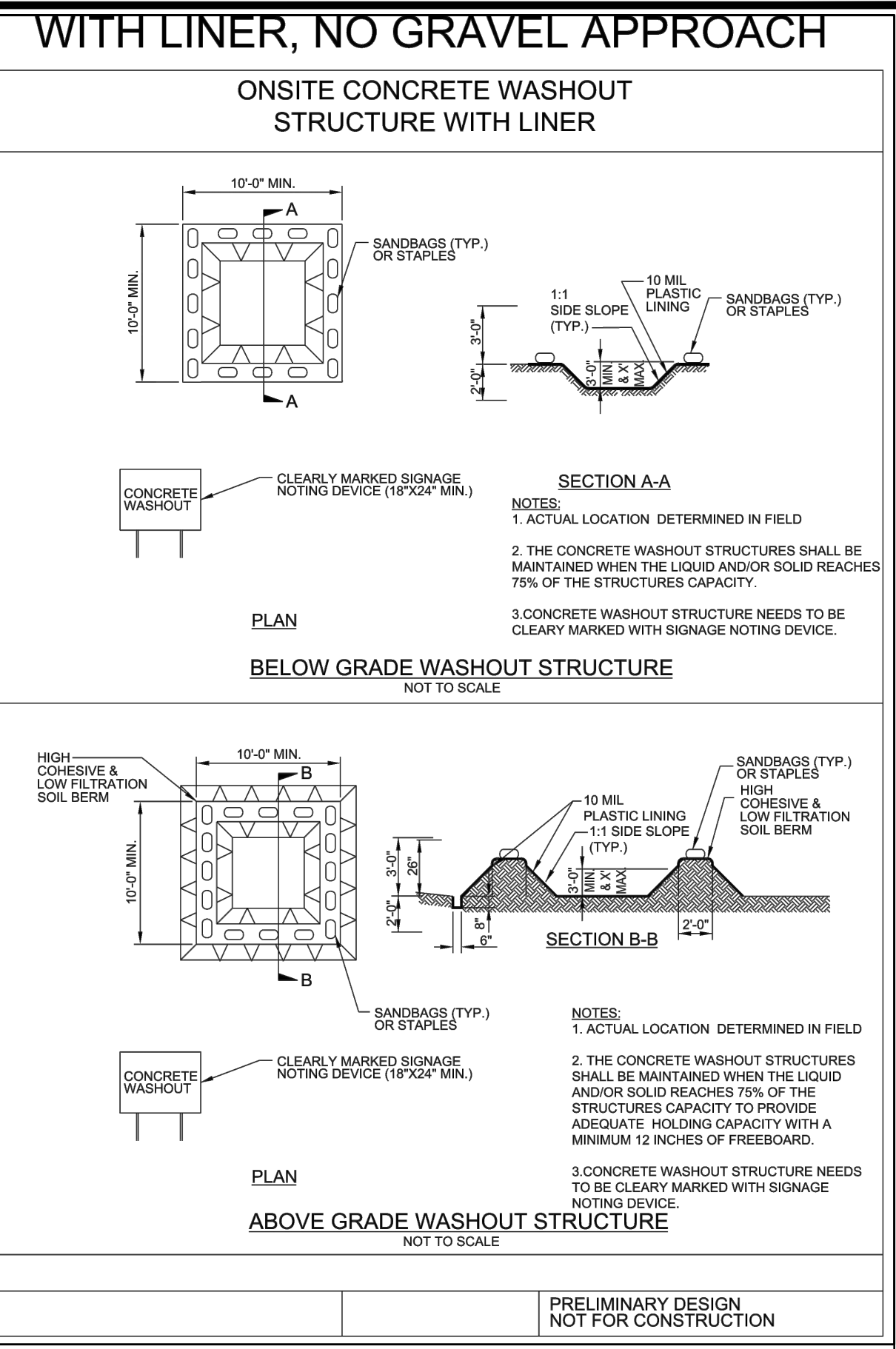


NOTE:
 1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR PIPE INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
 2. CONTRACTOR TO INSTALL BEDDING AND PIPE BEFORE INSTALLING HAUNCH AND THEN OVERFILL. SOILS SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED TO MIN. % DENSITY AS DETERMINED BY THE STANDARD PROCTOR ASTM D-698-A METHOD.
 3. WHERE IN PAVEMENT, CONTRACTOR SHALL ADHERE TO CITY STREET CUT POLICY AND SD 1-04 OR SD 1-05 FOR ROAD AND PAVEMENT REBUILD.
 4. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
 5. THIS DETAIL IS REPRESENTATIVE AND PIPE TRENCH DESIGN IS SUBJECT TO SPECIFIC SOIL CATEGORY (I, II, III), AND INSTALLATION TYPE (1, 2, 3, 4), AS DIRECTED BY THE ENGINEER AND SITE CONDITIONS.

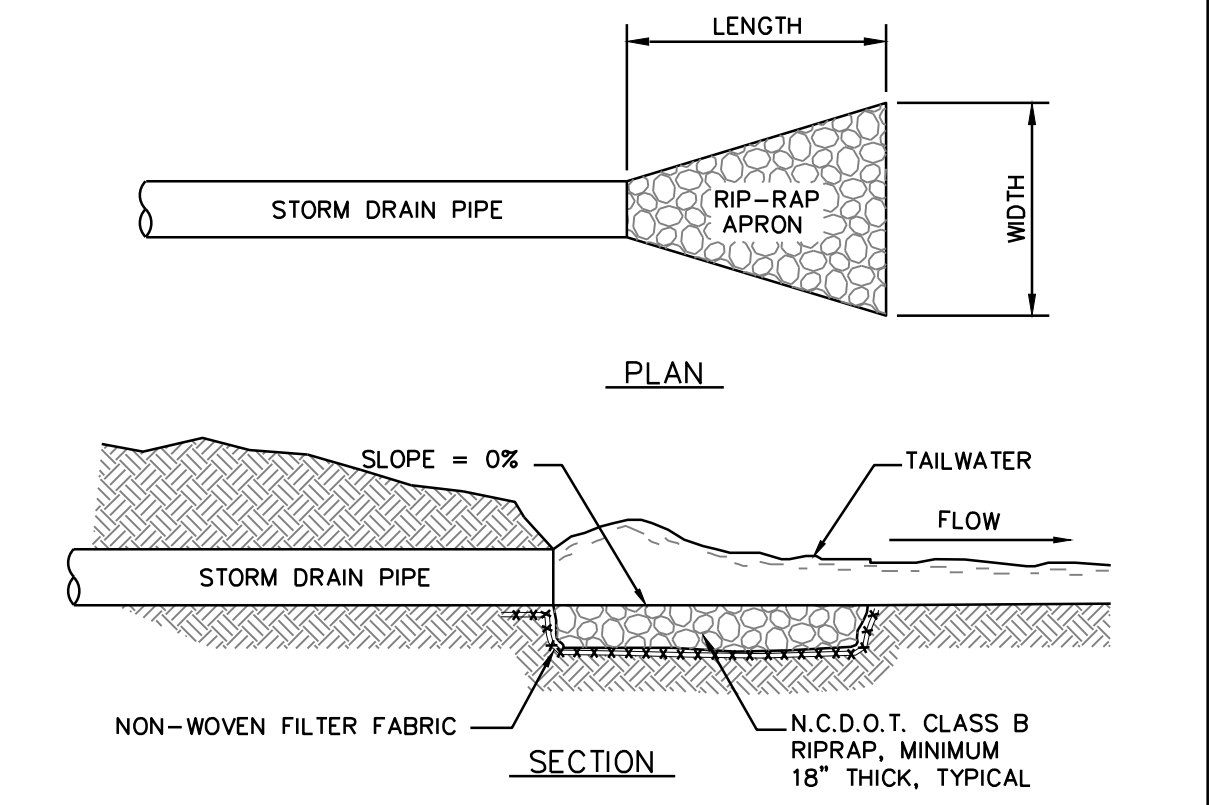
STANDARD DETAIL
PIPE TRENCH TYPICAL
 DATE: MAY, 2013
 DRAWN BY: JSR
 CHECKED BY: BDR, P.E.
 SCALE: NOT TO SCALE
 CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING OFFICE
 212 OPERATIONS CENTER DRIVE
 WILMINGTON, N.C. 28412
 (910) 341-7807
 SD 1-07



TEMPORARY CONSTRUCTION ENTRANCE
 N.T.S.



WITH LINER, NO GRAVEL APPROACH
 ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER
 PLAN
 SECTION A-A
 SECTION B-B
 PRELIMINARY DESIGN NOT FOR CONSTRUCTION



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

RIPPRAP OUTLET PROTECTION
 N.T.S.

Approved Construction Plan

Name: _____ Date: _____

Planning: _____
 Traffic: _____
 Fire: _____

APPROVED CONSTRUCTION PLAN
 Jeff Walton
 8/25/21
 City SW# 2021039
 JW, BM, CW, ES, MB

Public Services - engineering division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____
 Signed: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

No.	Revision	Date	By	Designer	Scale
				GSP	1" = 30'
				GSP	February 2021
				P-0718	2021-0005

THE COTTAGES AT BRADLEY CREEK
 New Hanover County
 North Carolina

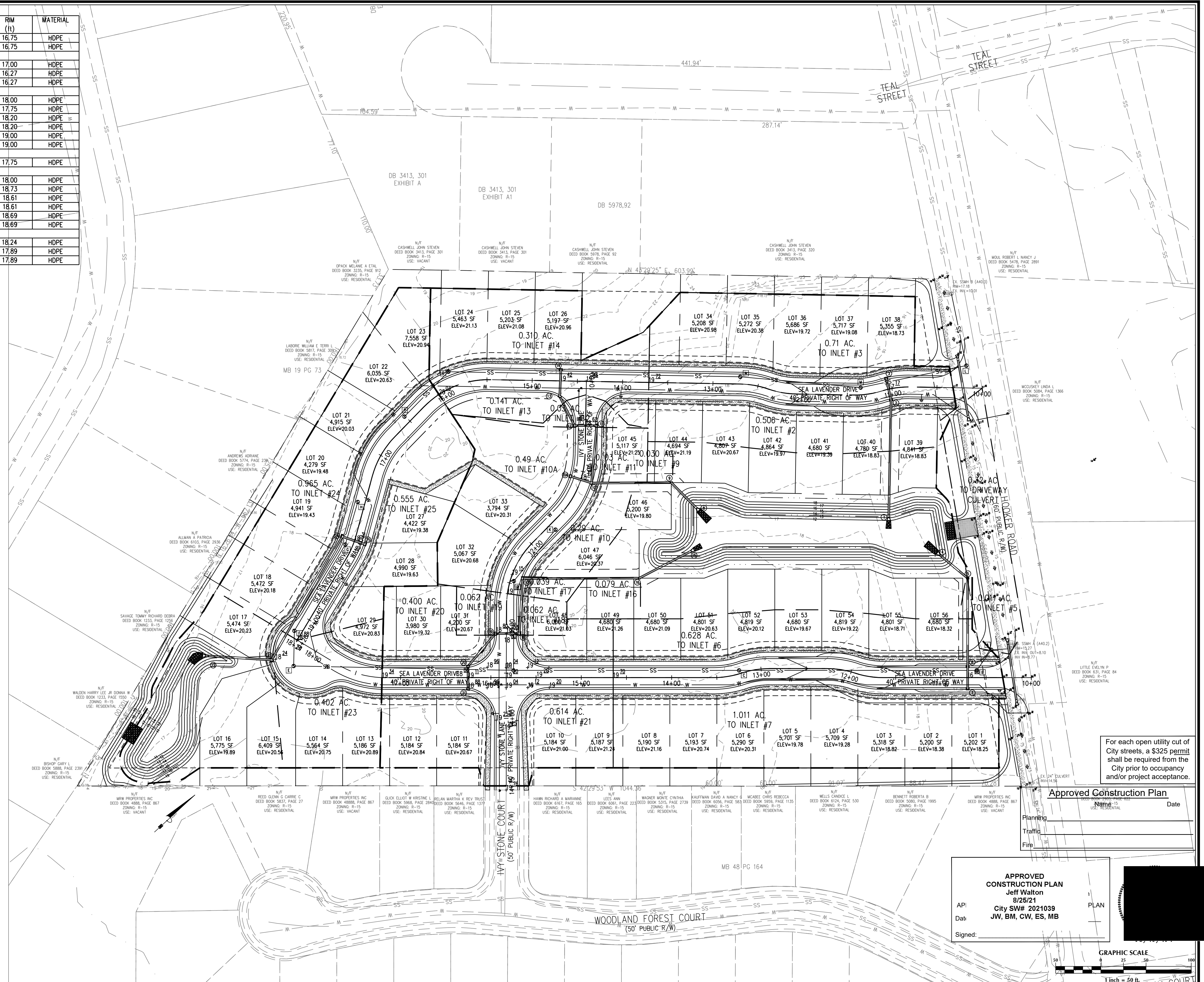
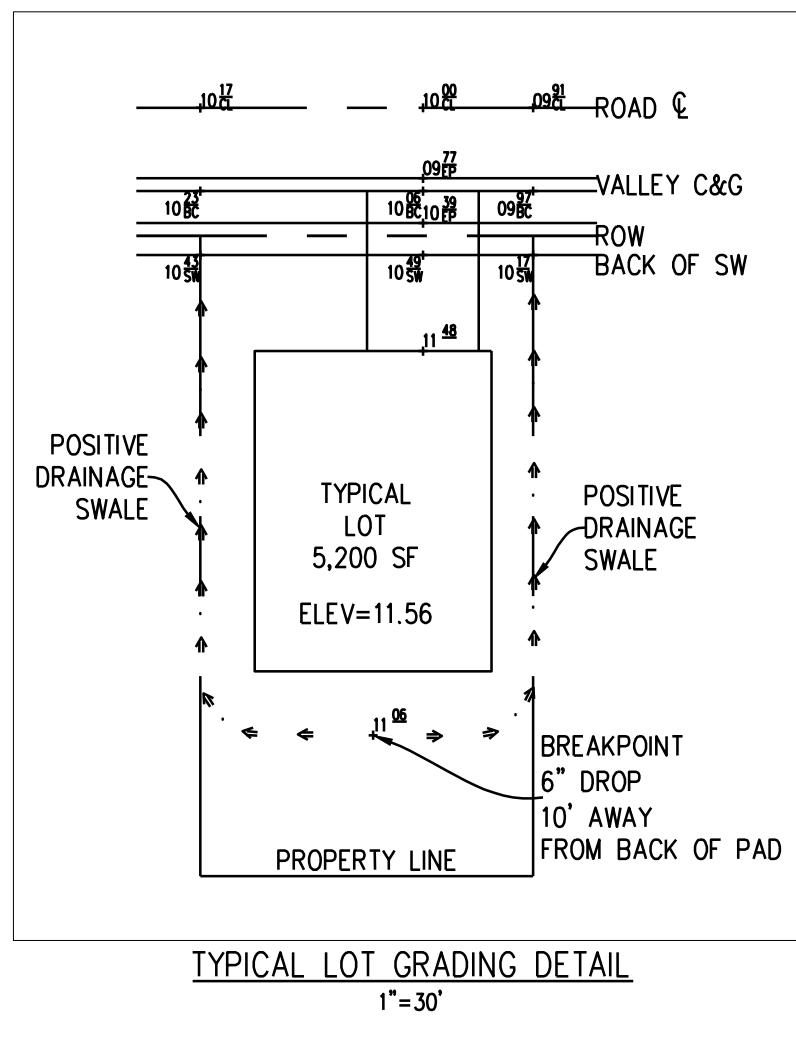
STANDARD DETAILS

PREPARED FOR:
 The Cottages at Bradley Creek, LLC.
 PO Box 64
 Wrightsville Beach, NC 28480

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

Sheet No.
C-9

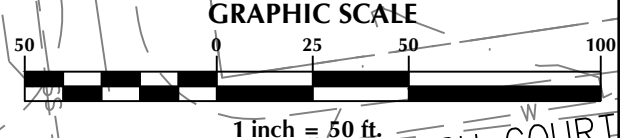
FROM	TO	LENGTH (ft)	DIAMETER (in)	SLOPE (%)	INV. DN (ft)	INV. UP (ft)	RIM (ft)	MATERIAL
2	1	133.2	18	1.00	12.00	13.33	16.75	HDPE
3	2	24.8	15	0.30	13.80	13.87	16.75	HDPE
5	4	43.5	24	0.30	12.00	12.13	17.00	HDPE
6	5	97.7	24	0.30	12.13	12.42	16.27	HDPE
7	6	24.7	18	0.30	12.42	12.50	16.27	HDPE
9	8	43.5	24	0.30	12.00	12.13	18.00	HDPE
10	9	88.2	24	0.30	12.13	12.40	17.75	HDPE
11	10	63.6	15	0.30	12.40	12.59	18.20	HDPE
12	11	24.7	15	0.30	12.59	12.66	18.20	HDPE
13	12	41.9	15	0.30	12.66	12.79	19.00	HDPE
14	13	26.7	15	0.30	12.79	15.37	19.00	HDPE
10A	10	24.8	15	0.30	12.40	12.47	17.75	HDPE
16	15	68.3	18	0.30	12.00	12.20	18.00	HDPE
17	16	128.9	18	0.30	12.20	12.59	18.73	HDPE
18	17	60.9	18	0.30	12.59	12.77	18.61	HDPE
19	18	26.7	18	0.30	13.97	14.05	18.61	HDPE
20	19	46.9	18	0.30	14.05	14.20	18.69	HDPE
21	20	25.2	15	0.30	14.20	14.27	18.69	HDPE
23	22	76.3	24	0.30	11.00	11.23	18.24	HDPE
24	23	157.3	18	1.00	11.23	12.80	17.89	HDPE
25	24	26.7	15	0.30	14.89	14.97	17.89	HDPE



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan
Name: _____ Date: _____

APPROVED CONSTRUCTION PLAN
Jeff Walton
8/25/21
City SW# 2021039
JW, BM, CW, ES, MB
Signed: _____



No.	Revision	Date	By	Designer	Scale
				GSP	1" = 50'
				GSP	February 2021
				P-0718	2021-0005

THE COTTAGES AT BRADLEY CREEK
New Hanover County
North Carolina

DRAINAGE PLAN

PREPARED FOR:
The Cottages at Bradley Creek, LLC.
PO Box 64
Wrightsville Beach, NC 28480

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

Sheet No.
DP-1

TREES TO BE REMOVED

5" Dogwood	2	12" Maple	1
6" Dogwood	1	18" Maple	1
7" Dogwood	4	24" Maple	1
18" Gum	1	10" Pine	1
20" Gum	1	12" Pine	2
12" Hickory	1	15" Pine	8
18" Hickory	1	16" Pine	2
20" Hickory	1	18" Pine	10
24" Hickory	1	20" Pine	14
10" Oak	1	23" Pine	2
12" Oak	1	24" Pine	19
15" Oak	1	26" Pine	4
18" Oak	1	28" Pine	2
20" Oak	2	30" Pine	7
24" Oak	1	35" Pine	1
8" Palm	1		

TREES TO BE PRESERVED

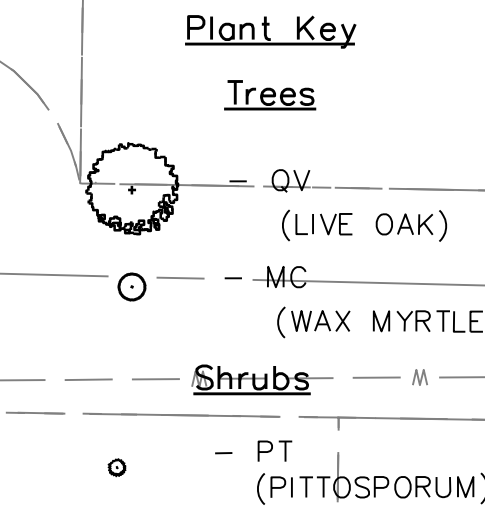
8" Gum	1	5" Dogwood	1
12" Gum	1	7" Dogwood	1
15" Gum	1	8" Pine	1
18" Gum	1	10" Pine	1
8" Oak	2	12" Pine	2
10" Oak	2	15" Pine	4
12" Oak	7	16" Pine	1
15" Oak	2	18" Pine	4
18" Oak	4	20" Pine	2
20" Oak	3	24" Pine	4
24" Oak	1	26" Pine	2
28" Oak	2	28" Pine	1
30" Oak	3	30" Pine	5
36" Oak	1	31" Pine	1
38" Oak	1	23" Poplar	1
40" Oak	3	24" Maple	2
46" Oak	1	18" Sycamore	1
77" Oak	1		

TREE LEGEND / INVENTORY

- DOGWOOD
- GUM
- OAK
- CREPE MYRTLE
- SYCAMORE
- PINE
- BIRCH
- ELM
- MAGNOLIA
- MAPLE
- POPLAR
- HICKORY

PLANT LIST - OR EQUIVALENTS

KEY	NO.	BOTANICAL NAME	COMMON NAME	MIN. SIZE	PLANTING REMARKS
OV	53	QUERCUS VIRGINIANA	LIVE OAK	2" CAL.	SPACING AS SHOWN
MC	10	MYRICA CERIFERA	WAX MYRTLE	2" CAL.	SPACING AS SHOWN
PT	60	PITTIOSPORUM TOBIRA	WHEELERS DWARF PITTIOSPORUM	3 GAL.	SPACING AS SHOWN



MITIGATION CALCULATIONS

TREE TO BE REMOVED	# OF TREES	DIAMETER (in)	% MITIGATION	# OF TREES REQUIRED
OAK	1	24	100	16
PINE	4	26	50	35
PINE	2	28	50	19
PINE	7	30	50	70
PINE	1	35	50	12
MAPLE	1	24	25	4
HICKORY	1	24	75	12
SUB-TOTAL				168

TREE CREDITS

TREE	#	CREDIT
8" PINE	1	2
10" PINE	1	3
ADDITIONAL 2"-5" TREES	151	151
ADDITIONAL 6"-7" TREES	13	26
TOTAL CREDIT	182	
REQUIRED TREES		168

LANDSCAPE CALCULATIONS:

STREET TREES - 4,033 L.F. TOTAL PLAZA LENGTH	REQUIRED	PROVIDED
AREAS W/NO LOTS (TREE SAVE AREAS) - 46' SIGHT TRIANGLES - OAK-36" CAL.	51	53

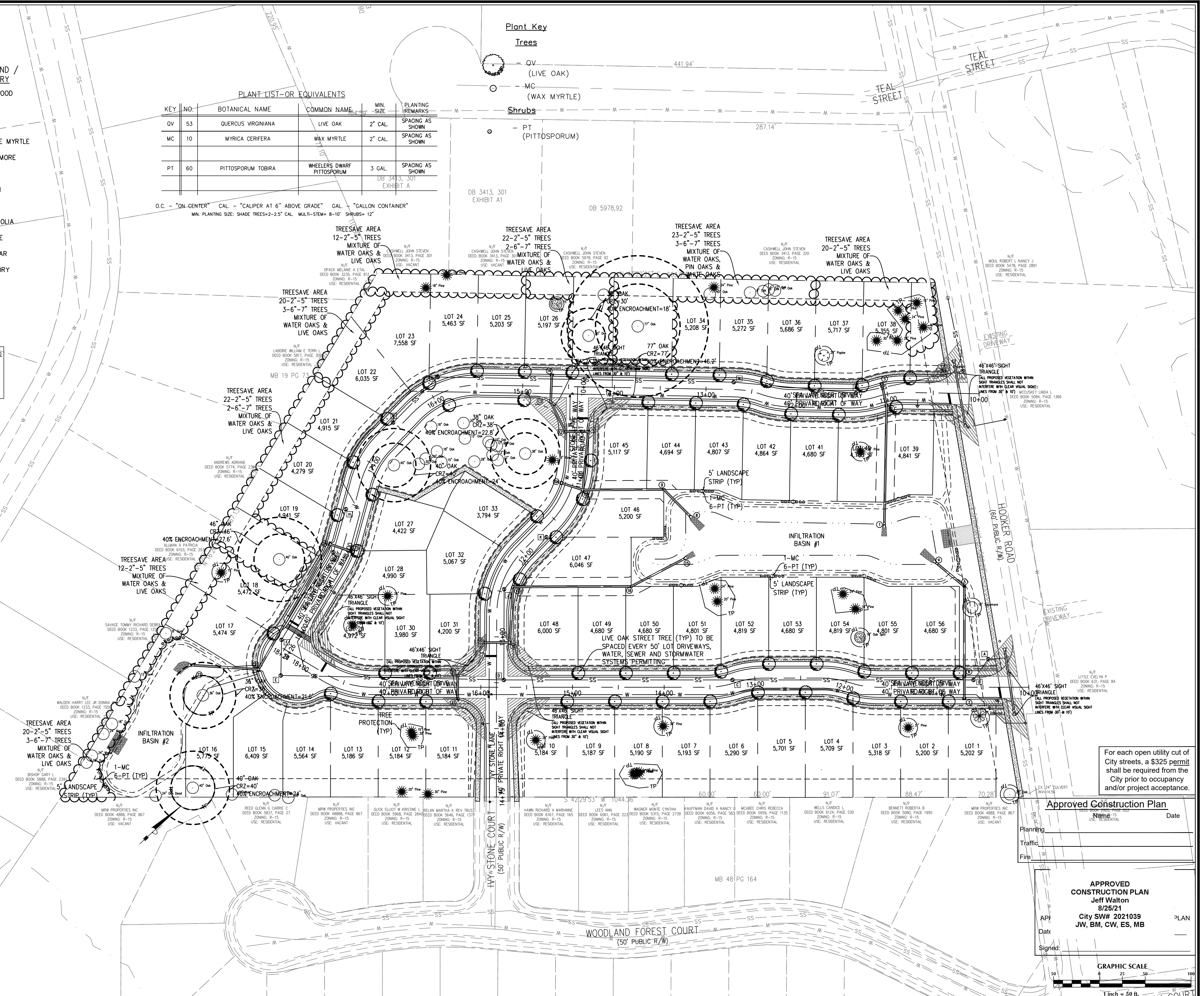
4,033 L.F. - 592 L.F. - 736 L.F. - 160 L.F. = 2,545 L.F.
LIVE OAK - SPACED @ 1 TREE / 50 L.F.

LANDSCAPE NOTES:

- EXISTING REGULATED & SIGNIFICANT TREES HAVE BEEN LOCATED BY FIELD SURVEY.
- KEY LETTERS REFER TO PLANT LIST.
- ALL PLANTS SHALL MEET OR EXCEED THE MINIMUM STANDARDS SET FORTH IN "THE AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERMEN.
- ALL PLANTING BEDS SHALL RECEIVE A MIN. OF 4" MULCH.
- ALL AREAS DISTURBED AND NOT SPECIFIED AS PLANTING BEDS WILL BE GRASSED.
- SOLID WASTE WILL BE BY CURBSIDE PICKUP.
- ALL MECHANICAL EQUIPMENT, INCLUDING ANY ROOFTOP EQUIPMENT, SHALL BE SCREENED.
- CONTRACTOR SHALL USE WHATEVER METHOD OF TREE STAKING HE DEEMS FIT. HOWEVER, HE WILL BE HELD LIABLE FOR ANY DAMAGES CAUSED TO TREES BY IMPROPER STAKING METHODS (OR ABSENCE OF STAKING) AND IS RESPONSIBLE FOR UPRIGHT AND REPLANTING TREES WHICH ARE BLOWN OVER.
- CONTRACTOR SHALL WARRANT ALL TREES AND SHRUBS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK OF THE LANDSCAPE PLAN.
- IF DISCREPANCIES OR AVAILABILITIES ARE FOUND IN THE PLANT SPECIES AND/OR MIN. SIZES REQ'D., CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT. SUBSTITUTIONS MAY BE MADE WITH AUTHORIZATION AS LONG AS THE PLANTS FOLLOW THE INTENDED FORM AND FUNCTION.
- THE USE OF FABRIC DURING INSTALLATION OF PLANTINGS IS RECOMMENDED FOR WEED CONTROL. CONTRACTOR SHALL MAKE EFFORTS TO INCLUDE AND DISCLOSE TO OWNER UPON INSTALLATION OF PLANTINGS IF LANDSCAPE FABRIC OR OTHER ALTERNATIVE IS TO BE USED.
- CONTRACTOR WILL NOT USE PLASTIC AS COMPARED TO LANDSCAPE FABRIC DURING PLANT INSTALLATION FOR WEED CONTROL.
- IRRIGATION OF LANDSCAPED AREAS IS RECOMMENDED BUT NOT REQUIRED. OWNER SHALL CONTACT DESIGNER OR IRRIGATION SPECIALIST FOR INPUT.
- ANY OVERHANGING LIVE OAKS SHALL BE PRUNED BY A CERTIFIED ARBORIST, AS ADVISED BY THE URBAN FORESTER.

CITY REQUIREMENTS:

- THE OWNER IS RESPONSIBLE FOR MAINTAINING ALL REQUIRED PLANT MATERIAL AND PLANTING AREAS IN GOOD HEALTH AND APPEARANCE. ANY DEAD, UNHEALTHY OR MISSING PLANTS MUST BE REPLACED WITHIN 180 DAYS WITH VEGETATION WHICH CONFORMS TO THE INITIAL PLANTING RATES AND STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR MAKING SURE ALL SIGNIFICANT TREES WILL BE PROTECTED DURING CONSTRUCTION BY UTILIZING TREE PROTECTION FENCING, AT ALL TIMES.
- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS MATERIALS, OR VEHICLES, ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- NO DISTURBANCE IS PERMITTED ON SITE UNTIL A TREE PERMIT IS ISSUED IN CONJUNCTION WITH ANY COUNTY, CITY, STATE AND FEDERAL PERMITS.
- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS.
- PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND ALL LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS.
- NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED.
- ALL PLANTINGS TO BE XERIC LANDSCAPING AS THEY ARE NATIVE PLANTS NEEDING MINIMUM IRRIGATION.



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name: Jeff Walton Date: _____

Planning _____

Traffic _____

Fire _____

APPROVED CONSTRUCTION PLAN
 Jeff Walton
 8/25/21
 City SW# 2021039
 JW, BM, CW, ES, MB
 PLAN

Scale: 1" = 30 ft.