

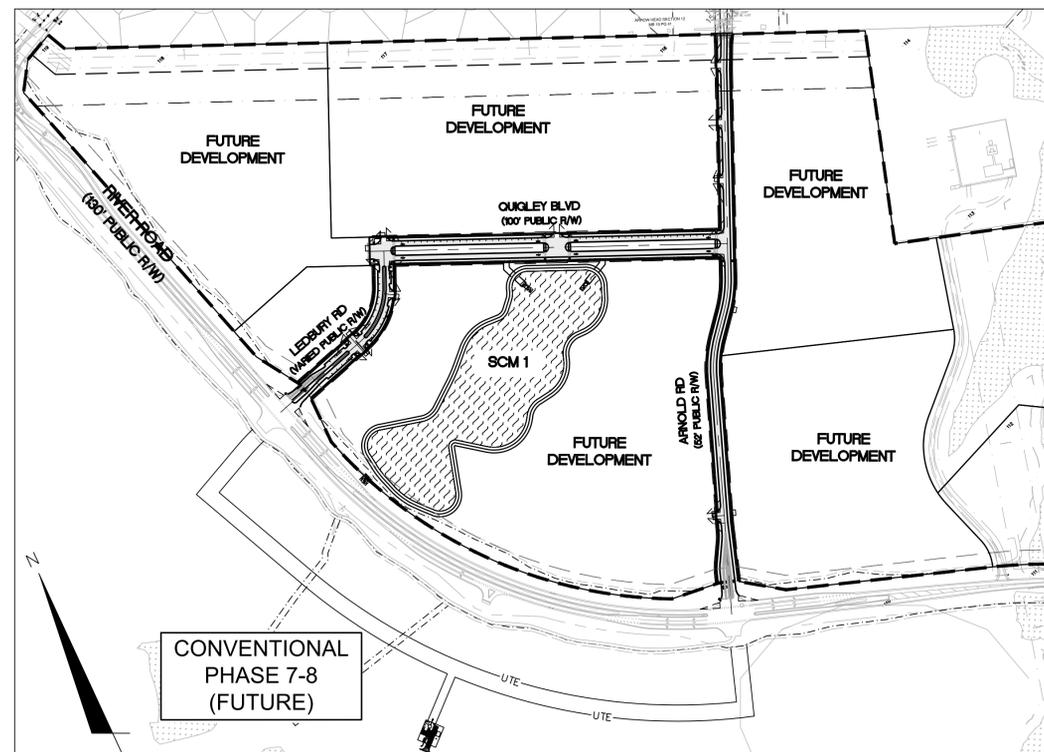
VICINITY MAP
NOT TO SCALE

RIVERLIGHTS MIXED-USE PHASE 3- ROAD IMPROVEMENTS CITY OF WILMINGTON, NC

FEBRUARY 9TH, 2021

TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION



VICINITY MAP
1"=300'

COUNTY AND AGENCY CONTACTS

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Know what's below.
Call before you dig.

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PROJECT DATA

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NAME OF PROJECT:
RIVERLIGHTS - MIXED-USE PHASE 3
MASONBORO TOWNSHIP, WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

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RIVERLIGHTS®



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| 3 | G-003 | GENERAL NOTES |
| 4 | CX-100 | EXISTING CONDITIONS |
| 5 | CX-101 | ADJACENT OWNERS |
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| 7 | CE-101 | PHASE 1 SEDIMENT AND EROSION CONTROL PLAN |
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CONSTRUCTION NOTES

- CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
- CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING THE LOCATION OF EXISTING UTILITIES FROM THE APPROPRIATE PARTIES PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
- THESE DRAWINGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITIES FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION, AND SUCH INFORMATION IS BEING SHOWN ONLY FOR THE CONVENIENCE OF THE CONTRACTOR WHO MUST VERIFY THE INFORMATION TO HIS OWN SATISFACTION DURING THE BIDDING AND CONSTRUCTION PHASES. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE CONTRACT DRAWINGS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES, WHETHER ABOVE OR BELOW GRADE.
- SHOULD ANY DAMAGE OCCUR TO EXISTING UTILITIES, IT SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL VERIFY EXISTING INVERTS PRIOR TO CONSTRUCTION OF UNDERGROUND UTILITIES. TEST PITTING OF EXISTING LINES PRIOR TO CONSTRUCTION, IF NECESSARY, SHALL BE COORDINATED WITH THE OWNER.
- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, PROJECT SPECIFICATIONS, AND LOCAL BUILDING CODES.
- ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND STABILIZED WITH TOPSOIL, SEED, AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING, AND MULCH SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES. (SEE EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS.)
- WATER MAINS WILL BE INSTALLED AT A DEPTH THAT WILL PROTECT 36" COVER OVER THE PIPES BELOW PROPOSED GRADE UNLESS SHOWN OTHERWISE ON THESE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER.
- ALL WATER VALVES, BOXES, AND FIRE HYDRANT ASSEMBLES SHALL BE SET AND ADJUSTED TO FINISHED GRADE.
- THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, BOTH TEMPORARY AND PERMANENT.
- THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO STAKING OUT CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
- FIRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF 6 FEET FROM BACK OF CURB AND SHALL HAVE A CLEAR SPACE OF 3 FEET FROM ANY PERMANENT STRUCTURE PER CFPUA STANDARDS.
- ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1016 AND 1018 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES. SEE SECTION FOR PLACEMENT AND COMPACTION INFORMATION.
- THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPES(S).
- EXISTING PAVING, CONCRETE, AND OTHER UNSUITABLE MATERIALS INCLUDING UNDERCUT EXCAVATION SHALL NOT BE USED AS FILL MATERIAL AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.
- ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED REGARDLESS OF DEPTH. BURIAL OF ORGANIC MATERIAL WITHIN THE PROJECT LIMITS IS NOT PERMITTED. OPEN BURNING OF DOWNED TREES AND STUMPS IS NOT PERMITTED. CHIPPED MATERIALS MUST BE REMOVED PRIOR TO THE PLACEMENT OF EMBANKMENT OR TOPSOIL.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO OBTAIN OFF-SITE SPOIL AREAS FOR DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY. OFF-SITE SPOIL AREAS MUST BE SUBMITTED TO THE ENGINEER AND APPLICABLE REGULATORY AGENCIES PRIOR TO UTILIZATION BY THE CONTRACTOR. NO AREAS DESIGNATED AS WETLANDS WILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER THAT NO WETLANDS WILL BE IMPACTED. THE ENGINEER WILL NOT CONSIDER ANY DELAYS OR MONETARY CLAIMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OR DIFFICULTY IN FINDING NECESSARY DISPOSAL SITES TO MEET THE TIME FRAMES AND CAPACITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANS, PERMITS, EROSION AND SEDIMENT CONTROL MEASURES, ETC. REQUIRED BY THE APPROPRIATE REGULATORY AGENCIES FOR UTILIZING OFF-SITE SPOIL AREAS. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO UTILIZING THE OFF-SITE SPOIL AREAS. ALL COSTS FOR PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE BASE BID.

DEMOLITION NOTES

- THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTACT NC ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED.
- EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH THE OWNER UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE DURING DEMOLITION.
- THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS AND SLOPES ON AND OFF SITE IN ACCORDANCE WITH THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHO IS RESPONSIBLE FOR PROVIDING THE PERMANENT STABILIZATION MEASURES AND THE TYPE OF PERMANENT MEASURES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. THE PERMANENT STABILIZATION MEASURES SHALL BE IN PLACE AND ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO PROJECT CLOSEOUT. COORDINATE INSPECTION WITH THE OWNER AND ENGINEER PRIOR TO PROJECT CLOSEOUT.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND CONTACTING THE ENGINEER FOR THE REQUIRED INSPECTIONS ON THE PROJECT.
- WETLANDS DO NOT EXIST ON SITE. WETLANDS WILL NOT BE DISTURBED DURING CONSTRUCTION OF THIS PROJECT.

UTILITY COMPANY CONTACTS

DUKE/PROGRESS ENERGY: SID LIVINGSTON/MARK HATFIELD (910) 452-2777
 DUKE ENERGY (TRANSMISSION): BILL WILDER (910) 772-4903
 AT&T (BELLSOUTH): JAMES BATSON (910) 452-5300
 TIME WARNER CABLE: ROBERT JOHN (910) 216-4494
 PIEDMONT NATURAL GAS: PAUL GONKA (910) 512-2841
 DU MEDDIROS (910) 431-3233
 CAPE FEAR PUBLIC UTILITY AUTHORITY (910) 332-6550

| REVNO. | DESCRIPTIONS/ REVISIONS | DATE |
|--------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
| G | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION | 02-01-2021 |
| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
| E | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE AND STORMWATER RE-SUBMITTALS | 01-15-2021 |
| D | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 11-18-2020 |
| C | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 09-23-2020 |
| B | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL | 01-16-2020 |
| A | CITY OF WILMINGTON PRE-TECHNICAL REVIEW COMMITTEE SUBMITTAL | 08-19-2020 |

EXCAVATION, GRADING, AND BACKFILLING NOTES

- ANY UNDERCUTTING IN GOOD SOIL SHALL BE REPLACED AND THE REPLACEMENT MATERIAL SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ASTM D 698 STANDARD PROCTOR TEST METHOD. IN THE EVENT THAT MATERIAL ENCOUNTERED AT PIPE GRADE, SUBGRADE OF PARKING OR ROADWAYS AND SUBGRADE OF BUILDING FOUNDATIONS IS FOUND TO BE SOFT, SPONGY, OR IN ANY OTHER WAY UNSUITABLE, THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER IMMEDIATELY. SUCH UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AS SPECIFIED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH A MINIMUM OF SIX (6) INCHES OF STONE, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- BEFORE BACKFILLING IS COMMENCED OVER PIPES AND OTHER INSTALLATIONS, EARTH FILL SHALL BE SOLIDLY TAMPED AROUND AND ABOVE THE PIPE TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. CARE SHALL BE TAKEN TO PREVENT ANY DISTURBANCE TO THE PIPE OR DAMAGE TO NEWLY MADE JOINTS. THE FILLING OF THE TRENCH SHALL BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES OF THE PIPES IN SUCH A MANNER THAT INJURIOUS SIDE PRESSURES DO NOT OCCUR.
- THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS. BEFORE PLACING ANY BACKFILL, ALL RUBBISH, FORM, BLOCKS, WIRES OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM EXCAVATION. THE BACK-FILLING OVER PIPES SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY-FIVE (95) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST TO A DEPTH OF 12 INCHES BELOW FINISHED GRADE. THE LAST 12 INCHES OF BACKFILL SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY-EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST.

STORM DRAINAGE AND GRADING NOTES

- IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENR STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
- INLET PROTECTION SHALL BE INSTALLED AROUND OUTFALL. DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- UNLESS OTHERWISE NOTED, GRADES AND SPOT ELEVATIONS NOTED ON PLANS INDICATE FINISHED GRADE OR PAVEMENT SURFACE. ALL DIMENSIONS ARE MEASURED TO THE BACK OF CURB UNLESS OTHERWISE INDICATED.
- COORDINATION WITH CITY SURVEYOR TO DETERMINE MONUMENTATION IS REQUIRED. NOTE ON PLANS.
- CONTRACTOR TO COORDINATE WITH CITY OF WILMINGTON CONSTRUCTION INSPECTOR TO ENSURE EDGE OF CATCH BASIN GRATES ALIGN WITH TRAVEL LANE AS REQUIRED.

EROSION CONTROL NOTES

- ANY GRADING BEYOND THE DENUDE LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
- GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE. ANY BUILDER THAT ANTICIPATED THE DISTURBANCE OF MORE THAN ONE ACRE WILL BE REQUIRED TO GET AN EROSION CONTROL PERMIT FROM NEW HANOVER COUNTY.
- GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
- SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
- ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
- IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
- WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
- ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

| GROUND STABILIZATION CRITERIA | | |
|--|-------------------------|--|
| SITE AREA DESCRIPTION | STABILIZATION TIMEFRAME | STABILIZATION TIMEFRAME EXCEPTIONS |
| PERIMETER DICES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY WATER ZONES | 7 DAYS | NONE |
| SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10 FT OR LESS IN 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 FT IN LENGTH |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE (EXCEPT FOR PERIMETERS AND HOW ZONES) |

FINAL DRAWING FOR REVIEW PURPOSES ONLY

SEAL



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North America Sekisui House, LLC

UTILITY NOTES

- SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
- WATER AND SANITARY SEWER UTILITY MAINS ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
- THIS PROJECT SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THE "FINAL APPROVAL".
- ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CFPUA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO CFPUA AND APPROVED BY USCFCCHHR OR ASSE.
- 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.
- WATER: 1.5" & 2" PVC MAINS SHALL BE CONSTRUCTED USING ASTM D2241, IPS, GASKETED PIPE, SDR 21. 4"-12" PVC MAINS AND SERVICES SHALL BE CONSTRUCTED USING AWWA C-900 PVC, CL235 (DR-18). REQUIREMENTS OF AWWA C900 WITH ELASTOMERIC PUSH-ON JOINTS
- CONFORMING TO THE REQUIREMENTS OF ASTM D1785 WITH SOLVENT WELD JOINTS CONFORMING TO ASTM D2872, FOR PIPE SIZES 8" THROUGH 12", PIPE SHALL BE CLASS 150, DR18 CONFORMING TO THE CONFORMING TO ASTM D3212 OR ASTM D3139.
- WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY PUBLIC WATER SUPPLY SECTION OF NCDENR AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
- PVC WATER MAINS AND POLYETHYLENE SERVICES ARE TO BE MARKED WITH NO. 10 SINGLE STRAND INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STROPPED TO BARS WIRE AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- SITE UTILITY CONTRACTOR TO PROVIDE WATER AND SANITARY SEWER SERVICE TO WITHIN 5 FEET OF THE BUILDING. CONTRACTOR SHALL COORDINATE SITE PLAN CONNECTIONS WITH THE ARCHITECTURAL BUILDING PLANS.
- MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING). CONTRACTOR SHALL PLACE FITTINGS AS NECESSARY TO KEEP WATER MAIN IN ALIGNMENT AND ACHIEVE ANY RADIUS LESS THAN 380'.
- UNDERGROUND UTILITIES: ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG THE PUBLIC STREETS ABUTTING THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
- MINIMUM OF 36" COVERAGE ABOVE ALL WATERMANS.
- MINIMUM OF 36" VERTICAL SEPARATION BETWEEN WATERLINES AND STORMDRAIN CURB INLETS
- A VARIANCE IS NOT ANTICIPATED FROM ANY NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ) REQUIREMENT.
- PLANS ARE IN COMPLIANCE WITH CAPE FEAR PUBLIC UTILITY AUTHORITY TECHNICAL STANDARDS AND SPECIFICATIONS.

RELATION OF WATER MAINS TO SANITARY SEWERS:

- LATERAL SEPARATION OF SANITARY SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
 - THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR
 - THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
- CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAIN THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAIN. UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
- CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAIN BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
- CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL, OR THE SEWER MAIN/WATER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING.
- INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.

FIRE PROTECTION NOTES

- HYDRANT MUST BE WITHIN 150' OF THE FDC.
- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB PER CITY OF WILMINGTON STANDARDS. HYDRANTS WILL BE LOCATED WITHIN 6' OF THE CURB PER CFPUA STANDARDS.
- COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ON SITE WITHOUT CITY FIRE INSPECTOR APPROVAL.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION.
- UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM UNDERGROUND UTILITIES.
- CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS TO ALL PORTIONS OF THE JOBSITE WHERE COMBUSTIBLES ARE PRESENT AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
- FIRE DEPARTMENT ACCESS WIDTHS SHALL BE A MINIMUM OF 20-FEET UNLESS LESSER WIDTHS ARE APPROVED BY THE FIRE CODE OFFICIAL.
- BAG HYDRANTS THAT ARE NOT IN SERVICE.
- CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.

EROSION CONTROL MAINTENANCE PLAN:

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE (1.0) INCH OR GREATER RAINFALL.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOVE 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
- ALL AREAS WILL BE FERTILIZED, RESEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
- STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
- INSPECT SILT FENCE STONE OUTLETS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE STORAGE AREA WHEN SEDIMENT ACCUMULATION REACHES 1/2 THE STORAGE AREA OR NO GREATER THAN ONE FOOT. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" 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 AN AREA WITH SEDIMENT CONTROLS.
- CHECK THE SEDIMENT BASIN 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.
- INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
- INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
- INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.

CITY OF WILMINGTON STANDARD NOTES

- CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT (910)341-7888 AND CONSTRUCTION MANAGEMENT (910)341-7807 TO DISCUSS PAVEMENT MARKINGS PRIOR TO INSTALLATION.
- ONCE STREETS ARE OPEN TO TRAFFIC, THE DEVELOPER SHALL CONTACT TRAFFIC ENGINEERING (910-341-7888) TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- 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.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT (910)341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- IF THE CONTRACTOR DESIRES WATER FOR CONSTRUCTION HE SHALL APPLY WITH THE CAPE FEAR PUBLIC UTILITY AUTHORITY 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.
- THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
- CONTACT TRAFFIC ENGINEERING TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
- IF UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- IT WILL 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 (910)341-7888 TO COORDINATE PARKING SIGNAGE AND/OR MARKINGS PRIOR TO INSTALLATION.
- CONTACT TRAFFIC ENGINEERING AT (910)341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- SOLID WASTE TO BE HANDLED BY ROLLOUT TRASH CONTAINERS/CARTS.
- STREET TREES MUST BE LOCATED A MINIMUM OF 15 FEET FROM STREET LIGHTS.
- CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.02, 840.03
- ALL DROP INLETS ARE NCDOT STD 840.14, 840.16
- ALL STORM DRAINAGE PIPING TO BE CLASS III RCP, UNLESS OTHERWISE NOTED
- ALL STORM DRAINAGE PIPING CONVEYING DISCHARGE FROM THE PUBLIC RIGHT-OF-WAY SHALL BE CONTAINED WITHIN A PUBLIC DRAINAGE EASEMENT WHOSE WIDTH IS DETERMINED BY THE DEPTH OF BURY
- ALL SANITARY SEWER LINES AND WATERLINES SHALL BE C-900 PVC, UNLESS OTHERWISE NOTED AND MEET CAPE FEAR PUBLIC UTILITY SPECIFICATIONS
- A PUBLIC UTILITY EASEMENT SHALL BE RESERVED WITHIN THE STREET RIGHT-OF-WAY. A 10' NON-MUNICIPAL EASEMENT SHALL BE RESERVED ALONG BOTH SIDES OF ALL STREETS
- WATER AND SANITARY SEWER UTILITIES ARE PUBLIC - CAPE FEAR PUBLIC UTILITY AUTHORITY

NOTE (G.S. 113A-57 (2))

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

RIVERLIGHTS MX-3

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

GENERAL NOTES

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|------------------------|------------------------|------------------------|
| DATE: 08/19/2020 | SCALE: HORIZONTAL: N/A | HMC FILE NUMBER: G-002 |
| MCE PROJ. # 02735-0285 | DRAWN: EEM/JEB | DRAWING NUMBER: |
| DESIGNED: EEM | CHECKED: KCBE | 2 |
| PROJ. MGR.: KCBE | VERTICAL: N/A | |

STATUS: **PRELIMINARY DESIGN** REVISION: **H**

NOT FOR CONSTRUCTION

CAPE FEAR PUBLIC UTILITY AUTHORITY CONSTRUCTION PROCEDURE:

1. THE DESIGN ENGINEERING SHALL SUBMIT 3 SETS OF FINAL DESIGN PLANS AND APPROVED SPECIFICATIONS PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.
2. SUBMITTALS FOR MATERIALS SHOULD BE MADE IN ACCORDANCE WITH CFPUA SPECIFICATION SECTION 01340. MATERIAL SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL PHYSICAL ASSETS TO ENSURE THEY COMPLY WITH CFPUA TECHNICAL SPECIFICATIONS AND DETAILS. THESE SUBMITTALS ARE PROJECT-SPECIFIC, AND MUST INCLUDE OR HIGHLIGHT ONLY THE SPECIFIC MATERIALS TO BE USED IN THE PROJECT. THE SUBMITTAL APPROVAL PROCESS IS GENERALLY AS FOLLOWS:

MATERIAL VENDOR FURNISHES SUBMITTALS TO THE CONTRACTOR BASED ON THE PROJECT REQUIREMENTS.

CONTRACTOR REVIEWS THE SUBMITTALS FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DRAWINGS, CFPUA TECHNICAL SPECIFICATIONS AND DETAILS, AND FORWARDS TO THE DEVELOPER'S ENGINEER-OF-RECORD WHEN COMPLETE.

THE DEVELOPER'S ENGINEER-OF-RECORD VERIFIES COMPLIANCE, STAMPS AND SIGNS THE SUBMITTAL, AND FORWARDS THE PACKAGE TO THE CFPUA CONSTRUCTION MANAGER. IF IT IS DETERMINED THAT THE MATERIAL SHOP DRAWING SUBMITTAL IS NOT IN COMPLIANCE, THE ENGINEER SHALL RETURN IT TO THE CONTRACTOR FOR CORRECTION AND RESUBMISSION AS NOTED ABOVE.

CFPUA'S CONSTRUCTION MANAGER REVIEWS THE SUBMITTAL FROM THE DEVELOPER'S ENGINEER-OF-RECORD, VERIFIES COMPLIANCE, AND NOTIFIES THE ENGINEER THAT THE MATERIALS ARE APPROVED FOR CONSTRUCTION. IF IT IS DETERMINED THAT THE MATERIAL SHOP DRAWING SUBMITTAL IS NOT IN COMPLIANCE, THE SUBMITTAL WILL BE RETURNED TO THE ENGINEER FOR CORRECTION AND RESUBMISSION AS NOTED ABOVE.

3. ANY REQUEST FOR DEVIATIONS FROM THE STAMPED DRAWINGS AND MATERIAL SUBMITTALS MUST BE SUBMITTED TO THE CFPUA CONSTRUCTION MANAGER. THE DEVIATION WILL BE REVIEWED BY CFPUA STAFF. THE ENGINEER, CONTRACTOR AND CFPUA INSPECTOR WILL BE NOTIFIED IF IT IS APPROVED, NEEDS TO BE REVISED AND RESUBMITTED OR REJECTED. ANY CHANGES TO THE STAMPED CONSTRUCTION DOCUMENTS MADE IN THE FIELD BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER OF RECORD AND CFPUA CONSTRUCTION MANAGER. THE CFPUA INSPECTOR CANNOT APPROVE MAJOR CHANGES FROM THE STAMPED CONSTRUCTION DOCUMENTS.

4. THE CFPUA INSPECTOR SHALL BE NOTIFIED WHEN ANY MATERIAL IS DELIVERED TO THE JOB SITE. THE CFPUA INSPECTOR WILL VERIFY THAT ALL MATERIALS MEET CFPUA SPECIFICATIONS, DETAILS, AND/OR APPROVED SUBMITTAL. THE CFPUA INSPECTOR WILL NOTIFY THE CONTRACTOR AND THE CFPUA CONSTRUCTION MANAGER OF ANY UNAPPROVED MATERIAL, AND THAT THE UNAPPROVED MATERIAL MUST BE REMOVED FROM THE PROJECT SITE.

5. CONTRACTOR SHALL GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING TO THE ASSIGNED CFPUA INSPECTOR FOR EACH OF THE FOLLOWING:

OPERATING A CFPUA VALVE (INCLUDES TAPPING VALVES)

WHEN BEGINNING CONSTRUCTION AND IF THE CONTRACTOR PULLS OFF THE SITE

LAYING OUT OF ANY CONNECTION IN EXISTING MANHOLE

CUTTING IN ANY NEW MANHOLES ON EXISTING LINES

CORING ANY MANHOLES

CONNECTING TO AN EXISTING SEWER FORCE MAINS

CONNECTING ONTO EXISTING WATER LINES

ANY BORES AND THREADING CARRIER PIPES

ALL CAMERA WORK, TESTING, CHLORINATION AND WATER SAMPLING

ALL TESTING

CAPE FEAR PUBLIC UTILITY AUTHORITY TESTING PROCEDURE:

1. ALL STRUCTURES, PRESSURE PIPING AND GRAVITY SEWER PIPING SHALL BE TESTED BY THE CONTRACTOR AS SPECIFIED IN THE CFPUA SPECIFICATIONS IN ACCORDANCE WITH APPLICABLE REGULATIONS AND AS DIRECTED BY THE CFPUA INSPECTOR. ALL TESTING MUST BE CONDUCTED IN THE PRESENCE OF THE CFPUA INSPECTOR. THE CONTRACTOR IS TO GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING, TO THE ASSIGNED CFPUA INSPECTOR FOR ALL TESTING.

2. ALL PRESSURE PIPE LINES MUST BE SUBJECTED TO HYDROSTATIC TESTING IN ACCORDANCE WITH THE APPROPRIATE CFPUA SPECIFICATION. THESE PIPE LINES SHALL BE TESTED TO 150 PSI FOR A PERIOD OF TWO (2) HOURS. IF THE PRESSURE DROPS MORE THAN THREE (3) PSI, THE TEST FAILS. REFER TO THE APPROPRIATE CFPUA SPECIFICATION FOR MORE INFORMATION ON THE PROCEDURE.

3. ALL WATER MAINS AND SERVICES MUST BE FLUSHED, CHLORINATED AND SAMPLED IN ACCORDANCE WITH THE CFPUA SPECIFICATION 02660 AND AS DIRECTED BY THE CFPUA INSPECTOR.

4. SEWER LINE SEGMENT TESTING: EACH SEWER LINE SEGMENT (THE SEWER MAIN BETWEEN MANHOLES) SHALL BE TESTED:

THIRTY (30) DAYS AFTER INSTALLATION AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, ALL SEWER LINE SEGMENTS AND ALL SERVICES SHALL BE CAMERA INSPECTED AND VIDEO RECORDED. THE CFPUA INSPECTOR WILL REVIEW THE VIDEO RECORDING FOR ACCEPTANCE.

AS AN ALTERNATIVE TO WAITING THIRTY (30) DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, THE CFPUA MAY ACCEPT CERTIFICATION FROM A SOIL TESTING FIR VERIFYING THAT THE BACKFILL OF THE TRENCH HAS BEEN COMPACTED TO AT LEAST 95% MAXIMUM DENSITY.

AFTER TWO (2) PAPER COPIES OF THE AS-BUILTS HAVE BEEN SUBMITTED TO THE CFPUA INSPECTOR.

AFTER GRAVEL HAS BEEN INSTALLED ON ALL ROADWAYS.

5. VIDEO INSPECTION TESTING: THE CONTRACTOR SHALL PROVIDE A DVD(S) OF EACH SEWER LINE SEGMENT AND SERVICE LINE TO ENSURE THAT THE LINES MEET MINIMUM STANDARDS. THE DVD(S) WILL BE REVIEWED IN THE ORDER THEY ARE RECEIVED. THE TYPICAL REVIEW TIME IS GENERALLY TEN (10) TO FIFTEEN (15) BUSINESS DAYS BUT WILL DEPEND ON THE COMPLEXITY OF THE PROJECT, SIZE, QUALITY OF THE DVD(S), ETC.

THE MAIN LINE CAMERA INSPECTION MUST HAVE PROJECT NAME, FOOTAGES, MANHOLE NUMBERS, AND DATES OF INSPECTION.

THE SERVICE LINE CAMERA INSPECTION MUST INCLUDE PROJECT NAME, FOOTAGES, ADDRESS AND/OR LOT NUMBER, AND DATE OF INSPECTION.

THE CAMERA INSPECTION MUST SHOW THE FULL DIAMETER OF THE PIPE.

THE CAMERA INSPECTION MUST BE PERFORMED UPON COMPLETION OF CLEANING AND POTABLE WATER INTRODUCED INTO THE SYSTEM TO BE TESTED. ALL DEFECTS IN THE PIPELINE AND APPURTENANCES SHALL BE REMEDIATED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CFPUA AND WILL BE RE-INSPECTED AS OUTLINED ABOVE.

6. TWO (2) SETS OF AS-BUILT RECORD DRAWINGS SHALL BE PROVIDED IN ACCORDANCE WITH CFPUA SPECIFICATION SECTION 01720 FOR REVIEW.

CITY OF WILMINGTON RECORD DRAWING REQUIREMENTS:

RECORD DRAWINGS (AS-BUILTS) SHALL BE FILED IN THE ENGINEERING OFFICE FOR ASSET MANAGEMENT AND FUTURE USE. RECORD DRAWINGS SHOULD INDICATE WHAT HAS BEEN LOCATED BY THE SURVEYOR AND REFLECT WHAT IS ON AND IN THE GROUND AT A PARTICULAR SITE. ALL INFORMATION PERTAINS TO PUBLIC AND/OR PRIVATE INFRASTRUCTURE, SUCH AS STREETS, WATER, SEWER, AND DRAINAGE. ALL INFRASTRUCTURE SHOWN ON PLANS SHALL BE INDICATED PUBLIC OR PRIVATE. RECORD DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORM. DIGITAL FILES SHALL BE AUTOCAD VERSION 2000 OR LATER. HARD COPIES SHALL HAVE AN ENGINEER'S SEAL AFFIXED AND THE SURVEYOR'S "STANDARDS OF PRACTICE" STATEMENT SIGNED AND SEALED.

PLANS SHALL INCLUDE

LOCATIONS, TOP ELEVATIONS, INVERT ELEVATIONS FOR ALL MANHOLES

FIRE HYDRANTS, WATER METERS AND SANITARY SEWER CLEANOUTS

NOTE OR SHOW UTILITY CROSSINGS

STREETS AND CURBLINES (LABELED "PUBLIC" OR "PRIVATE") WITH SPOT ELEVATIONS PROVIDED AT THE TOP OF CURB, EDGE OF PAVEMENT AND AT THE CENTERLINE EVERY 200 FT AND AT ALL STREETS SHOULD ALSO BE LABELED WITH THE COMPACTED STONE BASED THICKNESS AND ASPHALT THICKNESS

PAVEMENT MARKINGS AND ALL TRAFFIC SIGNS

SIDEWALKS WITH SPOT ELEVATIONS PROVIDED AT THE INSIDE EDGE, OUTSIDE EDGE AND AT THE CENTERLINE EVERY 100 FT AND AT ALL GRADE BREAKS

SIZE, SLOPE AND MATERIAL FOR ALL STORM DRAINAGE PIPES

FOR STORM DRAINAGE: TYPE/MATERIAL OF STRUCTURE, TOP ELEVATION, INVERTS IN AND OUT.

LOCATIONS OF STREET LIGHTING AND TYPE

VICINITY MAP

NORTH ARROW

DATE

SCALE FOR DRAWINGS SHALL BE 1"=20' OR 1"=30'; THE EXCEPTION BEING UTILITY PLANS, WHICH MAY BE SUBMITTED AT 1"=40' OR LESS. NO PLANS ACCEPTED AT 1"=50' OR MORE.

LEGEND

DETAILS IF NEEDED

VERTICAL DATUM

LOT NUMBERS AND LOT LINES

RIGHT-OF-WAY AND EASEMENT LINES

ANY STATE OF NC PERMIT NUMBERS (IF APPLICABLE)

HARD COPIES OF PLANS SHALL BE SIGNED/SEALED/DATED BY A LICENSED SURVEYOR

REQUIREMENTS FOR VIDEO INSPECTION OF STORM SEWER SYSTEMS:

GENERAL

1. ALL EQUIPMENT USED FOR CLEANING AND VIDEO INSPECTION SHALL BE SPECIFICALLY DESIGNED FOR THE WORK DESCRIBED HEREIN. ALL CAMERAS SHALL BE SELF-POWERED UNITS WITH COLOR, PAN-AND-TILT, MINIMUM RESOLUTION OF 640X480, AND THE ABILITY TO OPERATE IN 100% HUMIDITY CONDITIONS. THE LENS SHALL HAVE NOT LESS THAN A 65-DEGREE VIEWING ANGLE WITH EITHER AUTOMATIC OR REMOTE FOCUS AND IRIS CONTROLS.

2. ALL WORK DESCRIBED HEREIN SHALL BE COMPLETED IN ACCORDANCE WITH NASSCO PIPELINE ASSESSMENT AND CERTIFICATION PROGRAM/ MANHOLE ASSESSMENT AND CERTIFICATION PROGRAM (PACP/MACP) GUIDELINES.

3. THE CITY OF WILMINGTON (COW) RESERVES THE RIGHT TO REFUSE ANY RECORDING OR REPORT ON THE BASIS OF SUBSTANDARD QUALITY.

EXECUTION

1. ALL STORM PIPE INSTALLATIONS SHALL BE COMPLETELY INSTALLED A MINIMUM OF 30 DAYS PRIOR TO VIDEO INSPECTION. GENERALLY, INSPECTIONS SHALL OCCUR 30 DAYS PRIOR TO ASPHALT PAVING.

2. THE CONTRACTOR'S CLEANING OPERATIONS SHALL BE PERFORMED PRIOR TO THE VIDEO INSPECTION, AND SHALL FULLY CLEAN THE PIPES AND STRUCTURES AS WELL AS REMOVE ALL SEDIMENT, ROOTS, DEBRIS, ETC.

3. INSPECTIONS OF EACH PIPE SEGMENT SHALL BEGIN IN THE CENTER OF THE START DRAINAGE STRUCTURE AND END IN THE CENTER OF THE END DRAINAGE STRUCTURE. THE CAMERA SHALL BE MOVED THROUGH THE LINE IN EITHER DIRECTION AT A UNIFORM RATE BUT NOT GREATER THAN 30 FEET PER MINUTE (0.5 FT/SEC).

4. THE CAMERA SHALL BE STOPPED AT EACH PIPE JOINT, DEFECT, IMPERFECTION, ETC. AT THESE LOCATIONS, THE CAMERA SHALL BE PANNED, TILTED AND ROTATED TO FULLY VIEW AND DOCUMENT THE CONDITION OF THE JOINTS, DEFECTS, IMPERFECTIONS, ETC.

5. THE DIGITAL RECORDING SHALL BE FREE OF ELECTRICAL INTERFERENCE AND SHALL PRODUCE A CLEAR AND STABLE IMAGE.

6. VIDEO OVERLAY SHALL INCLUDE, AT A MINIMUM, THE OWNER NAME, PROJECT NAME, STREET NAME, DIAMETER OF PIPE, PIPE MATERIAL, DATE AND TIME OF INSPECTION, DIRECTION OF VIDEO (UPSTREAM OR DOWNSTREAM), DRAINAGE STRUCTURE NUMBER DESIGNATION FOR EACH DRAINAGE STRUCTURE ON THE PIPE SEGMENT INSPECTED THAT CORRESPONDS TO THE CONSTRUCTION PLANS. A CONSTANT OVERLAY DISPLAY OF THE STREET NAME, DRAINAGE STRUCTURE DESIGNATIONS (I.E. MH START#/MH END#), DATE AND DISTANCE SHALL APPEAR ON THE SCREEN. THE INSPECTOR SHALL MOVE THE CONSTANT OVERLAY DISPLAY SO IT DOES NOT INTERFERE WITH THE INSPECTION REVIEW.

7. INSPECTION OF EACH PIPE SEGMENT SHALL BE PROVIDED IN A SEPARATE VIDEO FILE. IN SITUATIONS WHERE REVERSE INSPECTION IS NECESSARY, THE REVERSE INSPECTION SHALL BE PROVIDED IN A SEPARATE VIDEO FILE.

8. ALL OBSERVATIONS/DEFECTS SHALL BE NOTED BY THE INSPECTOR, WHERE A TEXT DISPLAY SHALL APPEAR DESCRIBING THE OBSERVATION/DEFECT. TEXT SHALL DISPLAY FOR A MINIMUM OF 4 SECONDS. THE VIDEO FILE RECORDING SHALL PAUSE AS THE OPERATOR SELECTS THE OBSERVATION/DEFECT NOTATION, ELIMINATING "ON HOLD" VIDEO.

9. AN INSPECTION FORM SHALL BE COMPLETED AND SUBMITTED FOR EACH PIPE SEGMENT AND DRAINAGE STRUCTURE INSPECTED AND VIDEOED. AT A MINIMUM, OBSERVATION/DEFECT NOTES SHALL INCLUDE GENERAL INFO, DISTANCE WITHIN THE PIPE SEGMENT, DESCRIPTION, A SEVERITY RATING, AND A STILL PHOTOGRAPH.

DELIVERABLES

1. CORRESPONDENCE FROM THE ENGINEER OF RECORD CONFIRMING THAT HE/SHE HAS REVIEWED THE VIDEO INSPECTION PACKAGE FOR COMPLIANCE TO CONTENT AND HAS MADE AN EVALUATION WITH RECOMMENDATIONS FOR REPAIR AS NEEDED PER THE CITY GUIDELINES.

2. VIDEO INSPECTIONS CAPTURED LIVE OFF OF THE INSPECTION CAMERA TO BE SUBMITTED TO ON A DVD COMPATIBLE WITH WINDOWS MEDIA PLAYER. THE INSPECTIONS MUST BE IN ORDER AND COMPLETE.

3. ALL INSPECTION REPORTS COMPLETED FOR EACH PIPE SEGMENT AND DRAINAGE STRUCTURE WHETHER VIDEOED OR NOT SHALL BE SUBMITTED.

CITY OF WILMINGTON MATERIALS DOCUMENTATION AND TESTING (PROVIDED FOR INFORMATION ONLY/SUBJECT TO CHANGE):

| TEST TYPE: | LOCATION FOR: | TEST TARGET: | SPEC: | FREQUENCY AND TEST SECTIONS: | DOCUMENTATION: |
|--|---------------------------------|--|---|--|--|
| SOIL PROCTORS | FOR USE WITH SOIL DENSITY TESTS | OPTIMUM MOISTURE AND MAXIMUM DRY DENSITY RESULTS | STANDARD PROCTOR - ASTM D698-A | EACH PROJECT; WHERE SOILS CHANGE | SOIL PROFILE TESTS (LAB) |
| DENSITY - NUCLEAR GAUGE | EMBANKMENTS | ≥ 95% COMPACTION | NUCLEAR GAUGE | 1 / BLOCK OR EVERY 500' | |
| | PIPE TRENCH AND OVERFILL | ≥ 95% COMPACTION | ASTM D6938 | PER LIFT (12" MAX) EVERY 100' | ON DELIVERY - COLLECT TICKETS |
| | SUBBASE (FINAL 12" FILL) | ≥ 98% COMPACTION | | "4 / BLOCK OR EVERY 500' WHERE PVMT < 32" WIDTH OR 8 / BLOCK OR EVERY 500' WHERE PVMT > 32" WIDTH" | DENSITY REPORTS. |
| DENSITY - ALTERNATES | FOR ALL, SEE ABOVE | SEE ABOVE | SAND CONE METHOD -ASTM D1556 OR; | SEE ABOVE | DENSITY REPORTS. |
| PROOFROLL | SUBBASE AT GRADE | VISUAL CHECK OF STABILITY / MOISTURE | LOADED TANDEM TRUCK | ALL AREAS UNDER ROAD | PROOFROLL REPORT. |
| DYNAMIC CONE PENETROMETER | EXCAVATION BACKFILLS | # BLOWS PER 1.75" (TYP. 25-30) | ASTM D6951 | ANY AREA TO CHECK FOR RELATIVE COMPACTION | REPORT. |
| DENSITY - NUCLEAR GAUGE | ROAD BASE (ABC) | EACH ≥ 95% WITH AVG. ≥ 98% | NUCLEAR GAUGE - ASTM D6938 | "4 / BLOCK OR EVERY 500' WHERE PVMT < 32" WIDTH OR 8 / BLOCK OR EVERY 500' WHERE PVMT > 32" WIDTH" | DENSITY REPORTS. |
| | CURBLINES (ABC) | EACH ≥ 95% WITH AVG. ≥ 98% | | 4 / BLOCK OR EVERY 500' | |
| PROOFROLL | STONE BASE AT GRADE | VISUAL CHECK OF STABILITY / MOISTURE | LOADED TANDEM TRUCK | ALL AREAS UNDER ROAD | PROOFROLL REPORT. |
| SAMPLING, MAKING & CURING TEST SPECIMENS | CURBING, SIDEWALKS, DRIVEWAYS | PROPER COLLECTION AND CURING IN FIELD AND LABORATORY | SAMPLING CONCRETE - ASTM C172; ASTM C31; ASTM C39 | 4 CYLINDERS PER DAY/BATCH FOR EVERY 50 CUBIC YARDS | "FORM 312U MIX DESIGN. VERIFY JMF ON-SITE. " |
| AIR TEST | SEE ABOVE | UP TO 8%, PER MIX DESIGN | PRESSURE AIR METER - ASTM C231 | TRUCK #1; AIR, SLUMP, TEMP, CYLINDERS | NCDOT M&T 903 (BATCH TIX) |
| SLUMP TEST | SEE ABOVE | UP TO 5", PER MIX DESIGN | SLUMP TEST - ASTM C143 | TRUCKS #2-4; AIR | 250 DAILY PLANT REPORT WHEN NEEDED |
| COMPRESSIVE STRENGTH | CURBING, SIDEWALKS, DRIVEWAYS | BREAKS RESULTS @ REQUIRED STRENGTH (I.E 3000PSI) | ASTM C39 | "7 DAY BREAK (TYP @ 75% OF STRENGTH), 28 DAY BREAK @ DESIGN STRENGTH " | CONCRETE BREAK REPORTS. |
| | | SURFACE UP TO 3" DEPTH | PVMT DESIGN OR | | VERIFY JMF ON-SITE. |
| (JOB MIX FORMULAE) | ROADWAY/PATH | INTERMEDIATE UP TO 4" DEPTH | CITY POLICY | FOR CONTROL STRIP WHEN NEEDED, REF. NCDOT 2012 STANDARD SPECIFICATIONS SECTION 609-7 | ON DELIVERY - COLLECT TICKETS |
| | | BASE UP TO 8" DEPTH | | | ASPHALT ROADWAY DAILY REPORT - (NCDOT M&T 605 FORM) |
| ASPHALT TEMPERATURE | AIR TEMPARTURE | 40" IN THE SHADE AND RISING | NCDOT | TEST BEFORE PLACEMENT | |
| | SURFACE TEMPARTURE | 50' | SECTION 610-4 | ALSO, NO WET PAVEMENT AFFECTING BONDING | |
| DENSITY - NUCLEAR GAUGE CONTROL WITH CORE CHECKS | ROADWAY/PATH | 90% COMPACTION - 9.5A | NUCLEAR DENSITY TESTS - ASTM D2950 | "QC = 5 NUCLEAR GAUGE SHOTS PER 500'/EACH PAVER LAYDOWN WIDTH / LOT QA = VERIFICATION, TEST REQUESTS AND LOCATION" | FORMS - CITY OR NCDOT QC-5, 516QC, QA-515, ETC |
| | | 92% COMPACTION-SURFACE OTHER, INTERMEDIATE, BASE | BULK DENSITY (CORES) - ASTM D2726 | QC = 1 CORE CHECK PER 500'/EACH PAVER LAYDOWN WIDTH. PRIMARILY IN BASE LAYERS. | "CERTIFICATIONS: GAUGE CALIBRATION QMS ROADWAYTECHNICIAN, NUCLEAR GAUGE OPERATOR, ETC" |

| REV. | DESCRIPTION | DATE |
|------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-05-2021 |
| G | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION | 02-01-2021 |
| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
| E | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE AND STORMWATER RE-SUBMITTALS | 01-13-2021 |
| D | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 11-18-2020 |
| C | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL SUBMITTALS | 9-23-2020 |
| B | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL | 9-16-2020 |
| A | CITY OF WILMINGTON PRE-TECHNICAL REVIEW COMMITTEE SUBMITTAL | 8-19-2020 |

FINAL DRAWING FOR REVIEW PURPOSES ONLY

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Wilmington, North Carolina 28401
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License: F-1222
www.mckimcreed.com



RIVERLIGHTS®

NORTH AMERICA SEXUSUI HOUSE, LLC

RIVERLIGHTS MX-3

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

GENERAL NOTES

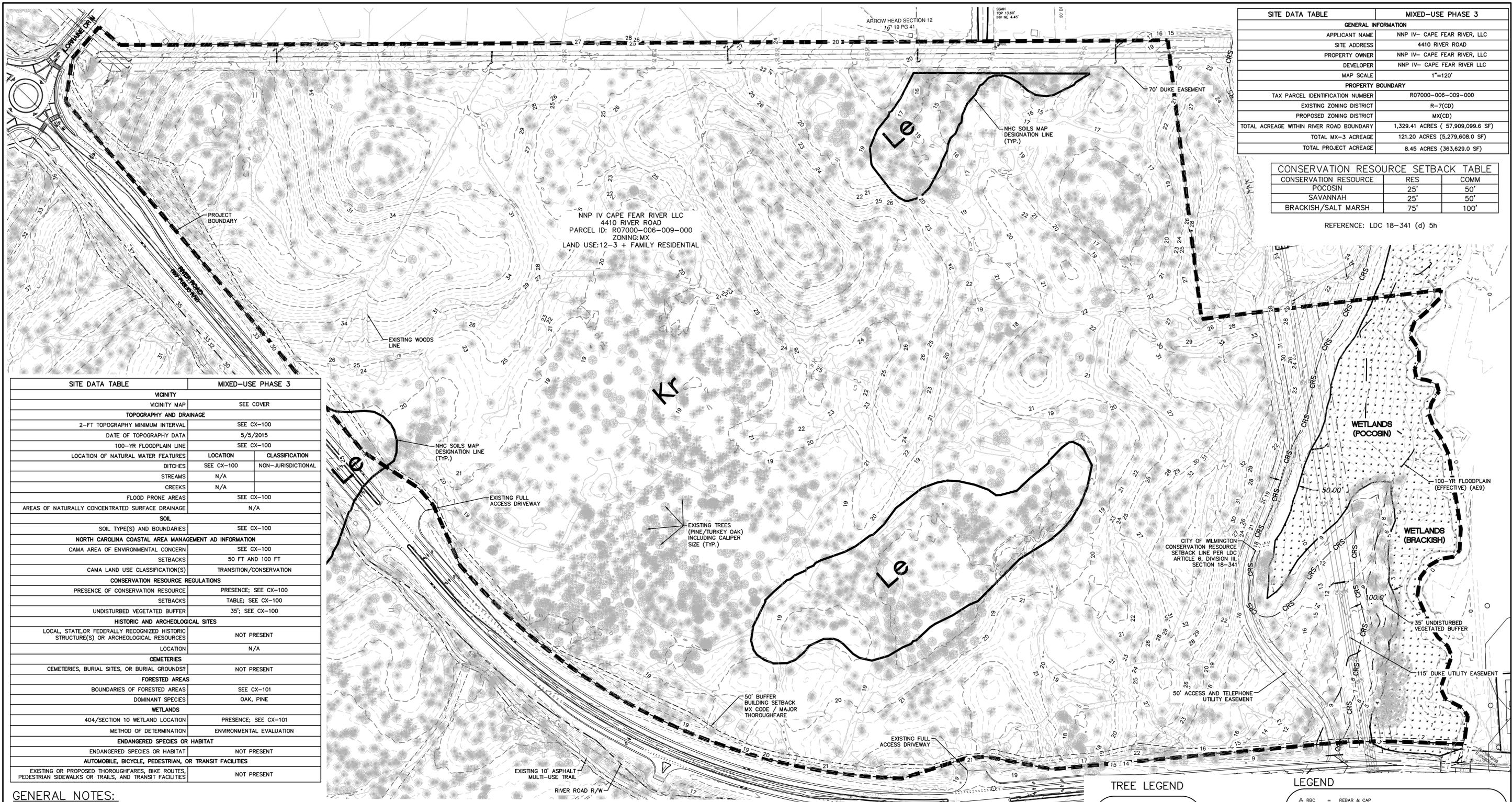
DATE: 08/19/2020
MCE PROJ. # 02735-0285
DRAWN EEM/JEB
DESIGNED EEM
CHECKED KCBE
PROJ. MGR. KCBE

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

MAC FILE NUMBER
G-003
DRAWING NUMBER
3

STATUS: PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

REVISION
H



| SITE DATA TABLE | | MIXED-USE PHASE 3 | |
|--|-----------------------------------|-------------------|--|
| GENERAL INFORMATION | | | |
| APPLICANT NAME | NNP IV- CAPE FEAR RIVER, LLC | | |
| SITE ADDRESS | 4410 RIVER ROAD | | |
| PROPERTY OWNER | NNP IV- CAPE FEAR RIVER, LLC | | |
| DEVELOPER | NNP IV- CAPE FEAR RIVER LLC | | |
| MAP SCALE | 1"=120' | | |
| PROPERTY BOUNDARY | | | |
| TAX PARCEL IDENTIFICATION NUMBER | R07000-006-009-000 | | |
| EXISTING ZONING DISTRICT | R-7(CD) | | |
| PROPOSED ZONING DISTRICT | MX(CD) | | |
| TOTAL ACREAGE WITHIN RIVER ROAD BOUNDARY | 1,329.41 ACRES (57,909,099.6 SF) | | |
| TOTAL MX-3 ACREAGE | 121.20 ACRES (5,279,608.0 SF) | | |
| TOTAL PROJECT ACREAGE | 8.45 ACRES (363,629.0 SF) | | |

| CONSERVATION RESOURCE SETBACK TABLE | | |
|-------------------------------------|-----|------|
| CONSERVATION RESOURCE | RES | COMM |
| POCOSIN | 25' | 50' |
| SAVANNAH | 25' | 50' |
| BRACKISH/SALT MARSH | 75' | 100' |

REFERENCE: LDC 18-341 (d) 5h

| SITE DATA TABLE | | MIXED-USE PHASE 3 | |
|--|--------------------------|--------------------|--|
| VICINITY | | | |
| VICINITY MAP | SEE COVER | | |
| TOPOGRAPHY AND DRAINAGE | | | |
| 2-FT TOPOGRAPHY MINIMUM INTERVAL | SEE CX-100 | | |
| DATE OF TOPOGRAPHY DATA | 5/5/2015 | | |
| 100-YR FLOODPLAIN LINE | SEE CX-100 | | |
| LOCATION OF NATURAL WATER FEATURES | | | |
| DITCHES | LOCATION | CLASSIFICATION | |
| STREAMS | SEE CX-100 | NON-JURISDICTIONAL | |
| CREEKS | N/A | | |
| FLOOD PRONE AREAS | SEE CX-100 | | |
| AREAS OF NATURALLY CONCENTRATED SURFACE DRAINAGE | | | |
| N/A | | | |
| SOIL | | | |
| SOIL TYPE(S) AND BOUNDARIES | SEE CX-100 | | |
| NORTH CAROLINA COASTAL AREA MANAGEMENT AD INFORMATION | | | |
| CAMA AREA OF ENVIRONMENTAL CONCERN | SEE CX-100 | | |
| SETBACKS | 50 FT AND 100 FT | | |
| CAMA LAND USE CLASSIFICATION(S) | TRANSITION/CONSERVATION | | |
| CONSERVATION RESOURCE REGULATIONS | | | |
| PRESENCE OF CONSERVATION RESOURCE | PRESENCE; SEE CX-100 | | |
| SETBACKS | TABLE; SEE CX-100 | | |
| UNDISTURBED VEGETATED BUFFER | 35'; SEE CX-100 | | |
| HISTORIC AND ARCHEOLOGICAL SITES | | | |
| LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURE(S) OR ARCHEOLOGICAL RESOURCES | NOT PRESENT | | |
| LOCATION | N/A | | |
| CEMETERIES | | | |
| CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS? | NOT PRESENT | | |
| FORESTED AREAS | | | |
| BOUNDARIES OF FORESTED AREAS | SEE CX-101 | | |
| DOMINANT SPECIES | OAK, PINE | | |
| WETLANDS | | | |
| 404/SECTION 10 WETLAND LOCATION | PRESENCE; SEE CX-101 | | |
| METHOD OF DETERMINATION | ENVIRONMENTAL EVALUATION | | |
| ENDANGERED SPECIES OR HABITAT | | | |
| ENDANGERED SPECIES OR HABITAT | NOT PRESENT | | |
| AUTOMOBILE, BICYCLE, PEDESTRIAN, OR TRANSIT FACILITIES | | | |
| EXISTING OR PROPOSED THROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS, AND TRANSIT FACILITIES | NOT PRESENT | | |

GENERAL NOTES:

- FLOODPLAIN INFORMATION WAS OBTAINED FROM NC FLOODPLAIN MAPPING FLOOD RISK INFORMATION SYSTEM PROGRAM. RIVERLIGHTS IS LOCATED WITHIN FIRM MAP 3720312200L, EFFECTIVE ON AUGUST 28, 2018.
- WETLANDS SHOWN IN THIS PORTION OF RIVERLIGHTS WERE DESCRIBED AS POCOSIN (50' SETBACK) AND BRACKISH (100' SETBACK). CONSERVATION RESOURCE SETBACK LINES WERE GENERATED OUTSIDE OF THE RESOURCE BASED ON THE DESIGNATION.
- ALL WETLANDS BOUNDARIES ARE BASED ON THE COE CERTIFIED WETLAND DELINEATION, ACTION IS 2007-02319 DATED 10/20/15.
- FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2-FEET ABOVE BASE FLOOD ELEVATION. CLOMR TO BE COORDINATED WITH THE CITY OF WILMINGTON FLOODPLAIN MANAGER AND FEMA FOR LOT FILL AREA WITHIN EXISTING FLOODPLAIN.
- RIVERLIGHTS DOES NOT CONTAIN ANY LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURES OR ARCHEOLOGICAL SITES ON SITE. RIVERLIGHTS WAS ISSUED A NOTICE OF NO FURTHER ACTION LETTER DATED JUNE 2, 2008 FOLLOWING COMPLETION OF AN EA/SEPA DOCUMENT.
- THE RIVERLIGHTS DEVELOPMENT WILL NOT ADVERSELY AFFECT ANY FEDERALLY LISTED SPECIES OR THEIR CRITICAL HABITAT AS DEFINED BY THE ENDANGERED SPECIES ACT AND WAS ISSUED AN INCIDENTAL TAKE PERMIT (TAILS#2016-I-0685) BY THE US FISH AND WILDLIFE SERVICE, DATED AUGUST 31, 2016 FOLLOWING COMPLETION OF AN EA.
- PLATS AND DOCUMENTS SHALL BE RECORDED TO PROVIDE PERPETUAL PROTECTIONS FOR CONSERVATION RESOURCES AND BUFFERS AND PROHIBIT IMPERVIOUS SURFACES WITHIN THE BUFFER, UNLESS EXCEPTIONS ARE PROVIDED BY THE LAND DEVELOPMENT CODE (LDC).
- ANY IMPROVEMENTS ENCRDACHING INTO THE CONSERVATION RESOURCE SETBACK AND/OR PRIMARY CONSERVATION AREA BUFFERS SHALL BE IN ACCORDANCE WITH 18-341 AND 18-433, RESPECTIVELY.

TREE LEGEND

| | |
|--|-------|
| | CEDAR |
| | GUM |
| | HOLLY |
| | OAK |
| | MAPLE |
| | PINE |

LEGEND

| | | | |
|--|--------|---|---|
| | RBC | = | REBAR & CAP |
| | PP | = | POWER POLE |
| | SS | = | SANITARY SEWER MANHOLE |
| | W | = | WETLAND |
| | OHE | = | OVERHEAD ELECTRIC LINE |
| | CRS | = | CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE |
| | SS | = | SANITARY SEWER MAIN |
| | 100-YR | = | 100-YEAR FLOODPLAIN (EFFECTIVE) |
| | 35' | = | 35' UNDISTURBED VEGETATED BUFFER |

NOTE:
EXISTING TREE CALIFER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL



| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
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RIVERLIGHTS
NORTH AMERICA SEKISUI HOUSE, LLC

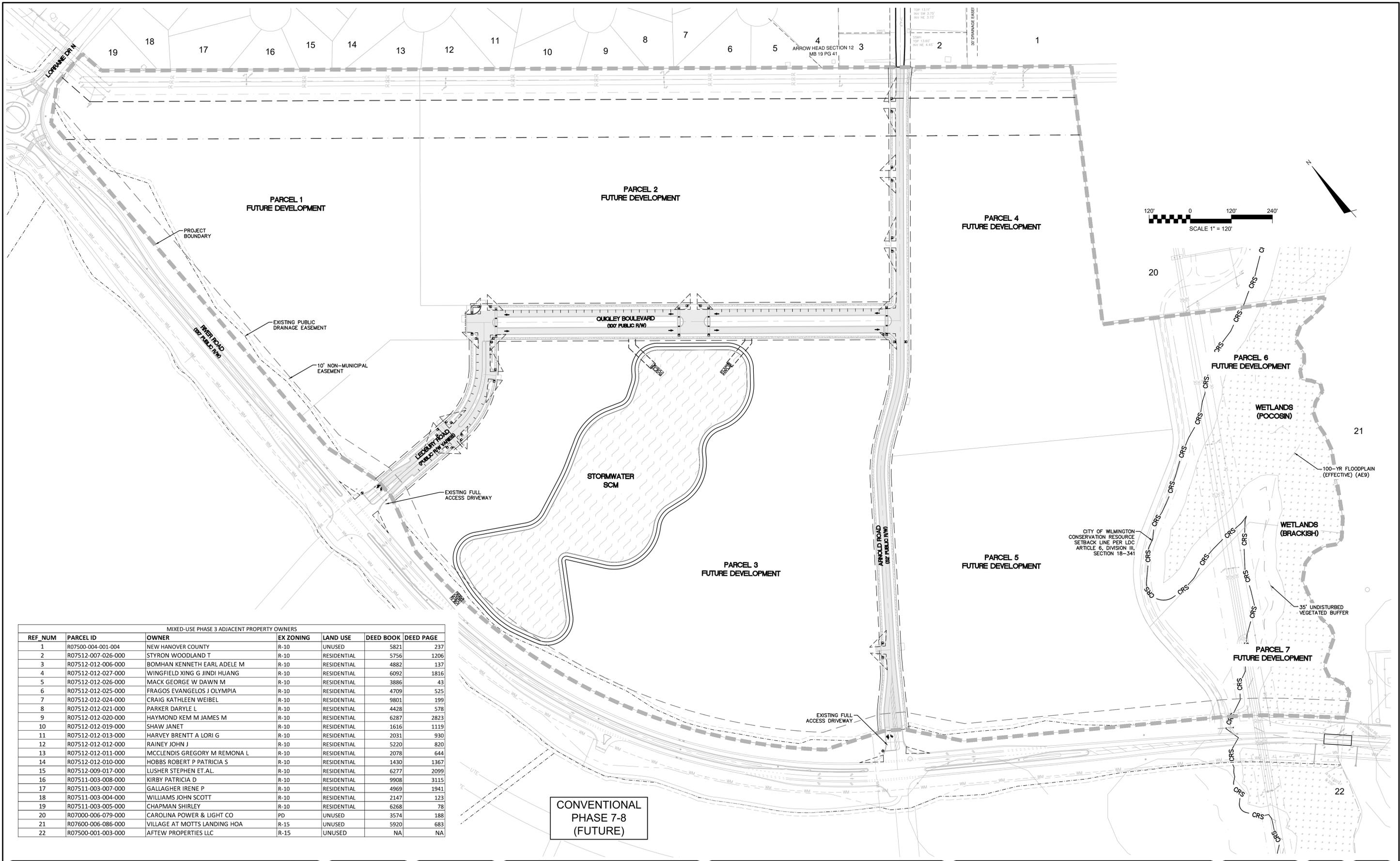
RIVERLIGHTS MX-3
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
EXISTING CONDITIONS

DATE: 08/19/2020
MCE PROJ. # 02735-0285
DRAWN EEM/JEB
DESIGNED EEM
CHECKED KCBE
PROJ. MGR. KCBE

SCALE: HORIZONTAL: 1"=120' VERTICAL: N/A

MAC FILE NUMBER: CX-100
DRAWING NUMBER: 4

STATUS: PRELIMINARY DESIGN NOT FOR CONSTRUCTION
REVISION: H



MIXED-USE PHASE 3 ADJACENT PROPERTY OWNERS

| REF_NUM | PARCEL ID | OWNER | EX ZONING | LAND USE | DEED BOOK | DEED PAGE |
|---------|--------------------|------------------------------|-----------|-------------|-----------|-----------|
| 1 | R07500-004-001-004 | NEW HANOVER COUNTY | R-10 | UNUSED | 5821 | 237 |
| 2 | R07512-007-026-000 | STYRON WOODLAND T | R-10 | RESIDENTIAL | 5756 | 1206 |
| 3 | R07512-012-006-000 | BOMHAN KENNETH EARL ADELE M | R-10 | RESIDENTIAL | 4882 | 137 |
| 4 | R07512-012-027-000 | WINGFIELD XING G JINDI HUANG | R-10 | RESIDENTIAL | 6092 | 1816 |
| 5 | R07512-012-026-000 | MACK GEORGE W DAWN M | R-10 | RESIDENTIAL | 3886 | 43 |
| 6 | R07512-012-025-000 | FRAGOS EVANGELOS J OLYMPIA | R-10 | RESIDENTIAL | 4709 | 525 |
| 7 | R07512-012-024-000 | CRAIG KATHLEEN WEIBEL | R-10 | RESIDENTIAL | 9801 | 199 |
| 8 | R07512-012-021-000 | PARKER DARYLE L | R-10 | RESIDENTIAL | 4428 | 578 |
| 9 | R07512-012-020-000 | HAYMOND KEM M JAMES M | R-10 | RESIDENTIAL | 6287 | 2823 |
| 10 | R07512-012-019-000 | SHAW JANET | R-10 | RESIDENTIAL | 1616 | 1119 |
| 11 | R07512-012-013-000 | HARVEY BRENTT A LORI G | R-10 | RESIDENTIAL | 2031 | 930 |
| 12 | R07512-012-012-000 | RAINEY JOHN J | R-10 | RESIDENTIAL | 5220 | 820 |
| 13 | R07512-012-011-000 | MCCLENDIS GREGORY M REMONA L | R-10 | RESIDENTIAL | 2078 | 644 |
| 14 | R07512-012-010-000 | HOBBS ROBERT P PATRICIA S | R-10 | RESIDENTIAL | 1430 | 1367 |
| 15 | R07512-009-017-000 | LUSHER STEPHEN ET.AL | R-10 | RESIDENTIAL | 6277 | 2099 |
| 16 | R07511-003-008-000 | KIRBY PATRICIA D | R-10 | RESIDENTIAL | 9908 | 3115 |
| 17 | R07511-003-007-000 | GALLAGHER IRENE P | R-10 | RESIDENTIAL | 4969 | 1941 |
| 18 | R07511-003-004-000 | WILLIAMS JOHN SCOTT | R-10 | RESIDENTIAL | 2147 | 123 |
| 19 | R07511-003-005-000 | CHAPMAN SHIRLEY | R-10 | RESIDENTIAL | 6268 | 78 |
| 20 | R07000-006-079-000 | CAROLINA POWER & LIGHT CO | PD | UNUSED | 3574 | 188 |
| 21 | R07600-006-086-000 | VILLAGE AT MOTTS LANDING HOA | R-15 | UNUSED | 5920 | 683 |
| 22 | R07500-001-003-000 | AFTFW PROPERTIES LLC | R-15 | UNUSED | NA | NA |

CONVENTIONAL
PHASE 7-8
(FUTURE)

| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
| G | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION | 02-01-2021 |
| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
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ADJACENT OWNERS

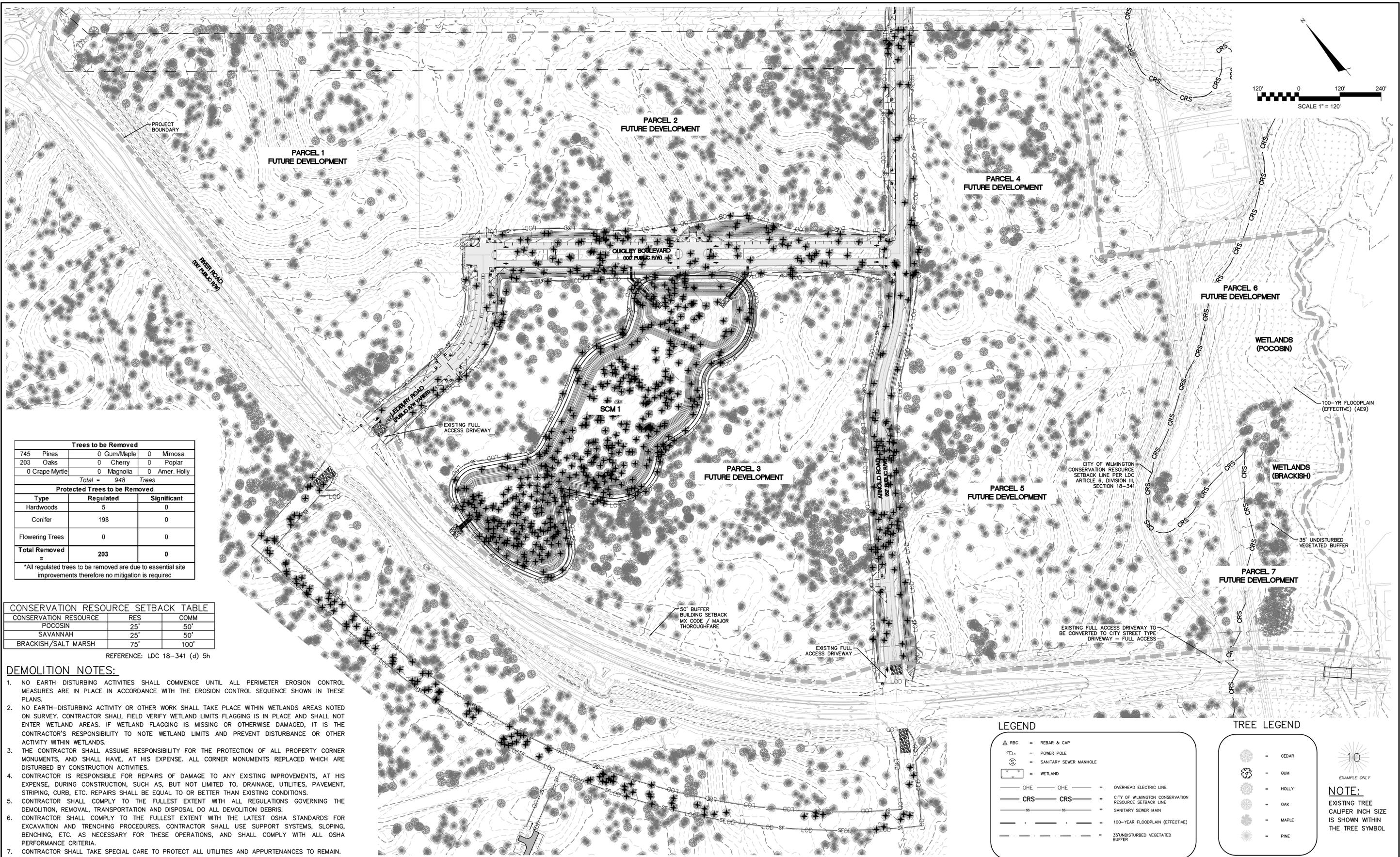
DATE: 08/19/2020
 MCE PROJ. # 02735-0285
 DRAWN: EEM/JEB
 DESIGNED: EEM
 CHECKED: KCBE
 PROJ. MGR: KCBE

SCALE
 HORIZONTAL: 1"=120'
 VERTICAL: N/A

MAC FILE NUMBER: CX-101
 DRAWING NUMBER: 5

STATUS: PRELIMINARY DESIGN
 NOT FOR CONSTRUCTION

REVISION H



| Trees to be Removed | | | |
|---------------------|--------------|-----|-------------|
| 745 | Pines | 0 | Gum/Maple |
| 203 | Oaks | 0 | Cherry |
| 0 | Crape Myrtle | 0 | Magnolia |
| | | 0 | Amer. Holly |
| Total = | | 948 | Trees |

| Protected Trees to be Removed | | |
|-------------------------------|------------|-------------|
| Type | Regulated | Significant |
| Hardwoods | 5 | 0 |
| Conifer | 198 | 0 |
| Flowering Trees | 0 | 0 |
| Total Removed | 203 | 0 |

*All regulated trees to be removed are due to essential site improvements therefore no mitigation is required

| CONSERVATION RESOURCE SETBACK TABLE | | |
|-------------------------------------|-----|------|
| CONSERVATION RESOURCE | RES | COMM |
| POCOSIN | 25' | 50' |
| SAVANNAH | 25' | 50' |
| BRACKISH/SALT MARSH | 75' | 100' |

REFERENCE: LDC 18-341 (d) 5h

DEMOLITION NOTES:

1. NO EARTH DISTURBING ACTIVITIES SHALL COMMENCE UNTIL ALL PERIMETER EROSION CONTROL MEASURES ARE IN PLACE IN ACCORDANCE WITH THE EROSION CONTROL SEQUENCE SHOWN IN THESE PLANS.
2. NO EARTH-DISTURBING ACTIVITY OR OTHER WORK SHALL TAKE PLACE WITHIN WETLANDS AREAS NOTED ON SURVEY. CONTRACTOR SHALL FIELD VERIFY WETLAND LIMITS FLAGGING IS IN PLACE AND SHALL NOT ENTER WETLAND AREAS. IF WETLAND FLAGGING IS MISSING OR OTHERWISE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTE WETLAND LIMITS AND PREVENT DISTURBANCE OR OTHER ACTIVITY WITHIN WETLANDS.
3. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
4. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS, AT HIS EXPENSE, DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
5. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL DO ALL DEMOLITION DEBRIS.
6. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, ETC. AS NECESSARY FOR THESE OPERATIONS, AND SHALL COMPLY WITH ALL OSHA PERFORMANCE CRITERIA.
7. CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ALL UTILITIES AND APPURTENANCES TO REMAIN.

| LEGEND | |
|--------|---|
| | = REBAR & CAP |
| | = POWER POLE |
| | = SANITARY SEWER MANHOLE |
| | = WETLAND |
| | = OVERHEAD ELECTRIC LINE |
| | = CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE |
| | = SANITARY SEWER MAIN |
| | = 100-YEAR FLOODPLAIN (EFFECTIVE) |
| | = 35' UNDISTURBED VEGETATED BUFFER |

| TREE LEGEND | |
|-------------|---------|
| | = CEDAR |
| | = GUM |
| | = HOLLY |
| | = OAK |
| | = MAPLE |
| | = PINE |

NOTE: EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL

| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
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 Wilmington, North Carolina 28401
 Phone: (910)343-1048, Fax: (910)251-8282
 License: F-1222
 www.mckimcreed.com

NASH
 NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS®

RIVERLIGHTS MX-3
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

TREE INVENTORY

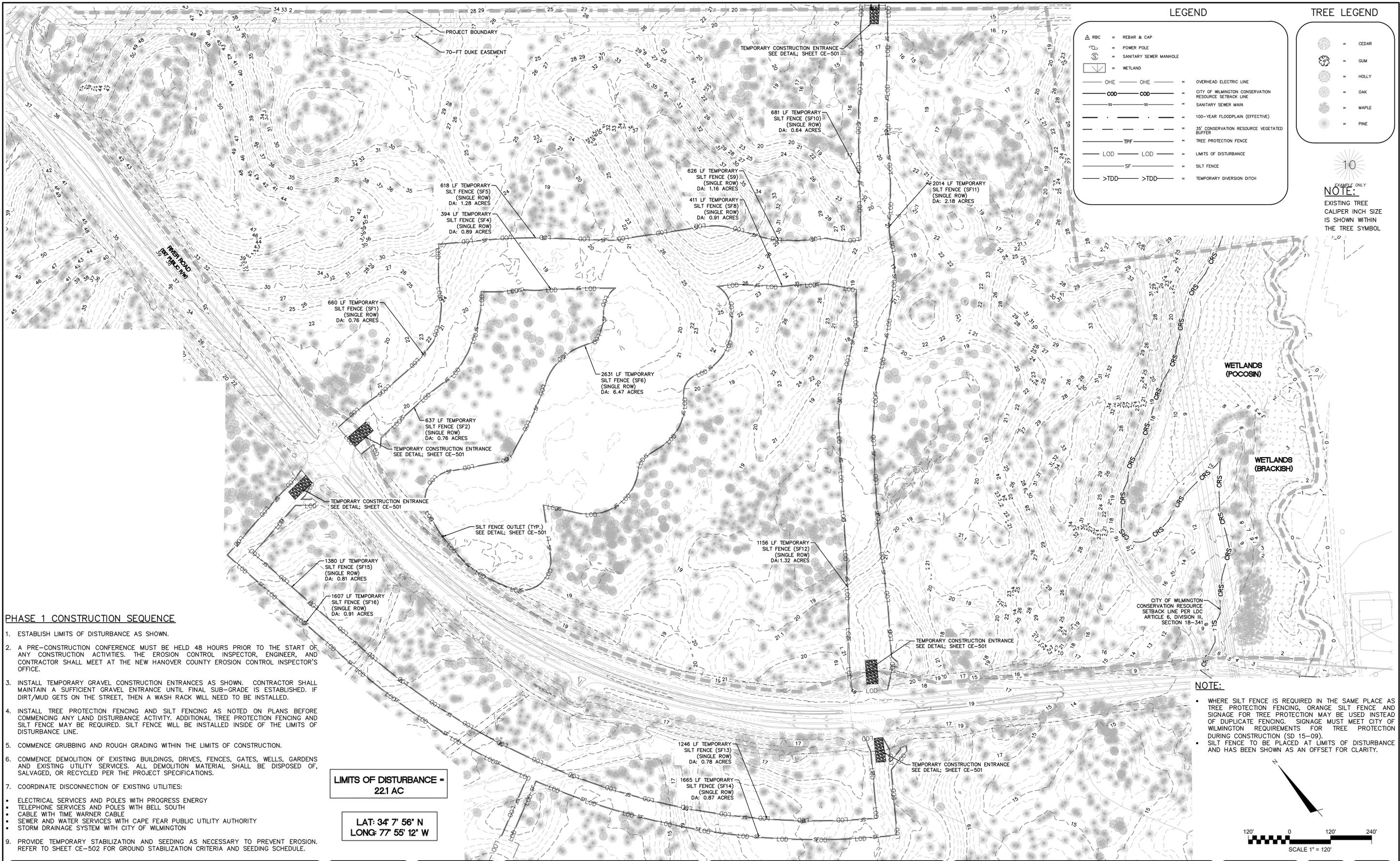
DATE: 08/19/2020
 MCE PROJ. # 02735-0285
 DRAWN EEM/JEB
 DESIGNED EEM
 CHECKED KCBE
 PROJ. MGR. KCBE

SCALE
 HORIZONTAL: 1"=120'
 VERTICAL: N/A

MFC FILE NUMBER: CX-102
 DRAWING NUMBER: 6

STATUS: PRELIMINARY DESIGN
 NOT FOR CONSTRUCTION

REVISION H



| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
| G | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION | 02-01-2021 |
| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
| E | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE AND STORMWATER RE-SUBMITTALS | 01-13-2021 |
| D | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 11-18-2020 |
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| A | CITY OF WILMINGTON PRE-TECHNICAL REVIEW COMMITTEE SUBMITTAL | 8-19-2020 |

FINAL DRAWING
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RIVERLIGHTS MX-3

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

PHASE 1 SEDIMENT AND EROSION CONTROL PLAN

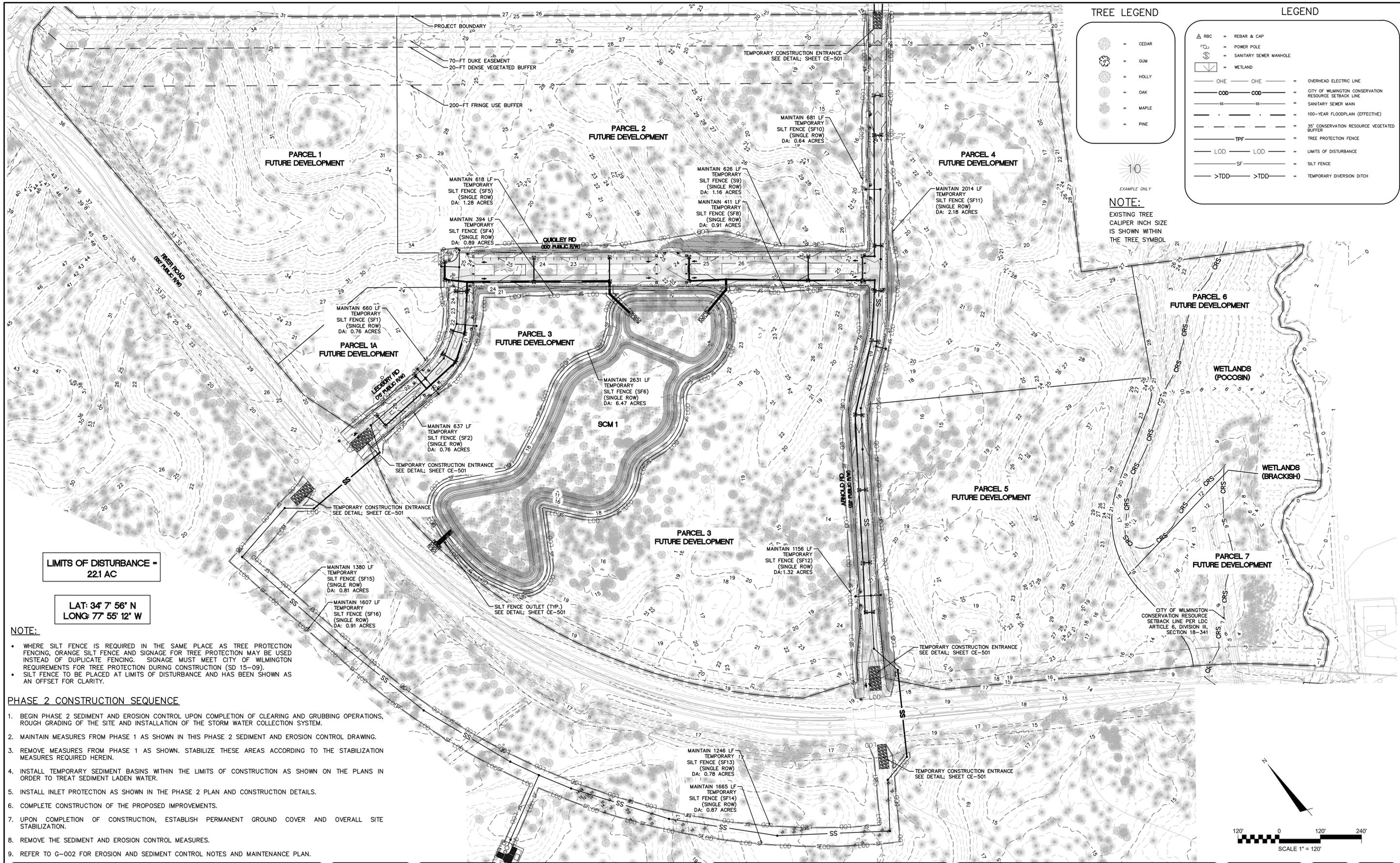
DATE: 08/19/2020
MCE PROJ. #: 02735-0285
DRAWN: EEM/JEB
DESIGNED: EEM
CHECKED: KCBE
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=120'
VERTICAL: N/A

MAC FILE NUMBER: CE-101
DRAWING NUMBER: 7

STATUS: PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

REVISION: H



TREE LEGEND

- CEDAR
- GUM
- HOLLY
- OAK
- MAPLE
- PINE



NOTE:
EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL

LEGEND

- REBAR & CAP
- POWER POLE
- SANITARY SEWER MANHOLE
- WETLAND
- OHE
- CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
- SANITARY SEWER MAIN
- 100-YEAR FLOODPLAIN (EFFECTIVE)
- 35' CONSERVATION RESOURCE VEGETATED BUFFER
- TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE
- SILT FENCE
- TEMPORARY DIVERSION DITCH

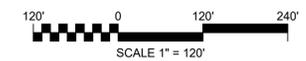
LIMITS OF DISTURBANCE = 22.1 AC

**LAT: 34° 7' 56" N
LONG: 77° 55' 12" W**

- NOTE:**
- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET CITY OF WILMINGTON REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION (SD 15-09).
 - SILT FENCE TO BE PLACED AT LIMITS OF DISTURBANCE AND HAS BEEN SHOWN AS AN OFFSET FOR CLARITY.

PHASE 2 CONSTRUCTION SEQUENCE

1. BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING AND GRUBBING OPERATIONS, ROUGH GRADING OF THE SITE AND INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
2. MAINTAIN MEASURES FROM PHASE 1 AS SHOWN IN THIS PHASE 2 SEDIMENT AND EROSION CONTROL DRAWING.
3. REMOVE MEASURES FROM PHASE 1 AS SHOWN. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
4. INSTALL TEMPORARY SEDIMENT BASINS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER.
5. INSTALL INLET PROTECTION AS SHOWN IN THE PHASE 2 PLAN AND CONSTRUCTION DETAILS.
6. COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
7. UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
8. REMOVE THE SEDIMENT AND EROSION CONTROL MEASURES.
9. REFER TO G-002 FOR EROSION AND SEDIMENT CONTROL NOTES AND MAINTENANCE PLAN.



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 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
PHASE 2 SEDIMENT AND EROSION CONTROL PLAN

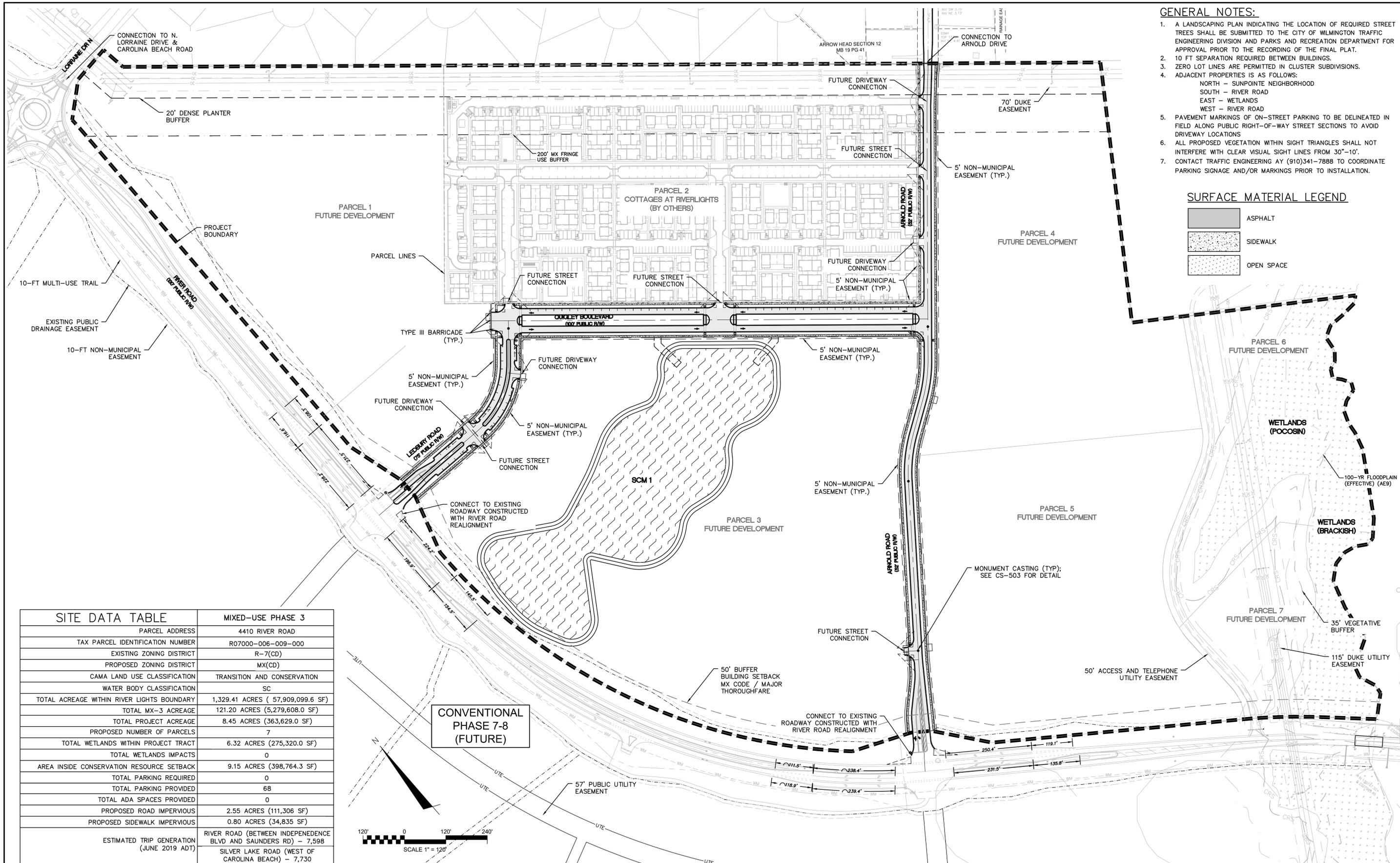
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| DATE: 08/19/2020 | SCALE: HORIZONTAL: 1"=120' | MAC FILE NUMBER: CE-102 |
| MCE PROJ. # 02735-0285 | DESIGNED: EEM/JEB | DRAWING NUMBER: 8 |
| CHECKED: KCBE | PROJ. MGR. KCBE | REVISION: H |
| STATUS: PRELIMINARY DESIGN | | NOT FOR CONSTRUCTION |

GENERAL NOTES:

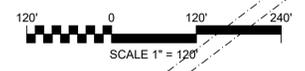
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
- 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
- ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS.
- ADJACENT PROPERTIES IS AS FOLLOWS:
 NORTH - SUNPOINTE NEIGHBORHOOD
 SOUTH - RIVER ROAD
 EAST - WETLANDS
 WEST - RIVER ROAD
- PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG PUBLIC RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'.
- CONTACT TRAFFIC ENGINEERING AY (910)341-7888 TO COORDINATE PARKING SIGNAGE AND/OR MARKINGS PRIOR TO INSTALLATION.

SURFACE MATERIAL LEGEND

| | |
|--|------------|
| | ASPHALT |
| | SIDEWALK |
| | OPEN SPACE |



| SITE DATA TABLE | | MIXED-USE PHASE 3 | |
|--|---|----------------------------------|-------------------------------|
| PARCEL ADDRESS | 4410 RIVER ROAD | TAX PARCEL IDENTIFICATION NUMBER | R07000-006-009-000 |
| EXISTING ZONING DISTRICT | R-7(CD) | PROPOSED ZONING DISTRICT | MX(CD) |
| CAMA LAND USE CLASSIFICATION | TRANSITION AND CONSERVATION | WATER BODY CLASSIFICATION | SC |
| TOTAL ACREAGE WITHIN RIVER LIGHTS BOUNDARY | 1,329.41 ACRES (57,909,099.6 SF) | TOTAL MX-3 ACREAGE | 121.20 ACRES (5,279,608.0 SF) |
| TOTAL PROJECT ACREAGE | 8.45 ACRES (363,629.0 SF) | PROPOSED NUMBER OF PARCELS | 7 |
| TOTAL WETLANDS WITHIN PROJECT TRACT | 6.32 ACRES (275,320.0 SF) | TOTAL WETLANDS IMPACTS | 0 |
| AREA INSIDE CONSERVATION RESOURCE SETBACK | 9.15 ACRES (398,764.3 SF) | TOTAL PARKING REQUIRED | 0 |
| TOTAL PARKING PROVIDED | 68 | TOTAL ADA SPACES PROVIDED | 0 |
| PROPOSED ROAD IMPERVIOUS | 2.55 ACRES (111,306 SF) | PROPOSED SIDEWALK IMPERVIOUS | 0.80 ACRES (34,835 SF) |
| ESTIMATED TRIP GENERATION (JUNE 2019 ADT) | RIVER ROAD (BETWEEN INDEPENDENCE BLVD AND SAUNDERS RD) - 7,598 SILVER LAKE ROAD (WEST OF CAROLINA BEACH) - 7,730 | | |



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RIVERLIGHTS MX-3
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

SITE PLAN

DATE: 08/19/2020
 MCE PROJ. # 02735-0285
 DRAWN: EEM/JEB
 DESIGNED: EEM
 CHECKED: KCBE
 PROJ. MGR: KCBE

SCALE: HORIZONTAL: 1"=120'
 VERTICAL: N/A

MCE FILE NUMBER: CS-100
 DRAWING NUMBER: 9

STATUS: PRELIMINARY DESIGN
 NOT FOR CONSTRUCTION

REVISION: H

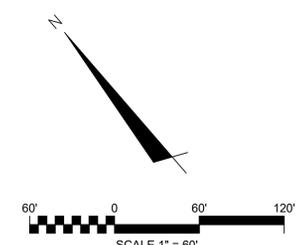
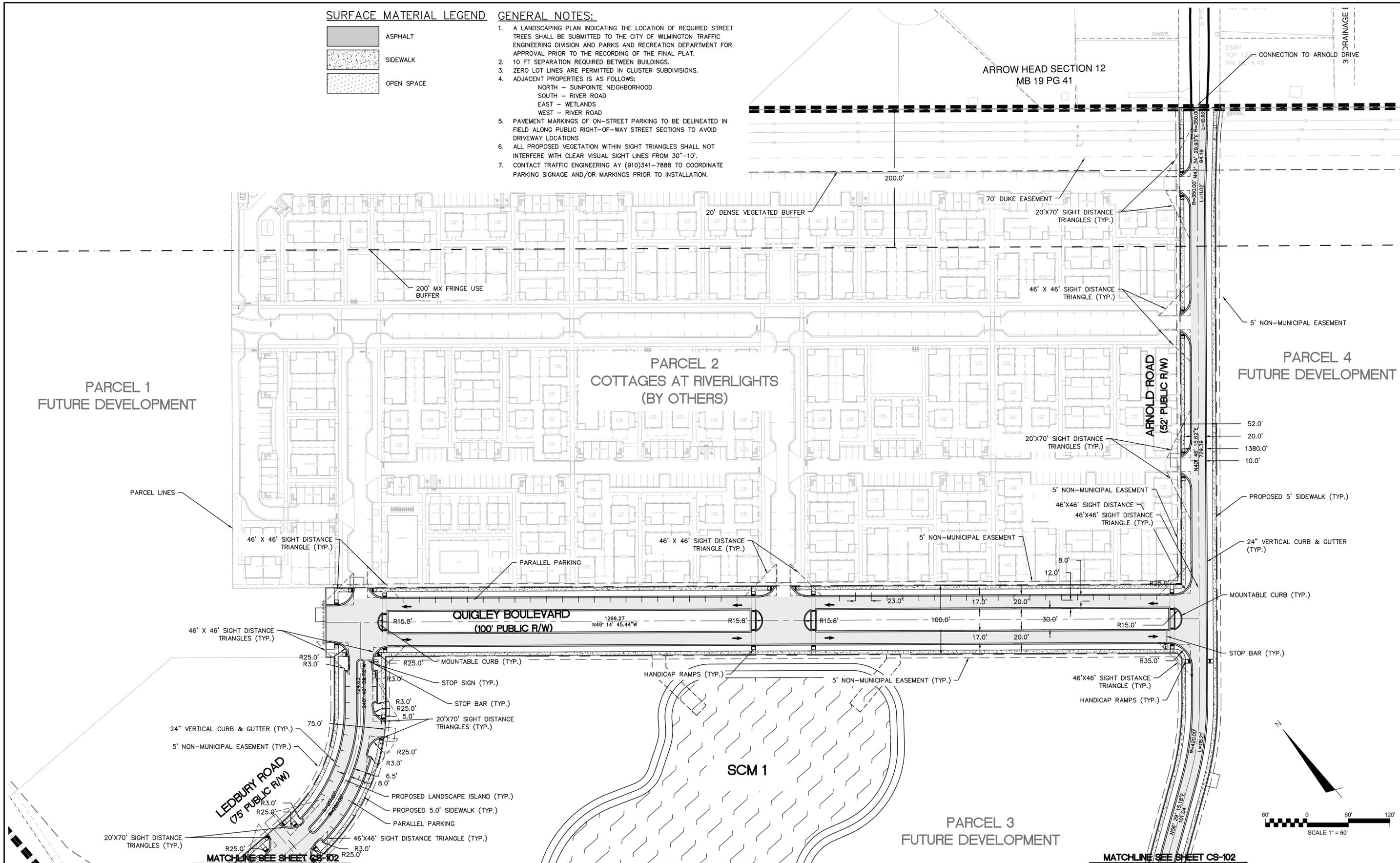
SURFACE MATERIAL LEGEND

| | |
|--|------------|
| | ASPHALT |
| | SIDEWALK |
| | OPEN SPACE |

GENERAL NOTES:

1. A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
2. 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
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ARROW HEAD SECTION 12
MB 19 PG 41



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MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

ENLARGED SITE PLAN

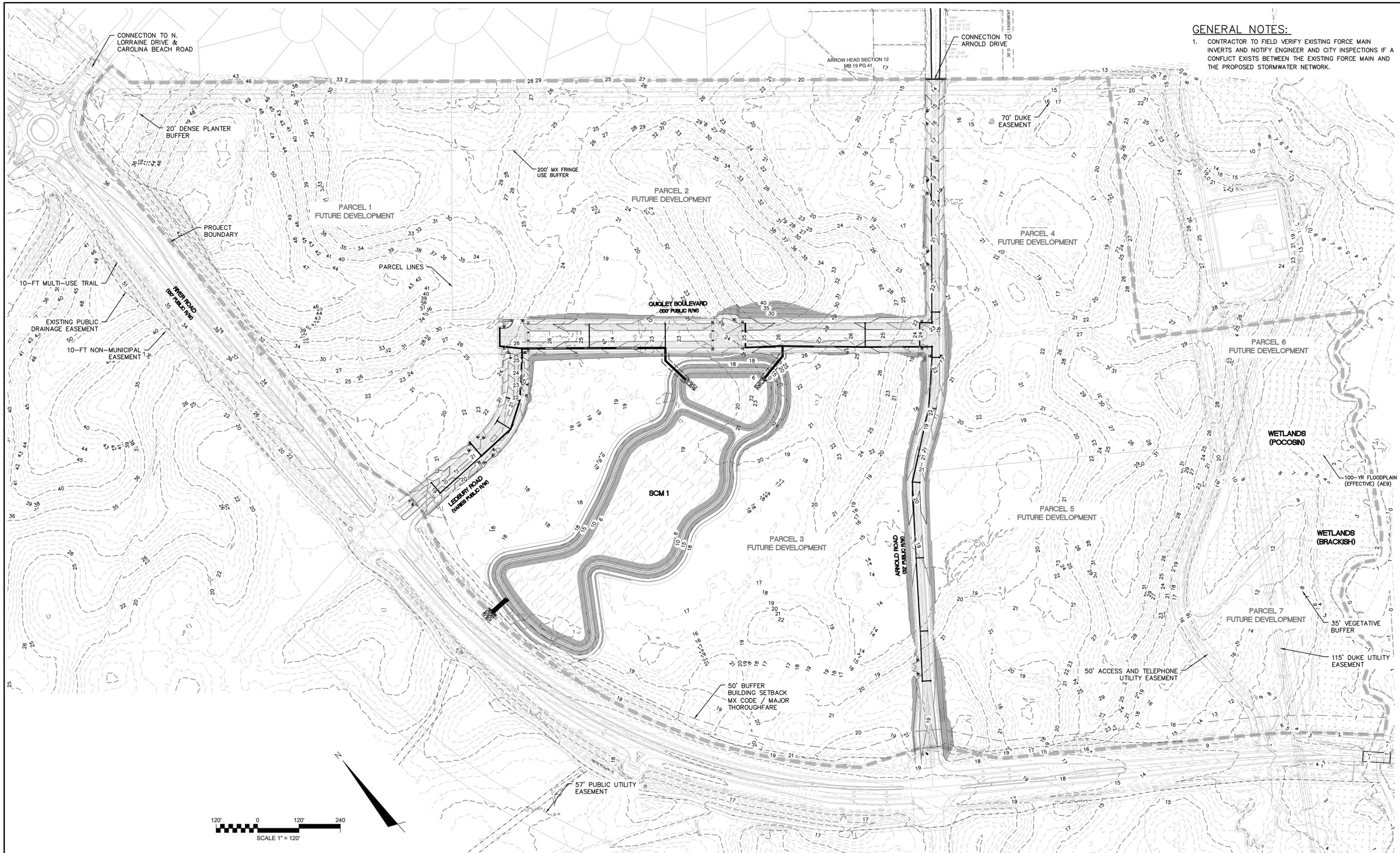
DATE: 08/19/2020
MCE PROJ. # 02735-0285
DRAWN EEM/JEB
DESIGNED EEM
CHECKED KCBE
PROJ. MGR. KCBE

SCALE
HORIZONTAL: 1"=60'
VERTICAL: N/A

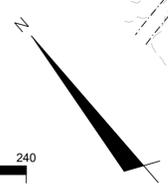
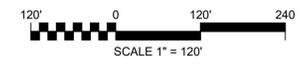
MAC FILE NUMBER: CS-101
DRAWING NUMBER: 10

STATUS: PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

REVISION: H



GENERAL NOTES:
 1. CONTRACTOR TO FIELD VERIFY EXISTING FORCE MAIN INVERTS AND NOTIFY ENGINEER AND CITY INSPECTIONS IF A CONFLICT EXISTS BETWEEN THE EXISTING FORCE MAIN AND THE PROPOSED STORMWATER NETWORK.



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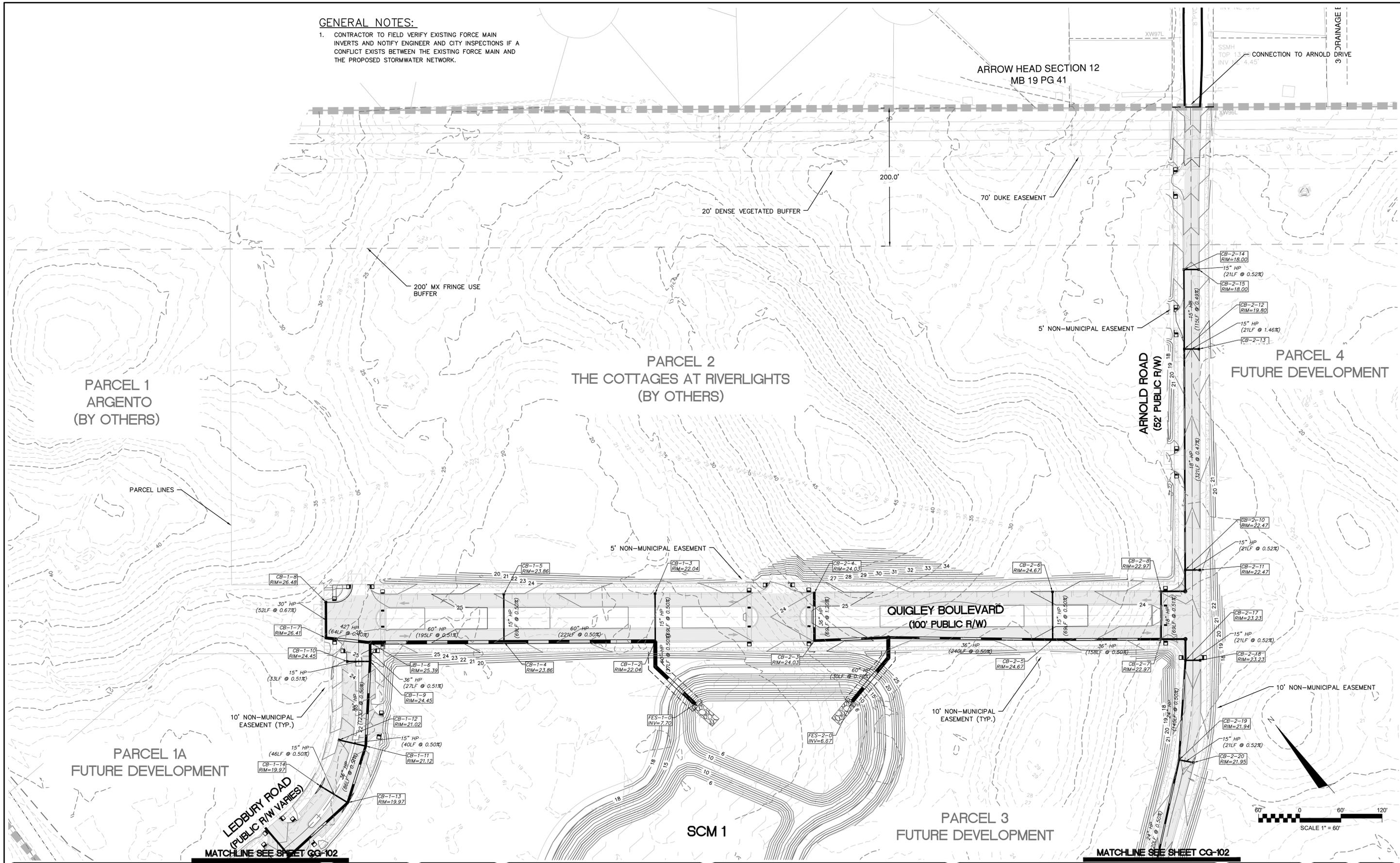

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RIVERLIGHTS MX-3
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
OVERALL GRADING AND STORM DRAINAGE PLAN

| | |
|------------------------|--|
| DATE: 08/19/2020 | SCALE: CG-100 |
| MCE PROJ. # 02735-0285 | DRAWING NUMBER: 12 |
| DRAWN: EEM/JEB | HORIZONTAL: 1"=120' |
| DESIGNED: EEM | VERTICAL: N/A |
| CHECKED: KCBE | REVISION: H |
| PROJ. MGR: KCBE | STATUS: PRELIMINARY DESIGN NOT FOR CONSTRUCTION |

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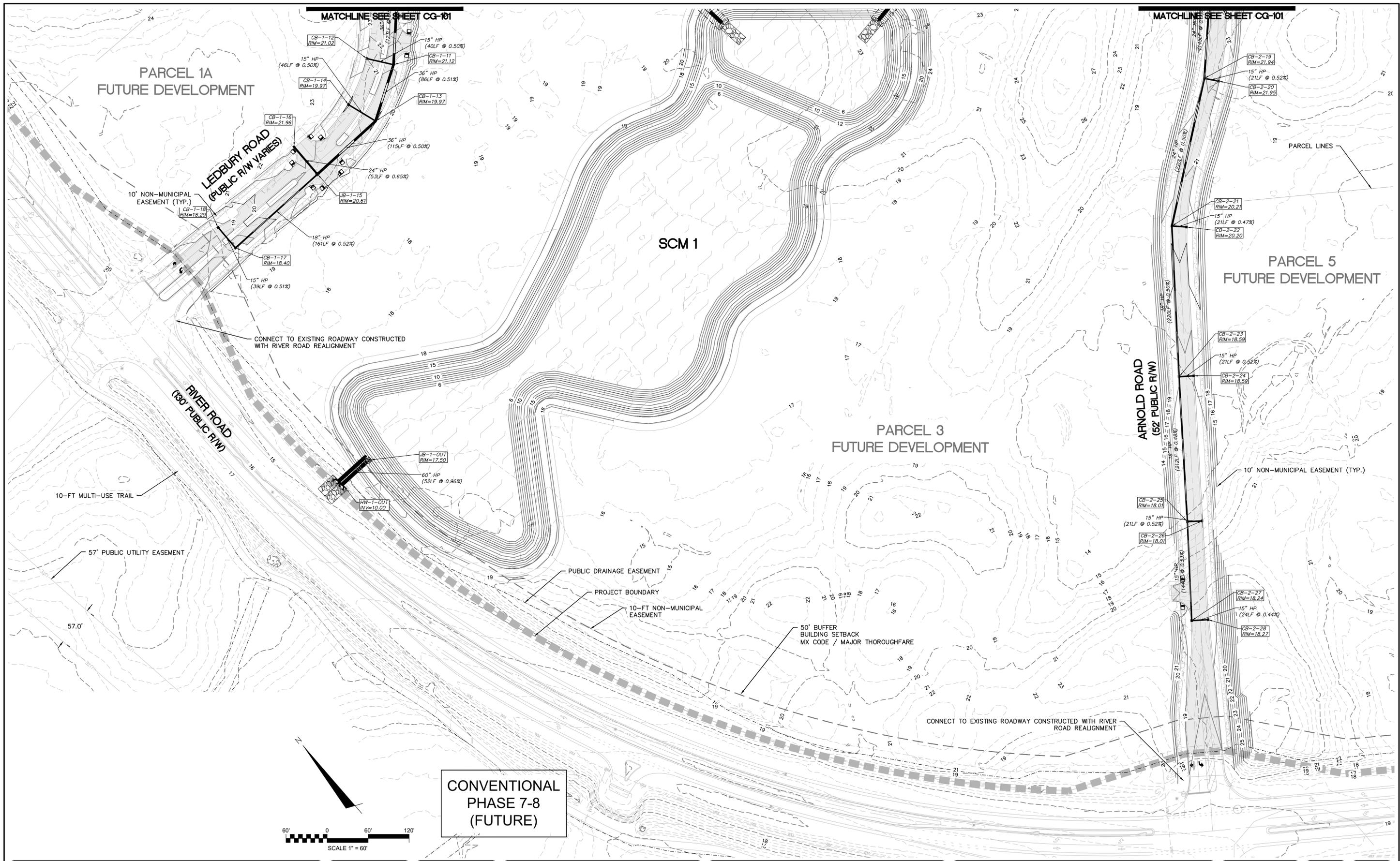
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ENLARGED STORM DRAINAGE AND GRADING PLAN

| | | |
|------------------------|----------------------------|-------------------------|
| DATE: 08/19/2020 | SCALE: HORIZONTAL: 1"=60' | MAC FILE NUMBER: CG-101 |
| MCE PROJ. # 02735-0285 | DESIGNED: EEM | DRAWING NUMBER: 13 |
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| PROJ. MGR: KCBE | STATUS: PRELIMINARY DESIGN | REVISION: H |
| | NOT FOR CONSTRUCTION | |



**CONVENTIONAL
PHASE 7-8
(FUTURE)**

| REVNO. | DESCRIPTIONS REVISIONS | DATE |
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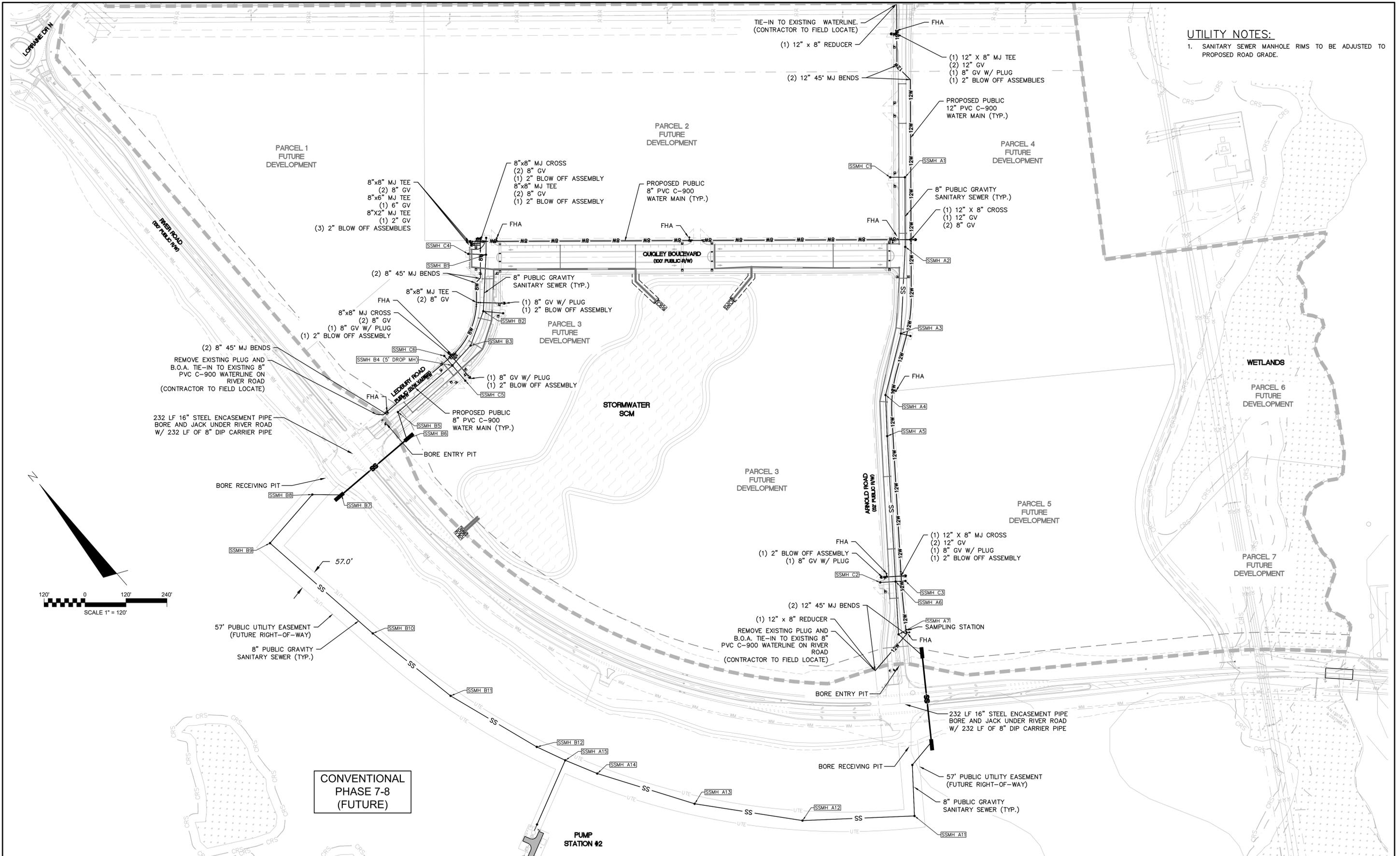
RIVERLIGHTS MX-3
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
**ENLARGED STORM DRAINAGE AND
GRADING PLAN**

| | |
|-------------|------------|
| DATE: | 08/19/2020 |
| MCE PROJ. # | 02735-0285 |
| DRAWN | EEM/JEB |
| DESIGNED | EEM |
| CHECKED | KCBE |
| PROJ. MGR. | KCBE |

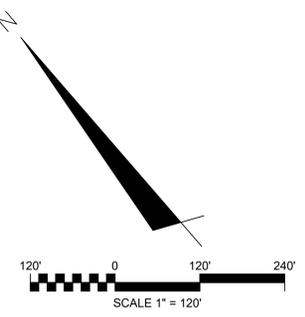
SCALE
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1"=60'
 VERTICAL:
N/A

M&C FILE NUMBER
CG-102
 DRAWING NUMBER
14
 REVISION
H

STATUS: **PRELIMINARY DESIGN**
 NOT FOR CONSTRUCTION



UTILITY NOTES:
 1. SANITARY SEWER MANHOLE RIMS TO BE ADJUSTED TO PROPOSED ROAD GRADE.



CONVENTIONAL
 PHASE 7-8
 (FUTURE)

| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
| A | CITY OF WILMINGTON PRE-TECHNICAL REVIEW COMMITTEE SUBMITTAL | 8-19-2020 |
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 PURPOSES ONLY

SEAL

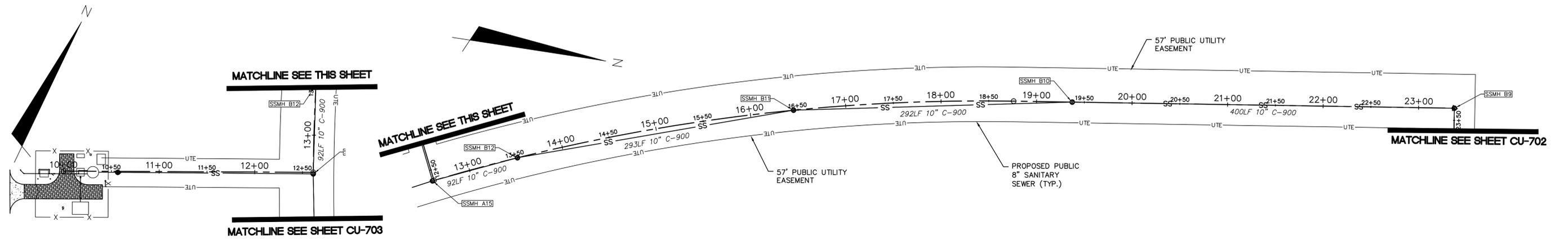
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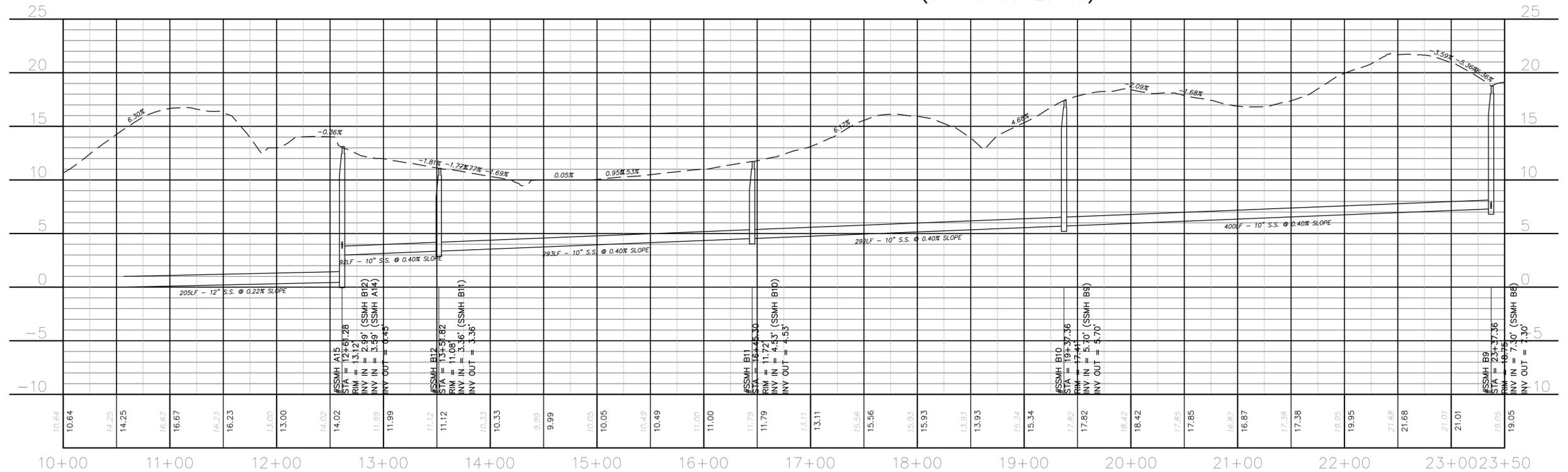
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RIVERLIGHTS MX-3
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
OVERALL UTILITIES PLAN

| | | |
|----------------------------|----------------------------|-------------------------|
| DATE: 08/19/2020 | SCALE: HORIZONTAL: 1"=120' | MAC FILE NUMBER: CU-100 |
| MCE PROJ. # 02735-0285 | VERTICAL: N/A | DRAWING NUMBER: 15 |
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| DESIGNED: EEM | | |
| CHECKED: KCBE | | |
| PROJ. MGR.: KCBE | | |
| STATUS: PRELIMINARY DESIGN | | |
| NOT FOR CONSTRUCTION | | |
| REVISION: H | | |



SF 7-8 S.S. NORTH
(STA 10+00-23+50)



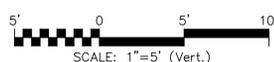
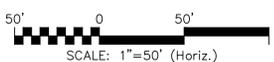
SF 7-8 S.S. NORTH
(STA 10+00-23+50)

CFPUA STANDARD NOTES:

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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- ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- 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 TYPE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
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- A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
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| REVNO. | DESCRIPTIONS | DATE |
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| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
| G | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION | 02-01-2021 |
| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
| E | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE AND STORMWATER RE-SUBMITTALS | 01-13-2021 |
| D | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 11-18-2020 |
| C | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL SUBMITTALS | 9-23-2020 |
| B | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL | 9-16-2020 |
| A | CITY OF WILMINGTON PRE-TECHNICAL REVIEW COMMITTEE SUBMITTAL | 8-19-2020 |

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MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
PLAN AND PROFILE
SF 7-8 S.S. NORTH
STA 10+00 TO 23+50

| | | |
|----------------------------|--------------------|-------------------------|
| DATE: 08/19/2020 | SCALE: 1"=50' | MAC FILE NUMBER: CU-701 |
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| DRAWN: EEM/JEB | VERTICAL: 1"=5' | |
| DESIGNED: EEM | | |
| CHECKED: KCBE | | |
| PROJ. MGR: KCBE | | |
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| NOT FOR CONSTRUCTION | | |

CFPUA STANDARD NOTES:

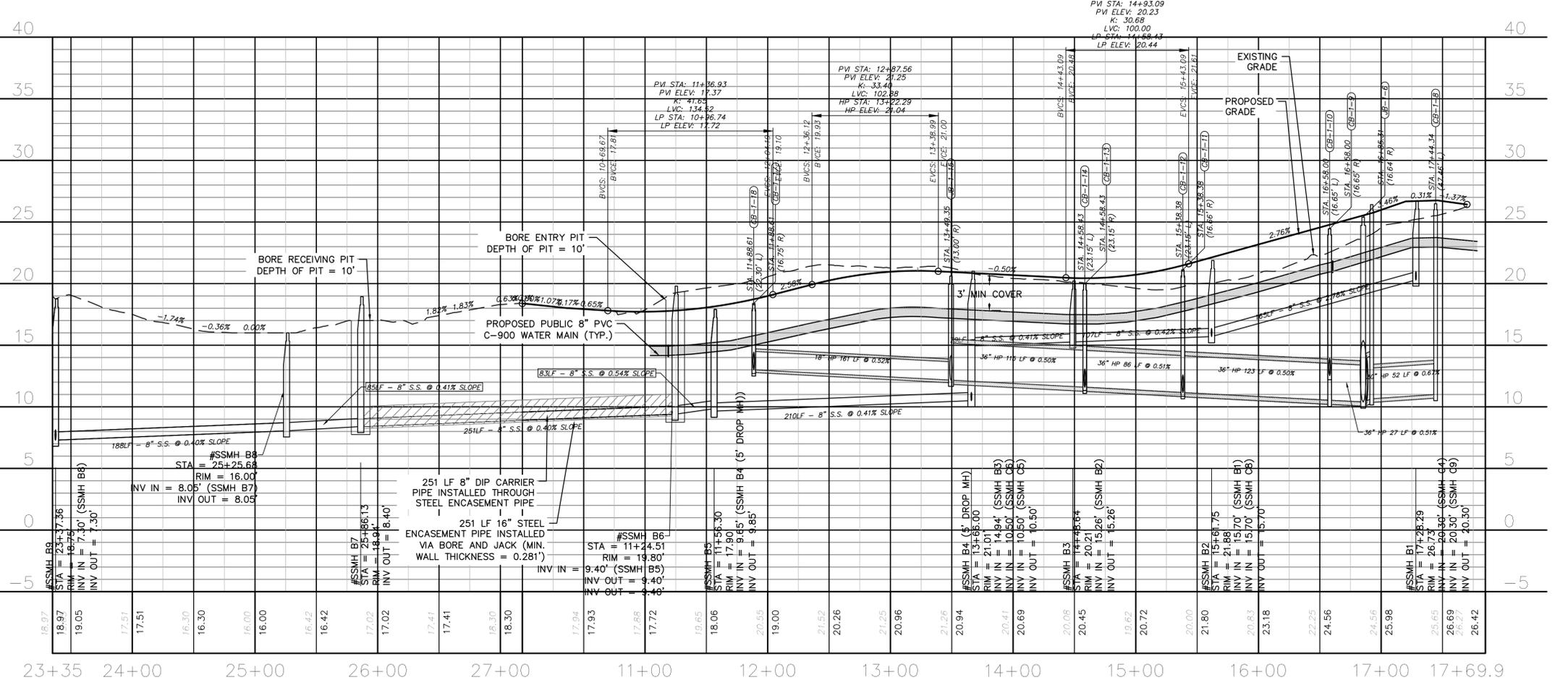
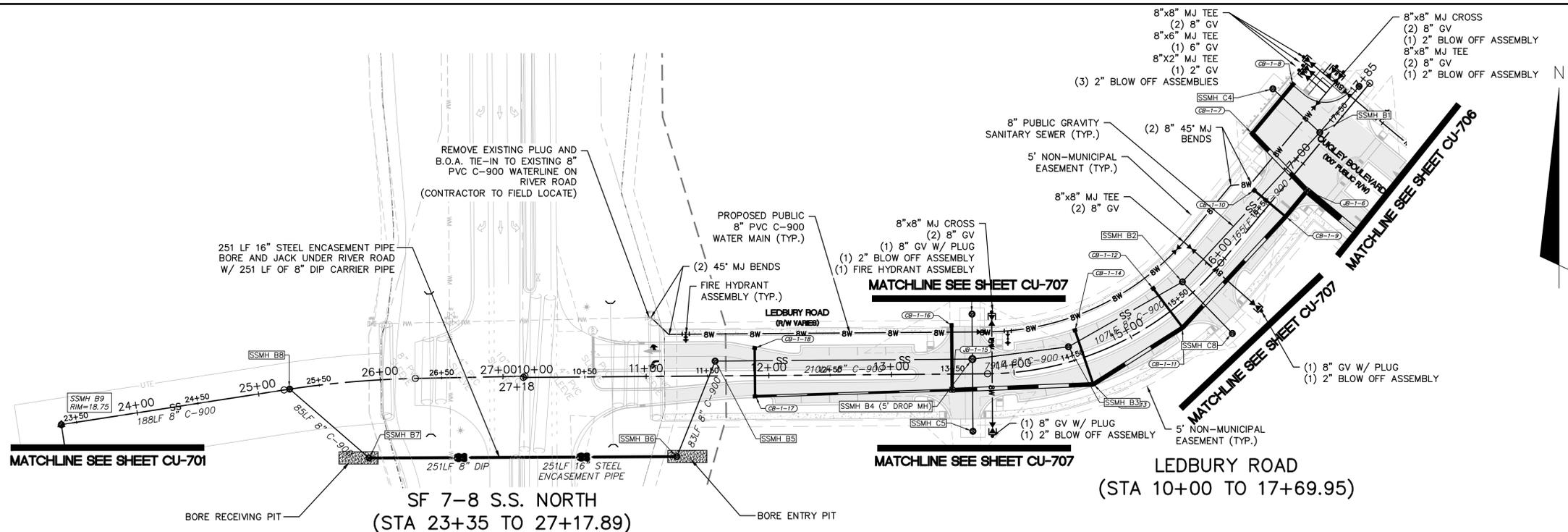
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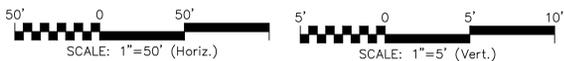
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SF 7-8 S.S. NORTH
(STA 23+35 TO 27+17.89)

LEDBURY ROAD
(STA 10+00 TO 17+69.95)



| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
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| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
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NORTH AMERICA SEKISUI HOUSE, LLC

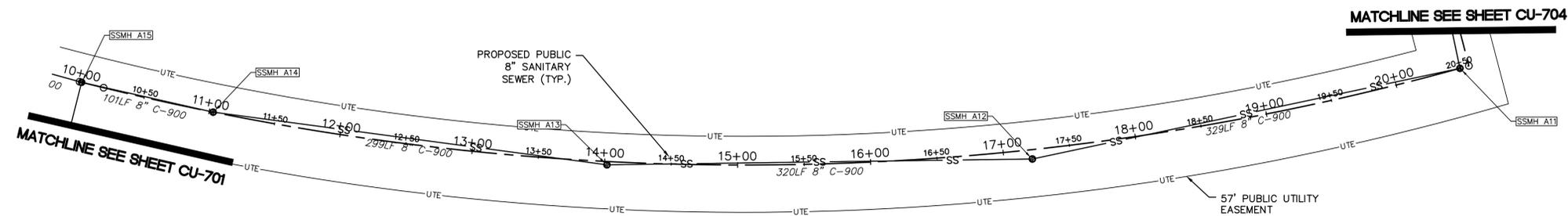
RIVERLIGHTS MX-3
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
PLAN AND PROFILE
SF 7-8 S.S. NORTH
LEDBURY ROAD

DATE: 08/19/2020
MCE PROJ. # 02735-0285
DRAWN: EEM/JEB
DESIGNED: EEM
CHECKED: KCBE
PROJ. MGR. KCBE

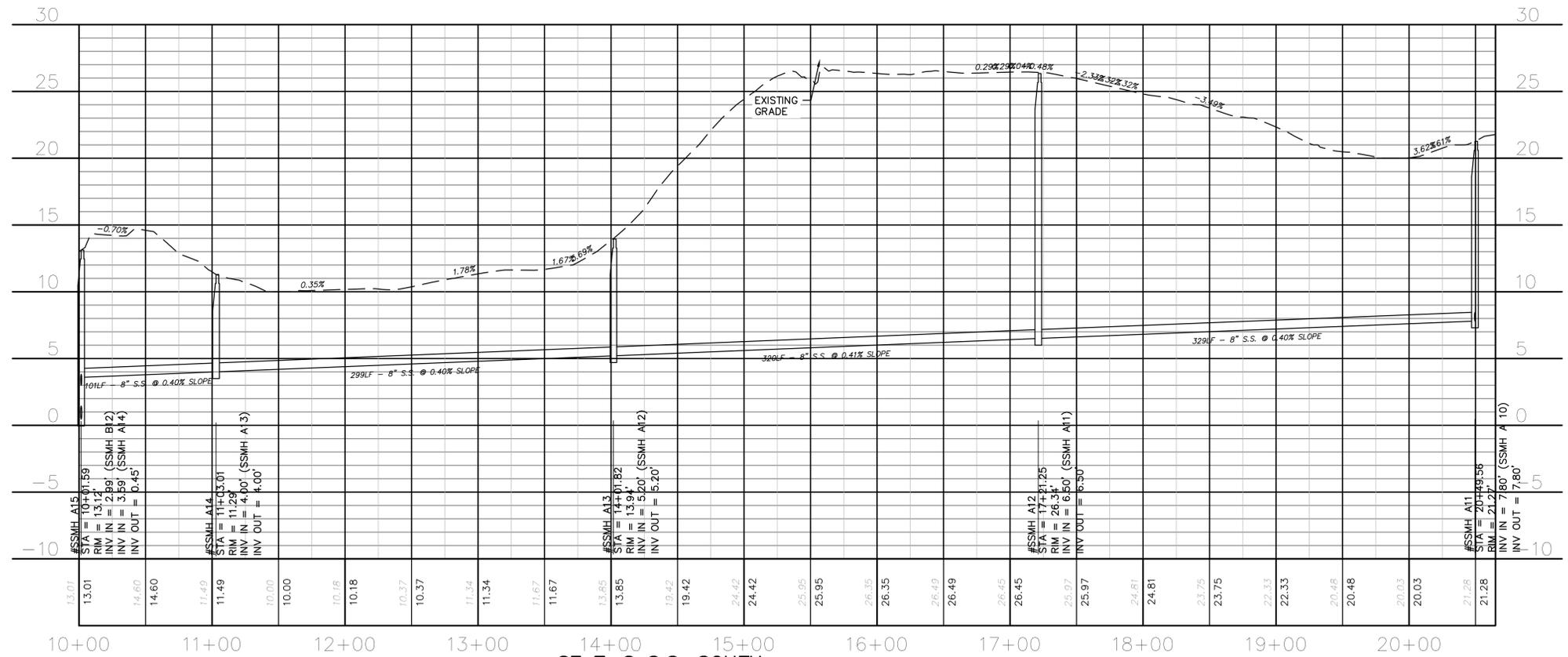
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VERTICAL: 1"=5'

STATUS: PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

MAC FILE NUMBER: CU-702
DRAWING NUMBER: 17
REVISION: H



SF 7-8 S.S. SOUTH
(STA 10+00 TO 20+50)



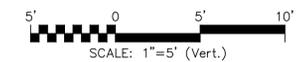
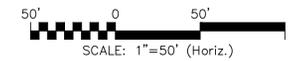
SF 7-8 S.S. SOUTH
(STA 10+00 TO 20+50)

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FINAL DRAWING
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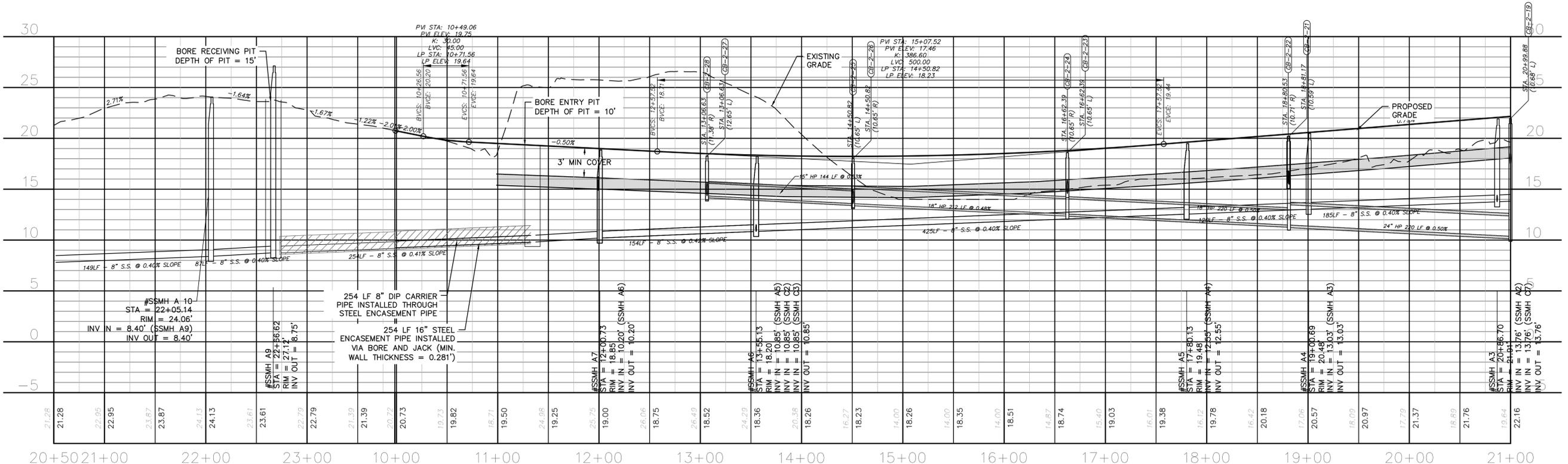
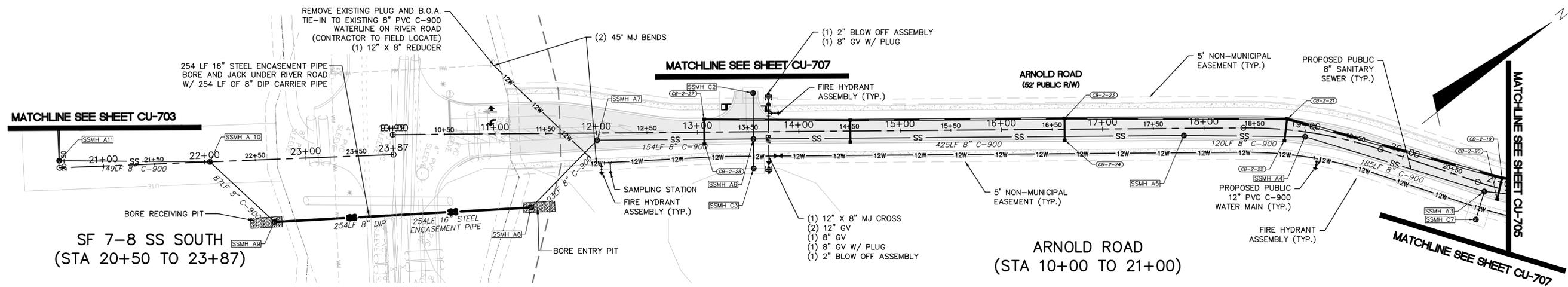
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| | | |
|------------------------|----------------------------|-------------------------|
| DATE: 08/19/2020 | SCALE: 1"=50' | MAC FILE NUMBER: CU-703 |
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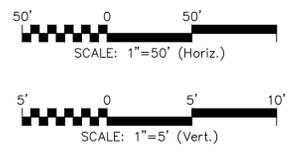


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| E | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE AND STORMWATER RE-SUBMITTALS | 04-13-2021 |
| D | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 11-18-2020 |
| C | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL SUBMITTALS | 9-23-2020 |
| B | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL | 9-16-2020 |
| A | CITY OF WILMINGTON PRE-TECHNICAL REVIEW COMMITTEE SUBMITTAL | 8-19-2020 |

FINAL DRAWING FOR REVIEW PURPOSES ONLY

SEAL

MCKIM & CREED
 243 North Front Street
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 Phone: (910)343-1048, Fax: (910)251-8282
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RIVERLIGHTS
 NORTH AMERICA SEKISUI HOUSE, LLC

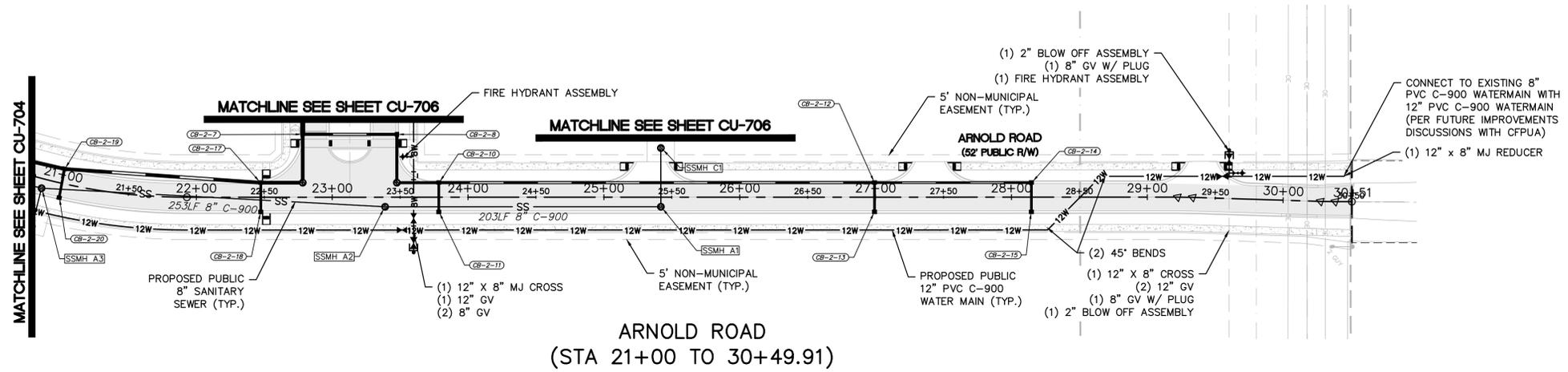
RIVERLIGHTS MX-3
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
PLAN AND PROFILE
SF 7-8 S.S. SOUTH
ARNOLD DRIVE

DATE: 08/19/2020
 MCE PROJ. # 02735-0285
 DRAWN: EEM/JEB
 DESIGNED: EEM
 CHECKED: KCB
 PROJ. MGR. KCB

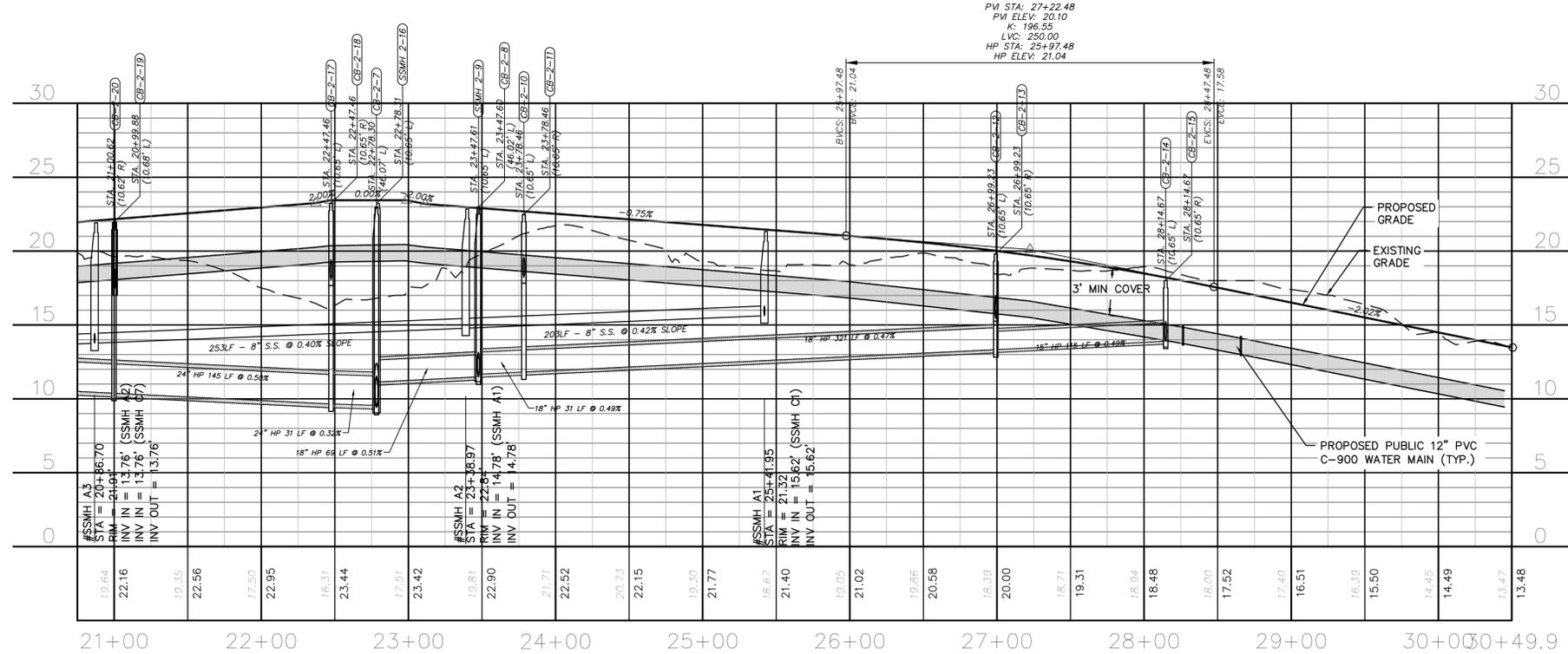
SCALE: HORIZONTAL: 1"=50'
 VERTICAL: 1"=5'

STATUS: **PRELIMINARY DESIGN**
 NOT FOR CONSTRUCTION

MAC FILE NUMBER: **CU-704**
 DRAWING NUMBER: **19**
 REVISION: **H**



ARNOLD ROAD
(STA 21+00 TO 30+49.91)



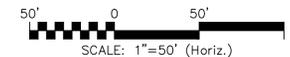
ARNOLD ROAD
(STA 21+00 TO 30+49.91)

CFPUA STANDARD NOTES:

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- 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 18" INSIDE 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 18" INSIDE RIGHT-OF-WAY LINE.
- ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- 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 TYPE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.
- WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
- ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT OR BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.
- VALVE LOCATIONS TO BE FIELD ADJUSTED TO AVOID PLACEMENT WITHIN HANDICAP RAMPS.
- WATER METERS AND CLEAN OUTS TO BE INSTALLED ON STRUCTURE SIDE OF MAIN (NO REVERSE TAPS).
- SANITARY SEWER MANHOLE RIMS TO BE ADJUSTED TO PROPOSED CONVENTIONAL PHASE 7 & 8 ROAD GRADE.



| REVNO. | DESCRIPTIONS | DATE |
|--------|--|------------|
| H | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL | 02-09-2021 |
| G | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION | 02-01-2021 |
| F | NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL REVISION, CITY OF WILMINGTON TREE REMOVAL REVISION | 01-22-2021 |
| E | CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE AND STORMWATER RE-SUBMITTALS | 01-13-2021 |
| D | CAPE FEAR PUBLIC UTILITY AUTHORITY AND NEW HANOVER COUNTY EROSION AND SEDIMENT CONTROL RE-SUBMITTALS | 11-18-2020 |
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| MCE PROJ. # 02735-0285 | HORIZONTAL: 1"=50' | CU-705 |
| DRAWN EEM/JEB | VERTICAL: 1"=5' | 20 |
| DESIGNED EEM | | |
| CHECKED KCBE | | |
| PROJ. MGR. KCBE | | |
| STATUS: PRELIMINARY DESIGN | | REVISION E |
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