

SITE CONSTRUCTION PLANS for FOUNDATION EARLY LEARNING

4301 CAROLINA BEACH ROAD
WILMINGTON, NC, 28412

FEBRUARY 09, 2024

SITE DEVELOPMENT SUMMARY:

TAX PARCEL IDENTIFICATION NUMBER: R07000-003-005-000
TOTAL ACREAGE: 2.357 AC (102,691 SF)
ZONING: MX (L)
PROPOSED USE: DAYCARE

SETBACKS OF BUILDING: FRONT: 50 FT
SIDE: 20 FT
REAR: 10 FT
BUILDING SIZE: 12,500 SF
BUILDING LOT COVERAGE: 12.17%
NUMBER OF UNITS: N/A
NUMBER OF BUILDINGS: 1
BUILDING HEIGHT(S): 25'
NUMBER OF STORIES AND SF PER FLOOR: 1 FLOOR: 12,500 SF

OFF STREET PARKING CALCULATIONS FOR CHILD DAYCARE (280 PARTICIPANTS 280/8 =35)

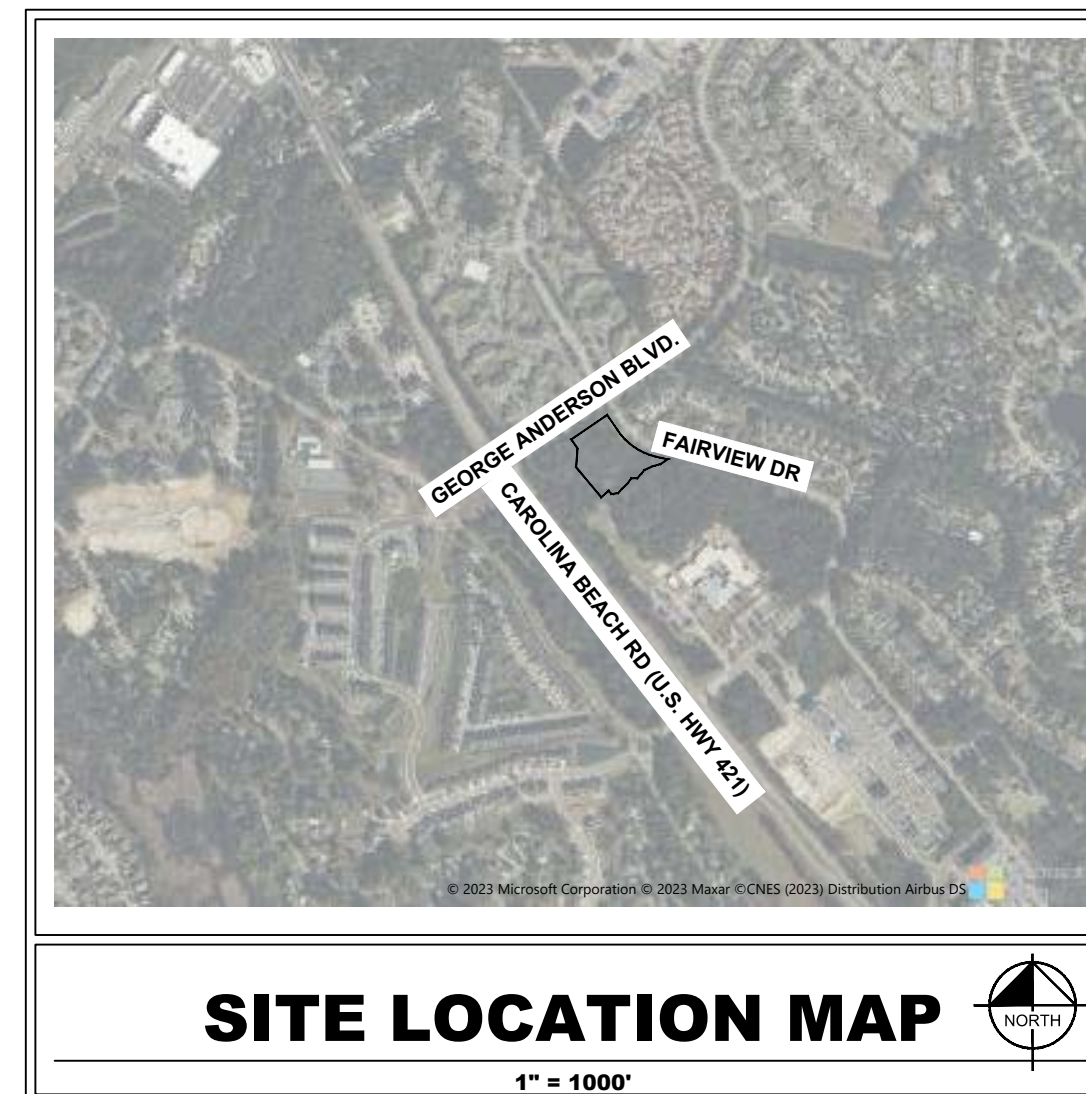
PARKING REQUIRED: 35 SPACES
1 SPACE PER 8 PARTICIPANTS: 35 SPACES * 150%=
PARKING MAXIMUM: 53 SPACES
150% OF REQUIRED:

PROVIDED: 35

BICYCLE PARKING REQUIRED/PROVIDED: 0
CAMA LAND USE CLASSIFICATION: URBAN
METHOD OF HANDLING SOLID WASTE: PRIVATE CONNECTION TO PUBLIC SYSTEM

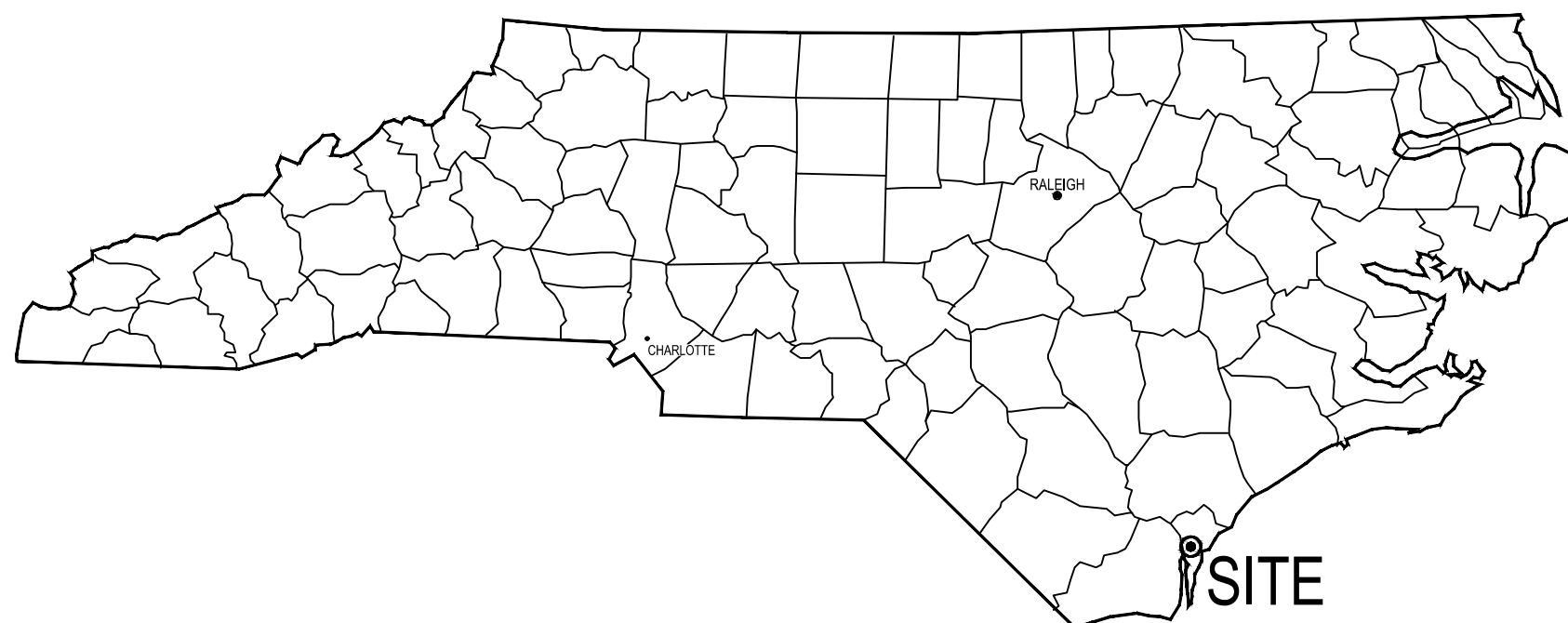
CITY OF WILMINGTON GENERAL NOTES:

- CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- 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.
- ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET SECTION 510 REQUIREMENTS OF THE 2018 NC FIRE CODE.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- PRIOR TO 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.



KIMLEY-HORN SHALL HAVE NO LIABILITY WHATSOEVER FOR ANY COSTS ARISING OUT OF THE CLIENT'S DECISION TO OBTAIN BIDS OR PROCEED WITH CONSTRUCTION BEFORE KIMLEY-HORN HAS ISSUED FINAL, FULLY-APPROVED PLANS AND SPECIFICATIONS. THE CLIENT ACKNOWLEDGES THAT ALL PRELIMINARY PLANS ARE SUBJECT TO SUBSTANTIAL REVISION UNTIL PLANS ARE FULLY APPROVED AND ALL PERMITS OBTAINED.

| Sheet No. | Sheet Title | Rev No. | Rev No. |
|-----------|--|---------|---------|
| C101 | COVER SHEET | | |
| C102 | GENERAL NOTES | | |
| C103 | ALTA SURVEY | | |
| C105 | DEMOLITION & EROSION AND SEDIMENT CONTROL PLAN | | |
| C106 | EROSION AND SEDIMENT CONTROL NARRATIVE | | |
| C107 | ESCP - NCG01 FORMS | | |
| C108 | ESCP - NCG01 FORMS | | |
| C301 | SITE PLAN | | |
| C401 | GRADING PLAN | | |
| C402 | INLET DRAINAGE AREA MAP | | |
| C403 | PRE-CONDITION DRAINAGE AREA MAP | | |
| C404 | POST-CONDITION DRAINAGE AREA MAP | | |
| C405 | STORMWATER NARRATIVE | | |
| C406 | STORMWATER NARRATIVE | | |
| C501 | UTILITY PLAN | | |
| C502 | UTILITY PROFILES | | |
| C701 | CONSTRUCTION DETAILS | | |
| C702 | CONSTRUCTION DETAILS | | |
| C703 | CONSTRUCTION DETAILS | | |
| C801 | PLANTING PLAN | | |
| C802 | PLANTING SCHEDULE, NOTES AND DETAILS | | |
| C901 | LIGHTING PLAN | | |



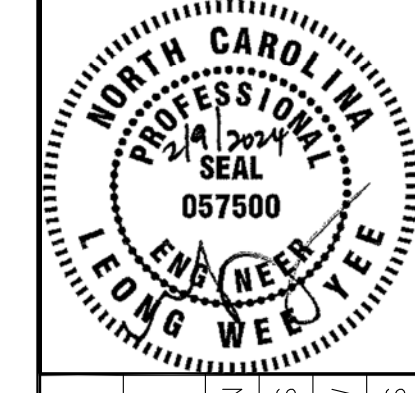
| PROJECT OWNER AND CONSULTANT INFORMATION | | | |
|---|---|---|---|
| DEVELOPER: KQC INVESTORS, LLC PO BOX 609 LEWISVILLE, NC 27023 PHONE: (678) 592-5088 CONTACT: ROBB BRYAN | ENGINEER: KIMLEY-HORN AND ASSOCIATES, INC. 200 SOUTH TRYON STREET, SUITE 200 CHARLOTTE, NC 28202 PHONE (704) 333-5131 CONTACT: NADEAN SHOVELS EOR: LEONG WEE YEE | SURVEYOR: PORT CITY LAND SURVEYING, PLLC 1144 SHIPYARD BOULEVARD WILMINGTON, NC 28412 PHONE (910) 791-0080 CONTACT: STEVEN BUIE | LANDSCAPE ARCHITECT: KIMLEY-HORN AND ASSOCIATES, INC. 200 SOUTH TRYON STREET, SUITE 200 CHARLOTTE, NC 28202 PHONE (704) 333-5131 CONTACT: JOE MATHEWS |

PREPARED BY:
Kimley»Horn

GEOMETRIC CONTROL
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88
DRAWING UNITS: U.S. SURVEY FEET

| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Kimley»Horn
 © 2024 KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



KHA PROJECT: 117211000
DATE: 02/09/2024
SCALE: AS SHOWN
DESIGNED BY: JKJS
DRAWN BY: AHW
CHECKED BY: NJS

FOUNDATION EARLY LEARNING
COVER SHEET
PREPARED FOR
KQC INVESTORS, LLC
NORTH CAROLINA

FOUNDATION EARLY LEARNING
SHEET NUMBER
C101

Plotted By: Sless, Jeremy - Sheet Set: kha - Layout: C101 - COVER SHEET - February 12, 2024 - 05:41:08pm - K:\vwb_civil\117211000 - sunshine house via\CADD\plan sheets\C001 - COVER SHEET.dwg
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Printed By: Sissy, Jeremy, Sheet Set: N/A, Layout: C102 - GENERAL NOTES, February 12, 2024, 05:41:10pm, K:\Web\civ\117211000 - sunshine house eto CAD\B\planarets\C001 - COVER SHEET.dwg
This document, together with the concepts and designs presented herein, is an instrument of service, as defined in the contract, and shall be used only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

GENERAL NOTES

- ALL NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR MUST OBTAIN ALL PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF PERMITS COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY REGULATORY AGENCY REPRESENTATIVES.
- THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM CORNERSTONE PROFESSIONAL LAND SURVEYING. ALL INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODE AND THE OWNER.
- THE CONTRACTOR AND SUBCONTRACTORS SHALL OBTAIN A COPY OF THE STATE DEPARTMENT OF TRANSPORTATION STRUCTURE STANDARDS AND REGULATIONS (LATEST EDITION) AND BECOME FAMILIAR WITH THE CONTENTS PRIOR TO COMMENCING WORK, AND, UNLESS OTHERWISE NOTED, ALL WORK SHALL CONFORM AS APPLICABLE TO THESE STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE PROJECT AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETABLE MATERIALS.
- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES AND O.S.H.A. STANDARDS. IN THE EVENT THE REGULATIONS DO NOT AGREE, THE MOST STRINGENT SHALL GOVERN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, UNDERGROUND UTILITIES, EROSION CONTROL, AND ANY OTHER WORK WHICH MAY BE REQUIRED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION'S SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID. AREAS TO BE DISTURBED SHALL BE IMPROVED PER THE CIVIL PLANS OR RESTORED TO THEIR ORIGINAL OR BETTER CONDITION. CONTRACTOR SHALL REPAIR ANY EXISTING FEATURES THAT ARE DAMAGED DURING CONSTRUCTION TO THE EXISTING OR BETTER CONDITION.
- THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, GEOTECHNICAL REPORT AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK, NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY THE OWNER OF ANY CONFLICTS PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY PORTION TO PAY FOR A RELATED CHANGE ORDER.
- ALL WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL JURISDICTIONAL AGENCIES. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
- ANY WELLS DISCOVERED DURING EARTH MOVING OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES WITHIN 24 HOURS AFTER DISCOVERY IS MADE.
- TRAFFIC CONTROL ON ALL STATE, LOCAL, AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHWA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.

CONSTRUCTION TESTING

- IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL TESTS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- IF DETERMINED BY THE OWNER, THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONSTRUCTION TESTING. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR REQUIRED CONSTRUCTION TESTING.
- TESTING MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE TESTING LABORATORY AND THE PAYMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE MAXIMUM COMPACTED DENSITIES MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
- COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
- EACH BACKFLOW PREVENTION ASSEMBLY IS REQUIRED TO BE TESTED BY A JURISDICTIONALLY-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.

AS-BUILTS/RECORD DRAWINGS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE PROJECT STATE WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE ENGINEER A CERTIFIED RECORD SURVEY SEALED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE PROJECT STATE DESCRIBING THE ACTUAL FIELD LOCATION OF ALL LOCATIONS OF IMPROVEMENTS. THE RECORD DRAWINGS SHALL BE PREPARED TO THE SAME LEVEL OF DETAILS AS PROVIDED ON THE DESIGN DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER AND OWNER RECORD DRAWINGS IN BOTH PDF AND AUTOCAD FORMATS FOR ALL PAVING AND STORMWATER BMPs, AND STORMWATER DRAINAGE PIPES AND STRUCTURES AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL PROVIDE A SEPARATE UTILITY RECORD DRAWING IN AUTOCAD AND PDF FORMAT. THE RECORD DRAWINGS SHALL VERIFY ALL DESIGN INFORMATION INCLUDED ON THE DESIGN DRAWINGS.
- IN ADDITION TO THE OWNER AND ENGINEER REQUIRED SURVEYS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL RECORD DRAWINGS AND AS-BUILT INFORMATION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

GENERAL ACCESSIBILITY NOTES

- THE CONTRACTOR SHALL REVIEW ALL APPLICABLE STATE AND LOCAL GUIDELINES AS THEY APPLY TO THE ACCESSIBILITY AND SIGNAGE.
- ALL CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN COMPLIANCE WITH LOCALLY ADOPTED ACCESSIBILITY REGULATIONS. ANYTHING FOUND NOT IN COMPLIANCE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED COMPLIANT WITH THE LATEST EDITION OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE DEPARTMENT OF JUSTICE AND THE U.S. ARCHITECTURAL AND BAROCCO ARCHITECTURE FROM A SITE ENGINEER, SURVEYOR, OR ARCHITECT VERIFIES THAT SITE CONDITIONS EXIST WHERE THE TOPOGRAPHY OF THE SITE IS EXTREME AND ONLY ALTERNATE METHODS OF COMPLIANCE ARE POSSIBLE.
- CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
- PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO THE ADA STANDARDS FOR ACCESSIBLE DESIGN AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH OF THE CURB RAMP, NOT INCLUDING FLARES.
- ALL ACCESSIBLE ROUTES, GENERAL SITE AND BUILDING ELEMENTS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION.
- BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
- CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ACCESSIBLE SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA COMPLIANCE ISSUES.
- ANY COMPONENTS OF THE PROJECT SERVING MULTIFAMILY DWELLINGS IN BUILDINGS THAT HAVE 4 OR MORE UNITS PER DWELLING SHALL ALSO CONFORM TO THE FAIR HOUSING ACT (FHA), AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.

GENERAL EROSION CONTROL NOTES

- PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST CLEARLY DELINEATE AND MARK OFF AREAS TO BE PROTECTED AS IDENTIFIED IN THE CONSTRUCTION PLAN (INCLUDING BUT NOT LIMITED TO STREAMS/WETLANDS, NATURAL BUFFERS, TREE, HABITATS OF ENDANGERED/THREATENED SPECIES, HISTORIC PROPERTIES, ETC.)
- THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
- BMPs PROPOSED FOR SITE DEVELOPMENT HAVE BEEN DESIGNED TO ADDRESS CONSTRUCTION STORMWATER RUNOFF. IN THE EVENT THE BMPs BECOME INEFFECTIVE AT PREVENTING EROSION FROM LEAVING THE SITE, IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT ADDITIONAL BMPs THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN BMPs AS DESCRIBED IN THE GENERAL PERMIT. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE EROSION CONTROL INSPECTOR.
- CONTRACTOR SHALL REVIEW THE GENERAL PERMIT PRIOR TO COMMENCING CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL KEEP A COPY OF THE APPROVED PLANS AND GENERAL PERMIT ON SITE AT ALL TIMES.
- GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND IS SUBJECT TO A FINE.
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS OR SPECIFICATIONS OF THE STATE WHICH THE WORK IS PERFORMED.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE STATE EROSION AND SEDIMENT CONTROL REGULATIONS.
- ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
- CONSTRUCTION ENTRANCE SHALL BE LOCATED SO AS TO PROVIDE THE LEAST AMOUNT OF UTILITY COMPANY FLOW OF TRAFFIC IN AND OUT OF THE SITE. ADDITIONALLY, CONSTRUCTION ENTRANCE SHALL BE LOCATED TO COINCIDE WITH THE PHASING OF THE PAVEMENT REPLACEMENT.
- POST CONSTRUCTION STORM WATER POLLUTION CONTROL MEASURES INCLUDE STABILIZATION BY PERMANENT PAVING, DRAINAGE SYSTEM STRUCTURE, OR LANDSCAPING.
- TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMPs SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMPs SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO MAINTAIN REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
- BMPs HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE, SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
- CONTRACTOR SHALL MAINTAIN AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION.
- THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. CONTACT PROPERTY OWNERS PRIOR TO ANY GRADING. CONTRACTOR INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
- ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802), AND AS REQUIRED BY THE GENERAL PERMIT.
- THE CONTRACTOR SHALL MAINTAIN JURISDICTIONALLY REQUIRED BUFFERS OF UNDISTURBED NATURAL VEGETATION BETWEEN THE DISTURBED PORTIONS OF THE SITE AND SURFACES WATERS AT ALL TIMES. BUFFERS SHALL BE MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL COORDINATE WITH ENGINEER DURING CONSTRUCTION. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ANY NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
- CONTRACTOR SHALL PLACE EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC160 OR APPROVED EQUAL) ON ALL SITE AREAS WITH SLOPES GREATER THAN 2:1, AND IN THE BOTTOM AND SIDE SLOPES OF ALL DRAINAGE SWALES, UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL DRAINAGE SWALES MUST BE GRADED AND RIP-RAP MUST BE REPLACED AS REQUIRED TO CONTROL EROSION. RIP-RAP WILL CONSIST OF 50 - 125 POUND STONES PLACED AT ALL OUTFALLS, AND WHERE NOTED ON CONSTRUCTION DRAWINGS. SEE DETAIL SHEET FOR OUTFALL PIPE SIZE CHART.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED FOR ADDITIONAL CONTRACTOR LAYOUT AREAS. CONTRACTOR TO COORDINATE WITH ENGINEER DURING CONSTRUCTION. THE LIMITS OF DISTURBANCE SHOULD CONTAIN ANY ADDITIONAL LAYOUT AREAS. IF ADDITIONAL LAYOUT AREA IS NEEDED OUTSIDE THE LIMITS OF DISTURBANCE, A REVISED EROSION CONTROL PLAN SHOULD BE REVIEWED AND PERMITTED.
- PUMPING SEDIMENT LADEN WATER INTO ANY STORMWATER FACILITY THAT IS NOT DESIGNATED TO BE A SEDIMENT TRAP, DRAINAGEWAY, OR OFFSITE AREA EITHER DIRECTLY OR INDIRECTLY WITHOUT FILTRATION IS PROHIBITED. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET. WATER REMOVED FROM TRAPS, BASINS, AND OTHER WATER HOLDING DEPRESSIONS OR EXCAVATIONS MUST FIRST PASS THROUGH A SEDIMENT CONTROL AND/OR FILTRATION DEVICE WHEN DEWATERING DEVICES ARE USED, DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION.
- ALL TEMPORARY STORMWATER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED TRAPPED SEDIMENT AND OTHER DISTURBED SOILS RESULTING FROM TEMPORARY MEASURES SHALL BE PROPERLY DISPOSED OF PRIOR TO PERMANENT STABILIZATION.
- SOIL STOCKPILES SHALL NOT BE LOCATED IN A DRAINAGE WAY, STOCKPILES, FLOOD PLAN AREA, OR A DESIGNATED BUFFER. ALL STOCKPILES SHALL BE IMMEDIATELY STABILIZED AS REQUIRED BY THE GENERAL PERMIT.

STORMWATER NOTES

- REFER TO GENERAL UTILITY NOTES FOR ADDITIONAL REQUIREMENTS PERTAINING TO UNDERGROUND UTILITY AND STORMWATER PIPE INSTALLATION.
- ALL NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR MUST OBTAIN ALL PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- PIPE LENGTHS, GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE ONLY. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS.
- ALL STORM PIPE INSTALLED SHALL BE CLASS III RCP, UNLESS SPECIFICALLY NOTED OTHERWISE. EXISTING STORMWATER PIPE MATERIALS, MODIFIED, DAMAGED OR DEFORMED, ETC. SHALL NOT BE REUSED UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.
- ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENT AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
- ALL PIPES SHALL BE BEDDED PER MANUFACTURER'S RECOMMENDATIONS.
- ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED WITH (4) SIDED BEARING HEAVY DUTY H-20 RATED TRAFFIC RIMS AND GRATES.
- ALL CLEANOUT COVERS WITHIN THE PAVEMENT SECTIONS SHALL BE RATED FOR HEAVY DUTY TRAFFIC (H-20 RATED).
- WEEPHOLES ARE TO BE CONSTRUCTED IN ALL DRAINAGE STRUCTURES, A MINIMUM OF 1 WEEPHOLE PER STRUCTURE. WEEPHOLES ARE TO BE CONSTRUCTED IN THE BOTTOM 1/3 OF STRUCTURE AND COVERED ON THE OUTSIDE OF THE STRUCTURE BY A BAG MADE OF FILTER FABRIC AND FILLED WITH #7 STONE.
- CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION ON ALL EXISTING AND PROPOSED INLETS UNTIL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED. ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAIN FLOWS.
- THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER MANUFACTURER'S RECOMMENDATIONS.
- GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
- CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN PROPOSED PAVEMENT AND EXISTING PAVEMENT AND STORM STRUCTURES.
- DURING CONSTRUCTION AND AFTER FINAL GRADING, NO SURFACE WATER RUNOFF MAY BE DIRECTED TO ADJACENT PROPERTIES, AND ALL SURFACE WATER RUNOFF SHALL BE DIRECTED TO APPROVED DRAINAGE FACILITIES OR BE RETAINED ON SITE. ALL RUNOFF FROM THE SITE, BOTH DURING AND AFTER CONSTRUCTION, MUST BE FREE OF POLLUTANTS, INCLUDING SEDIMENT, PRIOR TO DISCHARGE.

GENERAL DEMOLITION NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES. THESE FEES SHALL BE INCLUDED WITH THE BID. THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
- DEMOLITION AS DEPICTED ON THE DEMOLITION PLAN IS INTENDED TO DESCRIBE GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND LAWFUL DISPOSAL OF ALL STRUCTURES, PAVING, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERGOWN TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL AS NECESSARY.
- ASBESTOS OR ANY OTHER HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR ONLY AFTER NOTIFICATION OF THE ENGINEER AND AUTHORIZATION TO PROCEED IS GIVEN BY THE OWNER.
- THE CONTRACTOR SHALL PUMP OUT BUILDING FUEL AND WASTE OIL TANKS IF ANY ARE ENCOUNTERED AND REMOVE FUEL TO AN APPROVED DISPOSAL AREA BY AN APPROPRIATELY LICENSED WASTE OIL HANDLING CONTRACTOR IN STRICT ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS ONLY AFTER NOTIFICATION OF THE ENGINEER AND AUTHORIZATION TO PROCEED IS GIVEN BY THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO ALL EXISTING FACILITIES AND OUTLOTS AT ALL TIMES. UTILITY SERVICES SHALL NOT BE INTERRUPTED WITHOUT APPROVAL FROM THE SERVICE PROVIDERS AND COORDINATION THROUGH THE PROPERTY OWNER(S). THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
- THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
- THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE ITEMS SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY UNIDENTIFIED FEATURES. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
- ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN ANY ROAD RIGHT OF WAY DURING CONSTRUCTION.
- SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONTRACTOR SHALL CONSULT THE ENGINEER AND OWNER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
- CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC. (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY THE ENGINEER.
- CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING BUSINESSES AND PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING IMPROVEMENTS AND CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. CONTRACTOR SHALL COORDINATE WITH THE OWNER(S)/ UTILITY(S) PRIOR TO ANY CONSTRUCTION TO ESTABLISH CUSTOMER ACCESS AND TRAFFIC FLOW DURING ALL PHASES.
- SHOULD CONSTRUCTION ACTIVITIES DAMAGE EXISTING FEATURES, THE CONTRACTOR SHALL REPLACE THE FEATURES WITH NEW MATERIALS, DAMAGE TO ANY EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACES. FINISHED SURFACES TO BE REMOVED SHALL BE CUT AND BACKFILLED. ALL LONG LINES OF JOINTS WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED, SAW CUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAW CUT EXISTING PAVEMENT AT THE RIGHT-OF-WAY. SAW CUTS SHALL BE MADE FULL DEPTH THROUGH THE EXISTING PAVEMENT. DISCARDED PAVEMENT SHALL BE REMOVED WITHOUT UNDERMINING THE EXISTING PAVEMENT. IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
- CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE. CONTRACTOR SHALL COORDINATE/PHASE ALL CONSTRUCTION ACTIVITY WITHIN PROXIMITY OF THE BUILDING AND UTILITY INTERRUPTIONS WITH THE PROPERTY OWNERS AND UTILITY PROVIDERS TO MINIMIZE DISTURBANCE AND INCONVENIENCE.
- ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
- ANY WATER WELLS ENCOUNTERED ARE TO BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION IMMEDIATELY AND PROPERLY ABANDONED BY A LICENSED WELL DRILLER.
- ANY SEPTIC SYSTEMS ENCOUNTERED SHALL BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION IMMEDIATELY AND SHALL BE PROPERLY ABANDONED.
- ALL MONITORING WELLS ENCOUNTERED ARE TO BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION IMMEDIATELY AND SHALL BE PROPERLY PROTECTED UNLESS OTHERWISE NOTED.

GENERAL PAVING NOTES

- CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN PROPOSED PAVEMENT, EXISTING PAVEMENT AND ANY STRUCTURES.
- THE PROPOSED SPOT ELEVATIONS SHOWN ARE FINISHED ELEVATIONS INCLUDING ASPHALT AND CONCRETE. CONTRACTOR SHALL VERIFY THE PROPOSED ELEVATIONS TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
- ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS. CONTRACTOR SHALL REVIEW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRIOR TO PAVING.
- WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
- ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN JURISDICTIONAL RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH LOCAL OR COUNTY SPECIFICATIONS AND STANDARDS (LATEST EDITION) OR STATE DEPT. OF TRANSPORTATION SPECIFICATIONS AND STANDARDS (LATEST EDITION) IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
- ALL ON-SITE STRIPINGS IS TO BE PAINTED, UNLESS OTHERWISE NOTED. ALL STRIPING IN PUBLIC RIGHT-OF-WAY TO BE THERMOPLASTIC STRIPING.
- TRANSVERSE EXPANSION JOINTS ARE TO BE PROVIDED IN CONCRETE SIDEWALKS AND COMBINED WALKS/CURBS WHERE SHOWN AND AT INTERVALS NOT TO EXCEED 12 X THE WIDTH OF THE WALK.
- EXPANSION JOINTS SHALL BE INSTALLED IN CONCRETE PAVEMENTS AND WALKS AT ALL LOCATIONS WHERE PAVEMENTS AND WALKS ABUT A VERTICAL SURFACE SUCH AS A CURB, WALL, COLUMN, ETC.
- CONTRACTION JOINTS SHALL BE PROVIDED AT EQUAL INTERVALS BETWEEN EXPANSION JOINTS IN CONCRETE WALKS. INSTALL CONTRACTION JOINTS AS SHOWN BUT IN NO CASE AT INTERVALS GREATER THAN 1.5 X THE WIDTH OF THE WALK.
- CONTRACTOR SHALL COORDINATE PAVING IMPROVEMENTS TO AVOID THE MARKS FROM CONSTRUCTION ACTIVITY. FINISH PAVING SHALL BE AS SOON AS POSSIBLE AND FREE FROM ANY CRACKS, SCRAPES, GOUGES, TIRE MARKS, ETC. CAUSED DURING CONSTRUCTION.
- ALL NEW CONCRETE SHALL BE DOWELED INTO ALL EXISTING CONCRETE (PAVING, SIDEWALKS, CURB, ETC.). ALL STRUCTURES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH FINAL PAVEMENT.

GENERAL UTILITY NOTES

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN ENCROACHMENT AGREEMENT PERMIT, AS REQUIRED, TO CONSTRUCT UTILITY CONNECTIONS.
- ANY WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED.
- REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR CONTINUATION OF UTILITIES WITHIN 5 FEET OF STRUCTURES.
- THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTALLY AND VERTICALLY LOCATING AND DETECTING ALL PUBLIC OR PRIVATE UTILITIES (SHOWN OR NOT SHOWN) WHICH ARE IN OR ADJACENT TO THE CONSTRUCTION SITE. AT LEAST 72 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT #11 FOR THE IDENTIFICATION OF EXISTING UTILITIES WITHIN THE SITE.
- EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE COMMENCING ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO STOP, BRACE, SINK OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
- SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY FOR DIRECTIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY THE UTILITY PROVIDER FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE. THE CONTRACTOR SHALL COORDINATE ANY INTERRUPTION OF UTILITY SERVICE WITH OWNER(S) AND RESPECTIVE UTILITY COMPANY PRIOR TO ANY INTERRUPTION.
- CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
- CONTRACTOR SHALL SAW CUT, REMOVE, AND REPLACE ASPHALT PAVEMENT AS NECESSARY TO INSTALL UNDERGROUND ELECTRIC, TELEPHONE, SEWER, WATER, AND COMMUNICATION UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES. REMOVAL FOR INSTALLATION OF UNDERGROUND UTILITIES SHALL BE RESTORED TO THEIR PRESENT CONDITION UNLESS OTHERWISE SHOWN.
- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL POWER COMPANY STANDARDS.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES.
- PRESSURE UTILITY MAINS AND SERVICE LINES MAY NEED TO BE INSTALLED AT A DEPTH GREATER THAN THAT SPECIFIED OR SHOWN ON THE DRAWINGS TO CLEARLY CLEAR PROPOSED CROSSING UTILITIES. IN SUCH CASES, THE CONTRACTOR SHALL INSTALL VERTICAL BENDS AS REQUIRED TO ACHIEVE APPROPRIATE CLEARANCE BETWEEN THE CROSSING UTILITIES.
- WHERE GRADE MODIFICATIONS (CUT OR FILL) ARE SHOWN ADJACENT TO EXISTING VALVE BOX COVERS AND MANHOLE CASTINGS, THE VALVE BOX COVERS AND MANHOLE CASTINGS SHALL BE ADJUSTED FLUSH WITH THE PROPOSED GRADE.
- THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS, ETC. WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE OWNER. UTILITY CONNECTIONS TO EXISTING BUILDINGS SHALL BE INSTALLED AS NECESSARY, TEMPORARY SITE LIGHTING, GAS, SANITARY, WATER, STORM, ELECTRIC, TELEPHONE, AND CABLE SERVICES TO SERVICE BUILDING(S) TO REMAIN OPEN.
- ALL PROPOSED STUBS SHALL BE CAPPED AND SHALL BE PROVIDED WITH FIELD MARKERS.
- CONTRACTOR TO PROVIDE AND INSTALL CONDUIT FOR SITE LIGHTING PER SITE LIGHTING PLAN (BY OTHERS).
- CONTRACTOR TO PROVIDE AND INSTALL CONDUIT FOR IRRIGATION PER IRRIGATION PLAN (BY OTHERS).
- LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED, SURVEYED, AND APPROVED BEFORE BACKFILLING.
- MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
- ALL CONDUIT SHALL BE INSTALLED PER CURRENT NATIONAL ELECTRIC CODE (N.E.C.) AND MANUFACTURER REQUIREMENTS.
- ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE TO THE TOP OF THE EXPOSED EDGE OF PIPE TO OUTSIDE EDGE OF PIPE.
- THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES GRAVITY SEWER LINES AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATER-TIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
- ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY DUCTILE IRON PIPE FITTINGS, ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS, WHICH, IN THE OPINION OF THE ENGINEER, OWNER, OR INSPECTOR RENDERERS IT UNFIT FOR USE. SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- WATER FOR FIRE FIGHTING SHALL BE AVAILABLE FOR USE PRIOR TO COMBUSTIBLES BEING BROUGHT ON SITE.
- ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- UNDERGROUND WATER AND SANITARY SEWER LINES SHALL BE SURVEYED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE PROJECT STATE PRIOR TO BACK FILLING.
- CONTRACTOR SHALL PERFORM AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR ANY AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE, BUT NOT BE LIMITED TO, INFILTRATION AND EXFILTRATION, TELEVISION INSPECTION, PRESSURE TESTS, AND A MANDREL TEST ON GRAVITY SEWER. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDERS, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.
- IF DETERMINED NECESSARY BY THE LOCAL JURISDICTION, THE CONTRACTOR SHALL ABANDON EXISTING WATER METERS, CUT THE CORPORATION STOP OFF, AND AIR-GAP THE SERVICES.
- UNDERGROUND UTILITY, INCLUDING STORMWATER PIPES, SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS.
 - NO MORE THAN 50 LF OF TRENCH MAY BE OPENED AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

TREE PROTECTION NOTES

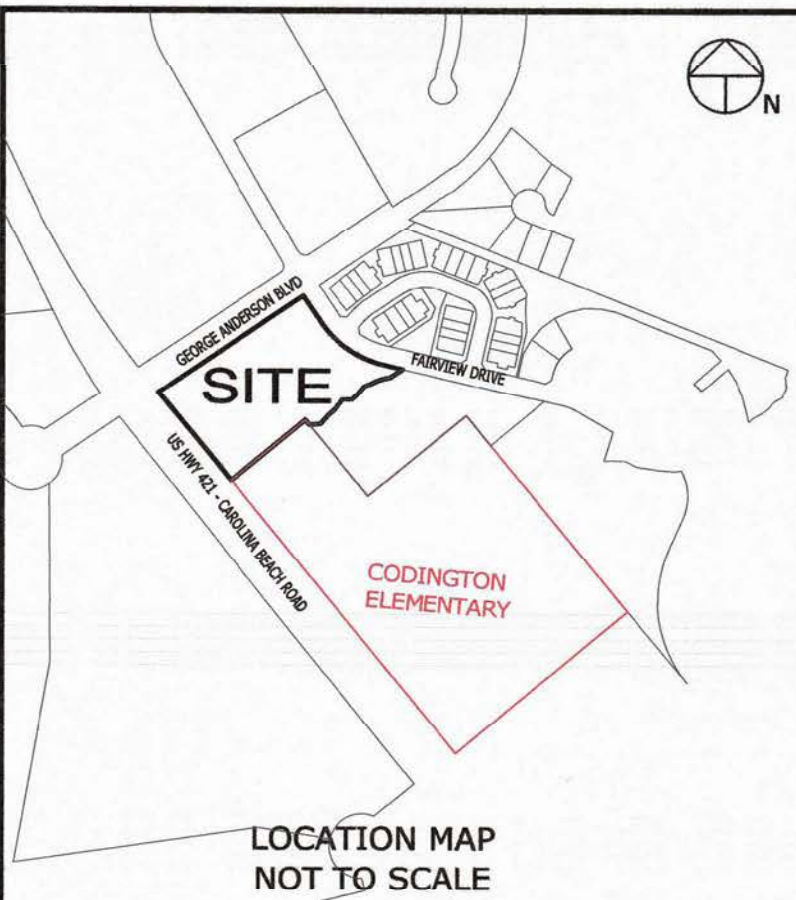
- THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES. IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS, THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
- NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
- NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH, RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
- TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.

GENERAL GRADING NOTES

- ALL NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR MUST OBTAIN ALL PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
- CONTRACTOR SHALL REVIEW, UNDERSTAND AND IMPLEMENT ALL REQUIRED EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO ANY DISTURBANCE.
- THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL REPAIR/WASH/WATER THE SURFACE AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED OR ADEQUATE STABILIZATION OCCURS.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR BLASTING ROCK IF BLAST ROCK IS ENCOUNTERED. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL BLASTING AND SAFETY REQUIREMENTS.
- ALL UNPAVED AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION SHALL BE REGRADED AND SEEDED.
- THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE GEOTECHNICAL ENGINEER'S SPECIFICATIONS. FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIFICATIONS TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAE ITEMS.
- FIELD ADJUSTMENTS OF RIM ELEVATIONS OF STRUCTURES MAY BE REQUIRED TO MEET FIELD CONDITIONS. MAXIMUM HEIGHT OF ADJUSTING RINGS SHALL NOT EXCEED 12 INCHES. ADJUSTMENTS OF CASTINGS WHERE THE TOTAL HEIGHT OF ADJUSTING RINGS WOULD EXCEED 12 INCHES SHALL BE MADE BY REPLACING THE CONE AND/OR BARREL SECTION OF THE STRUCTURE WITH THE CONE AND/OR BARREL SECTION OF THE SAME.
- WHERE GRADE MODIFICATIONS ARE SHOWN ADJACENT TO EXISTING VALVE BOX COVERS AND MANHOLE CASTINGS, THE VALVE BOX COVERS AND MANHOLE CASTINGS SHALL BE ADJUSTED FLUSH WITH THE PROPOSED GRADE.
- ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE SEEDED UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN.
- IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
- STRIP TOPSOIL AND ORGANIC MATTER FROM ALL AREAS OF THE SITE AS REQUIRED. IN SOME CASES TOPSOIL MAY BE STOCKPOILED ON SITE FOR PLACEMENT WITHIN LANDSCAPED AREAS BUT ONLY AS DIRECTED BY THE OWNER.
- FIELD VISIBILITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY OR TO STATE DEPARTMENT OF TRANSPORTATION STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS PER PLANS. THE AREAS SHALL THEN BE SEEDED AS SPECIFIED IN THE PLANS. FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL EARTHEN AREAS WILL BE SEEDED AND MULCHED AS SHOWN ON THE LANDSCAPING PLAN.
- ALL CUT OR FILL SLOPES SHALL BE 3 (HORIZONTAL) : 1 (VERTICAL) OR FLATTER UNLESS OTHERWISE SHOWN. THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR APPROPRIATE SLOPE STABILIZATION ON ALL SLOPES STEEPER THAN 3:1. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
- SEED MUST BE INSTALLED AND MAINTAINED ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETING FINAL GRADING, AND AT ANY OTHER TIME AS NECESSARY, TO PREVENT EROSION, SEDIMENTATION OR TURBID DISCHARGES.
- THE CONTRACTOR SHALL ENSURE THAT ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.
- GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
- ALL SOIL USED FOR PLANTING SHALL CONSIST OF REGIONALLY APPROPRIATE SOILS.
- UNUSUAL FILL BEDS FOR FINISHING PAVING AND PAVED SURFACES MUST BE EXCAVATED AND REPLACED AS COMMENDED BY A GEOTECHNICAL ENGINEER.
- ALL PAVEMENT SUB GRADES SHALL BE SCARIFIED TO A DEPTH OF 8 INCHES AND COMPACTED TO A MINIMUM DENSITY OF 98 PERCENT OF ASTM D-98 DENSITY AT OPTIMUM MOISTURE CONTENT UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS OR AS DIRECTED BY A GEOTECHNICAL ENGINEER. ALL PAVEMENT SHALL BE PLACED AND COMPACTED IN MAXIMUM 6" LIFTS. IN AREAS WHERE ROCK IS ENCOUNTERED AT FINAL SUB GRADE ELEVATION, THE EXPOSED ROCK SHALL BE TOPPED WITH A LEVELING COURSE OF SANDY CLAY OR CLAYEY SAND (P.1 BETWEEN 4 AND 15) AS REQUIRED TO PROVIDE A SMOOTH SURFACE FOR PAVING.

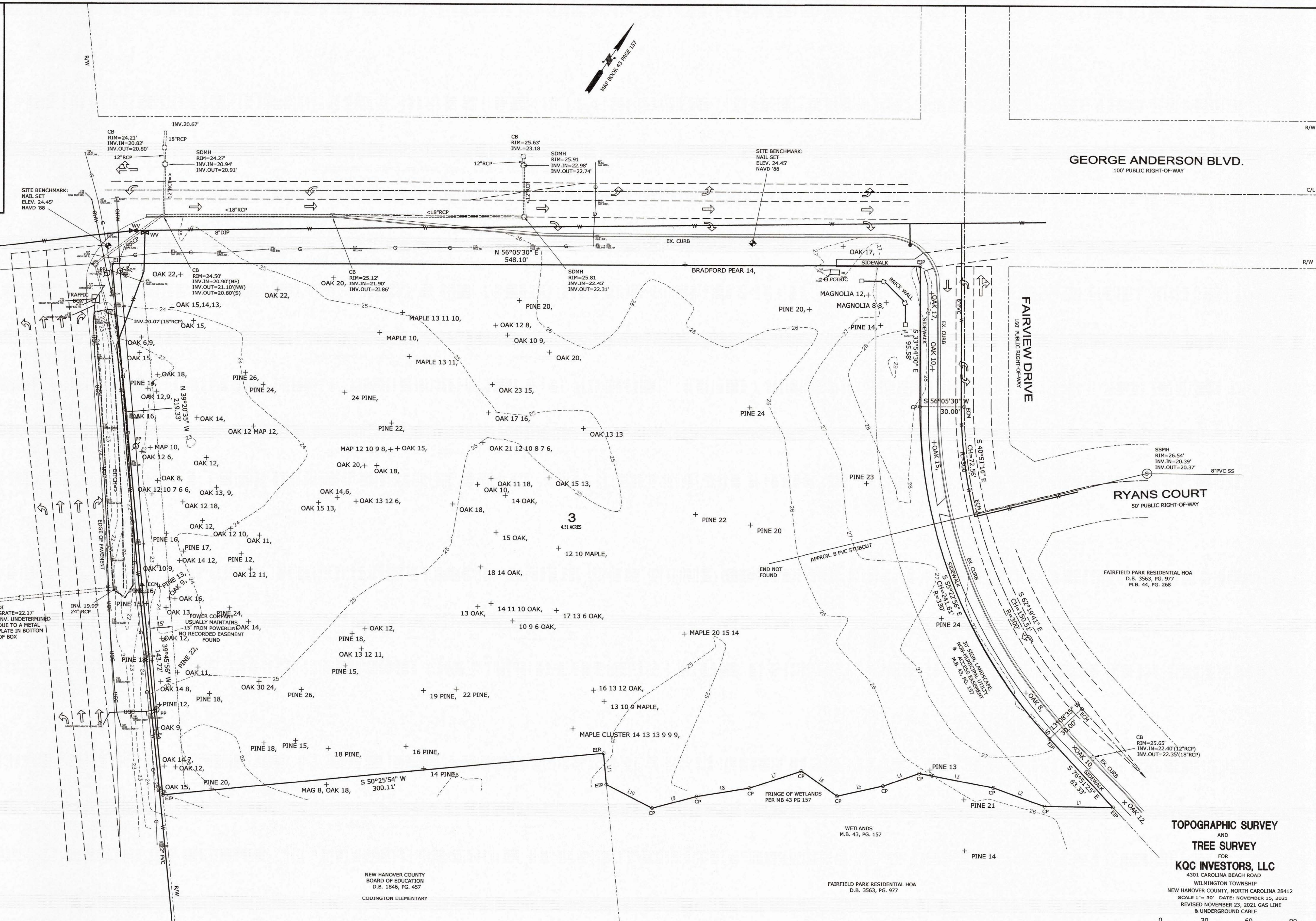
WATER DISTRIBUTION NOTES

- CONTRACTOR TO LOCATE TIE-INS TO ALL BUILDINGS BASED ON ARCH / MECHANICAL ELECTRICAL AND/OR PLUMBING PLANS.
- IN THE EVENT OF A V



LEGEND

- PROPERTY LINE
- LINE NOT SURVEYED
- CENTER LINE
- RIGHT OF WAY (R/W or ROW)
- SECTION
- OVERHEAD WIRE(S)
- WATER LINE
- UNDERGROUND CABLE
- GAS LINE
- BACK OF CURB
- CATCH BASIN
- CHORD
- CLEANOUT
- DEED BOOK PAGE
- DRAINAGE INLET
- ELECTRIC BOX
- EXISTING IRON PIPE
- EXISTING IRON ROD
- FIRE HYDRANT
- INVERT
- MAP BOOK PAGE
- NEW IRON PIPE
- NORTH AMERICAN
- VERTICAL DATUM
- NOIS
- SANITARY SEWER MANHOLE
- STORM DRAINAGE MANHOLE
- SPOT SURVEY
- TELEPHONE PEDestal
- WATER METER
- WATER VALVE



Plotted By: Sless, Jeremy - Sheet Set: kha - Layout: C106 - EROSION AND SEDIMENT CONTROL NARRATIVE - February 12, 2024 - 05:41:57pm - K:\web_civil\117211000 - sunshine house eta\CADD\plansheets\C106 DEMOLITION & EROSION AND SEDIMENT CONTROL NARRATIVE.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THE PROPOSED PROJECT SITE IS LOCATED AT THE CORNER OF CAROLINA BEACH ROAD AND GEORGE ANDERSON DRIVE. THE DEVELOPMENT WILL CONSIST OF A 12,500 SF CHILD DAYCARE AND EARLY LEARNING FACILITY AND PARKING LOT. THERE WILL BE A FULL ACCESS DRIVEWAY ENTERING THE SITE FROM FARVIEW DRIVE AS WELL AS A ONE WAY EXIT WITHIN THE SITE. THE PROJECT WILL CONSIST OF 2.2 AC OF ON-SITE DISTURBANCE.

EXISTING SITE CONDITIONS

THE EXISTING LOT IS VACANT – OCCUPIED BY A FORESTED AREA.

ADJACENT AREAS

THE ADJACENT SITE, TO BE DEVELOPED BY OTHERS, WILL HAVE CONNECTIONS TO PROPOSED IMPROVEMENTS WITH THIS PLAN.

CRITICAL AREAS

THERE ARE NO CRITICAL EROSION ZONES LOCATED WITHIN THE LIMITS OF DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES

CONSTRUCTION ENTRANCE

A CONSTRUCTION ENTRANCE IS PROPOSED TO PROVIDE A BUFFER AREA WHERE VEHICLES CAN DROP THEIR MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PUBLIC ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF, AND TO HELP CONTROL DUST.

SILT FENCE

SILT FENCE IS PROPOSED TO RETAIN SEDIMENT FROM SMALL DISTURBED AREAS BY REDUCING THE VELOCITY OF SHEET FLOWS TO ALLOW SEDIMENT DEPOSITION.

INLET PROTECTION

INLET PROTECTION IS PROPOSED TO TRAP SEDIMENT AT THE APPROACH TO THE STORM DRAINAGE SYSTEM.

TEMPORARY SEEDING

TEMPORARY SEEDING IS PROPOSED TO TEMPORARILY STABILIZE DENUDED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 21 CALENDAR DAYS. TEMPORARY SEEDING CONTROLS RUNOFF AND EROSION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED. IN ADDITION, IT PROVIDES RESIDUE FOR SOIL PROTECTION AND SEEDBED PREPARATION, AND REDUCES PROBLEMS OF MUD AND DUST PRODUCTION FROM BARE SOIL SURFACES DURING CONSTRUCTION.

PERMANENT SEEDING

PERMANENT SEEDING IS PROPOSED TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREAS, TO PERMANENTLY STABILIZE SUCH AREAS IN A MANNER THAT IS ECONOMICAL, ADAPTS TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

TREE PROTECTION

TREE PROTECTION IS PROPOSED TO PROTECT PARTICULAR SPECIES OF EXISTING TREES IN THE AREA. TEES MARKED FOR PROTECTION ARE TO REMAIN THROUGH THE COMPLETION OF THE PROJECT.

SEQUENCE OF CONSTRUCTION

- OBTAIN NECESSARY PERMITS BEFORE THE START OF CONSTRUCTION.
- REMOVE SIDEWALK AND CURB AND GUTTER REQUIRED TO INSTALL CONSTRUCTION ENTRANCE AND INSTALL CONSTRUCTION ENTRANCE.
- INSTALL SILT FENCE, SAFETY FENCE, INLET PROTECTION, AND TREE PROTECTION
- CLEAR TREES WITHIN LOD UNLESS OTHERWISE MARKED ON SHEET C105
- ROUGH GRADE THE SITE.
- STABILIZATION FOR ALL AREAS TO REMAIN DENUDED FOR A PERIOD OF 21 DAYS OR LONGER SHALL BE INITIATED WITHIN TWENTY-FOUR (24) HOURS AFTER CONSTRUCTION ACTIVITY CEASES IN THESE AREAS. TEMPORARY SEEDING STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS OF INITIATION.
- CONTRACTOR TO INSTALL WATER LINE, SANITARY SEWER, STORM SEWER AND ALL UNDERGROUND UTILITIES.
- INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS PLACED.
- PREPARE BUILDING PAD.
- PROMPTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
- INSTALL SIDEWALK, ENTRANCES, CURB AND GUTTER, AND ANY OTHER IMPROVEMENTS DETAILED ON THE SITE PLAN WITHIN THE RIGHT-OF-WAY.
- PLACE TOPSOIL ON ALL LANDSCAPED AREAS. SOD OR MULCH ALL DENUDED AREAS OUTSIDE OF LEASE AREA.

| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



© 2024, KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



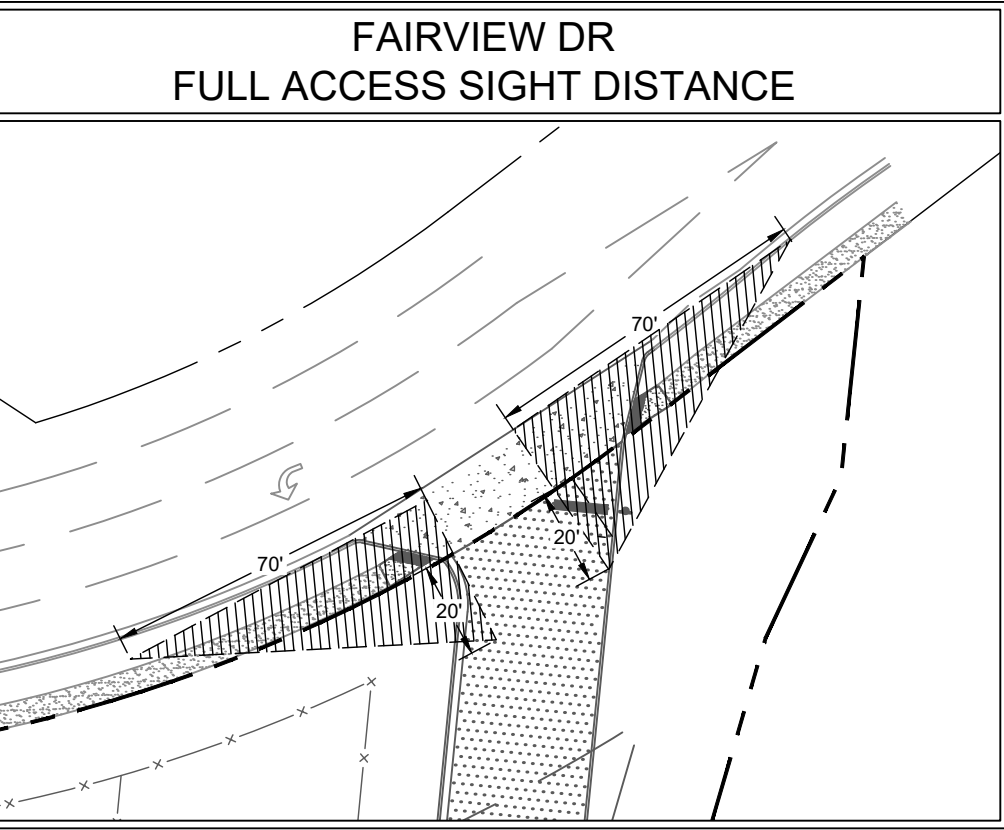
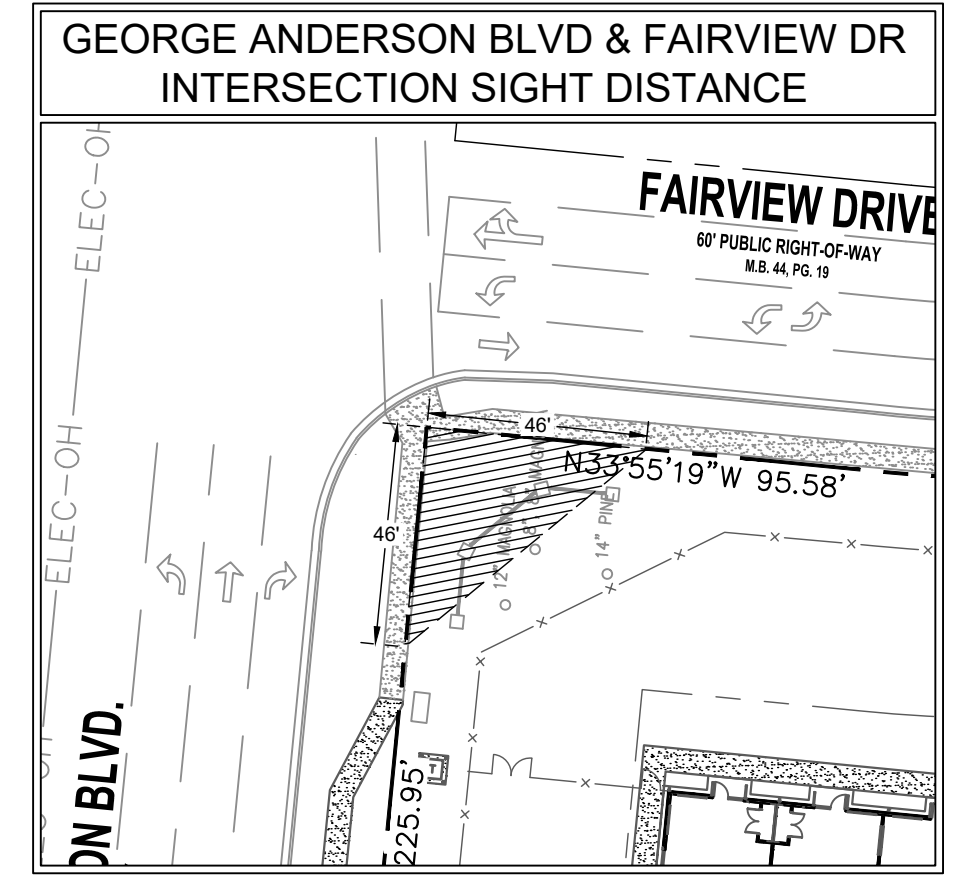
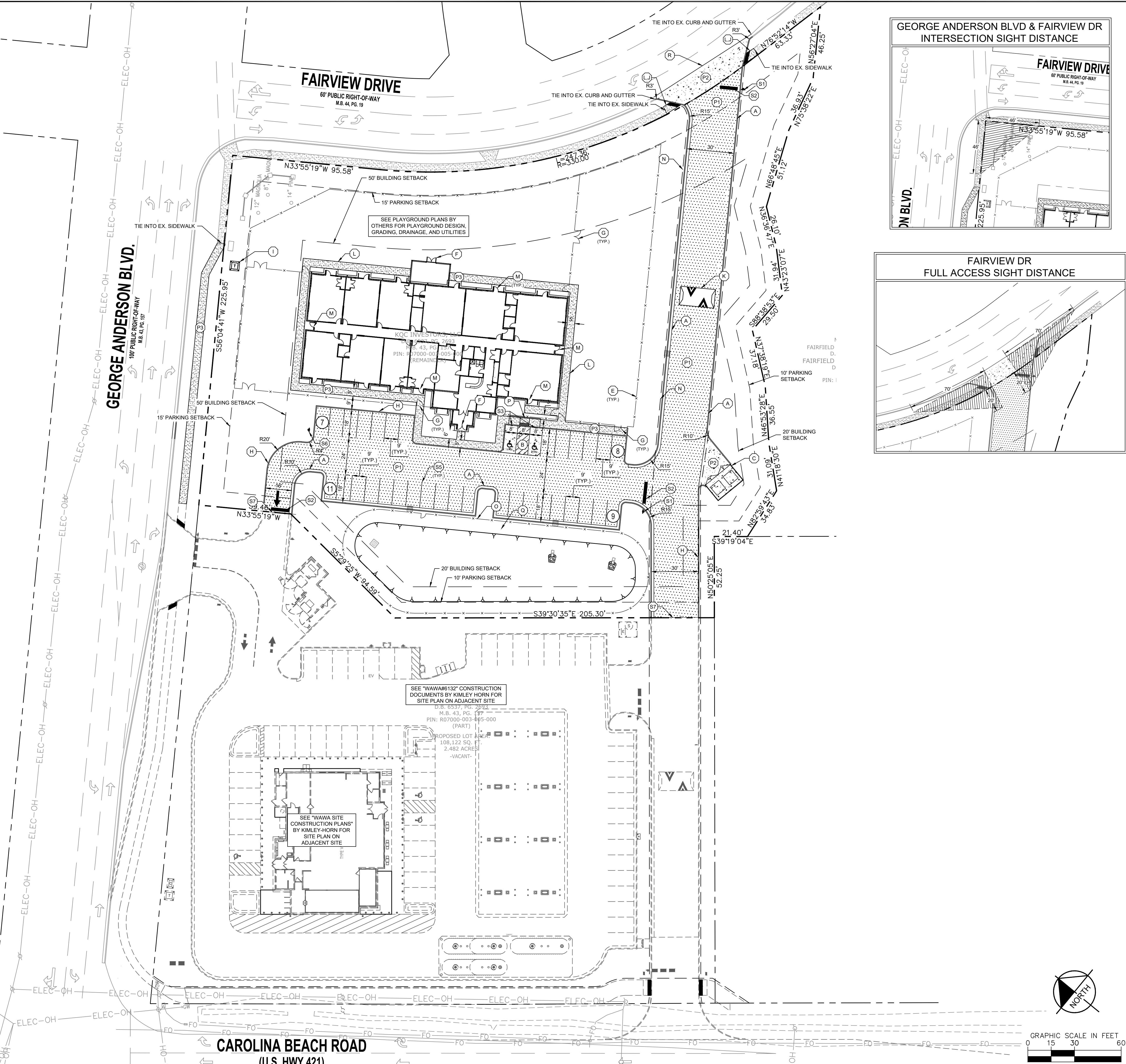
| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

EROSION AND SEDIMENT CONTROL NARRATIVE

FOUNDATION EARLY LEARNING
 PREPARED FOR
 KQC INVESTORS, LLC
 WILMINGTON NORTH CAROLINA

SHEET NUMBER
C106

Plotted By: Sless, Jeremy - Sheet Set: mha - Layout: C301 - SITE PLAN - February 12, 2024 - 05:42:23pm - K:\vab_s\VA\117211000 - sunshine house via\CADD\plan\sheet\C300 - SITE.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



- ### SITE NOTES
1. ALL CURB RADII ARE 3.0' UNLESS OTHERWISE NOTED.
 2. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 3. TWO COATS YELLOW TRAFFIC PAINT (4" MIN. WIDTH) REQUIRED FOR PAVEMENT STRIPING EXCEPT TWO COATS BLUE TRAFFIC PAINT SHALL BE USED FOR ACCESSIBLE PARKING AREA (18" LETTERS, 2" PAINT STROKE).
 4. PROPOSED CONCRETE PADS TO HAVE 2 FT X 2 FT CHAMFERED CORNERS.
 5. ALL LIGHTING TO BE INSTALLED 5' BEHIND CURB AND CENTERED ON PAVEMENT STRIPING UNLESS OTHERWISE NOTED.
 6. TYPING TO EXISTING CURB/GUTTER: THE EXISTING PAVEMENT SHALL BE NEATLY SAWCUT AND REMOVED FOR A DISTANCE OF 2'-0" FROM THE FACE OF CURB AND 2'-0" FROM THE EDGE OF CURB AND GUTTER AND THE SUBGRADE, BASE COURSE, AND PAVING REPLACED WITH NEW PRODUCTS.
 7. REFER TO SHEETS CS501 - CS502 FOR FOUNDATION EARLY LEARNING STANDARD DETAILS. SEE SHEETS C901 - C902 FOR CONSTRUCTION DETAILS.
 8. FOR BUILDING AND PLAYGROUND INFORMATION, SEE ARCHITECTURE PLANS.

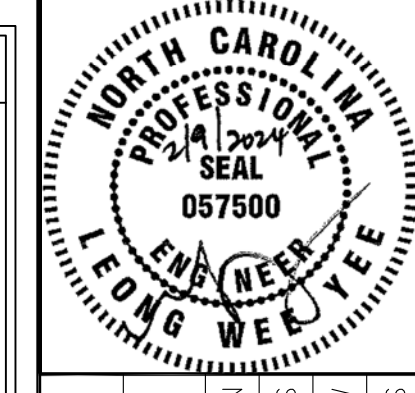
SITE LEGEND

| | | |
|------|---|--|
| (P1) | ASPHALT PAVEMENT (SEE SHEET C903) | |
| (P2) | STANDARD DUTY CONCRETE PAVEMENT (SEE SHEET C903) | |
| (P3) | CONCRETE SIDEWALK (SEE SHEET C903 FOR ONSITE) | |
| | 2'-0" CURB & GUTTER (SEE SHEET CG101 FOR REVERSE VS REGULAR) | |
| | 6" CURB | |
| | PROPERTY LINE | |
| | TOP OF POND | |
| | PARKING COUNT | |

- ### SITE PLAN KEY NOTES
1. SEE "GENERAL NOTES" SHEET FOR SITE GENERAL NOTES.
 2. SEE "SITE DETAIL" SHEETS FOR DETAILS REFERENCED ON THE SITE PLANS.
- #### SITE IMPROVEMENTS
- (A) 2' CURB AND GUTTER (SEE SITE DETAIL SHEET)
 - (B) ACCESSIBLE PARKING SPACE TYPICAL. SEE DETAIL SHEETS FOR PARKING SPACE SIGN AND SYMBOL
 - (C) DUMPSTER ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
 - (D) LIGHT POLES (SEE LIGHTING PLAN) - NOT USED
 - (E) 6' TALL PRIVACY FENCE (SEE DETAIL SHEET)
 - (F) BUILDING ENTRANCE
 - (G) 6' TALL PRIVACY FENCE GATE
 - (H) 6" CONCRETE CURB (SEE DETAIL SHEET)
 - (I) TRANSFORMER WITH FOUR (4) BOLLARDS
 - (J) ADA RAMP WITH DETECTABLE WARNING (SEE DETAIL SHEET)
 - (K) SPEED HUMP 22.5' STANDARD SPEED HUMP BY TREETOP PRODUCTS OR APPROVED SIMILAR
 - (L) 5' WIDE CONCRETE SIDEWALK (SEE CITY OF WILMINGTON DETAIL)
 - (M) EMERGENCY EXIT
 - (N) 33' WIDE PRIVATE CROSS ACCESS EASEMENT
 - (O) 4' TALL CHAIN LINK FENCE WITH GATES
 - (P) (2) PARALLEL CURB RAMPS
 - (Q) INFILTRATION POND
 - (R) SD 3-3.0 COMMERCIAL DRIVEWAY
- #### SITE SIGNAGE AND PAVEMENT MARKINGS
- (S1) 2' WIDE SIGNAGE DRIVE STRIP BAR (SEE SITE DETAIL SHEET)
 - (S2) ACCESSIBLE PARKING SIGN (SEE DETAIL SHEET)
 - (S3) 4" WIDE SINGLE YELLOW SOLID LINE (SEE DETAIL SHEET)
 - (S4) "ONE WAY" (SEE DETAIL SHEET)
 - (S7) TYPE III BARRICADE

| | | | |
|-----|-----------|------|----|
| NO. | REVISIONS | DATE | BY |
| | | | |

Kimley-Horn
 © 2024 KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

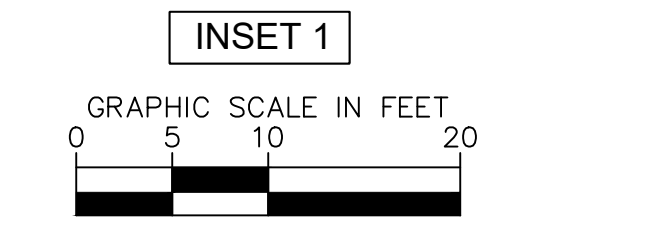
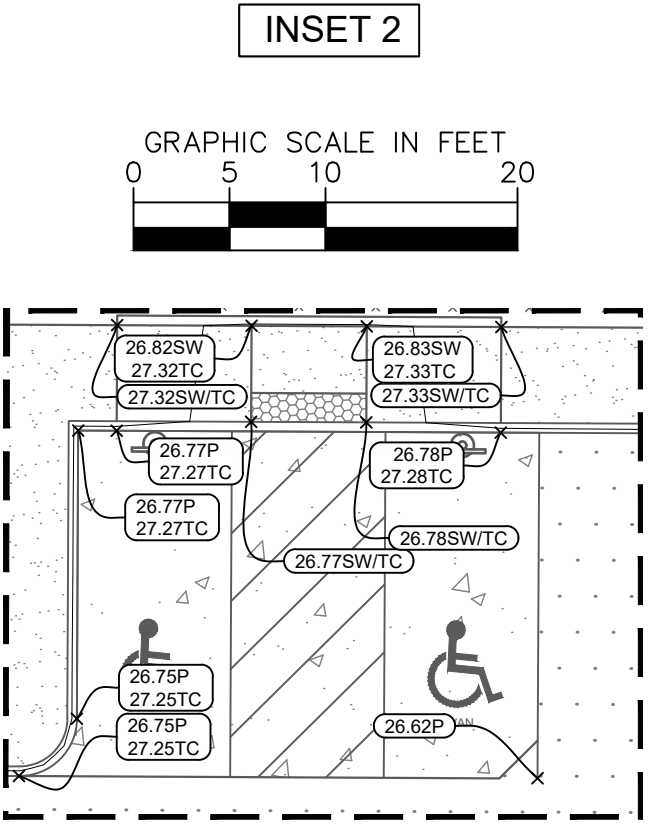
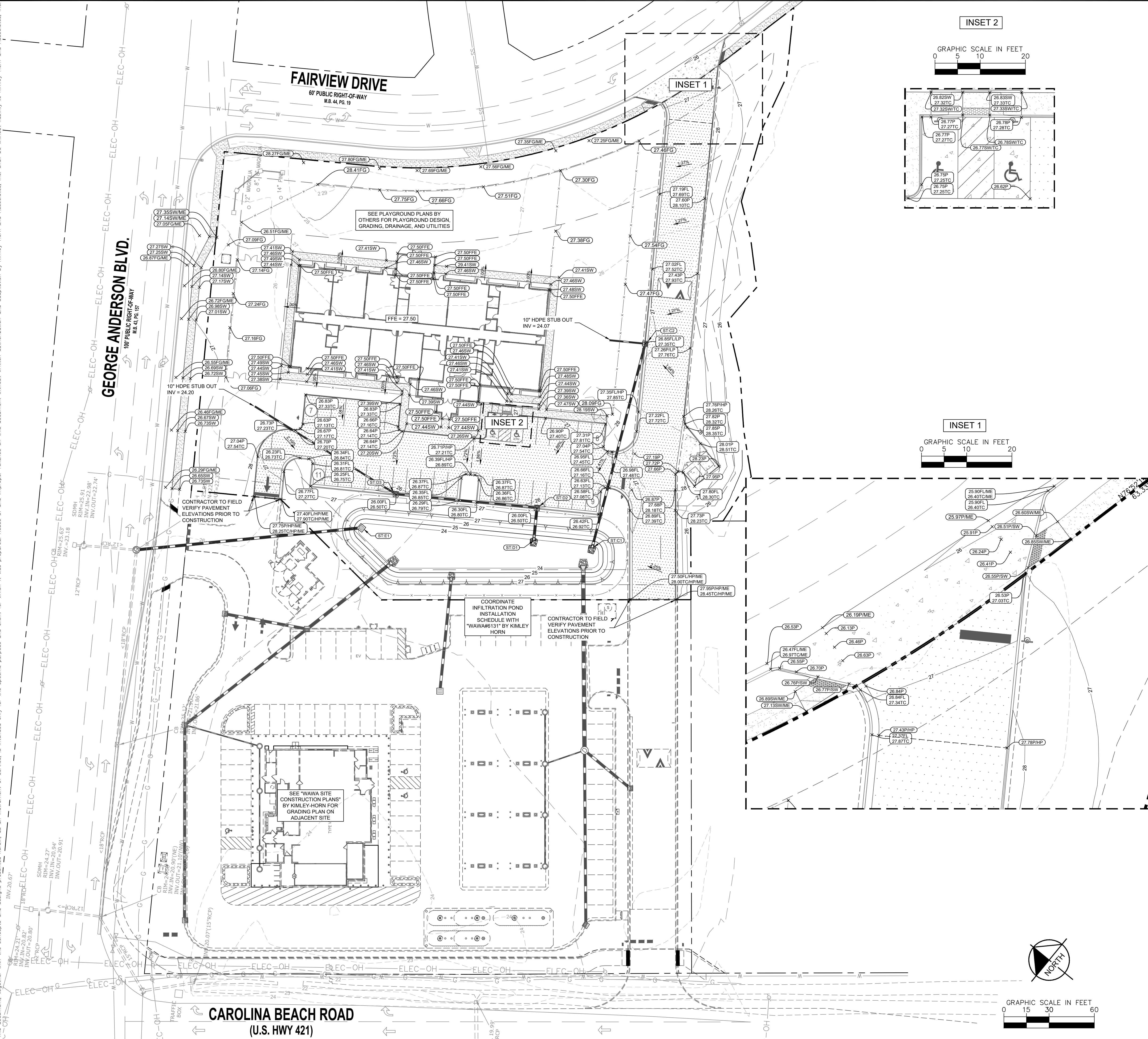
SITE PLAN

FOUNDATION EARLY LEARNING
 PREPARED FOR
KQC INVESTORS, LLC
 WILMINGTON, NORTH CAROLINA

SHEET NUMBER
C301



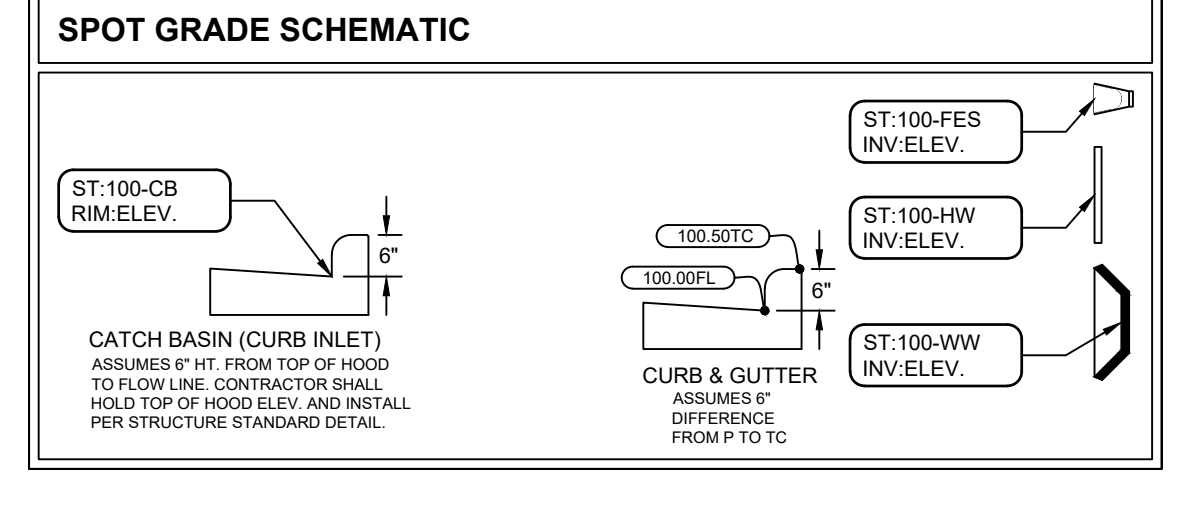
Plotted By: Sess, Jeremy Sheet Set: Mna Layout: C401 GRADING PLAN February 12, 2024 05:42:43pm K:\vab_civil\11721000 - sunshine house elev\CAD\plan sheets\C401 - GRD DRNG.dwg
 This document, together with the concepts and designs presented herein, is an instrument of service, and is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



PROPOSED TOPOGRAPHIC LEGEND

| | | | |
|-------|------------------------|-----|--------------------------|
| 450 | PROPOSED MAJOR CONTOUR | 450 | EXISTING MAJOR CONTOUR |
| 451 | PROPOSED MINOR CONTOUR | 451 | EXISTING MINOR CONTOUR |
| --- | RIDGE LINE | --- | LOD |
| --- | FLOW LINE | --- | PROPOSED SPOT GRADE |
| 2.00% | PROP. SLOPE GRADE | TP | TOP OF PAVEMENT |
| 4:1 | PROP. RUN-RISE | TC | TOP OF CURB |
| | | FB | FINAL BOTTOM OF CURB |
| | | FG | FINAL GRADE |
| | | ME | ME MATCH EXISTING |
| | | HP | HP-HIGHT POINT |
| | | FFE | FFE FINISHED FLOOR ELEV. |
| | | T | TOP OF ISLAND |
| | | IB | IB BOTTOM OF ISLAND |

- ### GRADING AND DRAINAGE NOTES
- ADA ACCESSIBLE SPACES SHALL HAVE A MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS.
 - PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 - CONTRACTOR TO VERIFY DEPTH OF EXISTING UNDERGROUND UTILITIES AND NOTIFY KIMLEY-HORN IF ANY CONFLICTS EXIST.
 - ALL CLEANOUTS ARE TO BE TRAFFIC RATED.
 - ALL DOORS ARE REQUIRED TO HAVE ADA COMPLIANT ACCESS.
 - ALL PROPOSED CURB CUTS SHALL COMPLY WITH ANSI 406.1.
 - ALL MATCH EXISTING ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY UPON DISCOVERY.
 - NO EARTHEN SOLE SHALL BE GREATER THAN 3:1 UNLESS OTHERWISE NOTED.
 - ALL SPOT GRADES DEPICT FINISH GRADE UNLESS OTHERWISE NOTED.
 - A MINIMUM VERTICAL SEPARATION OF 18-INCHES SHALL BE MAINTAINED AT CROSSINGS. IN THE EVENT THAT MINIMUM SEPARATION REQUIREMENTS CANNOT BE MET, THE CONTRACTOR SHALL UTILIZE MINIMUM PIPE SEPARATION REQUIREMENTS PER THE GOVERNING AGENCY.



STORM WATER & DRAINAGE LEGEND

| | | | |
|---------------------|-----------------------------------|-------------|-----------------------------|
| (D) | MH MANHOLE (SOLID LID) | (JB) | JB JUNCTION BOX (SOLID LID) |
| (CB) | CB CATCH BASIN | (CB-D) | CB-D CATCH BASIN DOUBLE |
| (DI) | DI DROP INLETS | (DI-D) | DI-D DROP INLETS DOUBLE |
| (S) | STORM WATER PIPE | (CO) | CO CLEANOUT |
| (RD) | RD ROOF DRAIN | (FES) | FES FLARED END SECTION |
| (SSD) | SSD SUB-SURFACE DRAIN | (HW) | HW HEADWALL |
| (T) | TOP OF BANK | (WW) | WW WING WALL |
| (W) | WATER SURFACE | (YI) | YI YARD INLET |
| (P) | POND/TOE BOTTOM | (AI) | AI AREA INLET |
| (S&D) | S&D SWALE/DITCH | (RD) | RD ROOF DRAIN |
| (R) | RIPRAP APRON | (CS) | CS CONTROL STRUCTURE |
| (DE) | DE DRAINAGE EASEMENT | (P) | P PUMP STATION |
| RIM: | CB: BOTTOM OF CURB AT GUTTER LINE | ST-C35-DI | STRUCTURE LABEL |
| DI, MH, CO, YI, AI: | CENTER OF GRATE OR LID | ST-A100-FES | INV. 750.50 |
| FES, HW, WW: | PIPE INVERT ELEVATION | | |

STORM DRAINAGE ABBREVIATIONS LIST

(SEE LATEST NCDOT STDS. MANUAL AND DETAIL SHEETS)

| | |
|-------|--|
| CB | CATCH BASIN (NCDOT STDS. 840.00, .01, .02, .46, .66) |
| US | US FOUNDRY 5181 FRAME & HOOD AND US FOUNDRY 6003 GRATE |
| DI | DROP INLET (NCDOT STDS. 840.00, .14, .15, .46, .66) |
| US | US FOUNDRY 4139 FRAME AND US FOUNDRY 6002 GRATE |
| MH | JUNCTION BOX/MANHOLE (NCDOT STDS. 840.00, .31, .32, .46, .54, .66) |
| OE | OPEN ENDED PIPE |
| RD | ROOF DRAIN (REF: ARCH/MEP) |
| CO | CLEAN-OUT (SEE DETAIL SHEET) |
| FS | FLOW SPLITTER (SEE DETAIL SHEET) |
| OCS | BMP CONTROL STRUCTURE (SEE DETAIL SHEET) |
| EX-CB | EXISTING CATCH BASIN |

CUT/FILL ESTIMATED QUANTITIES - NOT FOR BIDDING

CUT FACTOR= 1.0
 FILL FACTOR = 1.0
 TOTAL CUT VOLUME (ADJUSTED) = 294 CYD
 TOTAL FILL VOLUME (ADJUSTED) = 7,700 CYD
 NET VOLUME (ADJUSTED) = 7,405 CYD (FILL)

VERTICAL DATUM: NAVD88
SEE SHEET C502 FOR STORM PROFILES

NO.
REVISIONS
DATE

FOUNDATION EARLY LEARNING PREPARED FOR KQC INVESTORS, LLC WILMINGTON NORTH CAROLINA

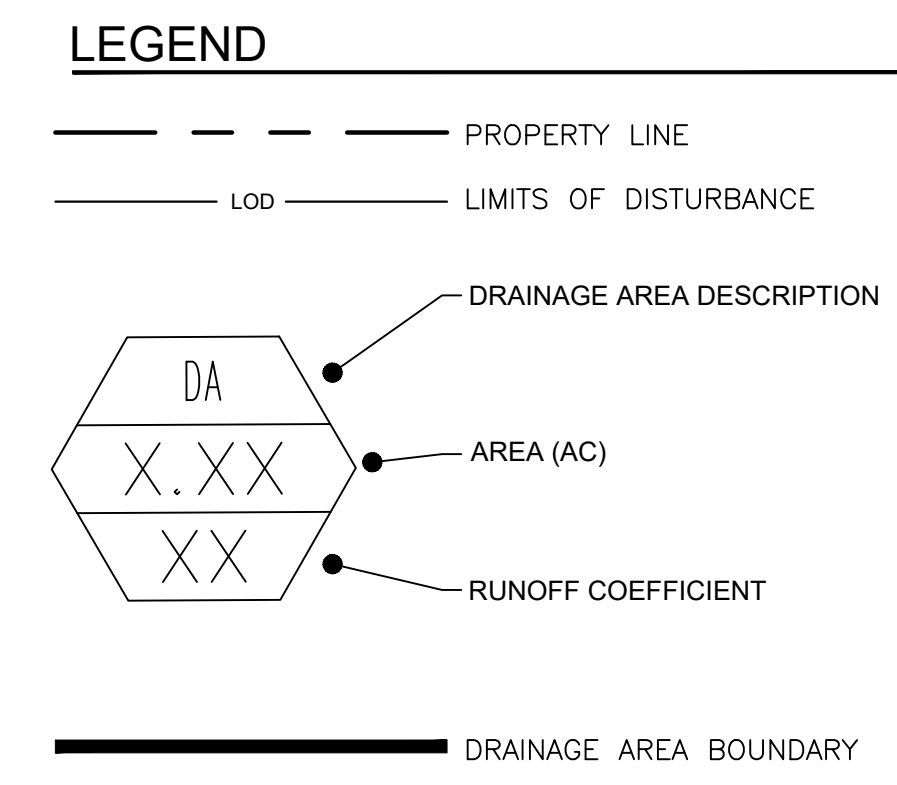
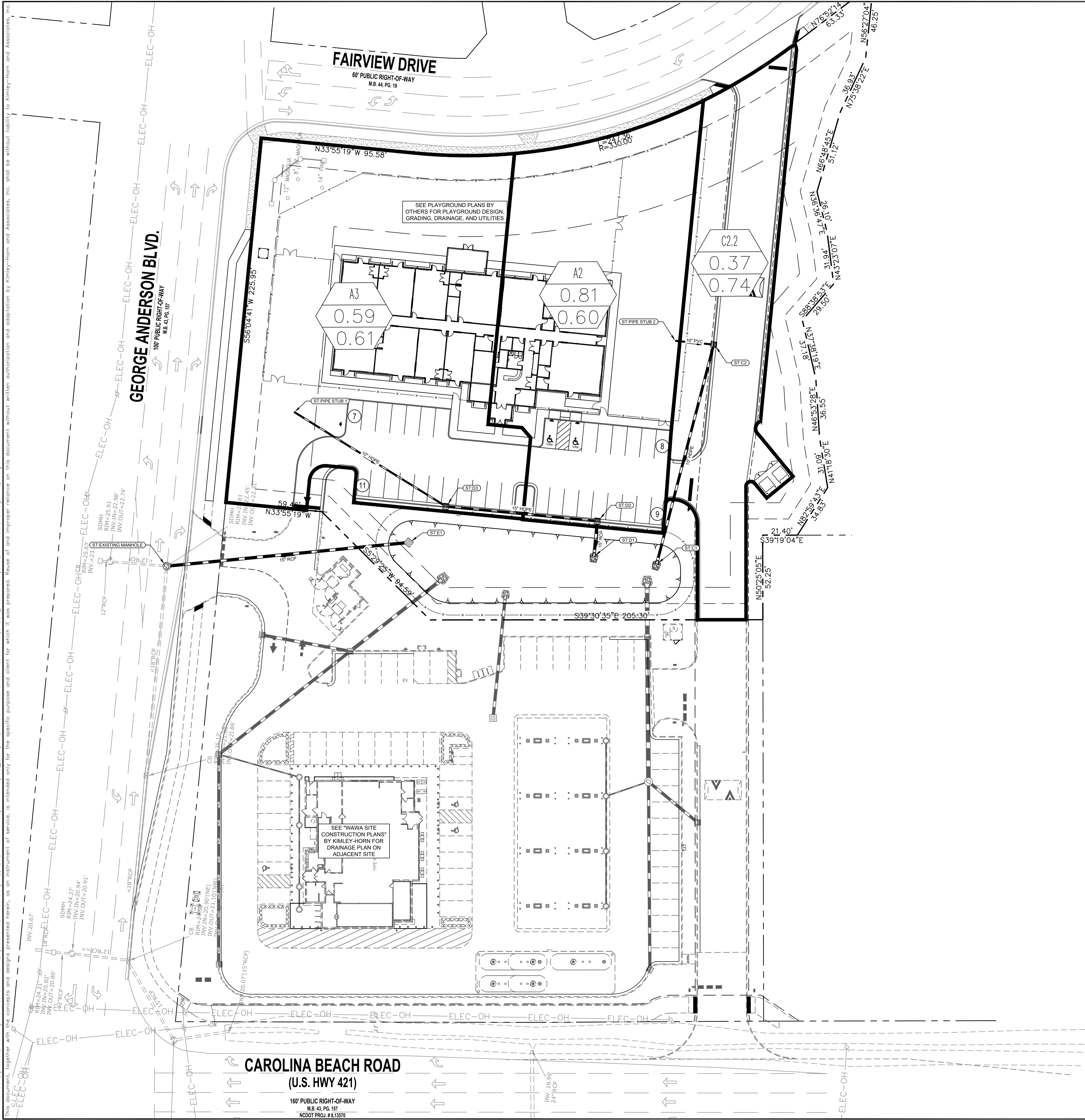
© 2024 KIMLEY-HORN AND ASSOCIATES, INC. 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
PHONE: 757-213-8600 WWW.KIMLEY-HORN.COM

SHEET NUMBER C401

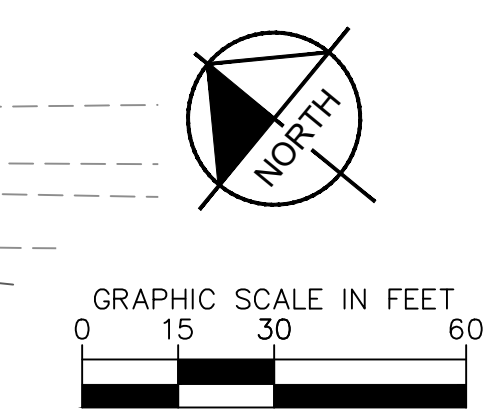
KHA PROJECT 11721000 DATE 02/09/2024 SCALE AS SHOWN DESIGNED BY JKS DRAWN BY AHW CHECKED BY NJS

GRADING PLAN

Plotted By: Sless, Jeremy Sheet Set: Mha Layout: C402 February 12, 2024 05:43:00pm K:\vob_civil\17211000_sunshine_house_eia\CADD\plan\sheet\C402 - Inlet Drainage Map.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

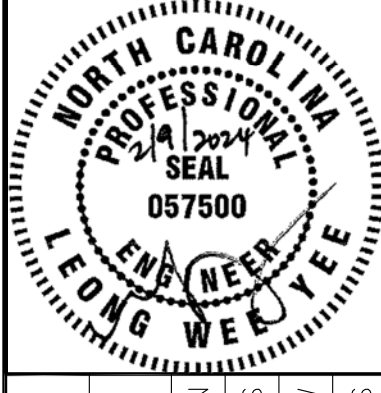


| DRAINAGE AREA SUMMARY | | | |
|-----------------------|-------------------|----------|--------------------|
| DRAINAGE AREA ID | OVERALL AREA (AC) | TC (MIN) | RUNOFF COEFFICIENT |
| A2 | 0.81 | 5 | 0.65 |
| PERVIOUS AREA | 0.41 | | 0.3 |
| IMPERVIOUS AREA | 0.40 | | 0.9 |
| A3 | 0.69 | 5 | 0.61 |
| PERVIOUS AREA | 0.29 | | 0.3 |
| IMPERVIOUS AREA | 0.30 | | 0.9 |
| C2.2 | 0.37 | 5 | 0.74 |
| PERVIOUS AREA | 0.10 | | 0.3 |
| IMPERVIOUS AREA | 0.27 | | 0.9 |
| TOTAL AREA | 1.77 | | |



| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |

Kimley-Horn
 © 2024 KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM

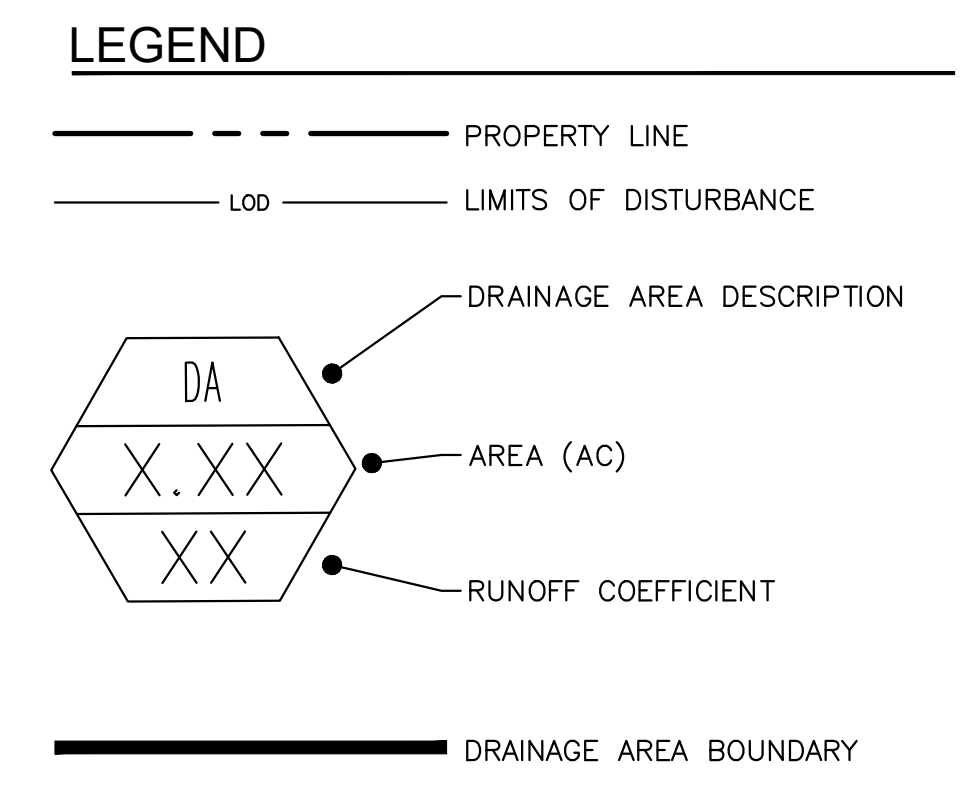
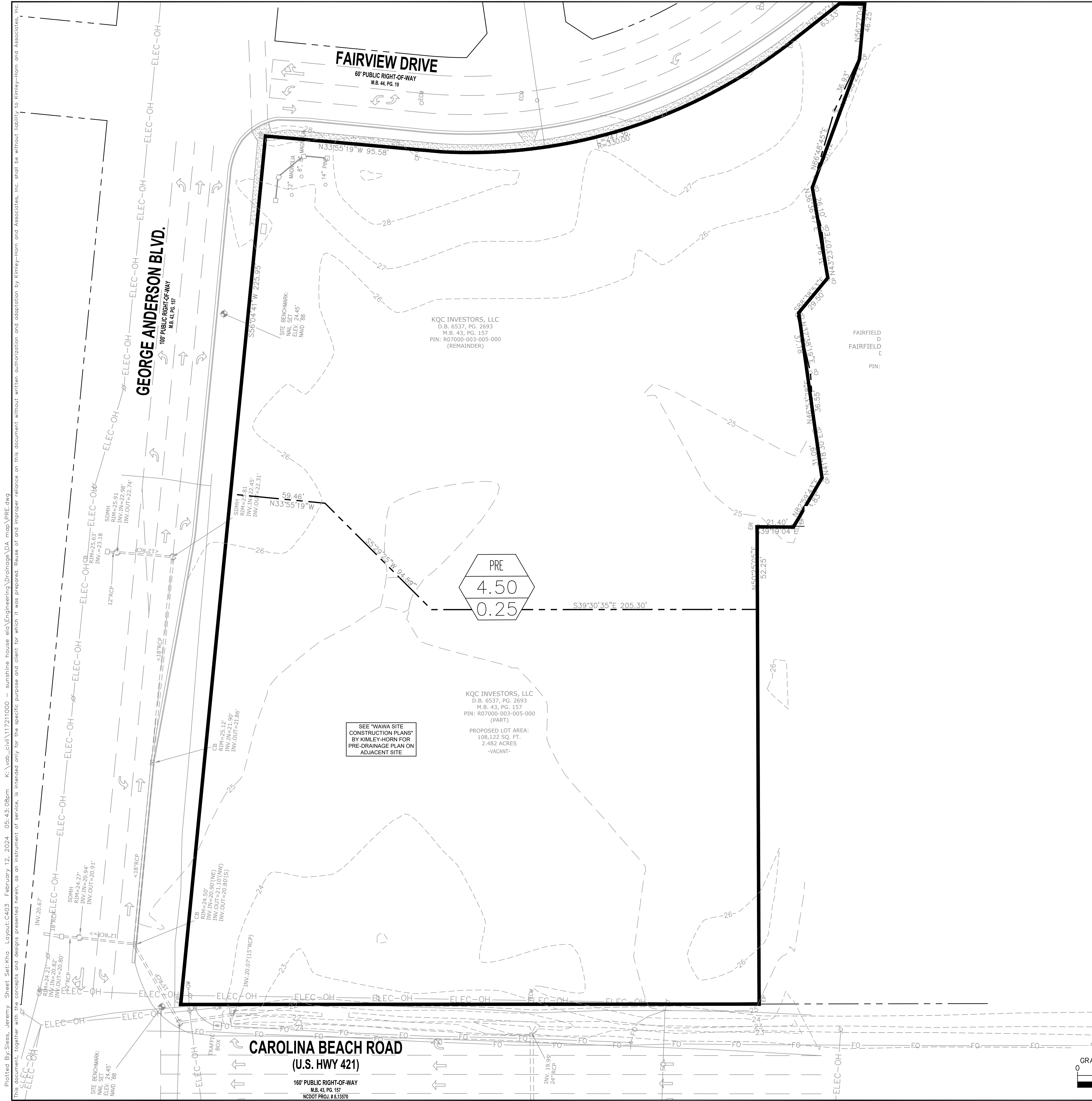


| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

INLET DRAINAGE AREA MAP

FOUNDATION EARLY LEARNING
 PREPARED FOR
KQC INVESTORS, LLC
 NORTH CAROLINA
 WILMINGTON

SHEET NUMBER
C402



Kimley»Horn

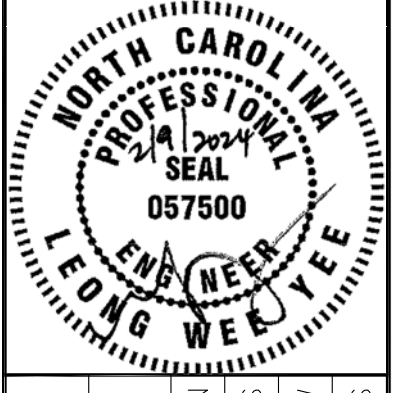
Project Name: Foudnations Early Learning
 Address: Carolina Beach Rd and George Anderson Drive
 KHA Project No.: 117211000
 Date: 13-Nov-23

Land Cover Summary

| Soil Group C | Impervious | CN | C-Factor | | |
|-------------------------------|--------------|----------|------------|----|----------|
| | | 98 | 0.9 | | |
| | Pervious | 74 | 0.15 | | |
| | Woods (Fair) | 73 | 0.25 | | |
| Land Cover Summary (Acres) | Impervious | Pervious | Total Area | CN | C-Factor |
| EXISTING DRAINAGE AREA | | | | | |
| DA1 | 0.00 | 4.50 | 4.50 | 73 | 0.25 |
| PROPOSED DRAINAGE AREA | | | | | |
| DA1 | 2.50 | 2.00 | 4.50 | 87 | 0.57 |

| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |

Kimley»Horn
 © 2024, KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



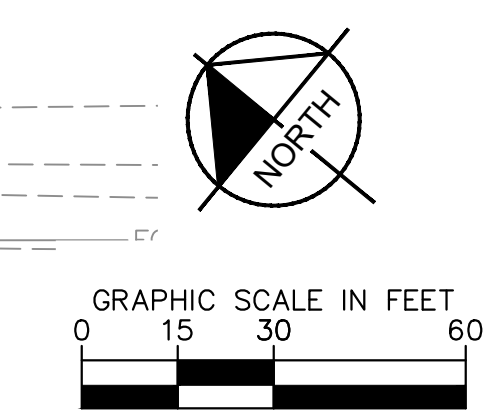
| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

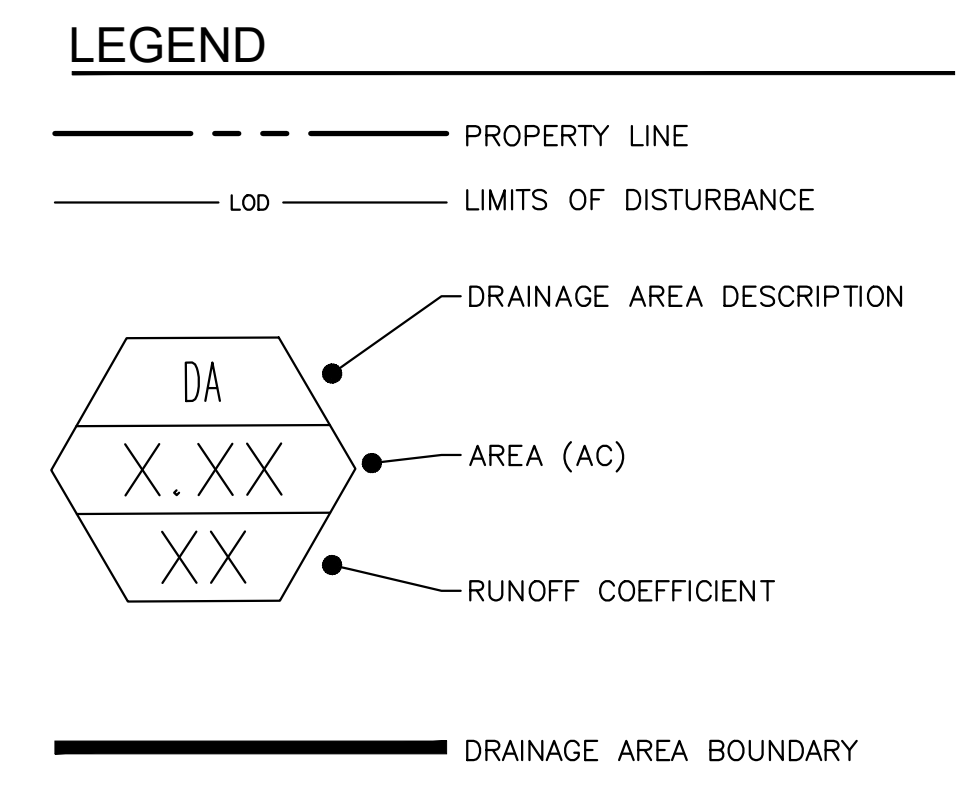
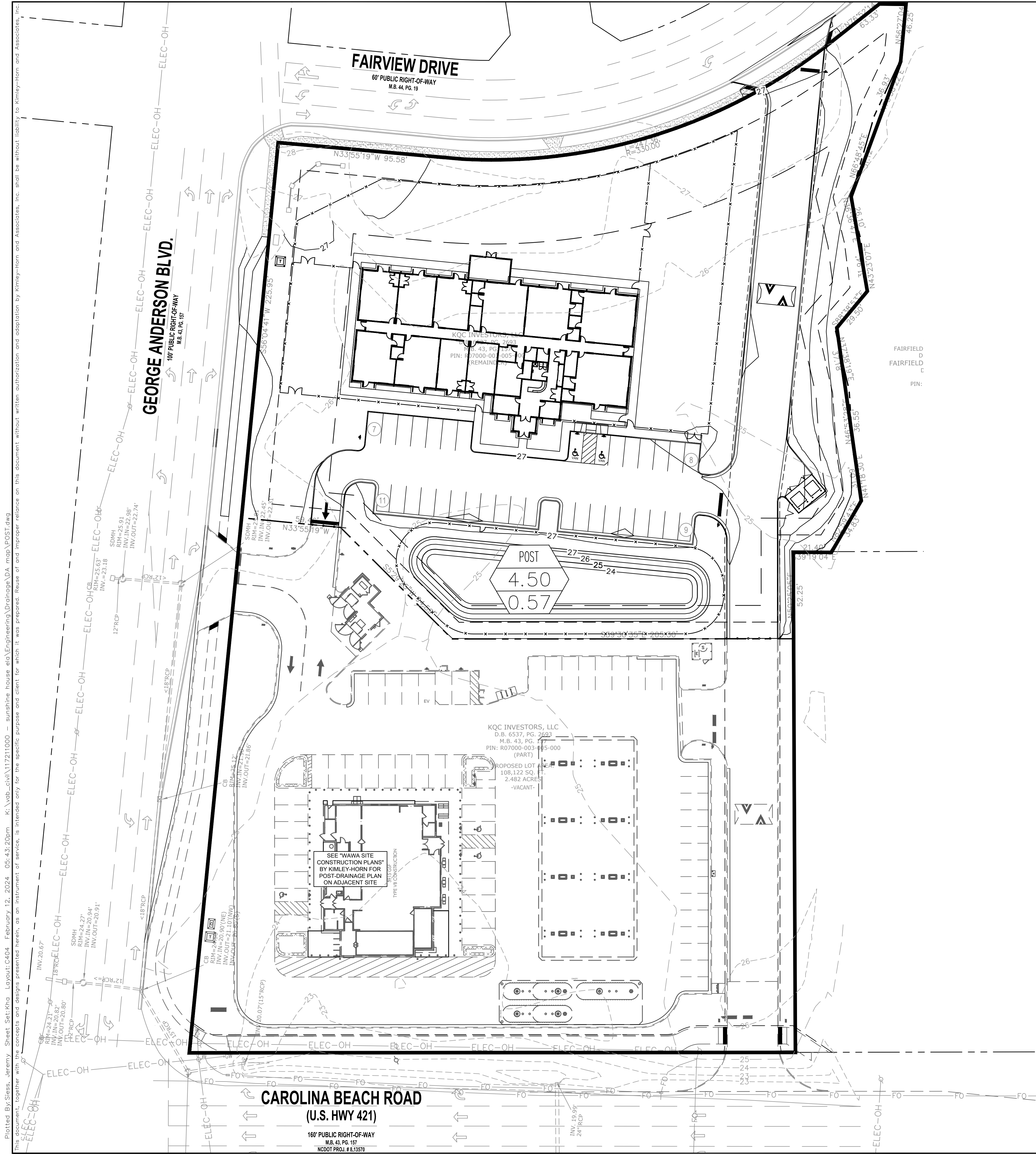
PRE-CONDITION DRAINAGE AREA MAP

FOUNDATION EARLY LEARNING
 PREPARED FOR
KQC INVESTORS, LLC
 WILMINGTON, NORTH CAROLINA

SHEET NUMBER
C403

Plotted By: Sless, Jeremy Sheet Set: KHA Layout: C403 February 12, 2024 05:43:08pm K:\web_civil\117211000_sunshine_house_eta\Engineering\Drainage\DA_map\PRE.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.





Kimley»Horn

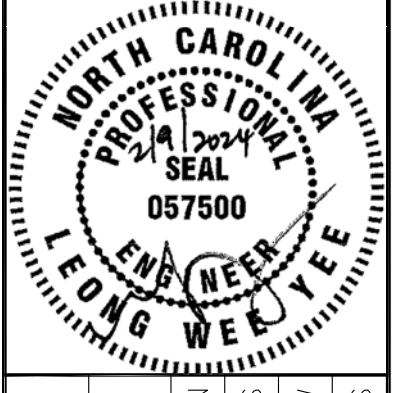
Project Name: Foudnations Early Learning
 Address: Carolina Beach Rd and George Anderson Drive
 KHA Project No.: 117211000
 Date: 13-Nov-23

Land Cover Summary

| Soil Group C | | CN | C-Factor | EXISTING DRAINAGE AREA | |
|----------------------------|--------------|----|----------|------------------------|----------|
| | | | | Impervious | Pervious |
| Land Cover Summary (Acres) | Impervious | 98 | 0.9 | 0.00 | 4.50 |
| | Pervious | 74 | 0.15 | 2.50 | 2.00 |
| | Woods (Fair) | 73 | 0.25 | 4.50 | 4.50 |
| | Impervious | 73 | 0.25 | 4.50 | 4.50 |
| | Pervious | 73 | 0.25 | 2.00 | 2.00 |
| | Total Area | | | 4.50 | 4.50 |
| | CN | | | 73 | 87 |
| | C-Factor | | | 0.25 | 0.57 |

| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |

Kimley»Horn
 © 2024 KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



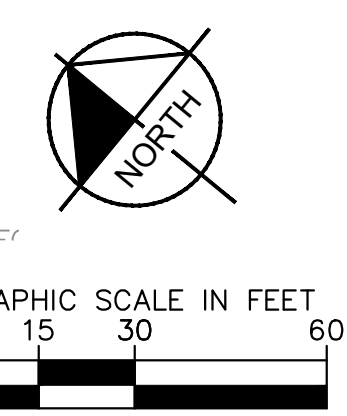
| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

POST-CONDITION DRAINAGE AREA MAP

FOUNDATION EARLY LEARNING
 PREPARED FOR
KQC INVESTORS, LLC
 WILMINGTON NORTH CAROLINA

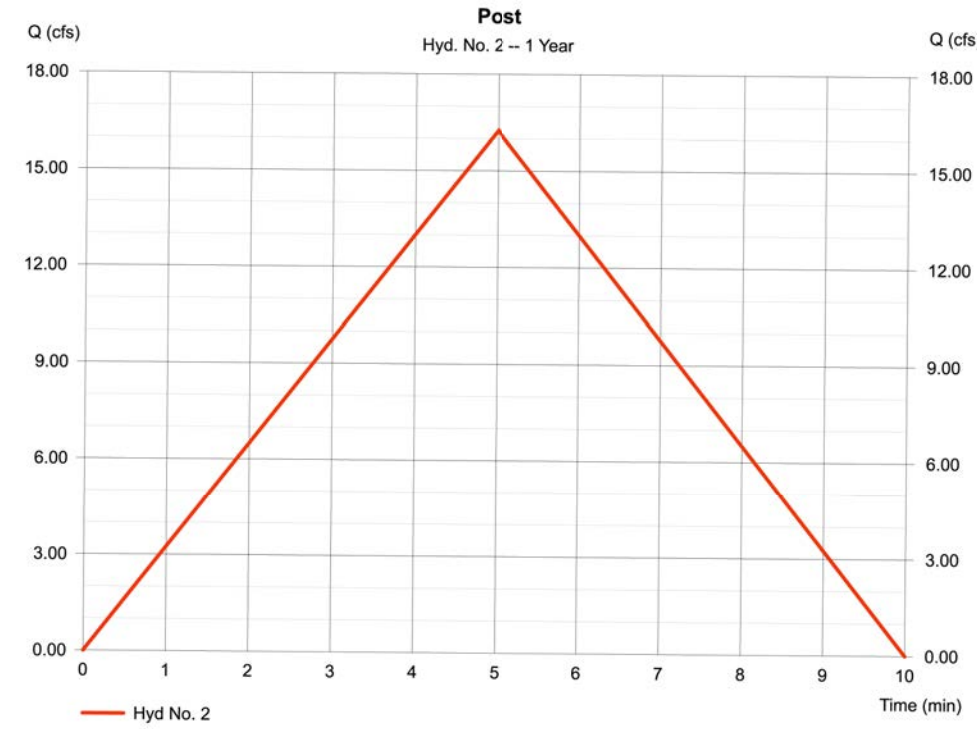
SHEET NUMBER
C404

Plotted By: Sless, Jeremy Sheet Set: KHA Layout: C404 February 12, 2024 05:43:20pm K:\web_civil\117211000_sunshine_house_etc\Engineering\Drainage\DA_map\POST.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

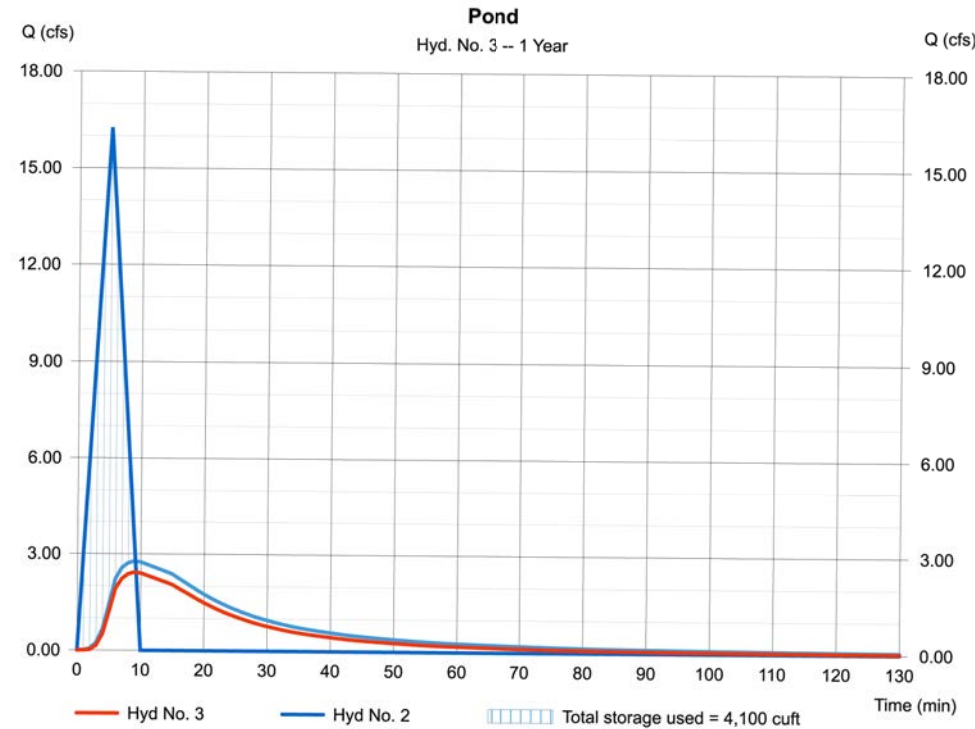


Plotted By: Jess, Jeremy Sheet Set: KHA Layout: C406 February 12, 2024 05:43:30pm K:\web_civil\117211000 - sunshine house eta \Engineering\Drainage\DA_map\POST.dwg This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

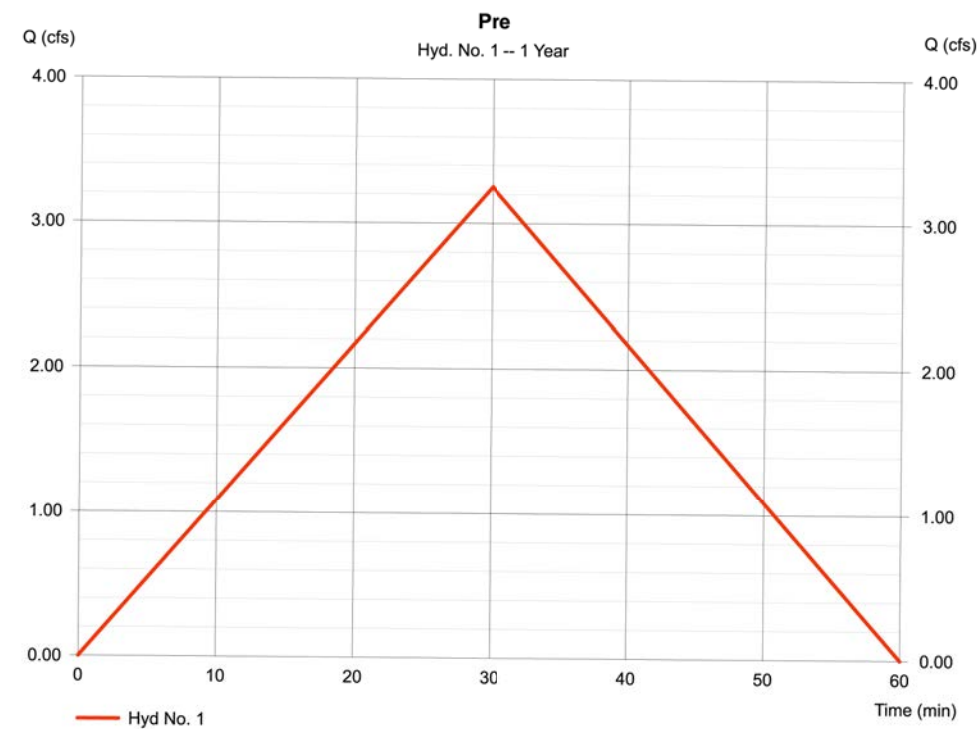
| Hydrograph Report | | | |
|---|---------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 2 | | | |
| Post | | | |
| Hydrograph type | = Rational | Peak discharge | = 16.25 cfs |
| Storm frequency | = 1 yrs | Time to peak | = 5 min |
| Time interval | = 1 min | Hyd. volume | = 4,876 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.57 |
| Intensity | = 6.336 in/hr | Tc by User | = 5.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



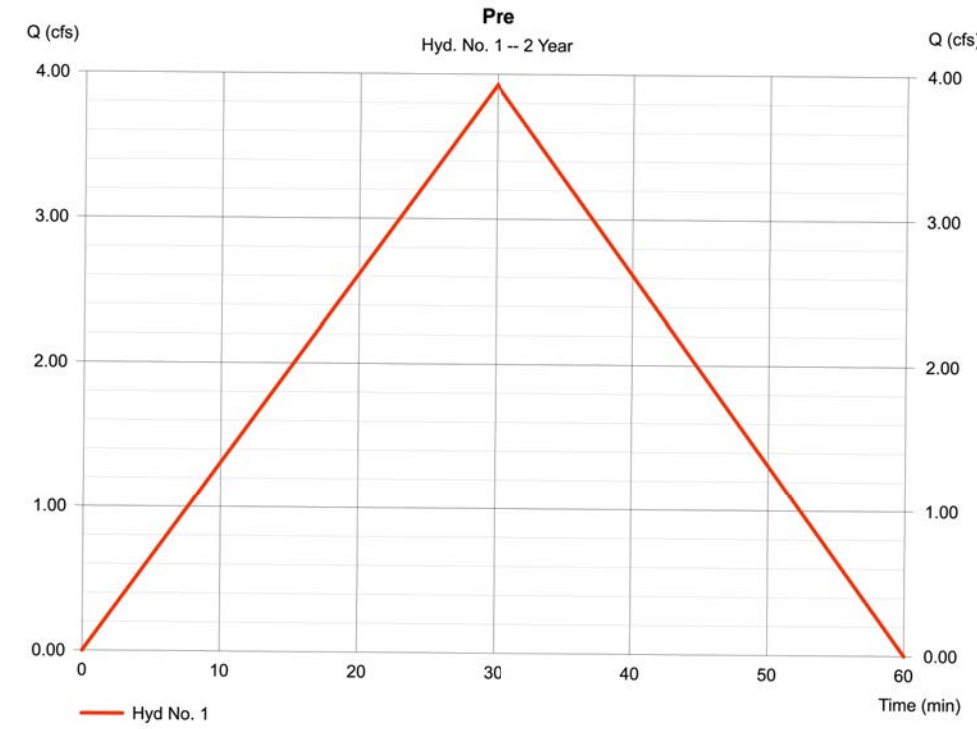
| Hydrograph Report | | | |
|---|---------------|----------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 3 | | | |
| Pond | | | |
| Hydrograph type | = Reservoir | Peak discharge | = 2,430 cfs |
| Storm frequency | = 1 yrs | Time to peak | = 9 min |
| Time interval | = 1 min | Hyd. volume | = 4,876 cuft |
| Drainage area | = 2 - Post | Runoff coeff. | = 0.57 |
| Inflow Hyd. No. | = Lake Jeremy | Max. Elevation | = 24.68 ft |
| Reservoir name | = Lake Jeremy | Max. Storage | = 4,100 cuft |



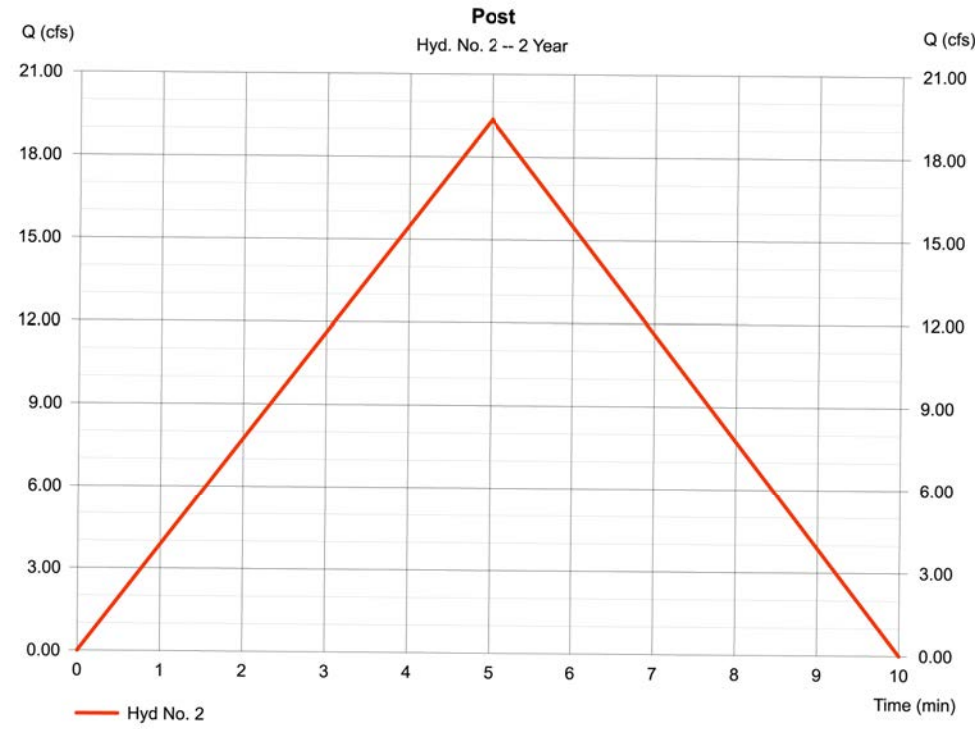
| Hydrograph Report | | | |
|---|---------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 1 | | | |
| Pre | | | |
| Hydrograph type | = Rational | Peak discharge | = 3,251 cfs |
| Storm frequency | = 1 yrs | Time to peak | = 30 min |
| Time interval | = 1 min | Hyd. volume | = 5,852 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.25 |
| Intensity | = 2.890 in/hr | Tc by User | = 30.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



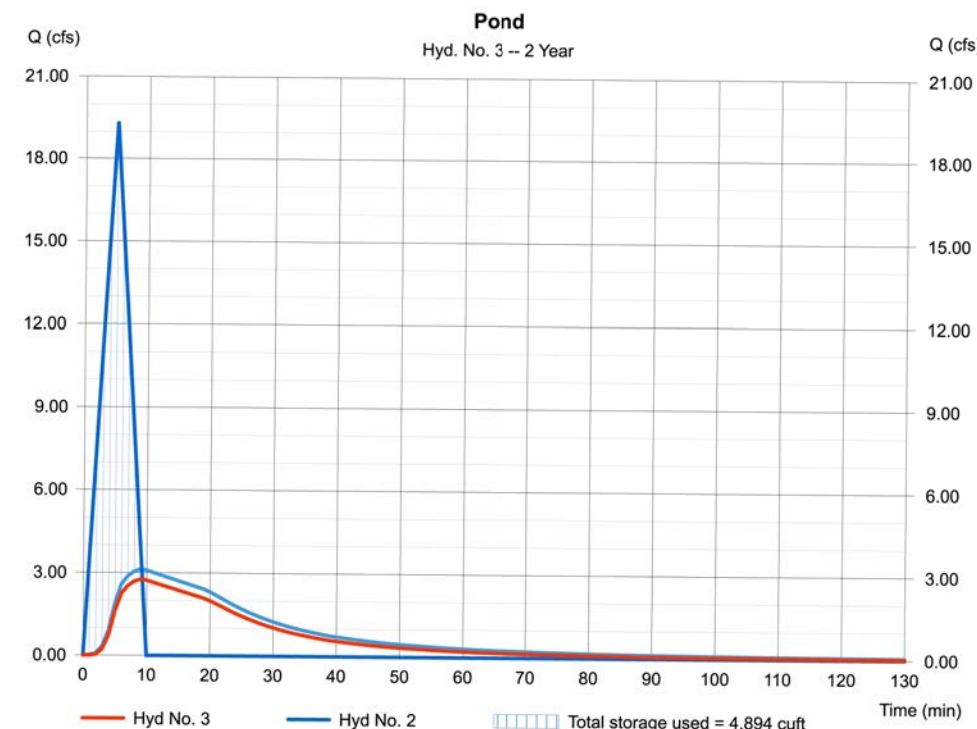
| Hydrograph Report | | | |
|---|---------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 1 | | | |
| Pre | | | |
| Hydrograph type | = Rational | Peak discharge | = 3,926 cfs |
| Storm frequency | = 2 yrs | Time to peak | = 30 min |
| Time interval | = 1 min | Hyd. volume | = 7,067 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.25 |
| Intensity | = 3.490 in/hr | Tc by User | = 30.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



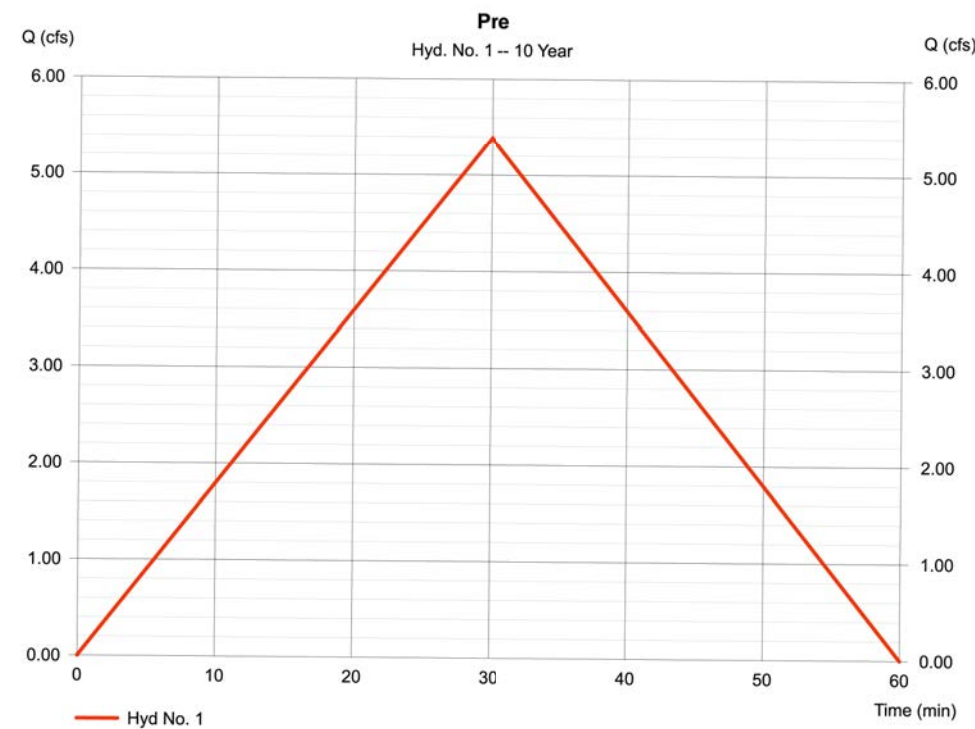
| Hydrograph Report | | | |
|---|---------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 2 | | | |
| Post | | | |
| Hydrograph type | = Rational | Peak discharge | = 19.36 cfs |
| Storm frequency | = 2 yrs | Time to peak | = 5 min |
| Time interval | = 1 min | Hyd. volume | = 5,807 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.57 |
| Intensity | = 7.543 in/hr | Tc by User | = 5.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



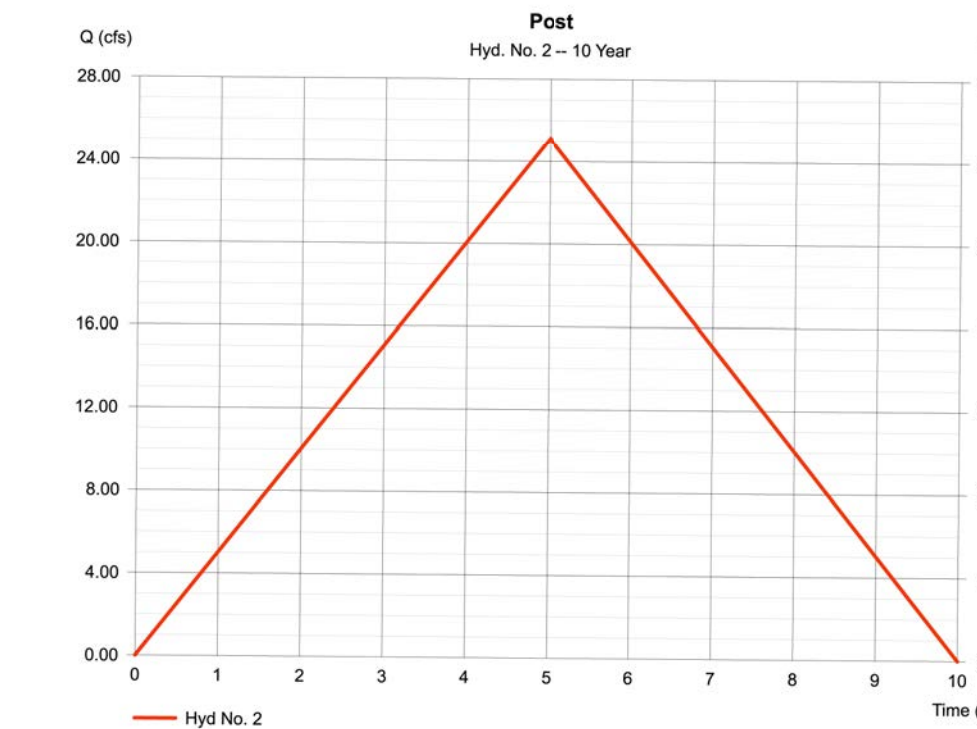
| Hydrograph Report | | | |
|---|---------------|----------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 3 | | | |
| Pond | | | |
| Hydrograph type | = Reservoir | Peak discharge | = 2,757 cfs |
| Storm frequency | = 2 yrs | Time to peak | = 9 min |
| Time interval | = 1 min | Hyd. volume | = 4,446 cuft |
| Inflow Hyd. No. | = 2 - Post | Max. Elevation | = 24.87 ft |
| Reservoir name | = Lake Jeremy | Max. Storage | = 4,894 cuft |



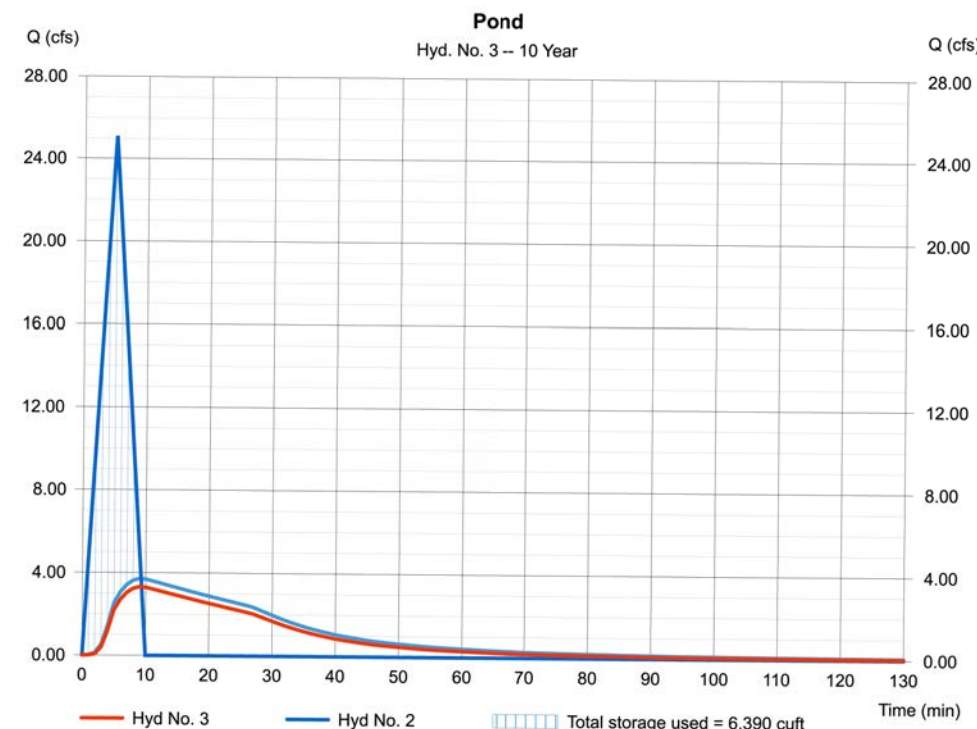
| Hydrograph Report | | | |
|---|---------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 1 | | | |
| Pre | | | |
| Hydrograph type | = Rational | Peak discharge | = 5,389 cfs |
| Storm frequency | = 10 yrs | Time to peak | = 5 min |
| Time interval | = 1 min | Hyd. volume | = 9,700 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.25 |
| Intensity | = 9.792 in/hr | Tc by User | = 5.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



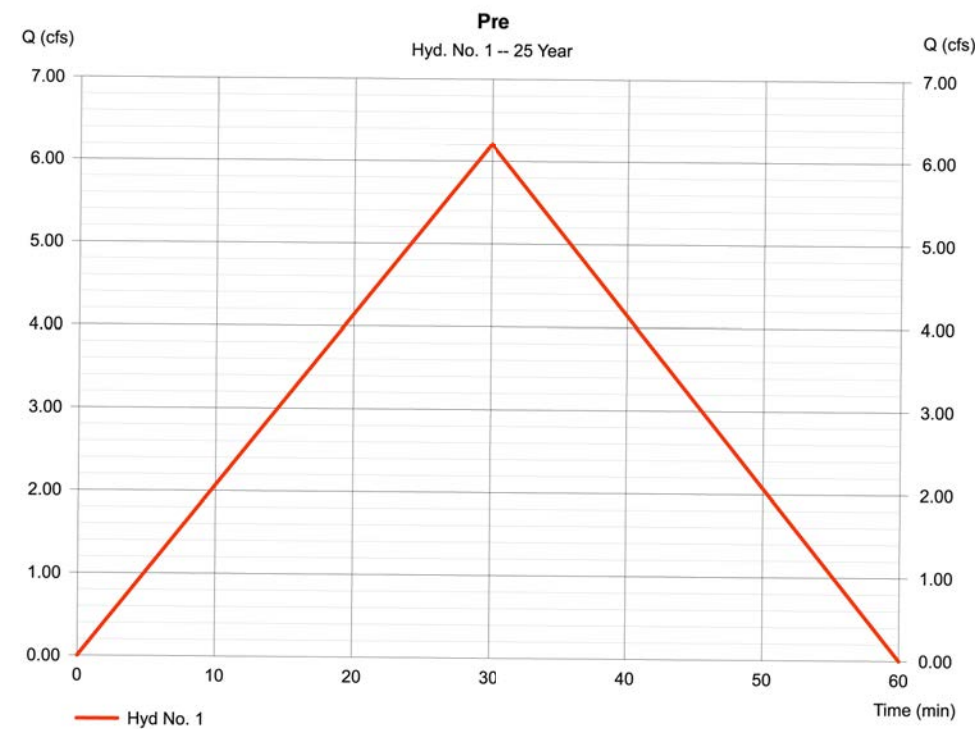
| Hydrograph Report | | | |
|---|---------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 2 | | | |
| Post | | | |
| Hydrograph type | = Rational | Peak discharge | = 25.12 cfs |
| Storm frequency | = 10 yrs | Time to peak | = 5 min |
| Time interval | = 1 min | Hyd. volume | = 7,535 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.57 |
| Intensity | = 9.792 in/hr | Tc by User | = 5.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



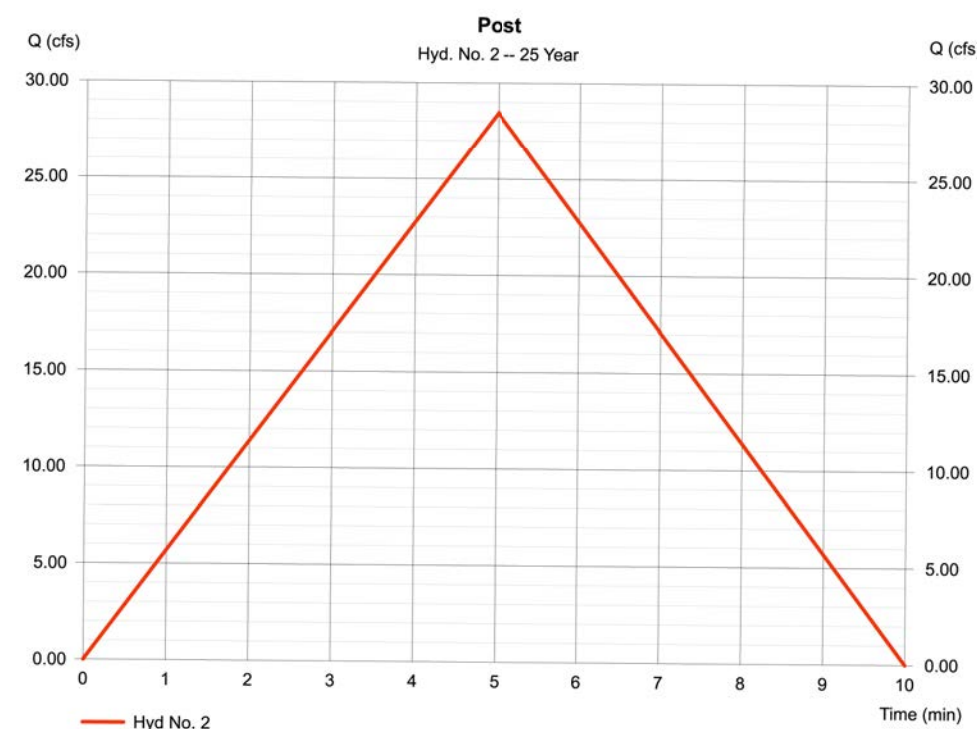
| Hydrograph Report | | | |
|---|---------------|----------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 3 | | | |
| Pond | | | |
| Hydrograph type | = Reservoir | Peak discharge | = 3,314 cfs |
| Storm frequency | = 10 yrs | Time to peak | = 9 min |
| Time interval | = 1 min | Hyd. volume | = 5,990 cuft |
| Inflow Hyd. No. | = 2 - Post | Max. Elevation | = 25.22 ft |
| Reservoir name | = Lake Jeremy | Max. Storage | = 6,390 cuft |



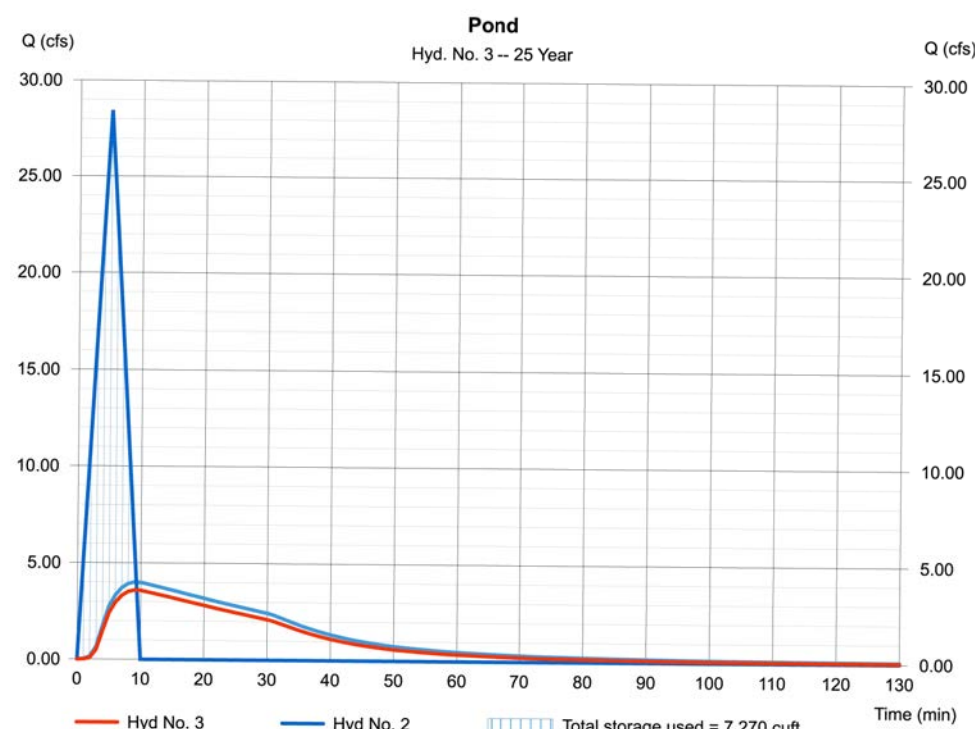
| Hydrograph Report | | | |
|---|---------------|-------------------|---------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 1 | | | |
| Pre | | | |
| Hydrograph type | = Rational | Peak discharge | = 6,210 cfs |
| Storm frequency | = 25 yrs | Time to peak | = 30 min |
| Time interval | = 1 min | Hyd. volume | = 11,178 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.25 |
| Intensity | = 5.520 in/hr | Tc by User | = 30.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



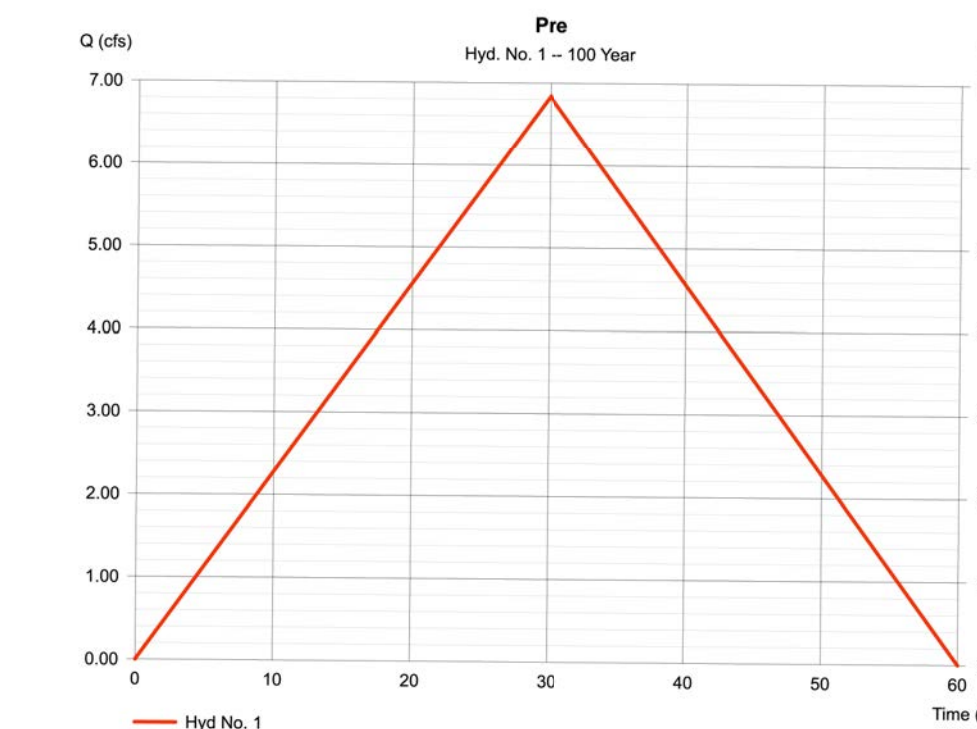
| Hydrograph Report | | | |
|---|----------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 2 | | | |
| Post | | | |
| Hydrograph type | = Rational | Peak discharge | = 28.45 cfs |
| Storm frequency | = 25 yrs | Time to peak | = 5 min |
| Time interval | = 1 min | Hyd. volume | = 8,536 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.57 |
| Intensity | = 11.092 in/hr | Tc by User | = 5.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



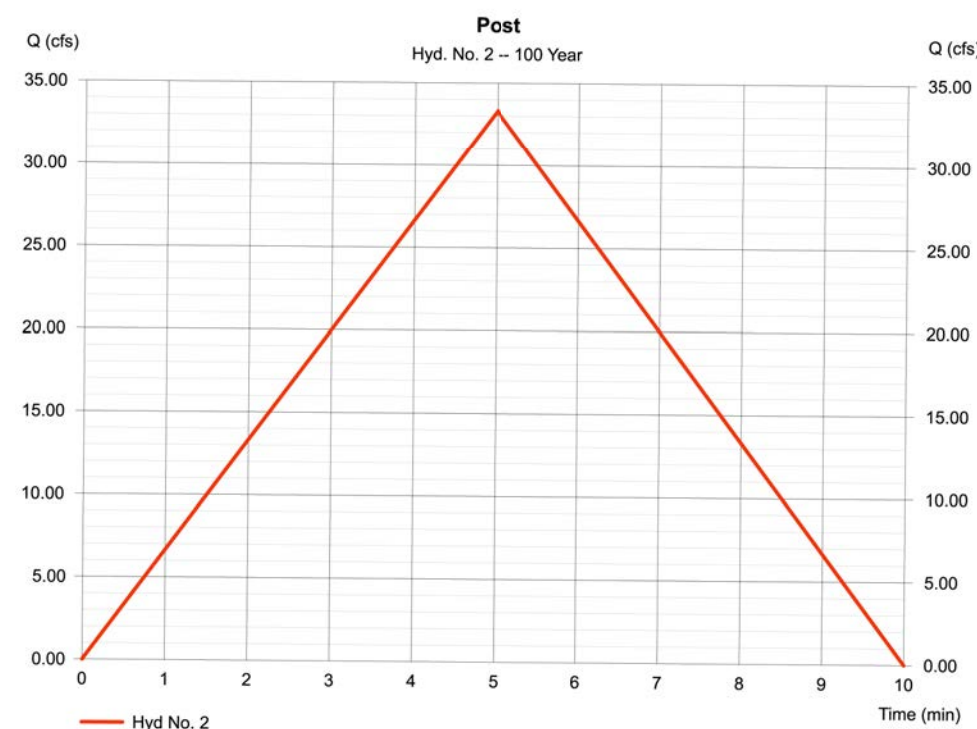
| Hydrograph Report | | | |
|---|---------------|----------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 3 | | | |
| Pond | | | |
| Hydrograph type | = Reservoir | Peak discharge | = 3,589 cfs |
| Storm frequency | = 100 yrs | Time to peak | = 9 min |
| Time interval | = 1 min | Hyd. volume | = 8,536 cuft |
| Inflow Hyd. No. | = 2 - Post | Max. Elevation | = 25.42 ft |
| Reservoir name | = Lake Jeremy | Max. Storage | = 7,270 cuft |



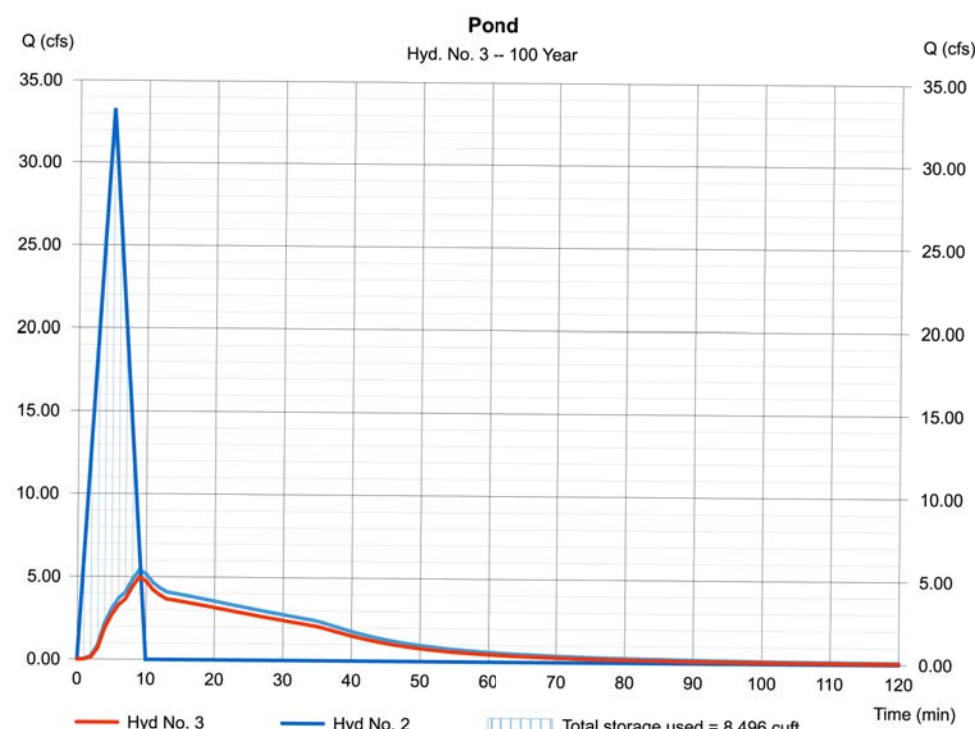
| Hydrograph Report | | | |
|---|---------------|-------------------|---------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 1 | | | |
| Pre | | | |
| Hydrograph type | = Rational | Peak discharge | = 6,840 cfs |
| Storm frequency | = 100 yrs | Time to peak | = 30 min |
| Time interval | = 1 min | Hyd. volume | = 12,312 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.25 |
| Intensity | = 6.080 in/hr | Tc by User | = 30.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |



| Hydrograph Report | | | |
|---|----------------|-------------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 2 | | | |
| Post | | | |
| Hydrograph type | = Rational | Peak discharge | = 33.30 cfs |
| Storm frequency | = 100 yrs | Time to peak | = 5 min |
| Time interval | = 1 min | Hyd. volume | = 9,991 cuft |
| Drainage area | = 4,500 ac | Runoff coeff. | = 0.57 |
| Intensity | = 12.984 in/hr | Tc by User | = 5.00 min |
| IDF Curve | = IDF.IDF | Asc/Rec limb fact | = 1/1 |

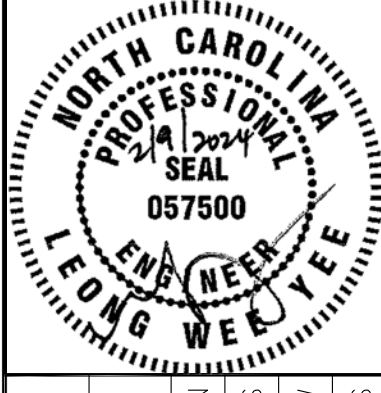


| Hydrograph Report | | | |
|---|---------------|----------------|--------------|
| Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 | | | |
| Thursday, 02/18/2024 | | | |
| Hyd. No. 3 | | | |
| Pond | | | |
| Hydrograph type | = Reservoir | Peak discharge | = 4,966 cfs |
| Storm frequency | = 100 yrs | Time to peak | = 9 min |
| Time interval | = 1 min | Hyd. volume | = 8,218 cuft |
| Inflow Hyd. No. | = 2 - Post | Max. Elevation | = 25.66 ft |
| Reservoir name | = Lake Jeremy | Max. Storage | = 6,496 cuft |



| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

Kimley-Horn
© 2024, KIMLEY-HORN AND ASSOCIATES, INC. 23462
4625 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
PHONE: 757-213-8600
WWW.KIMLEY-HORN.COM



| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

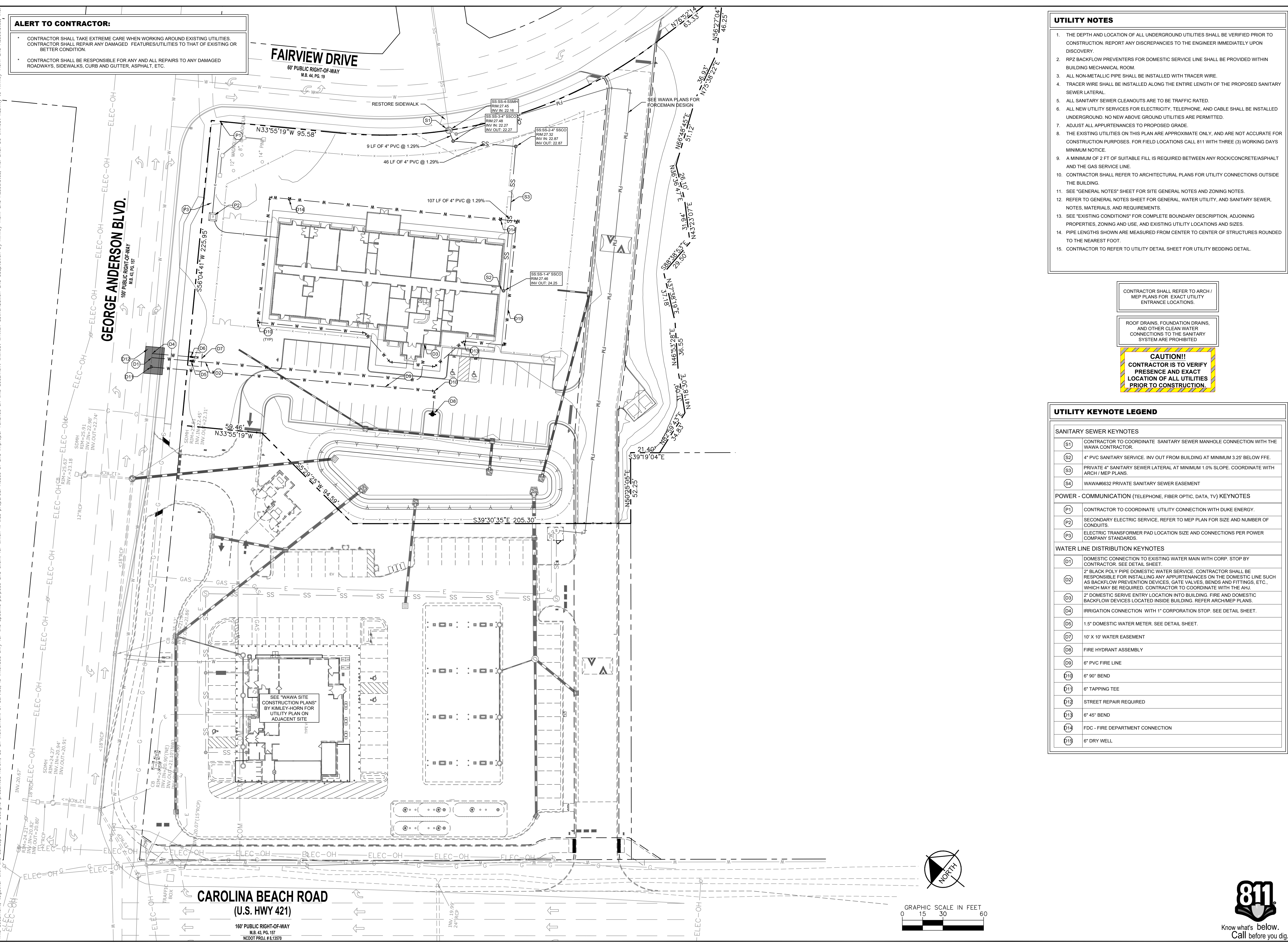
STORMWATER NARRATIVE

FOUNDATION EARLY LEARNING PREPARED FOR KQC INVESTORS, LLC
WILMINGTON NORTH CAROLINA

Plotted By: Sless, Jeremy Sheet Set: Mha Layout: C501 UTILITY PLAN February 12, 2024 05:44:09pm K:\vab_civil\117211000_sunshine house via VACADD\plansheets\C501 - UTILITY.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

ALERT TO CONTRACTOR:

- CONTRACTOR SHALL TAKE EXTREME CARE WHEN WORKING AROUND EXISTING UTILITIES. CONTRACTOR SHALL REPAIR ANY DAMAGED FEATURES/UTILITIES TO THAT OF EXISTING OR BETTER CONDITION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL REPAIRS TO ANY DAMAGED ROADWAYS, SIDEWALKS, CURB AND GUTTER, ASPHALT, ETC.



- UTILITY NOTES**
- THE DEPTH AND LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY UPON DISCOVERY.
 - RPZ BACKFLOW PREVENTERS FOR DOMESTIC SERVICE LINE SHALL BE PROVIDED WITHIN BUILDING MECHANICAL ROOM.
 - ALL NON-METALLIC PIPE SHALL BE INSTALLED WITH TRACER WIRE.
 - TRACER WIRE SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF THE PROPOSED SANITARY SEWER LATERAL.
 - ALL SANITARY SEWER CLEANOUTS ARE TO BE TRAFFIC RATED.
 - ALL NEW UTILITY SERVICES FOR ELECTRICITY, TELEPHONE, AND CABLE SHALL BE INSTALLED UNDERGROUND. NO NEW ABOVE GROUND UTILITIES ARE PERMITTED.
 - ADJUST ALL APPURTENANCES TO PROPOSED GRADE.
 - THE EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE ONLY, AND ARE NOT ACCURATE FOR CONSTRUCTION PURPOSES. FOR FIELD LOCATIONS CALL 811 WITH THREE (3) WORKING DAYS MINIMUM NOTICE.
 - A MINIMUM OF 2 FT OF SUITABLE FILL IS REQUIRED BETWEEN ANY ROCK/CONCRETE/ASPHALT AND THE GAS SERVICE LINE.
 - CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR UTILITY CONNECTIONS OUTSIDE THE BUILDING.
 - SEE "GENERAL NOTES" SHEET FOR SITE GENERAL NOTES AND ZONING NOTES.
 - REFER TO GENERAL NOTES SHEET FOR GENERAL, WATER UTILITY, AND SANITARY SEWER, NOTES, MATERIALS, AND REQUIREMENTS.
 - SEE "EXISTING CONDITIONS" FOR COMPLETE BOUNDARY DESCRIPTION, ADJOINING PROPERTIES, ZONING AND USE, AND EXISTING UTILITY LOCATIONS AND SIZES.
 - PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF STRUCTURES ROUNDED TO THE NEAREST FOOT.
 - CONTRACTOR TO REFER TO UTILITY DETAIL SHEET FOR UTILITY BEDDING DETAIL.

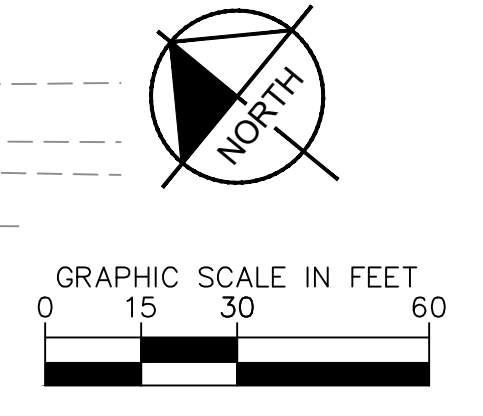
CONTRACTOR SHALL REFER TO ARCH / MEP PLANS FOR EXACT UTILITY ENTRANCE LOCATIONS.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED.

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

UTILITY KEYNOTE LEGEND

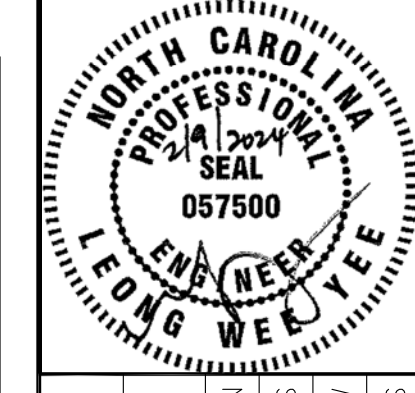
| SANITARY SEWER KEYNOTES | |
|---|--|
| (S1) | CONTRACTOR TO COORDINATE SANITARY SEWER MANHOLE CONNECTION WITH THE WAWA CONTRACTOR. |
| (S2) | 4" PVC SANITARY SERVICE. INV. OUT FROM BUILDING AT MINIMUM 3.25' BELOW FFE. |
| (S3) | PRIVATE 4" SANITARY SEWER LATERAL AT MINIMUM 1.0% SLOPE. COORDINATE WITH ARCH / MEP PLANS. |
| (S4) | WAWA#6632 PRIVATE SANITARY SEWER EASEMENT |
| POWER - COMMUNICATION (TELEPHONE, FIBER OPTIC, DATA, TV) KEYNOTES | |
| (P1) | CONTRACTOR TO COORDINATE UTILITY CONNECTION WITH DUKE ENERGY. |
| (P2) | SECONDARY ELECTRIC SERVICE. REFER TO MEP PLAN FOR SIZE AND NUMBER OF CONDUITS. |
| (P3) | ELECTRIC TRANSFORMER PAD LOCATION SIZE AND CONNECTIONS PER POWER COMPANY STANDARDS. |
| WATER LINE DISTRIBUTION KEYNOTES | |
| (D1) | DOMESTIC CONNECTION TO EXISTING WATER MAIN WITH CORP. STOP BY CONTRACTOR. SEE DETAIL SHEET. |
| (D2) | 2" BLACK POLY PIPE DOMESTIC WATER SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ANY APPURTENANCES ON THE DOMESTIC LINE SUCH AS BACKFLOW PREVENTION DEVICES, GATE VALVES, BENDS AND FITTINGS, ETC., WHICH MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH THE AHJ. |
| (D3) | 2" DOMESTIC SERVICE ENTRY LOCATION INTO BUILDING. FIRE AND DOMESTIC BACKFLOW DEVICES LOCATED INSIDE BUILDING. REFER ARCH/MEP PLANS. |
| (D4) | IRRIGATION CONNECTION WITH 1" CORPORATION STOP. SEE DETAIL SHEET. |
| (D5) | 1.5" DOMESTIC WATER METER. SEE DETAIL SHEET. |
| (D7) | 10' X 10' WATER EASEMENT |
| (D8) | FIRE HYDRANT ASSEMBLY |
| (D9) | 6" PVC FIRE LINE |
| (D10) | 6" 90° BEND |
| (D11) | 6" TAPPING TEE |
| (D12) | STREET REPAIR REQUIRED |
| (D13) | 6" 45° BEND |
| (D14) | FDC - FIRE DEPARTMENT CONNECTION |
| (D15) | 6" DRY WELL |



| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |

Kimley-Horn

© 2024, KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

UTILITY PLAN

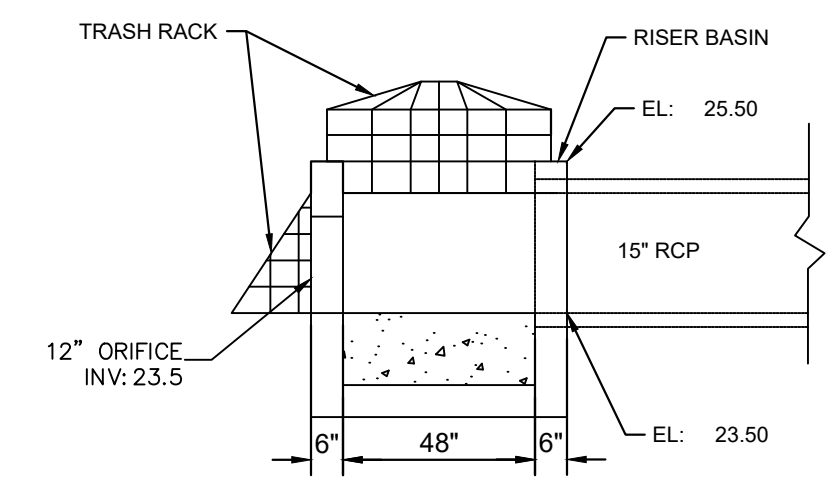
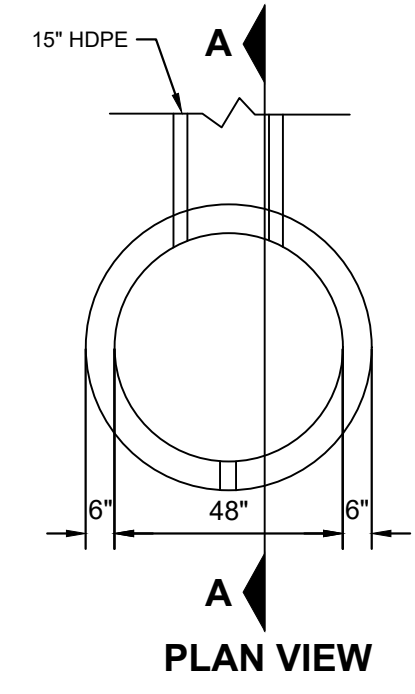
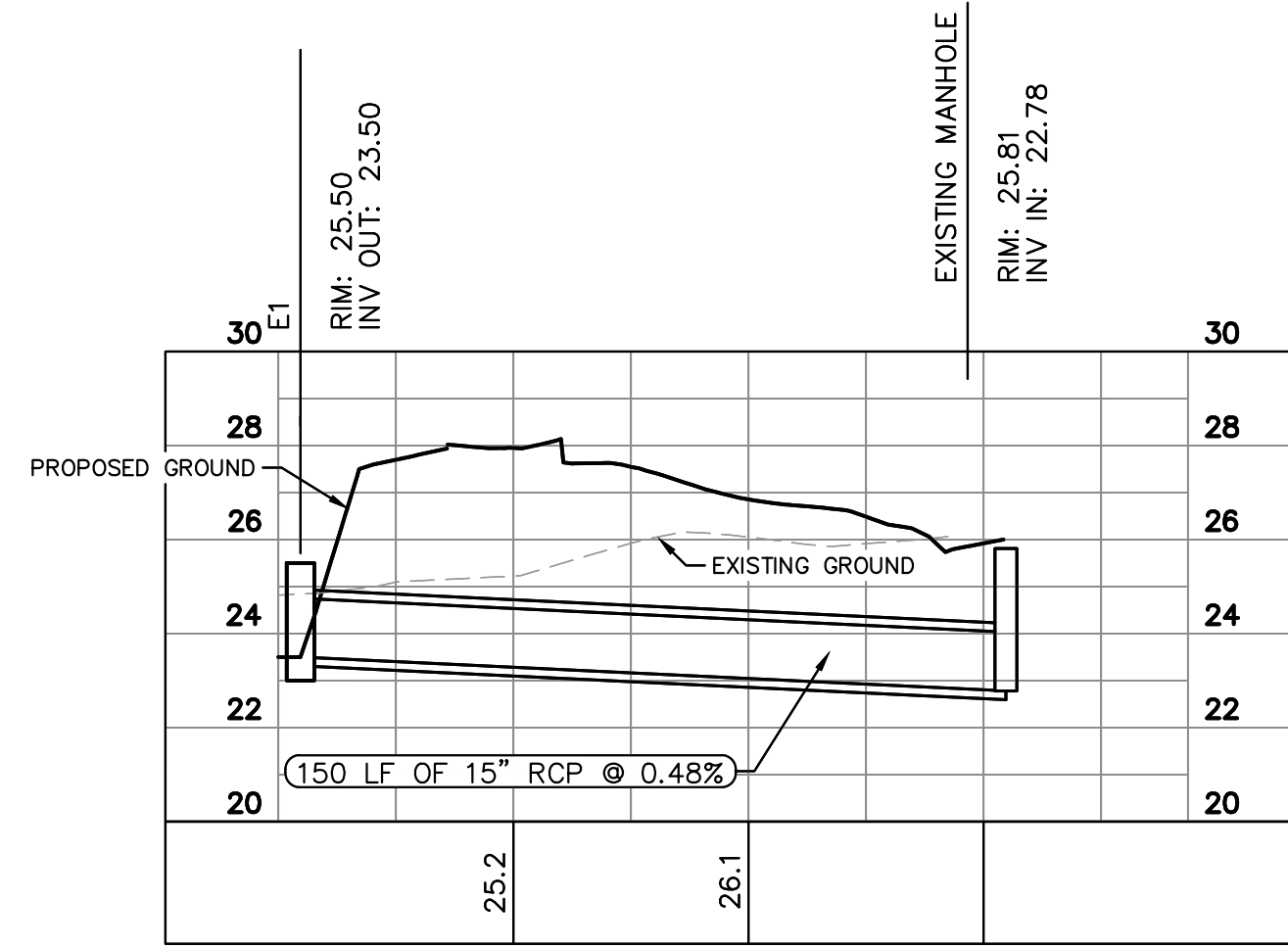
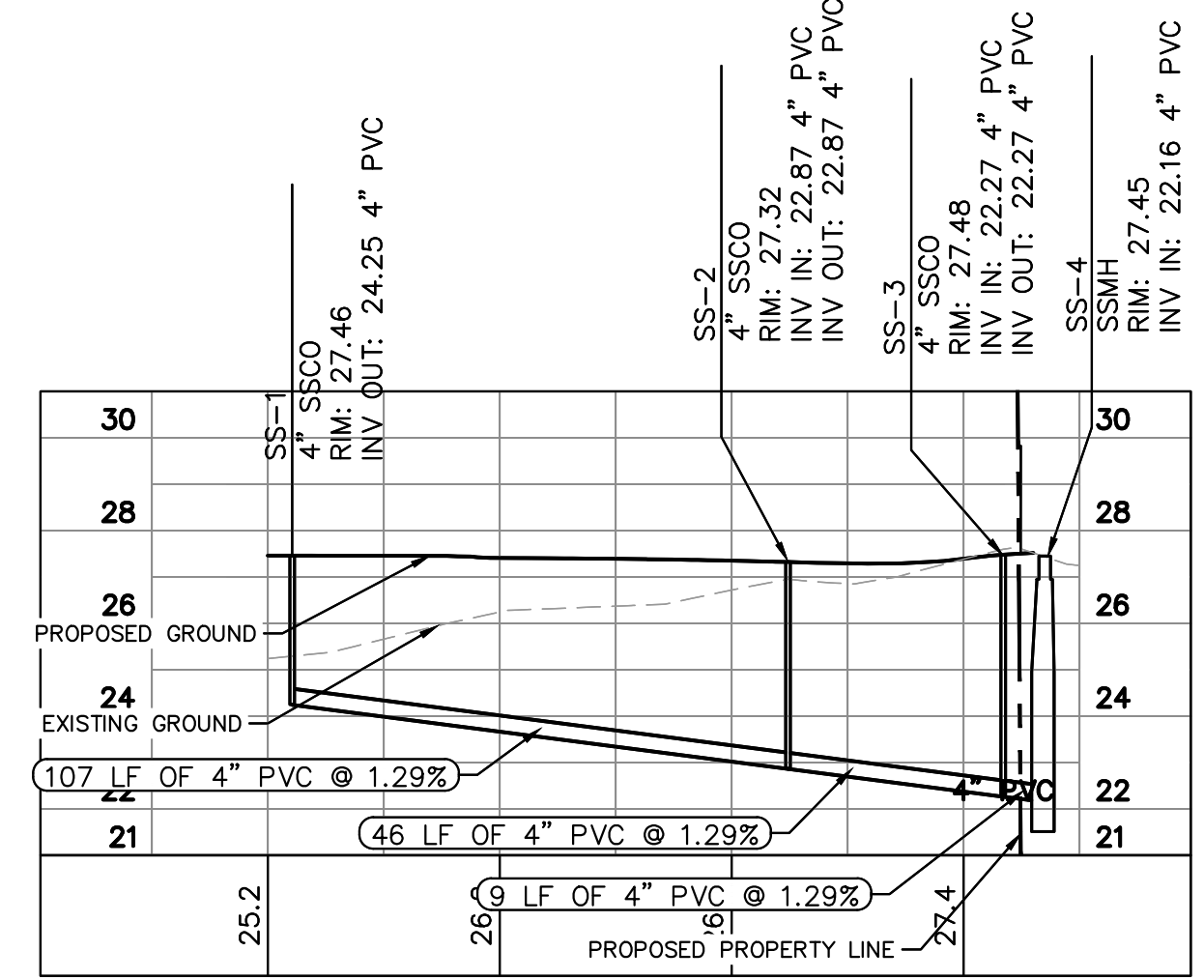
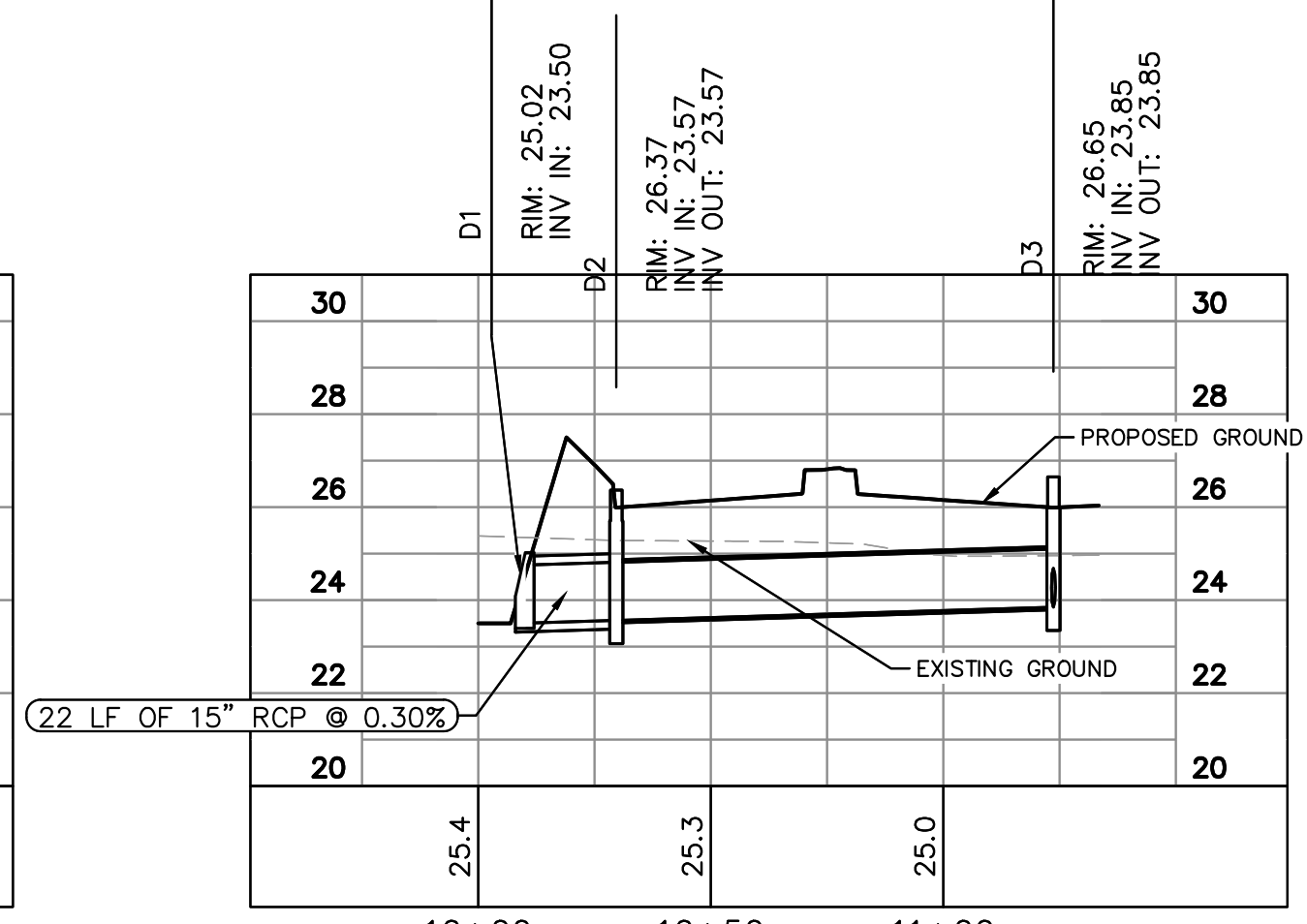
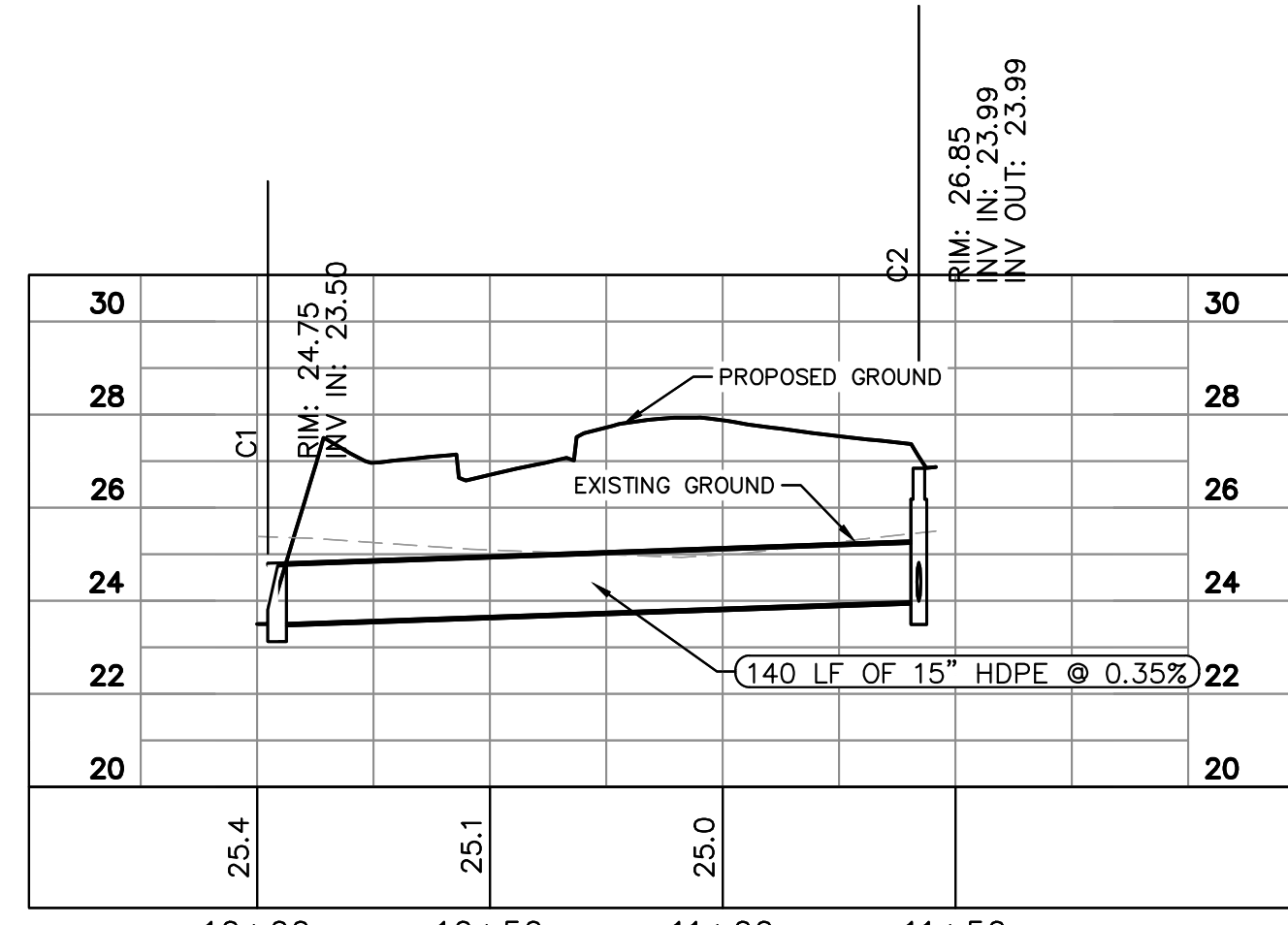
FOUNDATION EARLY LEARNING PREPARED FOR KQC INVESTORS, LLC

WILMINGTON NORTH CAROLINA

SHEET NUMBER **C501**



Plotted By: Sess, Jeremy - Sheet Set: KHA - Layout: C502 - UTILITY PROFILES - February 12, 2024 - 05:44:11pm - K:\web_civil\117211000 - K:\web_civil\117211000 - sunshine.house.cadd\planprofiles\C501 - UTIL.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



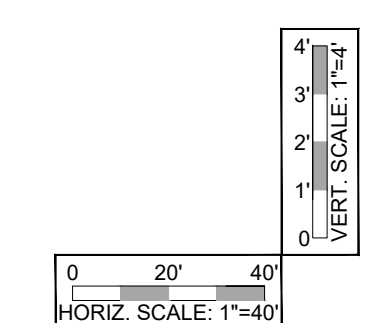
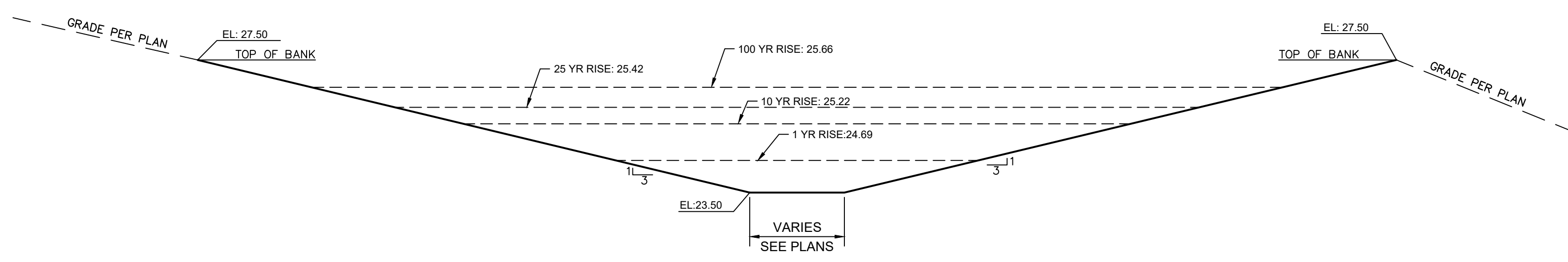
MODIFIED RISER BAWSTIN DETAIL SECTION
 NTS

| STORM DRAIN STRUCTURE TABLE | | | |
|-----------------------------|--|--|---|
| STRUCTURE NAME: | DETAILS: | PIPES IN: | PIPES OUT: |
| C1 | 15" FES INV IN: 23.50 | FROM C2, 15" HDPE INV IN: 23.50 @ 0.35% | |
| C2 | CITY STD CURB INLET RIM: 26.85 INV IN: 23.99 INV OUT: 23.99 | FROM PIPE STUB 2, 10" PVC INV IN: 23.99 @ 0.35% | TO C1, 15" HDPE INV OUT: 23.99 @ 0.35% |
| D1 | 15" FES INV IN: 23.50 | FROM D2, 15" RCP INV IN: 23.50 @ 0.30% | |
| D2 | CITY STD CURB INLET RIM: 26.37 INV IN: 23.57 INV OUT: 23.57 | FROM D3, 15" HDPE INV IN: 23.57 @ 0.30% | TO D1, 15" RCP INV OUT: 23.57 @ 0.30% |
| D3 | CITY STD CURB INLET RIM: 26.65 INV IN: 23.85 INV OUT: 23.85 | FROM PIPE STUB 1, 10" HDPE INV IN: 23.85 @ 0.32% | TO D2, 15" HDPE INV OUT: 23.85 @ 0.30% |
| E1 | RISER BASIN 12" ORF INV: 23.5 RIM: 25.50 INV OUT: 23.50 | | TO EXISTING MANHOLE, 15" RCP INV OUT: 23.50 @ 0.48% |
| EXISTING MANHOLE | MH RIM: 25.81 INV IN: 22.78 | FROM E1, 15" RCP INV IN: 22.78 @ 0.48% | |
| PIPE STUB 1 | OUT RIM: 25.13 INV OUT: 24.20 | | TO D3, 10" HDPE INV OUT: 24.20 @ 0.32% |
| PIPE STUB 2 | OUT RIM: 24.97 INV OUT: 24.07 | | TO C2, 10" PVC INV OUT: 24.07 @ 0.35% |

| STORM DRAIN PIPE TABLE | | | | | |
|------------------------|------------------|------|--------|-------|----------|
| START STRUCTURE | END STRUCTURE | SIZE | LENGTH | SLOPE | MATERIAL |
| C2 | C1 | 15" | 140' | 0.35% | HDPE |
| D2 | D1 | 15" | 22' | 0.30% | RCP |
| D3 | D2 | 15" | 94' | 0.30% | HDPE |
| E1 | EXISTING MANHOLE | 15" | 150' | 0.48% | RCP |
| D3 | PIPE STUB 1 | 10" | 110' | 0.32% | HDPE |
| C2 | PIPE STUB 2 | 10" | 24' | 0.35% | PVC |

| SANITARY SEWER STRUCTURE TABLE | | | |
|--------------------------------|--|---|--|
| STRUCTURE NAME: | DETAILS: | PIPES IN: | PIPES OUT: |
| SS-1 | 4" SSCO RIM: 27.46 INV OUT: 24.25 | | TO SS-2, 4" PVC INV OUT: 24.25 @ 1.29% |
| SS-2 | 4" SSCO RIM: 27.32 INV IN: 22.87 INV OUT: 22.87 | FROM SS-1, 4" PVC INV IN: 22.87 @ 1.29% | TO SS-3, 4" PVC INV OUT: 22.87 @ 1.29% |
| SS-3 | 4" SSCO RIM: 27.48 INV IN: 22.27 INV OUT: 22.27 | FROM SS-2, 4" PVC INV IN: 22.27 @ 1.29% | TO SS-4, 4" PVC INV OUT: 22.27 @ 1.29% |
| SS-4 | SSMH RIM: 27.45 INV IN: 22.16 | FROM SS-3, 4" PVC INV IN: 22.16 @ 1.29% | |

| SANITARY SEWER PIPE TABLE | | | | | |
|---------------------------|---------------|------|--------|-------|----------|
| START STRUCTURE | END STRUCTURE | SIZE | LENGTH | SLOPE | MATERIAL |
| SS-1 | SS-2 | 4" | 107' | 1.29% | PVC |
| SS-2 | SS-3 | 4" | 46' | 1.29% | PVC |
| SS-3 | SS-4 | 4" | 9' | 1.29% | PVC |



FOUNDATION EARLY LEARNING PREPARED FOR KQC INVESTORS, LLC

WILMINGTON NORTH CAROLINA

UTILITY PROFILES

DATE: 02/09/2024
 SCALE: AS SHOWN
 DESIGNED BY: JKS
 DRAWN BY: AHW
 CHECKED BY: NJS

Kimley & Horn

© 2024 KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM

PROFESSIONAL SEAL
 LEONG WEE JEE
 057500

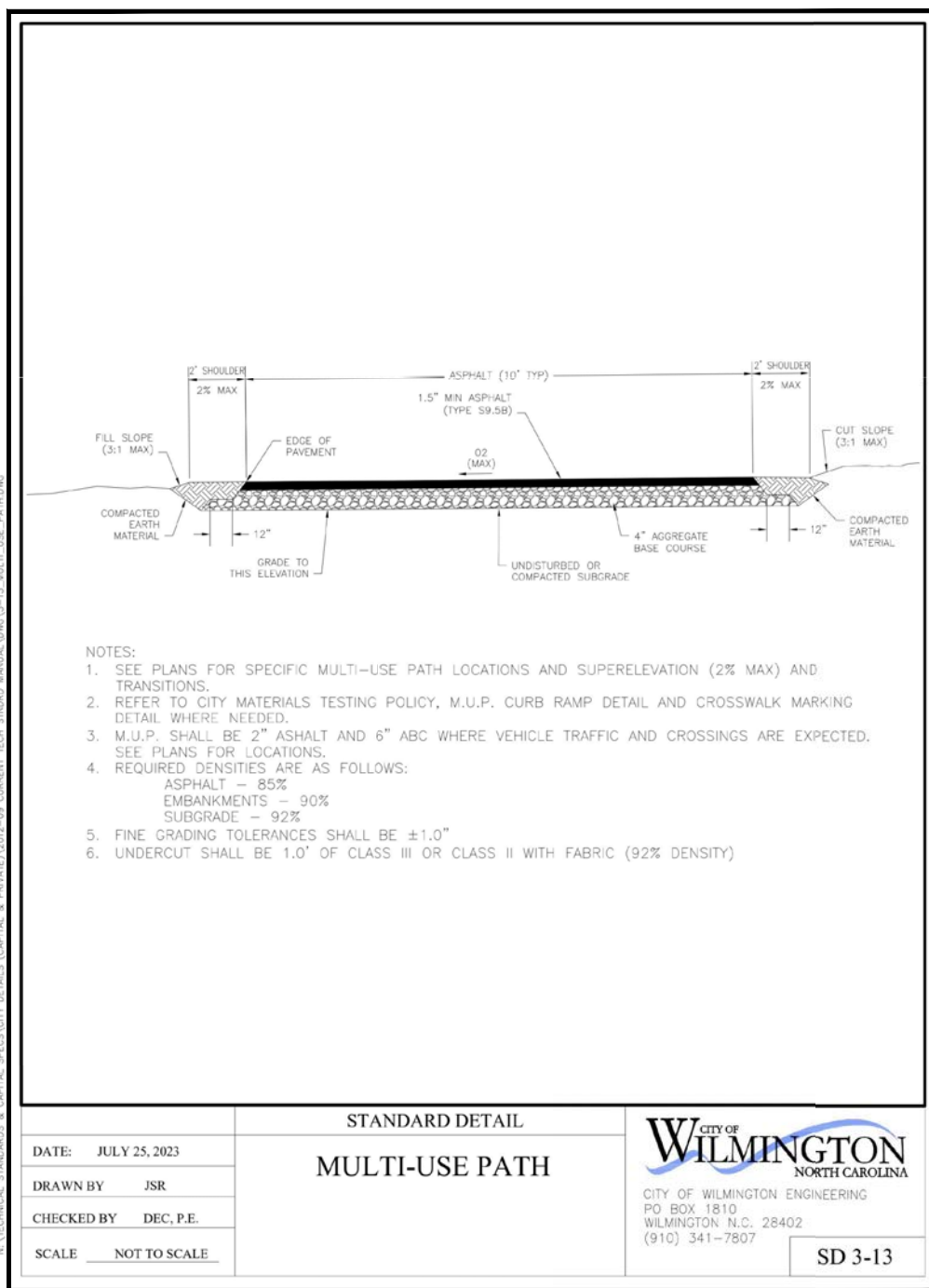
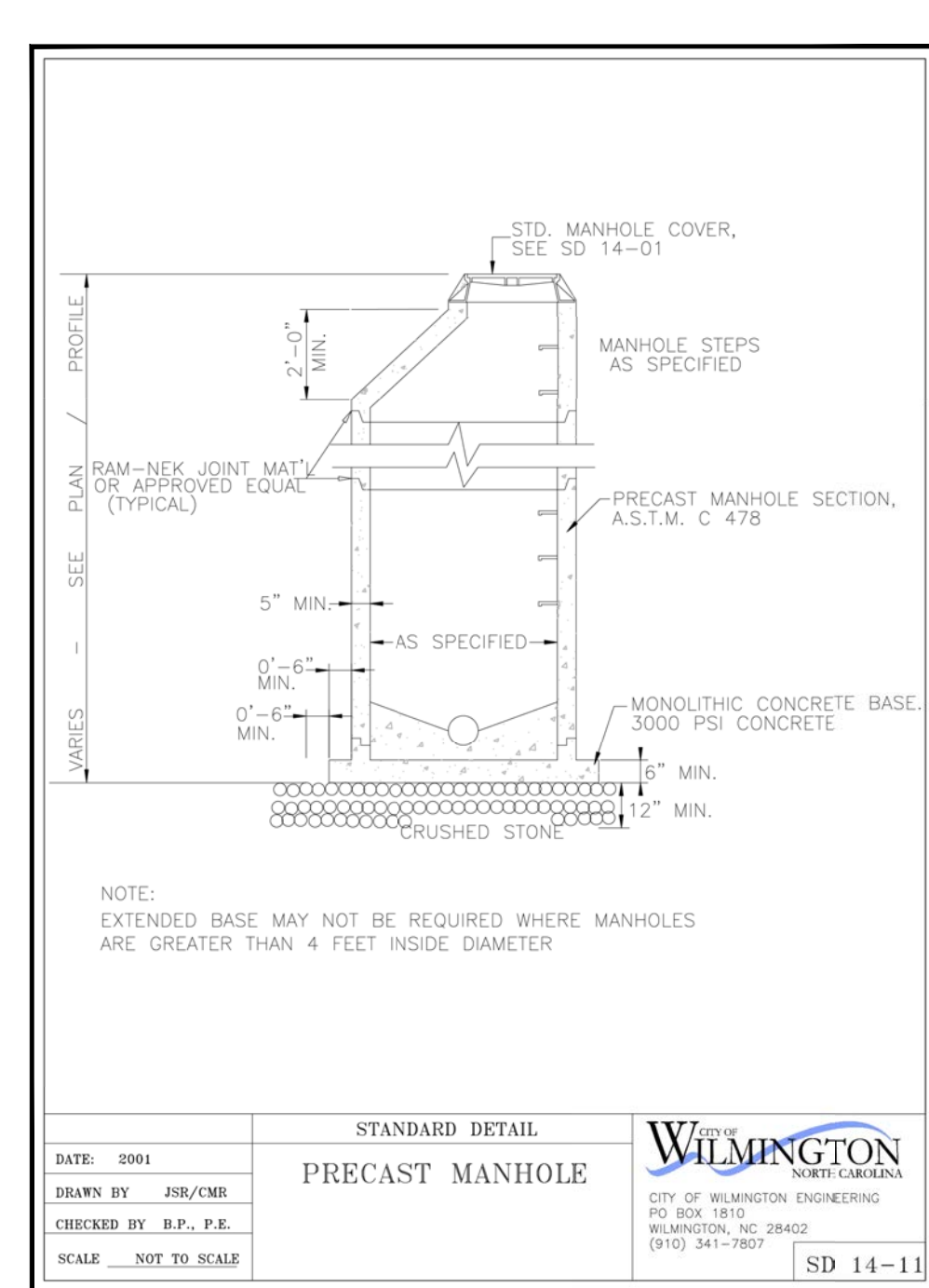
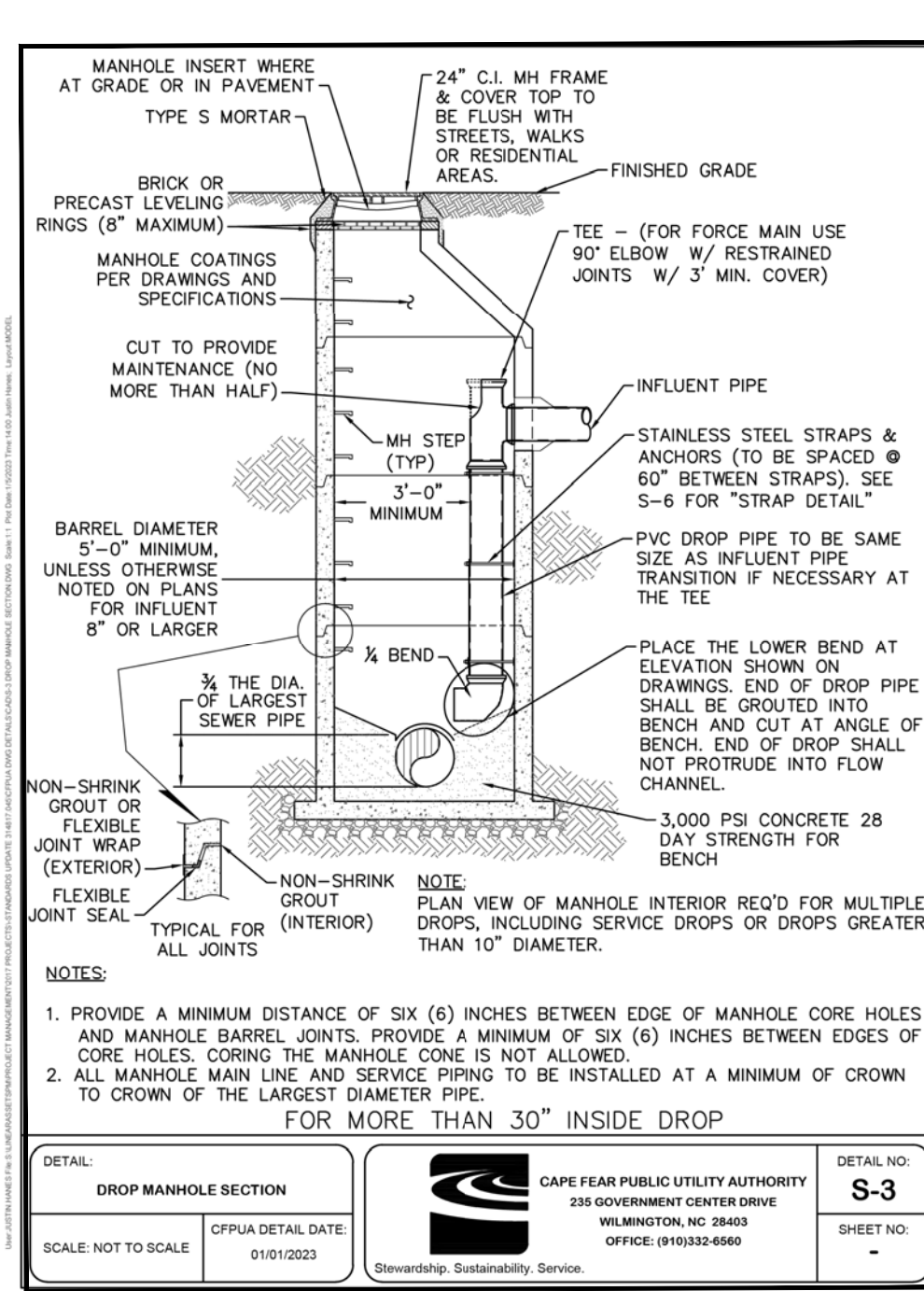
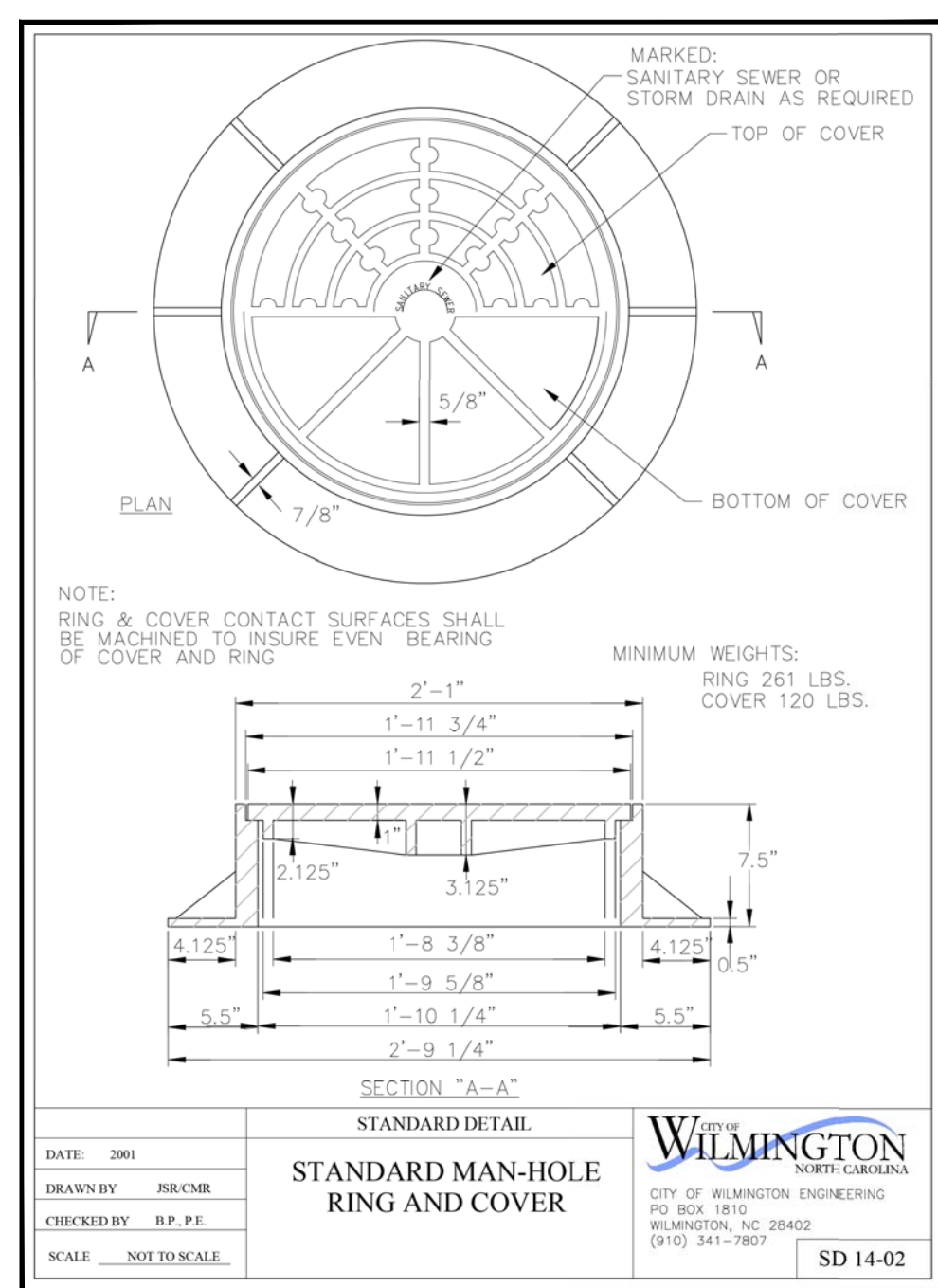
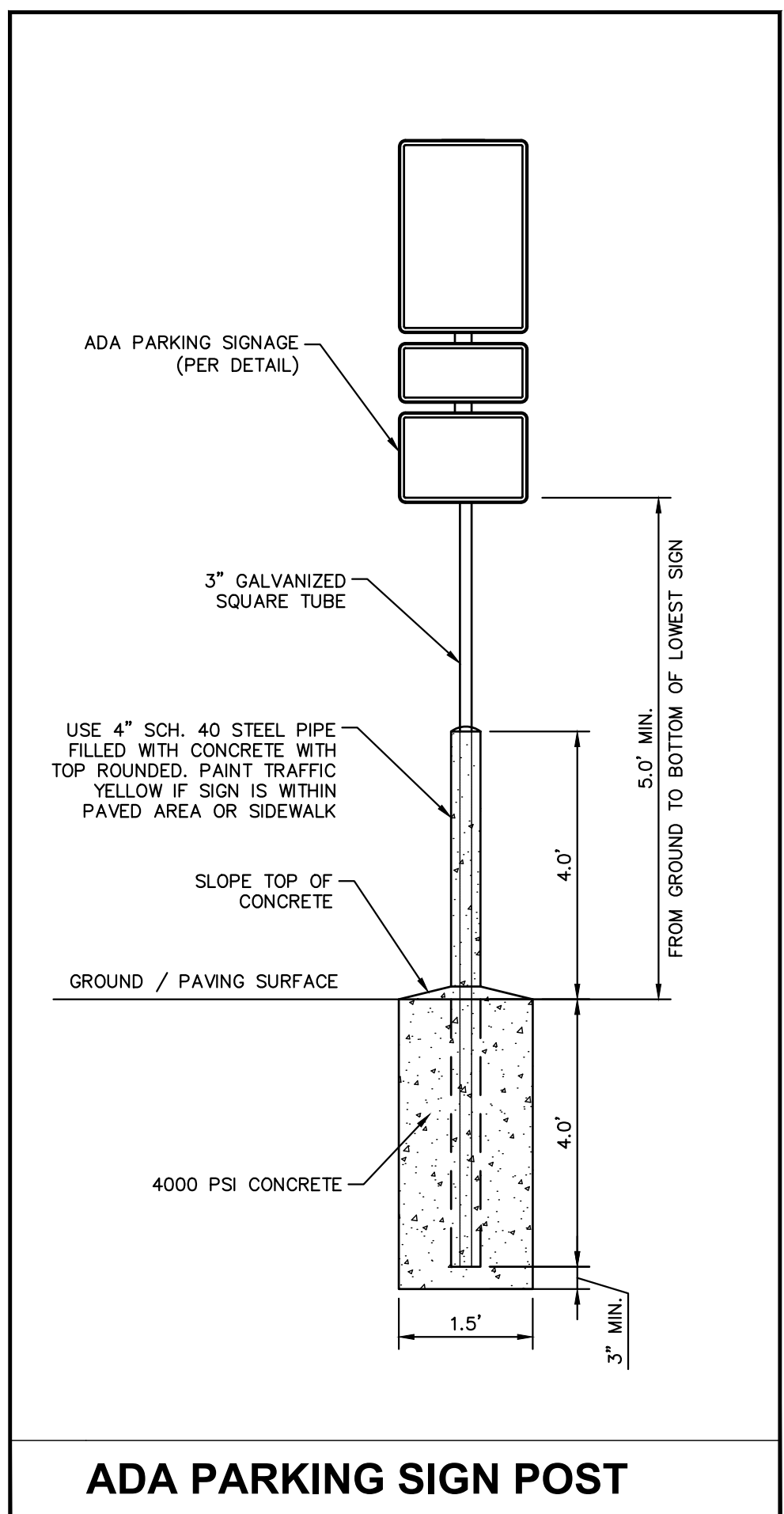
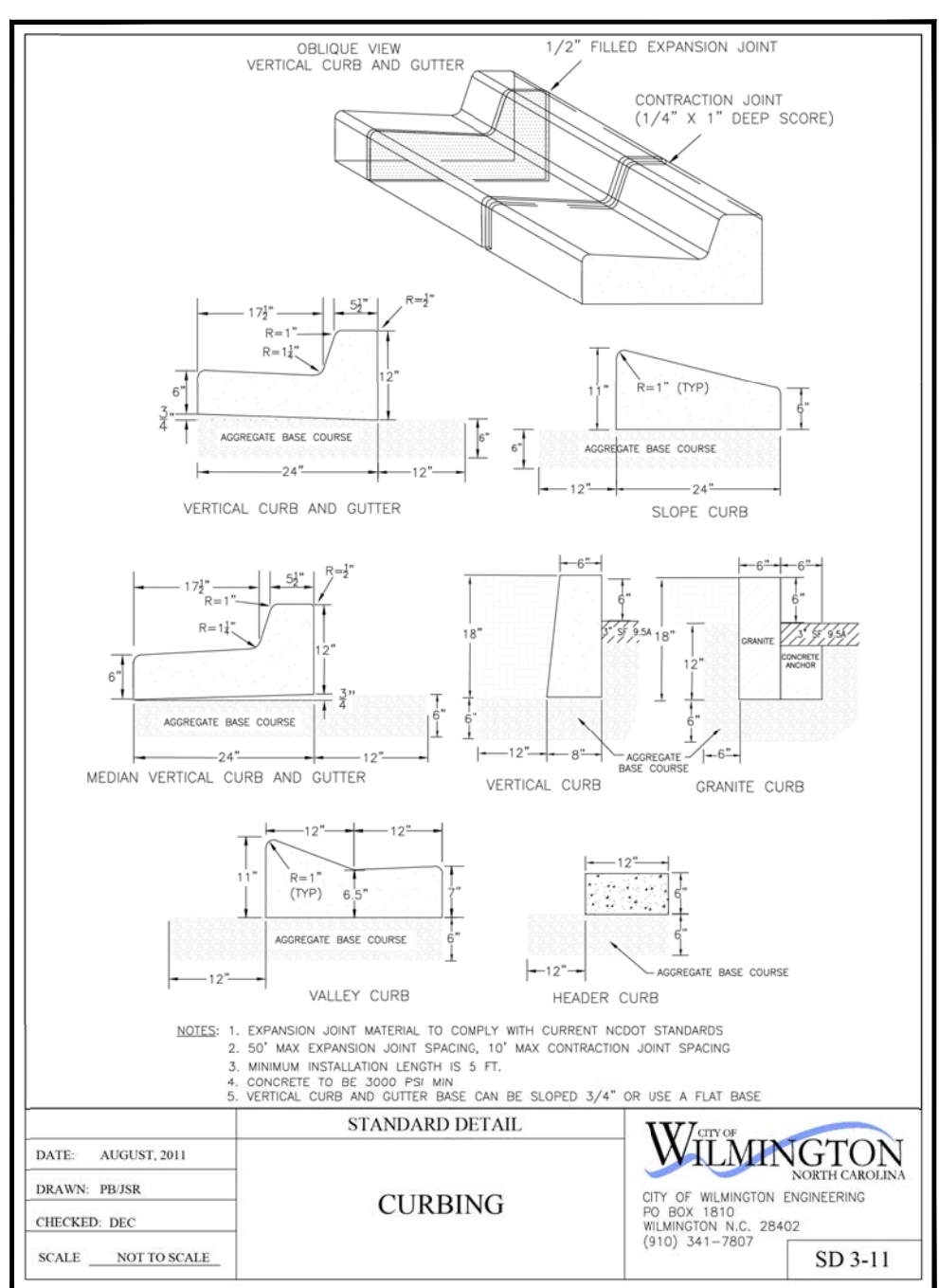
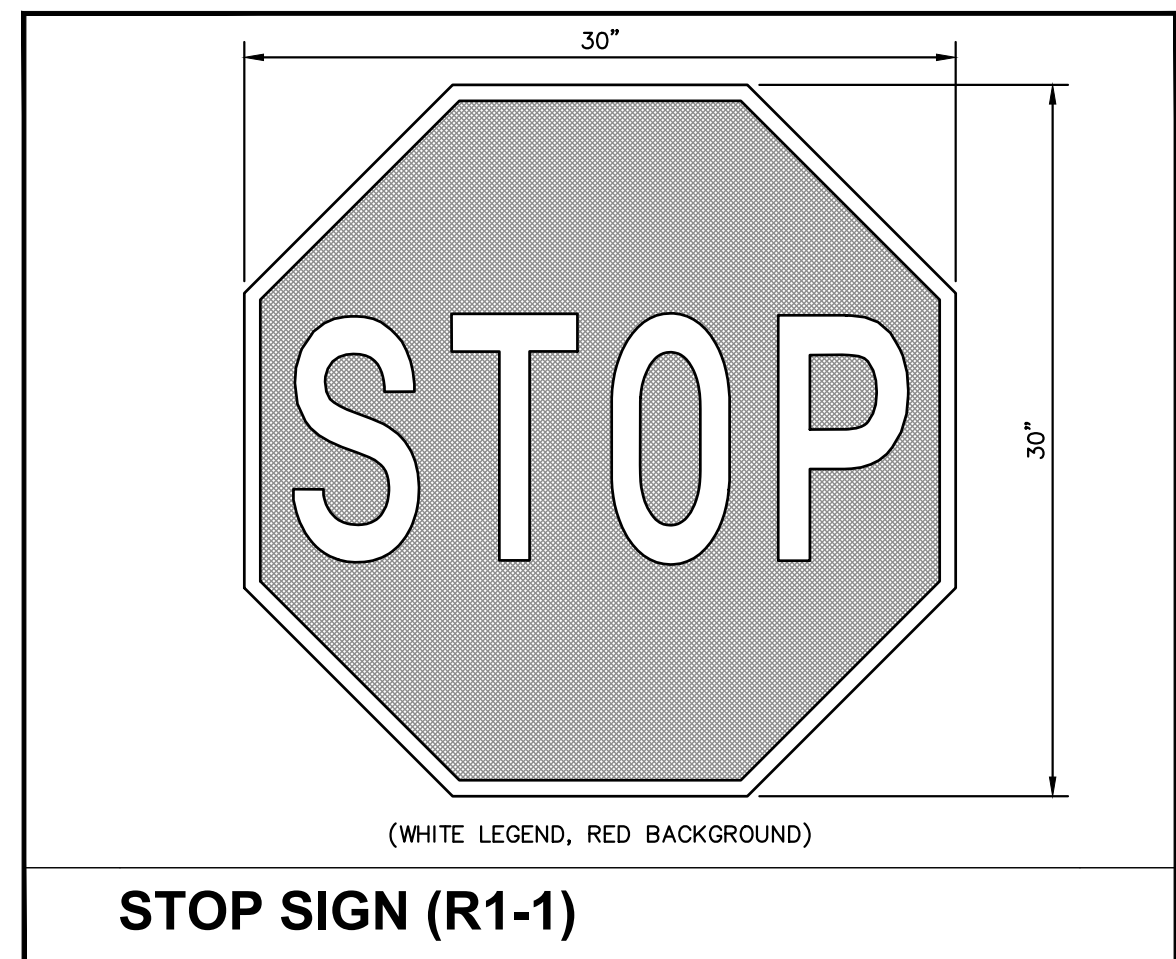
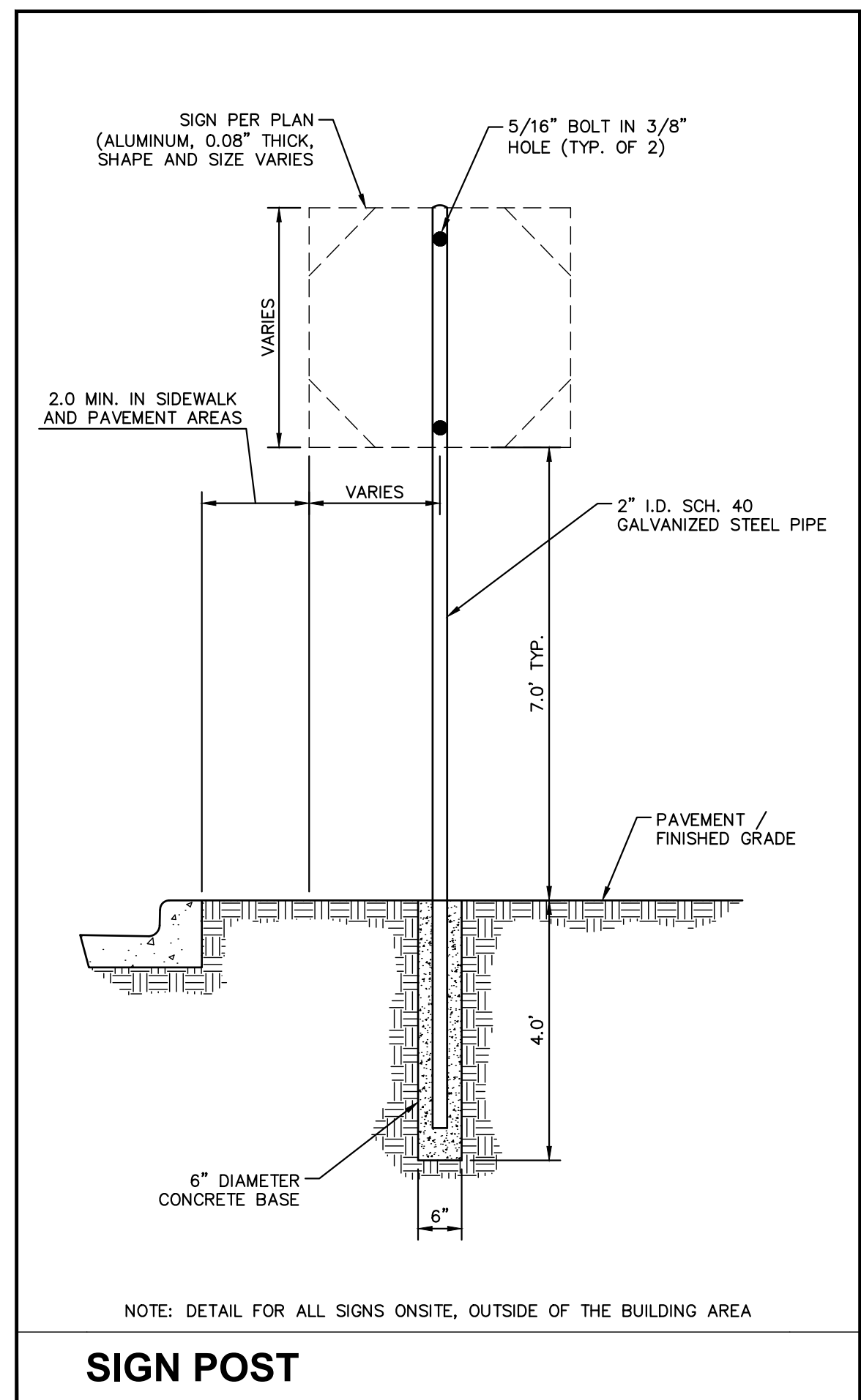
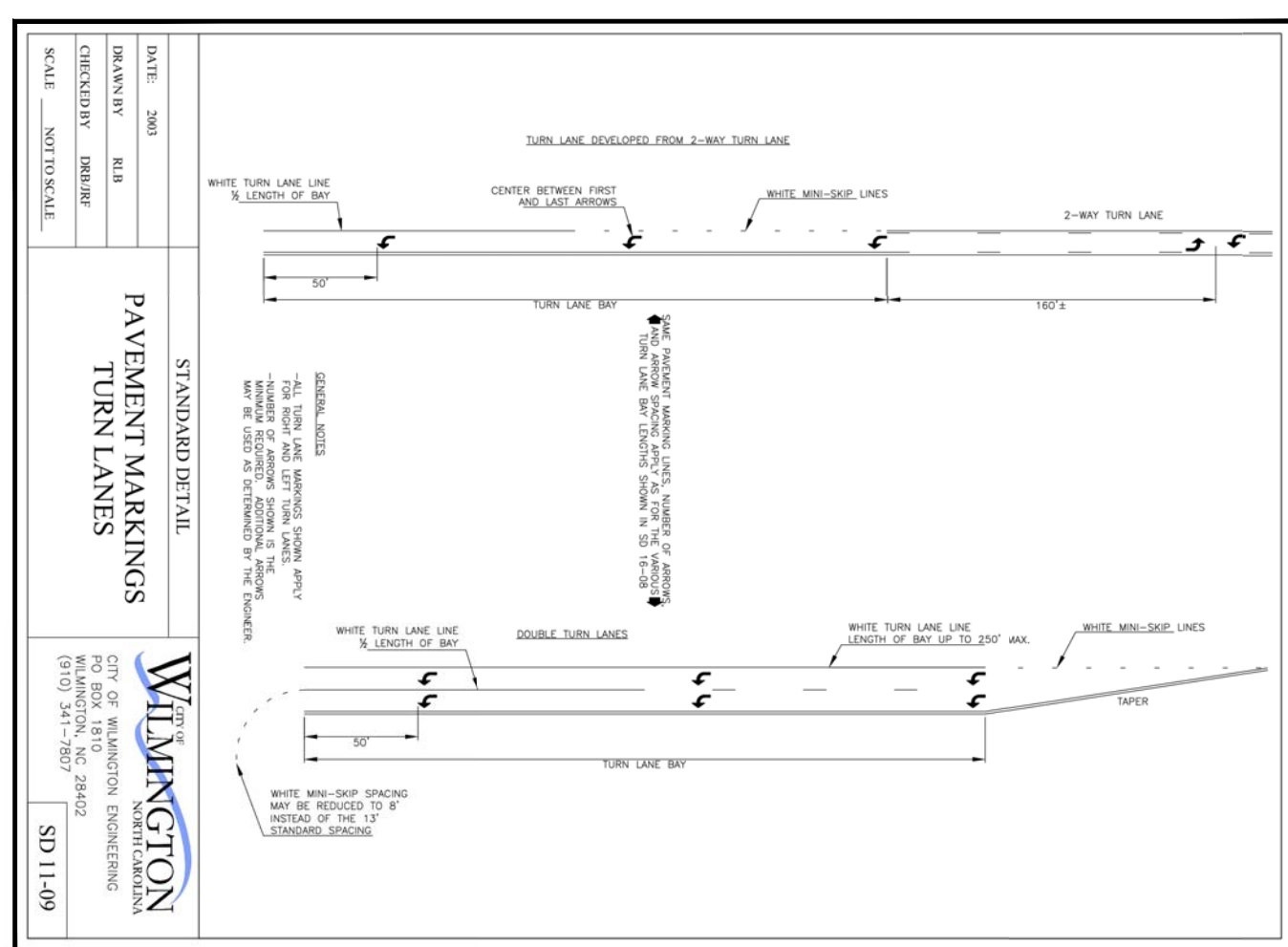
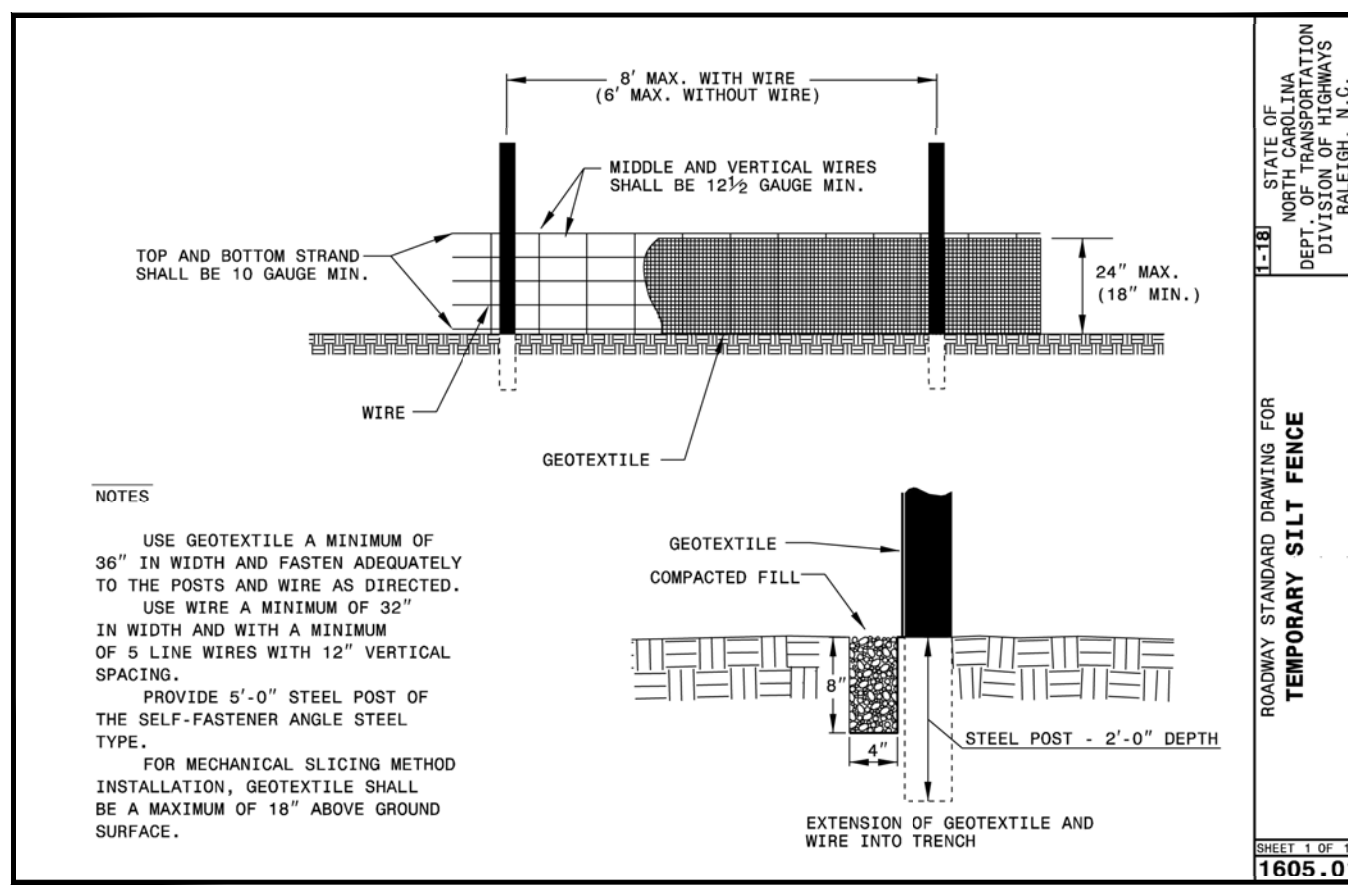
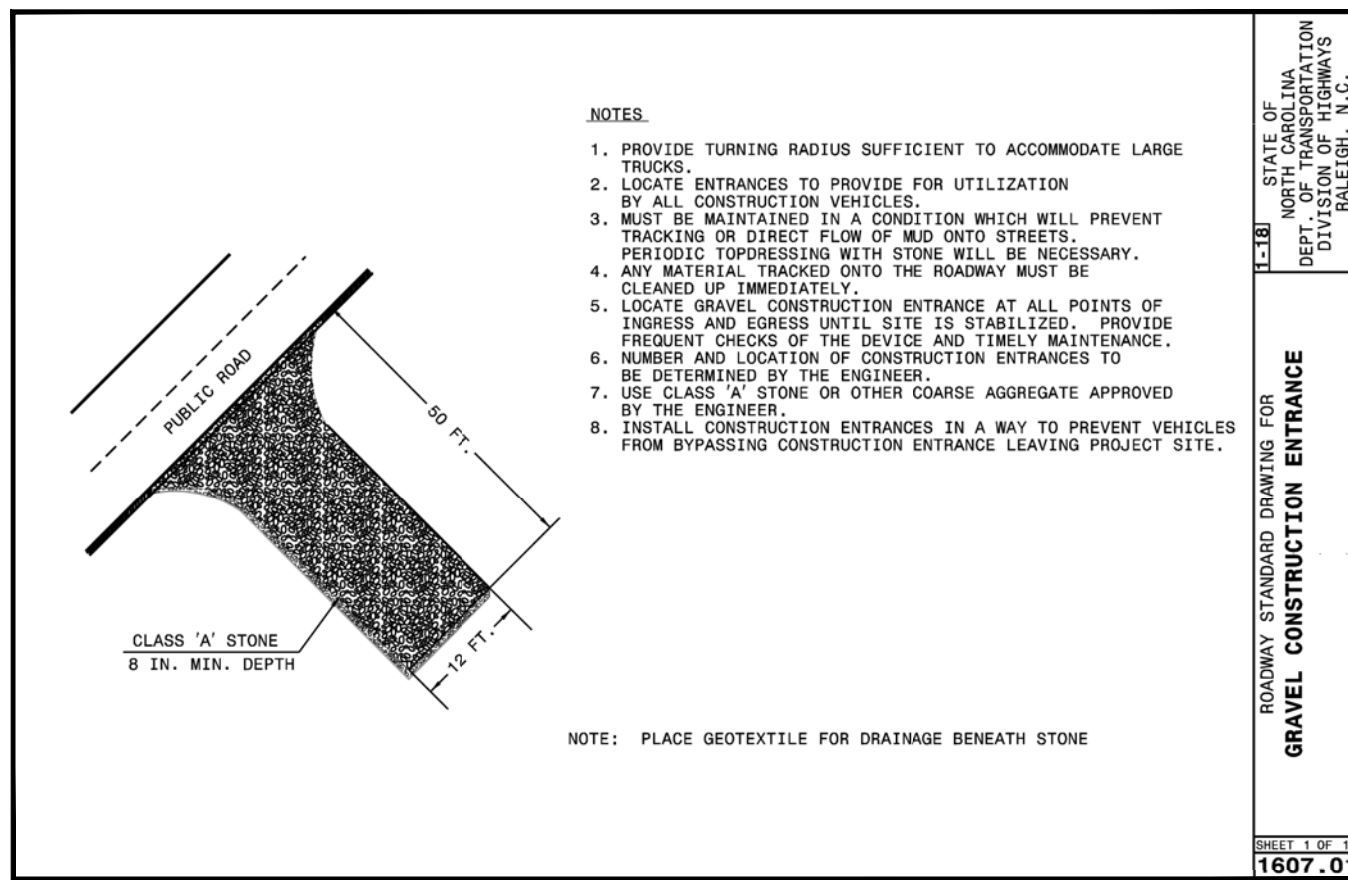
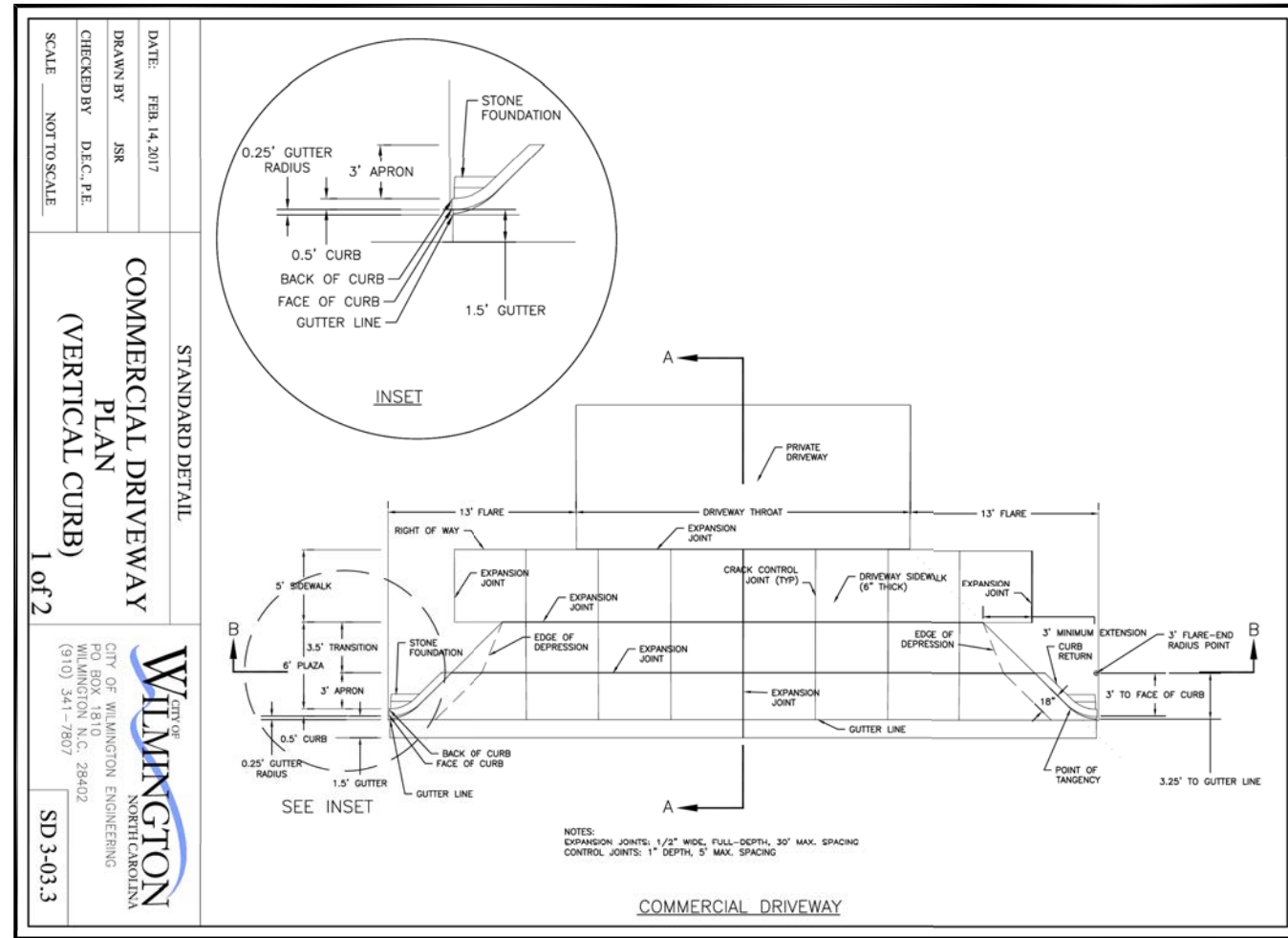
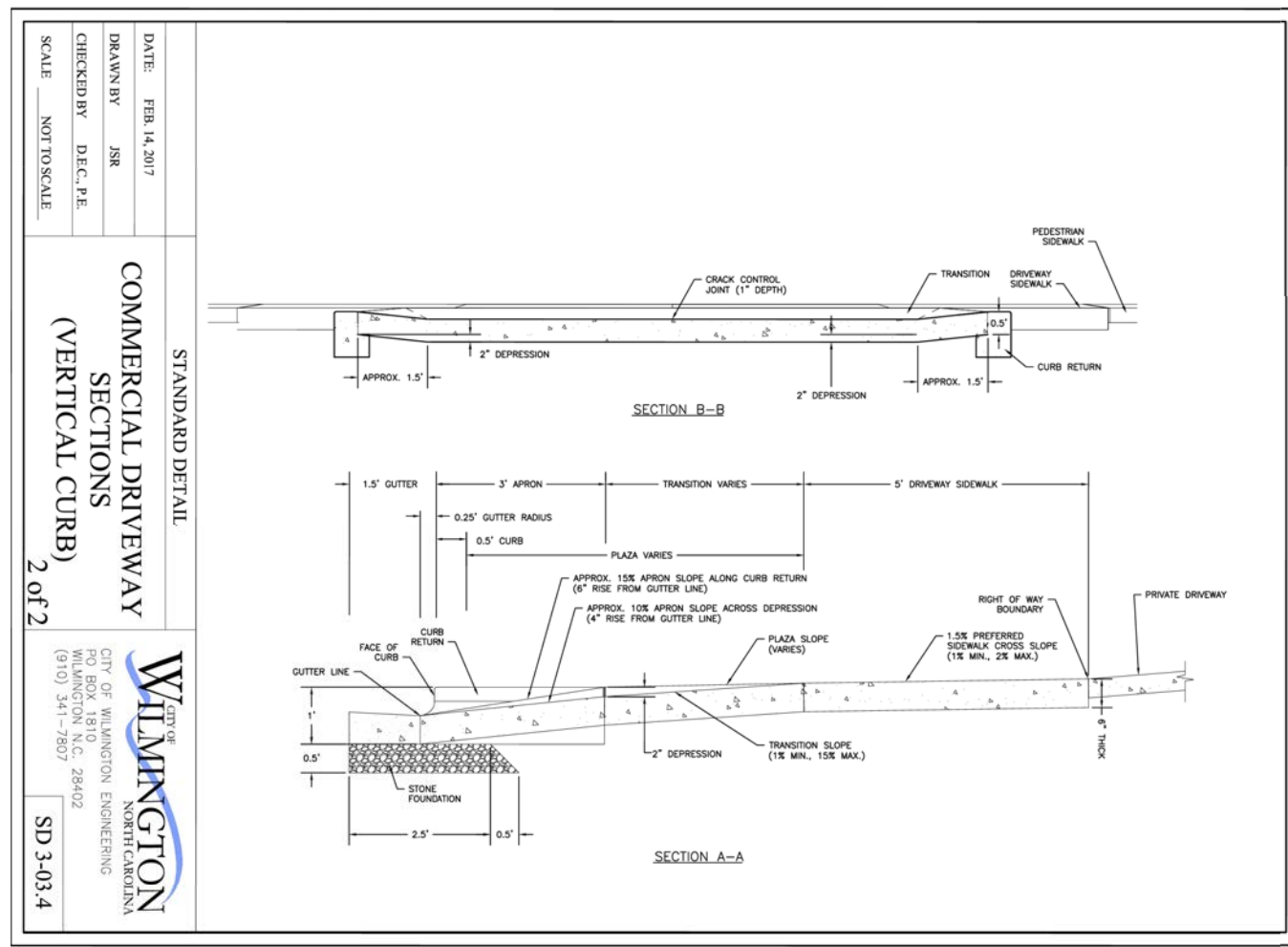
KHA PROJECT: 117211000
 DATE: 02/09/2024
 SCALE: AS SHOWN
 DESIGNED BY: JKS
 DRAWN BY: AHW
 CHECKED BY: NJS

SHEET NUMBER
C502

REVISIONS

| No. | DATE | BY |
|-----|------|----|
| | | |

Plotted By: Sess, Jeremy - Sheet Set: Mha - Layout: C701 - CONSTRUCTION DETAILS - February 22, 2024 - 05:44:43pm - K:_web_siv\117211000 - sunrise house eta\CADD\plansheets\C700 - CONSTRUCTION DETAILS.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Kimley & Horn
 © 2024, KIMLEY-HORN AND ASSOCIATES, INC. 23462
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM

PROFESSIONAL SEAL
 NORTH CAROLINA
 ENGINEER
 057500
 LEON WEEB, P.E.

KHA PROJECT: 117211000
 DATE: 02/09/2024
 SCALE: AS SHOWN
 DESIGNED BY: JKS
 DRAWN BY: AHW
 CHECKED BY: NJS

CONSTRUCTION DETAILS

FOUNDATION EARLY LEARNING
 PREPARED FOR: KQC INVESTORS, LLC
 NORTH CAROLINA

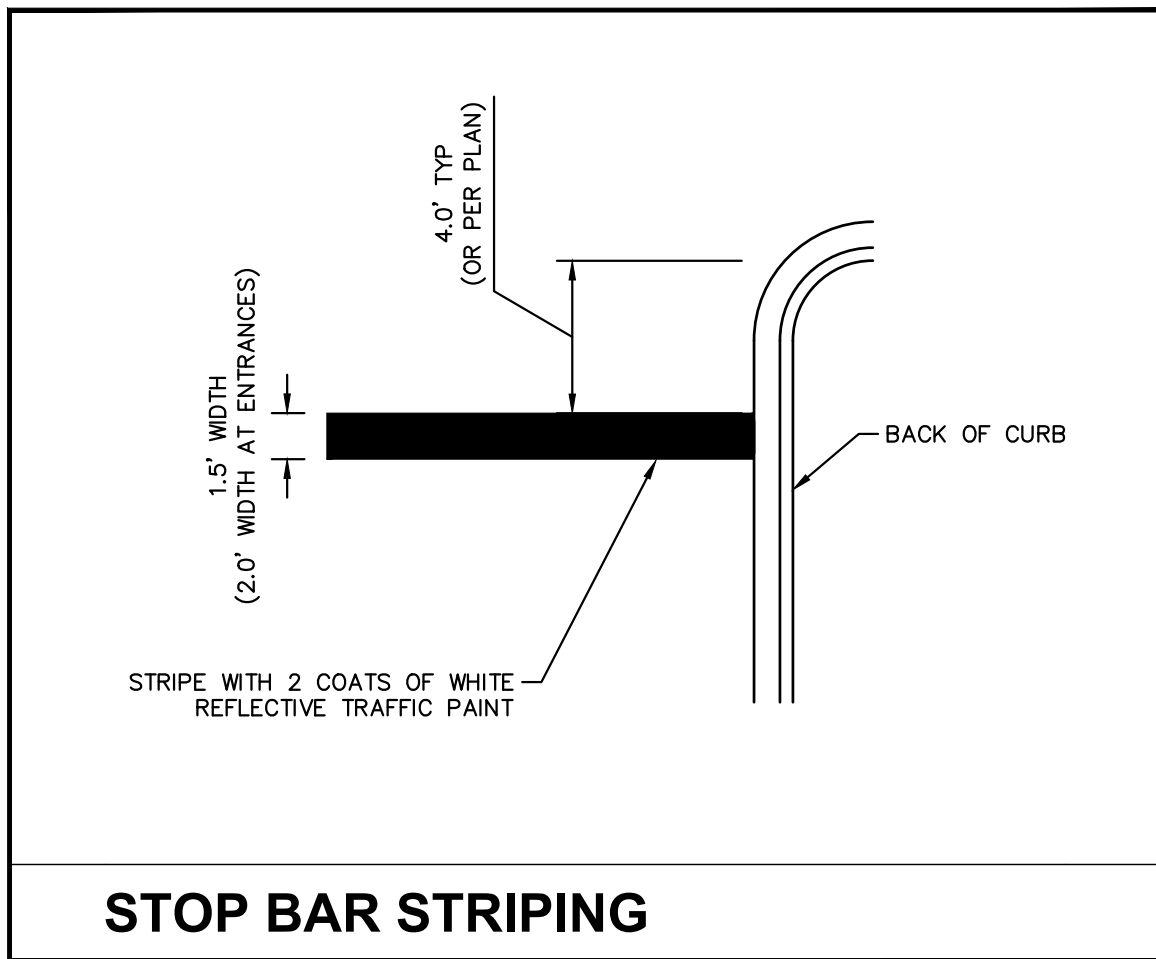
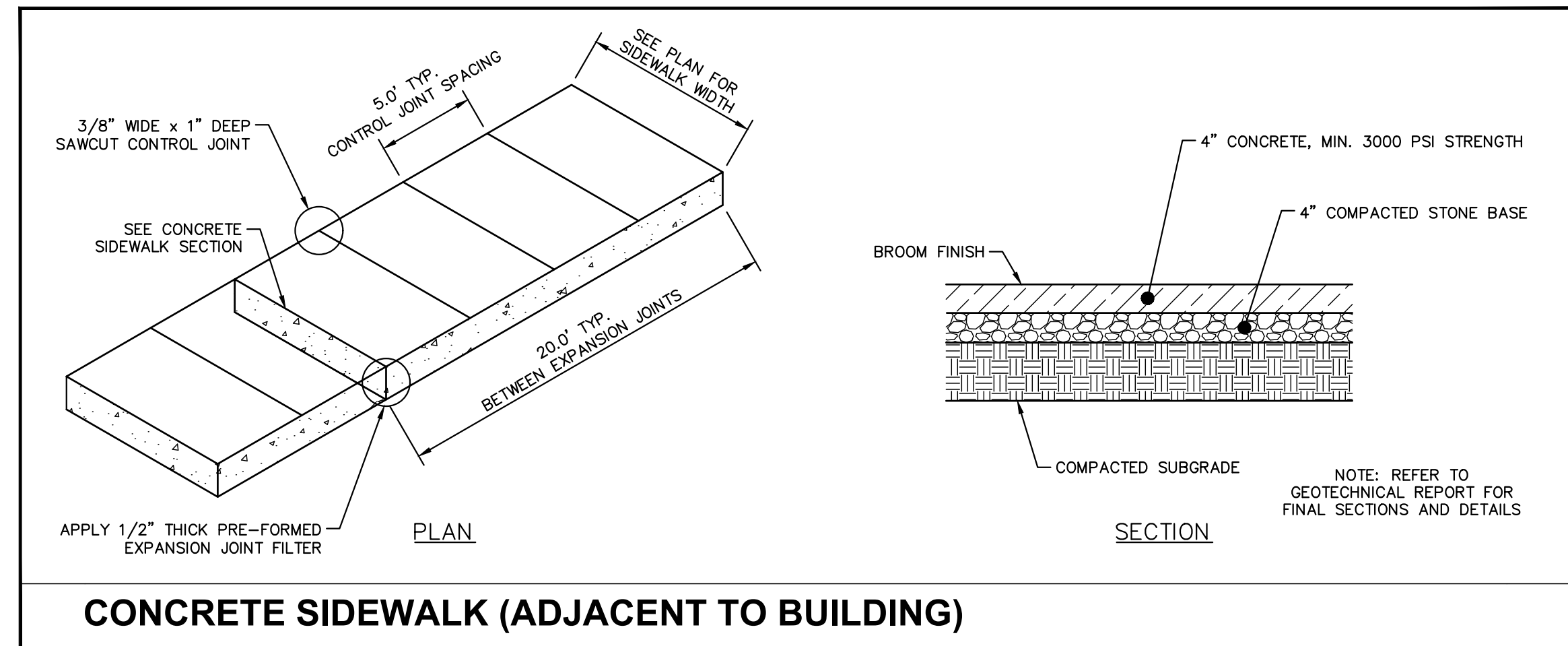
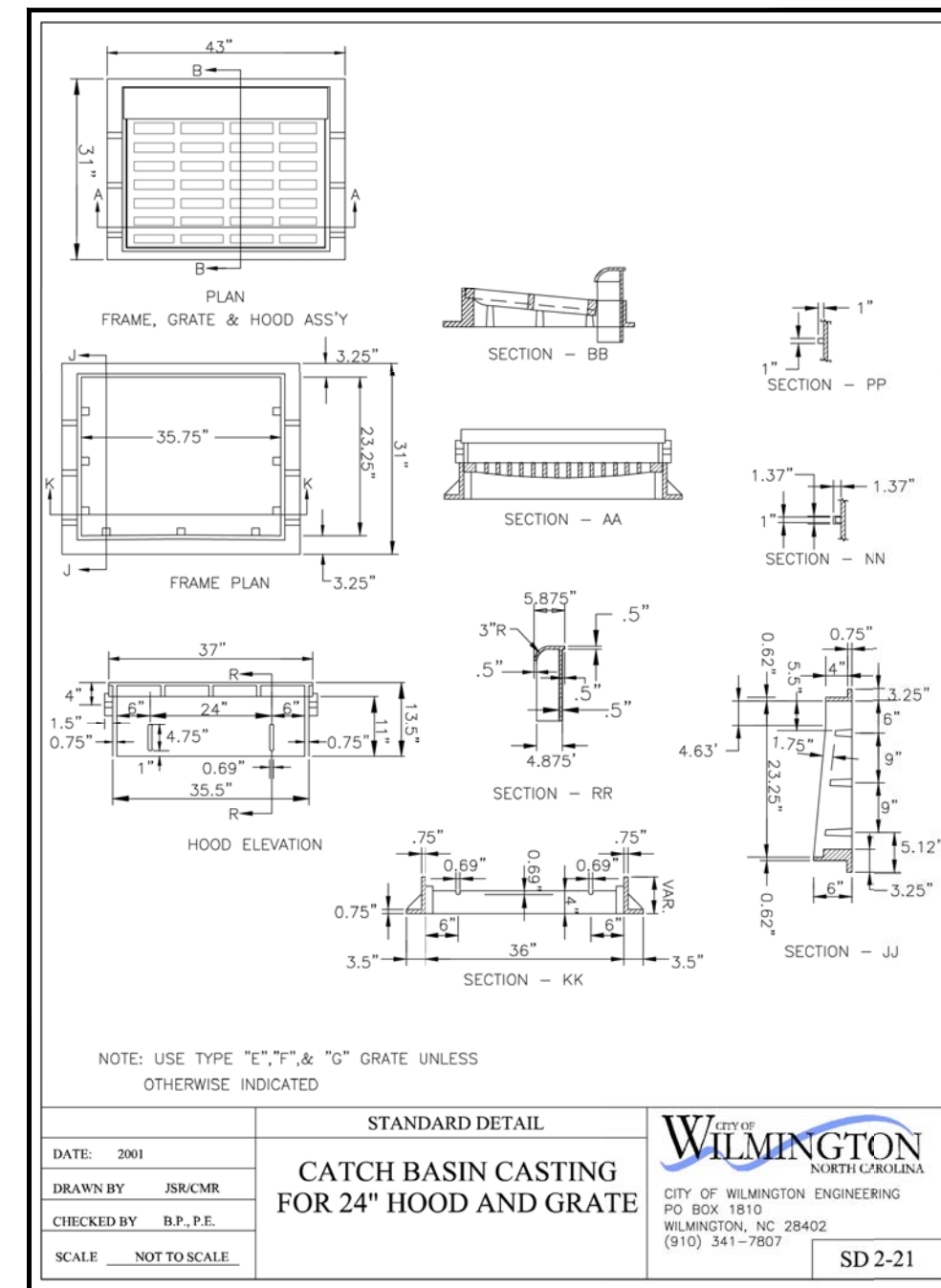
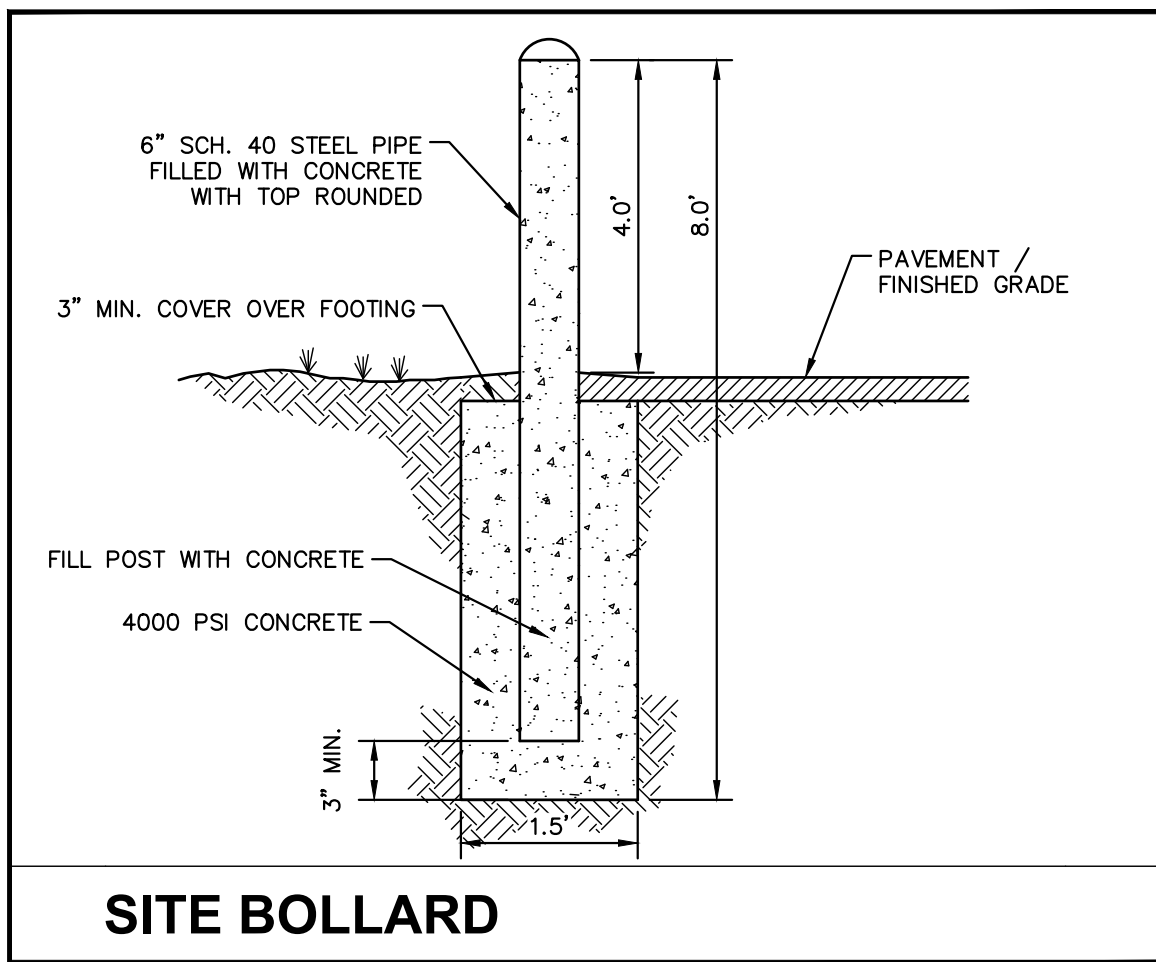
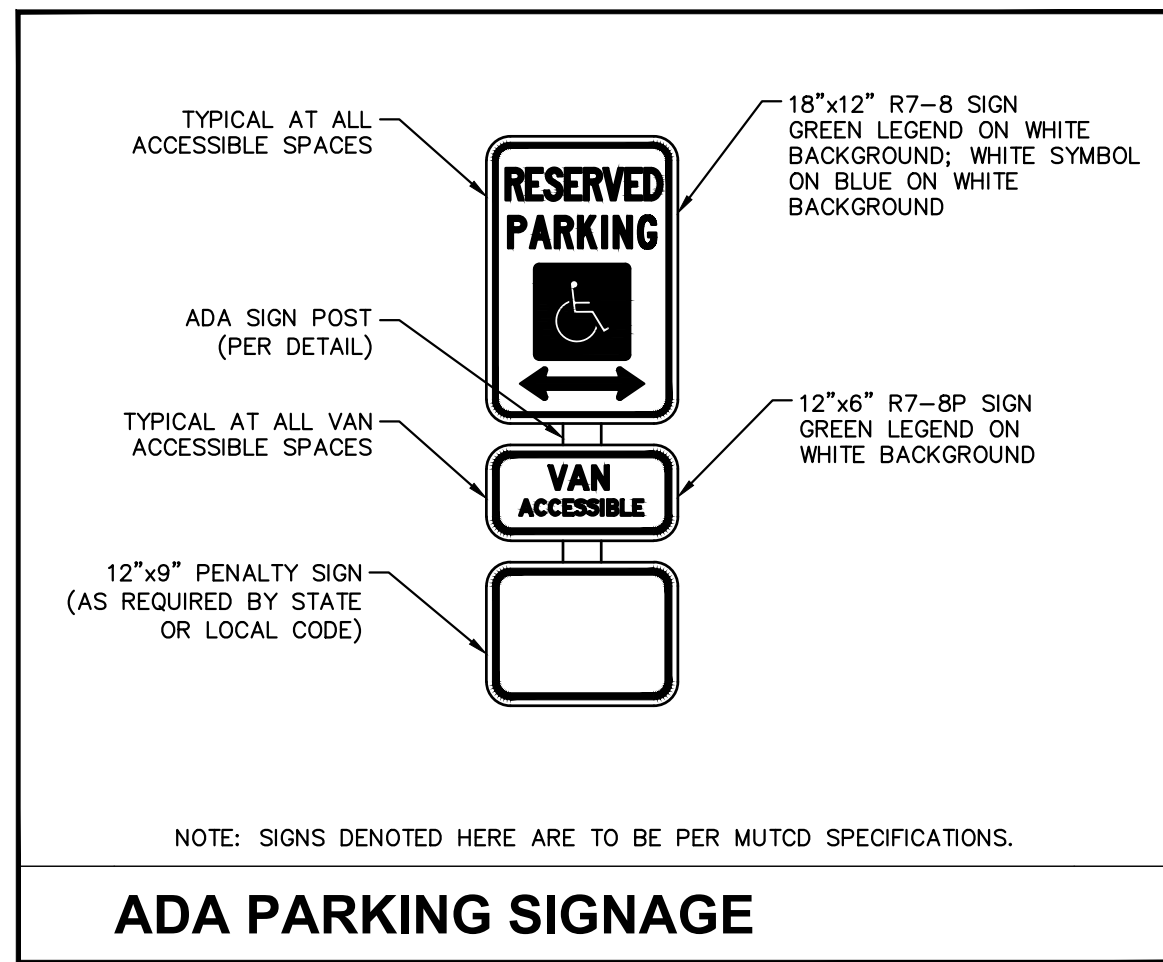
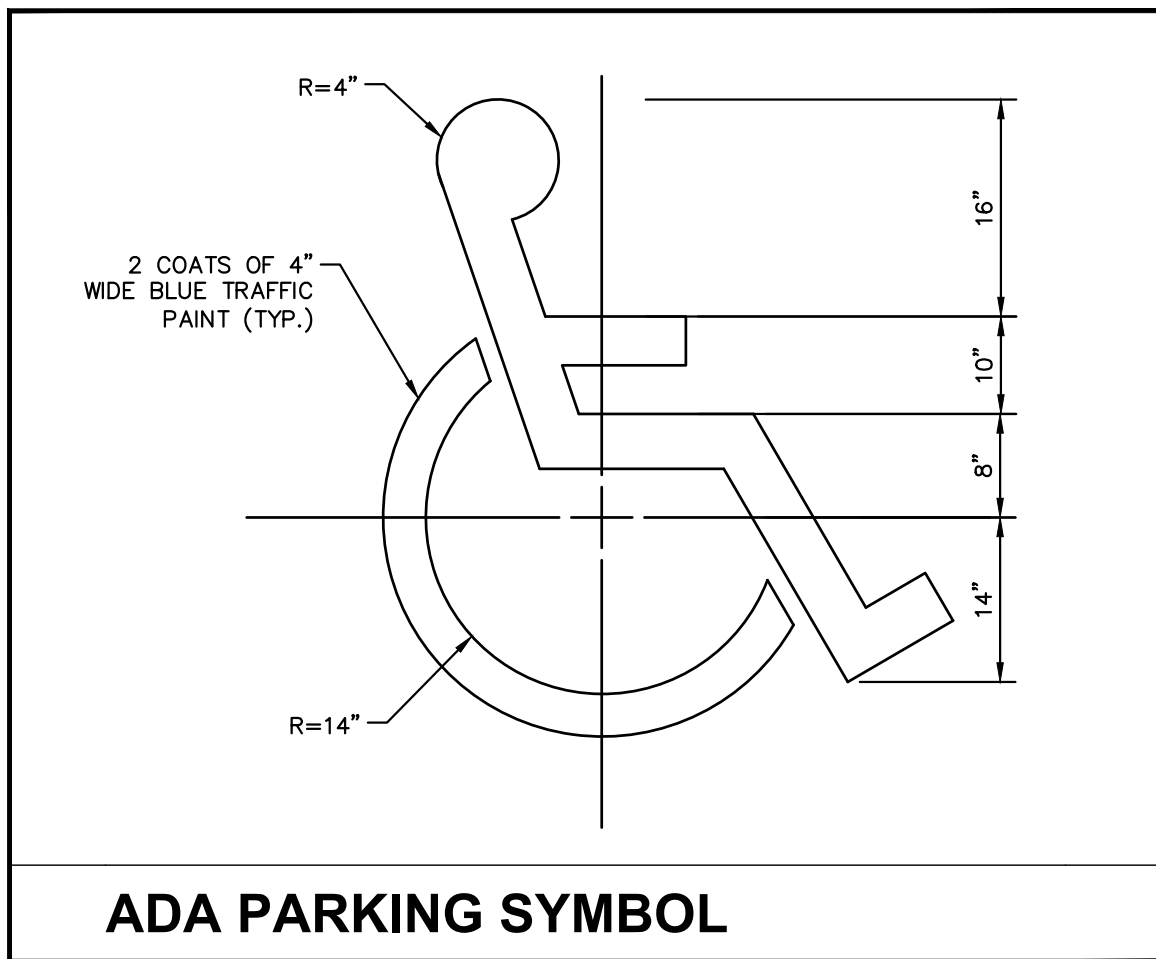
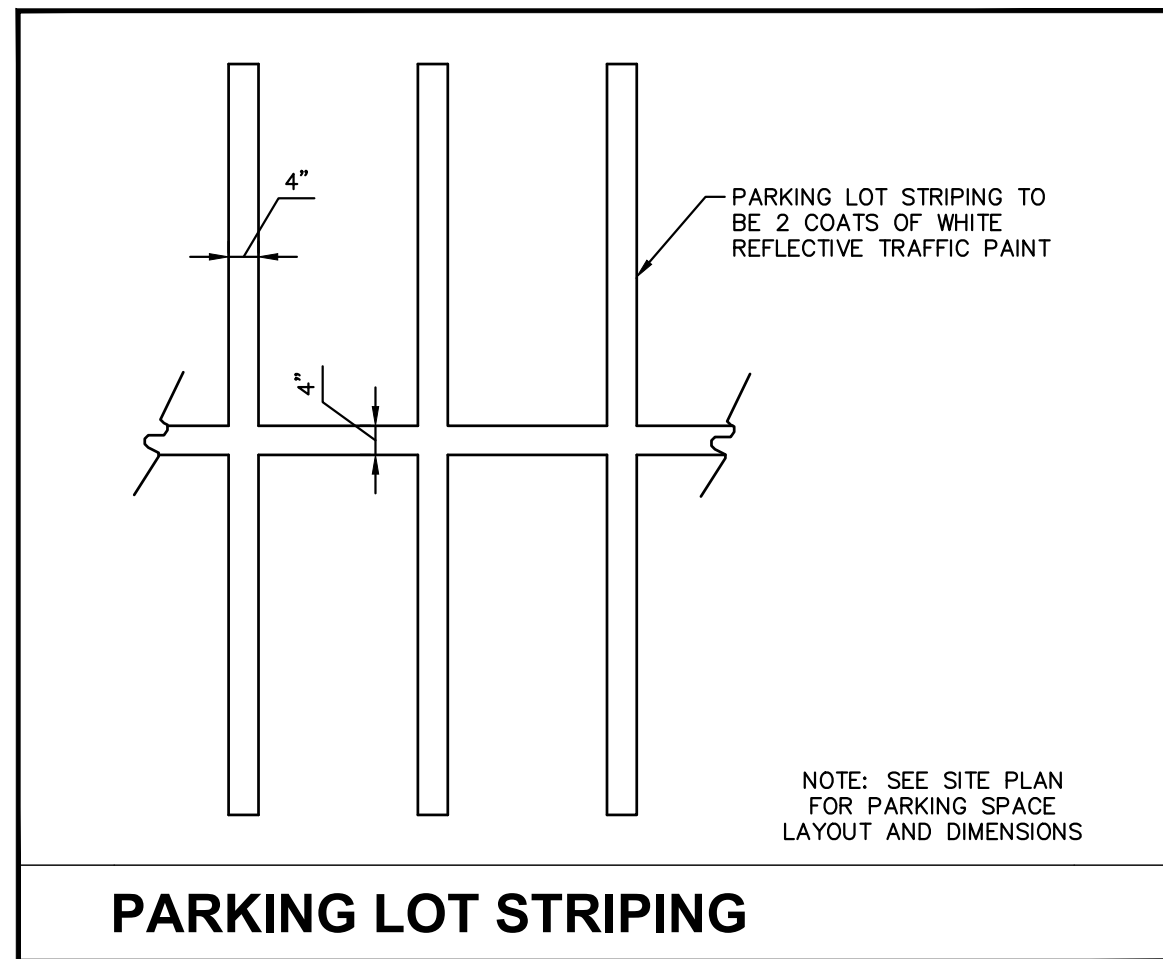
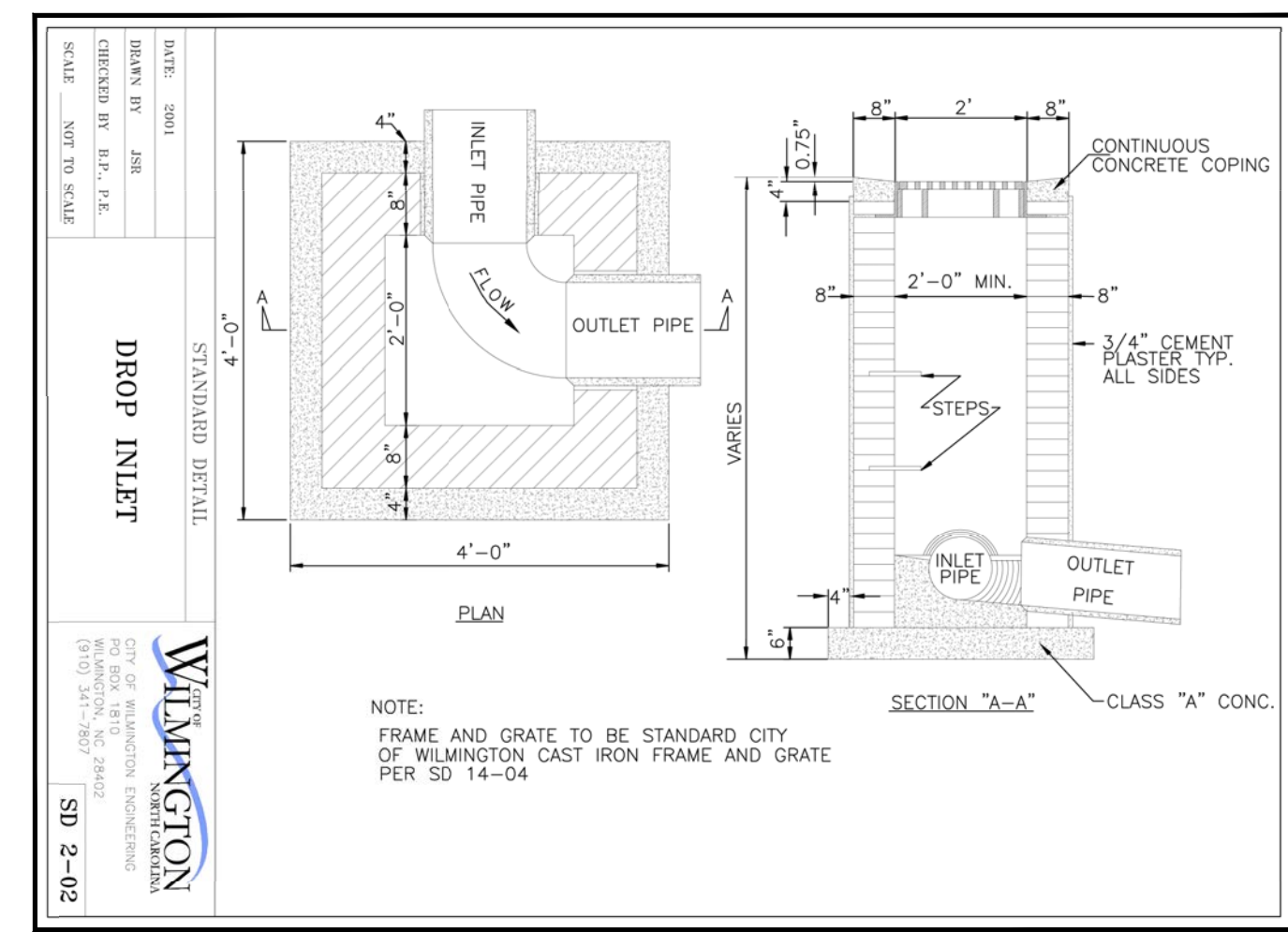
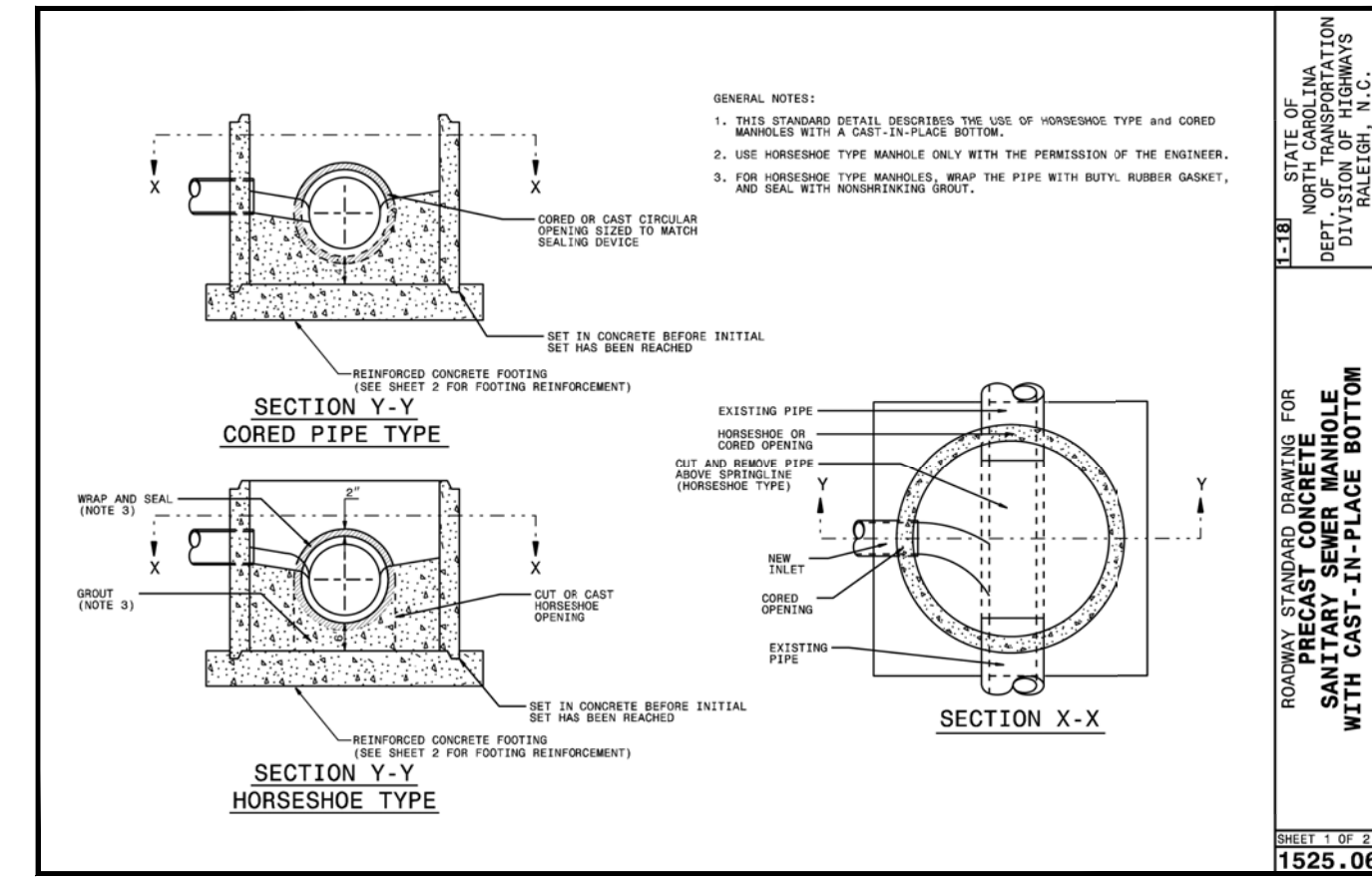
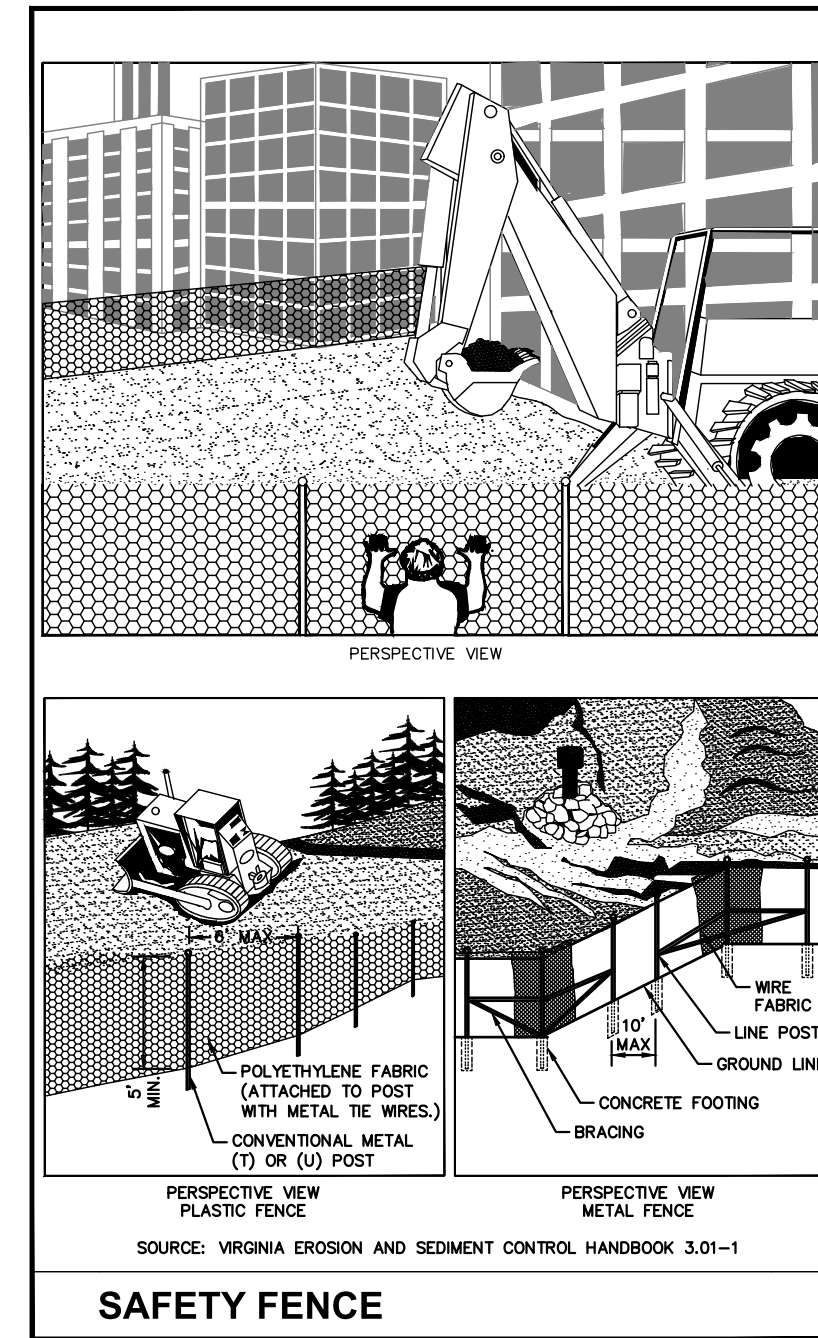
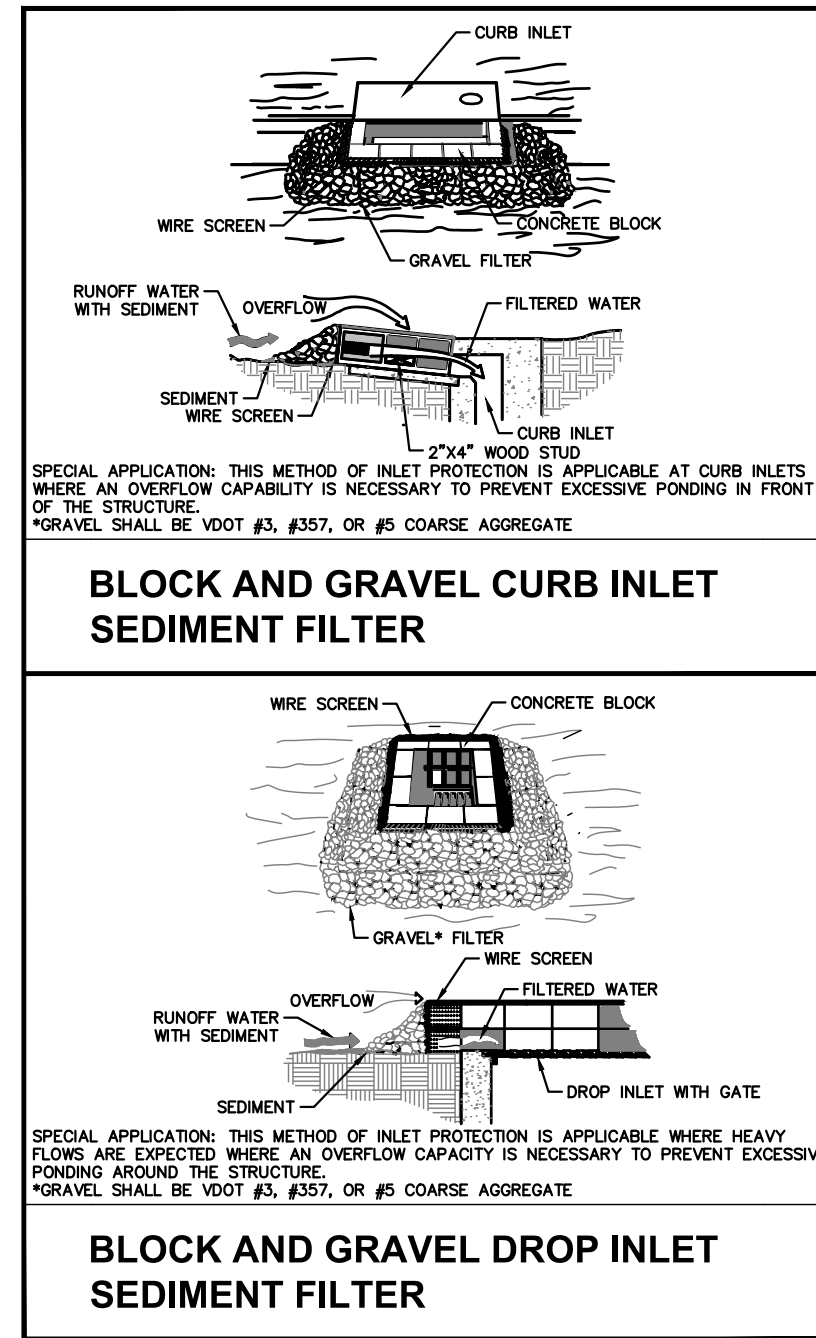
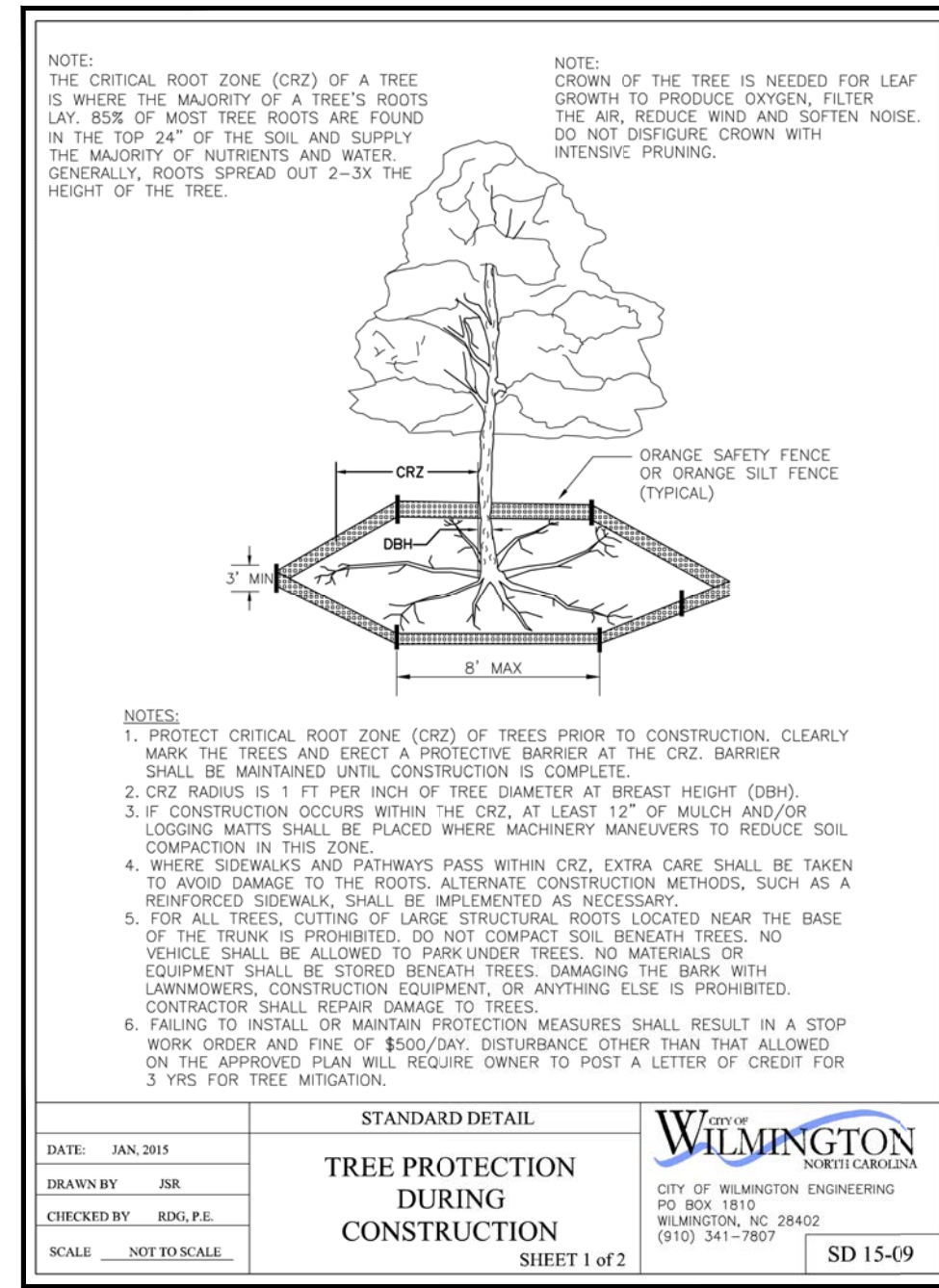
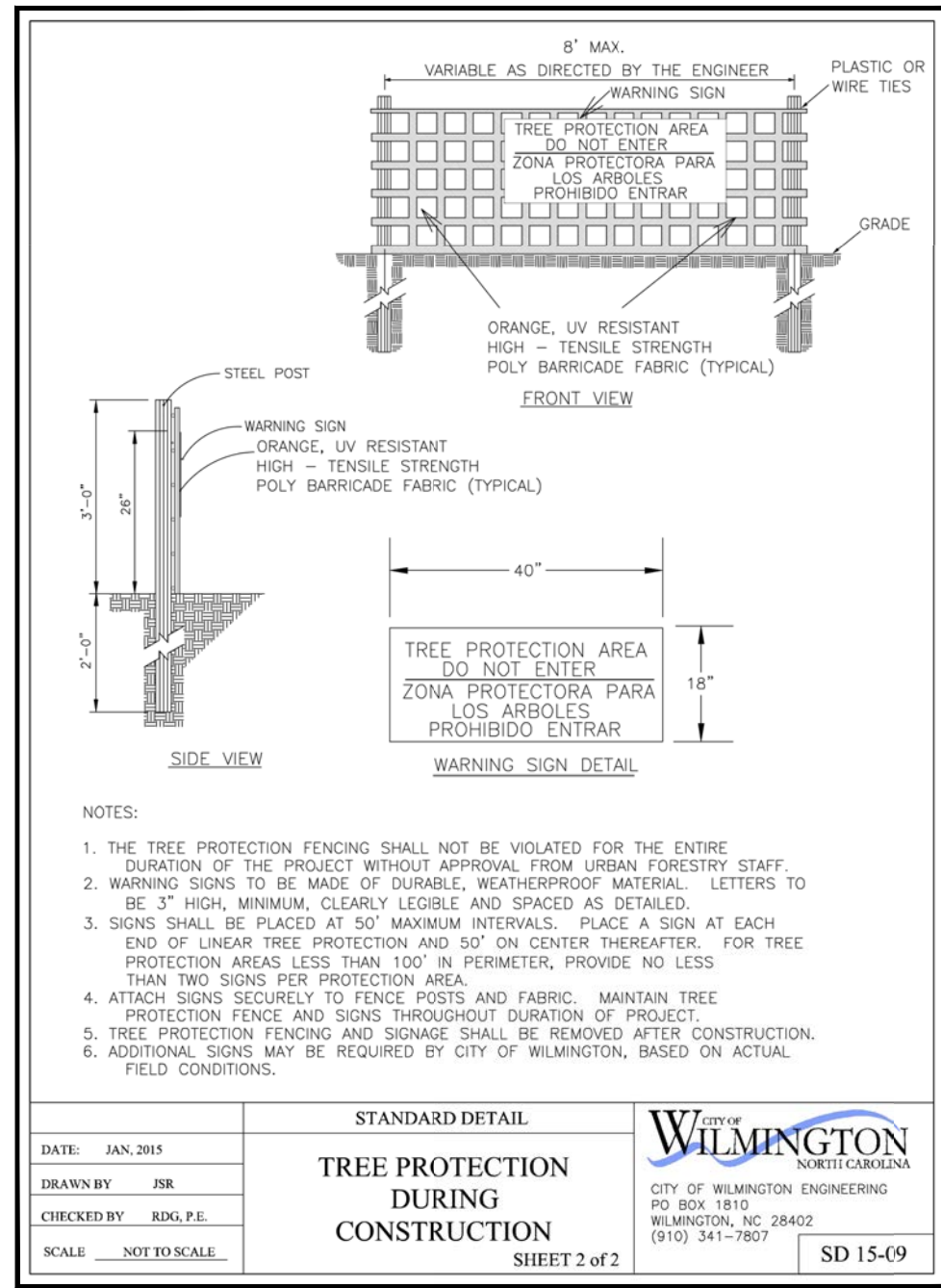
FOUNDATION EARLY LEARNING
 PREPARED FOR: KQC INVESTORS, LLC
 NORTH CAROLINA

WILMINGTON

SHEET NUMBER: C701

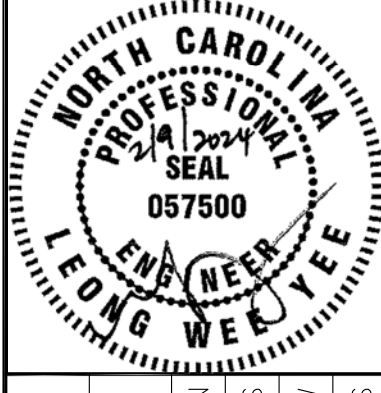
REVISIONS: NO. DATE BY

Plotted By: Sless, Jeremy - Sheet Set: kha - Foundation Early Learning - February 12, 2024 - 05:44:58pm - K:\web_civil\117211000 - sunshine house eta\CADD\plansheets\C702 - CONSTRUCTION DETAILS.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |

Kimley-Horn
 © 2024, KIMLEY-HORN AND ASSOCIATES, INC.
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
 PHONE: 757-213-8600
 WWW.KIMLEY-HORN.COM



| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JKS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

FOUNDATION EARLY LEARNING
 PREPARED FOR
KQC INVESTORS, LLC
 NORTH CAROLINA

SHEET NUMBER
C702

STANDARD DETAIL
PRECAST MANHOLE

DATE: 8/01
DRAWN BY: JRS/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
302 CRESTVIEW STREET
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 14-11

STANDARD DETAIL
FLARED END SECTION OUTLET

DATE: 3/01
DRAWN BY: JRS/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
302 CRESTVIEW STREET
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 1-17

NOTE:
1. STRUCTURAL DESIGN OF END SECTION SHALL CONFORM WITH THAT OF STANDARD REINFORCED CONCRETE.

| PIPE DIAMETER | WALL THICKNESS | SLOPE | B | C | D | E | UNIT WEIGHT |
|---------------|----------------|-------|----|----|-----|-----|-------------|
| 12 | 2 1/4 | 3:1 | 24 | 49 | 73 | 24 | 730 |
| 15 | 2 1/4 | 3:1 | 27 | 46 | 73 | 30 | 910 |
| 18 | 2 1/2 | 3:1 | 27 | 46 | 73 | 36 | 1190 |
| 21 | 2 3/4 | 3:1 | 36 | 37 | 73 | 42 | 1370 |
| 24 | 3 | 3:1 | 42 | 31 | 1/2 | 73 | 1770 |
| 27 | 3 1/4 | 3:1 | 48 | 25 | 1/2 | 73 | 2130 |
| 30 | 3 1/2 | 3:1 | 54 | 19 | 3/4 | 73 | 2380 |
| 33 | 3 3/4 | 3:1 | 60 | 36 | 96 | 66 | 3870 |
| 36 | 4 | 3:1 | 63 | 34 | 3/4 | 97 | 5320 |
| 42 | 4 1/2 | 3:1 | 63 | 35 | 98 | 78 | 5920 |
| 48 | 5 | 3:1 | 72 | 26 | 98 | 84 | 7470 |
| 54 | 5 1/2 | 2.4:1 | 66 | 34 | 100 | 90 | 8810 |
| 60 | 6 | 2:1 | 60 | 39 | 99 | 96 | 11180 |
| 72 | 7 | 2:1 | 78 | 21 | 99 | 108 | 13980 |

DIMENSIONS IN INCHES WEIGHTS IN POUNDS

STANDARD DETAIL
FLARED END SECTION OUTLET DIMENSION TABLE

DATE: 3/01
DRAWN BY: JRS/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
302 CRESTVIEW STREET
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 1-17

STANDARD DETAIL
HARDWARE CLOTH AND GRAVEL INLET PROTECTION

DATE: JANUARY, 2024
DRAWN BY: JRS
CHECKED BY: D.E.C., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
302 CRESTVIEW STREET
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 1-17

STANDARD DETAIL
PAVEMENT REPAIRS- UTILITY CUTS

DATE: MAY, 2013
DRAWN BY: JRS
CHECKED BY: D.E.C., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
312 OPERATIONS CENTER DRIVE
WILMINGTON, NC 28402
(910) 341-7807

SD 1-05

STANDARD DETAIL
PIPE OUTLET PROTECTION

DATE: 2/01
DRAWN BY: JRS/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
302 CRESTVIEW STREET
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 1-15

STANDARD DETAIL
TEMPORARY SILT FENCE

DATE: JANUARY, 2024
DRAWN BY: JRS
CHECKED BY: D.E.C., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
312 OPERATIONS CENTER DRIVE
WILMINGTON, NC 28402
(910) 341-7807

SD 1-07

STANDARD DETAIL
PIPE TRENCH TYPICAL

DATE: MAY, 2013
DRAWN BY: JRS
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

CITY OF WILMINGTON
ENGINEERING OFFICE
312 OPERATIONS CENTER DRIVE
WILMINGTON, NC 28402
(910) 341-7807

SD 1-07

STANDARD DETAIL
CATCH BASIN

DATE: 2/06
DRAWN BY: JRS/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

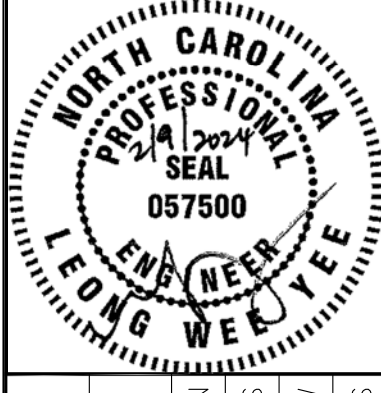
CITY OF WILMINGTON
ENGINEERING OFFICE
302 CRESTVIEW STREET
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 2-01

| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Kimley-Horn

© 2024, KIMLEY-HORN AND ASSOCIATES, INC. 23462
4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA
PHONE: 757-213-8600
WWW.KIMLEY-HORN.COM



| | |
|-------------|------------|
| KHA PROJECT | 117211000 |
| DATE | 02/09/2024 |
| SCALE | AS SHOWN |
| DESIGNED BY | JRS |
| DRAWN BY | AHW |
| CHECKED BY | NJS |

FOUNDATION EARLY LEARNING
PREPARED FOR
KQC INVESTORS, LLC
NORTH CAROLINA

CONSTRUCTION DETAILS

SHEET NUMBER
C703

Plotted By: Sless, Jeremy - Sheet Set: Mns - Layout: C802 - notes - details - February 12, 2024 - 06:02:09pm - K:\wpb-dwn\17211000 - sunshrine house.dwg - PLANTING PLAN.dwg
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

PLANTING SPECIFICATIONS

1. **DELIVERY, HANDLING, AND STORAGE:**

- A. Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type, weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter.
- B. Dig balled and burlapped (B&B) plants with firm, natural balls of earth, of a diameter not less than recommended by the American Standard for Nursery Stock, and of sufficient depth to include the fibrous and feeding roots. B&B plants will not be accepted if the ball is cracked or broken before, or during planting operation.
- C. Deliver trees and shrubs after preparations for planting have been completed. Do not bend, bind, or tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by heeling-in bare root stock and covering plant balls with soil, peat moss or other acceptable material for balled stock. Plants shall be kept well watered and shall not remain unplanted for longer than ten (10) days after delivery.
- D. Plants shall be lifted and handled from the bottom of the ball only.
- E. Do not remove container-grown stock from containers until planting time.

4. **DRAINAGE:** Before planting, determine that areas to receive plant material have adequate subsurface drainage.

- A. The landscape contractor is responsible for drainage tests as necessary to identify any problems prior to beginning planting operations. Upon commencement of planting operations the landscape contractor assumes responsibility for soil conditions.
- B. Dig planting pits to full depth and dimensions indicated on drawings.
- C. At bottom of planting pit, excavate rectangular pit 12 inches by 12 inches by 18 inches deep. Quickly pour water into pit to a depth of 6 inches (approximately 3-3 3/4 gallon). Note time required for water to be completely absorbed. Divide time noted by 6 to achieve average rate of absorption for 1 inch of water. Where rate of absorption exceeds 60 minutes per inch, notify owner immediately for directions on how to proceed.

5. **PLANTING DATES:** Planting shall be done only within the following dates except as approved by Owner.

- A. Deciduous Trees and Shrubs: March 1 to May 31 and October 1 to November 15.
- B. Evergreen Trees, Shrubs and Vines: March 1 to May 31 and September 1 to November 15.
- C. All plant material shall be guaranteed by the Contractor for a period of 1 year from the date final acceptance to be in good, healthy and flourishing condition.

6. **MATERIALS FOR PLANTING:**

- A. Topsoil shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1/2 inch in diameter, capable of sustaining vigorous plant growth. Soil shall be harvested at a single source from the O and/or A horizons of the soil profile.
 - 1) Topsoil shall have a pH range of 5.5 to 7.5.
 - 2) Topsoil shall contain 1.5-5% organic matter by dry weight.
 - 3) Soil Texture: sandy loam, sandy clay loam with the following particle size distribution:
 - Gravel - Less than 10%
 - Silt - 15-30%
 - Clay - 20-35%
 - Chemical Levels shall be:
 - Magnesium Mg100+ units
 - Phosphorus P205 150+ units
 - Potassium - K20 120+ units
 - 4) Soluble Salts/Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)
 - 5) Cation exchange capacity shall be a minimum of 8 meq/100g.
- B. Clay Loam to Sandy Clay Loam Soil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1/2 inch in diameter, capable of sustaining vigorous plant growth.
 - 1) Soil shall have a pH range of 5.5 to 6.5.
 - 2) Soil shall contain 2-5% organic content by volume.
 - 3) Soil Texture: Clay loam to sandy clay loam with the following particle size distribution:
 - Gravel - Less than 10%
 - Sand - 20-50%
 - Silt - <35%
 - Clay - 20-40%
 - Chemical Levels shall be:
 - Magnesium Mg100+ units
 - Phosphorus P205 150+ units
 - Potassium - K20 120+ units
 - 4) Soluble Salts/Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)
 - 5) Cation exchange capacity shall be 20-35 meq/100g.
- C. Compost: Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock shall be plant matter, such as high lignin forestry products or yard waste (leaves, brush and yard trimmings).
 - 1) The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight.
 - 2) Compost shall be sampled and tested as required by the Seal of Testing Assurance Program of the United States Composting Council (USCC) and shall meet the physical requirements for compost as determined by USCC.
 - 3) The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids.
 - 4) The moisture level shall be such that no visible water or dust is produced when handling the material.
- D. Composted Pine Bark Fines: Shall be approved composted, ground pine bark having no particle with a dimension greater than 3/4 inch. No more than 10% shall be wood.
- E. Sand: Shall be quartz based sharp concrete sand, ASTM C-33 Fine Aggregate, with a Fines Modulus Index between 2.8 and 3.2.
- F. Perlite: Coarse horticultural grade expanded, volcanic perlite. Maximum density shall be 8 lb./ft.³.
 - 1) pH shall be 6.5 to 7.5.
 - 2) Perlite shall meet the Perlite Institute's Standards for Gradation for Horticultural Perlite for Coarse Perlite with no more than 70% passing through a #16 Standard Sieve.
- G. Humus: Shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock shall be plant matter, such as high lignin forestry products or yard waste (leaves, brush and yard trimmings).
 - 1) Humus shall have a pH between 6 and 7.5.
 - 2) Soluble Salt Concentration shall be less than 10dSm.
 - 3) Cation exchange capacity rate shall be 100-250.
 - 4) The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight.
 - 5) The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids.
 - 6) The moisture level shall be such that no visible water or dust is produced when handling the material.
- H. Trace Elements: Shall be commercially available slow release materials containing zinc (Zn), Molybdenum (Mo), Copper (Cu), Boron (B), and Magnesium (Mn).
- I. Fertilizer: A commercial fertilizer for ornamental trees, shrubs and ground cover with an analysis of 10% Nitrogen, 6% Phosphorus and 4% Potassium shall be used. This fertilizer shall be granular with a minimum of 50% of the total Nitrogen in organic form. 14-14-14-Osmotec (or approved equal) shall be applied at a rate of 10 lbs. per square foot, tilled to a depth of 8 inch, shall be used for perennials.

7. **PLANT MATERIALS:** (Refer to the PLANT LIST on the drawings for specific types and quantities of plants):

- A. Plants shall be nursery grown in accordance with good horticultural practices. Plants shall either be obtained from local nurseries and/or others, which have soil and climatic conditions similar to those in the locality of the project.
- B. Plants shall be true to species and variety and unless specifically noted otherwise, all plants shall be of specimen quality, exceptionally heavy, symmetrical, tightly-knit plants, so trained or favored in their development and appearance as to be superior in form, number of branches, compactness and symmetry.
- C. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf, free of disease, insect pests, eggs or larvae and shall have healthy, well-developed root systems. They shall be free from physical damage or any conditions that would prevent thriving health and the desired appearance.
- D. Trees, which have a damaged or crooked leader, or multiple leaders, unless specified in the plant list, will be rejected. Trees with abrasion of the bark, sun scald, disfiguring knots, or pruning cuts more than 1 1/4 inch diameter which have not completely callused, will be rejected.
- E. Plants shall conform to measurements specified in the plant schedules except that plants larger than specified may be used if acceptable to the Landscape Architect or owner. Use of such plants shall not increase the contract price. If larger plants are accepted, the root ball shall be sized for the larger plant.
- F. Caliper Measurement: Shall be taken at a point on the trunk 6 inches above natural ground line for trees up to 4 inches diameter, and at a point 12 inches above the natural ground line for trees over 4 inches diameter.
- G. Plants shall be measured when branches are in the normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip.

8. **SOIL MIXING PROCEDURES:**

- A. Topsoil used in sand/soil mixes shall be screened or shredded prior to mixing in sands. Maximum clod inclusion for soil mixes shall not exceed:
 - Clod size (largest dimension) % of the soil mix volume
 - Less than 1" Unlimited
 - 1 to 3 inches 20%
 - 3 to 6 inches 5%
 - >6 inches Less than 2%
- A. Source material and soil mix stockpiles shall be protected from rain by covering with filter cloth.

9. **INSPECTION:**

- A. Examine the areas and conditions where soil mix is to be installed and notify the Engineer of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.
- B. Cooperate with other Contractors and trades working in and adjacent to other work areas. Examine drawings which show development of entire project and become familiar with scope of other work required.

10. **SOIL INSTALLATION - GENERAL PROCEDURES CONTINUED:**

- K. Install specified soil in 12"-18" thick lifts. Compact each lift sufficiently to reduce settling but not enough to prevent the movement of water and feeder roots through the soil. The soils in each lift should heel firm to the foot in all areas and make only slight heel prints.

INSTALLATION OF SOIL MIX FOR LAWN AREAS ON GRADE:

- A. Soil Mix for Lawns on Grade: shall consist of 10% compost and 90% topsoil, by volume. These materials must meet specifications described in Paragraph 6.
- B. Loosen subgrade lawn areas to a minimum of 3". Remove stones more than 1-1/2" in any dimension and sticks, roots, rubbish, and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.
- C. Spread soil mix for lawn areas on grade to a minimum depth of 4" as required to meet grade and elevations shown on drawings, after lightly rolling and natural settlement. Allow for sod thickness in areas to be sodded.

INSTALLATION OF SOIL MIX FOR TREE PITS ON GRADE:

- A. Confirm that native subsoil drains at a rate of at least 1/2" per hour. If drainage is less than 1/2" per hour, provide subsurface drainage lines.
- B. Install 30-36" of Soil Mix for Tree Pit Backfill on Grade:
 - 1) Shall consist of clay loam to sandy clay loam soil, sand, and composted pine bark fines at a rate of 5.5:1 to 10.5:1.5 to achieve the following:
 - (a) Clay content of Soil Mix shall be 10-20% of the soil mix, by volume.
 - (b) Minimum amount of coarse to medium sand in the mix shall be 55%.
 - (c) Minimum infiltration rate at 80-85% compaction shall be 1-3 inches per hour.
 - 2) Composted pine bark fines shall not exceed 10% of the total soil mix by volume.
 - 3) C. Till 4" of compost into the top 6" of the installed Soil Mix for Tree Pit Backfill on Grade.

INSTALLATION OF SOIL MIX FOR MULCHED SHRUB AND PERENNIAL BEDS:

- A. Confirm that native subsoil drains at a rate of at least 1/2" per hour. If drainage is less than 1/2" per hour, provide subsurface drainage lines.
- B. Install 4" of Soil Mix for Mulched Shrub and Perennial Beds on Grade:
 - 1) Shall consist of clay loam to sandy clay loam soil, sand, and composted pine bark fines at a rate of 5.5:1 to 10.5:1.5 to achieve the following:
 - (a) Clay content of Soil Mix shall be 10-20% of the soil mix, by volume.
 - (b) Minimum amount of coarse to medium sand in the mix shall be 55%.
 - (c) Minimum infiltration rate at 80-85% compaction shall be 1-3 inches per hour.
 - 2) Composted pine bark fines shall not exceed 10% of the total soil mix by volume.
 - 3) C. Till 4" of compost into the top 6" of the installed Soil Mix for Tree Pit Backfill on Grade.

GENERAL PLANT INSTALLATION:

- A. Excavation: Excavate all tree pits and planting areas to the width and depth shown in the planting details.
- B. Center plant in pit and orient for the best visual effect. Set plants plumb and hold rigidly in position until soil has been tamped firmly around root ball.
- C. Mulch within 48 hours after planting and after applying the pre-emergent herbicide, except ground cover areas (which shall have organic material placed before planting) with a 3" layer of mulch immediately after planting. All bed lines shall be cut with a smooth consistent edge to a minimum depth of 3 inches. Keep mulch out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.
- D. All planting areas to conform to specified grades after full settlement has occurred and mulch has been applied. Provide saucers around tree pits as shown on planting details. Remove all tags, labels, strings, etc. from all plants.

MAINTENANCE AND GUARANTEE:

- A. The landscape contractor shall be responsible for maintaining his work until final acceptance by the owner or the owner's representative. Maintenance shall include watering, weeding, cultivating, mulching, removal of dead materials, resetting of plants to proper grades or upright positions, restoration of earth berms, and other necessary operations, adequate protection for lawn areas against trespassing during planting operations and against damage of any kind shall be provided. Nothing in these notes is intended to relieve the contractor of his responsibility to repair existing lawn areas damaged by workmen engaged in the completion of this project.
- B. Inspection of the work to determine completion of the contract exclusive of the possible replacement of plantings during the warranty period, will be made by the owner or the owner's representative at the conclusion of the installation period upon written notice requesting such inspection. Request shall be submitted by contractor at least ten days prior to the anticipated date for inspection. After inspection, the contractor will be notified in writing by the owner or the owner's representative of acceptance of the work or, if there are any deficiencies, the contractor will be notified of the requirements necessary for completion of the work. Plantings shall not be considered accepted until all deficiencies have been corrected and approved in writing. C. Nursery stock shall be fully guaranteed for one full year. All plants that fail to make new growth from a dormant condition or that die during the first year after planting shall be replaced. All replacements shall conform with the original specifications as to size and type. All costs of replacements shall be borne by the contractor.
- D. The contractor shall be responsible for the removal of all unused materials, rubbish, debris, or plant material not planted from the site upon completion of his work.
- E. All other items necessary to make work complete shall be finalized prior to final inspection.

PERMANENT SODDING FOR LAWN AREAS:

- A. Sod varieties shall be an improved variety turf-type sod known to perform well in the project area. Sod shall be chosen from the recommended varieties listed in the latest version of Warm Season Turf Varieties as published by the North Carolina Crop Improvement Association (NCCIA): http://www.nccrop.com/varieties.php/14/Warm_Season_Turf
- B. Prior to laying sod contractor shall provide 4 inches of topsoil as specified on all areas to receive seed or sod.
- C. The contractor shall sod all areas that are not paved or planted and mulched as designated on the drawings within the contract limits, unless specifically noted otherwise.
- D. The sod shall be certified to meet local state plant board specifications, absolutely true to varietal type, and free from weeds, fungus, insects and disease of any kind.
- E. Sod panels shall be laid tightly together so as to make a solid sodded lawn area. Sod shall be laid uniformly against the edges of all curbs and other hardscape elements, paved and planted areas. Immediately following sod laying, the lawn areas shall be rolled with a lawn roller customarily used for such purposes, and then thoroughly irrigated. After rolling of sod any voids created by rolling shall be filled with strips of sod and rolled. Fertilize installed sod as allowed by property's jurisdictional authority.
- F. During delivery, prior to, and during the planting of the lawn areas, the sod panels shall at all times be protected from excessive drying and unnecessary exposure of the roots to the sun. All sod shall be stored so as not to be damaged by sweating or excessive heat and moisture. Sod shall not be left stacked or rolled.

PERMANENT SEEDING:

- A. Prior to seeding contractor shall provide and spread 4" of topsoil as specified on all areas to receive permanent seeding.
- B. The contractor shall seed all denuded areas and areas disturbed by construction that are not otherwise stabilized with paving, buildings, or planted and mulched within the contract limits, unless specifically noted otherwise.
- C. If a utility line is installed through a landscaped lawn the seeding shall be modified to restore ground cover comparable to the existing lawn
- D. Seeding includes seedbed preparation, liming, fertilizing, seeding, and mulching of disturbed areas.
- E. Lawn Seed varieties shall be an improved turf-type variety known to perform well in the project area. Seed mixture shall be chosen to ensure the development of plants during the season of planting, and to ensure future growth and permanent stabilization. Seed shall be certified and shall conform to the requirements of the North Carolina Crop Improvement Association (NCCIA).
- F. All seed shall conform to the current rules and regulations of the state where it is being used and shall be from the latest crop available. The seed shall be State-certified to meet North Carolina seed certification standards and specifications, absolutely true to varietal type, and free from weeds, fungus, insects and disease of any kind.
- G. Seed shall be labeled in accordance with the state laws and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures are evidence of purity and germination. No seed will be accepted with a test date of more than 9 months before the delivery date to the site.
- H. Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable shall be as defined in the current State laws relating to agricultural seeds.
- I. LIMING: Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds, which have previously been prepared. The lime shall be worked into the top 3 inches of soil after which the seedbed shall again be properly graded and dressed to a smooth finish. Lime shall be applied at the rate specified on TABLE 6.11.b, North Carolina Environmental Quality, Erosion and Sediment Control Planning and Design Manual, or soil test report recommendations.
- J. FERTILIZING: Following advance preparations and cleanup, fertilizer shall be uniformly spread at the rate specified on TABLE 6.11.b, North Carolina Environmental Quality, Erosion and Sediment Control Planning and Design Manual, or soil test report recommendations.
- K. SEEDING: Grass seed shall be sown at the rate specified on TABLE 6.11.b, North Carolina Environmental Quality, Erosion and Sediment Control Planning and Design Manual, immediately after fertilizing and the fertilizer and seed raked into the soil. Seeds shall be inoculated before mixing or sowing in accordance with the instructions of the seed provider and manufacturer of the inoculant. When seeding is required at other than the seasons shown TABLE 6.11.b, North Carolina Environmental Quality, Erosion and Sediment Control Planning and Design Manual, a cover crop shall be sown by the same methods required for grass seeding.
- L. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other. Do not seed against existing trees.
- M. Rake seed and fertilizer lightly into top 1/8 inch of soil and water with fine spray.
- N. MULCHING: Protect seeded areas with slopes not exceeding 1:3 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment. Protect slopes 1:3 and greater with erosion control mats and fasten as recommended by material manufacturer.
- O. Straw mulch material—Straw mulch shall consist of wheat, barley, oat or rye straw. The mulch material shall be air-dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The use of mulch that contains noxious weeds is not permitted.
- P. Other mulch materials—Mulching materials, such as wood cellulose fiber mulch, synthetic fiber mulch, netting, and mesh, are other mulching materials that may be required for specialized locations and conditions. These materials must be installed according to the manufacturer's recommendations for methods of application.
- Q. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller weighing 40 to 65 pounds per foot of width for clay soil (or any soil having a tendency to pack) or weighing 150 to 200 pounds per foot of width for sandy or light soils.

LAWN MAINTENANCE:

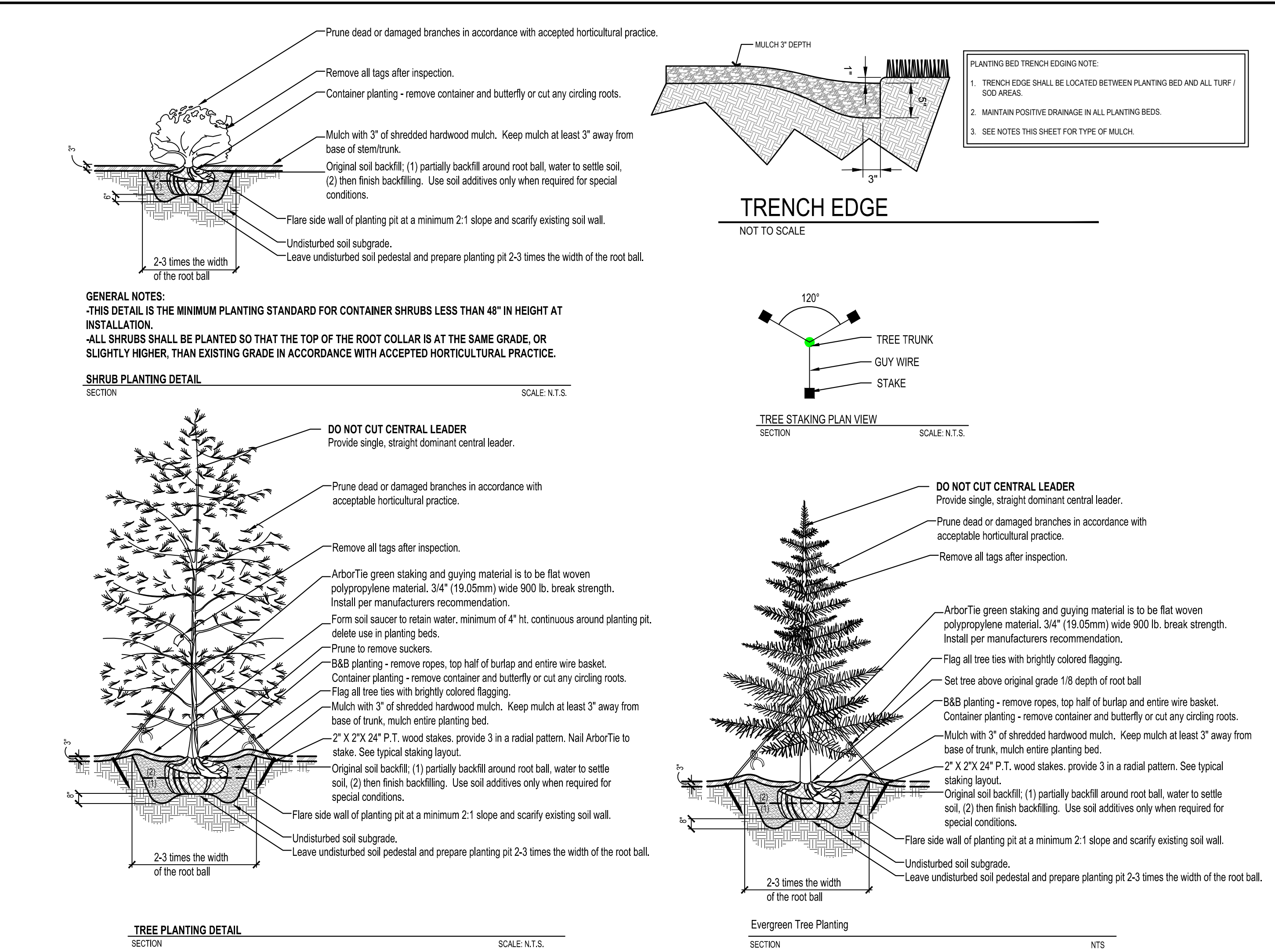
- A. Within the contract limits, the contractor shall produce a dense, well established lawn. The contractor shall be responsible for maintaining the lawn until acceptance by the owner or owner's authorized representative.
- B. Maintenance shall include but may not be limited to watering, weeding, and fertilizing as necessary as well as the repair and re-seeding of all eroded, sunken or bare spots (larger than 12"x12") until certification of acceptability by the owner or owner's representative. Repaired seeding shall be accomplished as in the original work (including re-grading if necessary).

ACCEPTANCE:

- A. A stand of grass shall be considered acceptable when the turf cover is at least 95%. The Contractor shall overseed, and otherwise maintain the grassed areas until the stand of grass has reached a uniform height of 3 to 4 inches and a state of uniform species maturity. Annual grasses and grain weeds shall not be considered part of the cover percentage, and seeding stands shall not be considered acceptable until the stand reaches a state of uniform post-seeding maturity for the specified species.

GENERAL NOTES:

- CONTRACTOR SHALL HAVE MISS UTILITIES LOCATE ALL UTILITIES IN THE PLANTING AREA PRIOR TO BEGINNING PLANTING OPERATIONS. ANY CONFLICTS WITH PROPOSED PLANTING SHALL BE REPORTED IMMEDIATELY TO THE STORE MANAGER AND ENGINEER/LANDSCAPE ARCHITECT BEFORE ANY PLANTING OPERATIONS ARE TO BEGIN.
- THESE DETAILS ARE THE MINIMUM PLANTING STANDARD FOR CONTAINER OR BALLED & BURLAPPED DECIDUOUS AND EVERGREEN TREES UP TO 2-1/2" IN CALIPER.
- ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT COLLAR IS APPROXIMATELY 1" HIGHER THAN EXISTING GRADE.



PLANT SCHEDULE

| SYMBOL | CODE | QTY | REMARKS | BOTANICAL NAME | COMMON NAME | CONT. | CAL. | SPACING | SPACING |
|----------------------|---------|----------|--|--------------------------------------|-----------------------------|-------------|--------------|---------|---------|
| TREES | | | | | | | | | |
| | AA2 | 12 | MATCHED, SINGLE STREIGHT LEADER, FULL CANOPY | ACER RUBRUM 'ARMSTRONG' | ARMSTRONG RED MAPLE | B&B | 2"-2.5" CAL. | | |
| | AF | 15 | SEEDLESS VARIETY ONLY, SINGLE STREIGHT LEADER, FULL CANOPY | ACER X FREEMANII 'JEFFS RED' | AUTUMN BLAZE MAPLE | B&B | 2"-2.5" CAL. | | |
| | UB | 7 | MATCHED, SINGLE STREIGHT LEADER, FULL CANOPY | ULMUS PARVIFOLIA 'BOSQUE' | BOSQUE ELM | B&B | 2"-2.5" CAL. | | |
| | ZV | 10 | MATCHED, SINGLE STREIGHT LEADER, FULL CANOPY | ZELKOVA SERRATA 'GREEN VASE' | GREEN VASE SAWLEAF ZELKOVA | B&B | 2"-2.5" CAL. | | |
| SHRUBS | | | | | | | | | |
| | IN | 54 | | ILEX CORNUTA 'NEEDLEPOINT' | NEEDLEPOINT CHINESE HOLLY | CONT. | 12" HT. MIN. | | |
| | IC | 13 | | ILEX VOMITORIA 'CONDEAUX' | BORDEAUX@ YAUPON HOLLY | CONT. | 12" HT. MIN. | | |
| | JUN CHI | 36 | | JUNIPERUS CHINENSIS 'SARGENTI' | SARGANT JUNIPER | CONT. | 12" HT. MIN. | | |
| | NP | 16 | | NANDINA DOMESTICA 'FIREPOWER' | FIREPOWER HEAVENLY BAMBOO | 3 GAL. MIN. | 12" HT. MIN. | | |
| | PW | 33 | | PITTOSPORUM TOBIRA 'WHEELER'S DWARF' | WHEELER'S DWARF PITTOSPORUM | CONT. | 12" HT. MIN. | | |
| | POD MAK | 10 | | PODOCARPUS MACROPHYLLUS 'MAKI' | MAKI YEW PODOCARPUS | CONT. | 3'-4" HT. | | |
| GROUND COVERS | | | | | | | | | |
| | SH | 3,712 SF | | SHREDDED HARDWOOD MULCH | | BULK | | | |

Kimley & Horn
© 2024, KIMLEY-HORN AND ASSOCIATES, INC. 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
PHONE: 757-213-8600 WWW.KIMLEY-HORN.COM

PLANTING
SCHEDULE, NOTES
AND DETAILS

FOUNDATION EARLY LEARNING
PREPARED FOR
KQC INVESTORS, LLC
NORTH CAROLINA
WILMINGTON

811 Know what's below. Call before you dig.

KHA PROJECT: 117211000
DATE: 02/09/2024
SCALE: AS SHOWN
DESIGNED BY: JKS
DRAWN BY: AHW
CHECKED BY: NJS

REVISIONS: [Table with columns for No., Description, Date]

DATE: []

SHEET NUMBER: **C802**