

WAKE COUNTY NOTES

FINAL ZONING AND SITE IMPROVEMENT INSPECTION SHALL BE REQUIRED TO VERIFY SITE PLAN COMPLIANCE BE DONE BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED BY WAKE COUNTY BUILDING INSPECTIONS
 DETERIORATED OR DEAD SCREENING SHALL BE REPAIRED OR REPLACED WITHIN SIX MONTHS
 NO PERMANENT CONSTRUCTION CAN OCCUR WITHIN BUFFER YARDS
 SEPTIC TANKS, SEPTIC DRAIN LINES ARE PROHIBITED IN REQUIRED BUFFERYARDS
 STORMWATER RETENTION AND DETENTION FACILITIES, STORAGE TANKS FOR ANY PURPOSE, UTILITY SUBSTATIONS, AND 3 BUILDINGS HOUSING UTILITY SUBSTATIONS AND BUILDINGS HOUSING UTILITY COMMODITIES OR EQUIPMENT ARE ALSO PROHIBITED IN REQUIRED BUFFERYARDS.

MASTER PLAN

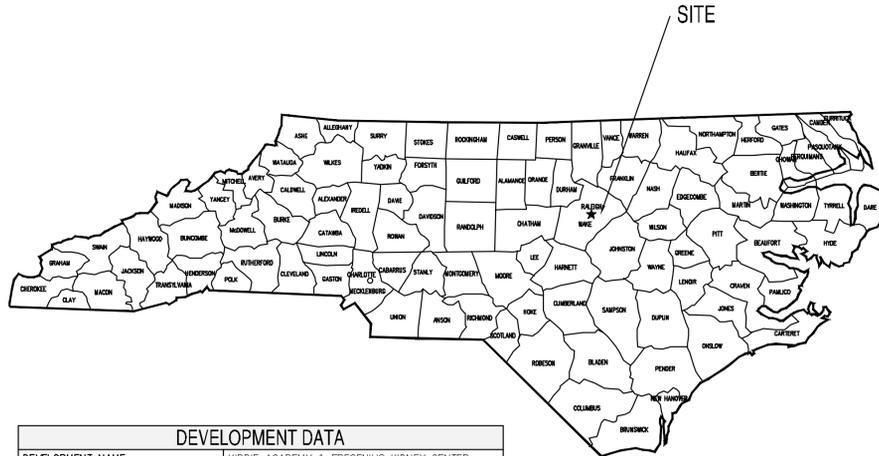
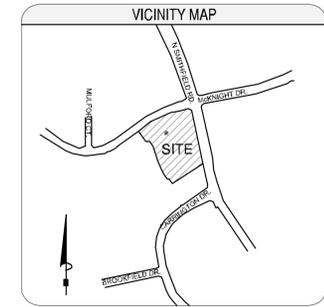
Proposed

Kiddie Academy & Fresenius Kidney Center

Smithfield Road and McKnight Drive

Knightdale, North Carolina

Wake County



DEVELOPMENT DATA	
DEVELOPMENT NAME:	KIDDIE ACADEMY & FRESENIUS KIDNEY CENTER
STREET ADDRESS:	SMITHFIELD ROAD AND MCKNIGHT DRIVE KNIGHTDALE, NC
CURRENT PROPERTY OWNER:	HENRY H. KNIGHT 6020 WATKINS ROAD WENDELL, NC 27591
PROPERTY IDENTIFICATION # (PIN):	1754-24-1136
PROPERTY #:	0115678
DEED BOOK/PAGE:	006572 / 00379
EXISTING ZONING:	NMX - NEIGHBORHOOD MIXED-USE
ZONING OVERLAY DISTRICT:	NONE
LATITUDE & LONGITUDE	N35.794047, W-78.487291
TOTAL SITE ACRES:	164,867 SF (3.785 AC)
WATERSHED:	NEUSE RIVER
RECEIVING STREAM:	MINGO CREEK
STREAM CLASSIFICATION:	C, NSW
STREAM INDEX:	27-32
INSIDE TOWN LIMITS:	YES
EXISTING USE:	VACANT
PROPOSED BUILDING USE:	10,300SF DAY CARE FACILITY 9,324 SF MEDICAL OFFICE
FLOOD ZONE:	NONE
ZONING REQUIREMENTS	
MIN LOT AREA:	N/A
MIN LOT WIDTH:	80 FT
FRONT SETBACK:	0 FT MIN, 10 FT MAXIMUM
SIDE SETBACK:	10 FT MIN.
REAR SETBACK:	0 FT MIN.
MAX BUILDING HEIGHT:	56 FT (4 STORIES)
PARKING REQUIREMENTS:	
CHILD DAY CARE FACILITY (6 OR MORE):	
MAX. PARKING=0.35 PER PERSON LICENSED CAPACITY	
LICENSED CAPACITY = 200 (175 STUDENTS + 25 STAFF):	0.35 X 200 = 70 SPACES MAX.
MINIMUM PARKING = 1/2 MAXIMUM = 35 SPACES	
MEDICAL OFFICE BUILDING:	
MAX. PARKING=0.5 PER 1,000SF GROSS FLOOR AREA	
9,324 SF X 0.5 = 4662 SPACES MAX.	
MINIMUM PARKING = 1/2 MAXIMUM = 28 SPACES	
TOTAL PROVIDED:	70
EV PARKING:	3 SPACES PROVIDED
ACCESSIBLE SPACES PROVIDED:	
BICYCLE PARKING:	REQ. 1 BICYCLE SPACE PER 10 PARKING SPACES 70 SPACES / 10 = 7 BICYCLE SPACES 8 BICYCLE SPACES PROVIDED
PARKING SPACE DIMENSIONS	9' X 18' MIN
LANDSCAPE BUFFERS	10FT TYPE A BUFFER (ADJACENT TO UR12 ZONING) 30FT TYPE C BUFFER (ADJACENT TO GR8 ZONING) 10FT TYPE A BUFFER (PARKING AT STREET R/W)
WATER PROVIDER:	PUBLIC - CITY OF RALEIGH
SANITARY SEWER PROVIDED:	PUBLIC - CITY OF RALEIGH
PROJECTED WATER/SEWER USAGE:	7,500 GPD MEDICAL OFFICE = 25 GPD PER PERSON PER SHIFT 2,500 GPD (25 GPD X 100 PEOPLE) DAY CARE = 25 GPD PER PERSON 5,000 GPD (25 GPD X 200 PEOPLE)
NUMBER OF WATER/SEWER STUBS:	2
WATER METER SIZE:	2"
SEWER CONNECTION SIZE:	6"
NEW PUBLIC SIDEWALK (LF):	410 LF
NEW PUBLIC CURB & GUTTER (LF):	75 LF
NEW PUBLIC STREETS (LF):	0 LF
STORMWATER MANAGEMENT:	CONSTRUCTED WETLAND

IMPERVIOUS SUMMARY TABLE			
ON-SITE AREA = 164,867 SF (3.785 AC)			
BUILDINGS	19,624 SF	0.45 ACRES	11.90% OF AREA
PAVEMENT	38,303 SF	0.88 ACRES	23.23% OF AREA
SIDEWALK	8,767 SF	0.20 ACRES	5.32% OF AREA
PLAYGROUND TURF	1,954 SF	0.04 ACRES	1.18% OF AREA
IMPERVIOUS AREA	68,648 SF	1.58 ACRES	41.64% OF AREA
FUTURE IMPERVIOUS AREA			
BUILDINGS	5,476 SF	0.12 ACRES	3.32% OF AREA
PAVEMENT	12,886 SF	0.30 ACRES	7.82% OF AREA
SIDEWALK	953 SF	0.02 ACRES	0.58% OF AREA
IMPERVIOUS AREA	19,315 SF	0.44 ACRES	11.72% OF AREA
TOTAL IMPERVIOUS AREA			
	87,963 SF	2.02 ACRES	53.35% OF AREA
GREEN/OPEN SPACE	76,904 SF	1.76 ACRES	46.65% OF AREA
EXISTING IMPERVIOUS AREA	0 SF	0 ACRES	0.0% OF AREA
INCREASE IN IMPERVIOUS AREA	87,963 SF	2.02 ACRES	

DEVELOPER
 Primax Properties, LLC
 Attn. Neal Bates
 1100 E. Morehead Street
 Charlotte, NC 28204
 704-954-7231
 nbates@primaxservices.com

CIVIL ENGINEER
 Bowman North Carolina, Ltd.
 4006 Barrett Drive, Suite 104
 Raleigh, NC 27609
 (919) 553-6570
 mlowder@bowman.com
 FIRM# F-1445

Choice One Development, LLC
 Attn. Michael Milone
 919 Conestoga Road
 Building Three, Suite 211
 Bryn Mawr, PA 19010
 610-613-0272
 mmilone@choiceoneproperty.com

CURRENT PROPERTY OWNER

Henry H. Knight
 6020 Watkins Road
 Wendell, NC 27591

TRIP GENERATION NOTE							
USE	DAILY TRIPS	AM TRIPS	AM IN	AM OUT	PM TRIPS	PM IN	PM OUT
10,300 SF DAY CARE	698	102	66	59	96	60	67
9,324 SF MEDICAL OFFICE	337	22	18	5	33	9	24
TOTAL	1,035	124	84	64	129	69	91

WATER ALLOCATION COMPLIANCE	
POINTS REQUIRED	50
POINTS PROPOSED	
BASE POINTS	41
STORMWATER - CONSTRUCTED WETLAND	5
OUTDOOR ENHANCEMENT - PUBLIC ART	4
TOTAL PROPOSED POINTS	50

PUBLIC Water Distribution/Extension System
 The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # _____
 Authorization to Construct _____ See digital signature

ATTENTION CONTRACTORS
 The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919)996-4540 at least twenty four hours prior to beginning any of their construction.
 Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.
 Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

Sheet List Table	
Sheet Number	Sheet Title
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C1.1	GENERAL NOTES, ABBREVIATIONS AND LEGEND
C2.0	DEMOLITION PLAN
C2.1	EROSION CONTROL PLAN - INITIAL
C2.2	EROSION CONTROL PLAN - FINAL
C2.3	NC CONSTRUCTION GENERAL PERMIT (NCGGP)
C3.0	SITE PLAN
C4.0	GRADING PLAN
C5.0	UTILITY PLAN
C6.0	EROSION CONTROL DETAILS
C6.1	EROSION CONTROL DETAILS
C6.2	CONSTRUCTION DETAILS
C6.3	CONSTRUCTION DETAILS
C6.4	UTILITY DETAILS
C6.5	STORM DRAINAGE DETAILS
C6.6	STORMWATER MANAGEMENT DETAILS
C7.0	LANDSCAPE PLAN
L1.1	FLOOR PLAN
L2.0	OVERALL ELEVATIONS
L2.1	FACADE OVERLAY ELEVATIONS
L2.2	OVERALL COLORED ELEVATIONS
L3	3D VIEWS
A3.0	EXTERIOR ELEVATIONS
G.501	ARCHITECTURAL SITE PLAN
1 OF 2	SITE LIGHTING PLAN
2 OF 2	SITE LIGHTING PLAN

PLAT NOTE
 A plat of all necessary right-of-way dedication and CORWLEs must be submitted to CORPUD for review, comments, and approval prior to the issuance of building permits from the Town of Knightdale.
 Recombination plat will also be required for the project - all plats to be submitted to the Town of Knightdale to be reviewed and distributed to City of Raleigh and any other applicable departments.

Town Approved Standards Shall Control:
 In the event of conflict or inconsistency between these construction drawing and the Town of Knightdale's Approved Standards for this project, the Approved Standards shall control. Town of Knightdale Approved Standards shall mean all development documents necessary for approval for the property including, but not limited to, any special use permit, subdivision plan, site plan, subdivision plat(s), phasing schedule, schedule, Development Agreement, Utility Allocation Agreement, Annexation Agreement, the Town of Knightdale Standard Specification and Details Manual and applicable provisions of the North Carolina State Building Code.

Professional Design Engineer Certification:
 These improvements shall be constructed in accordance with the following drawings and with the Standard Specifications of the Town of Knightdale.
 I, Matthew Lowder, PE, certify that the Standard Specifications of the Town of Knightdale have been thoroughly checked and found to be applicable to this project. All exceptions to the applicable Town standards have been previously approved by the Town of Knightdale and said exceptions are shown on Sheet(s) _____ of these drawings.
 By: Matthew Lowder, PE
 Date: _____

Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: _____ Date: _____
 Development Services Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: _____ Date: _____
 Administrator

Bowman

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 4006 BARRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919)553-6570
 bowman.com

COVER SHEET
 Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County

Primax Properties, LLC
 Choice One Development, LLC
 PRELIMINARY
 DO NOT
 USE FOR
 CONSTRUCTION

PLAN STATUS		
3/14/23	SKETCH SUBMITTAL	
5/22/23	MASTER PLAN SUBMITTAL	
DATE	DESCRIPTION	
MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H:	
	V:	
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C1.0	

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN
SCALE	H: XXX V: CHKD
JOB No.	220133-01-001
DATE	March 14, 2023
FILE No.	220133-01-001

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN
SCALE	H: XXX V: CHKD
JOB No.	220133-01-001
DATE	March 14, 2023
FILE No.	220133-01-001

GENERAL NOTES (CONT.)

- THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND MAKE ALL INSPECTIONS NECESSARY IN ORDER TO DETERMINE THE FULL EXTENT OF THE WORK REQUIRED TO MAKE THE PROPOSED WORK CONFORM TO THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK, CONDITIONS, AND CONFIRMATION AND CONDITION OF EXISTING GROUND SURFACE AND THE CHARACTER OF THE EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING EXECUTION OF THE WORK. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUANTITY AND QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES TO BE ENCOUNTERED. ANY INACCURACIES OR DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS MUST BE BOUGHT TO THE OWNER'S ATTENTION IN ORDER TO CLARIFY THE EXACT NATURE OF THE WORK TO BE PERFORMED PRIOR TO THE COMMENCEMENT OF ANY WORK.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING ROADS AND UTILITIES WHICH OCCURS AS A RESULT OF THE PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT-OF-WAY.
- ALL STREET CUT AND PATCH WORK IN PUBLIC RIGHT-OF-WAY REQUIRED FOR UTILITIES INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CITY, COUNTY, AND/OR APPROPRIATE GOVERNING AGENCY STANDARDS AND SPECIFICATIONS. REFER TO THE TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS MANUAL.
- THE APPROVAL OF THIS PLAN SHALL IN NO WAY GRANT PERMISSION FOR THE CONTRACTOR TO TRESPASS ON OFF-SITE PROPERTIES.
- THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF COMPLYING WITH OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- THESE PLANS MAKE NO REPRESENTATION AS TO THE SUBSURFACE CONDITIONS AND THE PRESENCE OF SUBSURFACE WATER OR THE NEED FOR SUBSURFACE DRAINAGE FACILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL NECESSARY INSPECTIONS.
- EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
- ALL FINISHED GRADING, SEEDING, SODDING OR PAVING SHALL BE DONE IN SUCH A MANNER TO PRECLUDE THE PONDING OF WATER.
- THE ENGINEER SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S SCHEDULES OR FAILURE TO CARRY OUT THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF TEST HOLES PRIOR TO BEGINNING OF ANY CONSTRUCTION ON THE PROJECT. IF CONFLICTS ARE DISCOVERED AS A RESULT OF TEST HOLE FINDINGS, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
- EXCAVATION SUPPORT SYSTEMS SHALL CONFORM TO THE PROVISIONS OF OSHA CONSTRUCTION STANDARD 29 CFR PART 1926 SUBPART P, OR CURRENT EDITION.
- AT LOCATIONS WHERE THE FINAL SURFACE COURSE OF ASPHALT PAVEMENT IS TO BE FEATHERED INTO THE EXISTING SURFACE COURSE, THE EXISTING SURFACE COURSE IS TO BE SCABBLED TO A MINIMUM DEPTH OF 1" AND A TACK COAT APPLIED PRIOR TO FINAL PAVING TO INSURE A SMOOTH, WELL BONDED JOINT.
- ANY NEW PAVEMENT OPENED TO TRAFFIC SHALL RECEIVE A TACK COAT PRIOR TO PLACEMENT OF ANY OVERLYING ASPHALT COURSE.
- ALL SIDEWALKS TO BE 4" THICK CONCRETE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ALL DEMOLITION SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE APPROPRIATE GOVERNING AGENCY.
- ALL APPLICABLE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO COMMENCING DEMOLITION.
- ITEMS SHOWN TO BE RELOCATED SHALL BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR UNTIL SUCH TIME AS THEY CAN BE PLACED IN THEIR NEW LOCATION. CONTRACTOR SHALL VERIFY THESE ITEMS WITH THE OWNER, PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE REMOVAL OR RELOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD ELECTRICAL, TELEPHONE AND CABLE TV LINES AND REMOVAL OF UTILITY POLES, PEDESTALS AND TRANSFORMERS WITH UTILITY COMPANIES AND WITH DEVELOPER PRIOR TO DEMOLITION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS AND/OR RECONSTRUCTION OF ALL UTILITY COVER (MANHOLE FRAMES AND COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS EFFECTED BY THE CONSTRUCTION.
- THE CONTRACTOR MUST HAVE THE APPROVED CONSTRUCTION DRAWINGS IN POSSESSION PRIOR TO THE START OF CONSTRUCTION. AT LEAST ONE (1) COPY OF THE APPROVED PLANS, WITH REVISIONS, MUST BE KEPT ON-SITE AT ALL TIMES.
- ALL HANDICAP RAMPS SHALL BE BUILT IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE APPROPRIATE GOVERNING AGENCY STANDARDS, NCCOT STANDARDS, AND CURRENT ADA REQUIREMENTS.
- THE STORM DRAIN, STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES MUST BE MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THEY ARE NOT ONLY 100% COMPLETE, BUT ALSO THAT 100% OF THE DRAINAGE AREA TO EACH FACILITY IS PERMANENTLY STABILIZED. SEED AND MULCH DOES NOT CONSTITUTE STABILIZATION IN TERMS OF THE CONTRACTOR MAINTENANCE OF THE STORM DRAIN, STORMWATER MANAGEMENT, AND WATER QUALITY FACILITIES. ALL STORM DRAIN, STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES SHALL BE TURNED OVER TO THE OWNER COMPLETELY CLEAN AND FREE FROM ANY CONSTRUCTION RELATED SEDIMENT OR DEBRIS.
- THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT ALL ADA ACCESSIBLE SIDEWALKS MAINTAIN SLOPES NOT TO EXCEED 5% LONGITUDINALLY AND 2% CROSS SLOPES. SLOPES AT ACCESSIBLE PARKING SPACES AND ACCESS AISLE SHALL BE A MAXIMUM OF 2%, AND THE MANEUVERING CLEARANCE AT EXTERIOR ENTRANCES SHALL HAVE A MAXIMUM SLOPE OF 2%.
- DURING CONSTRUCTION, NO TEMPORARY CONNECTIONS TO FIRE HYDRANTS MAY BE MADE WITHOUT THE EXPRESS AUTHORIZATION OF THE UTILITY OWNER.

GENERAL NOTES

- UTILITY CONFLICTS: ALL EXISTING UTILITIES SHOWN WERE COMPILED USING THE BEST AVAILABLE INFORMATION AND FIELD OBSERVATION. BOWMAN NORTH CAROLINA LTD DOES NOT GUARANTEE THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON. CONTRACTOR TO BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION OF AND PROTECTING ALL EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN OR SHOWN INCORRECTLY ON THE PLANS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED IN A TIMELY FASHION TO THE SATISFACTION OF THE APPROPRIATE GOVERNING AGENCY AND THE OWNER OF THE IMPACTED UTILITY AT THE CONTRACTOR'S EXPENSE.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS FOR THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES THE APPROPRIATE GOVERNING AGENCY'S PUBLIC WORKS MANUAL, ALL APPROVED EASEMENT AGREEMENTS, AND ONE (1) SIGNED COPY OF THE PLANS AS APPROVED BY THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY FOR ANY VARIANCE TO THE ABOVE DOCUMENTS.
- CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND MUST COMPLY WITH OSHA REGULATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/DEVELOPER AND ENGINEER OF ANY PROBLEM CONFORMING TO THE APPROVED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
- THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS/HER CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ALL MATERIALS WITHIN DEDICATED RIGHT-OF-WAY AND ALL MATERIALS AND WORKMANSHIP SHALL MEET THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS OF THE APPROPRIATE GOVERNING AGENCY.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL JURISDICTION AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION. THE APPROPRIATE FIRE DEPARTMENT SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSURES AND IN THE EVENT THAT ANY FIRE HYDRANTS ARE TO BE TEMPORARILY REMOVED FROM SERVICE, THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING AT LEAST 48 HOURS ADVANCED NOTICE OF ANY NEED TO SHUT DOWN ANY PORTION OF THE EXISTING WATER SYSTEM AND FOR OBSERVATIONS AND/OR INSPECTIONS REQUIRED.
- THE CONTRACTOR SHALL PROVIDE ALL SIGNS, BARRICADES, FLAGMEN, LIGHTS OR OTHER DEVICES NECESSARY FOR SAFE TRAFFIC CONTROL IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS MODIFIED BY THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE APPROPRIATE GOVERNING AGENCY PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT FOR WORK WITHIN THE RIGHT-OF-WAY.
- THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF NORTH CAROLINA AT 1-800-632-4949 AT LEAST 2 BUSINESS DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH ANY AFFECTED UTILITY COMPANY.
- THE CONTRACTOR SHALL OBTAIN COPIES OF THE "SOILS AND INVESTIGATION" REPORT FROM GEOTECHNICAL ENGINEER ALONG WITH THE "PAVEMENT THICKNESS DESIGN REPORT". THE CONTRACTOR MUST HAVE COPIES OF SAME ON THE SITE AT ALL TIMES.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AS-CONSTRUCTED HORIZONTAL AND VERTICAL CONSTRUCTION INFORMATION, INCLUDING THE LOCATIONS OF ALL SANITARY LINES AND SERVICES, WATER LINES AND SERVICES, AND OTHER UTILITY LINES AND SERVICES TO THE ENGINEER FOR PREPARATION OF AS-BUILT DOCUMENTS.
- LIMITS OF CONSTRUCTION EASEMENTS AND RIGHTS-OF-WAY SHALL BE DELINEATED WITH TEMPORARY STAKING BY THE CONTRACTOR. SAFETY FENCING SHALL BE PER APPROPRIATE GOVERNING AGENCY.
- WHERE EXCAVATION IS REQUIRED UNDER EXISTING ASPHALT OR CONCRETE PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO EFFECT A SMOOTH, STRAIGHT-CUT EDGE. ASPHALT PATCH SHALL BE PER APPROPRIATE GOVERNING AGENCY STANDARDS.
- REFER TO FINAL RECORDED PLAT FOR ACTUAL LOT, TRACT, PARCEL, AND EASEMENT LOCATIONS AND DESIGNATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ALL MATERIALS WITHIN DEDICATED RIGHT-OF-WAYS AND ALL MATERIALS AND WORKMANSHIP SHALL MEET THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS OF THE APPROPRIATE GOVERNING AGENCY.
- THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY TO THE PROJECT WORK SITE (SEE THE EROSION CONTROL PLAN). THE CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY (IF APPLICABLE) TO COMPLETE THE CONSTRUCTION AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- WATER WILL BE PROVIDED BY THE CONTRACTOR TO KEEP WIND EROSION IN CHECK. USE OF WATER AS A DUST PREVENTATIVE SHALL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF THE WORK.
- ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE PROPERTY LIMITS DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR.
- ANY CONSTRUCTION DEBRIS OR MUD TRACKING IN THE PUBLIC RIGHT-OF-WAY RESULTING FROM THIS DEVELOPMENT SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY FIX ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY THE DEVELOPMENT AND SHALL PROPERLY BARRICADE THE SITE UNTIL CLEAN UP OR REPAIR IS COMPLETE.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO GRADE STREET CORES, RIGHT-OF-WAY TEMPLATES, AND LOTS ACCORDING TO GRADING INSTRUCTIONS SHOWN ON PLANS.
- STREET CONTOURS SHOWN AT PROPOSED STREET LOCATIONS REPRESENT FINISHED GRADE ELEVATION TO TOP OF ASPHALT.
- COMPACTION FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE APPROPRIATE GOVERNING AGENCY REGULATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
- TOLERANCE ROUGH GRADING: TOLERANCE SHALL BE +/- 0.1 FEET.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE ALL APPROPRIATE PERMITS FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY HAVE BEEN OBTAINED PRIOR TO GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL TEMPORARY WATER DIVERSION/CONTROL DEVICES AND EROSION CONTROL DEVICES NECESSARY TO PROTECT ADJACENT PROPERTIES, WATERWAYS AND PUBLIC RIGHT-OF-WAY. CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF SAID DEVICES THROUGHOUT CONSTRUCTION AND UNTIL THE PERMANENT PROTECTION NECESSARY HAS BEEN COMPLETED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE MOST CURRENT APPROVED ARCHITECTURAL/MECHANICAL/ELECTRICAL/PLUMBING/STRUCTURAL PLANS AND COORDINATE SAME WITH THE SITE PLAN, PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.
- WHEN DURING THE COURSE OF CONSTRUCTION, ANY OBJECT OF AN UNUSUAL NATURE IS ENCOUNTERED, THE CONTRACTOR SHALL CEASE WORK IN THAT AREA AND IMMEDIATELY NOTIFY THE OWNER, APPROPRIATE GOVERNING AGENCY, AND/OR THE ARCHITECT/ENGINEER.
- THE EXISTING UNDERGROUND UTILITIES SHOW HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN IN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
- ALL STEPS WITH THREE OR MORE RISERS SHALL HAVE HAND RAILS, PER LOCAL CODE.
- A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF EXISTING ROAD TO PROPOSED CURB AND GUTTER AND/OR PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY. REMOVE AND RECONSTRUCT EXISTING PAVEMENT AND/OR CURB AS DICTATED BY FIELD CONDITIONS TO PROVIDE POSITIVE DRAINAGE AT TIE-IN POINTS.
- OVERLAY OF EXISTING PAVEMENT SHALL BE MINIMUM OF 1 1/2 INCH DEPTH; ANY COST ASSOCIATED WITH PAVEMENT OVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO OBTAIN REQUIRED DEPTH, SHALL BE ASSUMED BY THE CONTRACTOR.
- ALL RIGHT-OF-WAY DEDICATED FOR PUBLIC USE SHALL BE CLEAR AND UNENCUMBERED.
- AN AIR QUALITY PERMIT SHALL BE OBTAINED IF REQUIRED.
- ANY LIGHTING SHOWN HEREON IS AS SPECIFIED BY THE CLIENT AND IS INCLUDED FOR INFORMATION PURPOSES ONLY, AS DIRECTED BY THE OWNER AND/OR PUBLIC AGENCY REQUIREMENTS. BOWMAN CONSULTING GROUP, LTD. HAS NOT PERFORMED THE LIGHTING DESIGN, AND THEREFORE DOES NOT WARRANT AND IS NOT RESPONSIBLE FOR THE DEGREE AND/OR ADEQUACY OF ILLUMINATION ON THIS PROJECT.
- THE CONTRACTOR WILL BE REQUIRED TO NOTIFY ALL RESIDENCES WITHIN VICINITY OF THE PROPERTY BOUNDARY TEN (10) DAYS PRIOR TO ANY BLASTING IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AGENCY REQUIREMENTS.
- NO BLASTING SHALL BE PERMITTED WITHIN 25' OF EXISTING UTILITY LINES OR STRUCTURES. BLASTING TO BE EXTENDED 25' BEYOND PROPOSED STRUCTURES IF CONDITIONS WARRANT FUTURE EXTENSIONS.
- ALL RETAINING WALLS 4' IN HEIGHT AND OVER (MEASURED FROM BOTTOM OF FOOTER TO TOP OF WALL) REQUIRE A SEPARATE BUILDING PERMIT.
- THE APPROVAL OF THIS PLAN DOES NOT CONSTITUTE THE APPROVAL OF FUTURE WORK.
- ALL HANDICAPPED SPACES SHALL HAVE AN ABOVE GRADE IDENTIFICATION SIGN MEETING APPROPRIATE GOVERNING AGENCY STANDARDS.
- WHERE A PROPOSED PIPE CROSSES OR PARALLELS A STREET OR DRIVE AISLE, THE ASPHALT SHALL BE NEATLY SAWCUT TO FULL DEPTH. AFTER INSTALLATION OF THE PIPE, THE ROADWAY SHALL BE PATCHED IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AGENCY STANDARDS.
- REFER TO THE TOWN OF KNIGHTDALE STREET STANDARDS AND SPECIFICATIONS MANUAL FOR APPLICABLE CONSTRUCTION REQUIREMENTS WITHIN THE TOWN OF KNIGHTDALE.

ABBREVIATIONS

A	AREA OF UTILITY	K	SIGHT DISTANCE COEFFICIENT OR RATE OF VERTICAL CURVATURE
AASHTO	AMERICAN ASSOCIATION OF STATE HWY & TRANS. OFFICIALS	Ke	CULVERT ENTRANCE LOSS COEFFICIENT
AB	AS-BUILT	L	LENGTH
AC	ACRE	LAT	LATERAL
AD	ALGEBRAIC DIFFERENCE IN GRADE	LCG	LINEAR CLEARING & GRADING
ADJ	ACCESS EASEMENT	LF	LINEAR FEET
ADJ	ADJACENT	LP	LIP OF PAN
AGGR	AGGREGATE	LL	LOWER LEVEL
ARD	AHEAD	LOS	LINE OF SIGHT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LS	LOADING SPACE
APT	ANGLE POINT	LT	LEFT
APPROX	APPROXIMATE	M	MONUMENT FOUND
ARCH	ARCHITECTURAL	MAX	MAXIMUM
ASPH	ASPHALT	ME	MATCH EXISTING
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MECH	MECHANICAL
AWWA	AMERICAN WATER WORKS ASSOCIATION	MH	MANHOLE
B	BREADTH	MI	MILE
BOC	BACK OF CURB	MIN	MINIMUM
BF	BASEMENT FLOOR	MISC	MISCELLANEOUS
BLDG	BUILDING	MPH	MILES PER HOUR
BW	BENCHMARK	MS	MEAN STRIP
BMP	BEST MANAGEMENT PRACTICES (WATER QUALITY)	MSL	MEAN SEA LEVEL
BOV	BLOW OFF VALVE	N	NORTHINGS/NORTH
BRG	BEARING	N/A	NOT APPLICABLE
BRL	BUILDING RESTRICTION LINE	NBL	NORTH BOUND LANE
BVCE	BEGINNING VERTICAL CURVE ELEVATION	N/F	NOW OR FORMERLY
BVCS	BEGINNING VERTICAL CURVE STATION	NEA	NET FLOOR AREA
BW	BOTTOM OF WALL	N#	NUMBER
c.e	CENTER CORRECTION ON VERTICAL CURVE	NTS	NOT TO SCALE
C	Coefficient	OC	ON CENTER
CATV	CABLE TELEVISION	OBJ	OBJECT
C&G	CURB AND GUTTER	OD	OUTSIDE DIAMETER
CB	CATCH BASIN	OH	OVERHANG
CBR	CALIFORNIA BEARING RATIO	O/H	OVERHEAD
CC	CENTER TO CENTER	O/C	OVERHEAD CABLE
CFC	CUBIC FEET	O/E	OVERHEAD ELECTRIC
CFS	CUBIC FEET PER SECOND	OHT	OVERHEAD TELEPHONE
CQ(R)	CURB AND GUTTER (REVERSE SLOPE)	P	PERIMETER
CHRG	CHORD	P	PROPERTY LINE
CHRBG	CHORD BEARING	P&P	PLAN AND PROFILE
CP	CAST IRON PIPE	PC	POINT OF CURVATURE
C	CENTERLINE	PCC	POINT OF COMPOUND CURVATURE
CLR	CLEAR	PCR	POINT OF CURB RETURN
CM	CUBIC METERS	PCEP	POINT OF CURVE EDGE OF PAVEMENT
QMP	CORRUGATED METAL PIPE	PCTC	POINT OF CURVATURE TOP OF CURB
QMS	CUBIC METERS PER SECOND	PI	POINT OF INTERSECTION
QNT	RUNOFF CURVE NUMBER	PJ	PAGE
CONC	CONCRETE	PQL	POINT OF GRADE LINE
OPP	CORRUGATED PLASTIC PIPE	PRC	POINT OF REVERSE CURVATURE
CS	CURB STOP	PRELIM	PRELIMINARY
CT	CURT	PROP	PROPOSED
CTR	CENTER	PT	POINT OF TANGENCY
CTRL	CONTROL LINE	PUE	PUBLIC UTILITY EASEMENT
CTY	CUBIC YARD	PVC	POLYMER CHLORIDE PIPE OR POINT OF VERTICAL CURVATURE
D	DEPTH	PVI	POINT OF VERTICAL INTERSECTION
DA	DRAINAGE AREA	PVT	POINT OF VERTICAL TANGENCY
DB	DEED BOOK	PWMT	PAVEMENT
DD	DIVERSION DIKE	PRC	POINT OF VERTICAL REVERSE CURVE
DET	DETAIL	Q (cfs)	AMOUNT OF RUNOFF (FLOW RATE)
DIA	DIAMETER	R	RADIUS
DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
DRP	DROP INLET	RDCR	REDUCER
DIST	DISTANCE	RD	ROAD OR ROOF DRAIN
DL	DOMESTIC LINE	REIN	REINFORCED
DM	DROP MANHOLE	REDD	REQUIRED
DM	DOMESTIC	RET	RETAINING
DR	DRIVE DRAIN	REV	REVISION
DRN	DRAINAGE	RFP	ROADWAY GRADING PLAN
DRNG	DRAINAGE AREA	RMA	RESOURCE MANAGEMENT AREA
DC	DOWN SPOUT	ROM	REMOTE OUTSIDE MONITOR
DU	DWELLING UNITS	RPA	RESOURCE PROTECTION AREA
DWG	DRAWING	RR	RAILROAD
D/W	DRIVEWAY	RT	ROUTE
DELTA	DELTA	RTE	ROUTE
E	EASTING/EAST	R/W & ROW	RIGHT OF WAY
EA	EACH	S	SPEED OR SLOPE
EBL	EAST BOUND LANE	SAN	SANITARY SEWER
EC	EROSION CONTROL	SANMH	SANITARY SEWER MANHOLE
ECB	EROSION CONTROL BLANKET	SBL	SOUTH BOUND LANE
EG	EDGE OF GUTTER	SCH	SCHEDULE
EGL	ENERGY GRADIENT LINE	SD	SIGHT DISTANCE
EL	ELEVATION	SEC	SECTION
ELEC	ELECTRIC	SEW	SEWER
ELEV	ELEVATION	SFF	SQUARE FEET
ENGR	ENGINEER	SH	SHOULDER
ENT	ENTRANCE	SP	SPACE OR SITE PLAN
EOA	EDGE OF ASPHALT	SPEC	SPECIFICATIONS
EOP	EDGE OF CONCRETE	STA	STATION
EOP	EDGE OF PAVEMENT	STD	STANDARD
EQUIP	EQUIPMENT	STK	STACK
ESMT	EASEMENT	STM	STORM SEWER
ETD	EXISTING TO BE DEMOLISHED	STMH	STORM SEWER MANHOLE
ENTR	EXISTING TO BE RELOCATED	STR	STRUCTURE
ETRP	EXISTING TO BE REPLACED	SVC	SERVICE
EVCE	ENDING VERTICAL CURVE ELEVATION	S/W	SIDEWALK
EVCS	ENDING VERTICAL CURVE STATION	SWM	STORM WATER MANAGEMENT
EW	END WALL	SY	SQUARE YARD
EX	EXISTING	T	TANGENT
EQC	ENVIRONMENTAL QUALITY CORRIDOR	TB	TOP OF BANK OR TEST BORING
F	FIRE LINE	TBR	TO BE REMOVED
FAR	FLOOR AREA RATIO	TOC	TOP OF CURB
FOC	FACE OF CURB	TC	THICK OF CONCRETE
FD	FLOOR DRAIN	TE	TELEPHONE
FES	FLARED END SECTION	TEMP	TEMPORARY
FF	FIRST FLOOR OR FINISH FLOOR	TH	TEST HOLE
FG	FINISH GRADE	TF	TOP OF FOUNDATION
FH	FIRE HYDRANT	TFP	TOP OF PIPE
FL	FLOW LINE	TP	TEST PIT OR TREE PROTECTION
FND	FOUNDATION	TW	TOP OF WALL OR TALWATER
FOY	FOYER	TYP	TYPICAL
FP	FLOOD PLAN	UE	UTILITY EASEMENT
FPS	FEET PER SECOND	UG	UNDERGROUND
FS	FIRE SERVICE OR FACTOR OF SAFETY	UGE	UNDERGROUND ELECTRIC
FT	FOOT OR FEET	UGT	UNDERGROUND TELEPHONE
G	GAS	UCC	UNDERGROUND CABLE
GAR	GARAGE	UD	UNDERDRAIN
GB	GRADE BREAK	UL	UPPER LEVEL
GFA	GROSS FLOOR AREA	UP	UTILITY POLE
GR	GUARD RAIL OR GRATE INLET	USGS	US GEOLOGICAL SURVEY
GV	GATE VALVE	UTIL	UTILITY
H	HEAD	V OR VCL	VOLUME
HC	HANDICAP	V OR VEL	VELOCITY
HB	HORIZONTAL BEND	VAN	HANDICAPPED VAN PARKING SPACE
HBP	HOT BITUMINOUS PAVEMENT	VB	VERTICAL BEND
HGL	HYDRAULIC GRADE LINE	VC	VERTICAL CURVE
HORZ	HORIZONTAL	VF	VERTICAL FOOT
HP	HIGH POINT	W	WEIGHT OR WIDTH
HR	HAND RAIL	WBL	WEST BOUND LANE
HT	HEIGHT	WL	WATER LINE
HW	HEADWATER	WM	WATER METER
I	RAINFALL INTENSITY	W/M OR WM	WATER MAIN
ID	INSIDE DIAMETER OR IDENTIFICATION	W/TB	WITH THRUST BLOCK
IE	INVERT ELEVATION	WSEL	WATER SURFACE ELEVATION
IN	INCH	WV	WATER VALVE
INV	INVERT	XING	CROSSING
IP	IRON PIPE	XF	TRANSFORMER
IPF	IRON PIPE FOUND	YI	YARD INLET
IRS	IRON PIPE SET	YR	YEAR
IRR	IRRIGATION		
JB	JUNCTION BOX		
JNT	JOINT		

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	ADJACENT PROPERTY LINE	
	LOT LINE	
	RIGHT OF WAY	
	CENTERLINE	
	FLOOD PLAIN	
	LIMITS OF CONSTRUCTION	
	LIMITS OF DISTURBANCE	
	SWALE / STREAM FLOWLINE	
	OVERFLOW RELIEF PATH	
	FENCE LINE	
	EASEMENT	
	EDGE OF PAVEMENT	
	VERTICAL CURB AND GUTTER	
	MOUNTABLE CURB AND GUTTER	
	CONCRETE SIDEWALK	
	ASPHALT SIDEWALK	
	HANDICAP PARKING	

LINE TABLE		
LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	28.81'
L6	N 69°06'40" W	36.14'

CURVE TABLE					
CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"
C4	25.00'	39.61'	S 60°42'01" E	35.59'	99°46'13"

REMOVE EXISTING DRIVEWAY

REMOVE EXISTING CURB & GUTTER

LIMITS OF DISTURBANCE

SS MANHOLE
RM=293.70
INV.=283.55
INV.OUT=283.25

GAP AREA BETWEEN RECORDED DESCRIPTIONS (0.008 AC.±)
N/F RALEIGH PARK PLACE APARTMENTS, L.P. DB, 19862, PG. 29 PIN #1754138718 APARTMENTS UR12 (URBAN RESIDENTIAL)

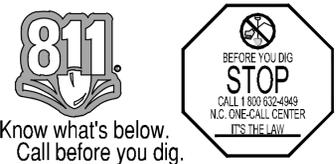
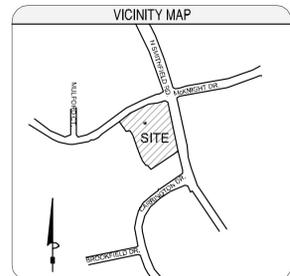
LIMITS OF DISTURBANCE

EROSION CONTROL NOTES:
AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY THE TOWN OF KNIGHTDALE AND WAKE COUNTY PRIOR TO START OF CONSTRUCTION.

SURVEY NOTE:
ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY: BOWMAN NORTH CAROLINA, LTD.

STREAM / WETLAND NOTE:
THERE ARE NO EXISTING STREAM/AND/OR WETLAND FEATURES ON THE EXISTING PARCEL.

FLOOD ZONE NOTE:
THE PROPERTY IS LOCATED IN FLOOD ZONE X AS SHOWN ON FEMA FLOOD PANEL 3720175400K, DATED JULY 19, 2022. MAPS SUBJECT TO CHANGE BY FEMA



Know what's below.
Call before you dig.

- 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.
 - WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER AND IMMEDIATELY COVER ALL ROOT CUT SURFACES LARGER THAN TWO INCHES IN DIAMETER WITH TREE WOUND DRESSING. USE PLYWOOD FORMS WHEN TREE ROOTS ARE ADJACENT TO PROPOSED CURB & GUTTER OR SIDEWALK.
 - 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.
 - TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE.

- DEMOLITION NOTES:**
- THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO DEMOLITION.
 - THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS AND AS DIRECTED BY THE OWNER.
 - IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES.
 - THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
 - THE DEMOLITION PLAN IS INTENDED TO DEPICT 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.
 - CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING BUILDINGS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO BOLLARDS, GAS METERS, AIR CONDITIONING UNITS, SIGNS, CURBS, SIDEWALKS, ELECTRIC METERS, FENCING, ETC.
 - REMOVE AND DISPOSE OF ANY SIDEWALK, FENCES, STAIRS, WALLS, FOUNDATIONS, CONDUITS, LIGHT POLE BASES, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED LANDFILL.
 - REMOVE AND/OR PLUG EXISTING UTILITIES SUCH AS SANITARY SEWER, WATER, GAS, ELECTRIC, AND TELEPHONE AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.
 - THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND PLUG ALL SERVICE PIPING AT THE STREET LINE OR MAIN, AS REQUIRED, OR AS OTHERWISE NOTED. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED.
 - THE CONTRACTOR SHALL ARRANGE FOR RESETTING OF CURB BOXES, VALVE BOXES AND REMOVAL AND/OR RELOCATION OF OVERHEAD UTILITIES AND POLES WITH THE APPROPRIATE UTILITY COMPANY.
 - INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
 - THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACE. FINISH SURFACE TO BE REMOVED OR DEMOLISHED SHALL BE CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED.
 - SAWCUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAWCUT EXISTING PAVEMENT.
 - ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
 - DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITIES. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
 - SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
 - ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR.
 - THE PROPERTY SELLER SHALL PUMP OUT BUILDING FUEL, GREASE TRAPS, AND WASTE OIL TANKS (IF ANY ARE ENCOUNTERED) AND REMOVE FUEL TO AN APPROVED DISPOSAL AREA BY AN APPROPRIATELY LICENSED WASTE HANDLING CONTRACTOR IN STRICT ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS BEFORE CONSTRUCTION BEGINS.
 - THE CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF ALL DEMOLITION DEBRIS OFF OF THE SITE.

TREE REPLACEMENT CALCULATION

PER SECTION 7.4.H.1 OF THE TOWN OF KNIGHTDALE UDO:

TOTAL NUMBER OF EXISTING TREES ≥ 24" DBH =	229
# OF EXISTING TREES ≥ 24" DBH TO BE REMOVED =	54
# OF EXISTING TREES ≥ 24" DBH TO BE REMOVED =	175
REPLACED AT 1 TREE PER 12" DBH =	175

EXISTING TREE NOTE

ALL EXISTING TREES THAT ARE NOTED TO REMAIN SHALL BE MONITORED AFTER CONSTRUCTION BEGINS TO ENSURE THAT THE TREE'S HEALTH HAS NOT BEEN COMPROMISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY TREES THAT FAIL TO MAINTAIN GOOD HEALTH AFTER CONSTRUCTION BEGINS.

EXISTING WELL OR SEPTIC NOTE

ANY EXISTING WELLS OR SEPTIC SYSTEMS ENCOUNTERED ON THE PROJECT PARCEL ARE TO BE REMOVED PER WAKE COUNTY STANDARD PROCEDURES. THERE ARE NO KNOWN WELLS OR SEPTIC SYSTEMS LOCATED ON THE PROJECT PARCEL.

DEMOLITION NOTE

SIDEWALKS TO REMAIN SHALL BE REPAIRED IF DAMAGED DURING CONSTRUCTION



ENVIRONMENTAL SURVEY

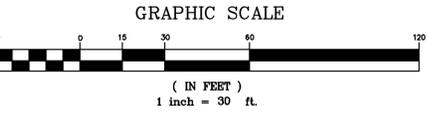
THE LOCATIONS OF EXISTING TREES IS BASED ON A FIELD SURVEY OF THE PROPERTY AS SHOWN ON THE DEMOLITION PLAN. THERE ARE 79 OAK TREES, 107 PINE TREES, 3 POPLAR TREES, 35 MAPLE TREES AND 5 BEECH TREES IDENTIFIED ON THE SITE THAT ARE 24" DBH AND LARGER (229 TOTAL TREES). 30 OF THE OAK TREES, THE 1 PINE TREE, AND 19 MAPLE TREES ARE NOTED TO BE REMOVED AND THE REMAINING 54 TREES ARE SHOWN TO REMAIN. EXISTING TREES BEING REMOVED MUST BE REPLACED IN ACCORDANCE WITH TABLE IN UDO SECTION 8.5A - SEE CHART THIS SHEET. THE EXISTING WOODED AREAS HAVE A MIXTURE OF DECIDUOUS AND EVERGREEN TREES. THE LIMITS OF GRADING WILL BE LIMITED TO THE EXTENT PRACTICAL TO PRESERVE THE EXISTING WOODED AREAS ON THE SITE. NO ENDANGERED SPECIES ARE LOCATED ON THE SITE. NO HISTORIC STRUCTURES ARE LOCATED ON THE SITE. THERE ARE NO STREAM AND/OR WETLAND FEATURES ON THE PROPERTY AND THE PROPERTY IS OUTSIDE ANY FEMA FLOOD ZONES.

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

CAUTIONARY NOTE

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.



Town Certification:

This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

Bowman

DEMOLITION PLAN

Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County

Primax Properties, LLC
Choice One Development, LLC

PRELIMINARY
DO NOT
USE FOR
CONSTRUCTION

PLAN STATUS	
3/14/23	SKETCH SUBMITTAL
5/22/23	MASTER PLAN SUBMITTAL

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN XXXX
SCALE	H: CHKD
	V:
JOB No.	220133-01-001
DATE	March 14, 2023
FILE No.	220133-01-001

SHEET C2.0

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCGO1 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCGO1 Construction General Permit (Sections C and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timelines

Site Area Description	Stabilize this area many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	None
(d) Slopes 2:1 to 4:1	14	-7 days for slopes greater than 5:1 in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any area with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulch and tackifier	• Permanent grass seed covered with straw or other mulch and tackifier
• Hydroseeding	• Geotextile fabrics such as permanent soil reinforcement matting
• Roll-on erosion control products with or without temporary grass seed	• Hydroseeding
• Appropriately applied straw or other mulch	• Shrubs or other permanent plantings covered with mulch
• Peat mulch	• Uniform and evenly distributed ground cover sufficient to restrain erosion
	• Structural methods such as concrete, asphalt or retaining walls
	• Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the limits to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide parking area for containment of treated stormwater before discharging offsite.
- Store flocculants in locked containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect oil spill kits, store in separate containers and properly dispose of hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Newly bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint wastebins at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not achievable, provide retention of portable toilet behind a fence or place on a gravel pad and surround with sand bags.
- Monitor taking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available. At a minimum, install protection of storm drain inlets closest to the stockpile which could receive spills or overflow.
- Locate stockpiles in an easily accessible area, on level ground and install storm entrance pad in front of the stockpile. Additional controls may be required by the approving authority.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile with the timelimeframes from this sheet and in accordance with the approved plan and alternative requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

ON-SITE CONCRETE WASHOUT STRUCTURE WITH LINER

CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle, wet, hardened concrete residue in accordance with local and state solid waste regulations out of an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and utilize lot perimeter all fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approved authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown no other alternatives are reasonably available. At a minimum, install protection of storm drain inlets closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install storm entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post from the toe of stockpile.
- Remove loadings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining loadings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into walls, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials on-site.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

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(2) EESC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Name and title of the inspector. 3. Name of the person performing the inspection. 4. Description of the measures being operating properly. 5. Description of maintenance needs for the measure. 6. Inspection evidence, and date of corrective action.
(3) Stormwater discharge (including HQW)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the discharge outlets inspected. 2. Name and title of the inspector. 3. Name of the person performing the inspection. 4. Evidence of violation of stormwater pollution such as sheet, fluting or suspended solids or discharge. 5. Evidence of violation of turbidity sediment leaving the site. 6. Evidence of erosion, sediment and silt accumulation.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Evidence of erosion or sediment accumulation that has left the site limits. 2. Name and title of the inspector. 3. Name of the person performing the inspection. 4. Description of the measures being operating properly.
(5) Stream or wetland	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Evidence of increased turbidity from the construction activity. 2. Description, evidence and date of corrective actions taken, and 3. Results of the requirements to the appropriate Division Regional Office per Part II, Section C, Item 4(a) of this permit.
(6) Ground stabilization measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Evidence of erosion or sediment accumulation that has left the site limits. 2. Name and title of the inspector. 3. Name of the person performing the inspection. 4. Description of the measures being operating properly.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

SECTION B: RECORDKEEPING

1. EASC Plan Documentation

The approved EASC plan as well as any approved deviation shall be kept on the site. The approved EASC plan must be kept up-to-date reflecting the coverage under this permit. The following items pertaining to the EASC plan shall be kept on site and available for inspection at all times during normal business hours.

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(c) Ground cover is located and installed in accordance with the approved EASC Plan.	Initial and date a copy of the approved EASC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(d) The maintenance and repair requirements for all EASC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to EASC Measures.	Initial and date a copy of the approved EASC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the EASC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This General Permit as well as the Certificate of Coverage, after it is received.
- All data used to complete the E-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. (40 CFR 122.41)

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more.
 - They are less than 25 gallons but cannot be cleaned up within 24 hours.
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (40 CFR 113.3 and 40 CFR 117.3) or Section 102 of CERCLA (40 CFR 302.4) or 63, 143-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timelines and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timelimeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Control Center (800) 858-0368.

Occurrence	Reporting Timelines (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• Within 24 hours, an oral or electronic notification. The notification shall include an evaluation of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list, an approved form for sediment monitoring, inspections or apply more advanced practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired waters designation.
(b) Oil spills and release of hazardous materials per item 2(a)(1)(b) above	• A report or form no later than the date of the bypass, if possible. The report shall include an evaluation of the bypass and its effect on the quality and effect of the bypass.
(c) Anticipated bypasses (40 CFR 122.41(f)(6))	• Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
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(e) Noncompliance with the conditions of this permit that may endanger health or the environment (40 CFR 122.41(f)(7))	• Within 24 hours, an oral or electronic notification. • Within 24 hours, a report that contains a description of the noncompliance, with its causes, the period of noncompliance, in what way the permittee is or is not in compliance, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to end, and a plan or program to reduce, minimize, and prevent recurrence of the noncompliance. (40 CFR 122.41(f)(6)) • Division staff may waive the requirement for a written report on a case-by-case basis.

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ROLLED EROSION CONTROL PRODUCTS (RECP) NOT TO SCALE

INSTALLATION INSTRUCTIONS

- PREPARE SOIL BEFORE INSTALLING BLANKETS. REMOVE ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. WITH ONE ROW OF STAPLES/STAPLES PERMANENTLY ATTACHED TO THE BOTTOM OF THE RECP, THE RECP SHALL BE INSTALLED WITH PROPER STAPLING.
- BEGIN AT THE TOP OF THE SLOPE BY PILING THE BLANKET IN A 4" (10cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP EXTENDING BEYOND THE TOP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAPLES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. THEN PULL AND COMPACT THE RECP AFTER STAPLING. REMOVE 12" (30cm) PORTION OF THE BLANKET BACK OVER SEED AND SOIL. REPEAT BLANKET OVER SOIL WITH A ROW OF STAPLES/STAPLES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
- INSTALL THE BLANKETS DOWN ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH THE APPROPRIATE SLANT AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAPLES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLING GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAPLES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLING PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" (5cm) OVERLAP DEPENDENT ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE OUTER SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSTRUCTIVE STAPLES SHOULD BE PLACED DOWN THE SLOPE FIRST. PLACE EACH OVERLAP (OR DOUBLE ROW) WITH AN APPROXIMATE 2" (5cm) OVERLAP. STAPLES SHOULD BE PLACED THROUGH EACH AREA APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
- EROSION CONTROL BLANKETS SHALL BE INSTALLED FOLLOWING MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE

- REPAIR ROLLED EROSION CONTROL PRODUCTS (RECP) AT LEAST WEEKLY. REPAIR AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAIN FALL EVENT - REPAIR IMMEDIATELY.
- DO NOT CONTACT WITH THE GROUND MUST BE MAINTAINED, AND PROXIMITY MUST NOT OCCUR BETWEEN THE RECP AND GROUND. REPAIR AND STAPLED. A SECOND ROW OF STAPLES SHALL BE INSTALLED AND STAPLED. THE PROXIMITY TO THE GROUND MUST BE MAINTAINED THROUGHOUT THE PROJECT. MONITOR AND REPAIR THE RECP AS NECESSARY. THE PROXIMITY TO THE GROUND MUST BE MAINTAINED.

CRITICAL POINTS

A Overlap and Seams
B Proper Blanket Use
C Channel Bottom/Slope Surface

Horizontal staple spacing should be adjusted to ensure the critical points along the channel edge.

In loose soil conditions, the use of staples or stakes length greater than 4" (10cm) may be necessary to properly secure the RECP.

CHANNEL - RECP INSTALLATION NOTES

- Prepare soil before installing rolled erosion control products (RECP). REMOVE ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- Height at the top of the channel shall be 12" (30cm) above the top of the channel. The channel must be prepared with a row of staples/anchors spaced approximately 12" (30cm) apart in the bottom of the channel. Then pull and compact the RECP after stapling. REMOVE 12" (30cm) PORTION OF THE BLANKET BACK OVER SEED AND SOIL. REPEAT BLANKET OVER SOIL WITH A ROW OF STAPLES/STAPLES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
- INSTALL THE BLANKETS DOWN ACROSS THE CHANNEL. BLANKETS WILL UNROLL WITH THE APPROPRIATE SLANT AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAPLES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLING GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAPLES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLING PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" (5cm) OVERLAP DEPENDENT ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE OUTER SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSTRUCTIVE STAPLES SHOULD BE PLACED DOWN THE CHANNEL FIRST. PLACE EACH OVERLAP (OR DOUBLE ROW) WITH AN APPROXIMATE 2" (5cm) OVERLAP. STAPLES SHOULD BE PLACED THROUGH EACH AREA APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
- EROSION CONTROL BLANKETS SHALL BE INSTALLED FOLLOWING MANUFACTURER'S SPECIFICATIONS.

CRITICAL POINTS

A Overlap and Seams
B Proper Blanket Use
C Channel Bottom/Slope Surface

Horizontal staple spacing should be adjusted to ensure the critical points along the channel edge.

In loose soil conditions, the use of staples or stakes length greater than 4" (10cm) may be necessary to properly secure the RECP.

INSTALLATION DETAIL

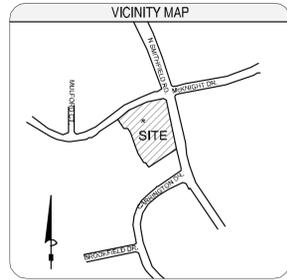
SILT BAG INLET PROTECTION

NOT TO SCALE

BAG DETAIL

NOT TO SCALE

NOTES



LINE TABLE					
LINE	BEARING	LENGTH			
L4	S 16°00'44" E	16.12			
L5	S 77°19'02" W	29.81			
L6	N 69°05'40" W	36.14			

CURVE TABLE					
CURVE	RADIUS	LENGTH	BEARING	DELTA	TANGENT
C3	587.35'	223.23'	N 64°01'08" E	223.85°	21°58'16"
C4	25.00'	30.81'	S 60°42'01" E	35.59°	90°46'13"

AREA FOR PUBLIC DISPLAY OF ART WITH BENCHES AND SHADE TREES

MCKNIGHT DRIVE
(VAR. WIDTH PUBLIC R/W - BM1984, PG. 548
VAR. PAYING WIDTH)

MATCH EXISTING CURB & GUTTER



STOP SIGN & STOP BAR

DUMPSTER ENCLOSURE

BACK OF CURB

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10'x70' SIGHT TRIANGLE (TYP)

STOP SIGN & STOP BAR

DUMPSTER ENCLOSURE

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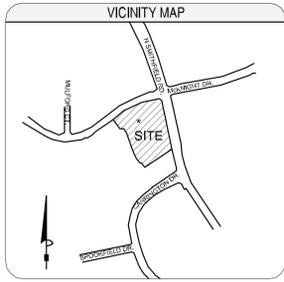
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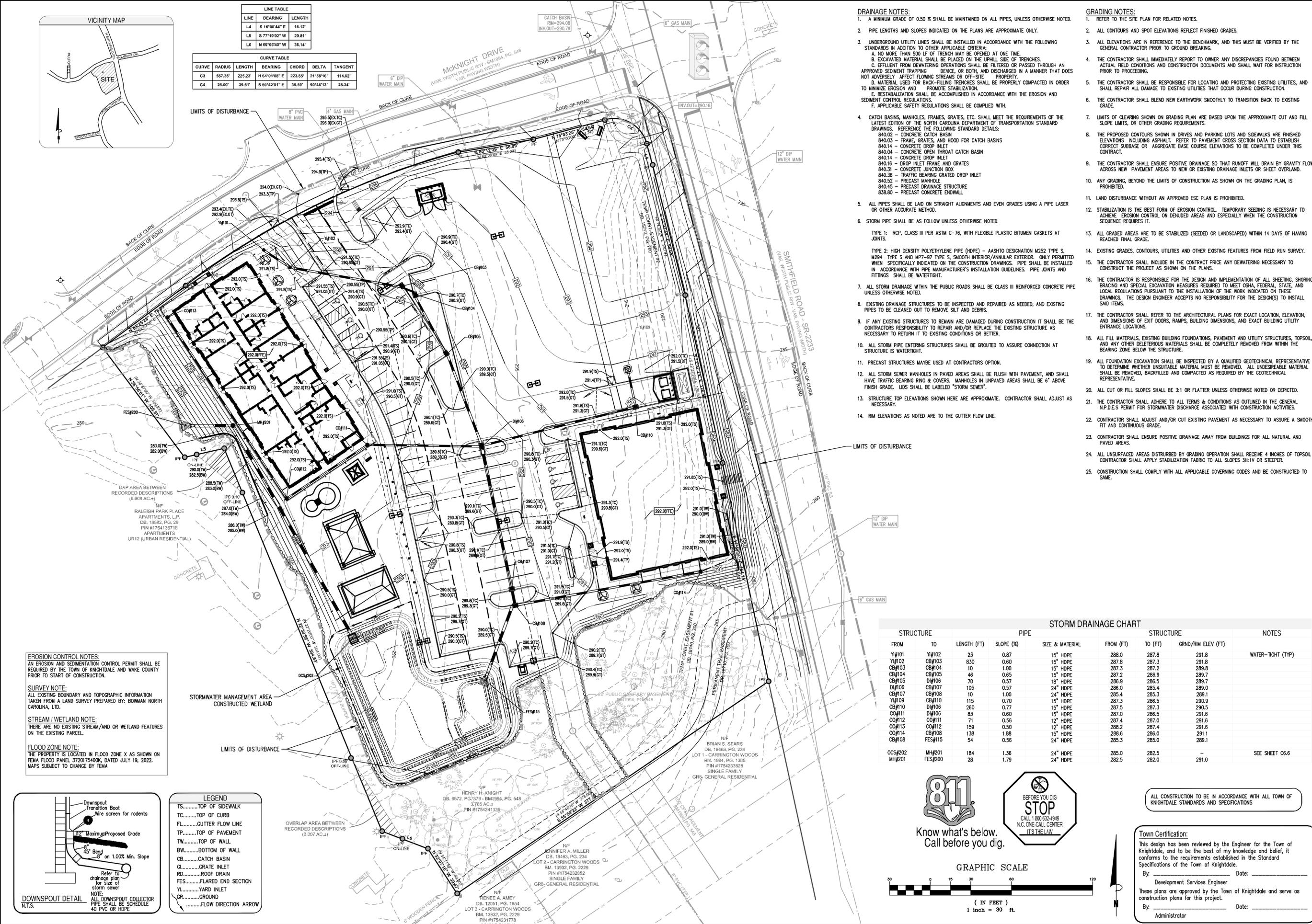
EDGE OF ROAD

EDGE OF ROAD



LINE TABLE		
LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE TABLE					
CURVE	RADIUS	LENGTH	BEARING	CHORD	TANGENT
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"
C4	28.00'	39.61'	S 66°42'01" E	35.59'	90°46'13"



- DRAINAGE NOTES:**
- A MINIMUM GRADE OF 0.50% SHALL BE MAINTAINED ON ALL PIPES, UNLESS OTHERWISE NOTED.
 - PIPE LENGTHS AND SLOPES INDICATED ON THE PLANS ARE APPROXIMATE ONLY.
 - UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UP-SLOPE SIDE OF TRENCHES.
 - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.
 - APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
 - CATCH BASINS, MANHOLES, FRAMES, GRATES, ETC. SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS. REFERENCE THE FOLLOWING STANDARD DETAILS:
 - 840.02 - CONCRETE CATCH BASIN
 - 840.03 - FRAME, GRATES, AND HOOD FOR CATCH BASINS
 - 840.14 - CONCRETE DROP INLET
 - 840.04 - CONCRETE OPEN THROAT CATCH BASIN
 - 840.14 - CONCRETE DROP INLET
 - 840.15 - DROP INLET FRAME AND GRATES
 - 840.31 - CONCRETE JUNCTION BOX
 - 840.36 - TRAFFIC BEARING GRATED DROP INLET
 - 840.52 - PRECAST MANHOLE
 - 840.45 - PRECAST DRAINAGE STRUCTURE
 - 838.80 - PRECAST CONCRETE ENDWALL
 - ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
 - STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
 - TYPE 1: RCP, CLASS III PER ASTM C-76, WITH FLEXIBLE PLASTIC BITUMEN GASKETS AT JOINTS.
 - TYPE 2: HIGH DENSITY POLYETHYLENE PIPE (HDPE) - AASHTO DESIGNATION M252 TYPE S, M294 TYPE S AND MP7-97 TYPE S, SMOOTH INTERIOR/ANNULAR EXTERIOR. ONLY PERMITTED WHEN SPECIFICALLY INDICATED ON THE CONSTRUCTION DRAWINGS. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER'S INSTALLATION GUIDELINES. PIPE JOINTS AND FITTINGS SHALL BE WATERTIGHT.
 - ALL STORM DRAINAGE WITHIN THE PUBLIC ROADS SHALL BE CLASS III REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
 - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
 - ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
 - PRECAST STRUCTURES MAYBE USED AT CONTRACTOR'S OPTION.
 - ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
 - STRUCTURE TOP ELEVATIONS SHOWN HERE ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NECESSARY.
 - RIM ELEVATIONS AS NOTED ARE TO THE GUTTER FLOW LINE.

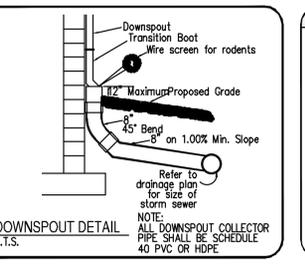
- GRADING NOTES:**
- REFER TO THE SITE PLAN FOR RELATED NOTES.
 - ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
 - ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
 - THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.
 - THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
 - LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
 - THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
 - THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.
 - ANY GRADING, BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN, IS PROHIBITED.
 - LAND DISTURBANCE WITHOUT AN APPROVED ESC PLAN IS PROHIBITED.
 - STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON DENUDATED AREAS AND ESPECIALLY WHEN THE CONSTRUCTION SEQUENCE REQUIRES IT.
 - ALL GRADED AREAS ARE TO BE STABILIZED (SEEDED OR LANDSCAPED) WITHIN 14 DAYS OF HAVING REACHED FINAL GRADE.
 - EXISTING GRADERS, CONTOURS, UTILITIES AND OTHER EXISTING FEATURES FROM FIELD RUN SURVEY.
 - THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY DEWATERING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED 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 SAID ITEMS.
 - THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATION, ELEVATION, AND DIMENSIONS OF EXIT DOORS, RAMPS, BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
 - ALL FILL MATERIALS, EXISTING BUILDING FOUNDATIONS, PAVEMENT AND UTILITY STRUCTURES, TOPSOIL, AND ANY OTHER DELETERIOUS MATERIALS SHALL BE COMPLETELY REMOVED FROM WITHIN THE BEARING ZONE BELOW THE STRUCTURE.
 - ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNDESIRABLE MATERIAL SHALL BE REMOVED, BACKFILLED AND COMPACTED AS REQUIRED BY THE GEOTECHNICAL REPRESENTATIVE.
 - ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR DEPICTED.
 - THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
 - CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
 - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
 - ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1 OR STEEPER.
 - CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

EROSION CONTROL NOTES:
AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY THE TOWN OF KNIGHTDALE AND WAKE COUNTY PRIOR TO START OF CONSTRUCTION.

SURVEY NOTE:
ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY: BOWMAN NORTH CAROLINA, LTD.

STREAM / WETLAND NOTE:
THERE ARE NO EXISTING STREAM/AND/OR WETLAND FEATURES ON THE EXISTING PARCEL.

FLOOD ZONE NOTE:
THE PROPERTY IS LOCATED IN FLOOD ZONE X AS SHOWN ON FEMA FLOOD PANEL 3720175400, DATED JULY 19, 2022. MAPS SUBJECT TO CHANGE BY FEMA



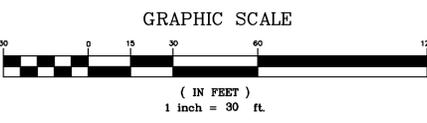
LEGEND

- TS.....TOP OF SIDEWALK
- TC.....TOP OF CURB
- FL.....GUTTER FLOW LINE
- TP.....TOP OF PAVEMENT
- TW.....TOP OF WALL
- BW.....BOTTOM OF WALL
- CB.....CATCH BASIN
- GI.....GRATE INLET
- RD.....ROOF DRAIN
- FES.....FLARED END SECTION
- YI.....YARD INLET
- GR.....GROUND
-FLOW DIRECTION ARROW

STRUCTURE				PIPE		STORM DRAINAGE CHART			NOTES	
FROM	TO	LENGTH (FT)	SLOPE (%)	SIZE & MATERIAL	FROM (FT)	TO (FT)	GRND/RIM ELEV (FT)			
Y#101	Y#102	23	0.87	15" HDPE	288.0	287.8	291.8			WATER-TIGHT (TYP)
Y#102	CB#103	830	0.60	15" HDPE	287.8	287.3	291.8			
CB#103	CB#104	10	1.00	15" HDPE	287.3	287.2	289.8			
CB#104	CB#105	46	0.65	15" HDPE	287.2	286.9	289.7			
CB#105	D#106	70	0.57	18" HDPE	286.9	286.5	289.7			
D#106	CB#107	105	0.57	24" HDPE	286.5	285.4	289.0			
CB#107	CB#108	10	1.00	24" HDPE	285.4	285.3	289.1			
H#109	CB#110	115	0.70	15" HDPE	287.3	286.5	290.9			
CB#110	D#106	260	0.77	15" HDPE	287.5	287.3	290.5			
CO#111	D#106	83	0.60	15" HDPE	287.0	286.5	291.8			
CO#112	CO#111	71	0.56	12" HDPE	287.4	287.0	291.6			
CO#113	CO#112	159	0.50	12" HDPE	288.2	287.4	291.6			
CO#114	CB#108	138	1.88	15" HDPE	288.6	286.0	291.1			
CB#108	FES#115	54	0.56	24" HDPE	285.3	285.0	289.1			
OCS#202	MH#201	184	1.36	24" HDPE	285.0	282.5	-			SEE SHEET C6.6
MH#201	FES#200	28	1.79	24" HDPE	282.5	282.0	291.0			



Know what's below.
Call before you dig.



ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator



Bowman North Carolina Ltd.
4006 BARRIETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 955-6570
bowman.com
Bowman North Carolina Ltd.

GRADING PLAN
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County

Primax Properties, LLC
Choice One Development, LLC
PRELIMINARY
DO NOT
USE FOR
CONSTRUCTION

DATE	DESCRIPTION
3/14/23	SKETCH SUBMITTAL
5/22/23	MASTER PLAN SUBMITTAL

DATE	DESCRIPTION	MEL DESIGN	MEL DRAWN	XXX CHKD
JOB No. 220133-01-001				
DATE March 14, 2023				
FILE No. 220133-01-001				
SHEET				C4.0

APPROVED RPDA ASSEMBLIES:
 APPROVED 6" RPDA (PROTECTED PRESSURE DISTRIBUTOR ASSEMBLY) BACKFLOW PREVENTERS:
 AMES: 5000 FEBCO: 82610, 909RPDA WILKINS: 37548A

APPROVED RPZ ASSEMBLIES:
 APPROVED 1" RPZ BACKFLOW PREVENTERS:
 AMES: 4000B FEBCO 825 Y & YA WATTS 009M20T

APPROVED RPZ ASSEMBLIES:
 APPROVED 2" RPZ BACKFLOW PREVENTERS:
 AMES: 400B, U400B WATTS 009M0T, 0090T APOLLO 4020B02, RP40 FEBCO 860, 825YAR WILKINS 375, 375B

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS

FIRE PROTECTION NOTE
 THE PROPOSED BUILDINGS WILL HAVE A FIRE SPRINKLER SYSTEM

UTILITY NOTE
 THE ESTIMATED WATER USAGE FOR THIS SITE IS _____ GPD BASED ON _____

METER NOTE:
 CONTRACTOR TO CONTACT CITY OF RALEIGH METERS DIVISION FOR METER LAYOUT AND ADDRESSING.

HYDRANT NOTE:
 ALL NEW FIRE HYDRANTS SHALL BE EQUIPPED WITH NST THREADS AND SHALL BE EQUIPPED WITH A 5 INCH STORZ CONNECTION.

FIRE NOTE:
 ELECTRICAL CIRCUIT AND FIRE ALARM CIRCUIT REQUIRED FOR FIRE LINE HOT BOX

UTILITY NOTE:
 THERE SHALL BE NO CONSTRUCTION OF ANY FIRE MAINS AND NO SLAB PLACED IN THE FIRE PUMP ROOM OR SPRINKLER RISER ROOM UNTIL HYDRAULIC CALCULATIONS, FOR THE BUILDING(S) ARE SUBMITTED FOR REVIEW AND SUBSEQUENT APPROVAL

UTILITY SERVICE NOTES

WATER SERVICE
 GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 1" WATER SERVICE LINE FROM MAIN TO BUILDING PER MUNICIPAL REQUIREMENTS.
 CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
 TELEPHONE: 919-857-4540

ELECTRIC SERVICE
 *POWER OUT TO PROVIDE UNDERGROUND 120/208/3 PHASE SERVICE.
 GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION.
 CONTACT: PROGRESS ENERGY
 TELEPHONE: 800-636-0581

TELEPHONE SERVICE
 *TELEPHONE CO. TO PROVIDE NEW UNDERGROUND SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION.
 CONTACT: TELEPHONE COMPANY
 TELEPHONE: _____

SANITARY SEWER
 GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" SCHEDULE 40 PVC FROM EXISTING SANITARY SEWER SYSTEM TO LAST CLEAN OUT OUTSIDE OF BUILDING (MIN. 1% SLOPE). PROVIDE CLEAN OUTS EVERY 75' (TYPICAL).
 CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
 TELEPHONE: 919-857-4540

NATURAL GAS
 GENERAL CONTRACTOR TO COORDINATE WITH NATURAL GAS UTILITY FOR SERVICE LINE TO PROPOSED BUILDING.
 CONTACT: NATURAL GAS UTILITY
 TELEPHONE: _____

CROSS-CONNECTION NOTE
 A CERTIFICATE OF COMPLIANCE FOR ALL BACKFLOWS WILL NEED TO BE DIGITALLY AFFIXED TO THE BUILDING SUBMITTAL PRIOR TO THE ISSUANCE OF AREA BUILDING PERMITS. CONTACT RECORDING DESCRIPTIONS CROSS.CONNECTION@RALEIGH.NC.GOV FOR MORE INFORMATION.

Project Water System Dates:

1. Any the # of alternate water services > 15, OR the cost if people served > 250
2. (If the # of alternate water services > 15, OR the cost if people served > 250)
3. (If the # of alternate water services > 15, OR the cost if people served > 250)
4. (If the # of alternate water services > 15, OR the cost if people served > 250)

LINE TABLE

LINE	BEARING	LENGTH
L4	S 10°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE TABLE

CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA	TANGENT
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"	114.02'
C4	25.00'	39.61'	S 66°42'01" E	35.59'	90°48'13"	25.34'

FIRE FLOW ANALYSIS

MAIN SIZE: _____ IN
 PRESSURE ZONE: _____ FT
 HYDRANT ELEVATION: _____ FT
 TIME OF TEST: _____ PM
 DATE OF TEST: _____
 RESULTS:
 STATIC PRESSURE: _____ PSI
 RESIDUAL PRESSURE: _____ PSI
 FLOWING PRESSURE: _____ PSI
 VOLUME: _____ GPM
 FLOW @ 20PSI: _____ GPM

UTILITY NOTES:

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH CITY OF RALEIGH STANDARD DRAWINGS AND SPECIFICATIONS.
2. IN THE EVENT THAT A UTILITY ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT HANDBOOK COVERING SUCH ITEMS SHALL APPLY.
3. WATER SERVICES 3/4"-1/2" TO 2-INCH SHALL BE TYPE "K" SOFT COPPER. ALL OTHER WATER MAINS, SERVICES, AND FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
4. GRAVITY SANITARY SEWER MAINS SHALL BE DUCTILE IRON PIPE OR PVC PIPE, AS SPECIFIED IN THESE PLANS AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS. SANITARY SEWER SERVICES SHALL BE SCHEDULE 40 PVC.
5. CLEAN-OUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE WYE APPROPRIATELY BASED ON PIPE DEPTH.
6. ALL MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS. MANHOLE DIAMETER SHALL VARY DEPENDING ON PIPE DIAMETER AND DEPTH, PER CITY OF RALEIGH STANDARDS.
7. LOCATIONS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM MAPS PREPARED BY OTHERS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECORD DRAWINGS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION. THE ENGINEER WILL PROVIDE THESE RECORD DRAWINGS TO THE OWNER.
9. WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" BELOW PROPOSED GRADE.
10. ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
12. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
13. ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.
14. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
15. GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
16. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
17. CONTRACTOR SHALL NOTIFY THE WATER AUTHORITY INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
18. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 24" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
19. PRESSURE REDUCING VALVES WILL BE REQUIRED ON THE DOMESTIC WATER MAINS IF THE STATIC PRESSURE AT THE BUILDING EXCEEDS 80PSI.
20. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 24" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
21. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
22. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF RALEIGH WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
23. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES OR UTILITIES BY OTHERS AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT 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.
24. ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA). THE AWWA CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR CONSTRUCTION SPECIFICATIONS AND STANDARD FOR WATER AND SANITARY SEWERAGE FACILITIES. A COPY OF WHICH MUST BE PURCHASED FROM THE AWWA BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCE TO NCDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
25. THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB GRADES, PIPE TRENCH BOTTOMS OR OTHER PURPOSES AND BACKFILL THESE AREAS WITH AN APPROVED MATERIAL. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY THE CITY OF RALEIGH AS TO AREAS WITHIN STREET RIGHT-OF-WAY AND THE ENGINEER IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
26. A MINIMUM VERTICAL SEPARATION OF 24" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & WATER LINES AND A FULL JOINT OF WATER LINE PIPE SHALL BE CENTERED WHERE WATER LINE CROSSES OVER SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER-MAN. WHEN WATER LINE CROSSES UNDER SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER-MAN.
27. ALL WATERLINES SHALL HAVE BURED WITH THE PIPE # 12 COATED ELECTRIC WIRE AND BROUGHT UP INTO THE METER BOXES.
28. THE CONTRACTOR SHALL PROVIDE A SURVEY AS-BUILT RECORD DRAWING OF THE SANITARY SEWER SYSTEM AND THE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF RALEIGH UTILITY DEPARTMENT.

STANDARD UTILITY NOTES:

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)
1. Utility separation requirements:
 - a) A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to waterline specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well
 - b) When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter
 - c) Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to waterline specifications
 - d) 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer
 - e) Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 24" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W-41 & S-49)
 - f) All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required
 2. All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required
 3. Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction
 4. Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department
 5. 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains
 6. It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure
 7. Install 2" PVC water services with meters located at ROW or within a 2'x2' Waterline Easement immediately adjacent. NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure
 8. Install 6" PVC sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum
 9. Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole
 10. All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
 11. NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within streets or railroad ROW prior to construction
 12. Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Stephen Calverley at (919) 996-2334 or Stephen.Calverley@raleighnc.gov for more information
 13. Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineering (ASSE) standards or be on the University of Southern California approval list. The devices shall be installed and tested (both initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross-connection control program, whichever is more stringent. Contact Joanie Hevey at (919) 212-5923 or joanie.hevey@raleighnc.gov for more information.



Know what's below.
 Call before you dig.

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the **Public Utilities Department** at (919) 996-4540 at least **twenty four hours** prior to beginning any of their construction.

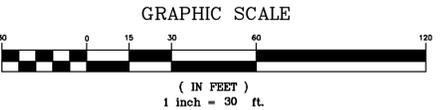
Failure to notify both **City Departments** in advance of beginning construction will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for **Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

PUBLIC Water Distribution/Extension System

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
 Public Utilities Department Permit # _____
 Authorization to Construct _____ See digital signature



Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

Bowman

Bowman North Carolina Ltd.
 4006 BARRIETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919) 955-6570
 bowman.com
 Bowman North Carolina Ltd.

UTILITY PLAN

Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County

Primax Properties, LLC
 Choice One Development, LLC

PRELIMINARY
 DO NOT
 USE FOR
 CONSTRUCTION

PLAN STATUS

3/14/23	SKETCH SUBMITTAL
5/22/23	MASTER PLAN SUBMITTAL

DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN
SCALE	H: XXX V: CHKD
JOB No.	220133-01-001
DATE	March 14, 2023
FILE No.	220133-01-001

SHEET **C5.0**

SEEDING SCHEDULE		
SEEDING PERIOD	SEEDING TYPE	APPLICATION RATE (LBS/ACRE)
AUGUST 15 - NOVEMBER 01	TALL FESCUE	300
NOVEMBER 01 - MARCH 01	TALL FESCUE AND ABRUZZI RYE	25
MARCH 01 - APRIL 15	TALL FESCUE	120
APRIL 15 - JUNE 30	MULLED COMMON BERMUDAGRASS	25
JULY 01 - AUGUST 15	TALL FESCUE AND BROMONTOP MILLET OR BROMONTOP-SUDAN HYBRIDS	30
SLOPES 2:1 TO 3:1		
MARCH 01 - JUNE 01	BENICIA LEIPZIGIA (SCARIFIED) AND	50
MARCH 01 - APRIL 15	TALL FESCUE OR	120
MARCH 01 - JUNE 30	KEEPLING LOVEGRASS OR MULLED COMMON BERMUDAGRASS	10
JUNE 01 - SEPTEMBER 01	*TALL FESCUE AND BROMONTOP MILLET OR BROMONTOP-SUDAN HYBRIDS	30
SEPTEMBER 01 - MARCH 01	BENICIA LEIPZIGIA (UNMULLED, UNSCARIFIED) AND	70
NOVEMBER 01 - MARCH 01	TALL FESCUE OR ABRUZZI RYE	25

TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 18" IN HEIGHT BEFORE MOWING. OTHERWISE, FESCUE MAY BE SHADDED OUT. CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DAMAGED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

GROUND COVER - WHENEVER LAND DISTURBANCE ACTIVITY IS UNDERTAKEN ON A TRACT COMPRISING MORE THAN ONE (1) ACRE, A GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE PLANTED OR PROVIDED WITHIN 15 WORKING DAYS OR 60 CALENDAR DAYS.

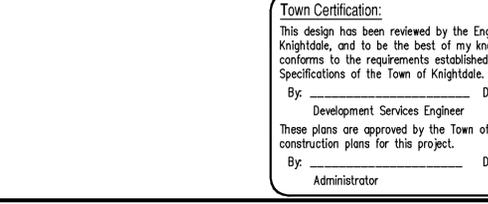
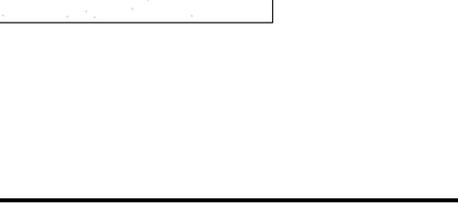
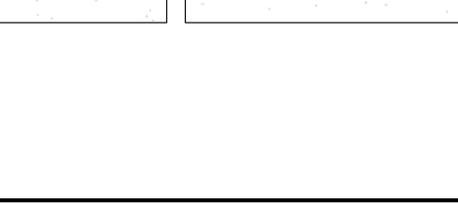
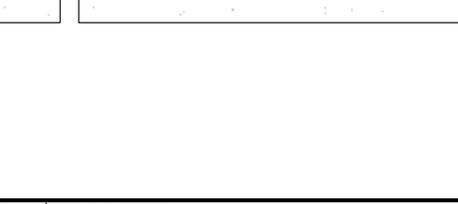
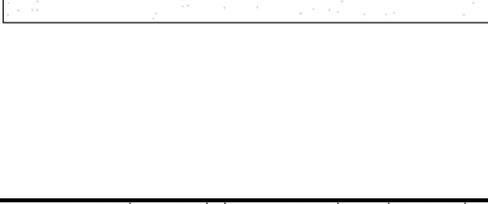
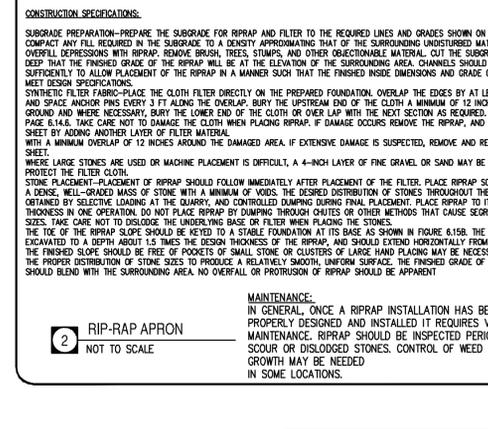
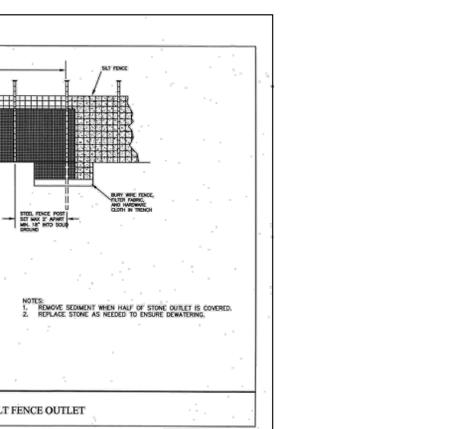
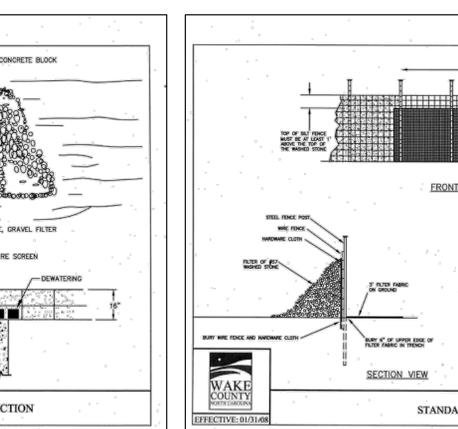
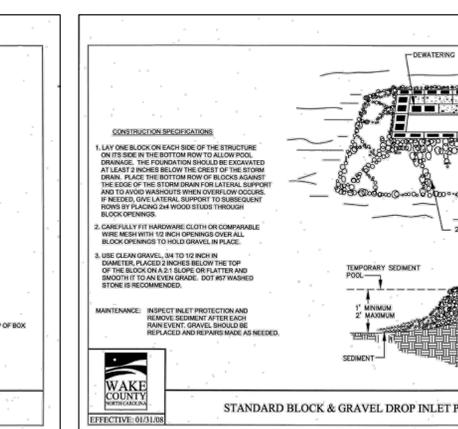
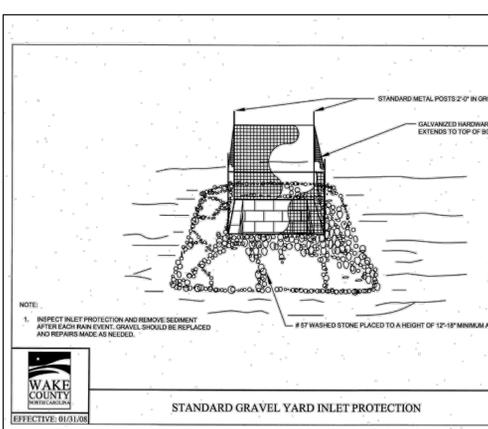
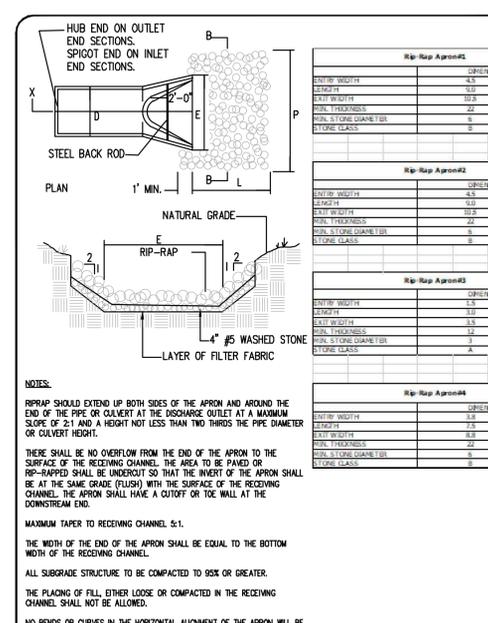
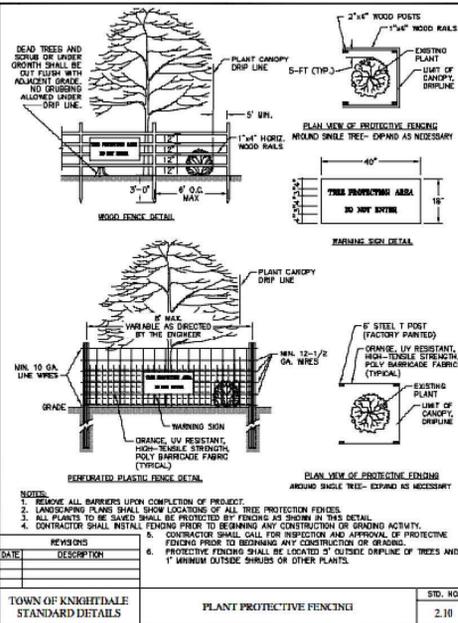
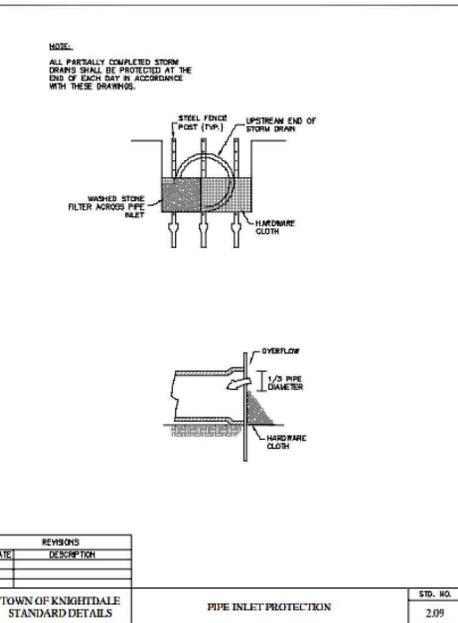
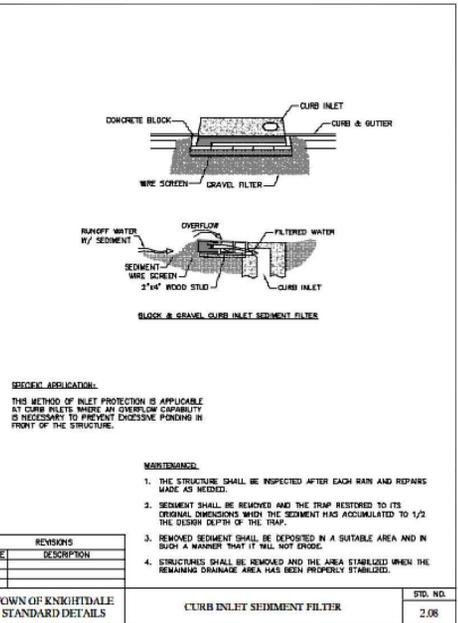
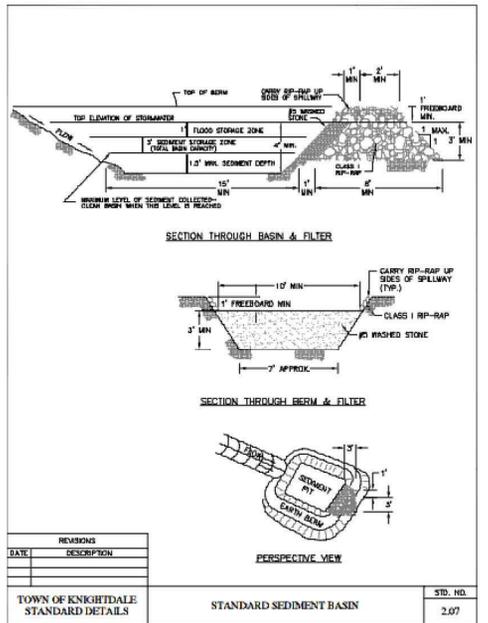
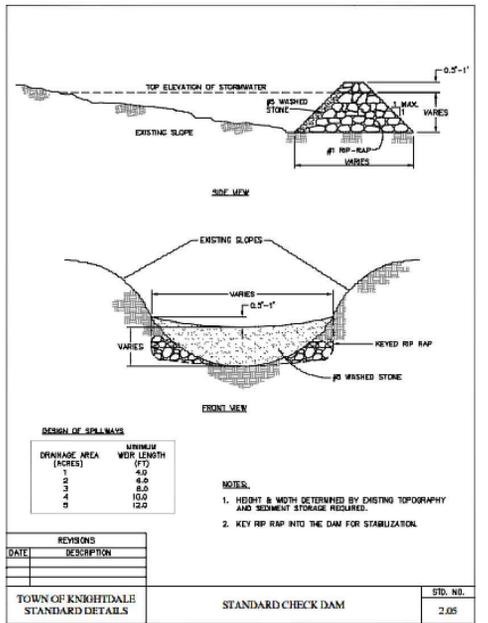
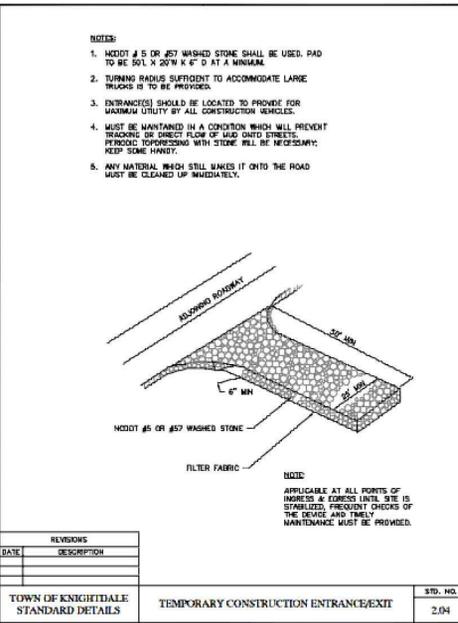
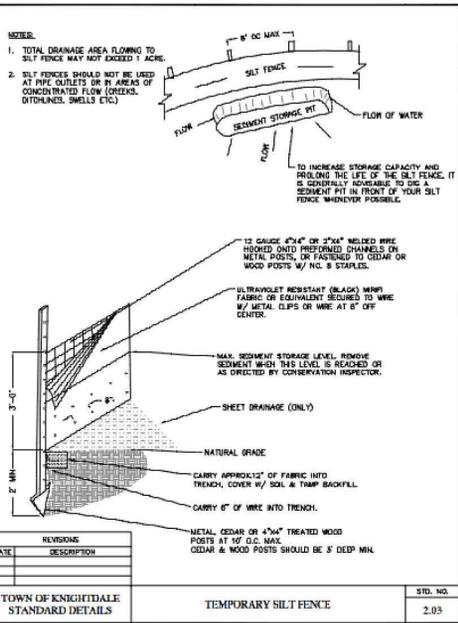
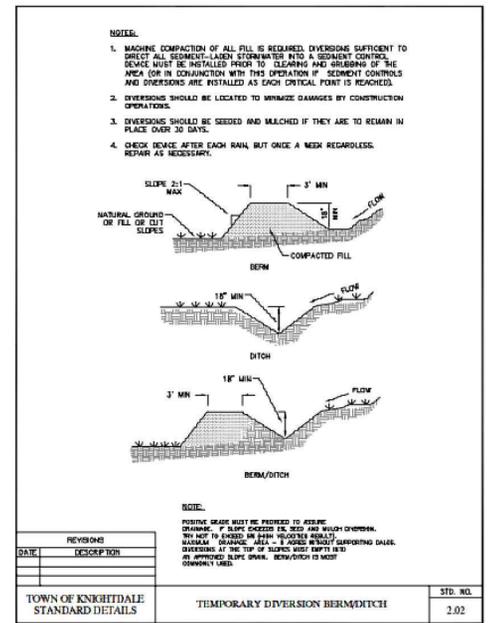
GRADED SLOPES AND FILLS - WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS, OR COMPLETION OF ANY PHASE OF GRADING, WHICHEVER PERIOD IS SHORTER, SLOPES SHALL BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

REVISIONS	DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

SEEDING SCHEDULE

STD. NO. 2.01



Town Certification:

This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

DATE	DESCRIPTION
3/14/23	SKETCH SUBMITTAL
5/22/23	MASTER PLAN SUBMITTAL

DATE	DESIGN	DRAWN	CHKD
MEL	MEL	XXX	CHKD
SCALE	H:	V:	

JOB No. 220133-01-001

DATE March 14, 2023

FILE No. 220133-01-001

SHEET C6.0

Bowman

Bowman North Carolina Ltd.
4006 BARRIETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 555-6570
bowman.com

Bowman North Carolina Ltd.

EROSION CONTROL DETAILS

Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County

Primax Properties, LLC
Choice One Development, LLC

PRELIMINARY
DO NOT
USE FOR
CONSTRUCTION

PLAN STATUS

3/14/23 SKETCH SUBMITTAL

5/22/23 MASTER PLAN SUBMITTAL

DATE DESCRIPTION

MEL DESIGN MEL DRAWN XXX CHKD

SCALE H: V:

JOB No. 220133-01-001

DATE March 14, 2023

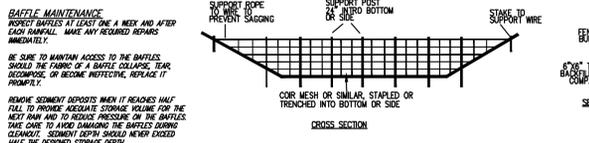
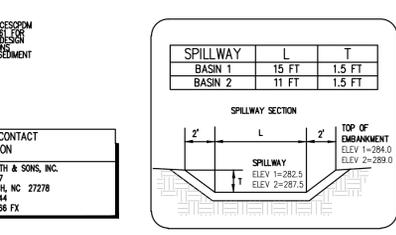
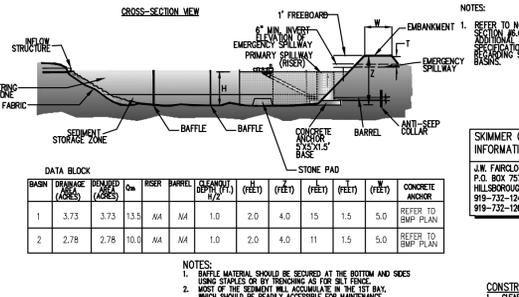
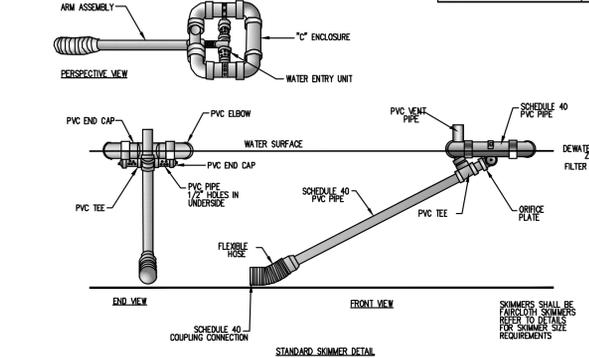
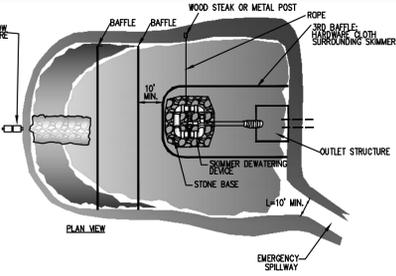
FILE No. 220133-01-001

SHEET C6.0

SEDIMENT BASIN REQUIREMENTS:

- OUTLET STRUCTURES SHALL BE UTILIZED THAT WITHDRAW WATER FROM THE SURFACE.
- FOR BASINS OR TRAPS THAT HAVE A DRAINAGE AREA OF LESS THAN 10 ACRES, DRAW-DOWN DESIGNS SPECIFIED IN THE DIVISION OF LAND RESOURCES OR DELEGATED LOCAL PROGRAM REQUIREMENTS ARE ACCEPTABLE.
- CHEMICAL TREATMENT:
 - ALL TREATMENT CHEMICALS MUST BE STORED IN LEAK-PROOF CONTAINERS THAT ARE KEPT UNDER STORM-RESISTANT COVER OR SURROUNDED BY SECONDARY CONTAINMENT STRUCTURES DESIGNED TO PROTECT SURFACE WATERS.
 - ALL TREATMENT CHEMICALS MUST BE USED IN ACCORDANCE WITH Dosing Specifications and Application Rates Provided by the Manufacturer, Supplier and as Specified by the Division of Water Quality.
 - THE PERMITTEE MUST ONLY USE CHEMICALS THAT HAVE BEEN APPROVED BY THE DIVISION OF WATER QUALITY AND POSTED ON THEIR NORTH CAROLINA DIVISION OF WATER QUALITY APPROVED PESTS/LOGICANTS LIST FOUND ON THEIR WEB SITE AT: <http://portal.dem.state.nc.us/wq/awq/awq.htm>.
 - THE PERMITTEE MUST ROUTE STORMWATER TREATED WITH POLYMERS, FLOCCULANTS, OR OTHER TREATMENT CHEMICALS THROUGH SEDIMENT TRAPPING, FILTERING, AND/OR SETTLING DEVICES TO ENSURE ADEQUATE REMOVAL OF SEDIMENT FLOCCULANT PRIOR TO DISCHARGE TO SURFACE WATERS.
- DISCHARGE REQUIREMENT - DISCHARGES MUST MEET THE STATUTORY REQUIREMENTS OF THE SEDIMENT POLLUTION CONTROL ACT AND UTILIZE THE PROVISIONS OF SECTION 8.74 OF THE DESIGN AND CONSTRUCTION PLANNING AND DESIGN MANUAL TO ASSURE THAT BUFFERS AND VEGETATED AREAS WILL BE USED TO REDUCE THE POTENTIAL FOR VISIBLE SILTATION OUTSIDE OF THE 25X BUFFER ZONE NEAREST THE LAND-DISTURBING ACTIVITY.

Skimmer Basin #1				Skimmer Basin #2			
SURFACE AREA REQUIRED	5,861	SF		SURFACE AREA REQUIRED	4,350	SF	
SURFACE AREA PROVIDED	6,718	SF		SURFACE AREA PROVIDED	4,997	SF	
VOLUME REQUIRED	102,704	CF		VOLUME REQUIRED	72,684	CF	
VOLUME PROVIDED	102,704	CF		VOLUME PROVIDED	72,684	CF	
STORAGE DEPTH	2.0	FT		STORAGE DEPTH	2.0	FT	
STORAGE ELEVATION	120	X	50	STORAGE ELEVATION	100	X	45
TOP CH. DAW	128	X	58	TOP CH. DAW	108	X	53
INLET, SPILLWAY LENGTH	172	X	42	INLET, SPILLWAY LENGTH	92	X	37
RETICULAR CH. BAZIN	172	X	42	RETICULAR CH. BAZIN	92	X	37
SKIMMER SIZE	2.5	IN		SKIMMER SIZE	2.0	IN	
SKIMMER CRITICAL DRAINAGE	1.9	IN		SKIMMER CRITICAL DRAINAGE	1.7	IN	
SKIMMER CRITICAL RADIUS	0.9	IN		SKIMMER CRITICAL RADIUS	0.9	IN	
SKIMMER SIZE	2.1	IN		SKIMMER SIZE	2.1	IN	

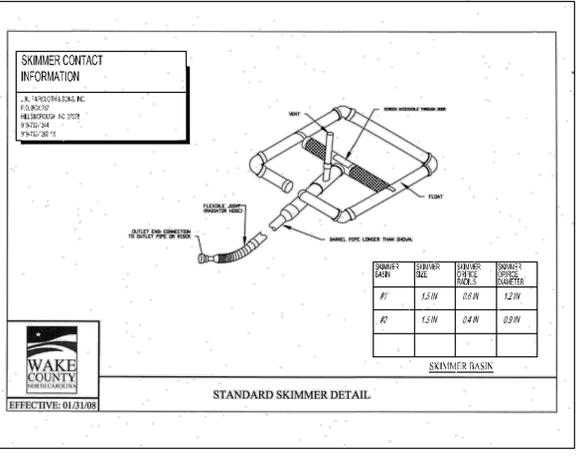
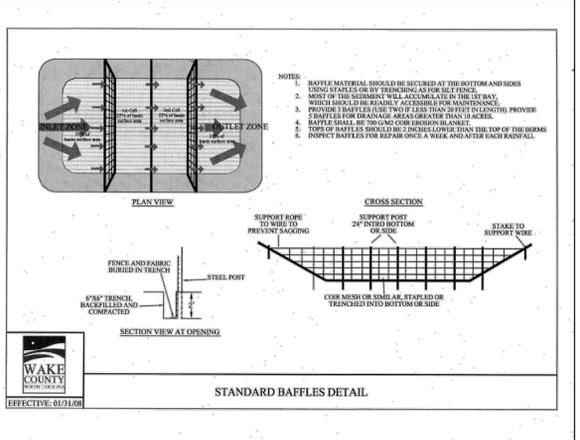


SKIMMER CONTACT INFORMATION
 J.W. FARLOTH & SONS, INC.
 P.O. BOX 702
 HILLSBOROUGH, NC 27278
 919-732-1244
 919-732-1266 FX

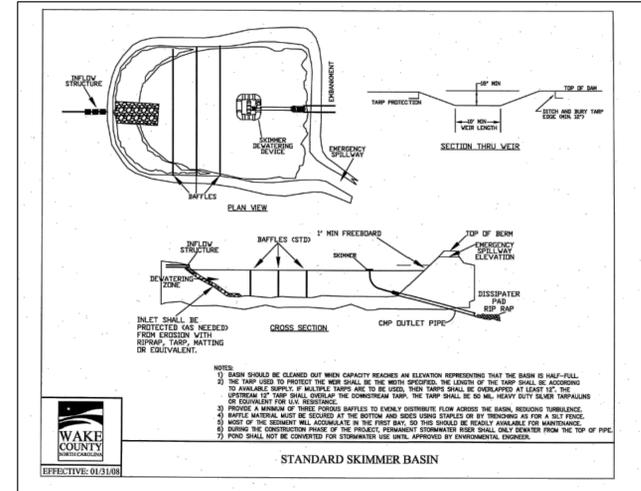
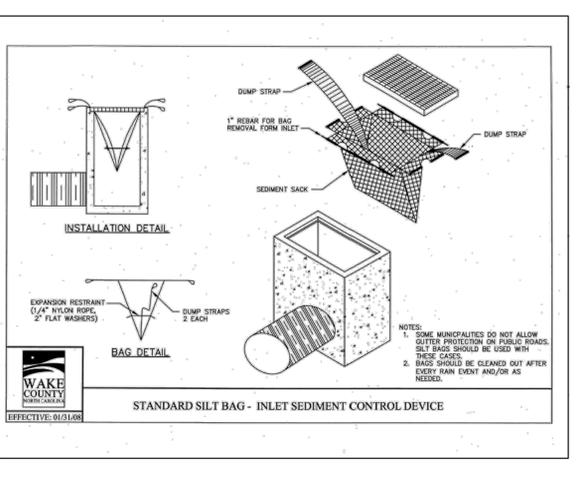
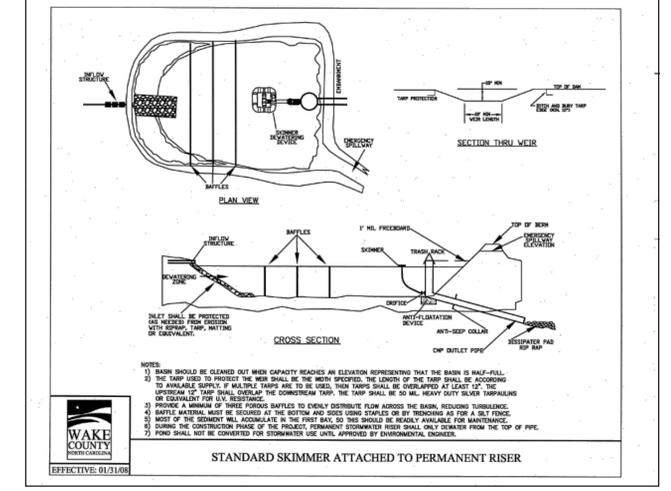
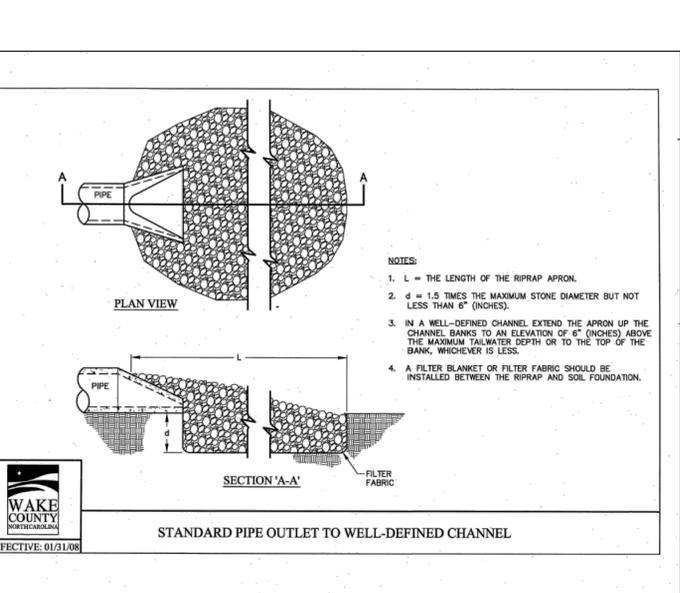
CONSTRUCTION SPECIFICATIONS:

- REMOVE ALL VEGETATION AND ROOT MAT UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER, AND STORE OR DISPOSE OF IT PROPERLY. SHALL ALL ORGANIC MATERIAL TO THE DESIGNATED DISPOSAL AREA. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS NOTED.
- INSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBSTRUCTIVE MATERIAL. PLACE THE SOIL IN LOTS NOT TO EXCEED 8 INCHES, AND MAKE COMPACT IT. OVER FILL THE EMBANKMENT 6 INCHES TO ALLOW FOR SETTLEMENT.
- SHAPE THE BASIN TO THE SPECIFIED DIMENSIONS. PREVENT THE SKIMMER DEVICE FROM SETTLING INTO THE MUD BY DECAVATING A SHOULDER 1 FT UNDER THE SKIMMER OR PROVIDING A LOW SUPPORT UNDER THE SKIMMER OF STONE OR TUBES.
- PLACE THE BARREL TYPICALLY 4-INCH SCHEDULE 40 PVC PIPE ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE FROM THE FIRM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE. PLACE A MIN. DEPTH OF 2 FEET OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. IN NO CASE SHOULD THE PIPE BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.
- ASSEMBLE THE SKIMMER FOLLOWING THE MANUFACTURER'S INSTRUCTIONS, OR AS DESIGNED.
- LAY THE ASSEMBLED SKIMMER ON THE BOTTOM OF THE BASIN WITH THE FLEXIBLE JOINT AT THE INLET OF THE BARREL PIPE. ATTACH THE FLEXIBLE JOINT TO THE BARREL PIPE AND POSITION THE SKIMMER OVER THE DECAVATED PIT ON SUPPORT. BE SURE TO ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN. THIS WILL BE USED TO PULL THE SKIMMER TO THE SIDE FOR MAINTENANCE.
- EMERGENCY SPILLWAYS-INSTALL THE SPILLWAY IN UNDISTURBED SOIL TO THE GREATEST EXTENT POSSIBLE. THE ACHIEVEMENT OF GRADED ELEVATIONS, PROPER WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE SPILLWAY. THE SPILLWAY SHOULD BE LINED WITH A LAMINATED PLASTIC OR IMPERVIOUS GEOTEXTILE FABRIC. THE FABRIC MUST BE WIDE AND LONG ENOUGH TO COVER THE BOTTOM AND SIDES AND EXTEND INTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES MUST BE SECURED WITH 8-INCH STAPLES OR PINS. THE FABRIC MUST BE LONG ENOUGH TO EXTEND FROM THE SLOPE AND OUT OVER STABLE GROUND. THE BOTTOM OF THE FABRIC MUST BE ONE FEET NOT LOOSED OR SPLICED, OTHERWISE WATER CAN GET UNDER THE FABRIC. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS SPANNING THE COMPLETE WIDTH MAY BE USED. THE UPPER SECTIONS SHOULD OVERLAP THE LOWER SECTIONS SO THAT WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC WITH A TRENCH WITH STAPLES OR PINS.
- EROSION CONTROL-CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BASIN AREAS COMPLETE THE EMBANKMENT BEFORE THE AREA IMMEDIATELY UPSTREAM OF THE SKIMMER IS CHURNED AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION.
- INSTALL PERMANENT BARRIERS AS SPECIFIED IN PROJECT SPECIFICATIONS, INCLUDING BARRIERS.
- AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT, SMOOTH THE AREA TO BLEND WITH THE ADJACENT AREAS AND STABILIZE PROPERLY.

SKIMMER BASIN
 NOT TO SCALE



DITCH	FLOW Q(10)	LONG. SLOPE(%)	H	B	W	SS	CHANNEL LINING
TEMPORARY DITCH #1	6.7 CFS	1.5%	1.3'	1.0'	6.2'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #2	6.7 CFS	0.6%	1.5'	1.0'	7.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #3	3.5 CFS	1.9%	1.1'	1.0'	5.4'	2:1	STRAW WITH NET NAG DS75



Bowman

Bowman North Carolina Ltd.
 4006 BARRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919)555-6570
 bowman.com

EROSION CONTROL DETAILS
 Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County

Primax Properties, LLC
 Choice One Development, LLC
PRELIMINARY
 DO NOT
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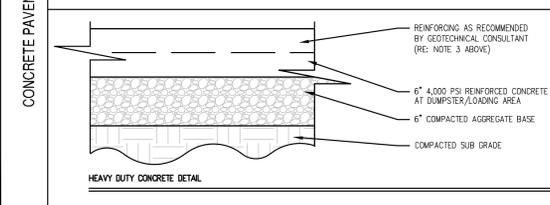
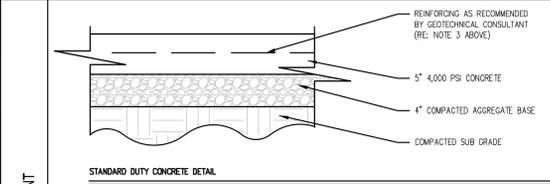
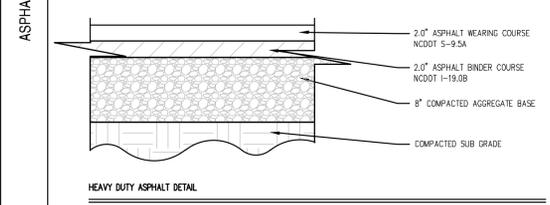
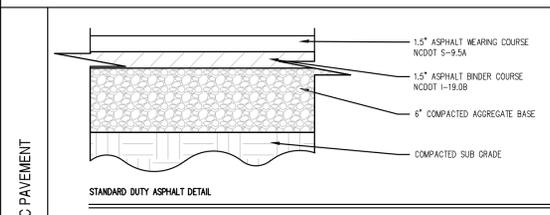
DATE	DESCRIPTION
3/14/23	SKETCH SUBMITTAL
5/22/23	MASTER PLAN SUBMITTAL

DATE	DESCRIPTION	MEL DESIGN	MEL DRAWN	XXX CHKD
JOB No.	220133-01-001			
DATE	March 14, 2023			
FILE No.	220133-01-001			

Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: _____ Date: _____
 Development Services Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: _____ Date: _____
 Administrator

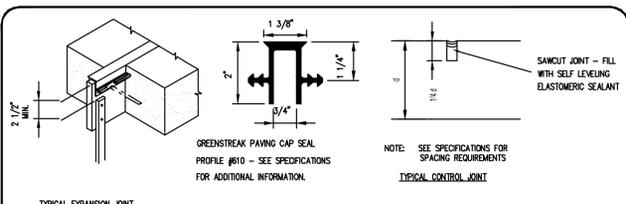
PAVEMENT GENERAL NOTES:

- REFER TO THE GEOTECHNICAL INVESTIGATION WITH PAVEMENT DESIGN RECOMMENDATIONS FOR THE DEVELOPMENT.
- THE SUBGRADE MATERIALS SHALL BE PROOF ROLLED AND/OR SCARIFIED AND COMPACTED PRIOR TO PLACEMENT OF BASE MATERIAL. WHERE EXISTING SUBGRADE MATERIALS ARE UNSUITABLE, THEY SHALL BE REMOVED AND REPLACED WITH COMPACTED SELECT MATERIAL IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
- HEAVY DUTY CONCRETE PAVEMENT AND STANDARD DUTY CONCRETE PAVEMENT SHALL BE REINFORCED AS RECOMMENDED BY THE GEOTECHNICAL REPORT.
- CONCRETE PAVEMENT JOINTS MUST BE SEALED WITH AN APPROVED SEALANT. STEEL REINFORCING SHALL BE USED AT JOINTS. REFER TO ACI 308R (GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS) FOR JOINT DESIGN AND LAYOUT.



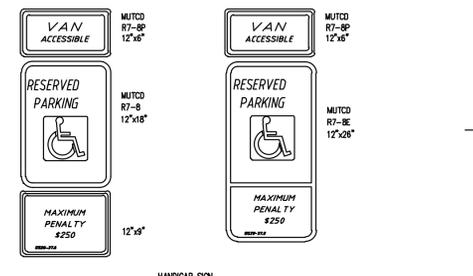
1 PAVEMENT DETAILS
NOT TO SCALE

MATERIALS AND CONSTRUCTION REQUIREMENTS PER THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, LATEST EDITION
 • REFER TO NCDOT DRIVEWAY PERMIT FOR ADDITIONAL REQUIREMENTS
 • REFER TO PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS

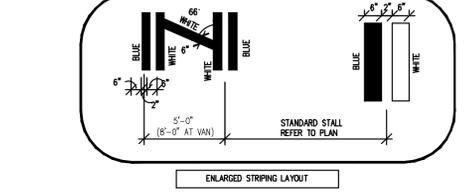
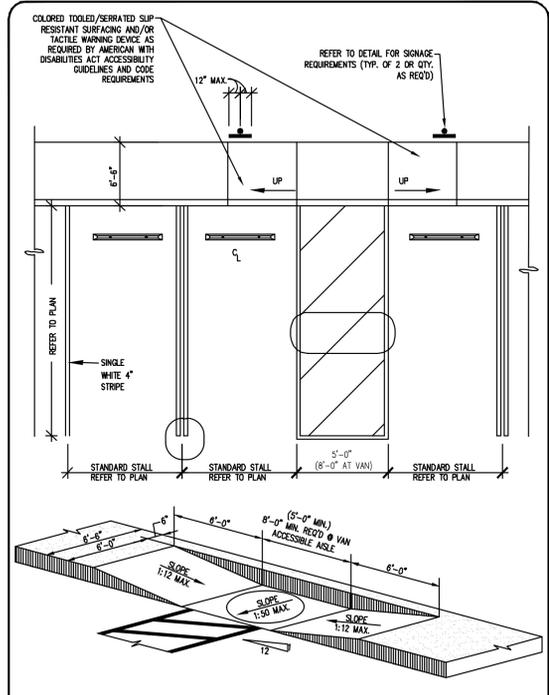
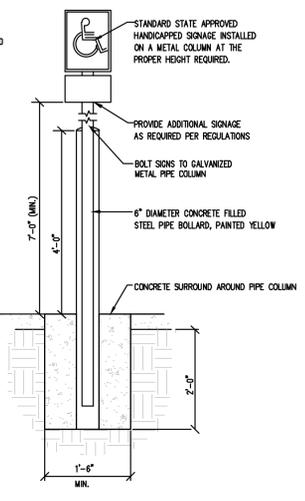


5 CONCRETE JOINTS
NOT TO SCALE

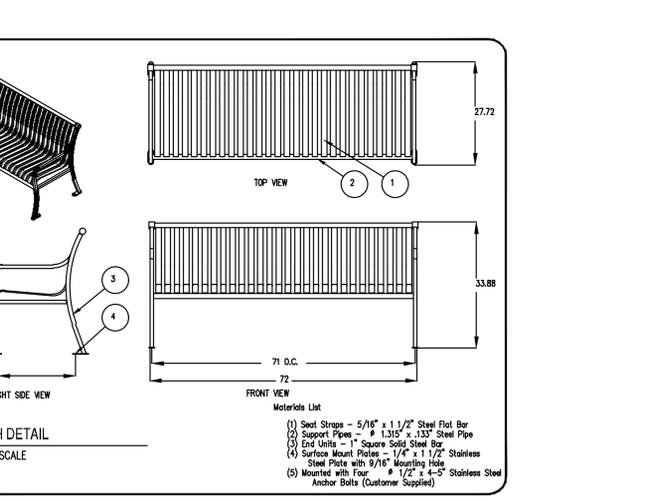
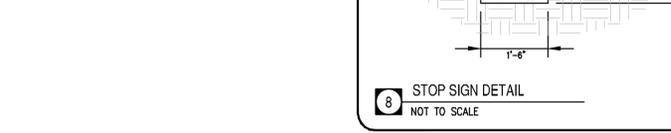
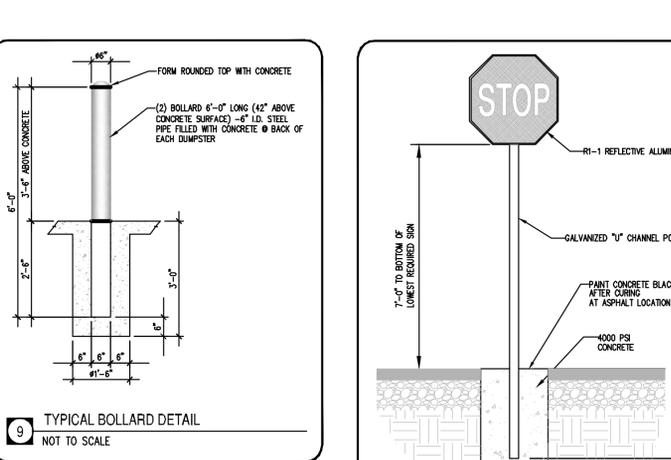
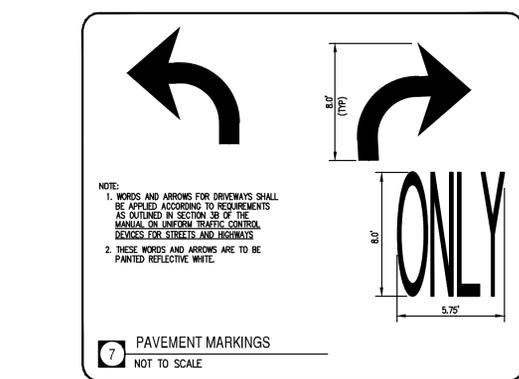
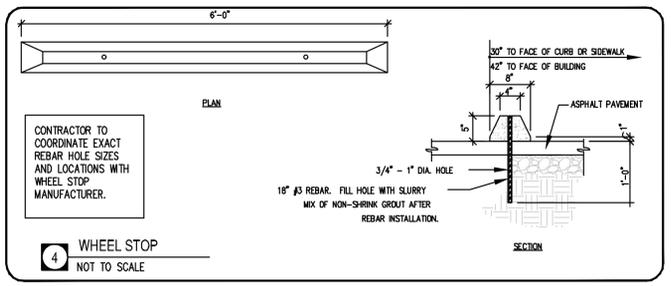
- ACCESSIBLE PARKING SIGNAGE NOTES:**
- ALL LETTERS ARE TO BE PER THE LATEST EDITION OF THE MUTCD.
 - TOP PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
 - BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
 - FINE NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER. CONTRACTOR SHALL VERIFY THE AMOUNT AND ORIGIN NUMBER.
 - ONE (1) SIGN REQUIRED FOR EACH ACCESSIBLE PARKING SPACE.
 - INSTALLED HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 - SIGN MAY BE MOUNTED ON BUILDING/WALL, AT PROPER HEIGHT, IF ADJACENT WITHIN 12" OF CENTER OF PARKING SPACE.



2 HANDICAP PARKING SIGN DETAIL
NOT TO SCALE



3 HANDICAP PARKING DETAIL
NOT TO SCALE



6 BENCH DETAIL
NOT TO SCALE

Bowman North Carolina Ltd.
 4006 BARRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919)555-6570
 bowman.com
 Bowman North Carolina Ltd.

CONSTRUCTION DETAILS
 Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County

Primax Properties, LLC
 Choice One Development, LLC
PRELIMINARY
 DO NOT
 USE FOR
 CONSTRUCTION

PLAN STATUS		
3/14/23	SKETCH SUBMITTAL	
5/22/23	MASTER PLAN SUBMITTAL	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
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SHEET	C6.3	

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 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: _____ Date: _____
 Development Services Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: _____ Date: _____
 Administrator

UTILITY SCREENING NOTE

A/C UNITS, TRANSFORMERS AND OTHER ABOVE GROUND UTILITY STRUCTURES SHALL BE SCREENED FROM VIEW FROM THE RIGHT-OF-WAY WITH LANDSCAPING

EXISTING TREE NOTE

ALL EXISTING TREES THAT ARE NOTED TO REMAIN SHALL BE MONITORED AFTER CONSTRUCTION BEGINS TO ENSURE THAT THE TREE'S HEALTH HAS NOT BEEN COMPROMISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY TREES THAT FAIL TO MAINTAIN GOOD HEALTH AFTER CONSTRUCTION BEGINS.

TREE PERCENTAGE NOTE

ALL CANOPY TREES AND UNDERSTORY TREES SHALL BE 40%-60% EVERGREEN PER UDO SECTION 8.6

PLANT SIZE NOTE

ALL LANDSCAPING SHALL BE SUFFICIENT SIZE UPON INSTALLATION SO THAT MATURE APPEARANCE WILL BE ACHIEVED WITHIN THREE (3) YEARS FOR SHRUBS AND FIVE (5) YEARS FOR TREES PER 8.4.G

UTILITY SCREEN NOTE

ALL ABOVE GROUND UTILITIES INCLUDING TRANSFORMERS, BACKFLOWS, ETC., SHALL BE SCREENED IN ACCORDANCE WITH PER UDO SECTION 8.7.C

LANDSCAPE NOTES:

HYDROMULCH ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOD).
 THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWN, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES, REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
 SHOULD SEEDING AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.

STREET TREES
 1 CANOPY TREE
 PER 40' OC

NOTE: BUFFERS TO BE SUPPLEMENTED WITH ADDITIONAL PLANTINGS IF BUFFER PLANTING STANDARDS CANNOT BE MET WITH EXISTING VEGETATION IN ACCORDANCE WITH CHAPTER 8 OF THE UDO.

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LINE TABLE

LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE TABLE

CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA	TANGENT
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"	114.02'
C4	25.00'	39.61'	S 60°42'01" E	35.59'	99°46'13"	25.34'

GENERAL LANDSCAPE NOTES:

- ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
- NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
- ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
- GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
- MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
- ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
- FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
- LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URVAN FORESTER TO RESOLVE BEFORE PLANTING.
- ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES).
- ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.

10'x70' SIGHT TRIANGLE

10' TYPE A BUFFER PARKING LOT SCREEN

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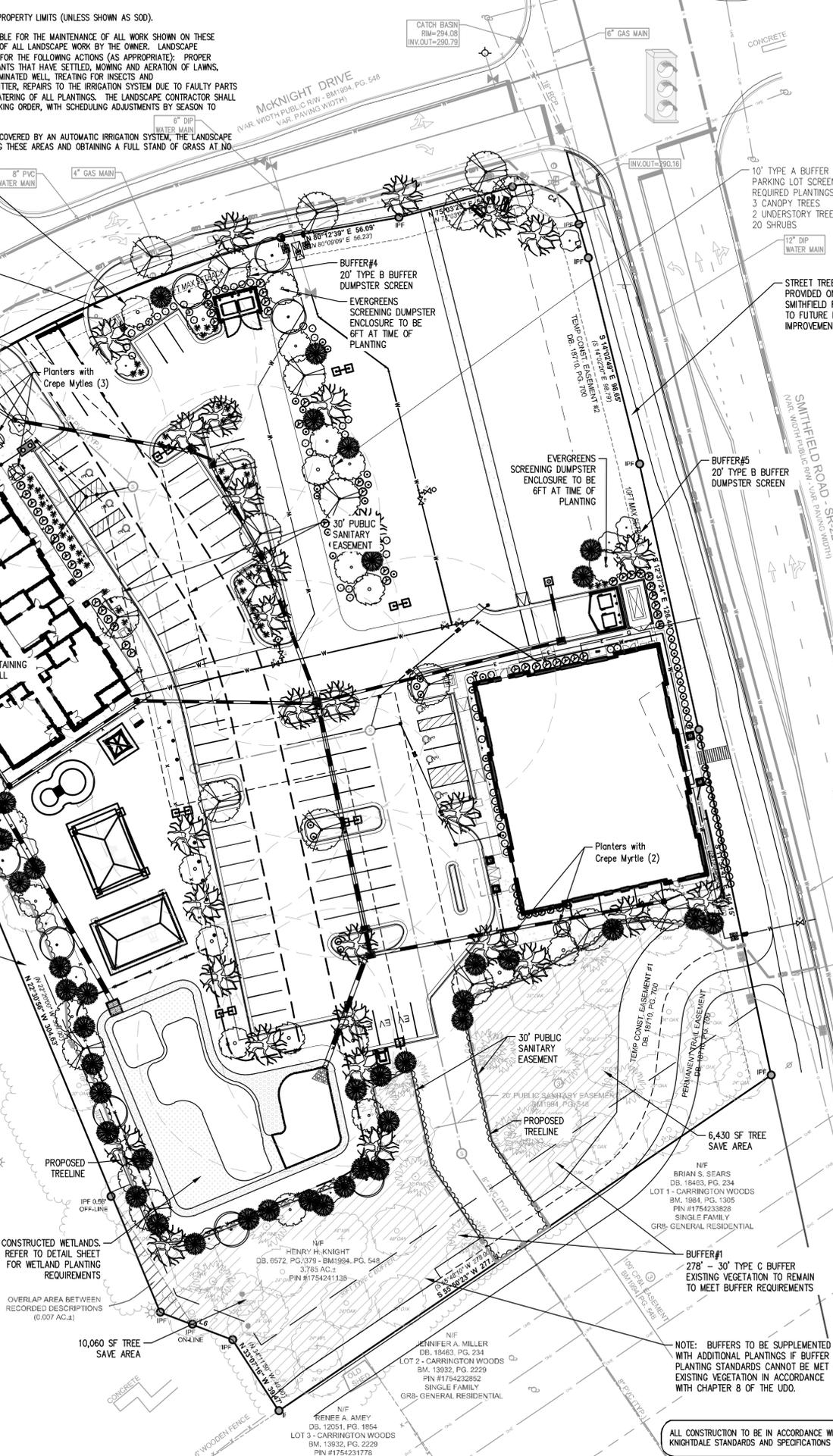
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10' TYPE A BUFFER PARKING LOT SCREEN



10' TYPE A BUFFER PARKING LOT SCREEN
 REQUIRED PLANTINGS PER 100LF
 3 CANOPY TREES
 2 UNDERSTORY TREES
 20 SHRUBS

STREET TREES NOT PROVIDED ON SMITHFIELD ROAD DUE TO FUTURE ROADWAY IMPROVEMENT PROJECT

10' TYPE A BUFFER PARKING LOT SCREEN

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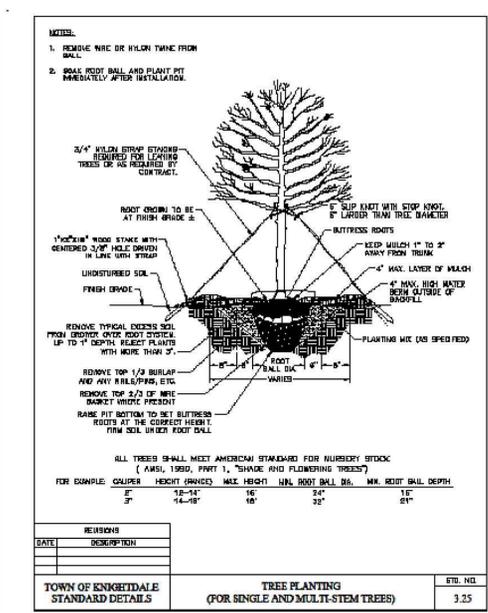
SEEDING SCHEDULE

SEEDING PERIOD	SEEDING TYPE	APPLICATION RATE (LBS/1000)
AUGUST 15 - NOVEMBER 01	TALL FESCUE	200
NOVEMBER 01 - MARCH 01	TALL FESCUE AND AMBRICIA RYE	200
MARCH 01 - APRIL 15	TALL FESCUE	200
APRIL 15 - JUNE 30	MULLED COMMON BERNHARDGRASS	25
JULY 01 - AUGUST 15	TALL FESCUE AND PERENNIAL WHEAT GRASS	150
	"MORNING-GLOAM HYDRIS	25
	SLOPES 0.1 TO 3:1	
MARCH 01 - JUNE 01	BIRDSEED DOGGRASS (SCARIFIED) SEED	80
MARCH 01 - APRIL 15	TALL FESCUE OR MIXING LEGUMINOSAE OR	120
MARCH 01 - JUNE 30	MULLED COMMON BERNHARDGRASS	25
JUNE 01 - SEPTEMBER 01	PERENNIAL WHEAT GRASS	35
	"MORNING-GLOAM HYDRIS	25
SEPTEMBER 01 - MARCH 01	BIRDSEED DOGGRASS (SCARIFIED), LEGUMINOSAE AND	75
	TALL FESCUE OR	150
NOVEMBER 01 - MARCH 01	AMBRICIA RYE	25

REVISIONS

DATE	DESCRIPTION	BY	CHKD

TOWN OF KNIGHTDALE STANDARD DETAILS SEEDING SCHEDULE 2.01



MASTER PLANT LIST

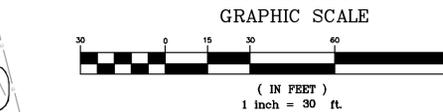
TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	QA	35	Quercus oakifolia	Sourtooth Oak	☉	2.5"	8' MIN	30'	B&B	AS SHOWN	
	ZS	26	Zakoua serotia	Japanese Zakoua	☉	2.5"	8' MIN	20'	B&B	AS SHOWN	
	CA	15	Cupressus arizonica	Arizona Cypress	☉	2.5"	8' MIN	15'	B&B	AS SHOWN	
	MM	12	Magnolia x spp.	Hybrid Evergreen Magnolia "Monard"	☉	-	4' MIN	15'	B&B	AS SHOWN	
	BN	19	Betula nigra	River Birch	☉	-	4' MIN	10'	B&B	AS SHOWN	
UNDERSTORY TREES	XP	10	Koeleria paniculata	Goldenrod Tree	☉	-	4' MIN	15'	B&B	AS SHOWN	
	PT	53	Pinus taeda	Dwarf Loblolly Pine	☉	-	4' MIN	10'	B&B	AS SHOWN	
	LI	5	Loganostroma indica	Crape myrtle	☉	-	4' MIN	10'	B&B	AS SHOWN	
	RC	46	Rhododendron carolinianum	Carolina Rhododendron	☉	-	18" MIN	4'-5'	7 GAL	AS SHOWN	
	RI	72	Raphipolis indica 'Ballerina Pink Dancer'	Indian Hawthorne	☉	-	18" MIN	3'-6'	3 GAL	AS SHOWN	
SHRUBS	ND	59	Nandina domestica 'Aragayuzuna nana'	Dwarf Nandina	☉	-	18" MIN	3'-4'	3 GAL	AS SHOWN	
	MB	47	Muhlenbergia bealei	Leatherleaf Muhlenbergia	☉	-	18" MIN	4'-5'	3 GAL	AS SHOWN	

- LANDSCAPING NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL REQUIRED LANDSCAPING FOR THE ENTIRE SITE, TO INCLUDE BUT NOT LIMITED TO: SODDED/SEEDING AREAS, SHRUB BEDS, PARKING LOT ISLANDS, ROADSIDE SIGN BASE(S) AND MONUMENT PLANTERS.
 - CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDING AREAS.
 - IN THE EVENT THAT PLANTING BEDS AND MULCH ARE REQUIRED, THE CONTRACTOR SHALL INSTALL BLACK FABRIC WEED BLOCK LANDSCAPE MESH UNDER THE MULCH TO PREVENT WEED GROWTH.
 - CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF: (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT BUILDINGS OPEN FOR BUSINESS TO THE PUBLIC.
 - GENERAL CONTRACTOR IS TO CLEAN ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND RAKE ALL GRASS AREAS.
 - PROVIDE LANDSCAPE PLANS TO OWNER AND AS REQUIRED BY LOCAL JURISDICTION TO THE BLDG. DEPT. FOR REVIEW AND APPROVAL PRIOR TO START OF WORK.
 - ALL LANDSCAPING, TREES, SHRUBS, ETC. SHALL NOT INTERFERE WITH THE VISIBILITY OF PROJECT SIGNAGE
 - CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
 - OPEN AREAS WITHIN PLANTING BEDS SHALL BE MULCHED.

BUFFER YARD CALCULATIONS:

BUFFER#	TYPE	TOTAL BUFFER YARD LENGTH	REQUIRED:	PROVIDED:
1	30' TYPE C BUFFER	278'	CANOPY TREES (5/100LF) = 14 UNDERSTORY TREES (5/100LF) = 14 SHRUBS (25/100LF) = 70	CANOPY TREES = >14 EXISTING (50% EVERGREEN) UNDERSTORY TREES = >14 EXISTING (50% EVERGREEN) SHRUBS = >70 EXISTING (100% EVERGREEN)
2	10' TYPE A BUFFER	510'	CANOPY TREES (3/100LF) = 16 UNDERSTORY TREES (2/100LF) = 11 SHRUBS (20/100LF) = 102	CANOPY TREES = 2 PROPOSED (50% EVERGREEN) UNDERSTORY TREES = 4 PROPOSED (50% EVERGREEN) SHRUBS = 18 PROPOSED (100% EVERGREEN)
3	10' TYPE A BUFFER (PARKING LOT SCREEN)	55'	CANOPY TREES (3/100LF) = 2 UNDERSTORY TREES (2/100LF) = 2 SHRUBS (20/100LF) = 11	CANOPY TREES = 2 PROPOSED (50% EVERGREEN) UNDERSTORY TREES = 4 PROPOSED (50% EVERGREEN) SHRUBS = 18 PROPOSED (100% EVERGREEN)
4 & 5	20' TYPE B BUFFER (DUMPSTER SCREEN)	45'	CANOPY TREES (3/100LF) = 2 UNDERSTORY TREES (5/100LF) = 3 SHRUBS (20/100LF) = 9	CANOPY TREES = 2 PROPOSED (50% EVERGREEN) UNDERSTORY TREES = 4 PROPOSED (50% EVERGREEN) SHRUBS = 13 PROPOSED (100% EVERGREEN)

SIGHT TRIANGLE NOTE
 WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS.



GENERAL LANDSCAPE NOTES:

- ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
- NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
- ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
- GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
- MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
- ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
- FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
- LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URVAN FORESTER TO RESOLVE BEFORE PLANTING.
- ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES).
- ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.

Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: _____ Date: _____
 Development Services Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: _____ Date: _____
 Administrator

Bowman

Bowman North Carolina Ltd.
 4006 BARRIETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919) 555-6570
 bowman.com
 Bowman North Carolina Ltd.

LANDSCAPE PLAN

Kiddle Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County

Primax Properties, LLC
 Choice One Development, LLC

PRELIMINARY
 DO NOT
 USE FOR
 CONSTRUCTION

PLAN STATUS

DATE	DESCRIPTION
3/14/23	SKETCH SUBMITTAL
5/22/23	MASTER PLAN SUBMITTAL

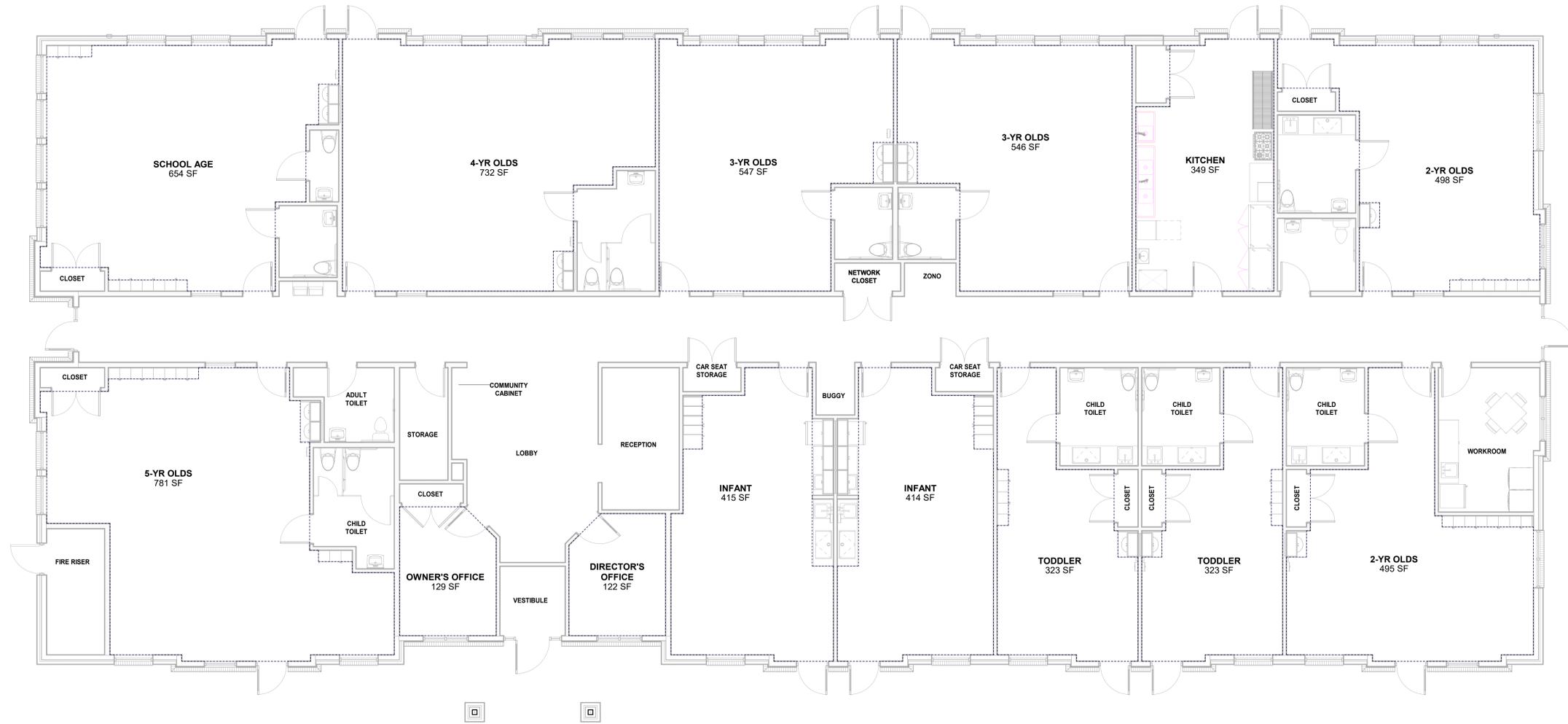
DATE DESCRIPTION

DATE	DESIGN	DRAWN	CHKD
	MEL	MEL	XXX
	SCALE	H:	V:

JOB No. 220133-01-001
 DATE March 14, 2023
 FILE No. 220133-01-001

SHEET **C7.0**

LICENSING SCHEDULE					
ROOM NAME	AREA (SF)	SF PER CHILD	NUMBER OF CHILDREN	NUMBER OF TEACHERS	NUMBER OF ADMIN
INFANT	415 SF	50 SF	8	2	0
INFANT	414 SF	50 SF	8	2	0
TODDLER	323 SF	30 SF	10	2	0
TODDLER	323 SF	30 SF	10	2	0
2-YR OLDS	498 SF	30 SF	16	2	0
2-YR OLDS	495 SF	30 SF	16	2	0
3-YR OLDS	547 SF	30 SF	18	2	0
3-YR OLDS	546 SF	30 SF	18	2	0
4-YR OLDS	732 SF	30 SF	24	2	0
SCHOOL AGE	654 SF	30 SF	21	1	0
5-YR OLDS	781 SF	30 SF	26	2	0
DIRECTOR'S OFFICE	122 SF	0 SF		0	1
OWNER'S OFFICE	129 SF	0 SF		0	1
KITCHEN	349 SF	0 SF		0	1
TOTAL	6328 SF		175	21	3



1 LICENSING PLAN
SCALE: 3/16" = 1'-0"

**KIDDIE ACADEMY
KNIGHTDALE**

MCKNIGHT DRIVE
KNIGHTDALE, NC

KEY PLAN

Revisions		
#	Date	Description

Project Number: 22195
Issued for: SCHEMATIC
Issue Date: 02/23/23

DRAWING TITLE
**OVERALL LICENSING
FLOOR PLAN**

SHEET NUMBER

L1

PRIMARY MATERIALS			SECONDARY MATERIALS			MISCELLANEOUS MATERIALS		
TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION
MASONRY			EIFS			PAINT		
BR		BRICK VENEER MANUFACTURER: GENERAL SHALE STYLE: WIRECUT COLOR: GRAYSBURG - MONCURE, NC PLANT	EIFS-1		MANUFACTURER: SENERGY STYLE: FINE FINISH COLOR: ST #3058 NIGHTINGALE	PNT		COLOR: SW7000 IBIS WHITE
FIBER CEMENT PANELS			EIFS-2			CANVAS CANOPY		
FC		FIBER CEMENT PANELS MANUFACTURER: NICHIIA ARCHITECTURAL WALL PANELS STYLE: VINTAGEWOOD COLOR: REDWOOD	EIFS-2		MANUFACTURER: SENERGY STYLE: FINE FINISH COLOR: LRV #33 HAZELNUT	CAN		MANUFACTURER: TEMPOTEST MARINE STYLE: SOLID COLOR: T97 CHARCOAL
APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.								



4 REAR ELEVATION
 SCALE: 3/16" = 1'-0"



2 PLAYGROUND ELEVATION
 SCALE: 3/16" = 1'-0"



3 MCKNIGHT DRIVE ELEVATION
 SCALE: 3/16" = 1'-0"



1 ENTRY ELEVATION
 SCALE: 3/16" = 1'-0"

**KIDDIE ACADEMY
 KNIGHTDALE**

MCKNIGHT DRIVE
 KNIGHTDALE, NC

KEY PLAN

Revisions		
#	Date	Description

Project Number: 22195
 Issued for: SCHEMATIC
 Issue Date: 02/23/23

DRAWING TITLE
OVERALL ELEVATIONS

SHEET NUMBER
L2.0

LEGEND	
	PRIMARY MATERIALS: BRICK / FIBER CEMENT PANEL
	SECONDARY MATERIALS: EIFS
	GLAZING

REAR ELEVATION		
WINDOW PERCENTAGE		
BUILDING LENGTH:	FEET:	156 0
	INCHES:	1872
WINDOW LENGTH:	INCHES:	800
40% LENGTH:	COMPLIANT?	749 YES
WALL MATERIAL PERCENTAGES		
TOTAL FACADE SF	3133	
WINDOWS SF	484	
TOTAL FACADE SF W/O WINDOW:	2648	
BRICK / FIBER CEMENT SF	1453	
EIFS SF	1216	
BRICK / FIBER CEMENT %	54%	
COMPLIANT?	YES	
SECONDARY MATERIALS	46%	
COMPLIANT?	YES	

ENTRY ELEVATION		
WINDOW PERCENTAGE		
BUILDING LENGTH:	FEET:	156 0
	INCHES:	1872
WINDOW LENGTH:	INCHES:	840
40% LENGTH:	COMPLIANT?	749 YES
WALL MATERIAL PERCENTAGES		
TOTAL FACADE SF	3299	
WINDOWS SF	539	
TOTAL FACADE SF W/O WINDOW:	2760	
BRICK / FIBER CEMENT SF	1753	
EIFS SF	1006	
BRICK / FIBER CEMENT %	64%	
COMPLIANT?	YES	
SECONDARY MATERIALS	36%	
COMPLIANT?	YES	

PLAYGROUND ELEVATION		
WINDOW PERCENTAGE		
BUILDING LENGTH:	FEET:	65 8
	INCHES:	788
WINDOW LENGTH:	INCHES:	344
40% LENGTH:	COMPLIANT?	315 YES
WALL MATERIAL PERCENTAGES		
TOTAL FACADE SF	1342	
WINDOWS SF	200	
TOTAL FACADE SF W/O WINDOW:	1142	
BRICK / FIBER CEMENT SF	586	
EIFS SF	556	
BRICK / FIBER CEMENT %	51%	
COMPLIANT?	YES	
SECONDARY MATERIALS	49%	
COMPLIANT?	YES	

MCKNIGHT DRIVE ELEVATION		
WINDOW PERCENTAGE		
BUILDING LENGTH:	FEET:	65 8
	INCHES:	788
WINDOW LENGTH:	INCHES:	328
40% LENGTH:	COMPLIANT?	315 YES
WALL MATERIAL PERCENTAGES		
TOTAL FACADE SF	1379	
WINDOWS SF	215	
TOTAL FACADE SF W/O WINDOW:	1164	
BRICK / FIBER CEMENT SF	635	
EIFS SF	529	
BRICK / FIBER CEMENT %	55%	
COMPLIANT?	YES	
SECONDARY MATERIALS	45%	
COMPLIANT?	YES	

EXTERIOR FINISH LEGEND								
PRIMARY MATERIALS			SECONDARY MATERIALS			MISCELLANEOUS MATERIALS		
TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION
MASONRY			EIFS			PAINT		
BR		BRICK VENEER MANUFACTURER: GENERAL SHALE STYLE: WIRECUT COLOR: GRAYSBURG - MONCURE, NC PLANT	EIFS-1		MANUFACTURER: SENERGY STYLE: FINE FINISH COLOR: ST #3058 NIGHTINGALE	PNT		COLOR: SW7000 IBIS WHITE
FIBER CEMENT PANELS			EIFS-2			CANVAS CANOPY		
FC		FIBER CEMENT PANELS MANUFACTURER: NICHHA ARCHITECTURAL WALL PANELS STYLE: VINTAGEWOOD COLOR: REDWOOD			MANUFACTURER: SENERGY STYLE: FINE FINISH COLOR: LRV #33 HAZELNUT	CAN		MANUFACTURER: TEMPOTEST MARINE STYLE: SOLID COLOR: T97 CHARCOAL
APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.								



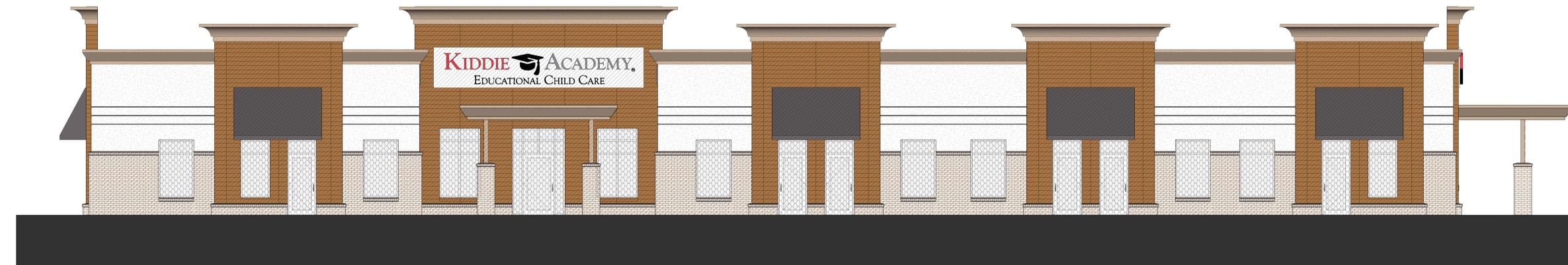
4 REAR ELEVATION
SCALE: 3/16" = 1'-0"



2 PLAYGROUND ELEVATION
SCALE: 3/16" = 1'-0"



3 MCKNIGHT DRIVE ELEVATION
SCALE: 3/16" = 1'-0"



1 ENTRY ELEVATION
SCALE: 3/16" = 1'-0"

Revisions		
#	Date	Description

EXTERIOR FINISH LEGEND								
PRIMARY MATERIALS			SECONDARY MATERIALS			MISCELLANEOUS MATERIALS		
TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION
MASONRY			EIFS			PAINT		
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APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.								



4 REAR ELEVATION (COLOR)
SCALE: 3/16" = 1'-0"



2 PLAYGROUND ELEVATION (COLOR)
SCALE: 3/16" = 1'-0"



3 MCKNIGHT DRIVE ELEVATION (COLOR)
SCALE: 3/16" = 1'-0"

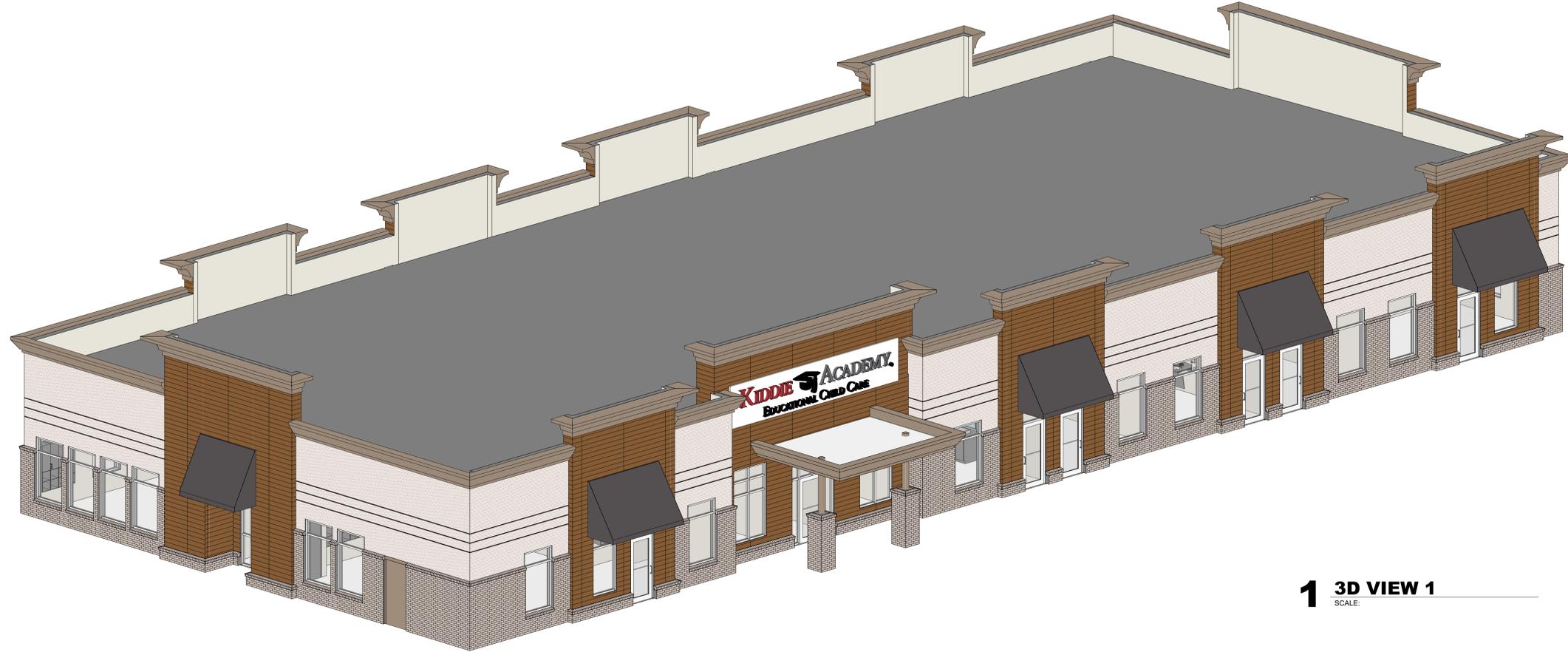


1 ENTRY ELEVATION (COLOR)
SCALE: 3/16" = 1'-0"

Revisions		
#	Date	Description



2 3D VIEW 2
SCALE:



1 3D VIEW 1
SCALE:

**KIDDIE ACADEMY
KNIGHTDALE**

MCKNIGHT DRIVE
KNIGHTDALE, NC

KEY PLAN

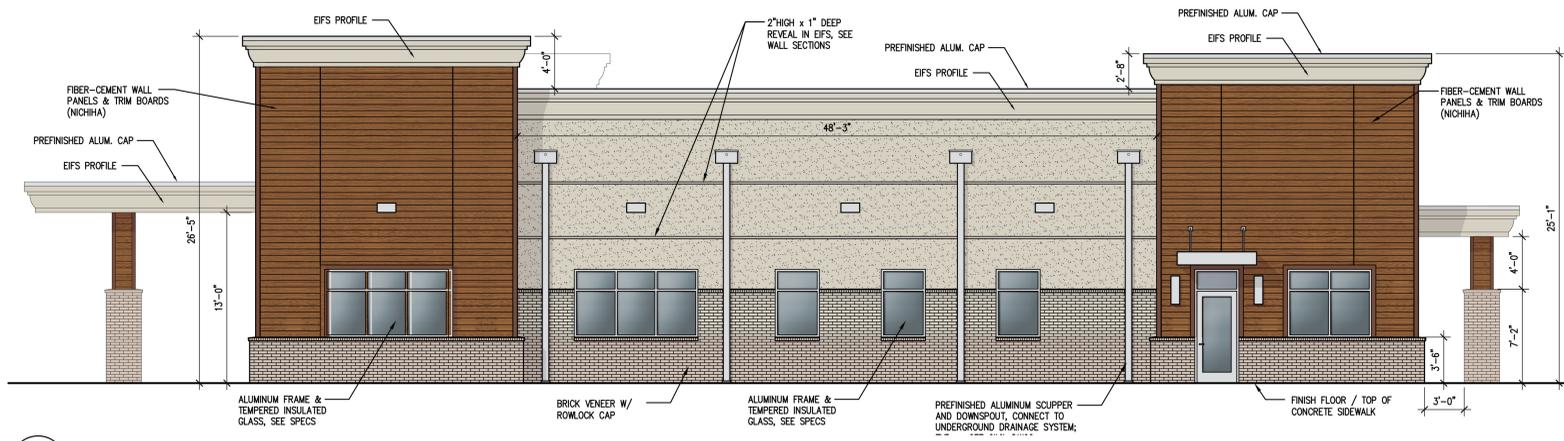
Revisions

#	Date	Description

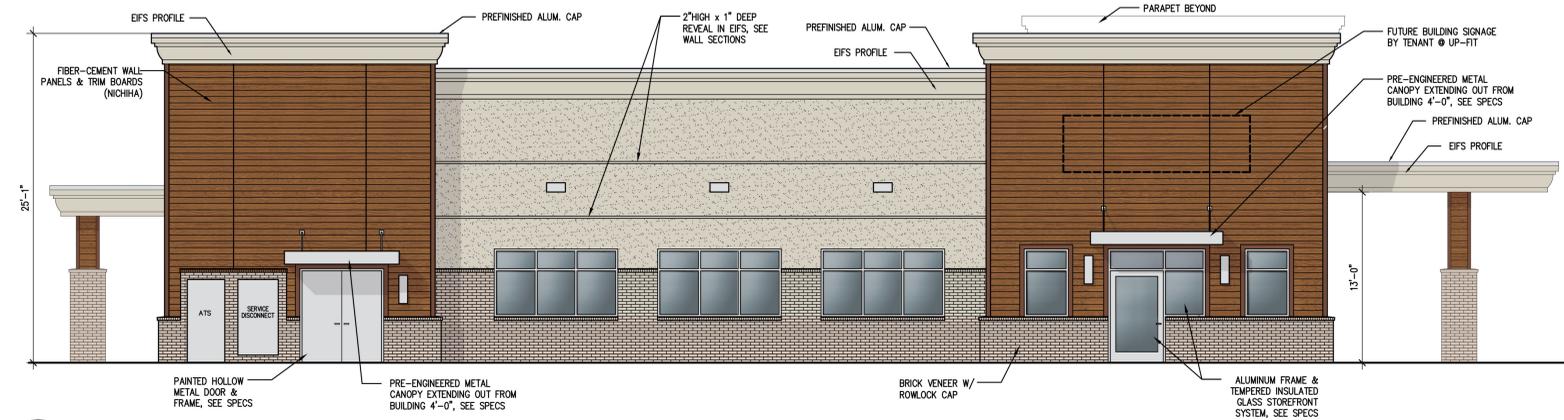
Project Number: 22195
Issued for: SCHEMATIC
Issue Date: 02/23/23

DRAWING TITLE
3D VIEWS

SHEET NUMBER
L3



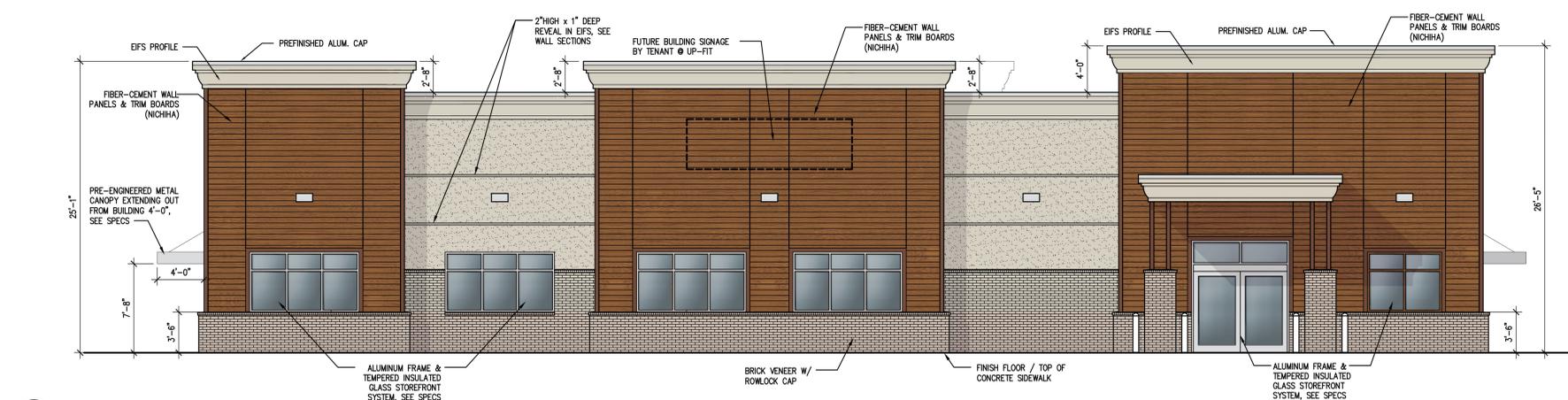
1 SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



2 NORTH ELEVATION
SCALE: 3/16" = 1'-0"



3 EAST ELEVATION
SCALE: 3/16" = 1'-0"



4 WEST ELEVATION
SCALE: 3/16" = 1'-0"

EXTERIOR MATERIALS:

BRICK VENEER: GENERAL SHALE - GRAYSBURG
EIFS: SENERGY - FINE FINISH - COLOR: ST#3058 NIGHTINGALE
FIBER-CEMENT WALL PANELS: NICHHA ARCHITECTURAL WALL PANELS VINTAGE WOOD - COLOR: REDWOOD
ALUMINUM STOREFRONT, COPING, CANOPIES & TRIM: CLEAR ANODIZED ALUMINUM

PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

DUNN & DALTON ARCHITECTS
401 North Heritage St.
252-527-1523 Phone
252-527-0048 Fax

Proposed Shell Building for:
FKC KNIGHTDALE
#101477-1-DN-S-BO-2021
MCKNIGHT DRIVE
KNIGHTDALE, NC 27545

FRESENIUS KIDNEY CARE

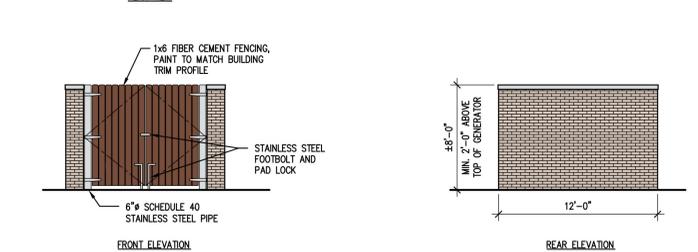
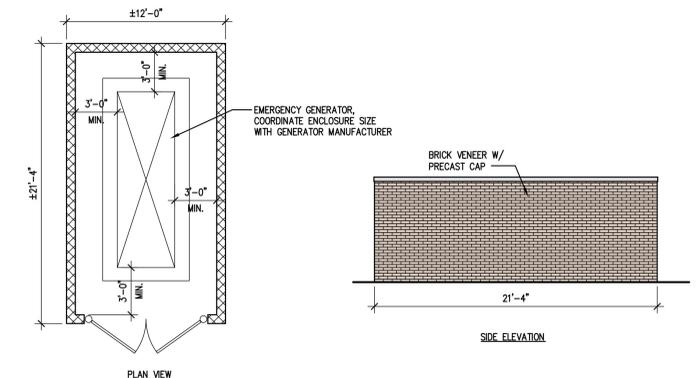
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Drafted By: TWD
Checked By: TWD
Date Drawn: X/XX/2022
Project #: FRE-COD-21070

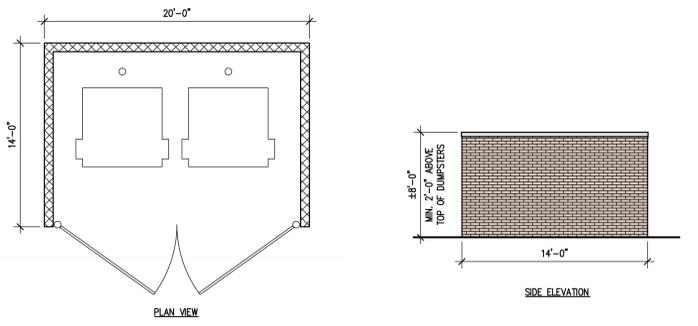
REVISION DESCRIPTION	DATE	REV #

SHEET NAME:
EXTERIOR ELEVATIONS OPTION #A

SHEET NUMBER:
A3.0



5 GENERATOR ENCLOSURE PLAN & ELEVATIONS
SCALE: 3/16" = 1'-0"



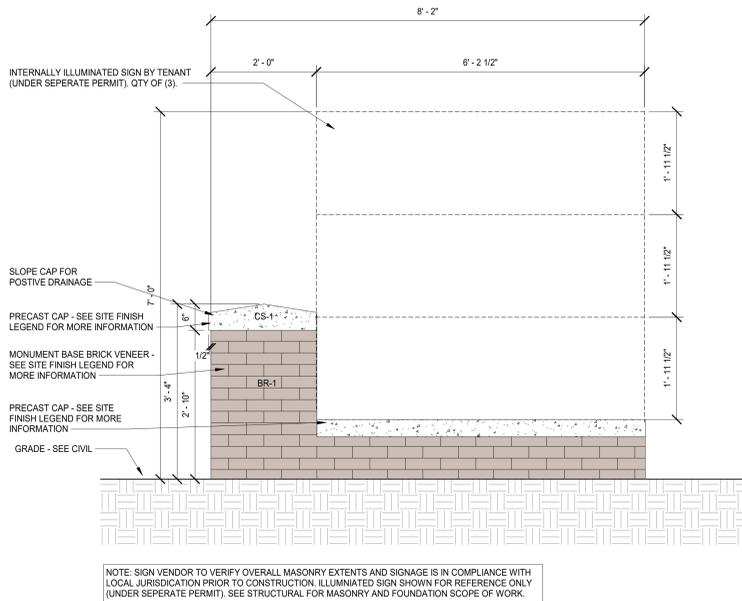
6 DUMPSTER ENCLOSURE PLAN AND ELEVATIONS
SCALE: 3/16" = 1'-0"

SEAL LOCATION

DATE

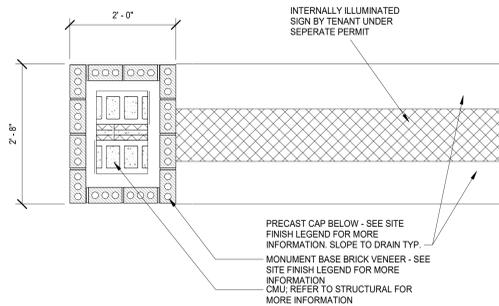
SEAL LOCATION

SITE FINISH LEGEND		
TAG	POCHE	MATERIAL DESCRIPTION
MASONRY		
BR-1		BRICK VENEER MANUFACTURER: GENERAL SHALE STYLE: MODULAR COLOR: GRAYSBURG MORTAR: NO COLOR MORTAR SEALANT: BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7546 'URBANE BRONZE'
MISCELLANEOUS METALS		
M-2		COPING CAP FINISH: KYNAR COLOR: PAINTED TO MATCH PT-2
PAINT		
PT-2		MANUFACTURER: SHERWIN WILLIAMS COLOR: SW9083 'DUSTED TRUFFLE'
PRECAST CAP		
CS-1		MANUFACTURER: JOHNSON CONCRETE PRODUCTS STYLE: SMOOTH COLOR: JCL-C107 SMOKY QUARTZ SEALANT: BASF STONE
APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.		
ALL SITE ITEMS CALLED TO BE PAINTED ARE TO BE PAINTED PT-2 PER THE SCHEDULE ABOVE.		



3 EXT. MONUMENT SIGNAGE ELEVATION

SCALE: 3/4" = 1'-0"



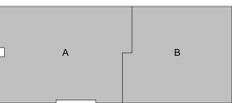
2 MONUMENT SIGN - PLAN

SCALE: 3/4" = 1'-0"

KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY

KEY PLAN



Revisions

#	Date	Description
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Project Number: 22195
Issued for: SCHEMATIC
Issue Date: 05/09/23

DRAWING TITLE
**ARCHITECTURAL
SITE PLAN - FOR
REFERENCE ONLY**

SHEET NUMBER

G.501



#	Date	Comments

Revisions	



Luminaire Schedule					
Symbol	Qty	Label	Description	Luminaire Watts	BUG Rating
	6	P5	PRV-C60-D-UNV-T5-BZ	153	B5-U0-G4
	1	P4	PRV-C60-D-UNV-T4-BZ	153	B3-U0-G5

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	3.24	5.9	0.4	8.10	14.75
Playground	Illuminance	Fc	2.67	5.0	0.6	4.45	8.33

Luminaires & Lamps Furnished By Villa Lighting Inc. St Louis, MO. 63103
 (800)325-0693
 www.villalighting.com

The electrical contractor shall be responsible for receiving, storage, installation and wiring of light fixtures.

The electrical contractor shall report any damaged light fixtures or missing parts to Villa Lighting within 48 hours of receipt of light fixture package.

Design is based on current information provided at the time of request. Any changes in mounting height, mounting location, lamp wattage, lamp type, and existing field conditions that effect any of the previously mentioned will void the current layout and require a change request and recalculation. Calculations are based upon a computer simulation and actual field calculations may vary.

Fixtures mounted on 20' pole & 3' base
 Light level calculated on the ground

#	Date	Comments

Revisions

Date: 5/15/2023

KIDDIE ACADEMY
 KNIGHTDALE, NC