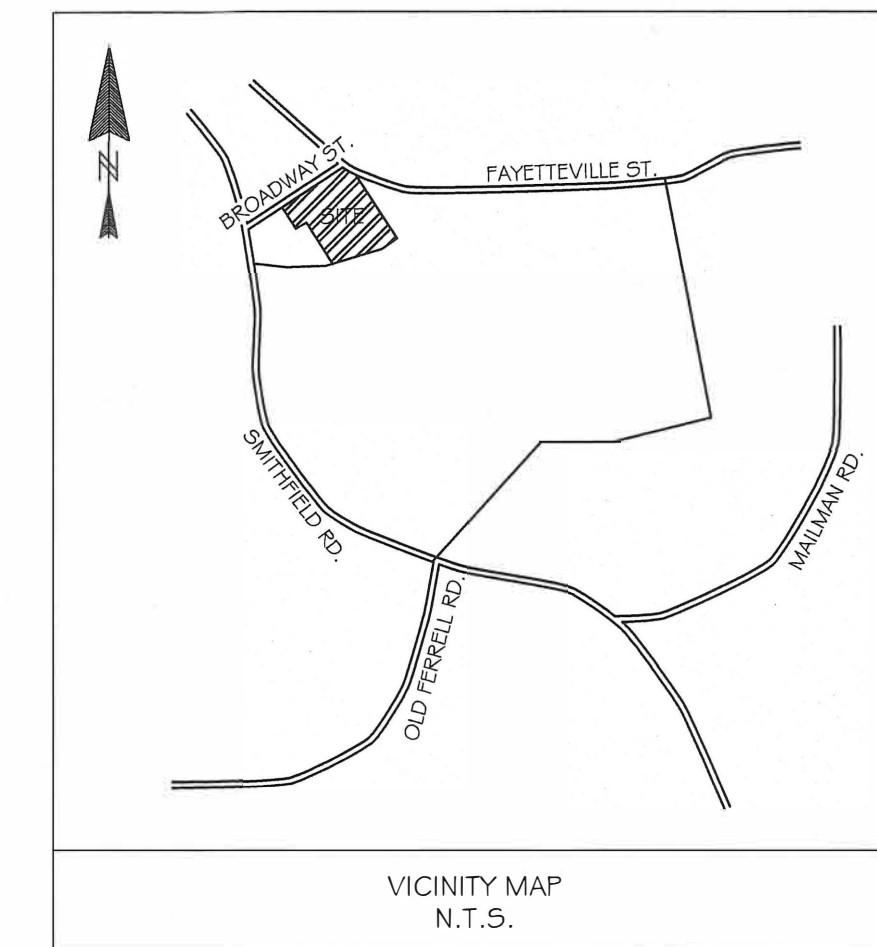


CAMDEN PARK

MASTER PLAN



SITE DATA	
PROJECT NAME	CAMDEN PARK
PREPARER'S CONTACT INFORMATION	JONES & CROSSEN ENGINEERING, PLLC P.O. BOX 1062 APEX, NORTH CAROLINA 27502 PHONE - (919) 387-1174 FAX - (919) 387-3375
OWNER / DEVELOPER CONTACT INFORMATION	CONTACT PERSON - PETER D. CROSSEN DOS BROS, LLC & FRIENDLY CAPITAL, LLC 7101 CREEDMOOR ROAD, SUITE 122 RALEIGH, NORTH CAROLINA 27613 PHONE - (919) 845-6688 FAX - (919) 845-6639 CONTACT PERSON - ANDREW SANDMAN
PROJECT SITE ADDRESS	0 FAYETTEVILLE STREET 120 BROADWAY STREET
PROJECT PROPERTY ZONING	UR12
PROPOSED PROPERTY ZONING	UR12-FUD
PROJECT WAKE COUNTY PIN NO.5	1753- 59-4934, 59-6807 & 59-4750
PROJECT TOTAL SITE AREA	9.23 ACRES
FAYETTEVILLE STREET RAW DEDICATION	0.07 ACRE
BROADWAY STREET RAW DEDICATION	0.22 ACRE
NET SITE DEVELOPMENT AREA	8.94 ACRES
PROPOSED RESIDENTIAL LOTS & DENSITY	74 LOTS & 8.02 UNITS PER ACRE
EXISTING LAND USE	VACANT
PROPOSED LAND USE	TOWNHOMES
WATERSHED	NEUSE RIVER BASIN
FEMA FIRM MAP NUMBER	3720175300J (DATED MAY 2, 2006)

WAP NARRATIVE:

THE DEVELOPMENT PROPOSES TO MEET THE TOWN OF KNIGHTDALE WATER ALLOCATION POLICY (WAP) BY COMBINING BONUS POINTS FROM ARCHITECTURAL ELEMENTS, RECREATION ELEMENTS AND STORMWATER. OUR PRELIMINARY ACCOUNTING IS AS FOLLOWS:

BASE POINTS	MAJOR SUBDIVISION	15 POINTS
BONUS POINTS	SECTION 1B - NEARBY INTERSECTION IMPROVEMENTS	5 POINTS
	SECTION 2B - FOUNTAIN WITHIN BMP	4 POINTS
	SECTION 2B - ON-STREET PARKING	2 POINTS
	SECTION 2C - ARCHITECTURAL STANDARDS	15 POINTS
	SECTION 3A - ROADSIDE LANDSCAPING	2 POINTS
	SECTION 3A - PUBLIC ART DISPLAY	4 POINTS
	SECTION 4F - PLAYGROUND	4 POINTS
	TOTAL POINTS	51 POINTS

MASTER PLAN SHEET INDEX

1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	PRELIMINARY LOT LAYOUT PLAN
4	PRELIMINARY UTILITY PLAN
5	PRELIMINARY GRADING & STORM DRAINAGE PLAN
6	TYPICAL STREET SECTIONS
7	STREET SIGN AND MARKING PLAN
LA-1	LANDSCAPE PLAN
LP-1	LIGHTING PLAN
PG-1	ELEVATION

- SITE DESIGN MODIFICATIONS**
- UDO SECTION 3.4 - BULK AND DIMENSIONAL STANDARDS
1. LOT WIDTH/UNIT - ALLEY LOADED: 20 FT
 2. MINIMUM RESIDENTIAL DRIVEWAY LENGTH: 22 FT
- UDO SECTION 6.6 - TOWNHOUSE BUILDING TYPE STANDARD
1. YARD SETBACK SIDE MINIMUM: 3 FT (0 FT WHERE PARTIALLY EXISTS)
 2. MAXIMUM TOWNHOME CLUSTER: 7
- UDO SECTION 11.1.B - REQUIRED DISTRIBUTION OF USES
1. TOWNHOME USE MAXIMUM DISTRIBUTION: 100%

ATTENTION CONTRACTORS

THE CONSTRUCTION CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF THE WATER AND SEWER, 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 JOB SITE, 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.

PARKING CALCULATION:

REQUIRED PARKING - 148
74 UNITS X 2 SPACES PER UNIT
PROPOSED PARKING - 171 SPACES
74 UNITS X 2 SPACES PER UNIT (TOWNHOME PARKING)
74 UNITS X 0.25 SPACES PER UNIT (GUEST PARKING)
MAIL KIOSK - 2 SPACES
ON-STREET PARKING - 2 SPACES

TREE CANOPY CALCULATION:

PERIMETER LENGTH = 2,686 LF
REQUIRED AREA = 53,720 SF (1.23 AC)
(2,686' X 20' = 53,720 SF)
REQUIRED AREA IS GREATER THAN 10% OF SITE AREA
(1.23 AC > 0.92 AC (10% OF 9.23 AC))
TREE CANOPY REQUIRED = 0.92 AC
TREE CANOPY PROVIDED = 1.01 AC

RECREATIONAL OPEN SPACE CALCULATION:

DENSITY - 8.02 UNITS/ACRE
74 UNITS X 2.5 BEDROOMS/UNIT = 185 BEDROOM
(SITE IS WITHIN 1/4 MILE OF TOWN PARKS)
SO 185 BEDROOMS X 275 SF/BEDROOM = 50,875 SF
RECREATIONAL OPEN SPACE REQUIRED = 1.17 AC
RECREATIONAL OPEN SPACE PROVIDED = 1.22 AC

ACTIVE SPACE - COMMUNITY BACKYARD (0.63 AC)
CONCEPT IS TO PROVIDE AREAS FOR COMMUNITY GATHERING BY OFFERING A PLAYGROUND, PICNIC AREA AND/OR BENCHES

PASSIVE SPACE - COMMUNITY CORNER & OPEN SPACE (0.59 AC)
CONCEPT IS TO PROVIDE PASSIVE SPACE TO BUILD COMMUNITY BY OFFERING A GAZEBO AND/OR BENCHES AS WELL AS A PUBLIC ART DISPLAY

TOWNHOME BUILDINGS:
TOTAL NUMBER OF BUILDINGS - 15
3-UNIT BUILDING - 1
4-UNIT BUILDINGS - 3
5-UNIT BUILDINGS - 8
6-UNIT BUILDINGS - 2
7-UNIT BUILDINGS - 1

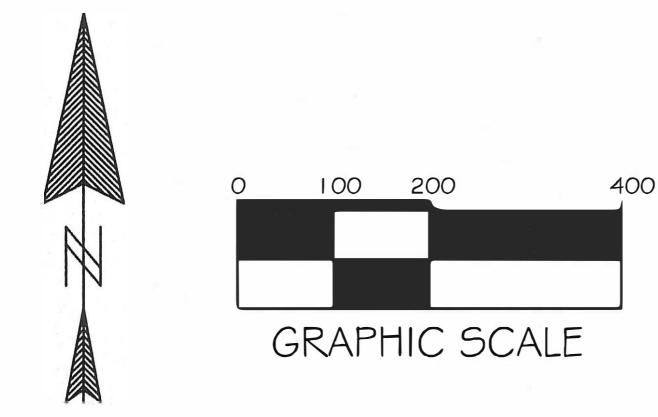
BUILDING SETBACKS

FRONT - 0' (MIN), 25' (MAX)
SIDE - 3' (MIN)
REAR FROM ALLEY - 15' FROM CENTERLINE
BUILDING TO BUILDING - 10'

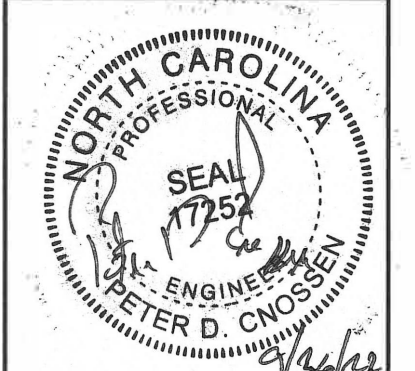
CONNECTIVITY INDEX (CI)

NUMBER OF NODES - 11
NUMBER OF LINKS - 17
CI PROVIDED - 1.5
CI MINIMUM - 1.4 (UR-12)

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



221 N. SALEM ST.
SUITE 001
PO BOX 1062
APEX, NC 27502
Office: 919-387-1174
Registration: P-0151
www.jonescrossen.com



SCALE: 1"=200'

DATE: SEPTEMBER 26, 2022

PROJECT: 1516

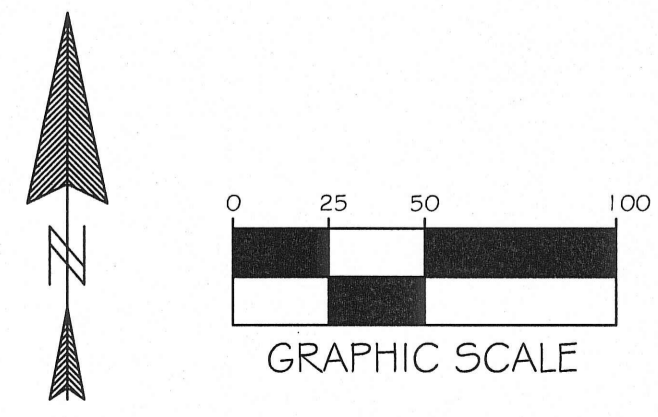


- GENERAL NOTES:
1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS.
 2. BOUNDARY AND EXISTING CONDITIONS INFORMATION FOR THIS SITE WAS TAKEN FROM DIGITAL FILES PROVIDED BY BL SCOTT LAND SURVEYING.
 3. TOPOGRAPHIC INFORMATION WAS TAKEN FROM LIDAR SPATIAL DATA.
 4. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMAL MAP #3720175300J (EFFECTIVE DATE MAY 2, 2006).
 5. WETLAND AND NEUSE RIVER BUFFER DELINEATIONS WERE REVIEWED BY TERRACON CONSULTANTS, INC. AND DETERMINED NOT TO EXIST ON THIS SITE.
 6. THE NEUSE RIVER BUFFER DELINEATION WAS CONFIRMED NOT TO EXIST BY NCDWR (BUFFER DETERMINATION LETTER NBRRO #22-145).
 7. ALL EXISTING STRUCTURES HAVE BEEN REMOVED FROM THE SITE. ANY BUILDING DEBRIS INCLUDING DRIVEWAY MATERIALS SHALL ALSO BE REMOVED.
 8. REMOVAL OF DEMOLITION DEBRIS SHALL BE IN ACCORDANCE WITH REQUIRED ENVIRONMENTAL REGULATIONS. AN ENVIRONMENTAL CONSULTANT SHOULD BE RETAINED TO EVALUATE THE PRESENCE OF ASBESTOS OR OTHER HAZARDOUS MATERIALS PRIOR TO DEMOLITION AND ENSURE PROPER DISPOSAL.
 9. THE EXISTING WELL AND SEPTIC TANK SHALL BE ABANDONED ACCORDING TO WAKE COUNTY HEALTH DEPARTMENT STANDARDS.
 10. THE EXISTING INTERIOR PROPERTY LINES SHALL BE REMOVED BY RECOMBINATION.
 11. THE EXISTING SITE IS MOSTLY WOODED WITH PINES AND HARDWOODS. THERE ARE NO KNOWN ENVIRONMENTAL FEATURES OF NOTE ON THE SITE.

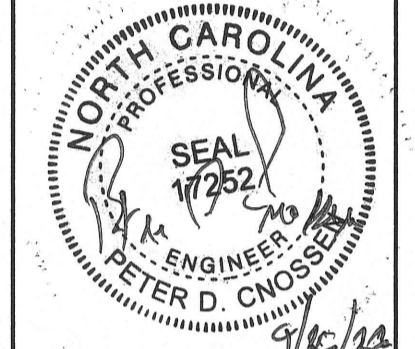
LINE DATA

NUMBER	BEARING	DIST.
L-1	N26°18'11"W	5.31'
L-2	N67°01'15"E	31.81'
L-3	S71°18'02"W	100.17'
L-5	N31°03'08"W	60.10'
L-6	N59°16'30"E	99.76'
L-8	S33°12'27"E	28.23'
L-9	S37°56'49"E	24.85'

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



221 N. SALEM ST.
SUITE 001
PO BOX 1062
APEX, NC 27502
Office: 919-387-1174
Registration: P-0151
www.jonescrossen.com



CAMDEN PARK
MASTER PLAN
EXISTING CONDITIONS PLAN

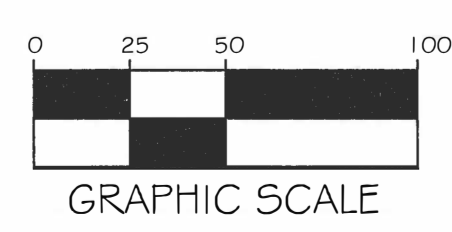
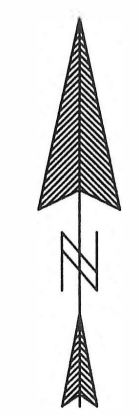
TOWN OF KNIGHTDALE
WAKE COUNTY, NORTH CAROLINA

SCALE	1"=50'	DRAWN	PDC
DATE	SEPTEMBER 26, 2022		
REVISION			
PROJECT	1516		



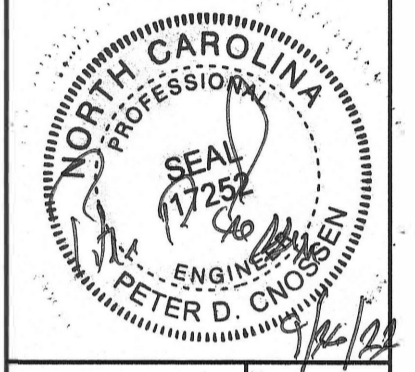
- GENERAL NOTES:**
1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS.
 2. BOUNDARY AND EXISTING CONDITIONS INFORMATION FOR THIS SITE WAS TAKEN FROM DIGITAL FILES PROVIDED BY B. SCOTT LAND SURVEYING.
 3. TOPOGRAPHIC INFORMATION WAS TAKEN FROM LIDAR SPATIAL DATA.
 4. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMA MAP #8720175300 (EFFECTIVE DATE MAY 2, 2006).
 5. WETLAND AND NEUSE RIVER BUFFER DELINEATIONS WERE REVIEWED BY TERRACON CONSULTANTS, INC. AND DETERMINED NOT TO EXIST ON THIS SITE.
 6. THE NEUSE RIVER BUFFER DELINEATION WAS CONFIRMED NOT TO EXIST BY NCDWR BUFFER DETERMINATION LETTER NDRR0 #221-145.
 7. STREET TREES SHALL BE REQUIRED 40' ON-CENTER ALONG ALL TOWN PUBLIC ROADS.
 8. ALL VEHICLE PARKING AREAS SHALL BE SCREENED PER THE TOWN OF KNIGHTDALE UDO.
 9. PLAYGROUND EQUIPMENT SHALL BE IPEMA CERTIFIED.
 10. TREE SURVEY TO BE COMPLETED AT TIME OF CONSTRUCTION DRAWINGS TO DETERMINE REPLACEMENT REQUIREMENTS.
 11. THE COMMUNITY CORNER SHALL PROVIDE SIDEWALK ACCESS TO FAYETTEVILLE STREET AND BROADWAY STREET AS WELL AS PROVIDE BENCH SEATING AND/OR GAZEBO AREAS TO PROMOTE NEIGHBORHOOD GATHERING.
 12. THE COMMUNITY CORNER SHALL INCLUDE PUBLIC ART.
 13. THE TOWNHOMES FRONTING FAYETTEVILLE STREET AND BROADWAY STREET SHALL PROVIDE HARDSCAPE ELEMENTS SUCH AS SIDEWALK, WALLS, FENCING AND/OR GATES.
 14. TOWNHOME BUILDINGS SHALL PROVIDE AT LEAST ONE VERTICAL AND HORIZONTAL BREAK TO AVOID LONG, LINEAR STREET FRONTAGES.
 15. FAYETTEVILLE STREET AND BROADWAY STREET SHALL DEDICATE THE REQUIRED RW ALONG THE SITE FRONTAGE AND CONSTRUCT 1/2 OF A TOWN OF KNIGHTDALE AVENUE STREET SECTION.
 16. BROADWAY STREET IMPROVEMENTS ALONG THE FRONTAGE OF PIN 1753-49-9632 ARE DEPENDENT ON AGREEMENT WITH EXISTING PROPERTY OWNER TO DEDICATE THE REQUIRED RW AND TEMPORARY CONSTRUCTION EASEMENT. ALL OFF-SITE CONSTRUCTION COSTS SHALL BE ELIGIBLE FOR REIMBURSEMENT BY THE TOWN OF KNIGHTDALE.

**PRELIMINARY PLANS
NOT FOR CONSTRUCTION**



Jones & Crossen
ENGINEERING, PLLC
Civil Engineering | Construction Management | Land Planning

221 N. SALEM ST.
SUITE 001
PO BOX 1062
APEX, NC 27502
Office: 919-387-1174
Registration: P-0151
www.jonescrossen.com



CAMDEN PARK
MASTER PLAN
PRELIMINARY LOT LAYOUT PLAN

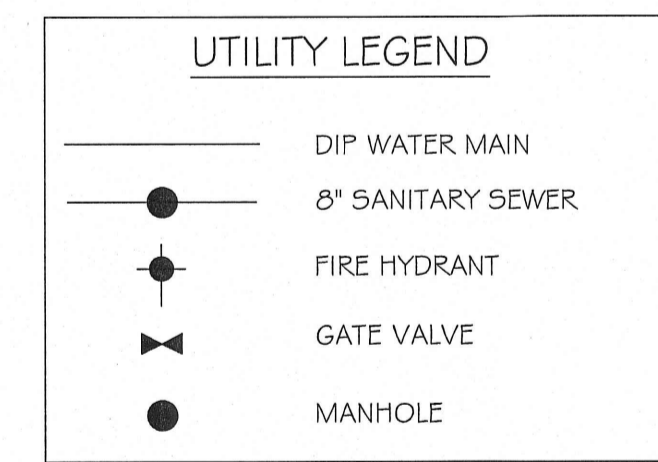
WAKE COUNTY, NORTH CAROLINA
TOWN OF KNIGHTDALE

SCALE: 1"=50'
DRAWN: PDC
DATE: SEPTEMBER 26, 2022
REVISION:
SHEET: 3
PROJECT: 1516

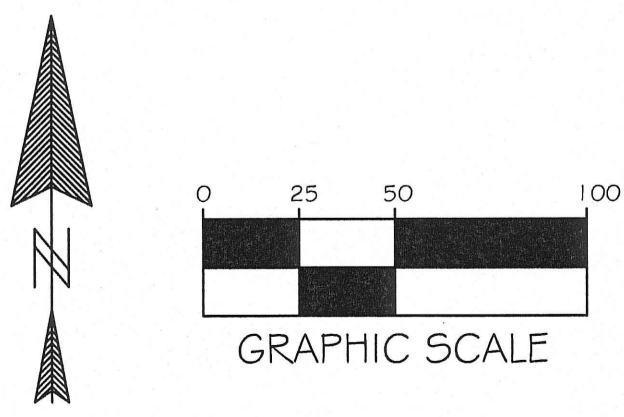


- GENERAL NOTES:**
1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS.
 2. ALL SEWER AND WATER UTILITY CONSTRUCTION SHALL CONFORM TO CITY OF RALEIGH PUBLIC UTILITY STANDARDS AND SPECIFICATIONS.
 3. BOUNDARY AND EXISTING CONDITIONS INFORMATION FOR THIS SITE WAS TAKEN FROM DIGITAL FILES PROVIDED BY D. SCOTT AND SURVEYING.
 4. TOPOGRAPHIC INFORMATION WAS TAKEN FROM LIDAR SPATIAL DATA.
 5. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMA MAP #3720175300J (EFFECTIVE DATE MAY 2, 2006).
 6. WETLAND AND NEUSE RIVER BUFFER DELINEATIONS WERE REVIEWED BY TERRACON CONSULTANTS, INC. AND DETERMINED NOT TO EXIST ON THIS SITE.
 7. THE NEUSE RIVER BUFFER DELINEATION WAS CONFIRMED NOT TO EXIST BY NCDWR (BUFFER DETERMINATION LETTER NDR02-145).
 8. NO CHANGES TO ANY ASPECT OF THIS DEVELOPMENT PLAN, INCLUDING BUT NOT LIMITED TO LANDSCAPING, GRADING OR UTILITIES, WILL BE MADE WITHOUT THE APPROVAL OF THE TECHNICAL REVIEW COMMITTEE OF THE TOWN OF KNIGHTDALE.
 9. CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (1-800-632-4949) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 10. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
 11. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE ELECTRICAL, GAS, CABLE TV AND TELEPHONE SERVICE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROVIDE CONDUITS AS REQUIRED FOR THESE UTILITIES UNDER PAVEMENT.
 12. THIS PLAN IS DIAGNOSTIC AND REPRESENTS THE APPROXIMATE LOCATION OF THE UTILITIES UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR SHALL COORDINATE THE ACTUAL AND PROPOSED LOCATION OF UTILITIES TO AVOID CONFLICTS.
 13. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE WATER AND SEWER SERVICES TO THE TOWNHOME UNITS WITH THE OWNER AND BUILDING PLANS.
 14. ALL SANITARY SEWER SERVICES TO RESIDENTIAL LOTS SHALL BE 4" SERVICES.
 15. ALL WATER SERVICES TO RESIDENTIAL LOTS SHALL BE 3/4" SERVICES.
 16. THE NCDOT SHALL BE CONSULTED TO ABANDON THE FAYETTEVILLE STREET ROW FOR PLACEMENT OF THE PROPOSED SEWER OUTFALL.

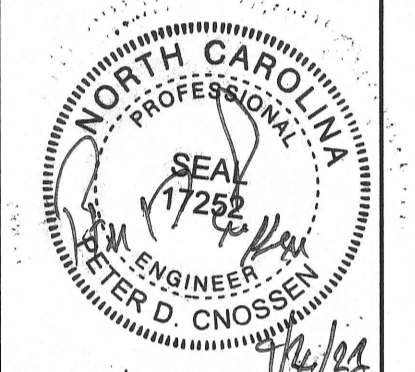
- STANDARD UTILITY NOTES:**
1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION).
 2. UTILITY SEPARATION REQUIREMENTS:
 - a. A DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & 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, AIR 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 1'0" 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.
 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 DEVELOPERS RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS 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 3/4" COPPER WATER SERVICES WITH METERS AT THE STREET ROW. NOTE: IT IS THE APPLICANTS RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
 8. INSTALL 4" PVC SEWER SERVICES AT 1.0% MINIMUM GRADE AT THE STREET ROW.
 9. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 20 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 NCDM, USACE & FEMA FOR ANY RIPARIAN BUFFER, WETLAND & FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
 11. NCDOT ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK INCLUDING MAIN EXTENSIONS & RCP SERVICE TAPS WITHIN STATE ROW PRIOR TO CONSTRUCTION.
 12. GRADE 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 TIM BEASLEY AT (919) 996-2334 OR TIMOTHY.BEASLEY@RALEIGH.NC.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 DEVICES 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 MANUFACTURERS RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGH.NC.GOV FOR MORE INFORMATION.



PRELIMINARY PLANS
NOT FOR CONSTRUCTION



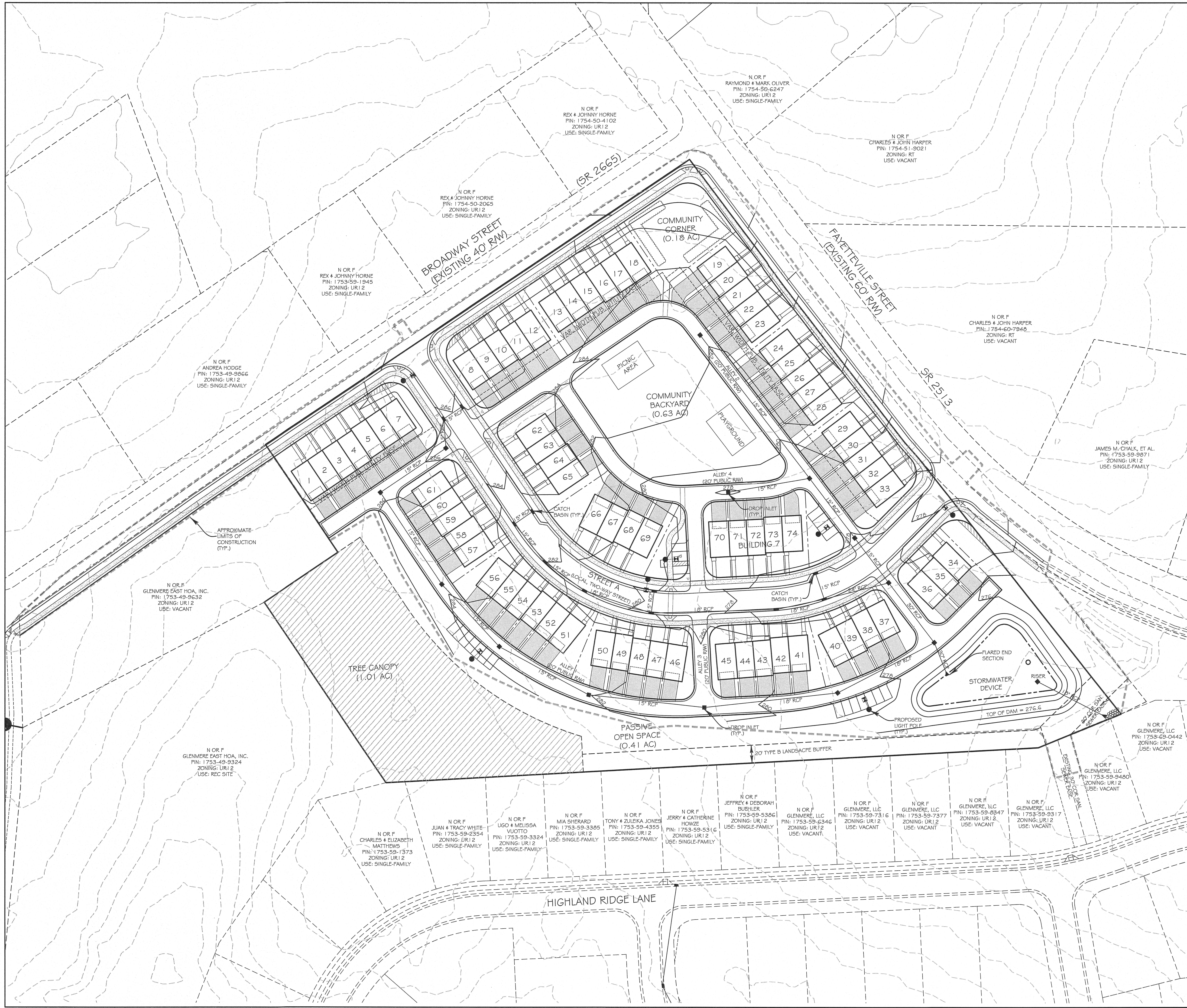
221 N. SALEM ST.
SUITE 001
PO BOX 1062
APEX, NC 27502
Office: 919-367-1174
Registration: P-10151
www.jonescrossen.com



WAKE COUNTY, NORTH CAROLINA

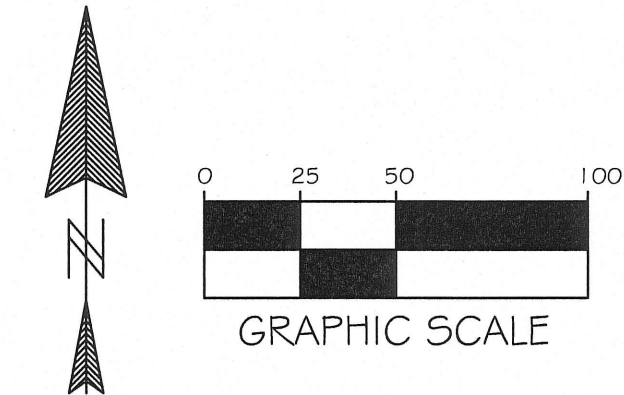
CAMDEN PARK
MASTER PLAN
PRELIMINARY UTILITY PLAN

SCALE	1"=50'	DATE	SEPTEMBER 26, 2022
PROJECT	1516	REVISION	
DRAWN	PDC	CHECKED	
DATE		DATE	
REVISION		DATE	
NO.	4	DATE	
PROJECT	1516	DATE	



- GENERAL NOTES:**
1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS.
 2. BOUNDARY AND EXISTING CONDITIONS INFORMATION FOR THIS SITE WAS TAKEN FROM DIGITAL FILES PROVIDED BY BL SCOTT LAND SURVEYING.
 3. TOPOGRAPHIC INFORMATION WAS TAKEN FROM LIDAR SPATIAL DATA.
 4. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMAL MAP #37201753001 (EFFECTIVE DATE MAY 2, 2006).
 5. WETLAND AND MOUSE RIVER BUFFER DELINEATIONS WERE REVIEWED BY TERRACON CONSULTANTS, INC. AND DETERMINED NOT TO EXIST ON THIS SITE.
 6. THE MOUSE RIVER BUFFER DELINEATION WAS CONFIRMED NOT TO EXIST BY NCOWR BUFFER DETERMINATION LETTER NBR00 #22-145.
 7. NO CHANGES TO ANY ASPECT OF THIS DEVELOPMENT PLAN, INCLUDING BUT NOT LIMITED TO LANDSCAPING, GRADING OR UTILITIES, WILL BE MADE WITHOUT THE APPROVAL OF THE TECHNICAL REVIEW COMMITTEE OF THE TOWN OF KNIGHTDALE.
 8. CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (1-800-632-4545) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 9. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
 10. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE ELECTRICAL, GAS, CABLE TV AND TELEPHONE SERVICE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROVIDE CONDUITS AS REQUIRED FOR THESE UTILITIES UNDER PAVEMENT.
 11. THIS PLAN IS DIAGRAMMATIC AND REPRESENTS THE APPROXIMATE LOCATION OF THE UTILITIES UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR SHALL COORDINATE THE ACTUAL AND PROPOSED LOCATION OF UTILITIES TO AVOID CONFLICTS.
 12. THIS PROJECT SHALL BE REQUIRED TO ADHERE TO ALL APPLICABLE TOWN OF KNIGHTDALE STORMWATER REQUIREMENTS INCLUDING LIMITING THE POST-DEVELOPMENT RUNOFF EQUAL TO OR LESS THAN PRE-DEVELOPMENT RUNOFF LEVELS FOR THE 1-YEAR, 2-YEAR AND 10-YEAR, 24 HOUR STORM EVENTS.
 13. A STORMWATER WET POND SHALL BE USED TO MEET THE TOWN OF KNIGHTDALE STORMWATER REQUIREMENTS.

**PRELIMINARY PLANS
NOT FOR CONSTRUCTION**

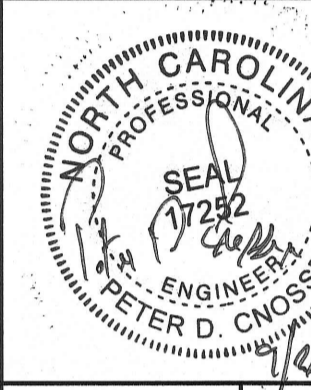


221 N. SALEM ST.
SUITE 001
PO BOX 1062
APEX, NC 27502
Office: 919-387-1174
Registration: P-0151
www.jonescrossen.com



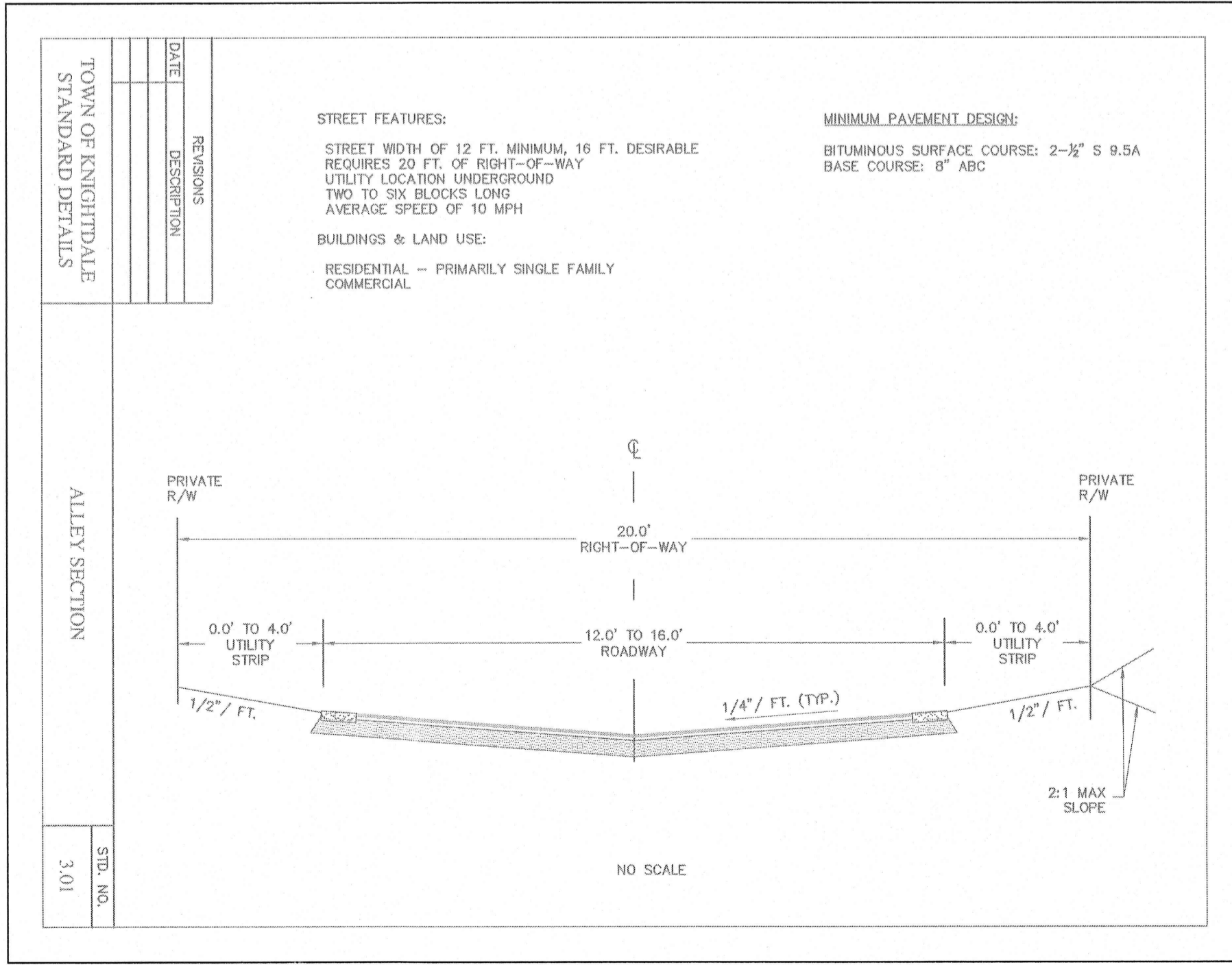
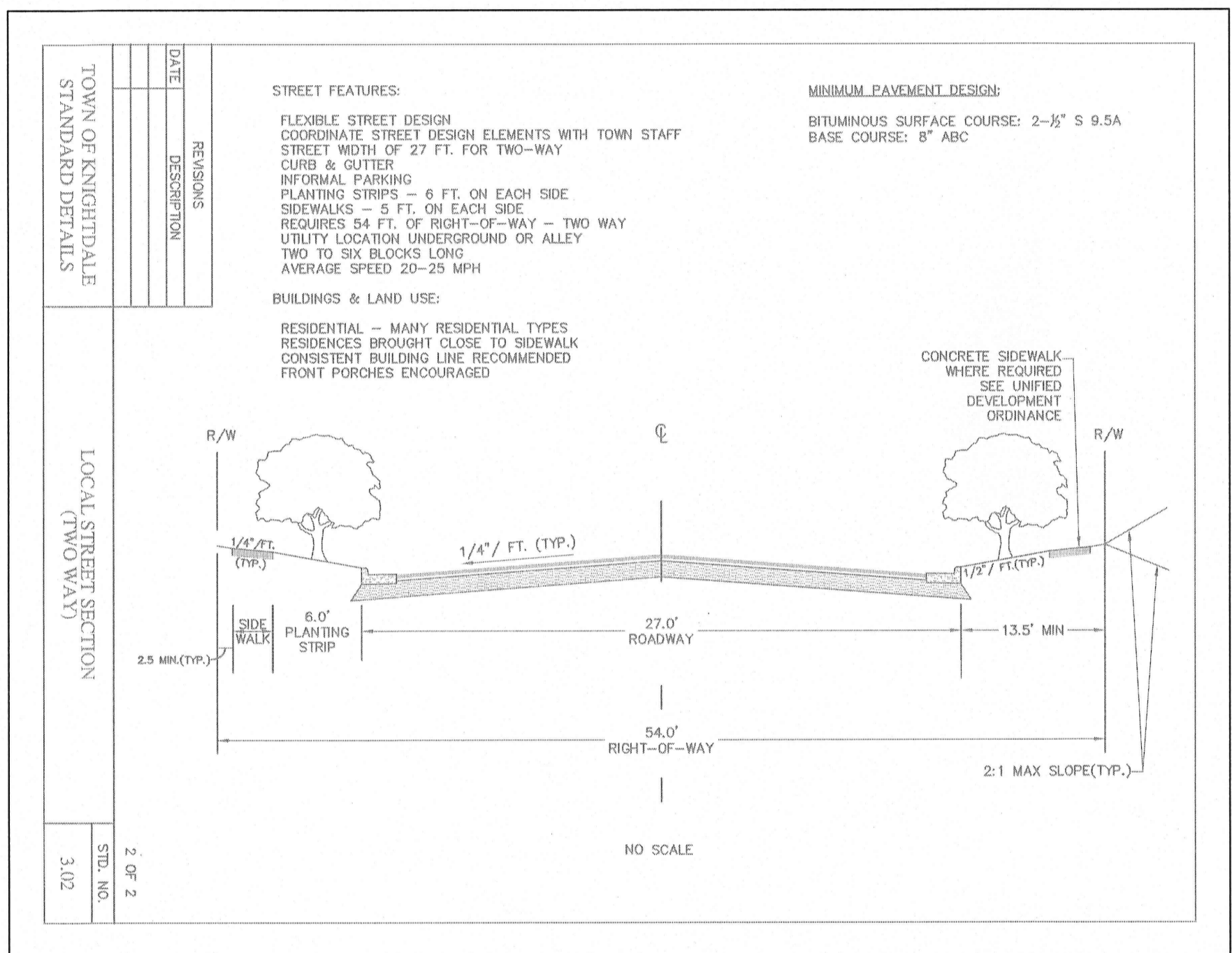
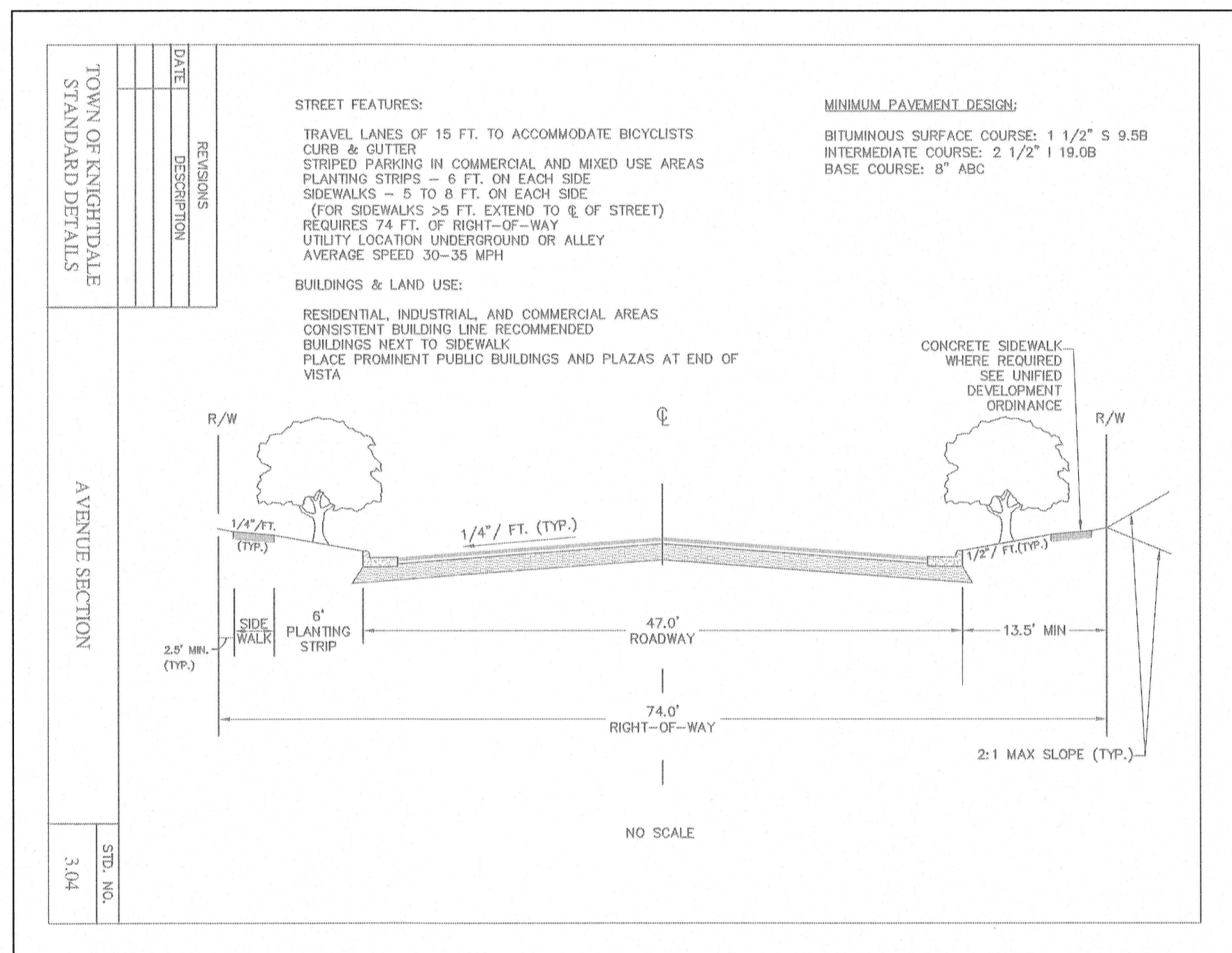
CAMDEN PARK
MASTER PLAN
PRE. GRADING & STORM DRAINAGE PLAN

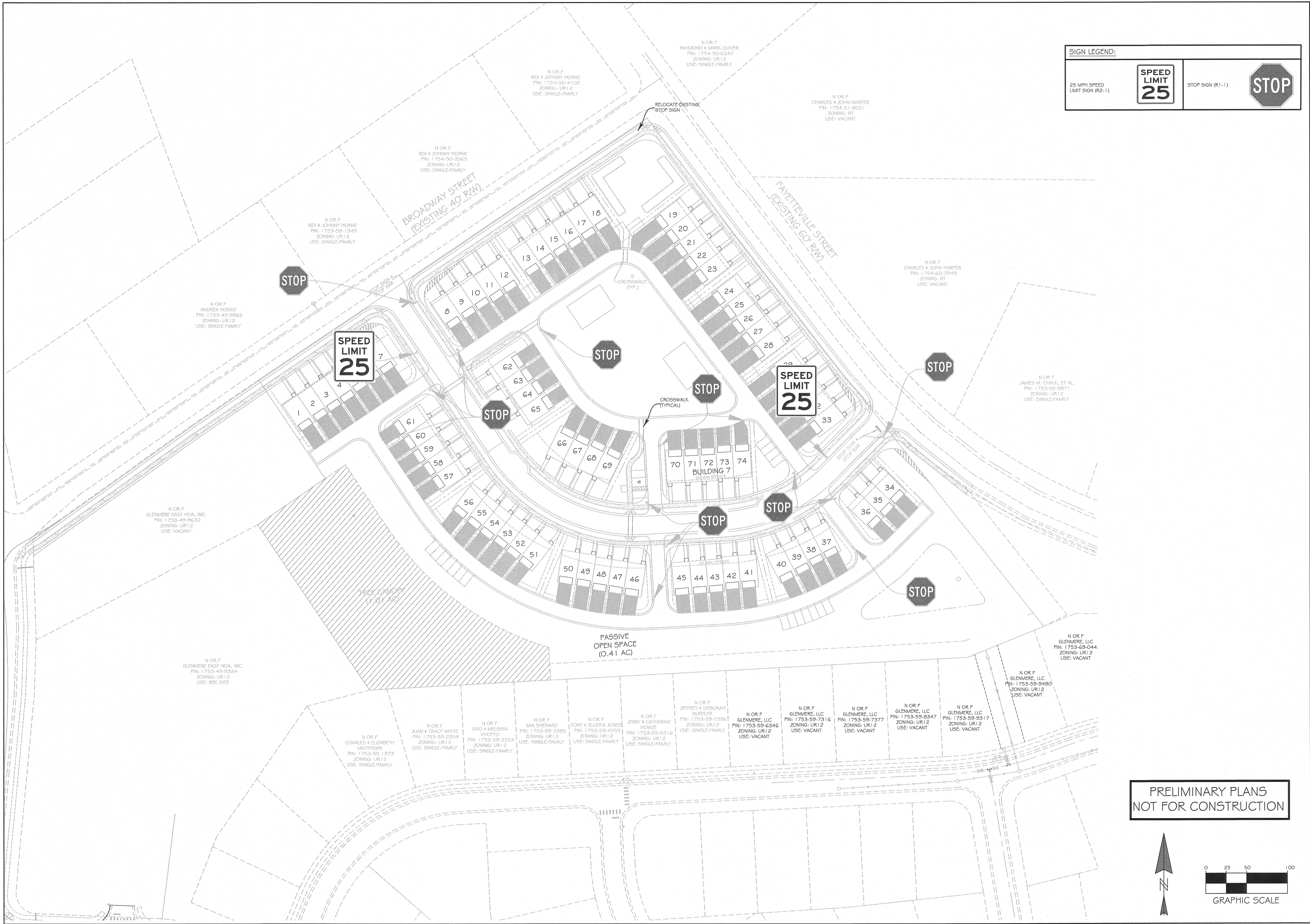
SCALE	1"=50'	PROJECT	PDC
DATE	SEPTEMBER 26, 2022	REVISION	
REVISION		DATE	
NO.	5	DATE	
PROJECT	1516	DATE	



CAMDEN PARK
MASTER PLAN
TYPICAL STREET SECTIONS

SCALE	NTS	DRAWN	PDC
DATE	SEPTEMBER 26, 2022		
REVISION			
DATE	6		
PROJECT	1516		

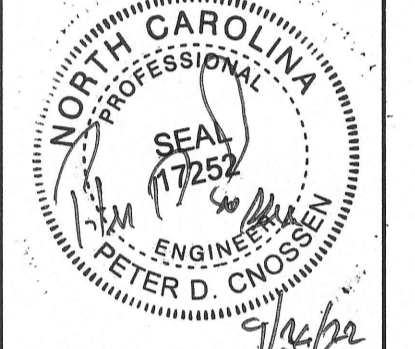
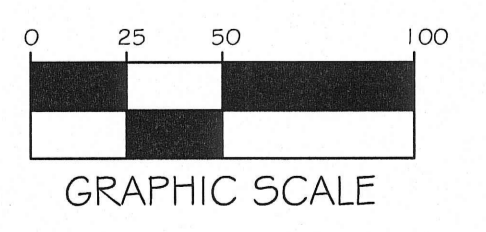
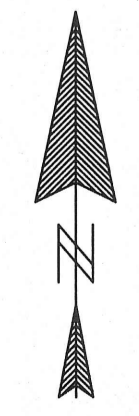




SIGN LEGEND:

25 MPH SPEED LIMIT SIGN (R2-1)		STOP SIGN (R1-1)	
--------------------------------	--	------------------	--

**PRELIMINARY PLANS
NOT FOR CONSTRUCTION**



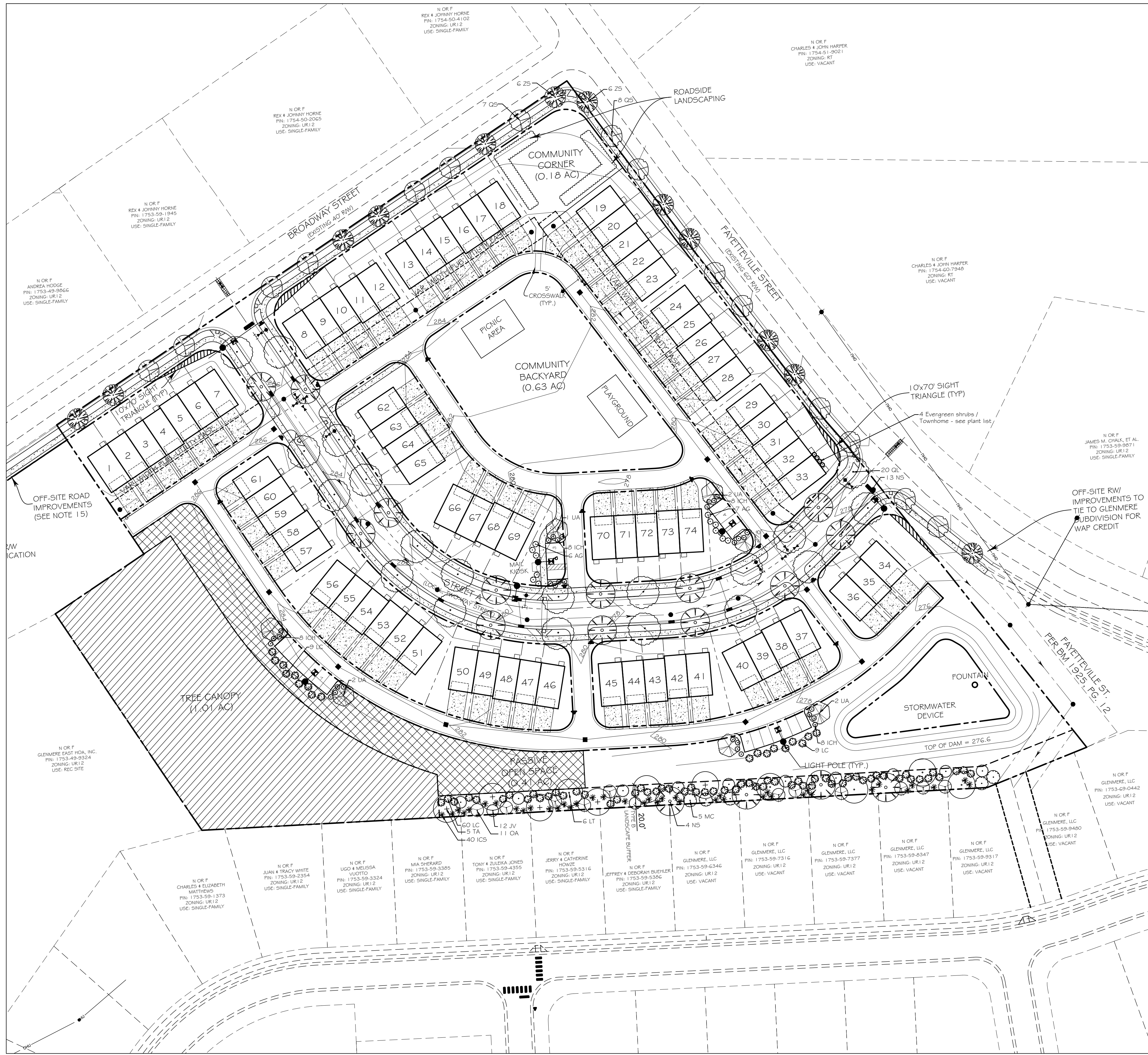
WAKE COUNTY, NORTH CAROLINA

**CAMDEN PARK
MASTER PLAN**

STREET SIGNS & MARKING PLAN

TOWN OF KNIGHTDALE

SCALE	1"=50'	DRAWN	PDC
DATE	SEPTEMBER 26, 2022		
REVISION			
SHEET	7		
PROJECT	1516		



- Town of Knightdale Planting Requirements:**
- VEHICLE USE AREA:**
 Required: All portions of vehicle use area within 60 feet of a trunk of a canopy tree
 Canopy tree placed at the end of all parking rows
 Provided: Large deciduous trees (UA and QL)
 A row of evergreen shrubs provided to screen parking from ROW / drive isles
 - BUILDING LANDSCAPE REQUIREMENTS:**
 Required: Evergreen shrubs along foundation wall
 Provided: Trees: CC and OA; Shrubs: P5, TO, and 5B
 - STREET TREES:**
 Required: 1 canopy tree / 40 lf of public ROW
 Provided: Broadway Street and Fayetteville Street (Z5 and Q5) 40' O.C. in 6' planting strip
 Street A (QL and NS) 40' O.C. in 6' planting strip
 - TREE CANOPY COVERAGE:**
 Required: 10% of site area
 402,078.09 sf x 10% = 40,207.80
 Provided: 43,909.45 sf provided
 - PERIMETER BUFFER YARDS:**
 Required: South property line
 20' Type B Buffer
 Provided: 3 canopy trees, 5 understory trees, and 20 shrubs / 100 lf

Residential Landscaping and Plat Notes:
 The following paragraphs shall be noted on an approved Preliminary Plat and Final Plat:

- Each single-family or duplex lot shall contain a minimum of one (1) canopy tree for every two-thousand (2,000) square feet of lot area or fraction thereof up to twenty-thousand (20,000) square feet in lot area. Any portion of the residential lot occupied by a recorded utility easement shall not be included as part of the total lot area. The location of planting to account for physical conditions may be adjusted by the Land Use Administrator.
- The use of existing trees meeting the following standards to satisfy this requirement is encouraged. Existing large shade trees measuring more than six (6) inches in DBH may be counted towards fulfilling this requirement.
- Required street trees (Section 7.4 (J)) may not be counted towards the fulfillment of the residential landscaping requirement. Apart from required street trees, all other trees required under this Chapter shall be planted within the private lot.
- Foundation plantings consisting of evergreen shrubs shall be installed along the entire foundation wall of the building. Plant installation shall be a minimum of two (2) feet in height planted at four (4) foot intervals.

PLANTING NOTES:

- All plant materials to comply with American Standard for Nursery Stock ANSI Z60.
- Plant locations to be approved in field prior to installation.
- Substitutions of plant materials specified can only occur with prior approval by Landscape Architect.
- Establish plant bed configurations. Landscape Architect to approve bed layout in field.
- Install plants and mulch beds with 4" of pine straw.
- Areas disturbed by grading to be seeded and strawed.
- Landscape Contractor to maintain plant materials for a one year period following substantial completion per specifications.
- Areas damaged from plant relocation or other activities of Landscape Contractor to be re-seeded and established at no additional cost to the owner.
- All plant material shown is minimum required by the Town Code.

PLANT SCHEDULE - CANOPY TREES

QTY	KEY	BOTANICAL / COMMON NAME	SIZE	ROOT	SPACING
20	QL	QUERCUS LYRATA HIGHBEAM / OVERCUP OAK	2" CAL. 8' HT.	B + B	40' O.C.
17	NS	NYSSA SYLVATICA / BLACK TUPELO	2" CAL. 8' HT.	B + B	40' O.C.
5	TA	TILIA AMERICANA / AMERICAN LINDEN	2" CAL. 8' HT.	B + B	AS SHOWN
6	LT	LIRIODENDRON TULIPIFERA / TULIP POPLAR	2" CAL. 8' HT.	B + B	AS SHOWN
15	QS	QUERCUS SHUMARDII / SHUMARD OAK	2" CAL. 8' HT.	B + B	40' O.C.
12	Z5	ZELKOVA SERRATA VILLAGE GREEN / ZELKOVA	2" CAL. 8' HT.	B + B	40' O.C.
7	UA	ULMUS AMERICANA PRINCETON / AMERICAN ELM	2" CAL. 8' HT.	B + B	AS SHOWN

PLANT SCHEDULE - UNDERSTORY TREES

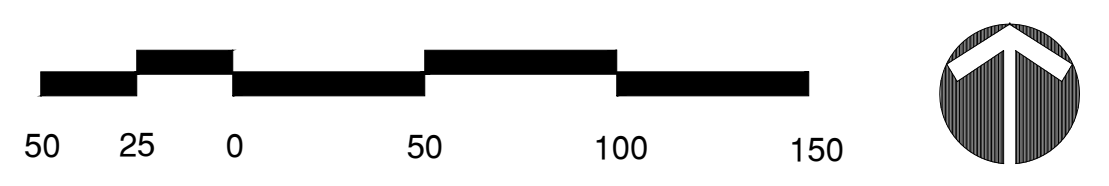
QTY	KEY	BOTANICAL / COMMON NAME	SIZE	ROOT	SPACING
11	OA	OXYDENDRUM ARBOREUM / SOURWOOD	1.25" CAL. 6' HT.	B + B	AS SHOWN
12	JV	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	1.25" CAL. 6' HT.	CONT.	AS SHOWN
5	MC	MYRICA CERIFERA / SOUTHERN WAX MYRTLE	1.25" CAL. 6' HT.	CONT.	AS SHOWN

PLANT SCHEDULE - SHRUBS

QTY	KEY	BOTANICAL / COMMON NAME	SIZE	ROOT	SPACING
69	LC	LOROPETALUM CHINENSIS RUBY / FRINGE FLOWER	30" HT. / 4 GAL.	CONT.	5' O.C.
40	ICS	ILEX CRENATA STEEDS / JAPANESE HOLLY	30" HT. / 4 GAL.	CONT.	5' O.C.
74	ICH	ILEX CRENATA HELLER / JAPANESE HOLLY	18" HT. / 3 GAL.	CONT.	4' O.C.
55	AG	ABELIA X GRANDIFLORA KALEIDOSCOPE / GLOSSY ABELIA	18" HT. / 3 GAL.	CONT.	5' O.C.
42	ND	NANDINA DOMESTICA GULF STREAM / NANDINA	18" HT. / 3 GAL.	CONT.	3' O.C.
42	RAA	RHODODENDRON AUTUMN ANGEL / AZALEA	18" HT.	CONT.	3' O.C.
42	RAC	RHODODENDRON AUTUMN CHIFFON / AZALEA	18" HT. / 3 GAL.	CONT.	3' O.C.
43	EJ	ELIONYMUS JAPONICA GREENSPICE / ELIONYMUS	18" HT. / 3 GAL.	CONT.	2' O.C.
43	DV	DISTYLIUM VINTAGE JADE / JADE BLUE ISU TREE	18" HT. / 3 GAL.	CONT.	4' O.C.

○ REPRESENTS A FOUNDATION SHRUB - A MIX OF THOSE NOTED SHALL BE USED ALONG THE FOUNDATION OF THE BUILDINGS

LANDSCAPE PLAN



Jones & Crossen
ENGINEERING, PLLC
Civil Engineering | Construction Management | Land Planning

Coaly
DESIGN
LANDSCAPE ARCHITECTURE
300/200 Durham Street Suite G
Durham, NC 27601
919.559.1012

CAMDEN PARK
MASTER PLAN
LANDSCAPE PLAN
KNIGHTDALE, NC

Professional Seals

Date Issued: 9.26.22

Scale: 1"=50'

Drawn by: RBS

Checked by: KJS

Revisions

No.	Description	Date

LA-1



Outdoor Lighting Roadway LED



The Roadway LED is a great solution and great fit for streets, roads, bike, narrow areas and parking lots. This energy efficient luminaire delivers the light where it is needed while increasing visibility and reducing spill light to adjoining properties. Choose low to medium light output for streets or parking areas for maximum energy savings. Available with up to five fixtures per pole, depending on the fixture/pole combination selected.

- LED (Light Emitting Diode)
- Mounting heights: 25'
- Color: Cool
- Poles: Chromalox

For additional information, visit us at www.energyprogress.com/lighting or call us toll free at 866.769.6412



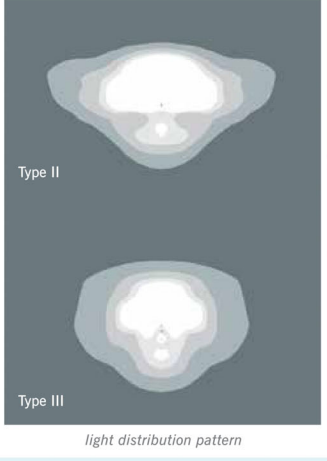
Outdoor Lighting Roadway LED

Light source: LED (watts)	Lumens: 4,807 - 25,050 (fixture dependent)	IESNA Backlight-Uplight - glare (BVD) Rating
LED 50	IESNA Type III (medium oval)	B1-U0-G1
LED 75	IESNA Type II (long oval)	B1-U0-G2
LED 105	IESNA Type II (medium oval)	B2-U0-G3
LED 150	IESNA Type III (medium oval)	B2-U0-G2
LED 215	IESNA Type III (medium oval)	B3-U0-G3
LED 280	IESNA Type III (medium oval)	B3-U0-G4

Color temperature: 4,000K
Warm-up and restrike time: Instant on (no warm-up or restrike time)

- Poles available:
- Chromalox
 - Fiberglass
 - Wood
 - Metal (special conditions*)

- Features:
- Little or no installation cost
 - Design services by lighting professionals included
 - Maintenance included
 - Electricity included
 - Warranty included
 - One low monthly cost on your electric bill
 - Twelve year warranty
 - Backed by over 40 years of experience



Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Road		0.3 fc	1.0 fc	0.0 fc	N/A	N/A

Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
	A	3	LED 50w Roadway - Type III - 3000K - Street	1	5312	0.85
	B	4	LED 50w Roadway - Type III - 3000K - Parking	1	5312	0.85

NO.	DATE	REVISION	BY

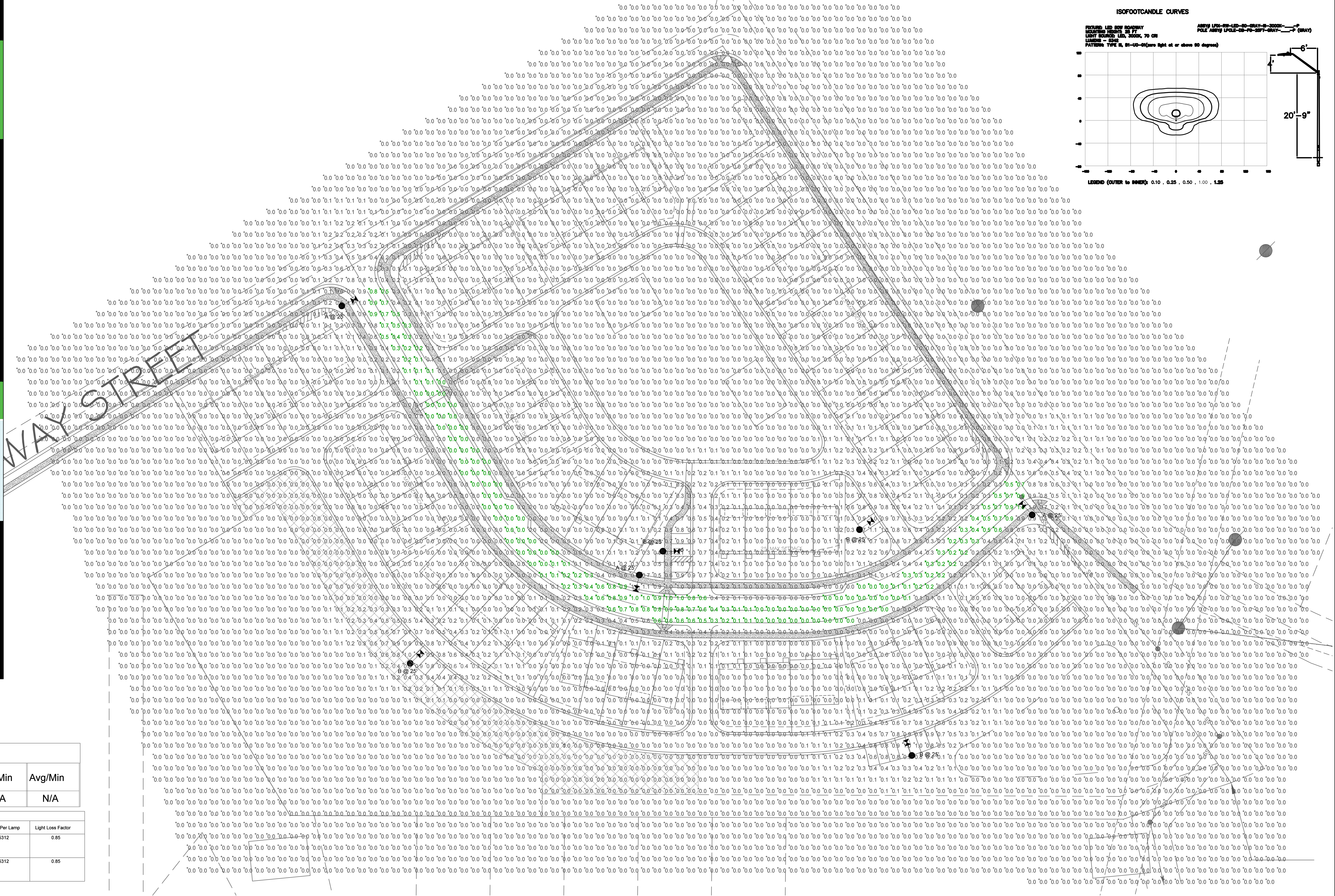
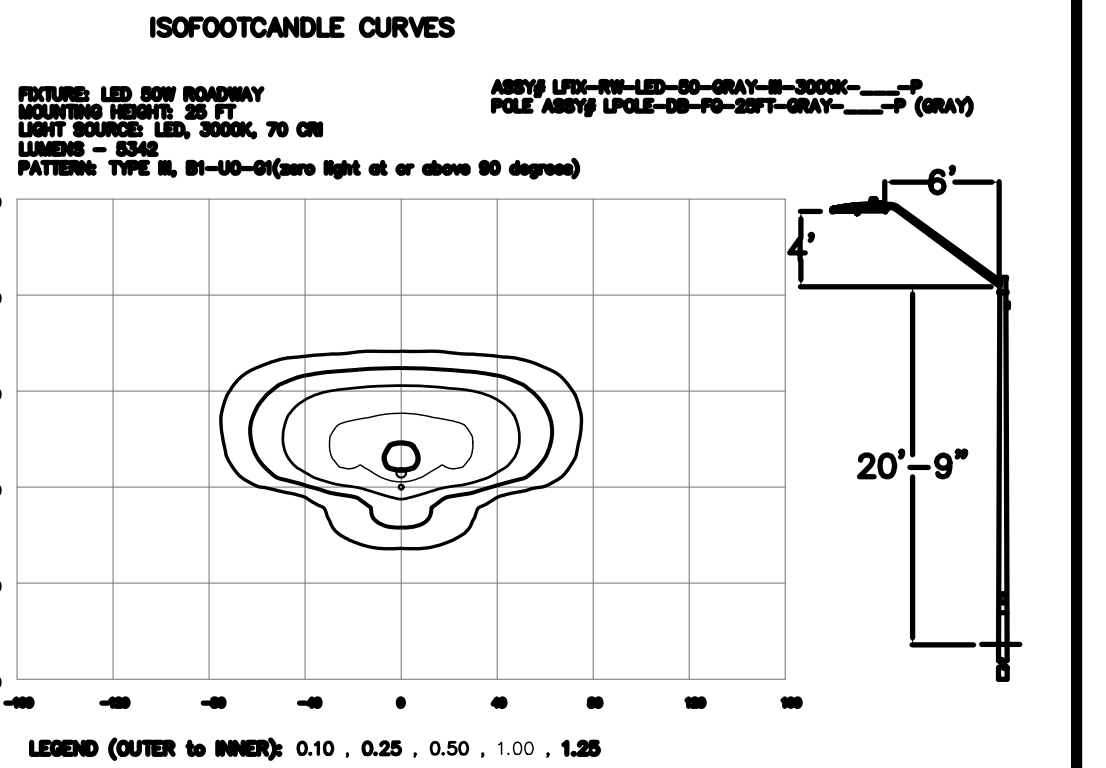
LIGHTING DESIGN TOLERANCE

The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will also affect results.



PROPRIETARY & CONFIDENTIAL

This document together with the concepts and designs presented herein, presented as an instrument of service, is the sole property of Duke Energy, and is intended only for the specific purpose and prospective client as stated in the title block of this drawing. Any use, copying, reproduction or disclosure of the drawing, design or any information contained herein by the prospective customer or other entities, including without limitation, architects, engineers, or equipment manufacturers is hereby expressly prohibited and shall not be permitted absent prior written consent from, and payment of compensation to Duke Energy. Duke Energy disclaims any liability or responsibility for any unauthorized use of or reliance on this document.



CAMDEN PARK	
Cary, NC	
SITE LIGHTING ARRANGEMENT	
Designed by	DUKE ENERGY PROGRESS LIGHTING SOLUTIONS
Reviewed by	J. Johnson
Date	09/18/2022
Description	LED 50w Roadway
Drawing No.	22-0362A
Sht.	1 OF 1



FRONT ELEVATION