

MASTER PLAN FOR:
OLD KNIGHT ROAD OFFICE BUILDING
KNIGHTDALE, ST. MATHEW'S TOWNSHIP, WAKE COUNTY, NORTH CAROLINA 27545
TOK PROJECT #ZCP-8-24

CONTACT LIST

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ONE EXCHANGE PLAZA
RALEIGH, NC 27601
TEL: 919-996-3546
- NC DOT - STREETS & HIGHWAYS:
DIVISION 5, DISTRICT 1
JEREMY WARREN, PE
jwarren@ncdot.gov
TEL: 919-733-3213

WATER ALLOCATION POLICY - POINTS TABLE

PROPOSED IMPROVEMENT	POINTS AWARDED
SINGLE USE OFFICE	41 BASE POINTS
ENHANCED ROADSIDE LANDSCAPING	2 BONUS POINTS
UNDERGROUND CISTERN	5 BONUS POINTS
OUTDOOR DISPLAY OF PUBLIC ART	4 BONUS POINTS
TOTAL = 52 POINTS	



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MEMORANDUM

TO: Luke Krantz, E.I.
Pabst Design Group

FROM: Lawrence Green, PE, PTOE

DATE: September 17, 2024

SUBJECT: 700 Old Knight Road, Knightdale, North Carolina 27545 – Proposed Office Development

The purpose of this memorandum is to determine AM Peak Hour, PM Peak Hour, and Daily traffic trip generation of a proposed 7,000 square foot Office Building in Knightdale, NC. To determine the site trip generation, the Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition was utilized. Shown below are the projected trips:

- AM Peak Hour – 11 (9 IN & 2 OUT)
- PM Peak Hour – 10 (2 IN & 8 OUT)
- Daily Trips – 76 (38 IN & 38 OUT)

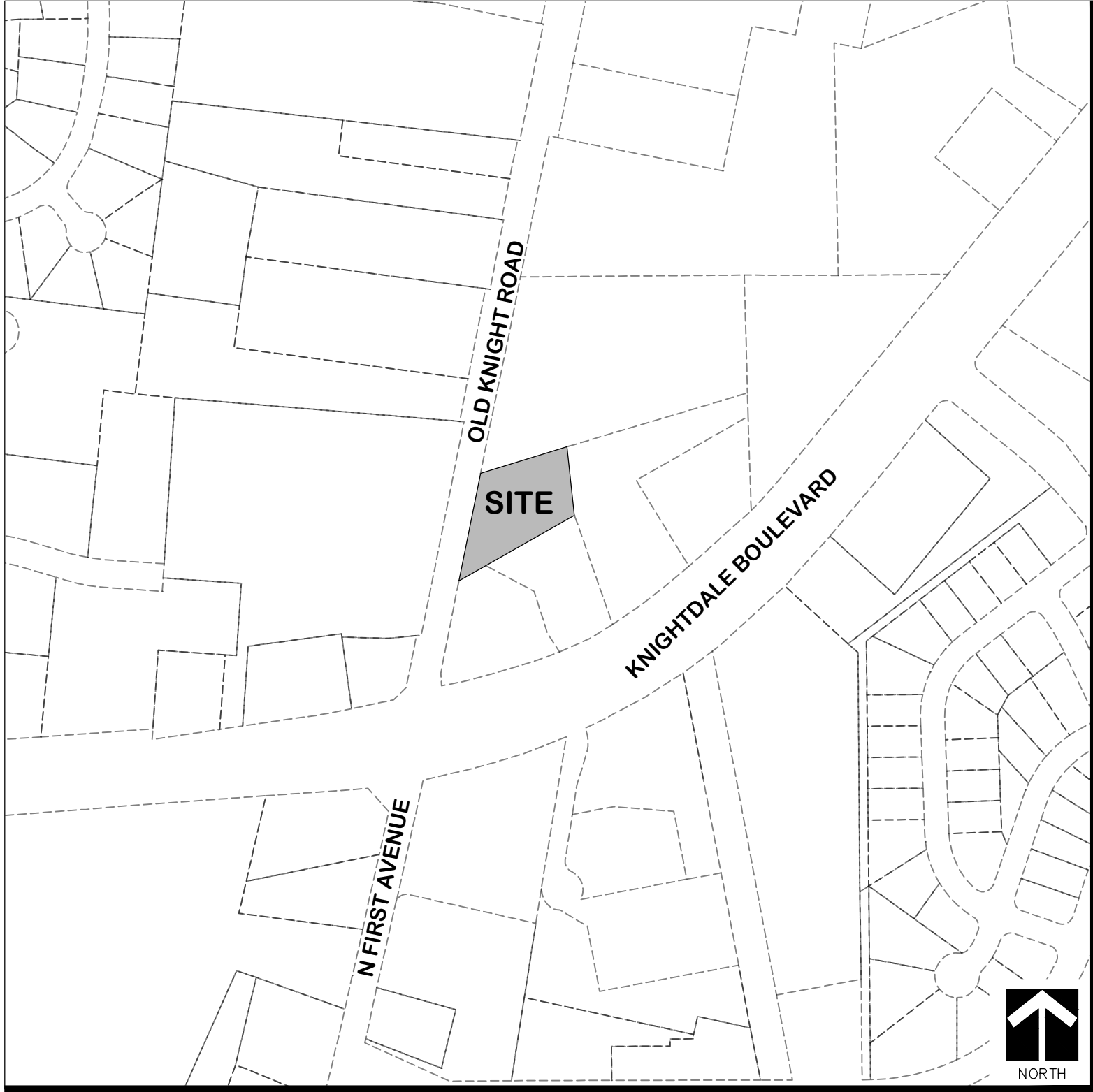
CONCLUSION

The NCDOT criteria for requiring a Traffic Impact Study are for proposed developments that are anticipated to generate 3,000 or more daily trips. As shown by the trip generation assessment above, the proposed 7,000 square foot Office Building will not exceed the NCDOT requirement for a Traffic Impact Study.

1223 Jones Franklin Rd.
Raleigh, NC 27606

www.wetherilleng.com

Office: 919.851.8077
Fax: 919.851.8107
Updated: 09/26/2024 Version: 1.1



VICINITY MAP
1" = 300'

INDEX TO PLANS

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- 24-0393A LIGHTING PLAN
- 1 ARCHITECTURAL PLAN
- 2-4 ARCHITECTURAL RENDERINGS

- OWNER:
MOORE'S REALTY, INC.
JACKIE MOORE
623 NOON FLYER WAY
KNIGHTDALE, NC 27545
TEL: 919-931-1116
E-MAIL: jackie.moore@realtync@gmail.com

- CIVIL ENGINEER:
PABST DESIGN GROUP, PA
P. DAN PABST, PE
107 FAYETTEVILLE STREET, SUITE 200
RALEIGH, NC 27601
TEL: 919-848-4399
E-MAIL: dpabst@pabstdesign.com

- SURVEYOR:
NEWCOMB LAND SURVEYORS, LLC
JUSTIN L. LUTHER, PLS
7008 HARPS MILL ROAD, SUITE 105
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E-MAIL: justin@nls-nc.com

- ARCHITECT:
FURINI ARCHITECTS, PLLC
ALEX FURINI, RA, PRINCIPAL
202 WAYFIELD LANE
CARY, NC 27518
TEL: 919-646-5811
E-MAIL: alex@furiniarchitects.com

RALEIGH WATER CONDITIONS OF APPROVAL

- ALL WATER, SANITARY SEWER AND REUSE FACILITIES SHALL BE INSTALLED, INSPECTED, TESTED, AND ACCEPTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT FOR OPERATIONS AND MAINTENANCE PRIOR TO 1ST CO.
- CONSTRUCTION DRAWINGS MUST BE APPROVED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT FOR ALL PUBLIC WATER, PUBLIC SEWER AND/OR PRIVATE SEWER EXTENSIONS PRIOR TO PLAT RECORDATION.
- A PLAT MUST BE RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS OFFICE FOR ALL UTILITY EASEMENT DEDICATIONS PRIOR TO BUILDING PERMIT ISSUANCE.

NOTE(s): ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

SITE DATA TABLE	
SITE ADDRESS:	700 OLD KNIGHT ROAD KNIGHTDALE, NORTH CAROLINA 27545
OWNER/APPLICANT:	JACKIE MOORE, MOORE'S REALTY, INC. 623 NOON FLYER WAY KNIGHTDALE, NORTH CAROLINA 27545
ENGINEER:	PABST DESIGN GROUP, PA 107 FAYETTEVILLE STREET, SUITE 200 RALEIGH, NC 27601 919.848.4399
DEED/PAGE:	DB 019200 PG 01486
PIN(S):	1754-56-9791
EXISTING ZONING DISTRICT:	HIGHWAY BUSINESS (HB)
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	OFFICE, PROFESSIONAL SERVICES
PARCEL AREA:	TOTAL BEFORE R/W DEDICATION: 41,357 SF (0.949 AC) TOTAL AFTER R/W DEDICATION: 39,089 SF (0.897 AC)
RIVERBASIN:	NEUSE
WATERSHED:	LOWER NEUSE RIVER
FLOODPLAIN DATA:	NO PORTION OF THE PROPERTY IS LOCATED WITHIN SPECIAL FLOOD HAZARD ZONE PER INSURANCE RATE MAP (RATE MAP 3720175400K DATED JULY 19, 2022)
PRE-DEVELOPED IMPERVIOUS:	ONSITE: ±0.08 ACRES (3,568 SF) OFFSITE: ±0.04 ACRES (1,787 SF) TOTAL: ±0.12 ACRES (5,355 SF)
POST-DEVELOPED IMPERVIOUS:	ONSITE: ±0.52 ACRES (22,432 SF) OFFSITE: ±0.13 ACRES (5,759 SF) TOTAL: ±0.65 ACRES (28,191 SF)
PROPOSED LAND DISTURBANCE:	±1.20 ACRES (52,186 SF)
TEMPORARY SILT/TREE PROTECTION FENCING:	±540 LF
PROPOSED BUILDING TYPE:	OFFICE, PROFESSIONAL SERVICES
PRINCIPAL BUILDING SETBACKS:	REAR SETBACK: 0' (MIN) SIDE SETBACK: 6' (MIN) FRONT SETBACK: 10' - 78' (MIN - MAX) (PER VARIANCE BK019337PG01398)
PARKING SETBACKS:	FRONT YARD: PROHIBITED SIDE YARD: 0' (MIN) REAR YARD: 5' (MIN)
BUILDING FLOOR AREA:	EXISTING = 0 GFA PROPOSED = 7,000 GFA
BUILDING HEIGHT:	MAX. BUILDING HEIGHT: 70'-0" (5 STORIES) PROPOSED BUILDING HEIGHT: 28'-8" (1 STORY)
MINIMUM PARKING REQUIREMENTS:	PROFESSIONAL SERVICES: MAXIMUM = 4 SPACES PER 1,000 SF GFA (28 SPACES); MINIMUM = 1/2 MAX (14 SPACES) TOTAL REQUIRED: 14 SPACES TOTAL PROVIDED: 14 SPACES (INCLUDING 1 ADA VAN SPACE) EV PARKING: MINIMUM = 2 EV CHARGING STATIONS FOR NON-RESIDENTIAL USE WITH OFF-STREET PARKING FOR MOTORIZED VEHICLES TOTAL REQUIRED: 2 EV CHARGING STATIONS TOTAL PROVIDED: 2 EV CHARGING STATIONS BICYCLE PARKING: MINIMUM = 2 SPACES FOR NON-RESIDENTIAL USE WITH OFF-STREET PARKING FOR MOTORIZED VEHICLES TOTAL REQUIRED: 2 SPACES TOTAL PROVIDED: 2 SPACES (1 BICYCLE RACK)
PUBLIC GATHERING SPACE:	1 SF / 25 SF GFA (REQUIRED) (1/25)*7000 SF =280 SF 1,320 SF (PROVIDED)

GENERAL NOTES

- ALL DEVELOPMENT IS SUBJECT TO VAR-5-22 AS RECORDED IN BOOK 019337 PAGES 01398-01402 OF THE WAKE COUNTY REGISTER OF DEEDS.

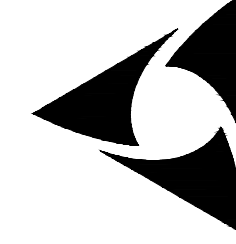
JUSTIFICATION STATEMENT [UDO SEC. 7.1.D]

- ALL DEVELOPMENTS FEATURING ON-SITE PARKING LOTS SHALL BE DESIGNED TO ALLOW FOR CROSS-ACCESS TO ADJACENT PROPERTIES TO ENCOURAGE SHARED PARKING. [UDO SEC. 7.1(J)(3)]
- PROVIDING CROSS-ACCESS TO THE NORTHERN ADJACENT PROPERTY IS IMPRACTICAL DUE TO ENVIRONMENTAL CONSTRAINTS INCLUDING AN EXISTING STREAM AND POND ALONG THE SOUTHERN BORDER OF THE ADJACENT PROPERTY. [UDO SEC. 7.1.D]
- PROVIDING CROSS-ACCESS TO THE EASTERN ADJACENT PROPERTY IS IMPRACTICAL DUE TO ENVIRONMENTAL AND PARCEL AREA CONSTRAINTS. THERE ARE EXISTING WETLANDS ALONG THE FRONTAGE OF THE SUBJECT PROPERTY AND AN EXISTING ASPHALT DRIVE THAT FURTHER REDUCE THE SMALL AMOUNT OF USABLE AREA ON THE PROPERTY. [UDO SEC. 7.1.D]

PABST DESIGN GROUP, PA

Engineering | Consulting

107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 848 4399 | Fax: 919 948 4392 | NC LICENSE NUMBER: C-3311



PREPARED FOR:
MOORE'S REALTY, INC.
101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545

DATE: 06/24/2022

PROJECT ENGINEER:
PUP

PROJECT CAD DESIGNER:
PUP

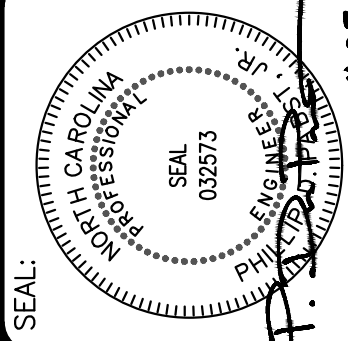
PROJECT SURVEYOR:
WAKE COUNTY GIS

700 OLD KNIGHT ROAD OFFICE BUILDING

KNIGHTDALE, ST. MATHEW'S TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

MASTER PLAN

COVER SHEET



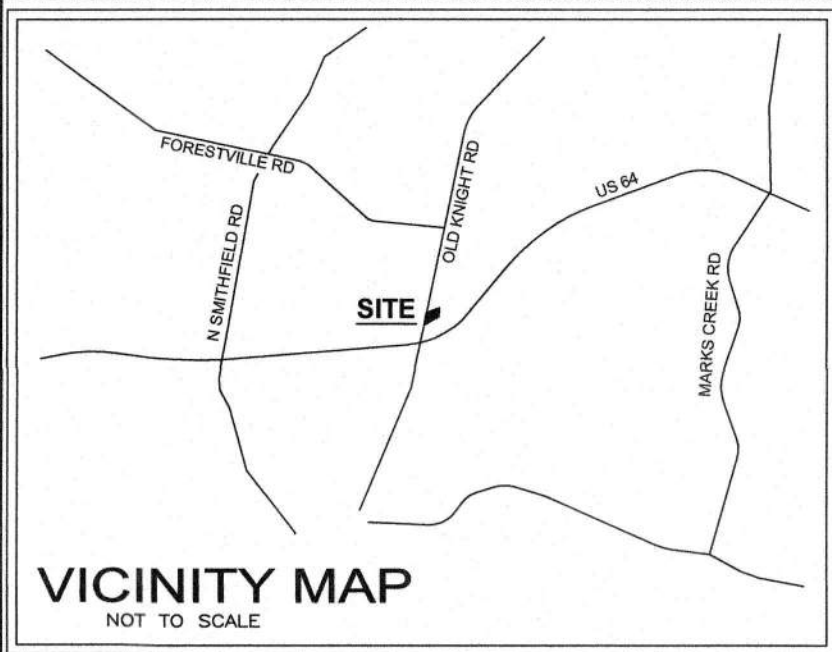
NO.	REVISION	DATE	BY	REVIEWED PER YOUR COMMENTS
1				

DRAWING SHEET

C-0.0

PROJECT NUMBER

627-22



LEGEND and NOMENCLATURE

SYMBOLS	LINETYPES

ABBREVIATIONS
DB Deed Book
PB or BM Plat Book / Book of Maps
NIF Now or formerly
Pg Page
SF Square feet
Ac Acres
R/W Right-of-way
NCSR North Carolina State Route
NC DOT North Carolina Dept. of Transportation
R/W Right-of-way
Ex Existing
RCP Reinforced concrete pipe
PVC Polyvinyl chloride pipe
(M) Measured
AG Above ground
BG Below ground

NOTES:

- All distances are horizontal ground distances in u.s. survey feet unless otherwise noted. Area(s) computed by coordinate geometry.
- This survey does not include nor depict any environmental evaluations. No investigation into the existence of wetlands or riparian buffers performed in the preparation of this survey. Wetlands shown hereon field located by this office as placed by Sage Ecological Services per a sketch map provided dated 7/11/22.
- Field survey performed February 1 thru 6, 2023 and November 20 thru November 22, 2023.
- Surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence or any other facts that an accurate and current title search may disclose.
- The locations of underground utilities as shown hereon (if any) are based on aboveground structures and aboveground visual evidence only. Locations of underground utilities/structures may vary from location shown hereon. Additional buried utilities/structures may be encountered. No excavations were made during the progress of this survey to locate buried utilities/structures.
- Subject property is NOT located within a special flood hazard zone per FEMA Flood Insurance Rate Map (FIRM) #3720175400K, effective date July 19, 2022.
- The State Plane Coordinates for this project were produced with RTK GPS observations and processed using the North Carolina VRS network. The network positional accuracy of the derived positional information is $\pm 0.07'$.

HORIZONTAL DATUM = NAD 83/2011
VERTICAL DATUM = NAVD 88

THIS SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

I, Justin L. Luther, certify that this plat was drawn under my supervision from an actual survey made under my supervision from references as noted on said plat; that the boundaries not surveyed are clearly indicated as drawn from information as indicated under references; that the ratio of precision as calculated is greater than 1:10,000; that this plat was prepared in accordance with NCGS 47-30 as amended.

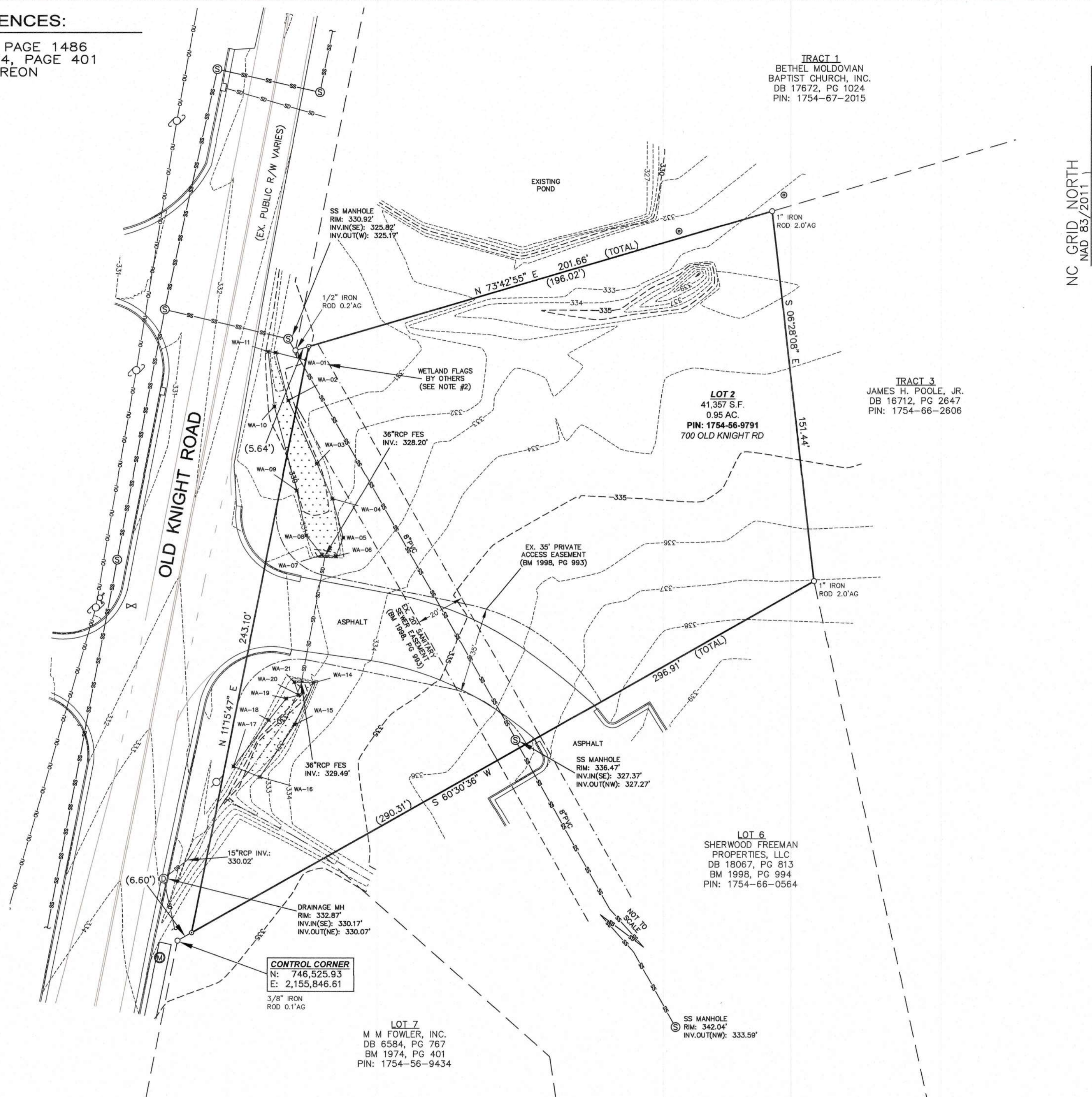
Witness my original signature, license number and seal this day of DECEMBER, 2023.

Professional Land Surveyor (L-5107)



REFERENCES:

DEED BOOK 19200, PAGE 1486
BOOK OF MAPS 1974, PAGE 401
*OTHERS SHOWN HEREON



BOUNDARY & TOPOGRAPHIC SURVEY

MOORE'S REALTY, INC.

ST. MATTHEW'S TOWNSHIP WAKE COUNTY NORTH CAROLINA



SCALE: 1"=30'

NC GRID NORTH
NAD 83/2011

C:\Public\10-Projects\600-699\627-22 700 Old Knight Road Office (More's Realty, Inc.)\50-Drawings\44-Design\627-22 C-01.dwg Mdr 14, 2025 - 9:34am B\kikantz

LEGEND

----	LOC	LIMITS OF CONSTRUCTION		EXISTING CONCRETE
----	LOO	LIMITS OF DISTURBANCE		EXISTING ASPHALT
----	LODLOC	LIMITS OF DISTURBANCE & CONSTRUCTION		EXISTING STRUCTURE TO BE REMOVED
----	UKN UTIL	EXISTING UNKNOWN UTILITY		EXISTING RIP RAP
----	TV	EXISTING TV		EXISTING VEGETATION
----	TEL	EXISTING TELEPHONE		EXISTING GRAVEL
----	COMM	EXISTING COMMUNICATIONS		EXISTING WETLANDS
----	CTV	EXISTING CATV		EXISTING RIPARIAN BUFFER
----	FO	EXISTING FIBER OPTIC		PROPOSED CONCRETE
----	W	EXISTING WATER PIPE		PROPOSED ASPHALT
----	FM	EXISTING WATER FORCE MAIN		PROPOSED HEAVY DUTY ASPHALT
----	WF	EXISTING WATER FIRE LINE		PROPOSED AMENITY SPACE
----	SS	EXISTING SANITARY SEWER PIPE		PROPOSED PAVEMENT REPAIR
----	FS	EXISTING SANITARY SEWER FORCE MAIN		PROPOSED RIP RAP
----	SD	EXISTING STORM PIPE		PROPOSED TREE PRESERVATION
----	G	EXISTING GAS PIPE		PROPOSED GRAVEL
----	OHE	EXISTING OVERHEAD ELECTRIC		PROPOSED CONSTRUCTION ENTRANCE
----	UE	EXISTING UNDERGROUND ELECTRIC		7-DAY STABILIZATION
X X X	TPF	EXISTING FENCE		14-DAY STABILIZATION
----	----	EXISTING TREE PROTECTION FENCE		PROPOSED SS MANHOLE
----	----	EXISTING SILT/TREE PROTECTION FENCE		PROPOSED SS CLEANOUT
O O	----	EXISTING GUARDRAIL		PROPOSED FIRE HYDRANT ASSEMBLY
////	----	EXISTING UTILITY TO BE REMOVED		PROPOSED BLOW OFF ASSEMBLY
W	----	PROPOSED WATER PIPE		PROPOSED VALVE
FM	----	PROPOSED WATER FORCE MAIN		PROPOSED METER VAULT
WF	----	PROPOSED WATER FIRE LINE		PROPOSED HOTBOX
SS	----	PROPOSED SANITARY SEWER PIPE		PROPOSED SW MANHOLE
FS	----	PROPOSED SANITARY SEWER FORCE MAIN		PROPOSED SW INLET
SD	----	PROPOSED STORM PIPE		PROPOSED SW FLARED END SECTION
G	----	PROPOSED GAS PIPE		BLOCK AND GRAVEL INLET PROTECTION
OHE	----	PROPOSED OVERHEAD ELECTRIC		SILT FENCE OUTLET
UE	----	PROPOSED UNDERGROUND ELECTRIC		CONCRETE WASHOUT
X X X	----	PROPOSED FENCE		FENCE
TPF	----	PROPOSED TREE PROTECTION FENCE		OVERHEAD UTILITY
SF-TF	----	PROPOSED SILT/TREE PROTECTION FENCE		WATERLINE (BLUE PAINT)
O O	----	PROPOSED GUARDRAIL		SANITARY SEWER
SF	----	PROPOSED TEMPORARY SILT FENCE		STORM DRAIN
> > >	----	PROPOSED TEMPORARY DIVERSION DITCH		UNDERGROUND ELECTRIC (RED PAINT)
FFE	----	FINISHED FLOOR ELEVATION		GAS LINE (YELLOW PAINT)
FL	----	FLOW LINE		COMMUNICATIONS / FIBER (ORANGE PAINT)
TC	----	TOP OF CURB		
TG	----	TOP OF GROUND		
EG	----	EDGE OF PAVEMENT		
TP	----	TOP OF PAVEMENT		
TW	----	TOP OF WALL		
BW	----	BOTTOM OF WALL		
HP	----	HIGH POINT		
LP	----	LOW POINT		
→	----	FLOW DIRECTION		

SURVEY LEGEND and NOMENCLATURE

SYMBOLS	LINETYPES	ABBREVIATIONS
	X X X	DB
	----	DEED BOOK / BOOK OF MAPS
	----	PG.
	----	SF
	----	AC.
	----	R/W
	----	EX.
	----	D.I.
	----	C.I.
	----	AG.
	----	BG.
	----	O/H

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

FOR REVIEW ONLY
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NOTE(S): ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.

SURVEY NOTES:

- ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED. AREA(S) COMPUTED BY COORDINATE GEOMETRY.
- THIS SURVEY DOES NOT INCLUDE NOR DEPICT ANY ENVIRONMENTAL EVALUATIONS. NO INVESTIGATION INTO THE EXISTENCE OF WETLANDS OR RIPARIAN BUFFERS PERFORMED IN THE PREPARATION OF THIS SURVEY.
- FIELD SURVEY PERFORMED FEBRUARY 1 THRU 6, 2023.
- SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
- THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON (IF ANY) ARE BASED ON ABOVEGROUND STRUCTURES AND ABOVEGROUND VISUAL EVIDENCE ONLY. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATION SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FLOOD INSURANCE RATE MAP (FIRM) #3720175400K, EFFECTIVE DATE JULY 15, 2022.
- THE STATE PLANE COORDINATES FOR THIS PROJECT WERE PRODUCED WITH RTK GPS OBSERVATIONS AND PROCESSED USING THE NORTH CAROLINA VRS NETWORK. THE NETWORK POSITIONAL ACCURACY OF THE DERIVED POSITIONAL INFORMATION IS ± 0.07'.

DEMOLITION NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
- THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND/OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT, AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE AND DO NOT INCLUDE MECHANICAL, ELECTRICAL AND MISCELLANEOUS STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THE DEMOLITION WORK FOR THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF NEW CONSTRUCTION SHALL BE RAZED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET, ARCHITECTURAL PLANS AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS, AND FOOTINGS.
- ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- ALL UTILITY REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
- THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR GETS WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
- MUNICIPAL AND UTILITY CONTACTS ARE LISTED ON COVER SHEET C-0.0.
- EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE INSTALLED PRIOR TO INITIATION OF DEMOLITION ACTIVITIES.
- ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
- CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL, AND OSHA REGULATIONS WHEN OPERATING DEMOLITION EQUIPMENT AROUND UTILITIES.
- CONTRACTOR SHALL PROTECT AT ALL TIMES ADJACENT STRUCTURES AND ITEMS FROM DAMAGE DUE TO DEMOLITION ACTIVITIES.
- ALL DEMOLITION WORK SHALL BE PERFORMED WITH "DUE CARE AND DILIGENCE" SO AS TO PREVENT THE ARBITRARY DESTRUCTION OR INTERRUPTION OF CONCEALED UTILITIES WHICH ARE INTENDED TO REMAIN IN USE AND THE ROUTING OF WHICH COULD NOT BE PREDETERMINED UNTIL DEMOLITION WAS STARTED. ALL SUCH DISCOVERIES OF UTILITIES DURING THE DEMOLITION PROCESS WHICH ARE IN A LOCATION DIFFERENT FROM THAT INDICATED OR ARE UNIDENTIFIED, SHALL BE REPORTED TO THE OWNER, ENGINEER AND ARCHITECT BEFORE REMOVAL FOR FINAL DISPOSITION.
- ALL UTILITIES OR STRUCTURES NOT DESIGNATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
- EXISTING PAVEMENT, CURB AND GUTTER, SIDEWALK, ETC. NOT INDICATED FOR REMOVAL, WHICH IS DAMAGED DURING DEMOLITION/CONSTRUCTION, SHALL BE REPAIRED OR REPLACED TO MATCH ORIGINAL CONDITION.
- SALVAGEABLE FILL MATERIALS FROM SITE DEMOLITION DETERMINED TO BE ACCEPTABLE BY AN INDEPENDENT SOILS TESTING LABORATORY SHALL BE UTILIZED FOR FILL MATERIAL WHERE APPROPRIATE.
- ANY NOTE, OR REFERENCE TO ANY ELEMENT, WHICH DOES NOT SPECIFY ACTION BY THE CONTRACTOR SHALL BE CONSTRUED AS INFORMATION ONLY.
- ALL PIPE INSTALLATION, WHEN REQUIRED BY PIPE DEPTHS AND EXCAVATION, SHALL BE PERFORMED WITH THE USE OF TRENCH BOXES. ALL EXCAVATIONS, UTILITY AND GRADING WORK, SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL SAFETY AND SECURITY FENCING, BARRIERS, PROTECTION MATERIAL AND METHODS AS REQUIRED TO COMPLETE ANY OFF SITE WORK IN A SAFE AND TIMELY MANNER.
- CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
- UNLESS OTHERWISE NOTED, ALL EXISTING VEGETATION TO REMAIN AND TO BE UNDISTURBED FOR THE DURATION OF CONSTRUCTION. IF DAMAGES OCCUR TO EXISTING VEGETATION, PLANTS SHALL BE REPLACED IN KIND.
- ANY EXISTING WELLS AND/OR SEPTIC SYSTEMS SHALL BE ABANDONED IN ACCORDANCE WITH WAKE COUNTY HEALTH DEPARTMENT STANDARDS.

SITE LAYOUT NOTES:

- ALL CONSTRUCTION AND EXCAVATION SHALL BE CONFINED TO THE LIMITS OF CONSTRUCTION, AND SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF KNIGHTDALE, CITY OF RALEIGH, NCDOT, & NCDOT STANDARDS AND SPECIFICATIONS.
- ALL DIMENSIONS ARE TO EDGE OF PAVEMENT, EDGE OF SIDEWALK, FACE OF CURB, CENTERLINE OF COLUMN AND FACE OF BUILDING WALL, UNLESS OTHERWISE NOTED. ALL RADII DIMENSIONS TO BACK OF CURB.
- ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" OR AS REQUIRED IN SPECIFICATIONS.
- ALL STRIPING SHALL BE 4" WIDE UNLESS NOTED OTHERWISE.
- ALL RADII TO BE 3'-0" BOC UNLESS OTHERWISE NOTED.
- VERIFY ALL SETBACKS WITH LOCAL CODES.
- A SEPARATE PERMIT AND APPROVAL IS REQUIRED FOR SIGNS.
- 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.
- 5'-0" MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
- 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).
- ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- 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.
- 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.
- 3'-0" MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4'-0" MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- 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.
- INSTALL WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 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.
- INSTALL 4" - 8" PVC" SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- 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.
- GENERAL CONTRACTOR TO REFER TO THE MOST CURRENT ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF UTILITY ENTRANCES, BUILDING DIMENSIONS, ROOF LEADERS, EXIT DOORS AND EXIT RAMPS.
- THE CONTRACTOR SHALL REMOVE, PRESERVE, AND RESET ALL FENCES, POSTS, CULVERTS, SIGNS, STREET MARKERS, MAILBOXES, AND THE LIKE WITHIN THE LIMITS OF THE PROPOSED IMPROVEMENTS. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.
- PERMANENT AND TEMPORARY SIGNAGE REQUIRES AN APPROVED SIGN PERMIT PRIOR TO INSTALLATION. SIGNAGE IS A SEPARATE SUBMITTAL, REVIEW, AND APPROVAL PROCESS BY THE DEVELOPMENT SERVICES DEPARTMENT.

GRADING NOTES:

- ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY PABST DESIGN GROUP, PA, THE CURRENT REQUIREMENTS OF WAKE COUNTY, THE APPLICABLE SECTIONS OF THE NCDOT STANDARD SPECIFICATIONS

FOR ROADWAY CONSTRUCTION, AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.

- ALL EXISTING TREES, VEGETATION, PAVEMENTS, CONCRETE FOUNDATIONS, STRUCTURES AND ORGANIC TOPSOIL SHALL BE STRIPPED AND REMOVED FROM NEW CONSTRUCTION AREAS UNLESS OTHERWISE NOTED.
- ALL AREAS NOT PAVED SHALL BE TOPSOILED, SEEDED, MULCHED OR LANDSCAPED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE OWNER.
- CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR DISPOSAL OF ALL WASTE MATERIALS OFF SITE. THIS RESPONSIBILITY SHALL INCLUDE ALL REQUIRED APPROVALS AND CONDITIONS DICTATED BY WAKE COUNTY.
- ALL OPEN STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER STOPPAGE OF WORK EACH DAY.
- CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL NPDES PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- IF AN OFFSITE SOIL POOL OR BORROW SITE IS UTILIZED, THEN THE DISTURBED AREA FOR THE POOL/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE POOL/BORROW SITE ALREADY HAS A LAND-DISTURBANCE PERMIT.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES AND INLETS.
- BOUNDARY AND TOPOGRAPHIC SURVEY PROVIDED BY NEWCOMB LAND SURVEYORS, PLLC DATED FEBRUARY 6TH, 2023.
- CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
- CONTRACTOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY IN RELATION TO THE PROPOSED GRADES TO ENSURE DRAINAGE IN THE DIRECTION INDICATED ON PLANS.
- INITIATE CONSTRUCTION SEQUENCE BEFORE BEGINNING CLEARING AND GRADING ON-SITE OPERATIONS.
- STRIP TOPSOIL TO FULL DEPTH IN AREAS TO BE GRADED.
- MAXIMUM GRADED SLOPE SHALL NOT EXCEED 2:1, UNLESS OTHERWISE NOTED.
- AREAS TO BE GRADED SHALL BE CLEARED OF ALL EXISTING VEGETATION. CONTRACTOR TO PROTECT VEGETATION LOCATED ABOVE GRADING LIMITS.
- COMPACT ALL FILL AREAS TO 95% OF MAXIMUM DENSITY, OR PER GEOTECHNICAL RECOMMENDATIONS.
- PROPOSED SPOT ELEVATIONS ARE SHOWN AT FINISHED GRADE.
- ALL 2:1 SLOPES TO BE STABILIZED WITH TURF REINFORCEMENT MAT PER MANUFACTURER'S RECOMMENDATIONS. SLOPES TO BE SEEDED MIX SUMMER/SPRING OR FALL/WINTER BLEND DEPENDING ON SEASON. CONTACT ACF ENVIRONMENTAL FOR SPECIFICATIONS AT 1-800-448-3636.
- THE PLACEMENT OF ANY FILL MATERIAL MUST BE CONDUCTED UNDER THE OBSERVATION OF A QUALIFIED LICENSED GEOTECHNICAL ENGINEER, AND UPON COMPLETION OF THE EARTHWORK ACTIVITIES, THE TOWN MUST BE PROVIDED WITH A FINAL GRADING REPORT THAT INCLUDES THE CORRESPONDING COMPACTION TEST RESULTS, AND CERTIFIES THE TYPE OF FILL MATERIAL AND ITS PROPER PLACEMENT.

GENERAL UTILITY NOTES:

- ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY PABST DESIGN GROUP, PA, THE CURRENT REQUIREMENTS OF THE CITY OF RALEIGH, THE APPLICABLE SECTIONS OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
- THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
- BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY N.C. 811 AT "811 OR 1-800-632-4949". THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BID AND PERFORM ALL UTILITY WORK IN COMPLIANCE TO ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH THE INSTALLATION, INSPECTING, TESTING AND FINAL ACCEPTANCE OF ALL PROPOSED UTILITIES CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY ON THE ADDITION, REMOVAL AND/OR RELOCATION OF UTILITIES AND UTILITY POLES AND THE EXTENSION OF ALL PROPOSED UTILITIES TO RADISSON HOTEL.
- ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE UTILITY COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL UTILITIES ARE INSTALLED CORRECTLY TO MEET PROJECT REQUIREMENTS WHETHER PERFORMED BY THE CONTRACTOR OR NOT.
- AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
- CONDUIT LOCATIONS TO SIGNS AND SITE LIGHT POLES TO BE COORDINATE WITH OWNER.
- CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
- CONTRACTOR SHALL VERIFY ALL ILLUSTRATED UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF CONFLICTS ARE ENCOUNTERED.
- ALL CITY OF RALEIGH UTILITY CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF RALEIGH STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT TIME OF UTILITY PERMITTING.
- GREASE INTERCEPTOR SIZING AND DETAILS ARE TO BE INCLUDED WITH BUILDING CONSTRUCTION PLUMBING PLANS. A PLUMBING PERMIT WILL BE REQUIRED FOR INSTALLATION OF THE GREASE INTERCEPTOR AND ANY ASSOCIATED PLUMBING SEWER LATERAL IF INSTALLED DURING THE SITE DEVELOPMENT PHASE OF CONSTRUCTION.
- APPROVAL AND PERMITTING OF THIS UTILITY PLAN COVERS PUBLIC INFRASTRUCTURE ONLY. WHILE PRIVATE UTILITY MAINS MAY BE SHOWN HEREON FOR REFERENCE, THEY ARE ALLOWED ONLY AFTER OBTAINING A SEPARATE PERMIT FOR PRIVATE UTILITIES.

CITY OF RALEIGH UTILITY NOTES:

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
- UTILITY SEPARATION REQUIREMENTS:
 - a. DISTANCE OF 100" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPROUNDED 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.
- 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.
- 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.
- 3'-0" MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4'-0" MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- 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.
- INSTALL WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 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.
- INSTALL 4" - 8" PVC" SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- 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.

- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDOW, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
- 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 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 HARTLEY AT (919) 996-9923 OR joanie.hartley@raleighnc.gov FOR MORE INFORMATION.

GENERAL PLANTING NOTES:

- ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES AND SHALL MEET ALL STANDARDS AS STATED IN THE LATEST EDITION OF 'AMERICAN STANDARD FOR NURSERY STOCK'.
- PLANT LIST QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN THE EVENT OF QUANTITY DISCREPANCIES, THE DRAWINGS SHALL TAKE PRECEDENCE.
- NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER OR LANDSCAPE DESIGNER.
- CONTRACTOR SHALL HAVE UTILITY COMPANY LOCATE ALL UTILITIES PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES INCURRED BY HIS/HER WORK.
- METHODS OF TREE STAKING INDICATED ON THE DRAWINGS ARE SUGGESTIONS ONLY. THE LANDSCAPE CONTRACTOR SHALL USE WHATEVER METHOD HE DEEMS FIT, HOWEVER HE WILL BE HELD LIABLE FOR ANY DAMAGES CAUSED TO TREES BY IMPROPER STAKING METHODS (OR ABSENCE OF STAKING) AND IS RESPONSIBLE FOR UPRIGHTING AND REPLANTING TREES WHICH ARE BLOWN OVER.
- ALL AREAS NOT SHOWN AS HARD SURFACES, PLANT BED, MULCHED OR UNDISTURBED AREAS, SHALL BE SEEDED OR SODDED AS LAWN WITH BERMUDA GRASS.
- ALL LANDSCAPE BEDS CONTAIN TRIPLE SHREDED HARDWOOD MULCH AT A THICKNESS OF 3".
- ALL LANDSCAPE BEDS SHALL HAVE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
- ALL PLANT BEDS SHALL BE TREATED WITH PRE-EMERGENT WEED CONTROL (I.E. TREFOLON GRANULES).
- ALL PLANTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN AND SHALL BE VIGOROUS, HEALTHY MATERIAL FREE OF PESTS AND DISEASE.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE PLANTING CONTRACTOR, AND THE TOTAL QUANTITIES SHALL BE REQUIRED ON THE PLANTING PLAN.
- OWNERS SHALL MAINTAIN ALL PLANT BEDS AND PLANT MATERIAL IN GOOD HEALTH, AND ANY DEAD, UNHEALTHY OR MISSING PLANTS SHALL BE REPLACED WITH THE SAME PLANT MATERIAL ORIGINALLY SPECIFIED ON THIS PLAN.
- PLANT MATERIAL ON THIS SITE MUST BE INSTALLED IN CONFORMANCE WITH THE GENERAL PLANTING NOTES AND DETAILS ON THIS PLAN OR TO THE STANDARDS OF THE TOWN OF KNIGHTDALE.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS AND LICENSES TO PERFORM THE REQUIRED WORK.
- FOUNDATION PLANTINGS WILL BE PLANTED ALONG BUILDING FOUNDATIONS THAT FACE A STREET.
- ALL LANDSCAPING WILL BE MAINTAINED IN PERPETUITY.
- ALL HEDGEBACKS AND OTHER ON GROUND/FREE STANDING MECHANICAL EQUIPMENT SHALL BE SCREENED WITH DENSE EVERGREEN VEGETATION AT LEAST THE HEIGHT OF THE EQUIPMENT PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- WITHIN THE SIGHT TRIANGLE NOTHING SHALL BE ERECTED, PLACED, PLANTED, OR ALLOWED TO GROW IN SUCH A MANNER AS TO IMPEDE THE SIGHT VISION AT THE INTERSECTION AND THE MAXIMUM HEIGHT OF ANY MATERIAL SHALL NOT EXCEED 3 ½ FEET, IN ACCORDANCE WITH THE NCDOT'S STANDARDS AS APPLICABLE.

E&S CONSTRUCTION SEQUENCE - PHASE 1:

- SCHEDULE AN INITIAL PRE-CONSTRUCTION CONFERENCE WITH THE TOWN OF KNIGHTDALE.
- OBTAIN A LAND-DISTURBANCE PERMIT.
- OBTAIN AN APPROVED (STAMPED) E&S CONTROL PLAN AND KEEP IT ON SITE, EITHER IN THE INSPECTION BOX, CONSTRUCTION OFFICE OR WITH THE CONTRACTOR.
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT DURING GRADING OPERATION. CONTRACTOR SHALL CALL 1-800-632-4949 N.C. "ONE CALL" PRIOR TO DIGGING TO LOCATE ALL EXISTING UNDERGROUND UTILITIES ON SITE.
- INSTALL ALL PERIMETER CONTROLS AS SHOWN ON THE APPROVED PLANS, CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. CLEARING SHOULD BE LIMITED TO A 35" "RIBBON" AROUND PERIMETER TO INSTALL CONTROLS. NO GRADING OR EXCAVATION SHOULD OCCUR.
- SCHEDULE AN ONSITE PRE-CONSTRUCTION MEETING WITH THE TOWN OF KNIGHTDALE TO INSPECT THE INSTALLED PERIMETER CONTROLS.
- IF APPROVED, PROCEED WITH INSTALLING OTHER MEASURE AS SHOWN ON THE APPROVED PLANS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
- CALL TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO SCHEDULE AN ONSITE INSPECTION AND OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING, MAINTAIN DEVICES AS NEEDED, ROUGH GRADE SITE.
- INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH SUITABLE EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN IN THE APPROVED PLANS. BEGIN CONSTRUCTION, BUILDING, ETC.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- GRADING FOR PHASE 1 S&E WILL BE CONDUCTED AS NECESSARY TO ACHIEVE SITE GRADES SHOWN ON SHEETS C-4.0 AND C-5.1, INCLUDING RETAINING WALLS TO THE EXTENT POSSIBLE.
- CUT AND FILL SLOPES WILL BE STABILIZED WITHIN 14 DAYS OF ANY PHASE OF GRADING. (SEE STABILIZATION CRITERIA ON SHEET D-4.1).
- INSTALL CURB AND GUTTER, CABE STONE, AND SIDEWALK IN ALL HARDSCAPE AREAS.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION AND PAVING, ESTABLISH GROUND COVER ON DENUDED AREAS WITH FOURTEEN (14) DAYS OF COMPLETION OF PROJECT.
- IF IT IS DETERMINED DURING CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE, DESPITE PROPER IMPLEMENTATION AND MAINTENANCE, THE CONTRACTOR IS OBLIGATED TO TAKE ADDITIONAL CORRECTIVE ACTION.
- THE CONTRACTOR SHALL INSPECT AND MAINTAIN THE EROSION CONTROL DEVICES SO THEY CONTINUE TO FUNCTION PROPERLY.

E&S CONSTRUCTION SEQUENCE - PHASE 2:

- REFER TO SHEET C-5.0 IN THIS PLAN SET FOR PHASE 1 E&S OPERATIONS PRIOR TO BEGINNING THIS CONSTRUCTION SEQUENCE AND INSTALLATION OF MEASURES ON SHEET C-6.1.
- CONTINUE BRINGING THE SITE TO FINAL GRADES, INSTALLING UTILITIES AND RETAINING WALL AT THE SAME TIME AS NECESSARY. CONTACT TOWN OF KNIGHTDALE INSPECTOR FOR INSPECTION.
- AS PERMANENT STORMWATER PIPES AND STRUCTURES ARE INSTALLED, INSTALL INLET PROTECTION AND PLUG THE PIPES UNTIL THE MAJORITY OF THE SITE IS STABILIZED. PERIODICALLY OR AFTER LARGE RAIN EVENTS, PUMP OUT WATER AND SEDIMENT FROM ANY STORM STRUCTURES THAT RECEIVED WATER AND SEDIMENT PAST THE INLET PROTECTION) INTO SILT BAGS AND DISPOSE OF APPROPRIATELY.
- CUT AND FILL SLOPES WILL BE STABILIZED WITHIN 14 DAYS OF ANY PHASE OF GRADING. (SEE STABILIZATION CRITERIA ON SHEET D-4.1).
- FINISH INSTALL OF CURB AND GUTTER, CABE STONE, PAVEMENT AND SIDEWALK IN ALL HARDSCAPE AREAS, WHERE NECESSARY.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION AND PAVING. ESTABLISH GROUND COVER ON DENUDED AREAS WITHIN FOURTEEN DAYS (14) DAYS OF COMPLETION OF PROJECT.
- IF IT IS DETERMINED DURING CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE, DESPITE PROPER IMPLEMENTATION AND MAINTENANCE, THE CONTRACTOR IS OBLIGATED TO TAKE ADDITIONAL CORRECTIVE ACTION.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL EROSION CONTROL INSPECTOR FOR AN INSPECTION.
- IF SITE IS APPROVED, REMOVE TEMPORARY EROSION AND SEDIMENTATION MEASURES AND SEED OUT TO STABILIZE ANY RESULTING BARE AREAS.
- BEFORE REMOVAL OF PLUGS TO ALLOW FOR THE NEW STORM CONVEYANCE SYSTEM TO TIE INTO THE DOWNSTREAM SYSTEM, THE NEW SYSTEM SHOULD BE FLUSHED AND SEDIMENT PUMPED OUT AND PROPERLY DISPOSED OF.
- FINE GRADE THE FINAL PORTION OF THE SITE. SEED OR OTHERWISE STABILIZE ANY RESULTING BARE AREAS.

1. PROVIDE A PLAN DETAIL, CONSTRUCTION SPECIFICATIONS, AND SPECIFIC MAINTENANCE REQUIREMENTS FOR THE PROPOSED SEDIMENT AND EROSION CONTROL STRUCTURES INCLUDED ON THE PLAN. RECOMMEND PLACING MAINTENANCE REQUIREMENTS WITH THE ASSOCIATED CONSTRUCTION DETAIL.
2. MAINTENANCE AND/OR CLEAN OUT, IS NECESSARY ANYTIME THE DEVICE IS AT 50% CAPACITY. ALL SEDIMENT STORAGE MEASURES WILL REMAIN ON SITE AND FUNCTIONAL UNTIL ALL GRADING AND FINAL LANDSCAPING OF THE PROJECT IS COMPLETE.
3. AS DESIGNATED BY NDEQ NC061 PERMITTING, SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF 1 INCH OR GREATER. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED.
4. PROVIDE THE MINIMUM MAINTENANCE STANDARDS AS SPECIFIED BELOW:
 - 4.1. SURVEYOR FLAGS/TAPE/STAKES:
 - REPLACE IDENTIFIERS IF DAMAGED OR KNOCKED DOWN DURING DEVELOPMENT.
 - ENSURE KEY ENVIRONMENTAL AND/OR CULTURAL RESOURCES MAINTAIN IDENTIFIERS.
 - COLORS SHOULD ADHERE TO THE APWA UNIFORM COLOR CODE. USE ACCEPTED SURVEY SYMBOLS AND ENSURE OPERATORS UNDERSTAND DESIGNATIONS. UTILITY LINE OWNERS/OPERATORS SHALL IDENTIFY THE DESIGNATING FIRM.
 - 4.2. PERMITS / NC061 INSPECTIONS BOX:
 - CONFIRM BOX IS SECURELY FASHIONS TO A POST OR WALL IN A VISIBLE LOCATION IN PROXIMITY TO THE CONSTRUCTION ENTRANCE.
 - MAINTAIN RELEVANT IDENTIFICATION ON THE EXTERIOR OF THE BOX.
 - ENSURE PAPER DOCUMENTS REMAIN DRY / LEGIBLE (LAMINATION, TICKET HOLDERS, BINDERS, ETC.)
 - REPLACE ANY MISSING DOCUMENTS IMMEDIATELY. CONSIDER PLACING TIES OR FASTENERS IF NECESSARY.
 - 4.3. RAIN GAUGE:
 - CHECK AND REMOVE ANY ITEMS FROM THE RAIN FUNNEL AND THE DEBRIS FILTER (DUST, BUGS, OTHER DEBRIS.)
 - OPEN THE RAIN GAUGE AND REMOVE ANY FOREIGN OBJECTS.
 - PERFORM ROUTINE MAINTENANCE AS SPECIFIED BY THE MANUFACTURER.
 - CHECK THAT THE GAUGE IS NOT BEING OBSTRUCTED FROM RAIN CAPTURE AND IS LEVEL BEFORE AND AFTER REASSEMBLY.
 - 4.4. TREE PROTECTION FENCE:
 - PRUNE ANY DAMAGED TREES. (IF) DAMAGE TO PROTECTED TREES OCCURS, REPAIR ANY DAMAGE TO THE CROWN, TRUNK, OR ROOT SYSTEM IMMEDIATELY.
 - REPAIR ROOTS BY CUTTING OFF THE DAMAGED AREAS AND PAINTING THEM WITH TREE PAINT. SPREAD PEAT MOSS OR MOIST TOPSOIL OVER EXPOSED ROOTS.
 - REPAIR DAMAGE TO BARK BY TRIMMING AROUND THE DAMAGED AREA, TAPER THE CUT TO PROVIDE DRAINAGE AND SEAL WITH TREE PAINT.
 - CUT OFF ALL THE DAMAGED TREE LIMBS ABOVE THE TREE COLLAR AT THE TRUNK OR MAIN BRANCH. USE THREE SEPARATE CUTS TO AVOID PEELING BARK FROM HEALTHY AREAS OF THE TREE.
 - 4.5. SILT FENCE:
 - SHOULD THE FABRIC OF THE SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
 - REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUTS.
 - REMOVE ALL THE FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
 - 4.6. SILT FENCE OUTLET:
 - FRESHEN STONE WHEN SEDIMENT ACCUMULATION EXCEEDS 6 INCHES.
 - KEEP MESH FREE OF DEBRIS TO PROVIDE ADEQUATE FLOW AND REPLACE STONE AS NEEDED TO FACILITATE DE-WATERING.
 - 4.7. CONSTRUCTION ENTRANCE:
 - MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2 INCH STONE.
 - IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.
 - 4.8. INLET PROTECTION (PIPE / YARD / DROP / CURB):
 - INSPECT INLET PROTECTIONS AND REMOVE SEDIMENT AFTER EACH RAIN EVENT.
 - KEEP FREE OF DEBRIS TO PROVIDE ADEQUATE FLOW AND IF PRESENT REPLACE STONE AS NEEDED TO FACILITATE DE-WATERING.

1. THE DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, OF THE POND SHALL BE VEGETATED WITH NON-CLUMPING TURF GRASS OR SOD. (CENTIPEDE/HYBRID-BERMUDA) 90% GERMINATION OF NON-CLUMPING TURF WILL BE REQUIRED PRIOR TO FINAL CERTIFICATION FROM THE TOWN.
2. THE VEGETATED SHELF SHALL BE PLANTED WITH A MINIMUM OF THREE DIVERSE SPECIES OF HERBACEOUS, NATIVE VEGETATION AT A MINIMUM DENSITY OF 50 PLANTS PER 200 FEET OF SHELF AREA.
3. CONTRACTOR TO WORK WITH SOILS SCIENTIST TO ENSURE SOILS ARE ADEQUATE TO SUPPORT PROPER ESTABLISHMENT AND GROWTH OF THE AQUATIC PLANTINGS. CONTRACTOR TO AMEND SOILS AND INSTALL SOILS IN PLANT, SHRUB, AND TREE AREAS PER DETAILS, SOIL SPECIFICATIONS, NCDNR SPECIFICATION, AND SOIL SCIENTIST RECOMMENDATIONS.
4. ALL AQUATIC PLANTINGS ARE TO BE INSTALLED DURING THE APPROPRIATE TIME OF YEAR TO ENSURE SURVIVABILITY. (LAST SPRING FROST AND THE FIRST FALL FROST)
5. ALL DISTURBED AREAS AROUND THE OUTSIDE OF THE DEVICE SHALL BE SEEDED WITH A LAWN AREA SEED MIX (PER SEEDING SPECIFICATIONS) NATIVE GRASSES, LEGUMES, CLOVERS, AND WILDFLOWERS.
6. IF THE DEVICE WAS USED DURING CONSTRUCTION AS A SEDIMENT BASIN OR TRAP, THE BASIN MUST BE CLEANED OUT, GRADED, APPROPRIATE AREAS COVERED WITH 4" OF TOPSOIL AS SPECIFIED IN NOTE #2 ABOVE, AND VEGETATED WITHIN 14 DAYS OF THE COMPLETION OF CONSTRUCTION.
7. CONTRACTOR SHALL WATER ALL VEGETATION AND GRASS ON A WEEKLY BASIS AS NEEDED TO ENSURE GRASS AND PLANT SURVIVAL UNTIL AFTER THE SCM IS CERTIFIED AND ACCEPTED BY THE TOWN.

1. WHEN SCHEDULING INSPECTIONS, PLEASE CALL THE PUBLIC WORKS ADMINISTRATIVE ASSISTANT AT (919) 217-2250.
2. THE FOLLOWING PERSONNEL MUST BE PRESENT AT ALL INSPECTIONS:
 - 1) SITE SUPERVISOR
 - 2) GEOTECH
 - 3) AS-BUILT CERTIFYING ENGINEER OR SOMEONE UNDER THEIR SUPERVISION
3. THE FOLLOWING ITEMS MUST BE INSPECTED BY TOK STAFF DURING THE INSTALLATION OF ANY SCM WITH DAM:
 - 1) KEY TRENCH EXCAVATION
 - 2) PRINCIPAL SPILLWAY PIPE AND ASSOCIATED COMPONENTS:
 - a. CONCRETE CRADLE
 - b. ANTI-SEEP COLLAR
 - c. SEEPAGE DIAPHRAGM
 - 3) OUTLET STRUCTURE
 - 4) ANTI-FLOATATION BALLAST
 - 5) ANY SITE-CONSTRUCTED REINFORCED CONCRETE STRUCTURES
4. THE FOLLOWING ITEMS MUST BE INSPECTED BY TOK STAFF DURING THE INSTALLATION OF ANY SAND FILTERS OR BIORETENTION DEVICES:
 - a. SUBGRADE OR CONCRETED FOUNDATION
 - b. OUTLET OR RISER IN COMBINATION WITH CONNECTING UNDERDRAINS
 - c. FILTER MEDIA
 - d. DAM ITEMS ON PREVIOUS LIST IF APPLICABLE
5. GEOTECHNICAL TESTING AND CERTIFICATION - ALL REPORTS ARE TO BE SUBMITTED WITHIN 30-DAYS OF DAM COMPLETION. REQUIRED GEOTECHNICAL RECORDS INCLUDE:
 - 1) DAM EMBANKMENT MATERIAL COMPOSITION AND DENSITY TESTING
 - 2) MAP THAT LABELS ALL POINTS WHERE THE DAM AND DAM FOUNDATION AREAS WERE TESTED
 - 3) PHOTOGRAPHS SHOWING THE DAM FOUNDATION AREAS, THE RISER, THE PRINCIPAL SPILLWAY PIPE, THE CONCRETE CRADLE, THE SEEPAGE DIAPHRAGM, RELIEF DRAINS, ETC., WHEN INSTALLED.



APPROVED MASTER PLAN
 Town of Knightdale
 Development Services
 Gideon Smith 03/26/2025

PREPARED FOR : MOORE'S REALTY, INC. 101 FOREST DRIVE, STE. B-205 KNIGHTDALE, NORTH CAROLINA 27545
DATE : 06.24.2022
PROJECT ENGINEER: PDP
PROJECT CADD DESIGNER: PDP
PROJECT SURVEYOR:



PBS&T DESIGN GROUP, PA
Engineering | Consulting
107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 848 4395 | Fax: 919 848 4395 | NC LICENSE NUMBER: C-3211

Phone: 919 848 4399 | Fax: 919 848 4395 | NC LICENSE NUMBER: C-3211

F:\Public\10-Projects\600-699\627-22 700 Old Knight Road Office (Moore's Realty, Inc.)\50-Drawings\4-Design\627-22 C-01.dwg Mar 14, 2025 - 9:35am B:\kkrantz

BK019337PG01398

WAKE COUNTY, NC 49
TAMMY L. BRUNNER
REGISTER OF DEEDS
PRESENTED & RECORDED ON
05/19/2023 12:34:05

BOOK:019337 PAGE:01398 - 01402

Prepared by and Return to:
Town of Knightdale
950 Steeple Square Court
Knightdale, North Carolina 27545



TOWN OF KNIGHTDALE

950 STEEPLE SQUARE COURT • KNIGHTDALE, NC 27545
OFFICE (919) 217-2242 • FAX (919) 217-2249

NORTH CAROLINA
WAKE COUNTY

ORDER GRANTING A VARIANCE

THE TOWN OF KNIGHTDALE

On the date listed below, the Knightdale Board of Adjustment, held a public hearing to consider the following application:

APPLICANT: Morningstar Law Group
PROPERTY OWNERS: Jackie Moore, Moore's Realty, Inc.
(Formerly Owned by Greg and Angela Jones)
PROJECT NUMBER: VAR-5-22
PROJECT LOCATION: 700 Old Knight Road
WAKE COUNTY PIN: 1754-56-9791
BOARD OF ADJUSTMENT MEETING DATE: October 25, 2022

BK019337PG01401

NORTH CAROLINA
WAKE COUNTY

IN WITNESS WHEREOF, the Town of Knightdale has caused this order to be issued in its name, and the undersigned being all of the property owners of the properties above described, do hereby accept this Variance, together with all its conditions, as binding upon them and their successors in interest or ownership.

Jackie Moore
Jackie Moore, Moore's Realty, Inc.

ATTEST:

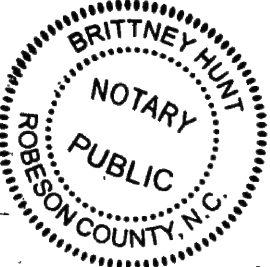
Heather M. Smith
Heather M. Smith, Town Clerk



I, Brittney Hunt, a Notary Public in and for said County and State, do hereby certify that Heather Smith, Town Clerk of Knightdale, personally came before me this day and being by me duly sworn says that she knows the corporate seal of the Town of Knightdale and that the seal affixed to the foregoing instrument is the corporate seal of the Town of Knightdale, that Heather Smith, Town Clerk for the Town of Knightdale subscribed her name thereto; that the corporate seal of the Town of Knightdale was affixed thereto, all by virtue of an order of the Board of Adjustment and that said instrument is the act and deed of the Town of Knightdale.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 18th day of May, 2023.

Brittney Hunt
Notary Public
My Commission Expires: 11/16/2027



BK019337PG01399

The Board of Adjustment, for the Town of Knightdale held a public hearing on Tuesday, October 25, 2022 to receive evidence presented by interested parties on a request for variance from the Knightdale Unified Development Ordinance.

The Board of Adjustment, having considered the verified application, the staff reports, and the testimony, exhibits, and arguments presented at the public hearing, makes the following FINDINGS OF FACT:

- Applicants seek a variance to Section 6.9 of the Town of Knightdale Unified Development Ordinance (UDO) to allow for the construction of a commercial building type at 700 Old Knight Road in Knightdale. The proposed commercial building will have a maximum front setback of 78 feet, where a minimum of 10 feet and maximum of 30 feet is required per the UDO.
- There is present in this matter an identified hardship based on the existing sewer easement, cross-access easement, and wetlands on the lot. These constraints restrict the buildable area along the lot frontage making the construction of the proposed building not possible within the existing front yard setbacks.
- There is present in this matter an identified hardship in the way of carrying out the strict application of the Ordinance regarding the front yard setback requirements prescribed by the UDO. The intent of the front yard setback maximum in UDO section 6.9 is to provide convenient automobile access from the fronting thoroughfare, while minimizing the negative impacts of parking lots on an active pedestrian realm. The proposed parking is shown in the rear and side yards of the property. The proposed development permits reasonable use of the property and maintains public interest in the existing sewer easement.
- Neither of the above hardships is a result of any action taken by the applicants. The sewer and cross access easement agreements were entered into by the owners prior to the adoption of Section 6.9 of the UDO requiring a maximum setback of 30 feet. Prior to the UDO update in 2021, the UDO had a maximum front setback of 90 feet for the Highway Business zoning district.

THEREFORE, based on the foregoing Findings of Fact, the Board of Adjustment makes the following CONCLUSIONS OF LAW:

- There are unnecessary hardships in complying with the strict application of the Ordinance.
- The identified hardships result from conditions peculiar to the property, including location, size and topography.
- The identified hardships did not result from actions taken by the applicant or property owners; and
- The variance is consistent with the spirit, purpose and intent of this Ordinance; such that public safety is secured and substantial justice is achieved.

Having heard all of the evidence and arguments presented at the hearing, the Board of Adjustment hereby grants the variance VAR-5-22. A variance is granted from the following sections of the Unified Development Ordinance:

BK019337PG01402



Please retain yellow trailer page

It is part of the recorded document and must be submitted with the original for re-recording.

Tammy L. Brunner
Register of Deeds

Wake County Justice Center
300 South Salisbury Street, Suite 1700
Raleigh, NC 27601

- ☐ New Time Stamp ☐ \$25 Non-Standard Fee
☐ Additional Document Fee ☐ Additional Reference Fee

This Customer Group

____ # of Excessive Entities
____ # of Time Stamps Needed

This Document

5 # of Pages
JP



BOOK:019337 PAGE:01398 - 01402

BK019337PG01400

Section 6.9 Commercial Building Type Standards (Front Setbacks). The Unified Development ordinance requires a minimum front setback of 10 feet and maximum front setback of 30 feet. The applicant is specifically granted a front maximum setback of 78 feet.

This order of the Board of Adjustment in granting this Variance shall expire if a building permit has not been obtained within two (2) years from the date of its decision.

Ordered this 3rd day of November, 2022 and subsequently revised on this 17th day of May, 2023.

Joe Mecca
Acting Chairperson, Joe Mecca
Board of Adjustment

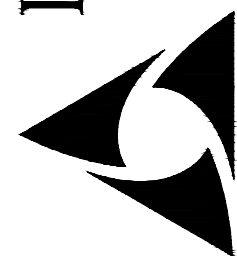
NOTE: If you are dissatisfied with the decision of this board, an appeal may be taken to the Superior Court of Wake County within thirty (30) days after the date this order is served on you. See Chapter 12, Development Process, of the Knightdale Unified Development Ordinance.

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

NOTE(s): ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.

PAST DESIGN GROUP, PA
Engineering | Consulting



107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 848 4399 | Fax: 919 948 4392 | NC LICENSE NUMBER: C-3211

PREPARED FOR:
MOORE'S REALTY, INC.
101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545

DATE: 06/24/2022
PROJECT ENGINEER:
PJP

PROJECT CAD DESIGNER:
PJP

PROJECT SURVEYOR:
WAKE COUNTY GIS

700 OLD KNIGHT ROAD OFFICE BUILDING

KNIGHTDALE, ST. MATHEWS TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

MASTER PLAN

APPROVED VARIANCE DOCUMENT



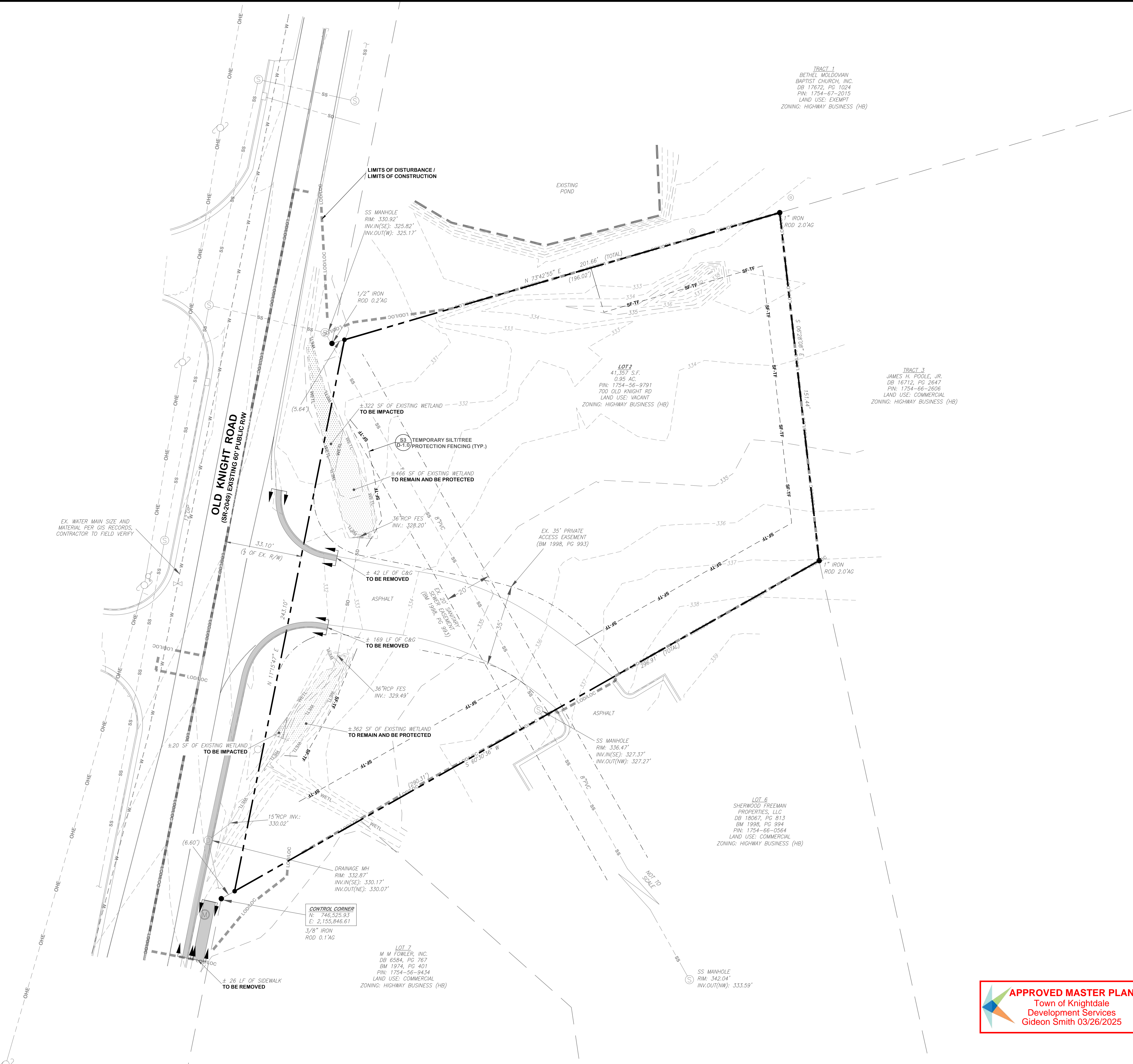
NO.	REVISION	DATE
1	REVISED PER TOWN COMMENTS	03/26/2025

DRAWING
SHEET

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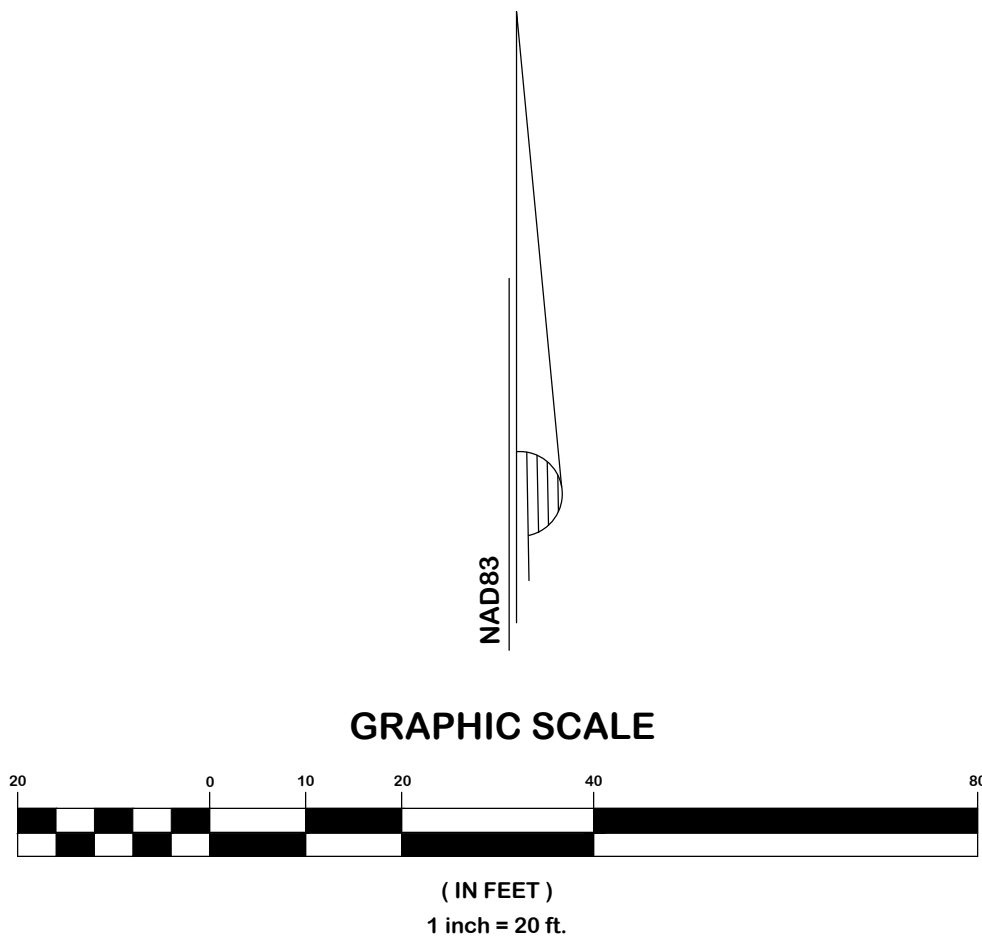
PROJECT NUMBER
627-22

F:\Public\10-Projects\600-699\627-22 700 Old Knight Road Office (Moore's Realty, Inc.)\50-Drawings\4-Design\627-22 C-1.0.dwg Mrr 14, 2025 - 9:36am B:\kkrantz



LANDSCAPE NOTES

1. LANDSCAPED AREAS REQUIRED BY THIS CHAPTER SHALL NOT CONTAIN ANY DEVELOPMENT, IMPERVIOUS SURFACES, OR SITE FEATURES THAT DO NOT FUNCTION TO MEET THE APPLICABLE STANDARDS FOR THAT AREA OR THAT REQUIRE REMOVAL OF EXISTING SIGNIFICANT VEGETATION [UDO SEC. 7.4.E.1].
2. NO GRADING, DEVELOPMENT, OR LAND-DISTURBING ACTIVITIES SHALL OCCUR WITHIN A BUFFER YARD IF FOREST CANOPY, SPECIMEN TREES OR SIGNIFICANT VEGETATION EXISTS WITHIN THESE AREAS, UNLESS APPROVED BY THE LAND USE ADMINISTRATOR. IF GRADING WITHIN A BUFFER YARD IS PROPOSED, SLOPES OF 1:3 OR LESS ARE ENCOURAGED TO ENSURE THE PROPER TRANSITION OF GRADES TO THE ADJACENT PROPERTY AND TO FACILITATE LANDSCAPING AND MAINTENANCE [UDO SEC. 7.4.E.2].
3. EXCEPT FOR DRIVEWAY ACCESS POINTS, SIDEWALKS, CURB, AND GUTTER; NO PAVING WITH CONCRETE OR OTHER IMPERVIOUS MATERIALS WITHIN (5) FEET OF A TREE DRIP LINE SHALL BE ALLOWED UNLESS OTHERWISE APPROVED. WHERE GRADING WITHIN A TREE DRIPLINE CANNOT BE AVOIDED, CUT AND FILL SHALL BE LIMITED TO ONE-QUARTER (1/4) TO ONE-HALF (1/2) OF THE AREA WITHIN THE DRIPLINE, AND TREE ROOTS MUST BE PRUNED WITH CLEAN CUTS AT THE EDGE OF THE DISTURBED AREA. NO FILL SHALL BE PLACED WITHIN THE DRIPLINE OF A TREE WITHOUT VENTING TO ALLOW AIR AND WATER TO REACH THE ROOTS [UDO, SEC. 7.4.D.4].
4. THE TOWN OF KNIGHTDALE RESERVES THE RIGHT TO REQUIRE ADDITIONAL VEGETATION TO BE PLANTED IN THE BUFFERS TO COMPLY WITH THEIR RESPECTIVE PERFORMANCE STANDARDS OUTLINED IN SECTION 7.4.I OF THE UDO.



FOR REVIEW ONLY
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PAST DESIGN GROUP, PA
Engineering | Consulting
107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 948 4399 | Fax: 919 948 4395 | NC LICENSE NUMBER: C-3211

PREPARED FOR:
MOORE'S REALTY, INC.
101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545
DATE: 06.24.2022
PROJECT ENGINEER:
PJP
PROJECT CAD DESIGNER:
PJP
PROJECT SURVEYOR:
PJP
WAKE COUNTY, GS

700 OLD KNIGHT ROAD OFFICE BUILDING
KNIGHTDALE, ST. MATHEWS TOWNSHIP, WAKE COUNTY, NORTH CAROLINA
MASTER PLAN
EXISTING CONDITIONS & DEMOLITION PLAN

SEAL:
DATE:
REVISION:
NO. 1
REVISED PER TOWN COMMENTS

DRAWING SHEET
C-1.0
PROJECT NUMBER
627-22

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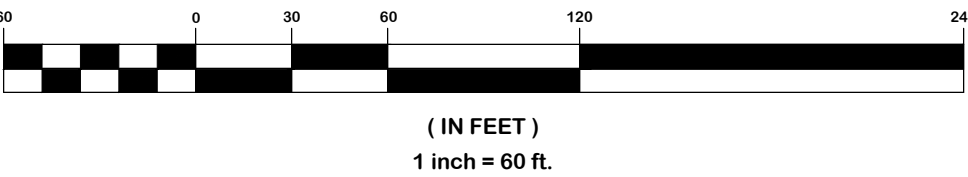
GENERAL NOTES

1. ALL TOPOGRAPHY AND ADJACENT PROPERTY LINES PER GIS RECORDS.

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

NAD83

GRAPHIC SCALE



**FOR REVIEW ONLY
NOT FOR CONSTRUCTION**

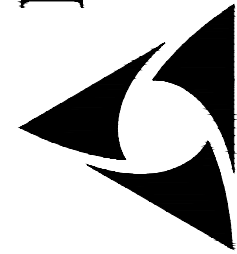
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PAST DESIGN GROUP, PA

Engineering | Consulting

107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601

Phone: 919 844 4399 | Fax: 919 948 4395 | NC LICENSE NUMBER: C-3311



PREPARED FOR:
MOORE'S REALTY, INC.
101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545

DATE : 06/24/2022

PROJECT ENGINEER:
PJP

PROJECT CAD DESIGNER:
PJP

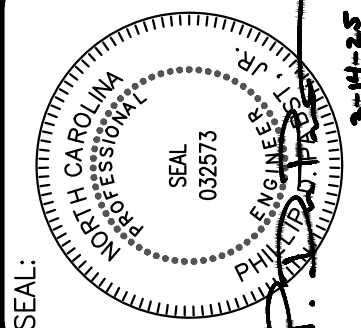
PROJECT SURVEYOR:
WAKE COUNTY, GS

700 OLD KNIGHT ROAD OFFICE BUILDING

KNIGHTDALE, ST. MATTHEWS TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

MASTER PLAN

EXISTING CONDITIONS PLAN (60 SCALE)



DATE:
3/26/2025

REVISION
NO. 1
REVIEWED PER TOX COMMENTS

DRAWING
SHEET

C-1.1

PROJECT NUMBER
627-22

PUBLIC ART NOTE(S)

1. THE ARTISTICALLY DESIGNED BENCH SHALL BE DESIGNED TO APPEAR AS PART OF THE NATURAL LANDSCAPE OF THE SITE.

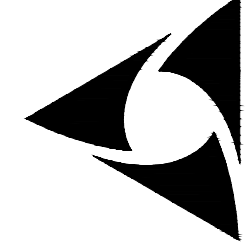
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SITE DATA TABLE

SITE ADDRESS:	700 OLD KNIGHT ROAD KNIGHTDALE, NORTH CAROLINA 27545
OWNER/APPLICANT:	JACKIE MOORE, MOORE'S REALTY, INC. 623 NOON FLYER WAY KNIGHTDALE, NORTH CAROLINA 27545
ENGINEER:	PABST DESIGN GROUP, PA 107 FAYETTEVILLE STREET, SUITE 200 RALEIGH, NC 27601 919.848.4399
DEED/PAGE:	DB 019200 PG 01486
PIN(S):	1754-56-9791
EXISTING ZONING DISTRICT:	HIGHWAY BUSINESS (HB)
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	OFFICE, PROFESSIONAL SERVICES
PARCEL AREA:	TOTAL BEFORE R/W DEDICATION: 41,357 SF (0.949 AC) TOTAL AFTER R/W DEDICATION: 39,089 SF (0.897 AC)
RIVERBASIN:	NEUSE
WATERSHED:	LOWER NEUSE RIVER
FLOODPLAIN DATA:	NO PORTION OF THE PROPERTY IS LOCATED WITHIN SPECIAL FLOOD HAZARD ZONE PER INSURANCE RATE MAP (RATE MAP 3720175400K DATED JULY 19, 2022)
PRE-DEVELOPED IMPERVIOUS:	ONSITE: ±0.08 ACRES (3,568 SF) OFFSITE: ±0.04 ACRES (1,787 SF) TOTAL: ±0.12 ACRES (5,355 SF)
POST-DEVELOPED IMPERVIOUS:	ONSITE: ±0.52 ACRES (22,432 SF) OFFSITE: ±0.13 ACRES (5,759 SF) TOTAL: ±0.65 ACRES (28,191 SF)
PROPOSED LAND DISTURBANCE:	±1.20 ACRES (52,186 SF)
TEMPORARY SILT/TREE PROTECTION FENCING:	#540 LF
PROPOSED BUILDING TYPE:	OFFICE, PROFESSIONAL SERVICES
PRINCIPAL BUILDING SETBACKS:	REAR SETBACK: 0' (MIN) SIDE SETBACK: 6' (MIN) FRONT SETBACK: 10' - 78' (MIN - MAX) (PER VARIANCE BK019337PG01398)
PARKING SETBACKS:	FRONT YARD: PROHIBITED SIDE YARD: 0' (MIN) REAR YARD: 5' (MIN)
BUILDING FLOOR AREA:	EXISTING = 0 GFA PROPOSED = 7,000 GFA
BUILDING HEIGHT:	MAX. BUILDING HEIGHT: 70'-0" (5 STORIES) PROPOSED BUILDING HEIGHT: 28'-8" (1 STORY)
MINIMUM PARKING REQUIREMENTS:	PROFESSIONAL SERVICES: MAXIMUM = 4 SPACES PER 1,000 SF GFA (28 SPACES); MINIMUM = 1/2 MAX (14 SPACES) TOTAL REQUIRED: 14 SPACES TOTAL PROVIDED: 14 SPACES (INCLUDING 1 ADA VAN SPACE) EV PARKING: MINIMUM = 2 EV CHARGING STATIONS FOR NON-RESIDENTIAL USE WITH OFF-STREET PARKING FOR MOTORIZED VEHICLES TOTAL REQUIRED: 2 EV CHARGING STATIONS TOTAL PROVIDED: 2 EV CHARGING STATIONS BICYCLE PARKING: MINIMUM = 2 SPACES FOR NON-RESIDENTIAL USE WITH OFF-STREET PARKING FOR MOTORIZED VEHICLES TOTAL REQUIRED: 2 SPACES TOTAL PROVIDED: 2 SPACES (1 BICYCLE RACK) PUBLIC GATHERING SPACE: 1 SF / 25 SF GFA (REQUIRED) (1/25)*7000 SF = 280 SF 1,320 SF (PROVIDED)

PABST DESIGN GROUP, PA
Engineering | Consulting



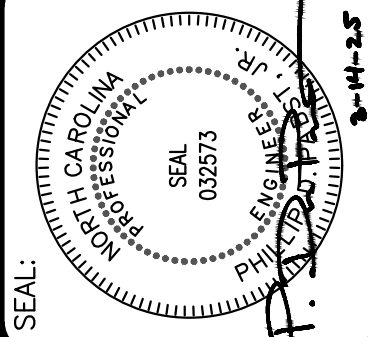
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WAKE COUNTY, GS

700 OLD KNIGHT ROAD OFFICE BUILDING

KNIGHTDALE, ST. MATHEWS TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

MASTER PLAN

SITE LAYOUT PLAN

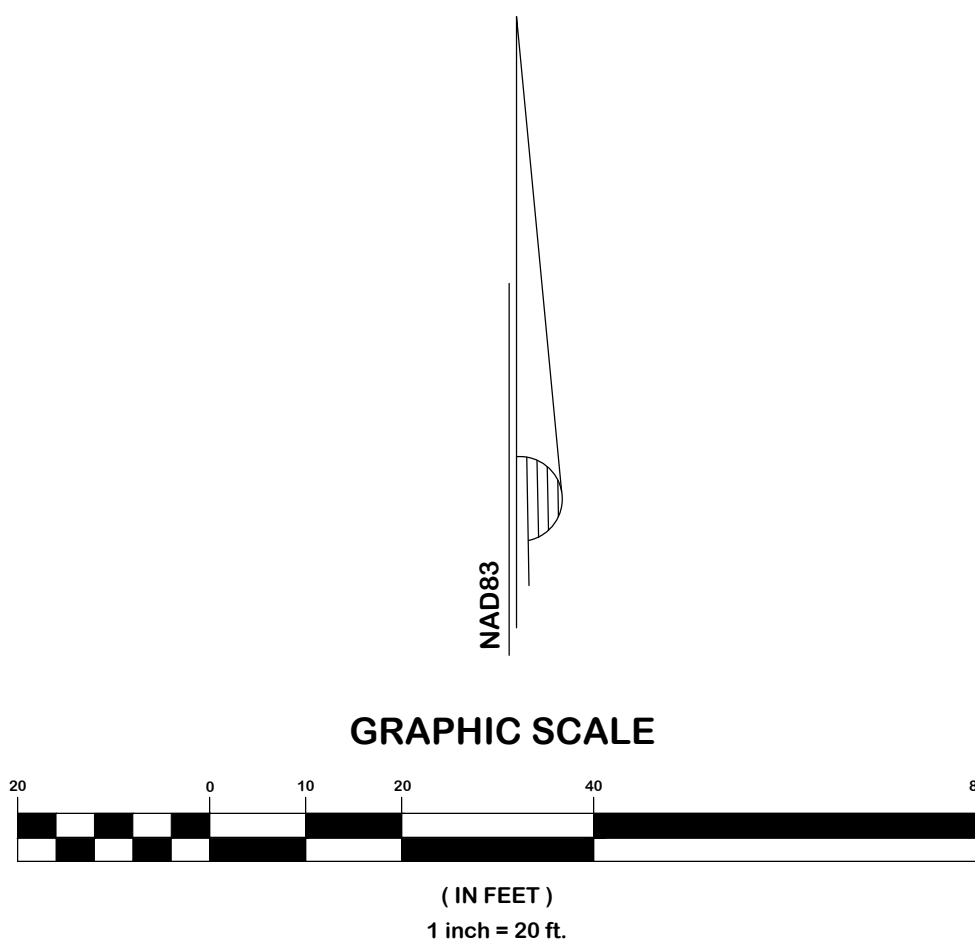


NO.	DATE	REVISION	COMMENTS
1	8/14/2023	1	REVISED PER TOWN COMMENTS

DRAWING SHEET

C-2.0

PROJECT NUMBER
627-22



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NOTE(S): ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.



OLD KNIGHT ROAD
(SR-2049) EXISTING 60' PUBLIC R/W

LOT 7
 M M FOWLER, INC.
 DB 6584, PG 767
 BM 1974, PG 401
 PIN: 1754-56-9434
 LAND USE: COMMERCIAL
 ZONING: HIGHWAY BUSINESS (HB)

LOT 6
SHERWOOD FREEMAN
PROPERTIES, LLC
DB 18067, PG 813
BM 1998, PG 994
PIN: 1754-66-0564
LAND USE: COMMERCIAL
ZONING: HIGHWAY BUSINESS (HB)

TRACT 1
BETHEL MOLDOVIAN
BAPTIST CHURCH, INC.
DB 17672, PG 1024
PIN: 1754-67-2015
LAND USE: EXEMPT
ZONING: HIGHWAY BUSINESS (HB)

TRACT 3
JAMES H. POOLE, JR.
DB 16712, PG 2647
PIN: 1754-66-2606
LAND USE: COMMERCIAL
ZONING: HIGHWAY BUSINESS (HB)

NAD83

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



**FOR REVIEW ONLY
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PREPARED BY: MOORE'S REALTY, INC. 101 FOREST DRIVE, STE. B-205 KNIGHTDALE, NORTH CAROLINA 27545
DATE : 06.24.2022
PROJECT ENGINEER: PDP
PROJECT CADD DESIGNER:
PROJECT SURVEYOR: WAKE COUNTY GIS

700 OLD KNIGHT ROAD OFFICE BUILDING
KNIGHTDALE, ST. MATHEWS TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

MASTER PLAN
FIRE APPARATUS ACCESS PLAN

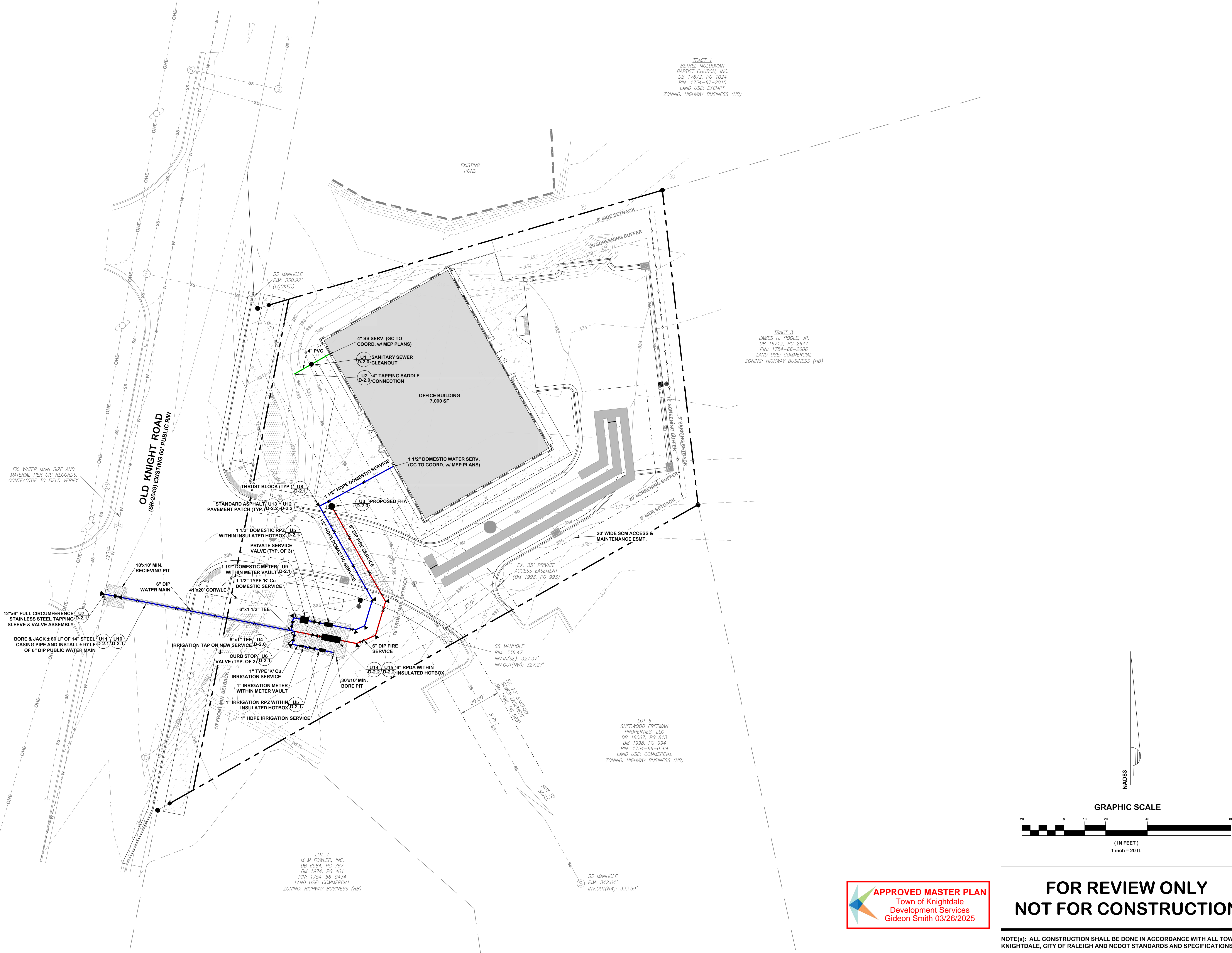
Professional Engineer
Seal 032573
Phillip J. Pappas, Jr.
North Carolina State of Professional Engineers

[illegible]

**DRAWING
SHEET
C-2.1**

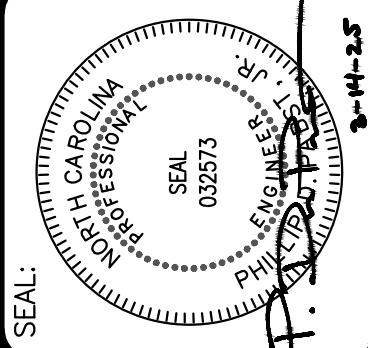
**PROJECT NUMBER
627-22**

F:\Public\10-Projects\600-699\627-22 700 Old Knight Road Office (Moore's Realty, Inc.)\50-Drawings\44-Design\627-22 C-3.0.dwg Mar 13, 2025 - 5:09pm B:\krantz



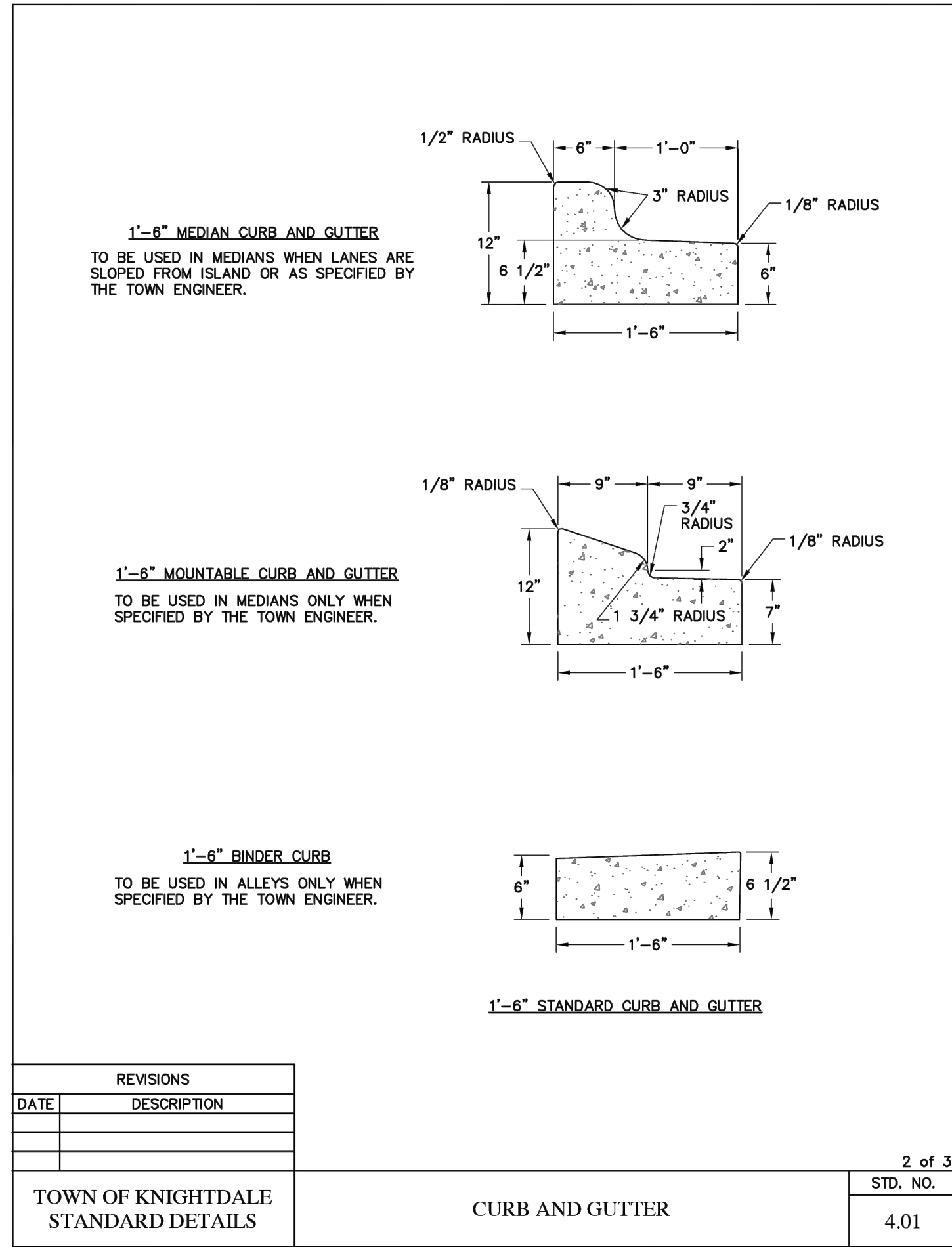
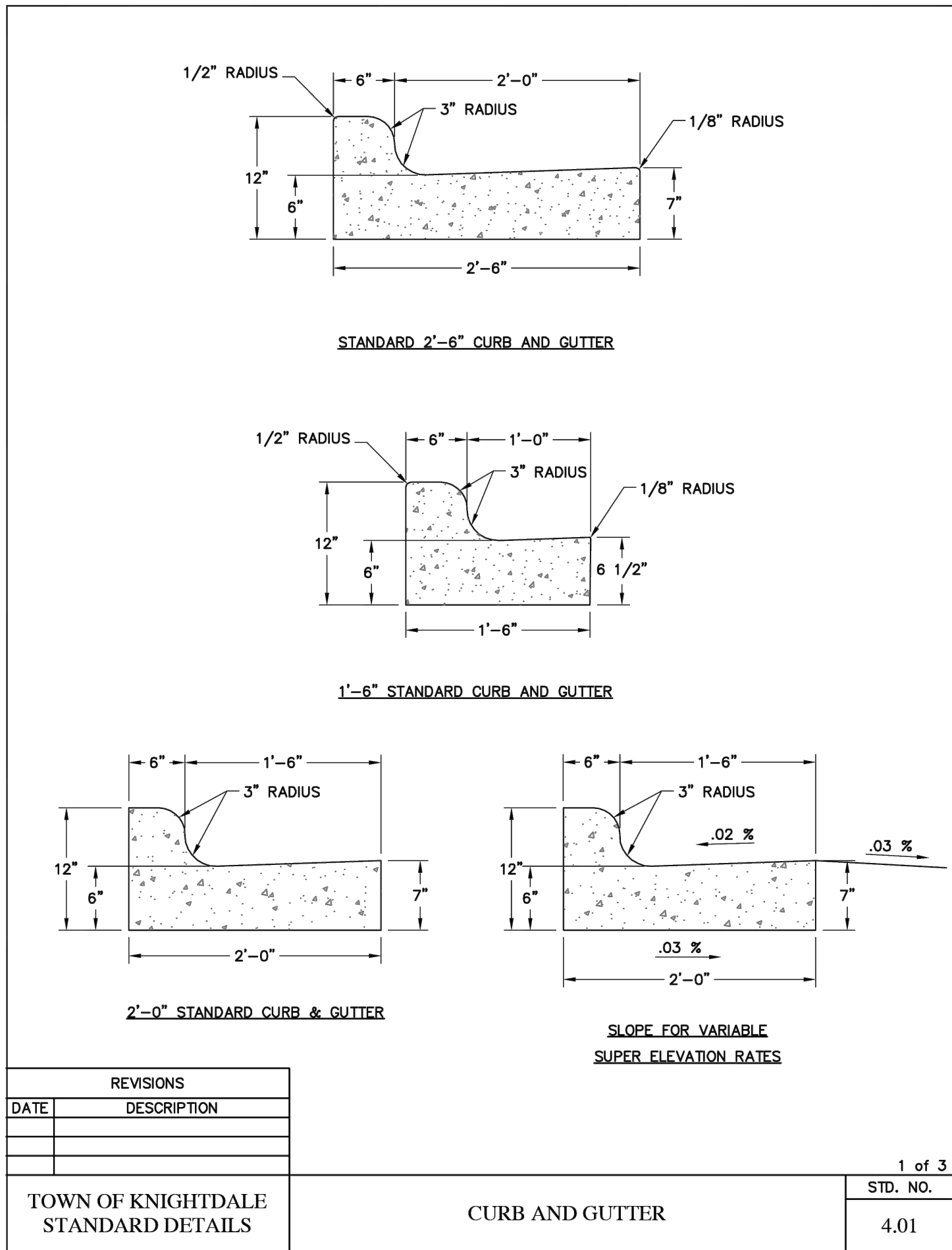
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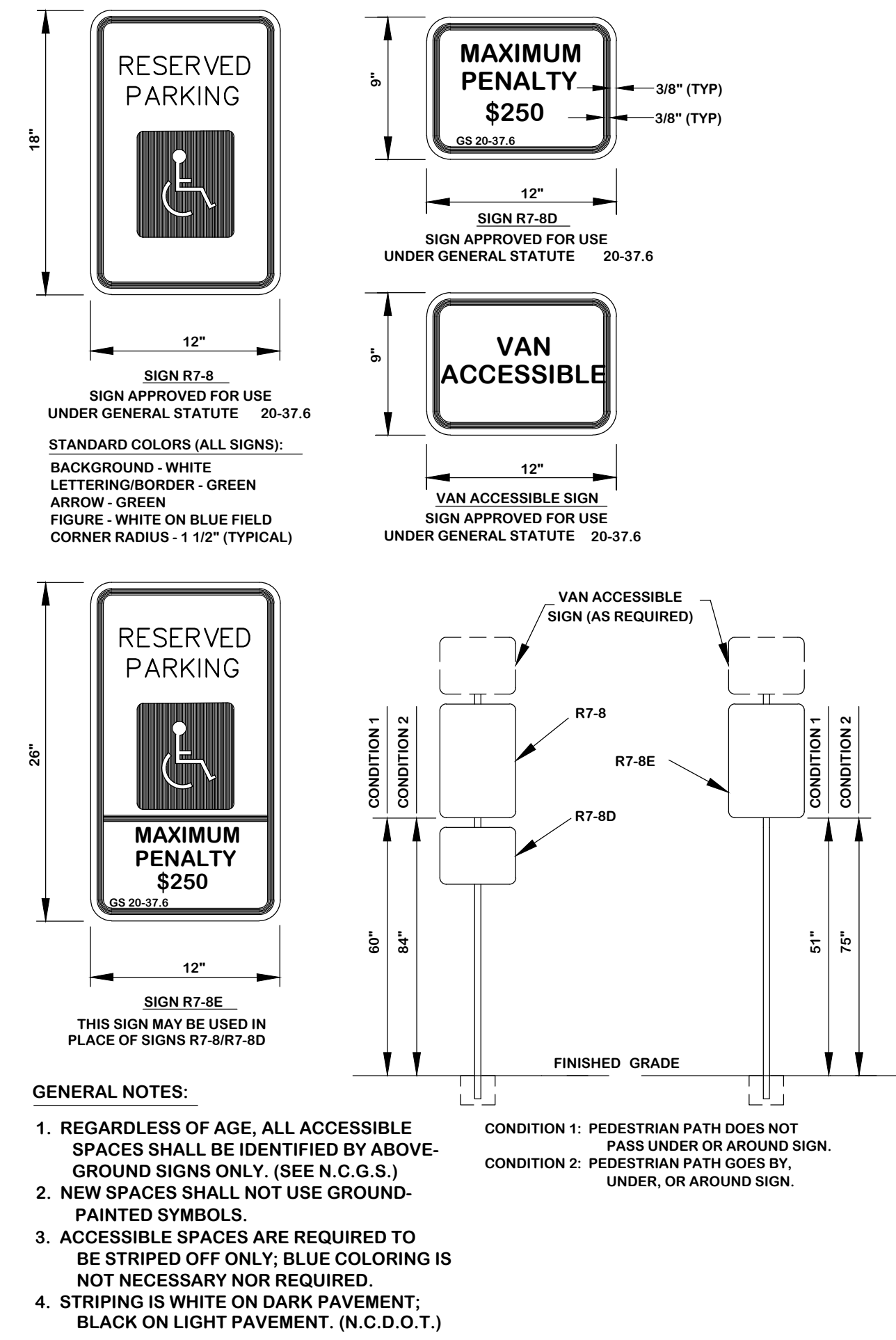
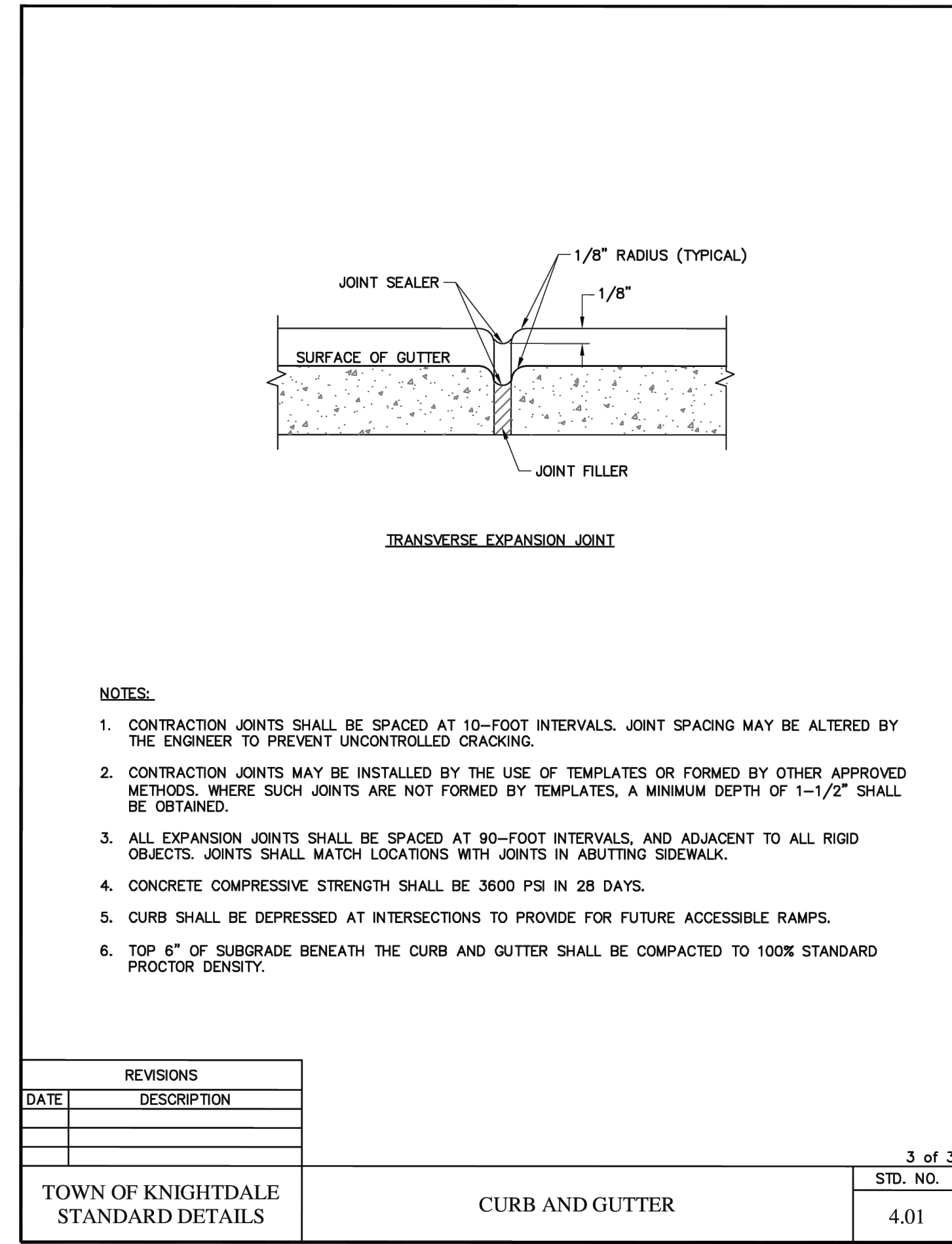


NO.	REVISION	DATE
1	REVISED PER TOWN COMMENTS	8/14/2023

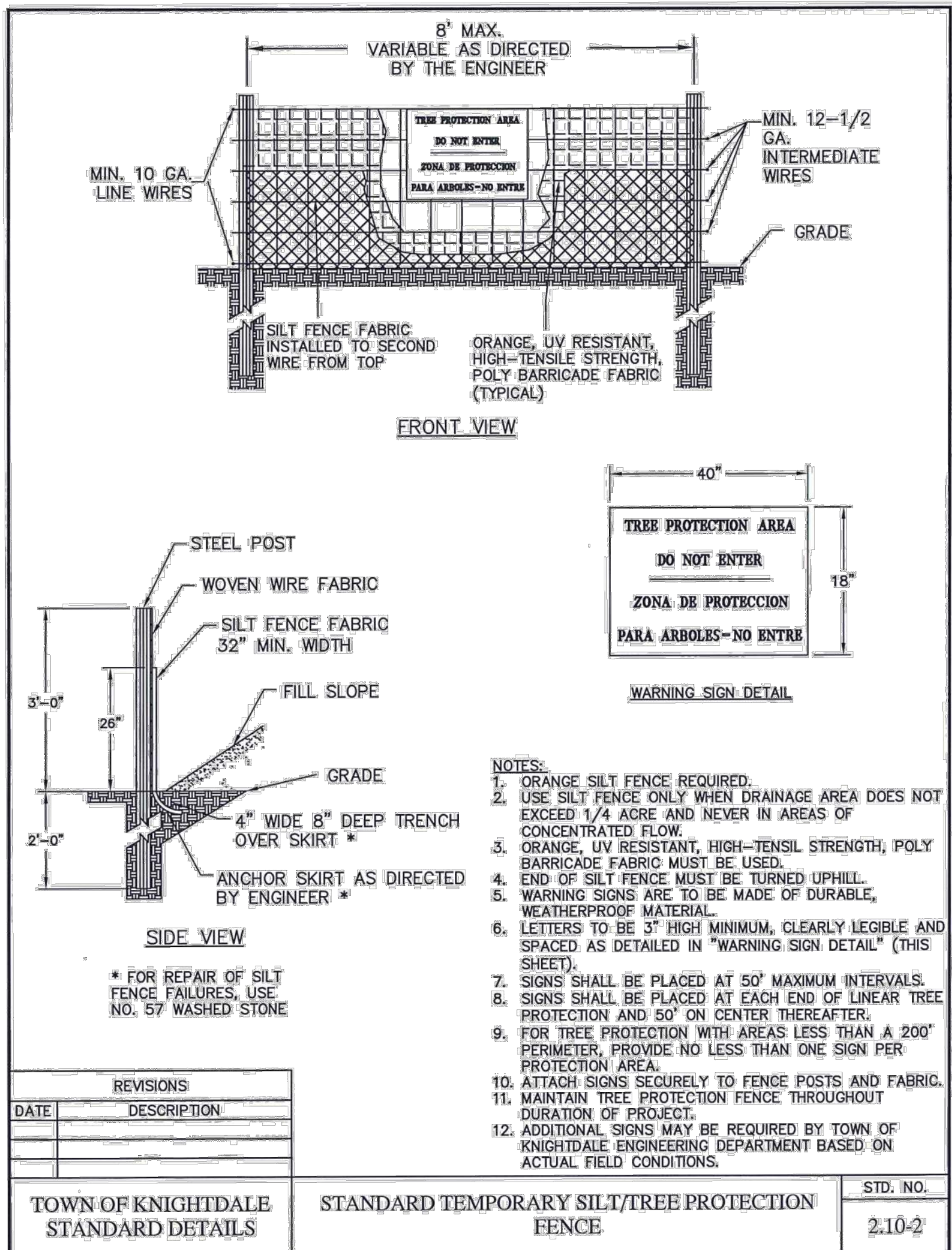
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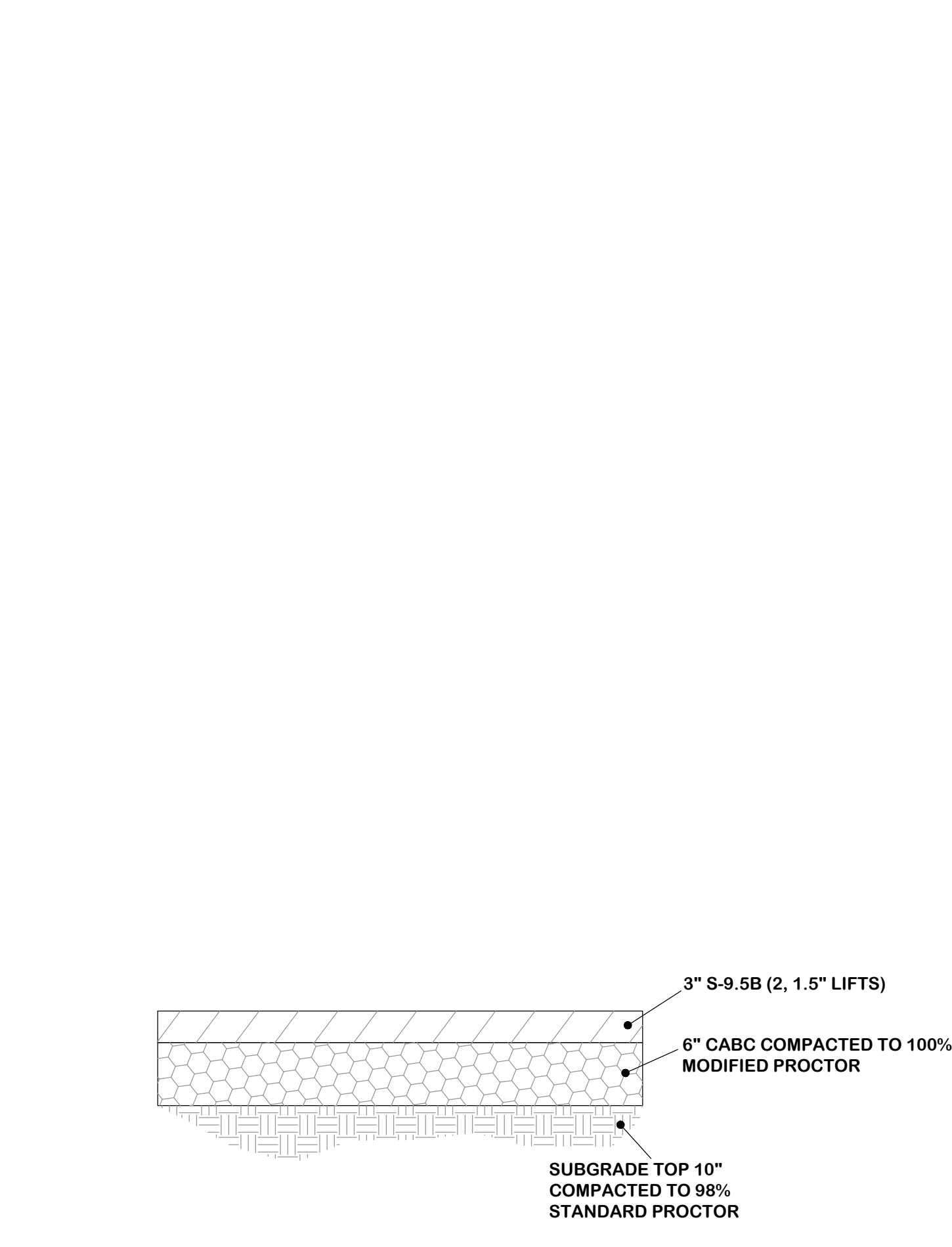
S1 STANDARD CURB AND GUTTER



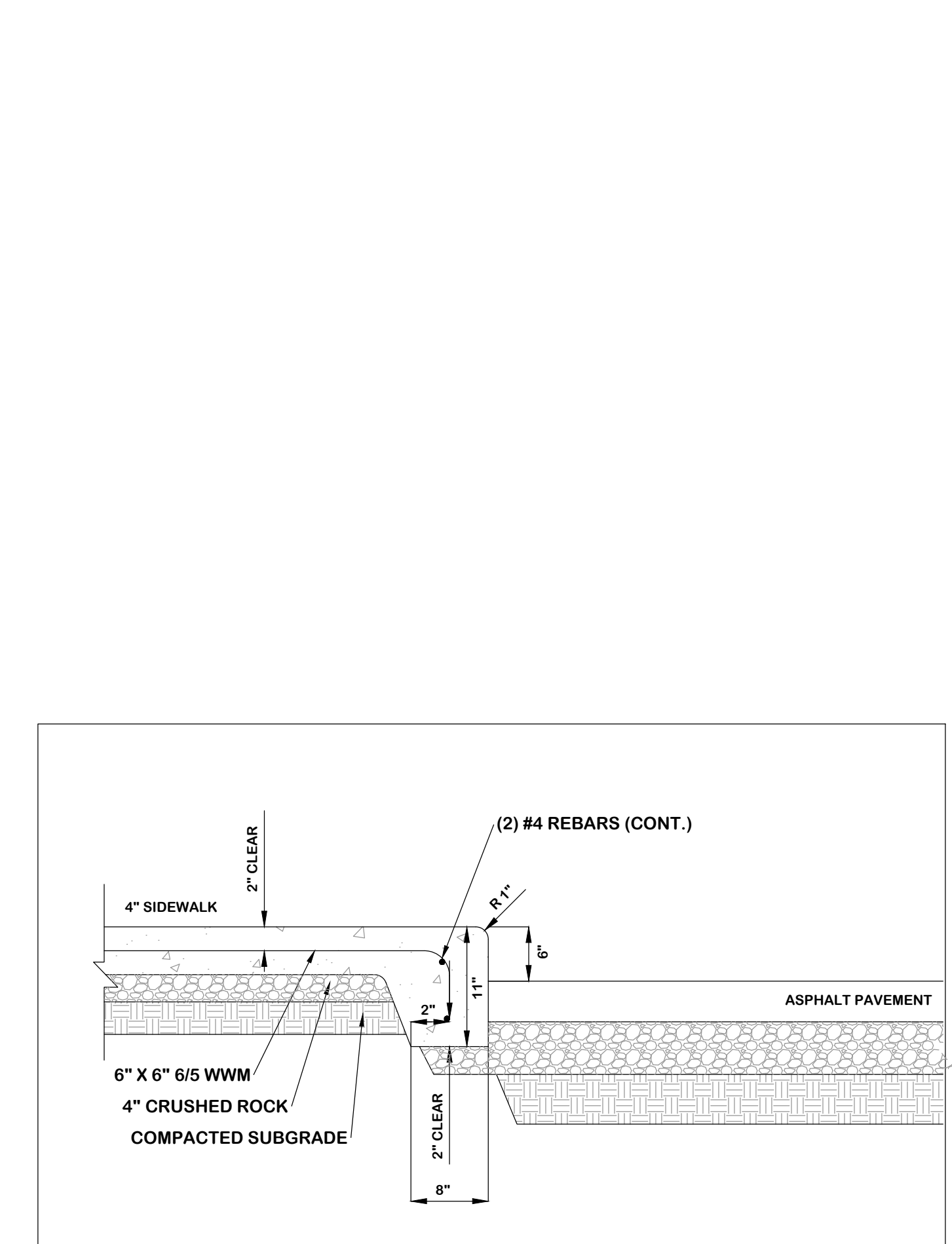
S2 ADA HANDICAP PARKING SIGN



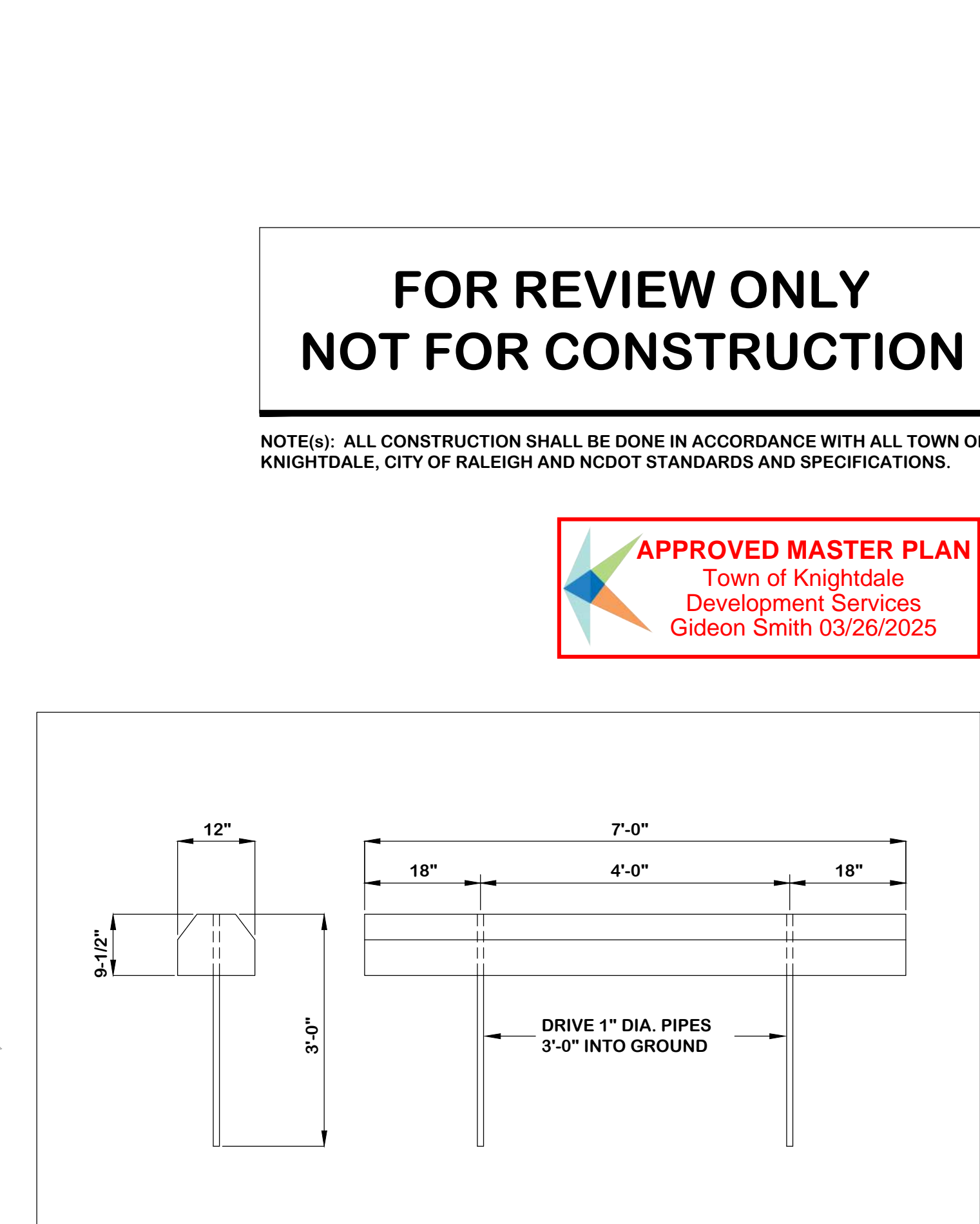
S3 TEMPORARY SILT/TREE PROTECTION FENCE



S4 STANDARD DUTY - ASPHALT PAVEMENT SECTION



S5 SIDEWALK ADJACENT TO PARKING



S6 CONCRETE WHEEL STOP

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APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

PAST DESIGN GROUP, PA
Engineering | Consulting
107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 944 4399 | Fax: 919 948 0392 | NC LICENSE NUMBER: C-3311

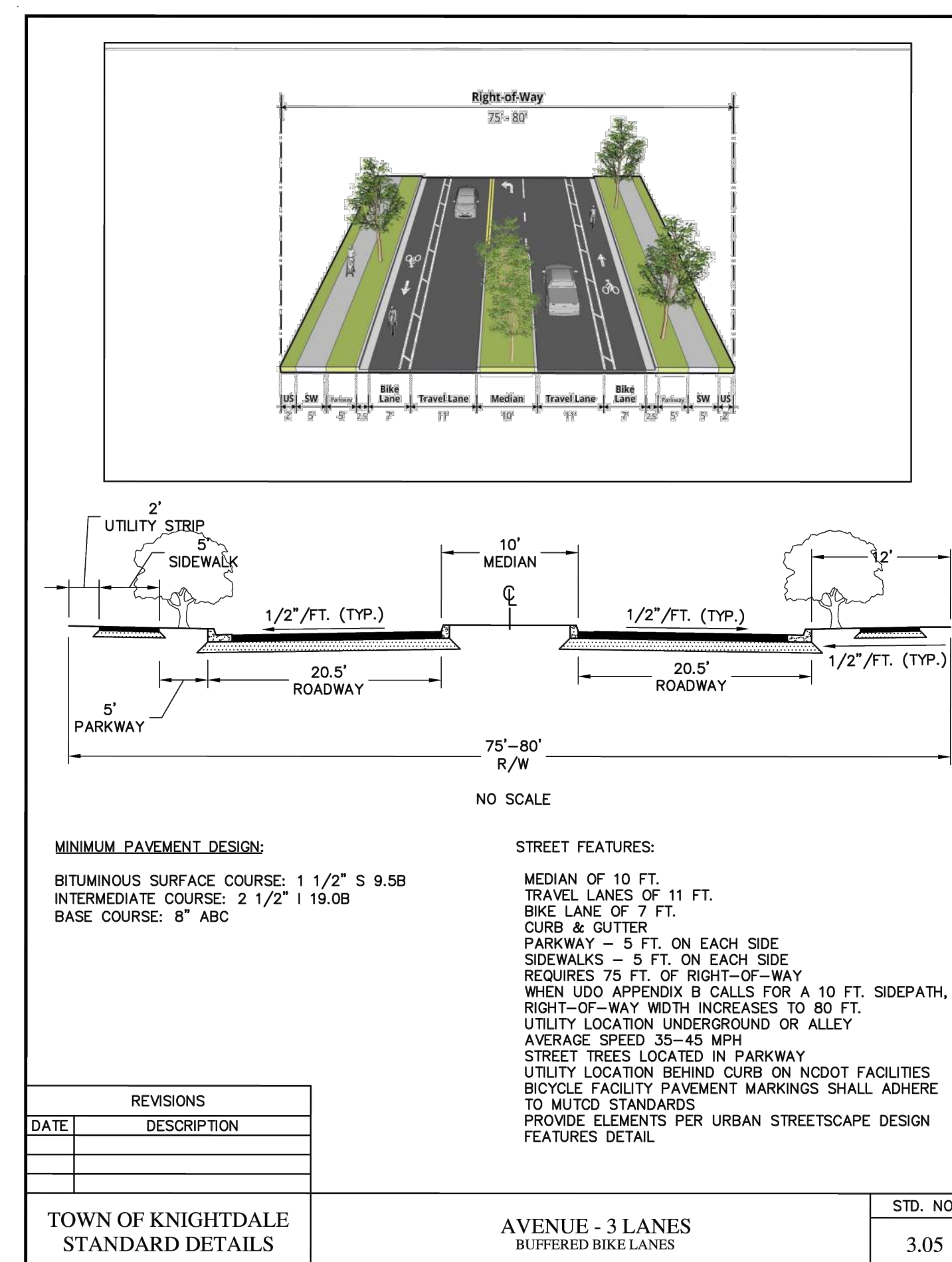
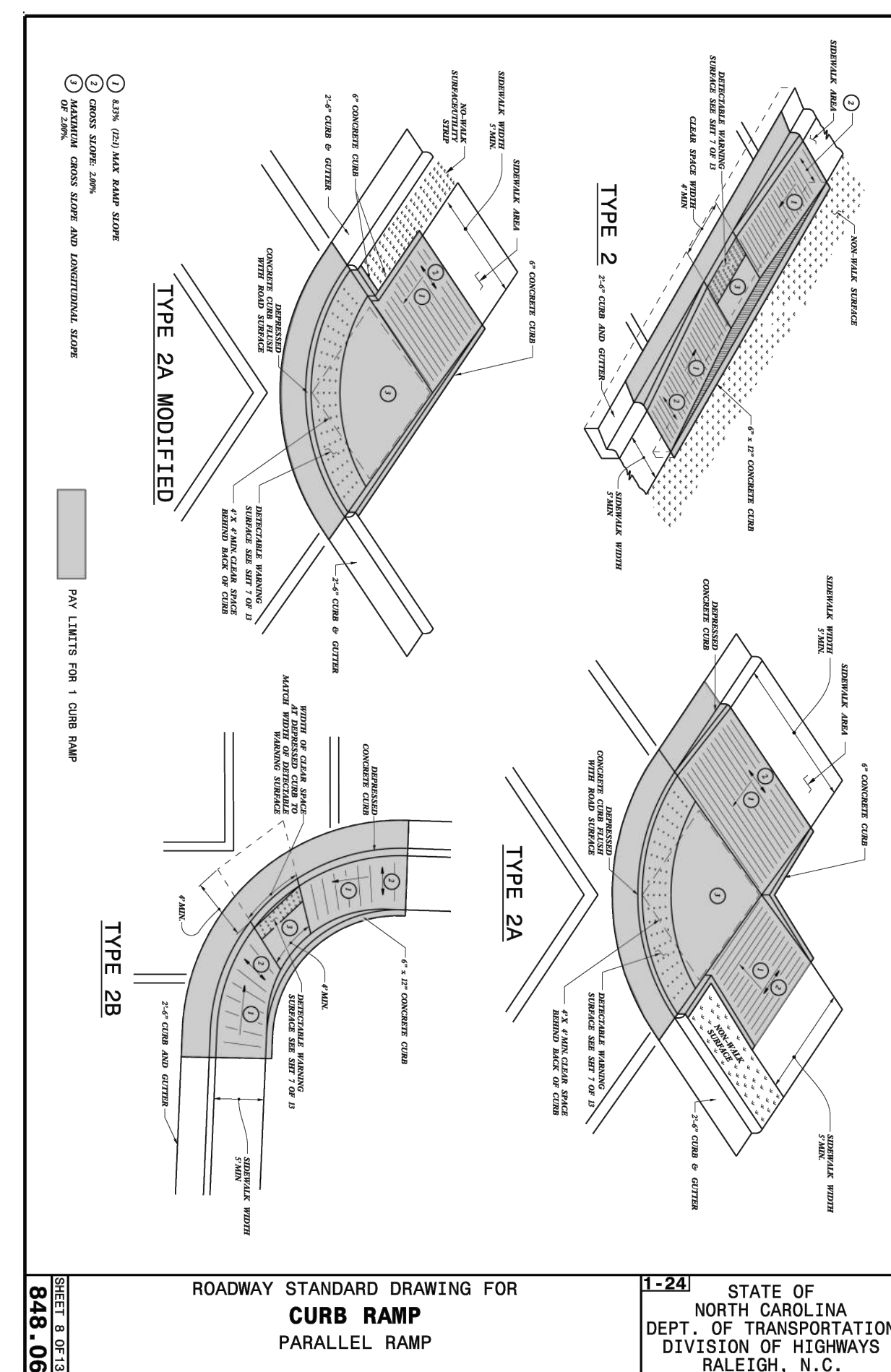
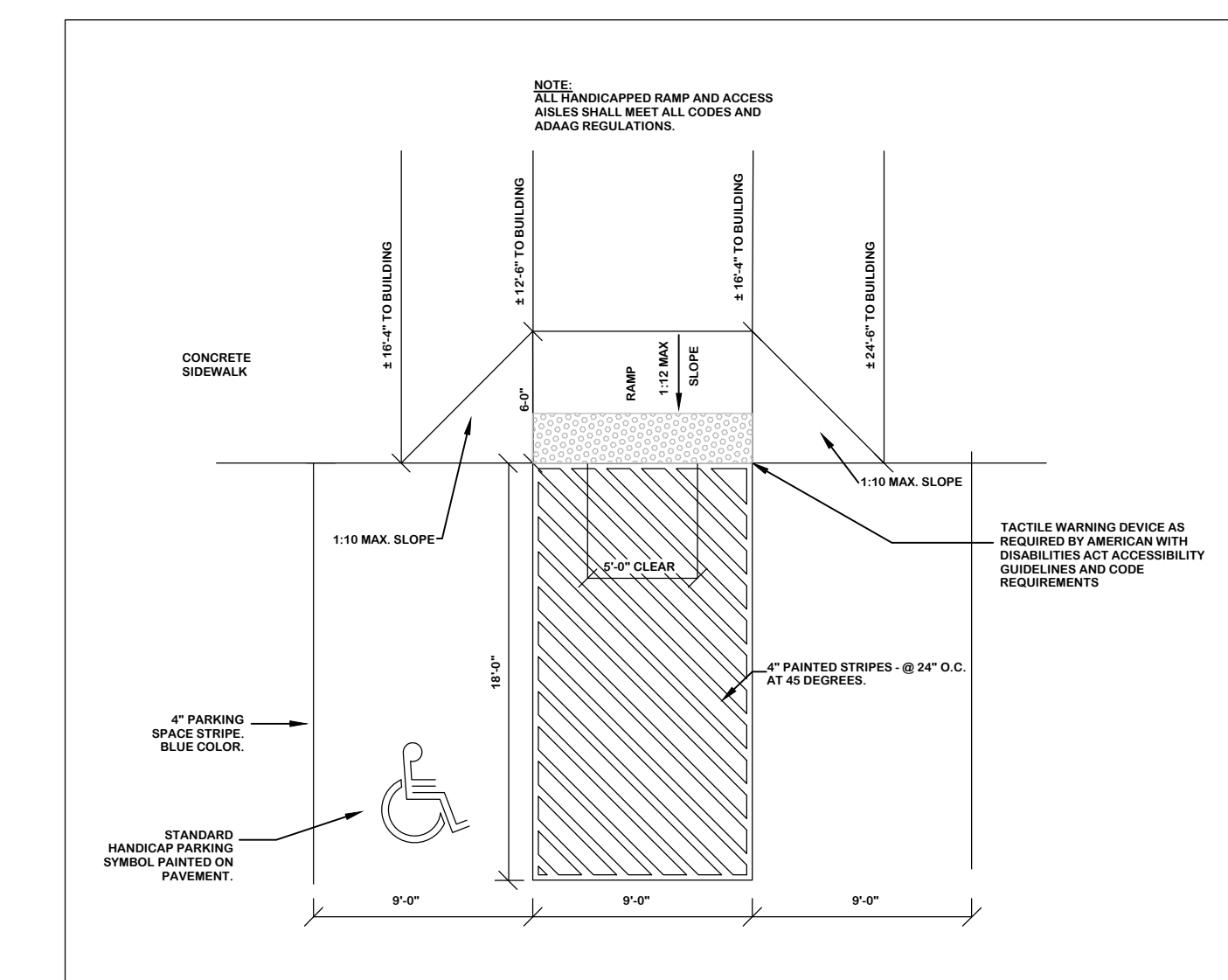
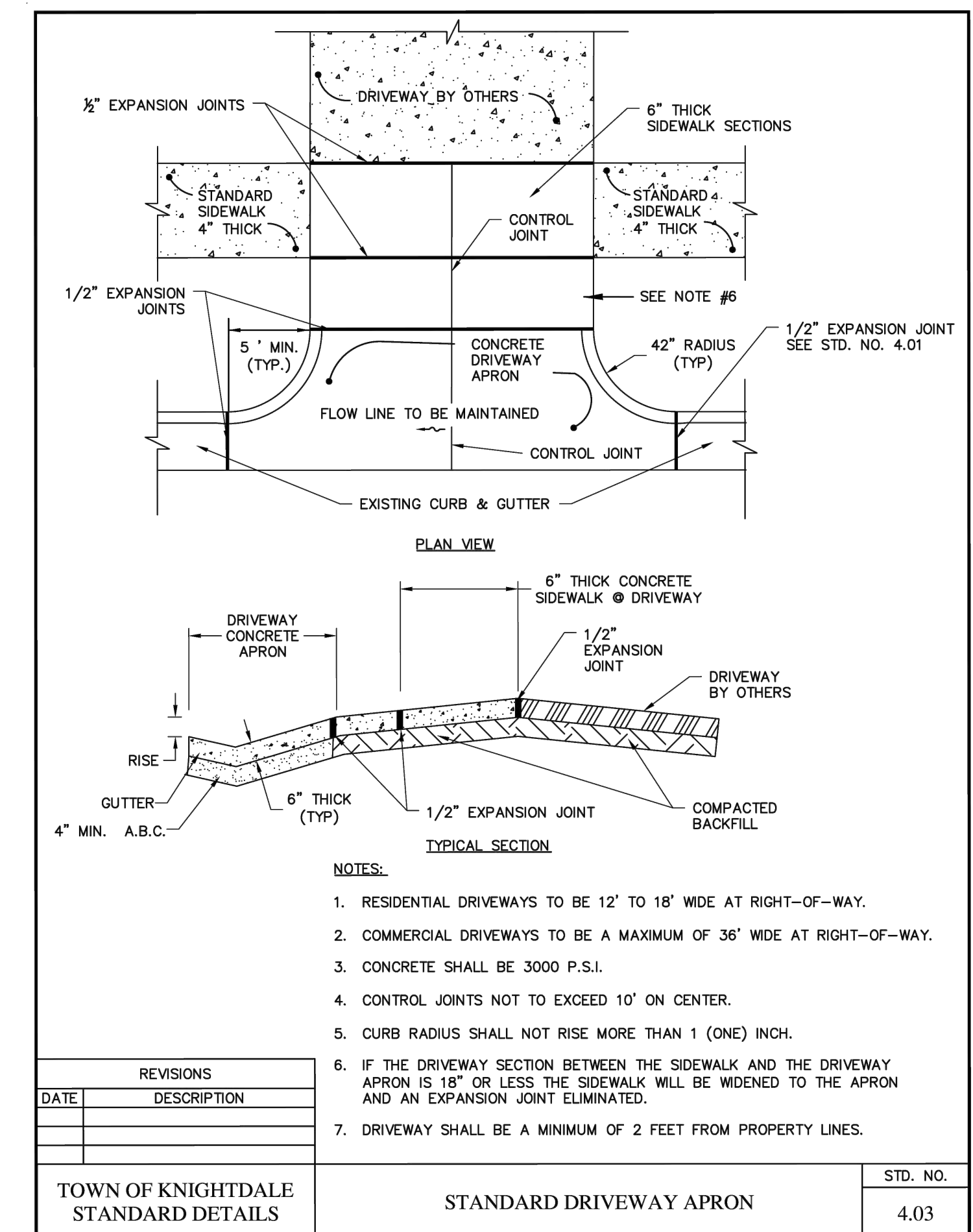
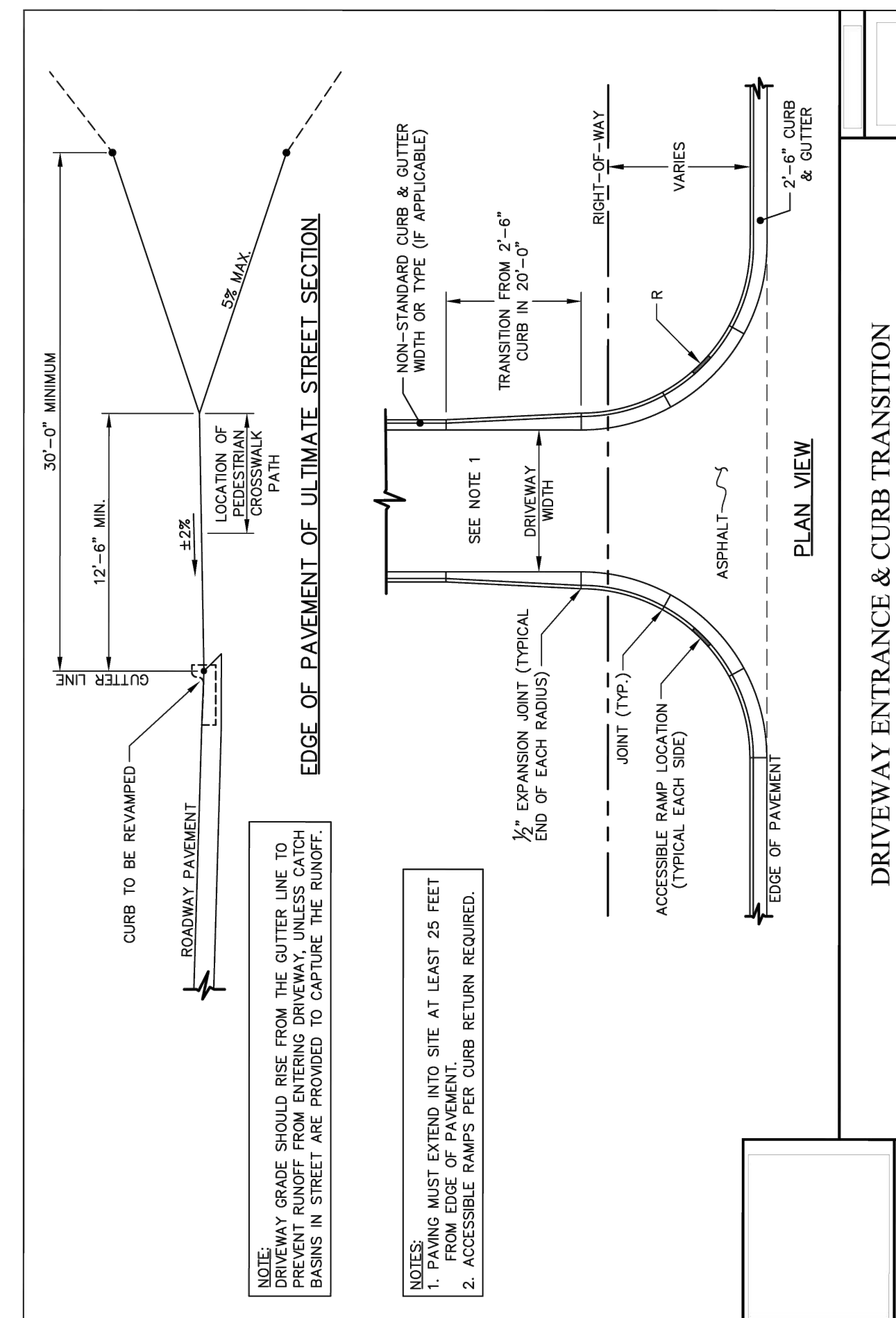
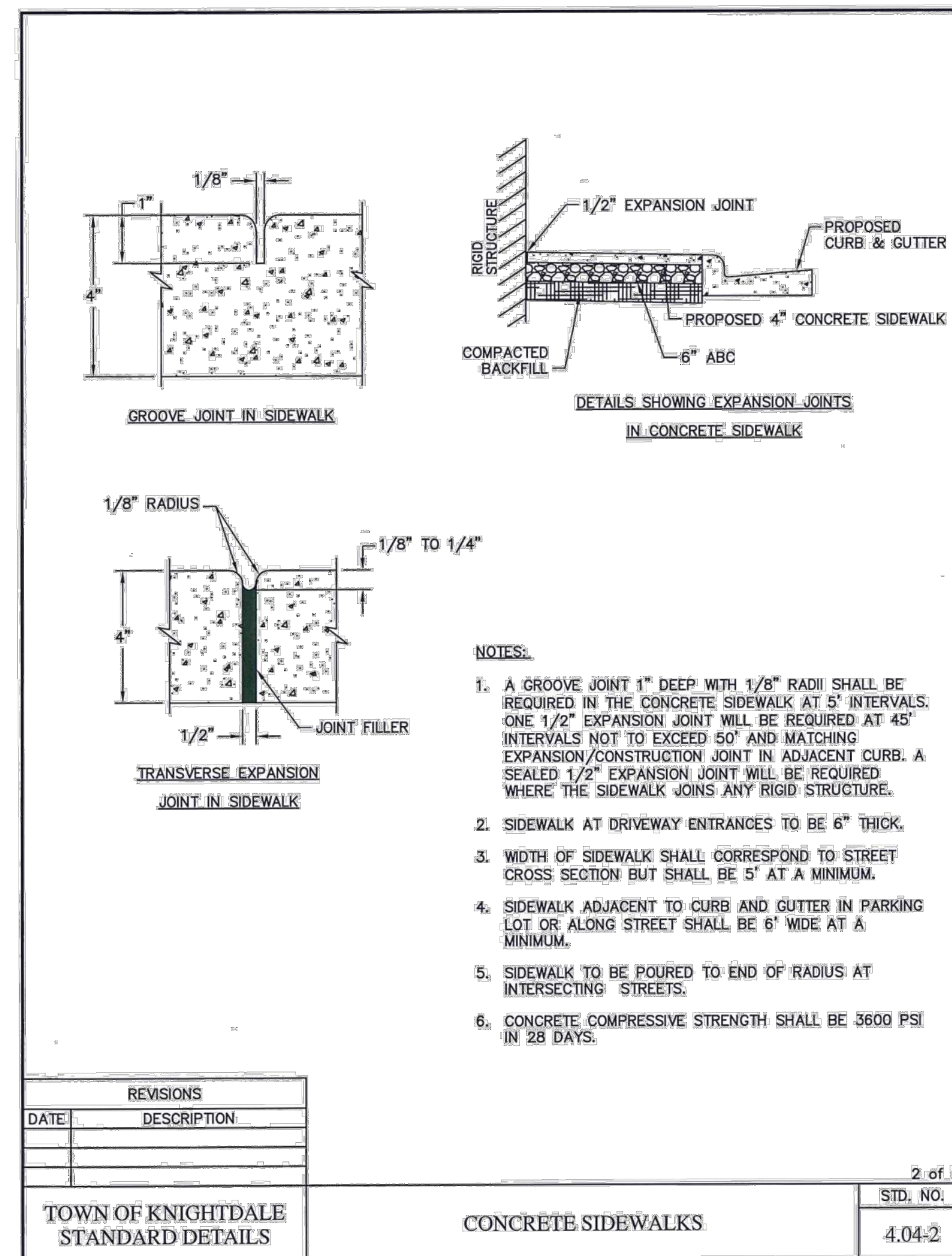
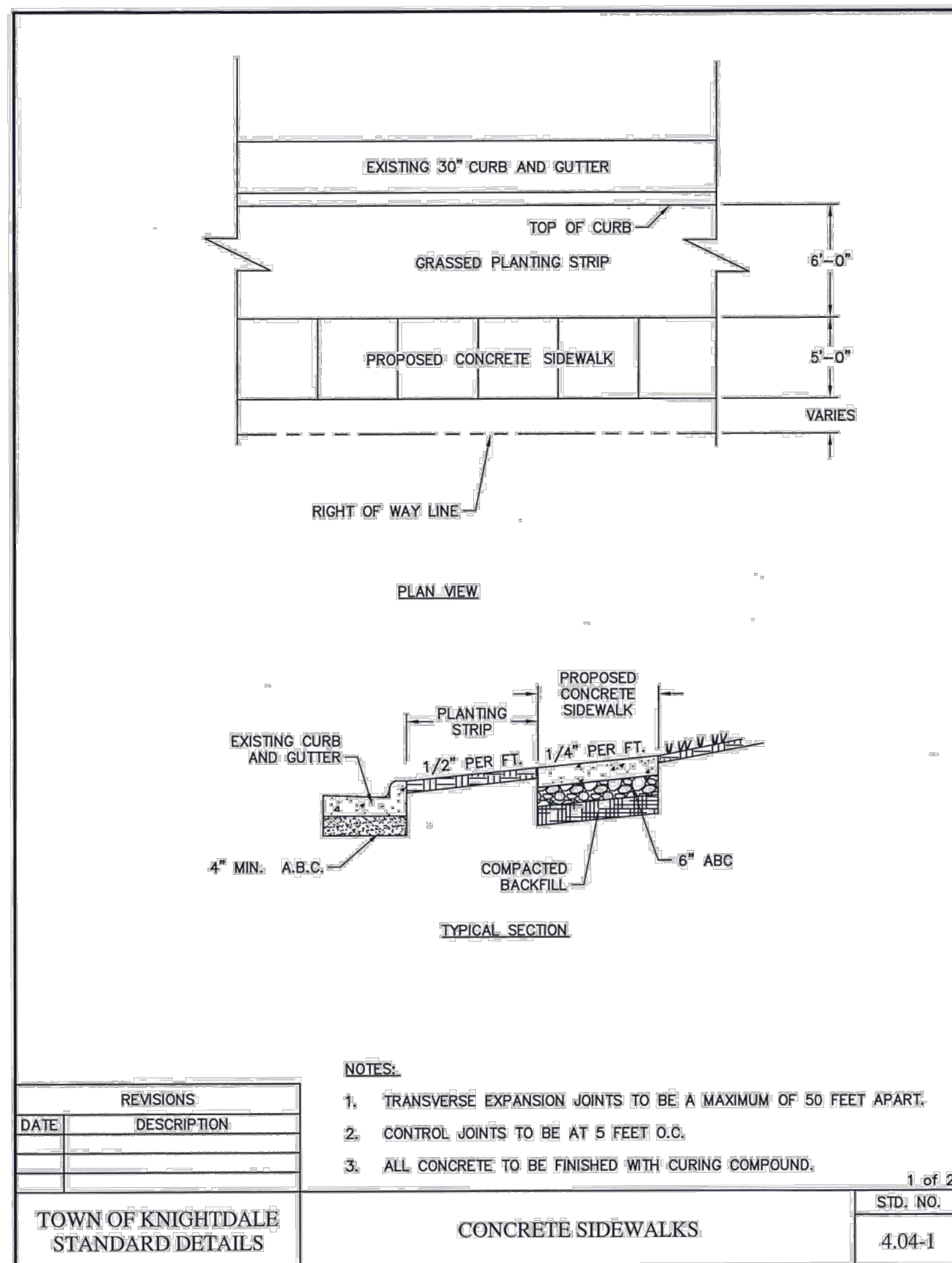
700 OLD KNIGHT ROAD OFFICE BUILDING
KNIGHTDALE, ST. MATHEW'S TOWNSHIP, WAKE COUNTY, NORTH CAROLINA
MASTER PLAN
SITE DETAIL SHEET

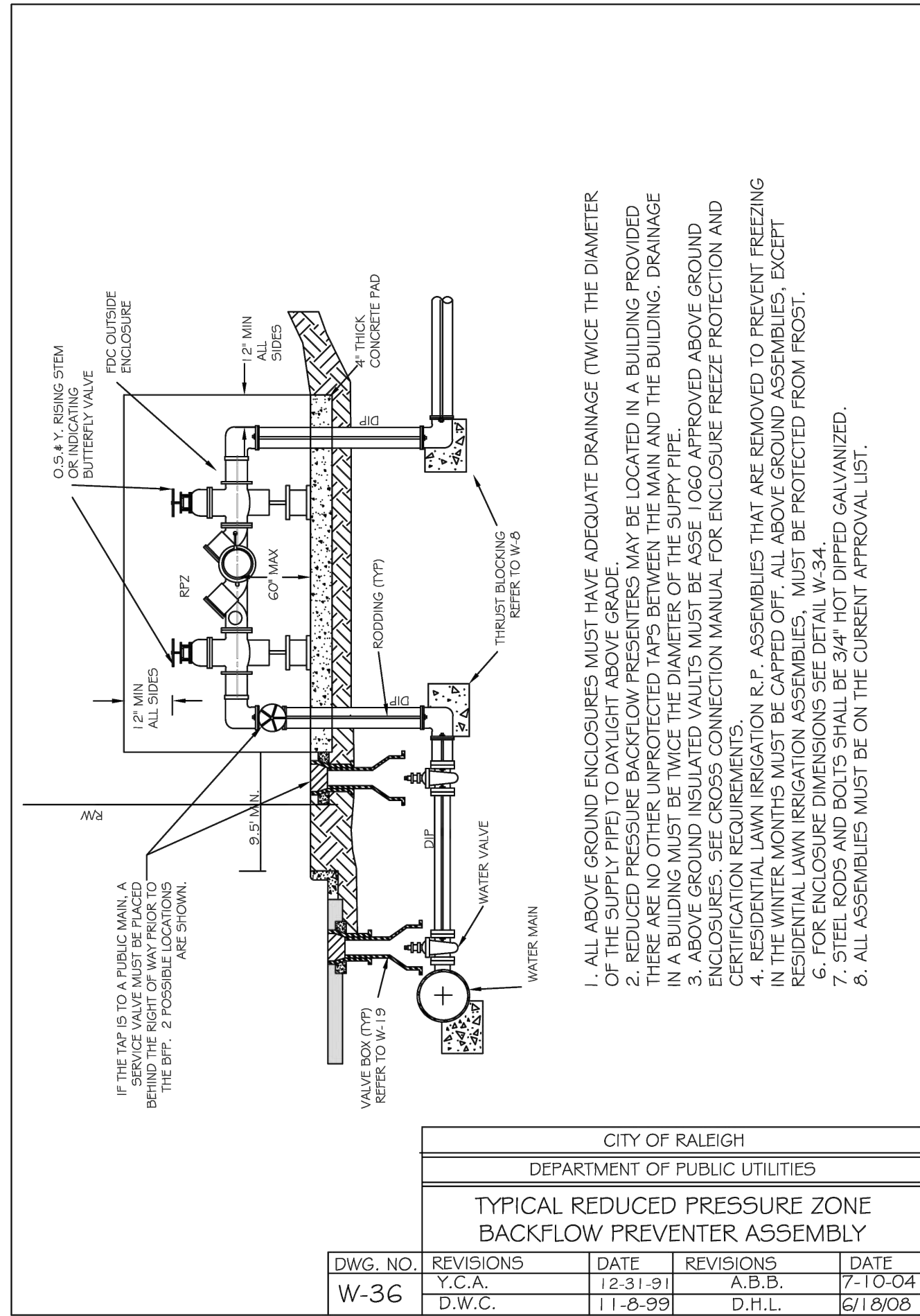
SEAL:
CAROLINA PROFESSIONAL ENGINEER
SAL 032673
GIDEON SMITH

NO.	REVISION	DATE
1	REVISED PER TOWN COMMENTS	03/26/2025

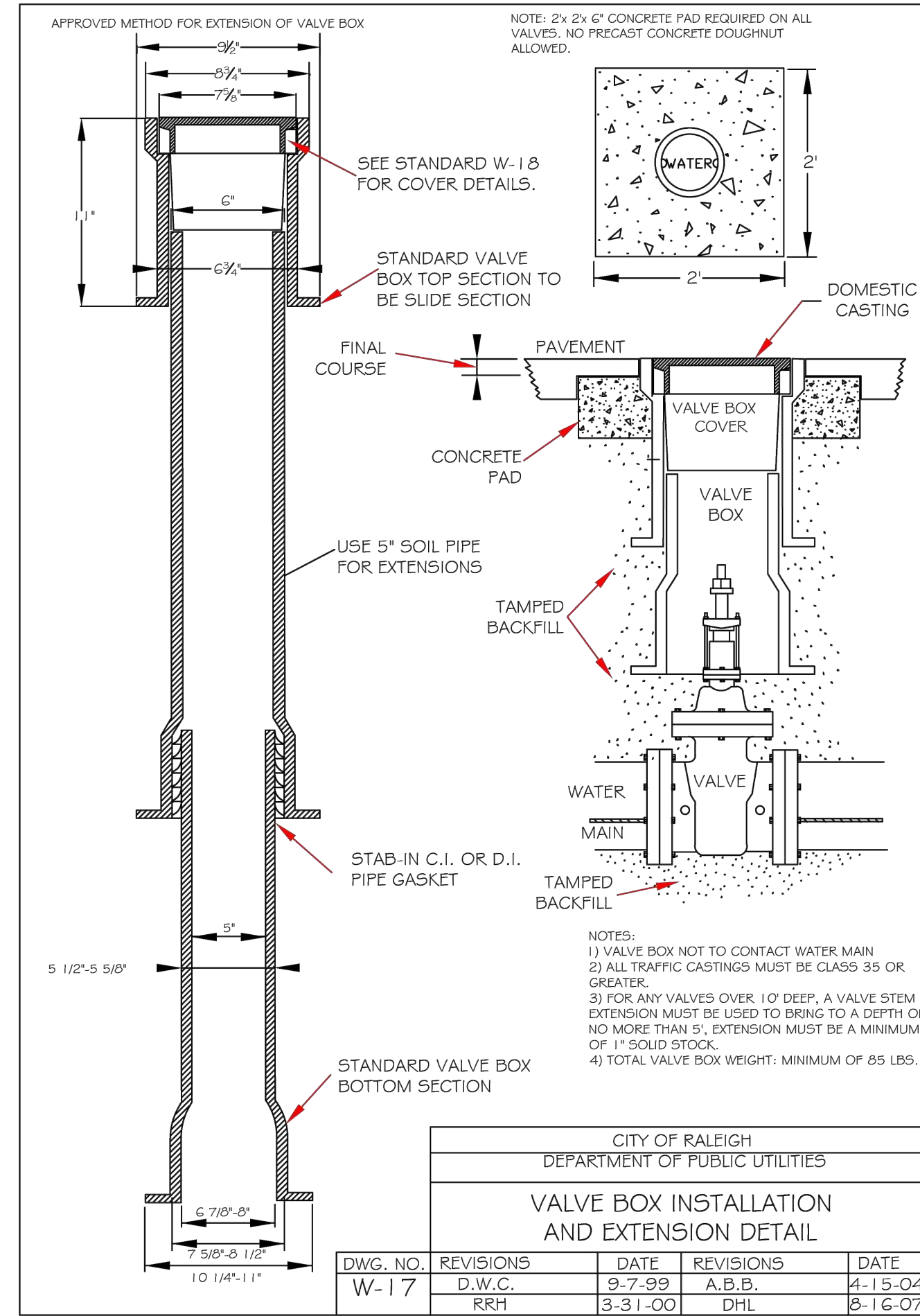
DRAWING SHEET D-1.0

PROJECT NUMBER 627-22

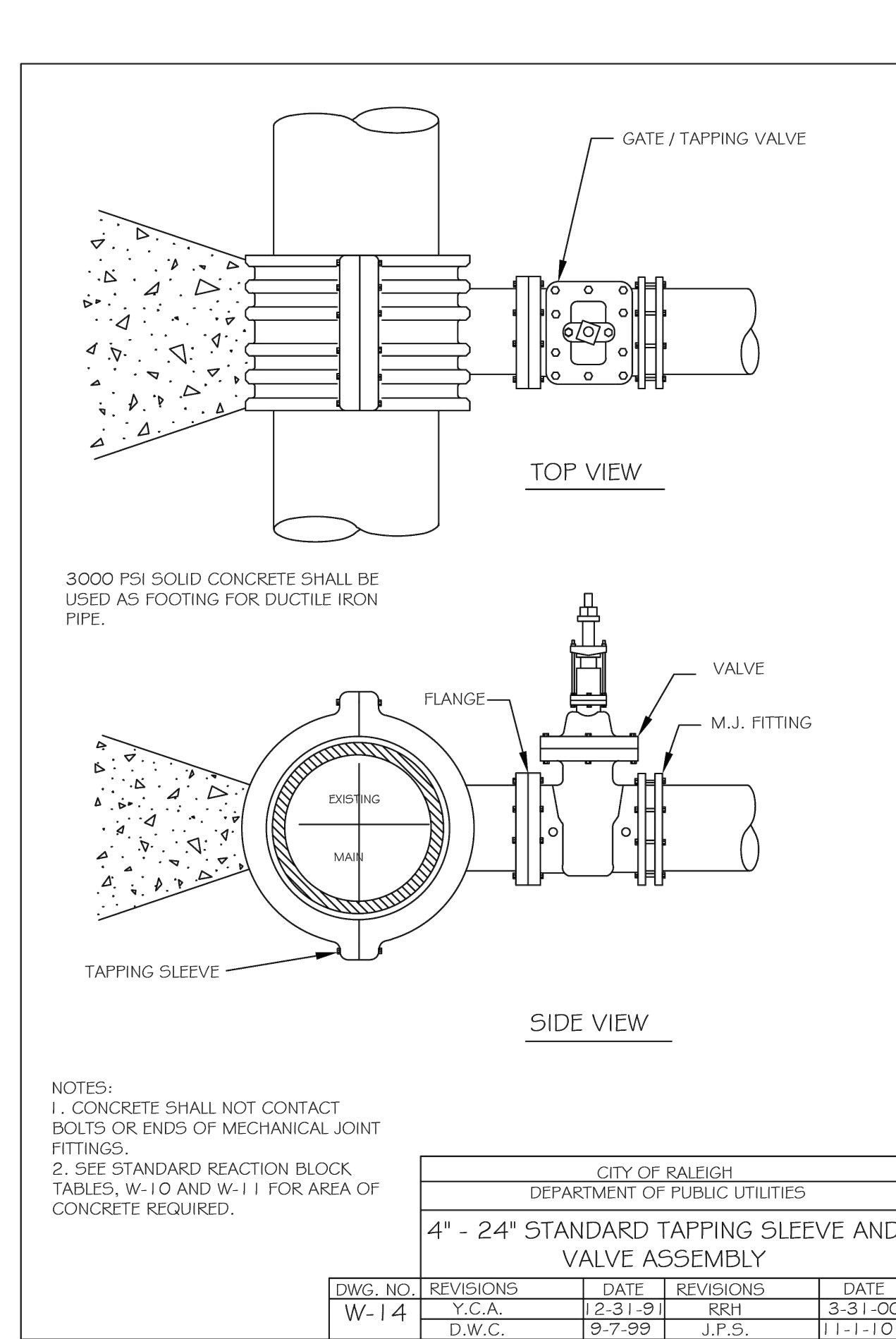




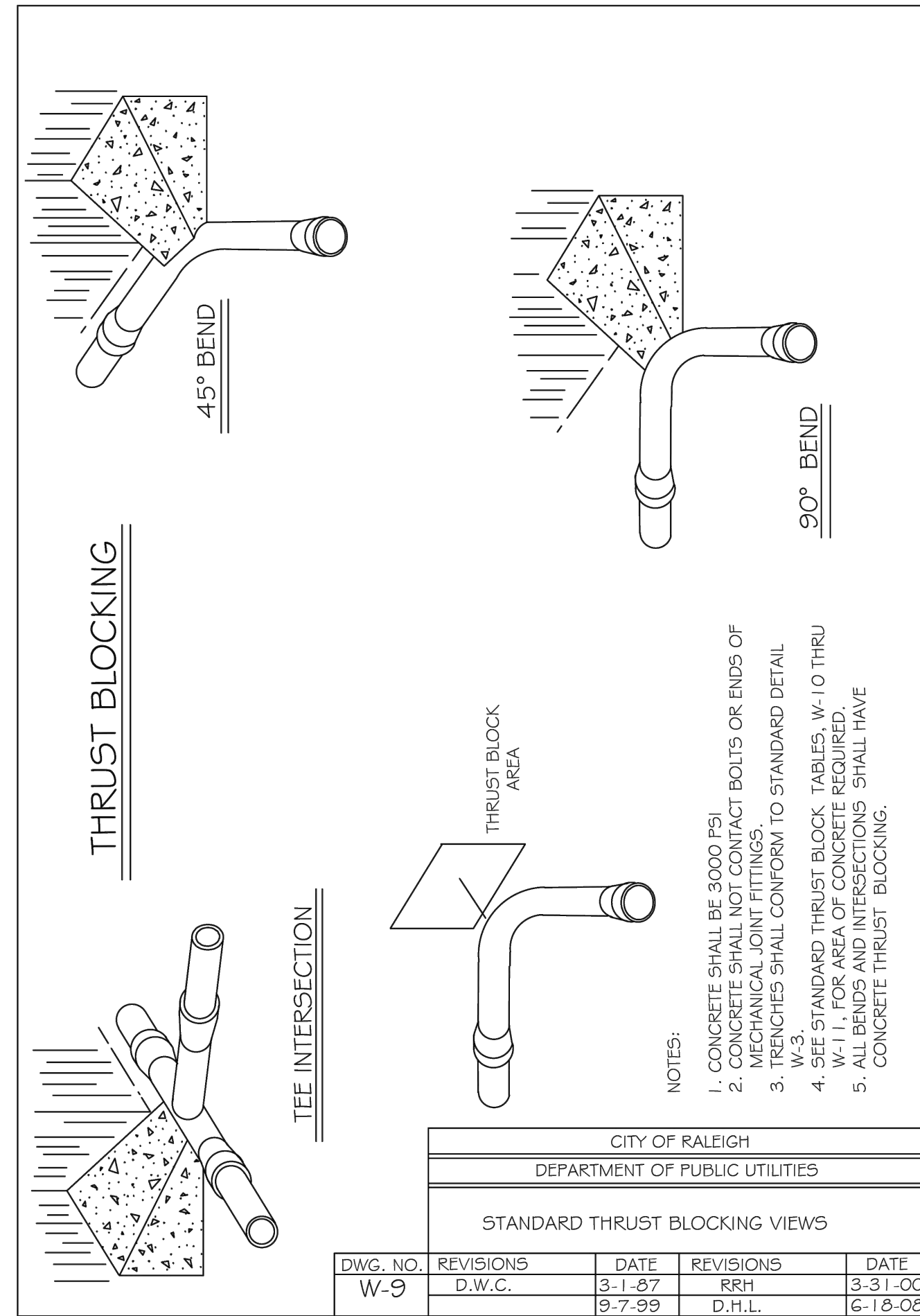
U5 TYPICAL RPZ BACKFLOW PREVENTER ASSEMBLY



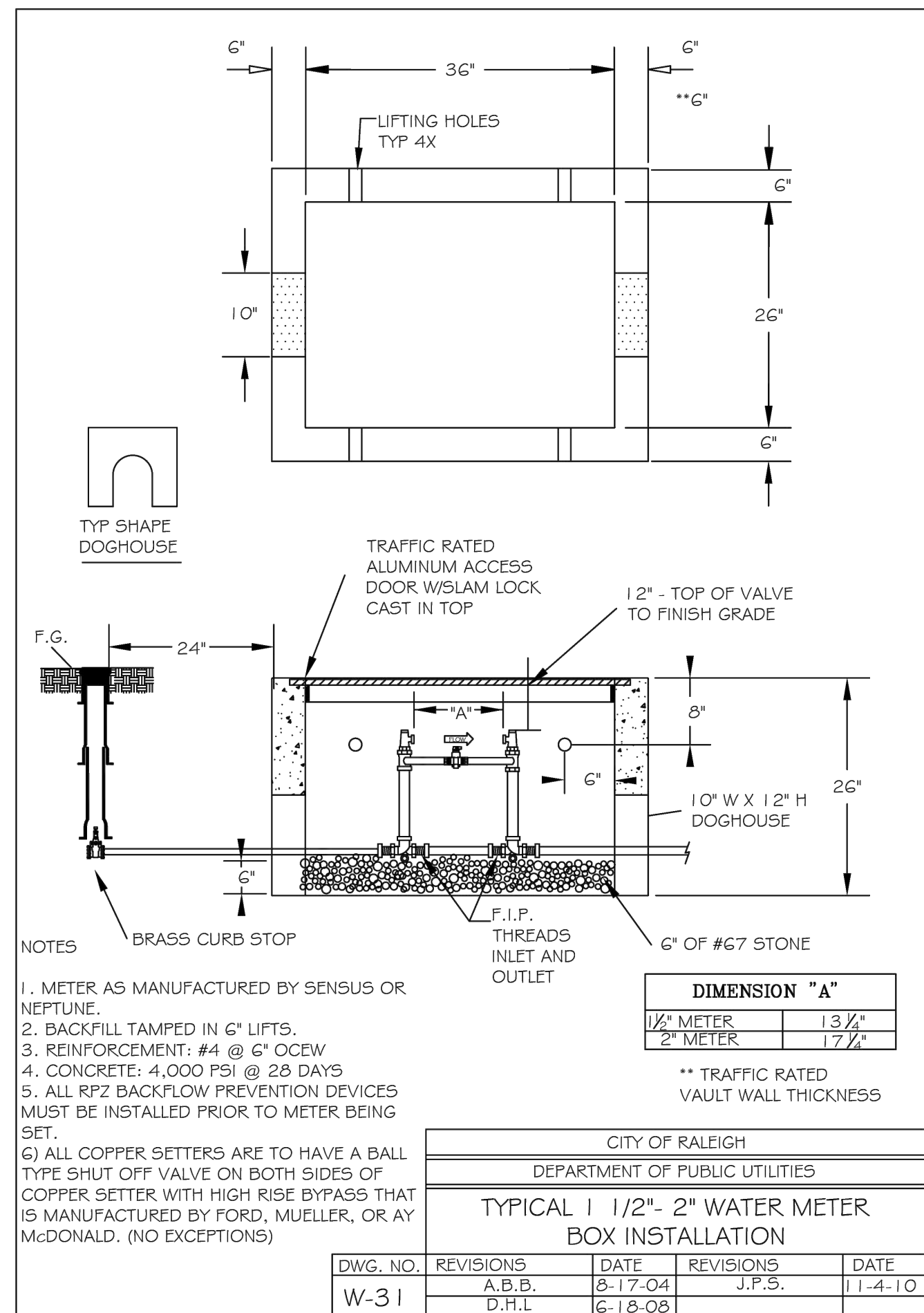
U6 VALVE BOX INSTALLATION AND EXTENSION DETAIL



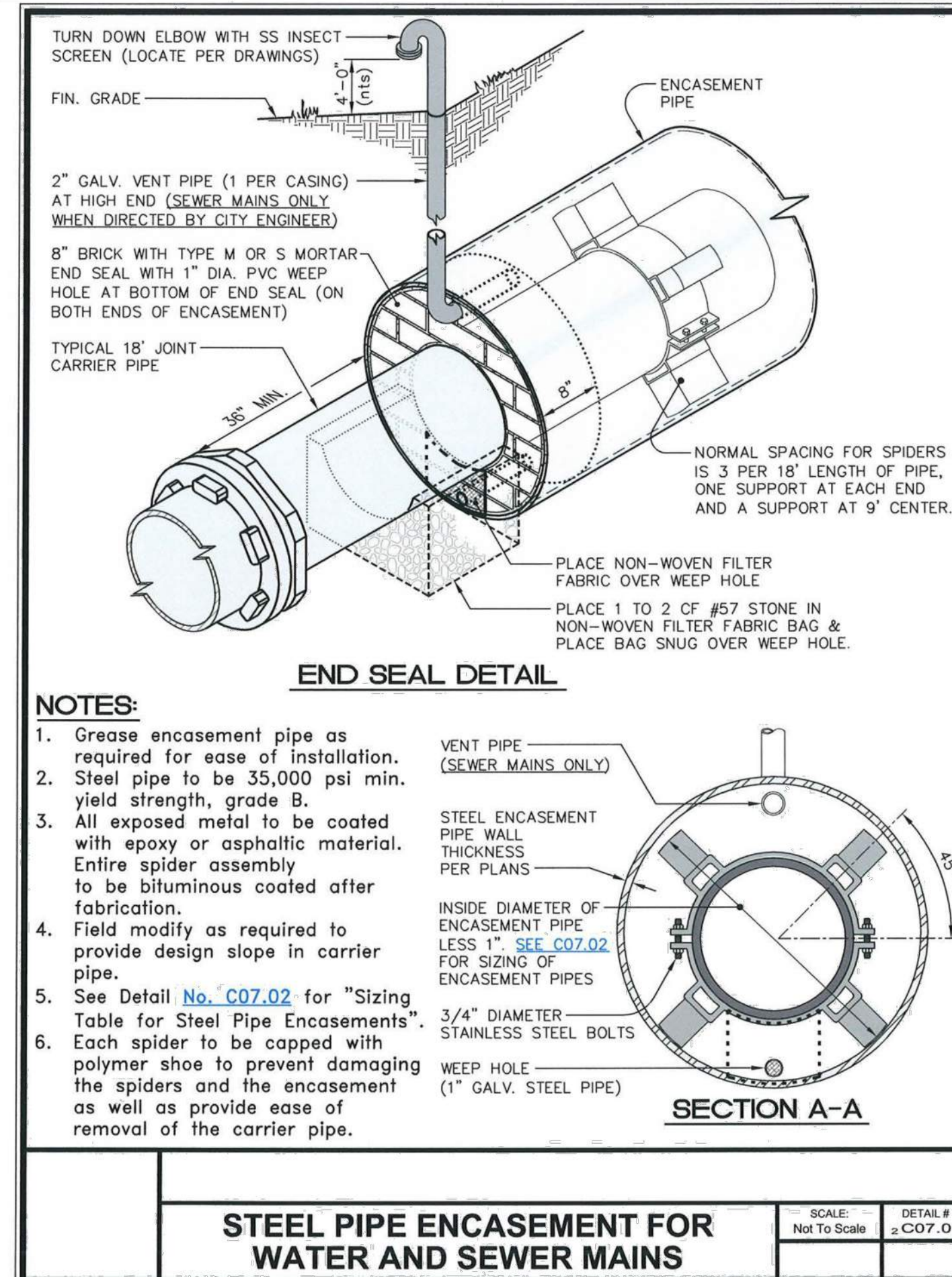
U7 FULL CIRCUMFERENCE STAINLESS STEEL TAPPING SLEEVE AND VALVE ASSEMBLY



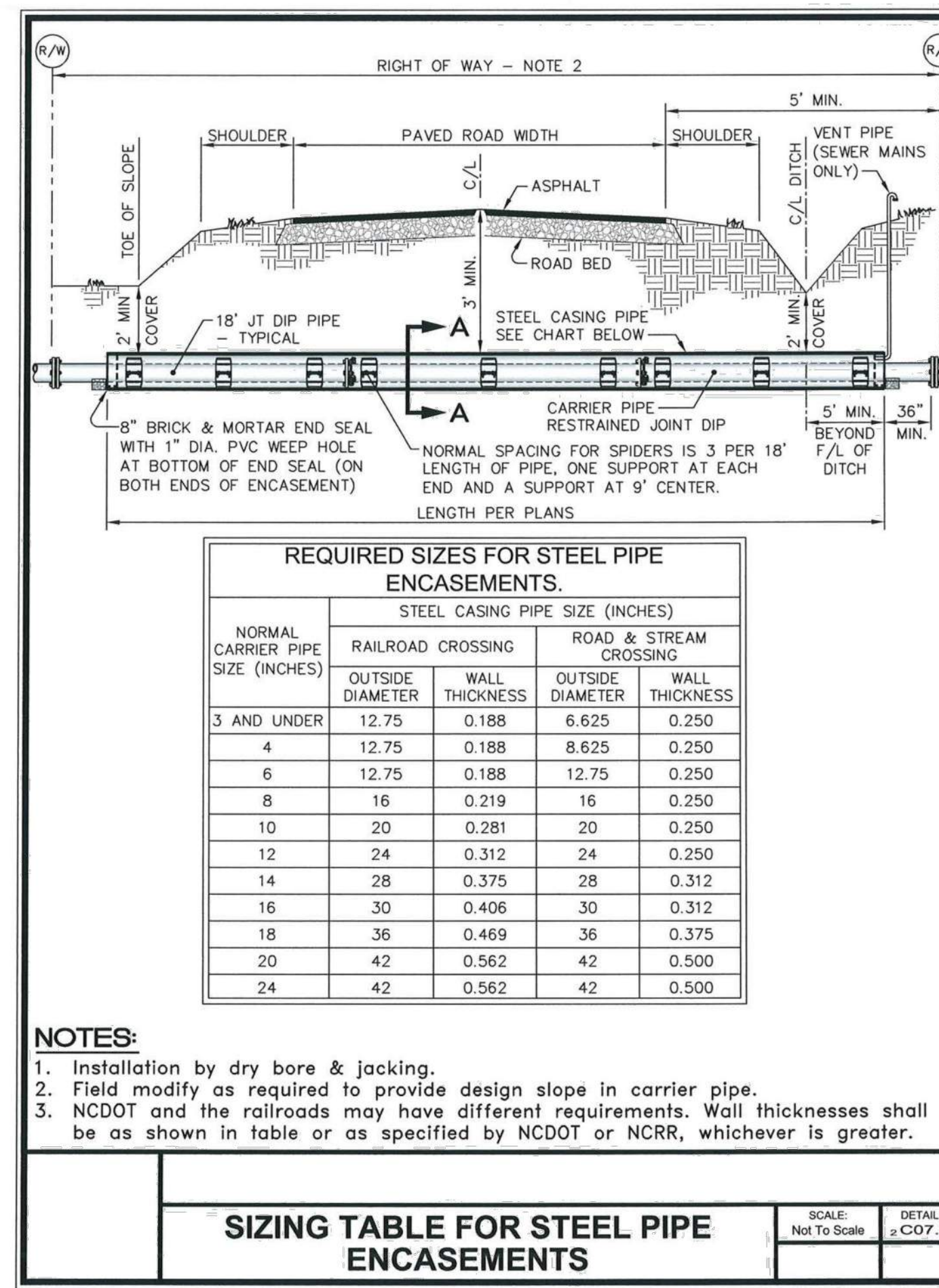
U8 STANDARD THRUST BLOCK



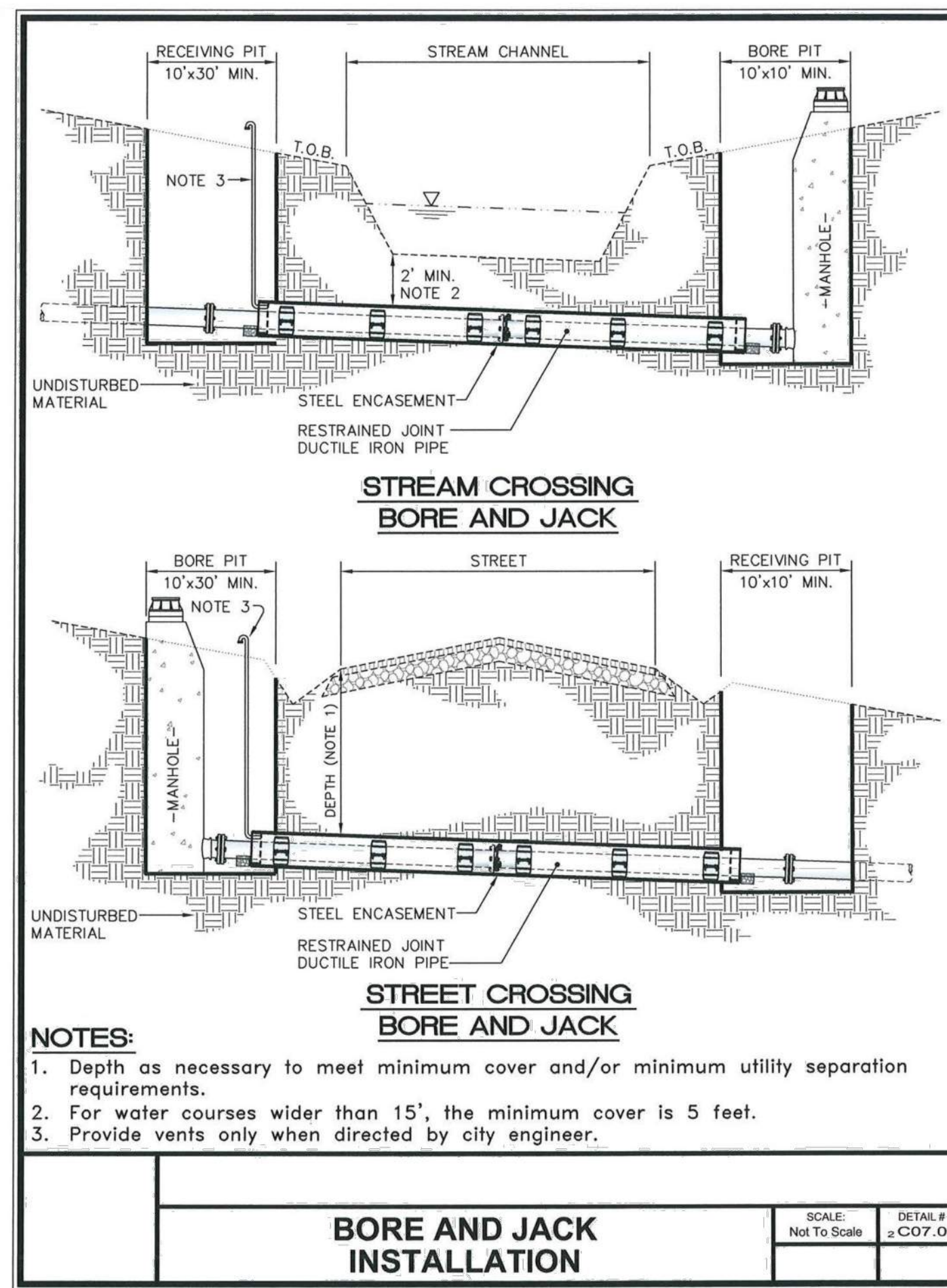
U9 TYPICAL 1 1/2" - 2" WATER METER BOX INSTALLATION



U10 STEEL PIPE ENCASEMENT



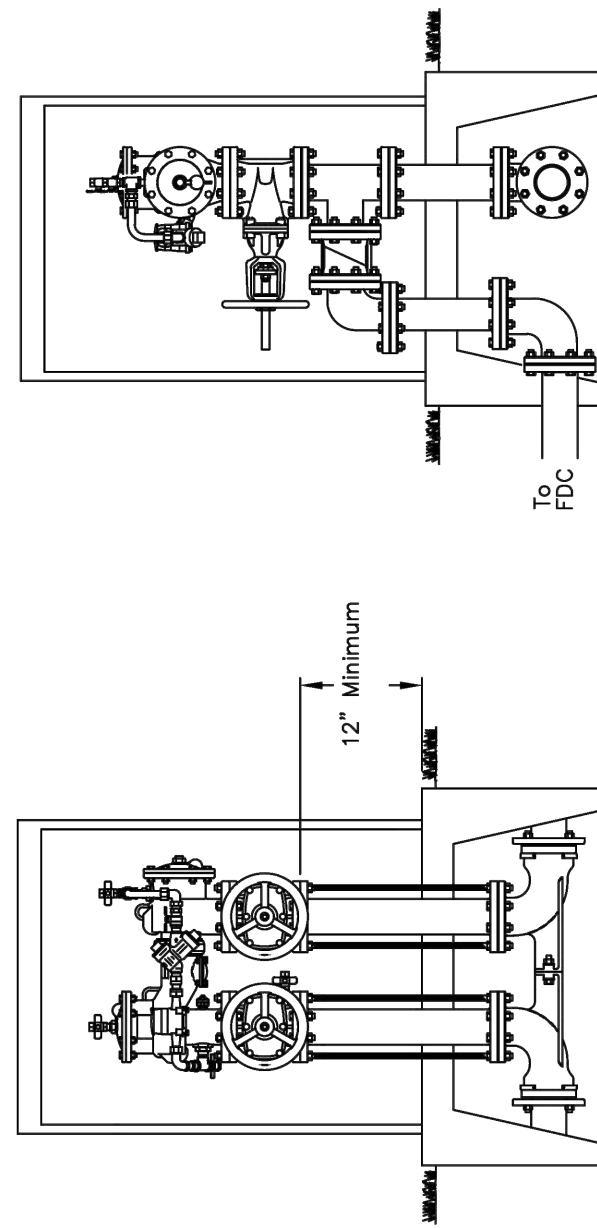
APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025



U11 BORE AND JACK INSTALLATION

C:\Public\Projects\600-699\627-22 700 Old Knight Road Office (Moore's Realty, Inc.)\50-Drawings\4-Design\627-22 D-2 Series.dwg Mar 14, 2025 -- 9:45am BY: kranitz

- TYPICAL NOTES:**
- 1)-ALL PIPING AND FITTINGS TO BE DUCTILE IRON, GALVANIZED, BRASS, STAINLESS STEEL, OR ALUMINUM
 - 2)-ALL PIPING AND FITTINGS TO BE DUCTILE IRON ON CITY SIDE OF BACK FLOW PREVENTION ASSEMBLY
 - 3)-40' MAX. FROM FDC TO APPARATUS ACCESS LOCATION
 - 4)-FDC TO FACE FIRE APPARATUS ACCESS LOCATION (DRIVEWAY)
 - 5)-DO NOT BLOCK APPARATUS ACCESS TO BUILDING WITH HOSE LAY FROM HYDRANT TO FDC
 - 6)-MINIMUM DISTANCE 3 FEET BEHIND CURB, PROTECT FROM VEHICLES
 - 7)-PROVIDE HEAT AND ALARM SUPERVISION TO HOT BOX (2 CONDUITS)
 - 8)-COMPLY WITH PUBLIC UTILITIES HANDBOOK REQUIREMENTS



U15 HOTBOX INSTALLATION

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION: HOTBOX DETAIL REQUIREMENTS

REVISIONS: 5-1-2017

DATE: 4-1-06

DRAWING NO: FP-27

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD ASPHALT PAVEMENT PATCH DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-2	RRH	3-31-00	A.B.B.	4-16-04	
	D.W.C.	11-1-99	J.P.S.	10-29-10	

- NOTES:**
1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
 2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
 3. THE FINAL 1" OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
 4. THE ENTIRE THICKNESS/ VERTICAL EDGE OF CUT SHALL BE TACKED.
 5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
 6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
 7. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3, FOR ADDITIONAL DETAILS.
 8. NO HAND PATCHING ALLOWED.
 9. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

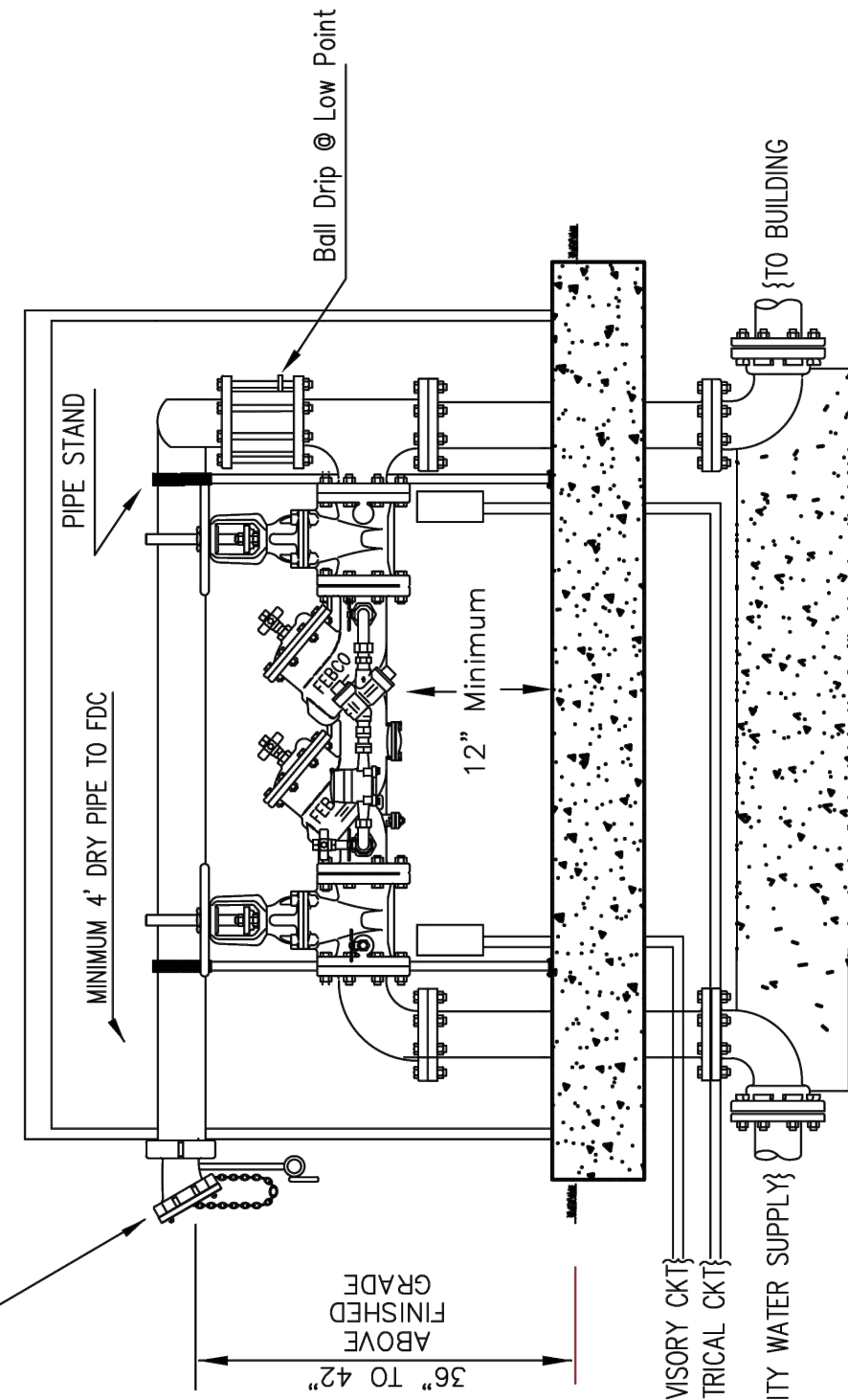
U12 ASPHALT PAVEMENT PATCH

- NOTES:**
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
 3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
 4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
 5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-3	D.W.C.	9-3-99	ABB	2-15-05	
	RRH	3-31-00	J.P.S.	10-29-10	

U13 TRENCH DIMENSIONS & BACKFILLING REQUIREMENTS

5" STORZ CONNECTION
30 DEGREE FIXED (NON-SWIVEL)
W/ CAP SECURED W/ CHAIN
GUARDIAN MODEL 6625 RAL (4")
MODEL 6628 RAL (6") OR EQUAL



CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

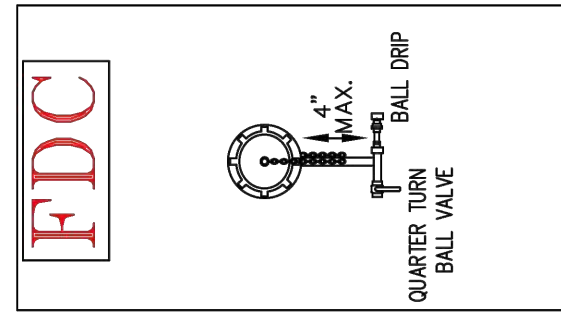
DESCRIPTION: HOTBOX INLINE BACKFLOW

REVISIONS: 5-1-2017

DATE: 4-1-06

DRAWING NO: FP-17A

U14 FIRE LINE BACKFLOW



- TYPICAL NOTES:**
- 1)-ALL PIPING AND FITTINGS TO BE DUCTILE IRON, GALVANIZED BRASS, STAINLESS STEEL, OR ALUMINUM
 - 2)-40' MAX. FROM FDC TO APPARATUS ACCESS LOCATION
 - 3)-FDC TO FACE FIRE APPARATUS ACCESS LOCATION (DRIVEWAY)
 - 4)-DO NOT BLOCK APPARATUS ACCESS TO BUILDING WITH HOSE LAY FROM HYDRANT TO FDC
 - 5)-MINIMUM DISTANCE 3 FEET BEHIND CURB, PROTECT FROM VEHICLES
 - 6)-PROVIDE HEAT AND ALARM SUPERVISION TO HOT BOX (2 CONDUITS)
 - 7)-COMPLY WITH PUBLIC UTILITIES HANDBOOK REQUIREMENTS

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION: HOTBOX INLINE BACKFLOW

REVISIONS: 5-1-2017

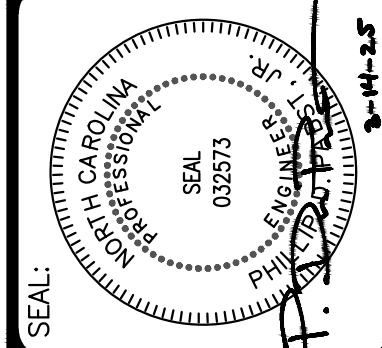
DATE: 4-1-06

DRAWING NO: FP-17B

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

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NO.	REVISION	DATE
1	REVISED PER TOWN COMMENTS	8/14/2025

**DRAWING
SHEET**

D-2.2

PROJECT NUMBER

627-22

700 OLD KNIGHT ROAD OFFICE BUILDING

KNIGHTDALE, ST. MATHEWS TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

MASTER PLAN

UTILITY DETAIL SHEET

PREPARED FOR:
MOORE'S REALTY, INC.
101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545

DATE: 06/24/2022

PROJECT ENGINEER:
PJP

PROJECT CAD DESIGNER:
PJP

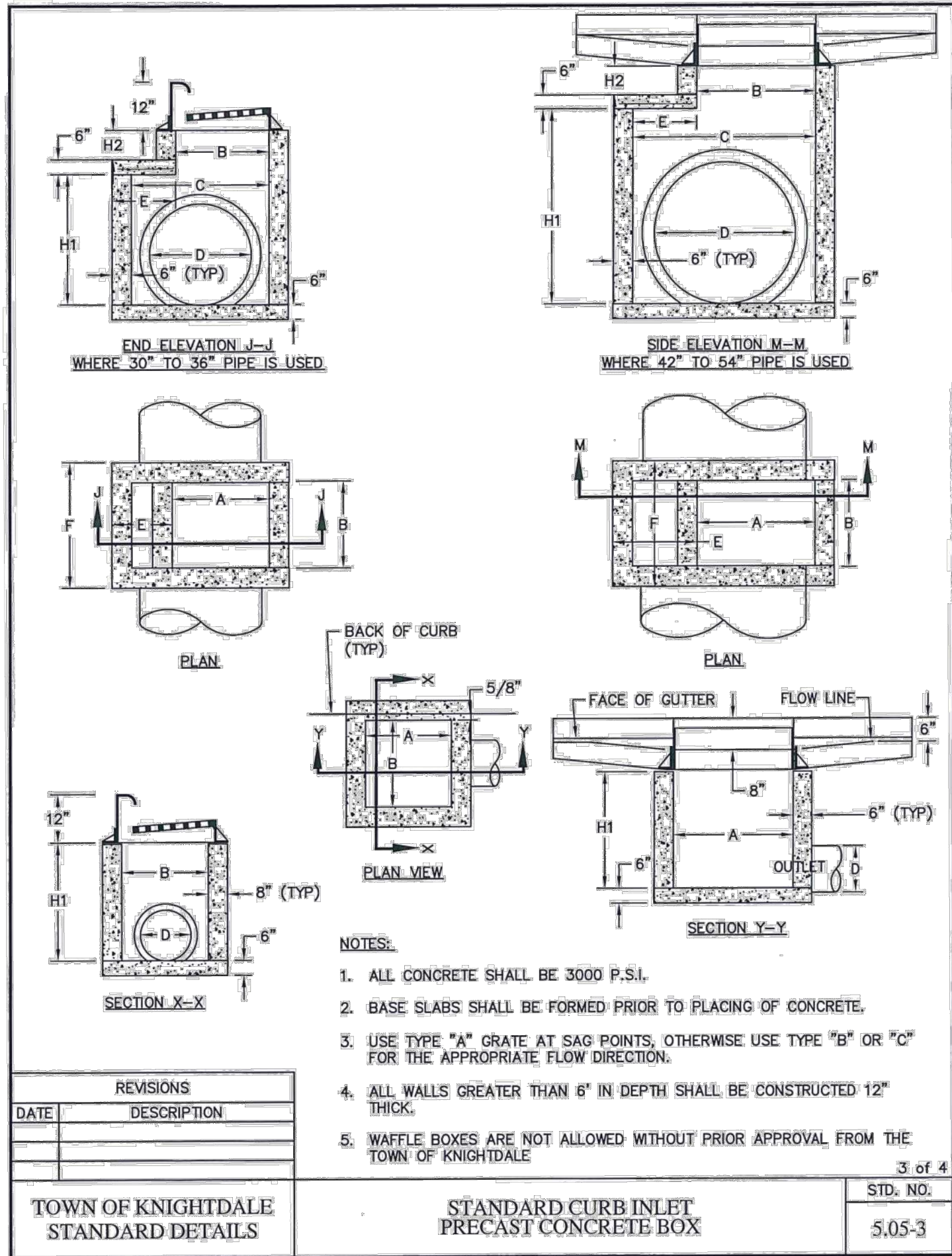
PROJECT SURVEYOR:
WAKE COUNTY, GS

PAST DESIGN GROUP, PA

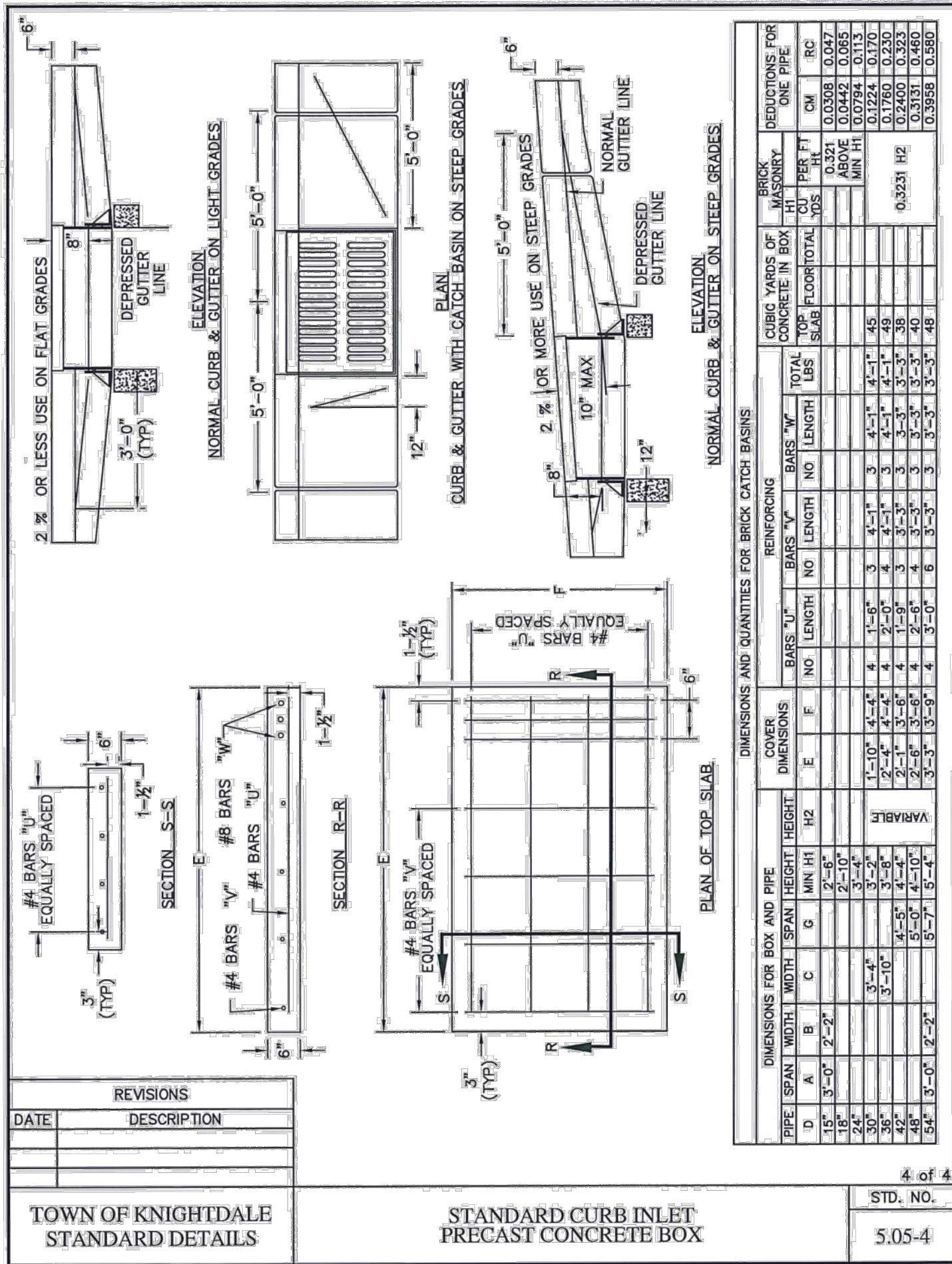
Engineering & Consulting

107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601

Phone: 919 948 4399 | Fax: 919 948 4392 | NC LICENSE NUMBER: C-3311



D1 STANDARD CURB INLET



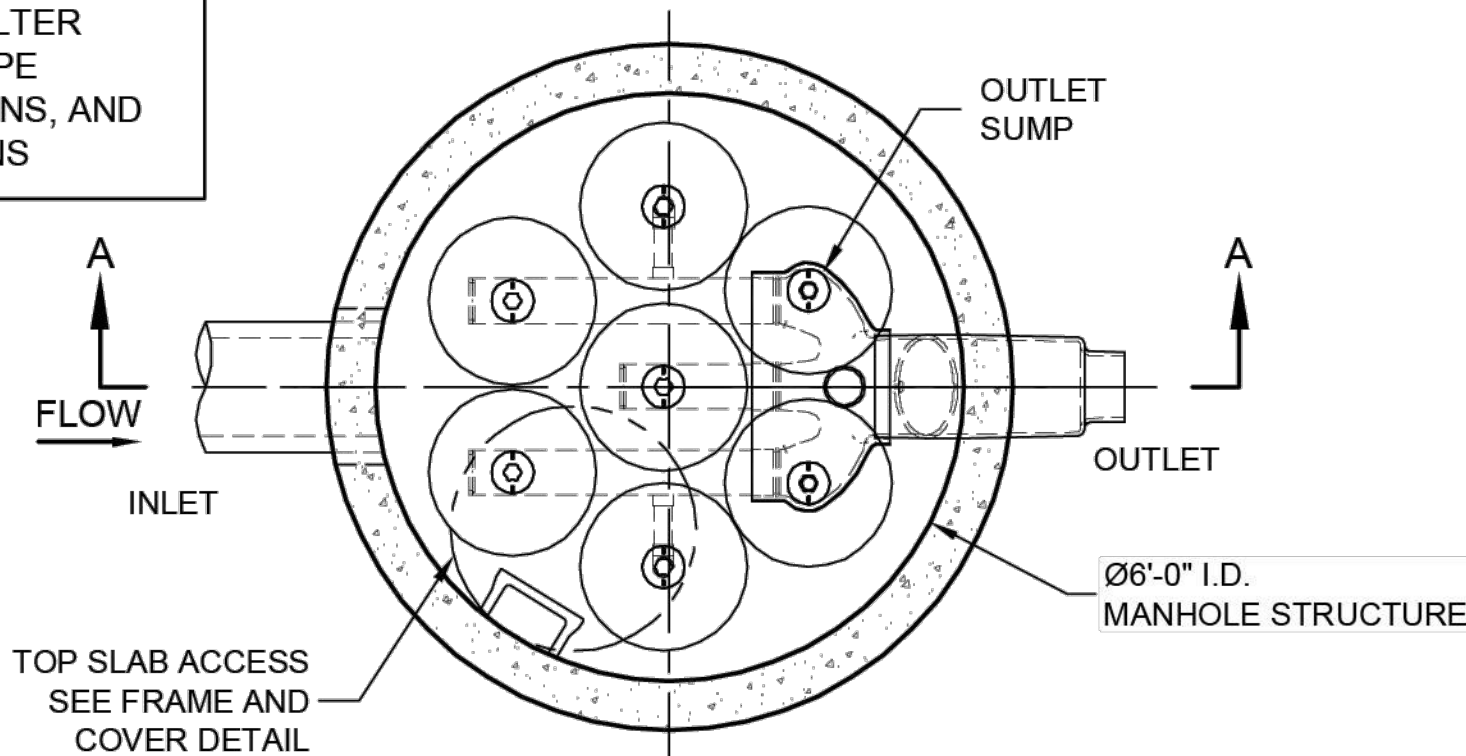
D2 DOGHOUSE MANHOLE INSTALLATION

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

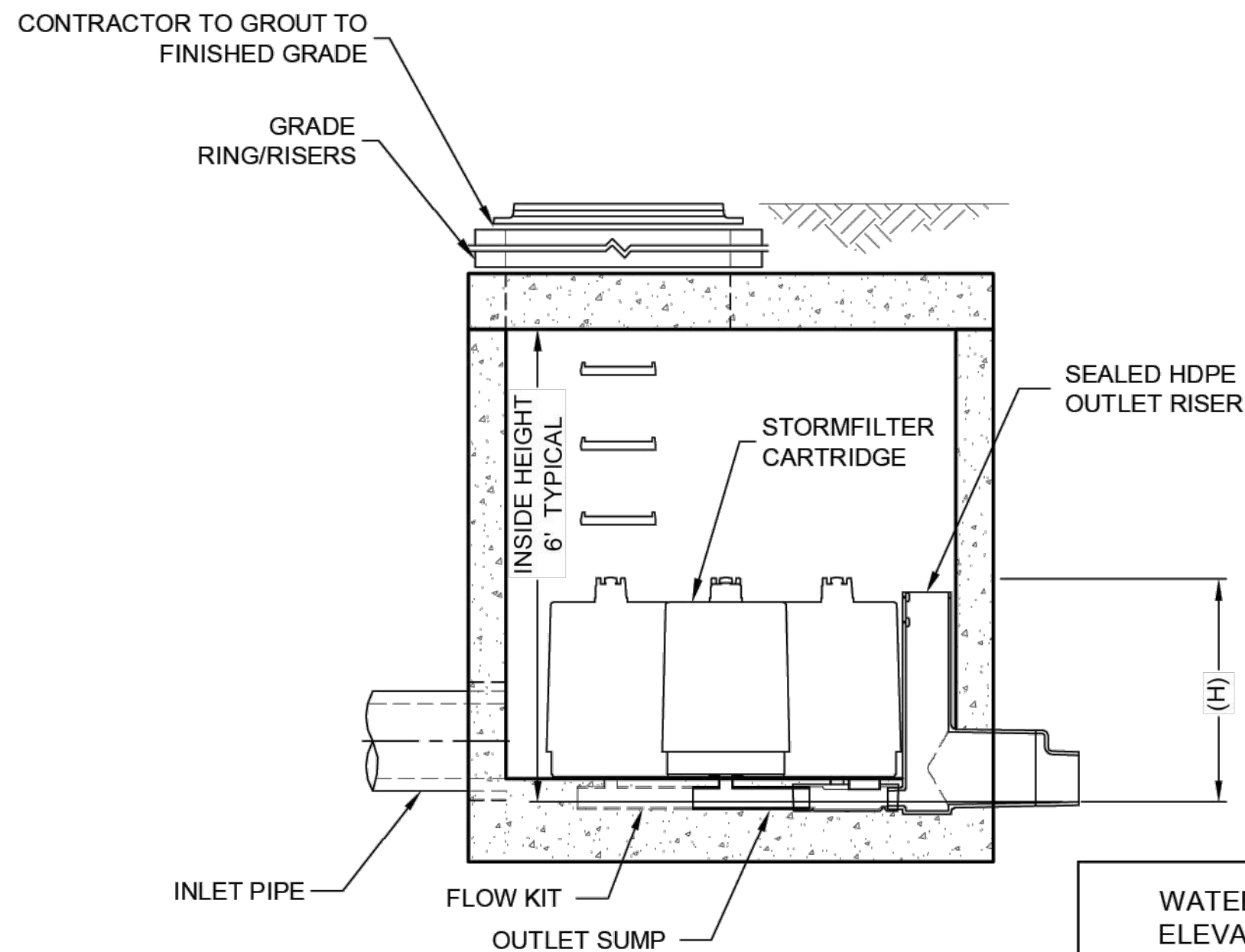
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SEE STORM DRAIN TABLES AND
DETAILS PER EOR FOR SITE
SPECIFIC STORMFILTER
INLET/OUTLET PIPE
DIAMETERS, ELEVATIONS, AND
CONFIGURATIONS



PLAN VIEW
STANDARD OUTLET RISER
FLOWKIT: 42A



SECTION A-A

WATER QUALITY VOLUME
ELEVATION IN UPSTREAM
DETENTION MAY BE GREATER
THAN OR EQUAL TO PROJECT
SPECIFIC ACTIVATION HEAD (H)

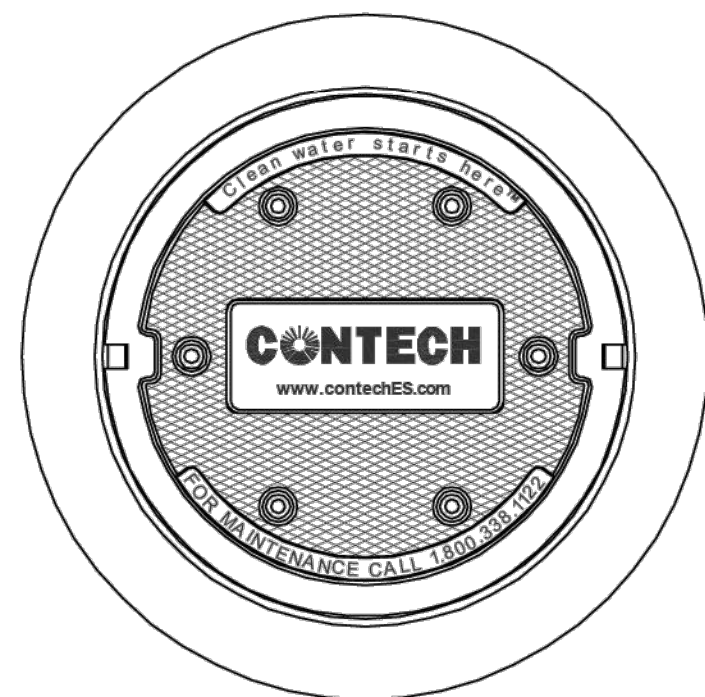


STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD VAULT STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (7). 6" OF DROP FROM INLET TO OUTLET IS REQUIRED FOR ALL CARTRIDGE SIZE OPTIONS.

CARTRIDGE SELECTION:

CARTRIDGE HEIGHT	27"	18"	LOW DROP
MINIMUM ACTIVATION HEAD (H)	3.05'	2.3'	1.8'
SPECIFIC FLOW RATE (PER NCDEQ MDC 2)	1 GPM/SF (ALL CARTRIDGE HEIGHTS)		
CARTRIDGE FLOW RATE	7.5 GPM (ALL CARTRIDGE HEIGHTS)		



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

700 Old Knight Road Office Building Knightdale, NC CES#821353-10

CARTRIDGE HEIGHT (SEE TABLE ABOVE)	18"
NUMBER OF CARTRIDGES REQUIRED	5
MEDIA TYPE	phosphosorb
NOTES/SPECIAL REQUIREMENTS:	

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' [1524 mm] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178 mm]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) [L/s] DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft)[m²].
- STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
- CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES [200 mm], CONTRACTOR TO REMOVE THE 8 INCH [200 mm] OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com
8025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

SFMH72
POST DETENTION STORMFILTER
DETAIL

D4 72" STORMFILTER MANHOLE DETAIL



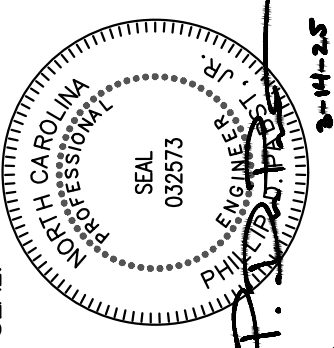
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PAST DESIGN GROUP, PA
Engineering | Consulting
107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 944 4399 | Fax: 919 944 4392 | NC LICENSE NUMBER: C-3211

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101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545
DATE: 06/24/2022
PROJECT ENGINEER: PJP
PROJECT CAD DESIGNER: PJP
PROJECT SURVEYOR: PJP
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700 OLD KNIGHT ROAD OFFICE BUILDING
KNIGHTDALE, ST. MATHEW'S TOWNSHIP, WAKE COUNTY, NORTH CAROLINA
MASTER PLAN
SCM DETAIL SHEET



NO.	REVISION	DATE
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DRAWING SHEET
D-3.2
PROJECT NUMBER
627-22

LANDSCAPE NOTES

1. LANDSCAPED AREAS REQUIRED BY THIS CHAPTER SHALL NOT CONTAIN ANY DEVELOPMENT, IMPERVIOUS SURFACES, OR SITE FEATURES THAT DO NOT FUNCTION TO MEET THE APPLICABLE STANDARDS FOR THAT AREA OR THAT REQUIRE REMOVAL OF EXISTING SIGNIFICANT VEGETATION [UDO SEC. 7.4.E.1].
2. NO GRADING, DEVELOPMENT, OR LAND-DISTURBING ACTIVITIES SHALL OCCUR WITHIN A BUFFER YARD IF FOREST CANOPY, SPECIMEN TREES OR SIGNIFICANT VEGETATION EXISTS WITHIN THESE AREAS, UNLESS APPROVED BY THE LAND USE ADMINISTRATOR. IF GRADING WITHIN A BUFFER YARD IS PROPOSED, SLOPES OF 1:3 OR LESS ARE ENCOURAGED TO ENSURE THE PROPER TRANSITION OF GRADES TO THE ADJACENT PROPERTY AND TO FACILITATE LANDSCAPING AND MAINTENANCE [UDO SEC. 7.4.E.2].
3. EXCEPT FOR DRIVEWAY ACCESS POINTS, SIDEWALKS, CURB, AND GUTTER, NO PAVING WITH CONCRETE OR OTHER IMPERVIOUS MATERIALS WITHIN (5) FEET OF A TREE DRIP LINE SHALL BE ALLOWED UNLESS OTHERWISE APPROVED. WHERE GRADING WITHIN A TREE DRIPLINE CANNOT BE AVOIDED, CUT AND FILL SHALL BE LIMITED TO ONE-QUARTER (¼) TO ONE-HALF (½) OF THE AREA WITHIN THE DRIPLINE, AND TREE ROOTS MUST BE PRUNED WITH CLEAN CUTS AT THE EDGE OF THE DISTURBED AREA. NO FILL SHALL BE PLACED WITHIN THE DRIPLINE OF A TREE WITHOUT VENTING TO ALLOW AIR AND WATER TO REACH THE ROOTS [UDO, SEC. 7.4.D.4].
4. THE TOWN OF KNIGHTDALE RESERVES THE RIGHT TO REQUIRE ADDITIONAL VEGETATION TO BE PLANTED IN THE BUFFERS TO COMPLY WITH THEIR RESPECTIVE PERFORMANCE STANDARDS OUTLINED IN SECTION 7.4.I OF THE UDO.

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

NOTE(s): ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

PLANT SCHEDULE

CANOPY TREES	CODE	QTY	%	BOTANICAL / COMMON NAME	CALIPER	HEIGHT	CONTAINER	LOCATION	NATIVE (Y/N)
	LM	6	27.3	Acer saccharum 'Legacy' Legacy Sugar Maple	2" MIN.	8' MIN.	B&B	STREET, PARKING LOT	Y
	QA	4	18.2	Quercus acutissima Sawtooth Oak	2" MIN.	8' MIN.	B&B	STREET, SOUTH BUFFER	N
	AH	6	27.3	Carpinus caroliniana American Hornbeam	2" MIN.	8' MIN.	B&B	NORTH & SOUTH BUFFERS	Y
	AB	6	27.3	Acer rubrum 'Brandywine' Brandywine Maple Tree	2" MIN.	8' MIN.	B&B	EAST & SOUTH BUFFERS	Y
UNDERSTORY TREES									
	FP	6	28.6	Cercis canadensis 'Forest Pansy' Forest Pansy Eastern Redbud	1.5" MIN.	6' MIN.	B&B	NORTH & SOUTH BUFFERS	Y
	CC	6	28.6	Cotinus coggygia Smoketree	1.5" MIN.	6' MIN.	B&B	NORTH & SOUTH BUFFERS	Y
	AA	6	28.6	Amelanchier arborea Downy Serviceberry	1.5" MIN.	6' MIN.	B&B	EAST & SOUTH BUFFERS	Y
	OA	3	14.3	Oxydendron arboreum Sourwood	1.5" MIN.	6' MIN.	B&B	EAST BUFFER	Y
SHRUBS									
	PM	8	3.7	Podocarpus macrophyllus 'Maki' Maki Shrubby Yew Podocarpus	36" MIN.	8-10'	3-4'	SCREENING (TRASH)	N
	DB	24	11.0	Distylium 'Blue Cascade' Blue Cascade Distylium	18" MIN.	3-4'	3-4'	SOUTH BUFFER	N
	IC	17	7.8	Ilex vomitoria 'Condeaux' Bordeaux Yaupon Holly	18" MIN.	3-4'	3-4'	NORTH BUFFER	Y
	SI	21	9.6	Ilex glabra 'Shamrock' Shamrock Inkberry Holly	18" MIN.	3-5'	3-4'	SOUTH BUFFER	Y
	DE	22	10.1	Distylium x 'PIDIST-I' Emerald Heights Distylium	18" MIN.	5'	5'	EAST BUFFER	N
	SP	20	9.2	Ilex crenata 'Sky Pencil' Sky pencil Japanese Holly	36" MIN.	6-8'	1-3'	SCREENING (UTILITIES), FOUNDATION	N
	BB	22	10.1	Callicarpa americana American Beautyberry	18" MIN.	3-8'	3-6'	ENHANCED ROADSIDE	Y
	CO	8	3.7	Cephalanthus occidentalis Button bush	18" MIN.	5-8'	3-6'	ENHANCED ROADSIDE	Y
	IV	14	6.4	Itea virginica 'Henry's Garnet' Henry's Garnet Virginia Sweetpire	18" MIN.	3-5'	3-5'	ENHANCED ROADSIDE	Y
	GB	37	17.0	Ilex glabra 'Gem Box' Gembox Inkberry Holly	12" MIN.	3'	3'	FOUNDATION	Y
	KA	6	2.8	Abelia x grandiflora 'Kaleidoscope' Kaleidoscope Abelia	12" MIN.	2-3'	3-4'	PUBLIC GATHERING SPACE	N
	VF	1	0.5	Vitex x Flip Side Flip Side Chaste Tree	36" MIN.	8'	8'	PUBLIC GATHERING SPACE	N
	GT	18	8.3	Ilex crenata 'Golden Soft Touch' Golden Soft Touch Japanese Holly	12" MIN.	3'	3'	FOUNDATION	N

LANDSCAPE CALCULATIONS:

INTERIOR PARKING LOT LANDSCAPING (UDO SEC. 7.4.J.)
NO PARKING SPACE SHALL BE MORE THAN 60 FT FROM THE BASE OF A DECIDUOUS CANOPY TREE. A DECIDUOUS CANOPY TREE SHALL BE PROVIDED AT THE END OF EACH PARKING ROW.
DECIDUOUS CANOPY TREES REQUIRED: 4
DECIDUOUS CANOPY TREES PROVIDED: 4

VEHICLE ACCOMMODATION SCREENING (UDO SEC. 7.5.B.):
VEHICLE ACCOMMODATION AREAS SHALL BE SCREENED FROM OFF-SITE VIEWS WITH A TYPE B BUFFER YARD. PER EVERY 100 LINEAR FEET (LF),
3 CANOPY TREES, 5 UNDERSTORY TREES, AND 20 SHRUBS REQUIRED.

NORTHERN TYPE B BUFFER SCREENING: 85 LF
CANOPY TREES REQUIRED: $3 \times 0.85 = 2.55 \approx 3$
CANOPY TREES PROVIDED: 3
UNDERSTORY TREES REQUIRED: $5 \times 0.85 = 4.25 \approx 4$
UNDERSTORY TREES PROVIDED: 4
SHRUBS REQUIRED: $20 \times 0.85 \approx 17$
SHRUBS PROVIDED: 17

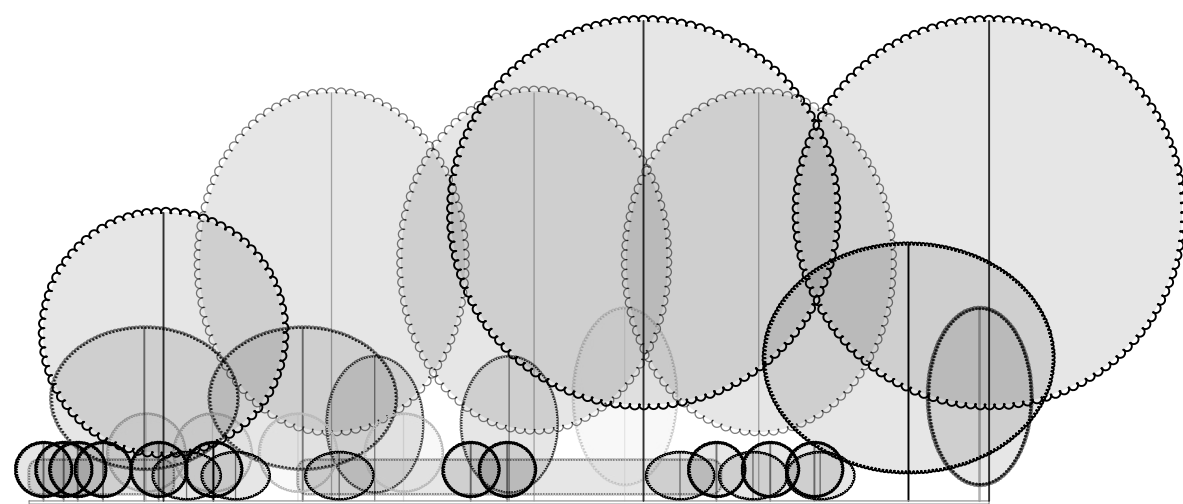
EASTERN TYPE B BUFFER SCREENING: 112 LF (EASTERN 20' PARKING LOT SCREENING REQUIREMENT HAS BEEN ADMINISTRATIVELY REDUCED TO 10', PROVIDED THAT THE SAME NUMBER OF PLANTINGS REQUIRED BY THE 20' TYPE B BUFFER STILL BE PLANTED, AND A FENCE IS CONSTRUCTED.)
CANOPY TREES REQUIRED: $3 \times 1.12 = 3.36 \approx 3$
CANOPY TREES PROVIDED: 3
UNDERSTORY TREES REQUIRED: $5 \times 1.12 = 5.6 \approx 6$
UNDERSTORY TREES PROVIDED: 6
SHRUBS REQUIRED: $20 \times 1.12 = 22.4 \approx 22$
SHRUBS PROVIDED: 22

SOUTHERN TYPE B BUFFER SCREENING: 226 LF
CANOPY TREES REQUIRED: $3 \times 2.26 = 6.78 \approx 7$
CANOPY TREES PROVIDED: 7
UNDERSTORY TREES REQUIRED: $5 \times 2.26 = 11.3 \approx 11$
UNDERSTORY TREES PROVIDED: 11
SHRUBS REQUIRED: $20 \times 2.26 = 45.2 \approx 45$
SHRUBS PROVIDED: 45

TRASH RECEPTACLE SCREENING (UDO SEC. 7.5.E. & 7.1.3.):
20 SHRUBS PER 100 LINEAR FEET = 20% = 0.5
OFF-SITE VIEW SCREEN: 13.3 LF $\times 0.5 = 6.65 \approx 7$
SHRUBS REQUIRED: 7
SHRUBS PROVIDED: 8

STREET TREES (UDO SEC. 7.4.L.):
STREET TREES SPACED 40' AVG.
240 LF RW - 33 SITE ACCESS = 207 LF
STREET TREES REQUIRED: $207 / 40 = 5.18 \approx 5$
STREET TREES PROVIDED: 5

ENHANCED ROADSIDE LANDSCAPING SHRUBS:
LANDSCAPE ABOVE AND BEYOND UDO REQUIREMENTS
REQUIRED: LANDSCAPE ABOVE AND BEYOND UDO REQUIREMENTS (MORE THAN JUST STREET TREES)
PROVIDED: 44 DECIDUOUS SHRUBS



SECTION A-A' (100 LF OF ENHANCED ROADSIDE LANDSCAPING)



F:\Public\10-Projects\600-699\627-22 700 Old Knight Road Office (Moore's Realty, Inc.)\50-Drawings\4-Design\627-22 L-1.1.dwg Mor 14, 2025 -- 9:49pm BY:k.kontz

NOTES:

1. REMOVE WIRE OR NYLON TWINE FROM BALL.

2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.

3/4" NYLON STRAP STAKING REQUIRED FOR LEANING TREES OR AS REQUIRED BY CONTRACT.

ROOT CROWN TO BE AT FINISH GRADE ±

1"x2"x18" WOOD STAKE WITH CENTERED 3/8" HOLE DRIVEN IN LINE WITH STRAP

UNDISTURBED SOIL

FINISH GRADE

REMOVE TYPICAL EXCESS SOIL FROM GROWER OVER ROOT SYSTEM, UP TO 1" DEPTH. REJECT PLANTS WITH MORE THAN 3".

REMOVE TOP 1/3 BURLAP AND ANY NAILS/PINS, ETC.

REMOVE TOP 2/3 OF WIRE BASKET WHERE PRESENT

RAISE PIT BOTTOM TO SET BUTTRESS ROOTS AT THE CORRECT HEIGHT. FIRM SOIL UNDER ROOT BALL

6" SLIP KNOT WITH STOP KNOT. 6" LARGER THAN TREE DIAMETER

BUTTRESS ROOTS

KEEP MULCH 1" TO 2" AWAY FROM TRUNK

4" MAX. LAYER OF MULCH

4" MAX. HIGH WATER BERM OUTSIDE OF BACKFILL

PLANTING MIX (AS SPECIFIED)

ROOT BALL DIA. VARIES

ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (AMSI, 1990, PART 1, "SHADE AND FLOWERING TREES")

FOR EXAMPLE:

CALIPER	HEIGHT (RANGE)	MAX. HEIGHT	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
2"	12-14'	16'	24"	16"
3"	14-16'	18'	32"	21"

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE
STANDARD DETAILS

TREE PLANTING
(FOR SINGLE AND MULTI-STEM TREES)

STD. NO.
3.25

L1 TREE PLANTING DETAIL

SHRUB PLANTING DETAIL

3" MULCH LAYER

BACKFILL WITH SOIL AS PER SPECIFICATIONS

3" HIGH EARTH SAUCER

ROOT BALL

FINISH GRADE

UNDISTURBED EARTH

NOTES

1. REMOVE THE BURLAP, BURLAP TIES AND WIRE BASKET FROM TOP 1/3 OF ROOTBALL. REMOVE ALL NYLON STRINGS, PLASTIC LINERS AND SYNTHETIC BURLAP - TYPE OF MATERIALS FROM THE ENTIRE ROOTBALL.

2. SCARIFY ROOTBALL AND BOTTOM/SIDES OF PLANT PIT.

3. EXCAVATE PLANTING PIT TWO TO THREE TIMES AS WIDE AS THE ROOTBALL. INSTALL ROOTBALL 1/4 TO 1/3 ABOVE EXISTING/PROPOSED GRADE. LOCATE ROOTBALL ON SOLID SOIL AND NOT LOOSE BACKFILL.

4. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.

5. THE SIZE OF THE ROOTBALL SHALL CONFORM TO THE AAN STANDARDS.

6. FERTILIZED ALL PLANTS WITH AGRIFORM FERTILIZER TABLETS OR EQUAL, TO BE APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATION.

7. ALL ROOTBALLS AFTER REMOVING FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING THE PLANTING HOLE.

8. THOROUGHLY SOAK THE SHRUB ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND AT LEAST ONCE A WEEK FOR THE FIRST TWO GROWING SEASONS.

L2 SHRUB PLANTING DETAIL

APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

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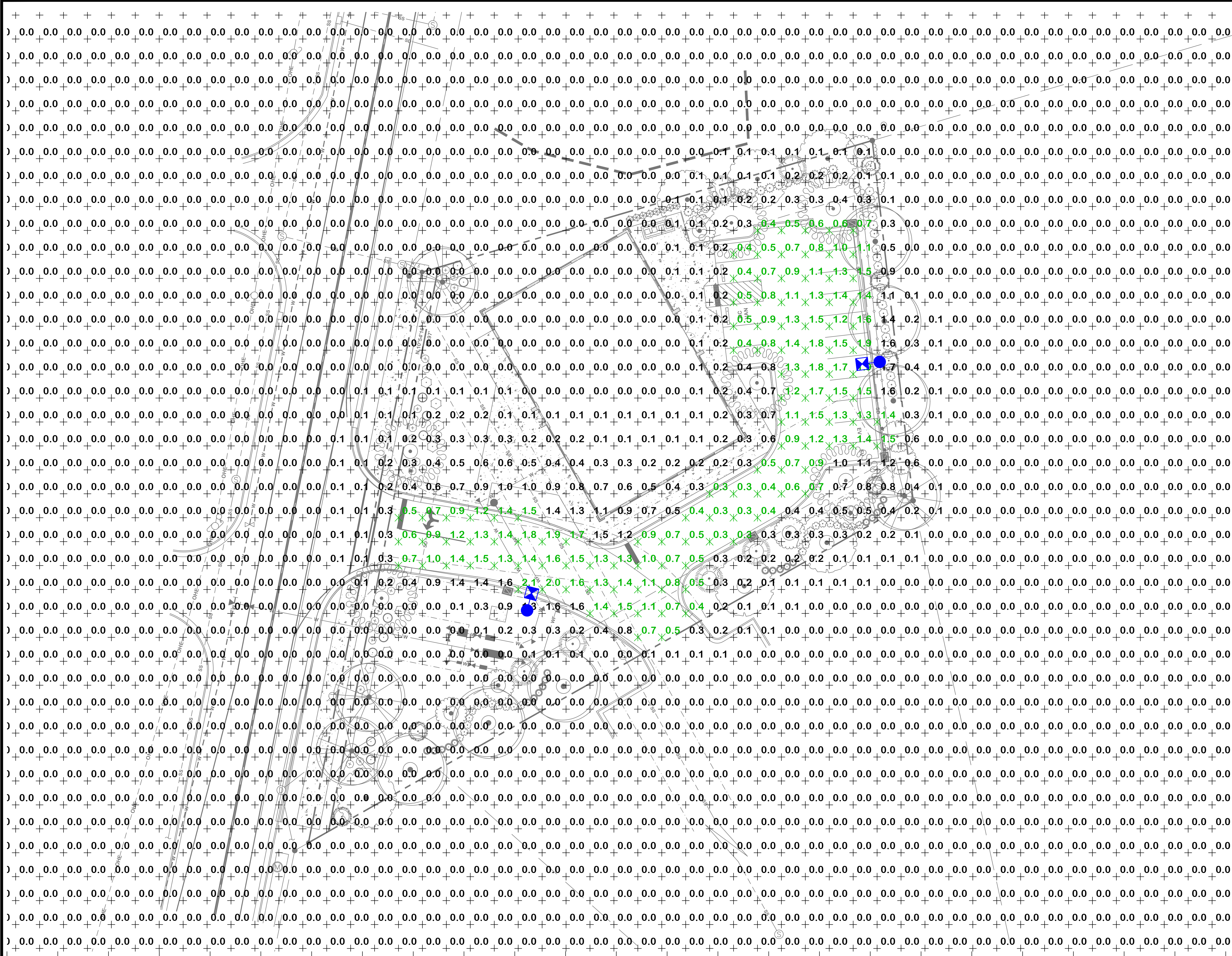
PAST DESIGN GROUP, PA
Engineering | Consulting
107 Fayetteville Street, Suite 200, Raleigh, North Carolina 27601
Phone: 919 944 4399 | Fax: 919 948 4395 | NC LICENSE NUMBER: C-3311

PREPARED FOR:
MOORE'S REALTY, INC.
101 FOREST DRIVE, STE. B-205
KNIGHTDALE, NORTH CAROLINA 27545
DATE : 06/24/2022
PROJECT ENGINEER:
PJP
PROJECT CAD DESIGNER:
PJP
PROJECT SURVEYOR:
WAKE COUNTY, GS


700 OLD KNIGHT ROAD OFFICE BUILDING
KNIGHTDALE, ST. MATHEW'S TOWNSHIP, WAKE COUNTY, NORTH CAROLINA
MASTER PLAN
LANDSCAPE DETAIL SHEET

NO.	REVISION	DATE
1	REVISED PER TOWN COMMENTS	8/14/2025

DRAWING
SHEET
L-1.1
PROJECT NUMBER
627-22



Outdoor Lighting



SHOEBOX LED
(Meets Dark Sky Criteria)

LED
(Light-emitting diode)

Mounting height
220, 307, 357

Color
Black | Bronze | Gray | White

Pole
Fiberglass (1 or 2 fixtures per pole)
Decorative tapered metal
Decorative square metal

Applications
Neighborhoods
Roadways
Shopping centers

Light source: LED (white)
Wattage 120 | 220 | 420 | 530 watts

Light pattern: E3 Type V | **Type IV (Screened glass)** | Type III

IEEEA cutoff classification: Full Cutoff

BUG rating: 150W Type III = E30003 / **Type IV = E30004** / Type V = E30003
220W Type III = E30004 / Type IV = E30004 / Type V = E30003
420W Type IV = E30005 / Type V = E30005
530W Type IV = E30005 / Type V = E30005

Color temperature: 4000K

POLE AVAILABLE	MOUNTING HEIGHT	COLOR
Round tapered decorative metal* 3"	35'	Black, Bronze
Decorative square metal*	25' and 30'	Black Bronze, Gray, White
Fiberglass	25' and 30'	Black (1 or 2 fixtures per pole) Gray (1 or 2 fixtures per pole)

FEATURES	BENEFITS
Turnkey operation	Provides hassle-free installation and service
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance, electricity & warranty included	Eliminates high and unexpected repair bills
One low monthly cost on your electric bill	Convenience and savings for you

For additional information, email us at DUKELighting@duke-energy.com.

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DUKE ENERGY
PROGRESS

BELOW AVERAGE ENERGY COST**

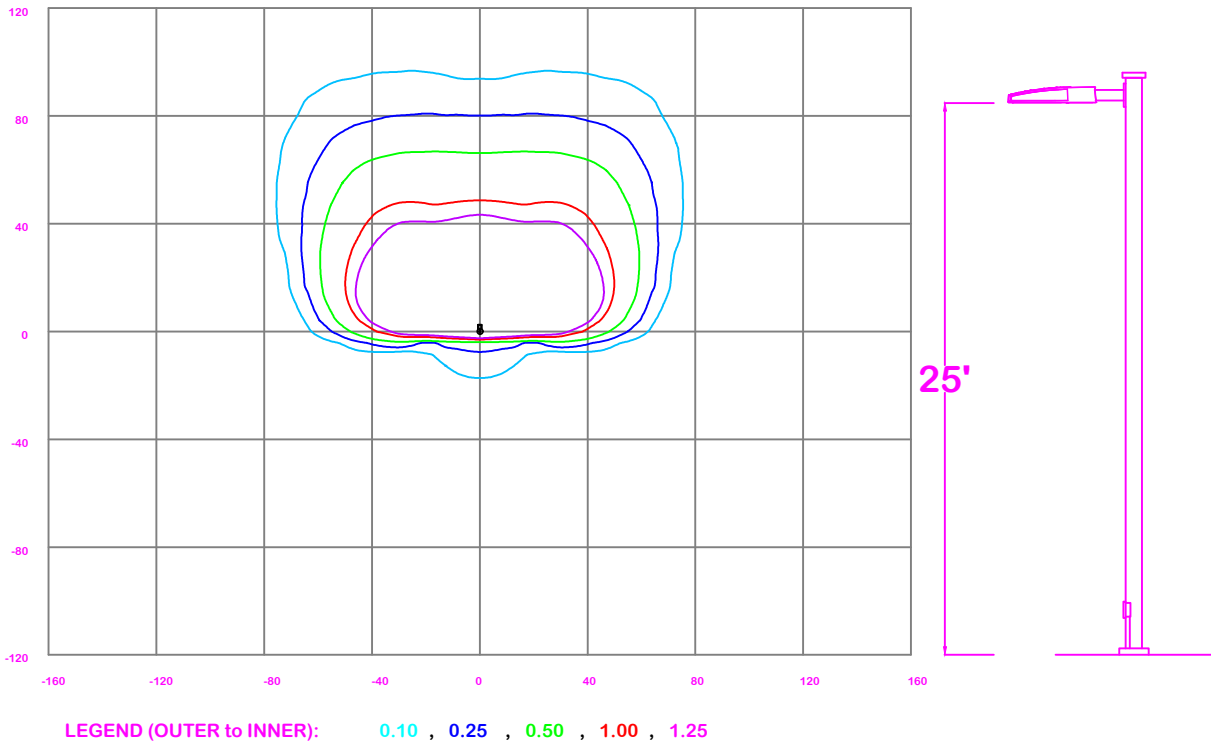
NOTE: ALL ACCENT LIGHTING, EXCEPT FOR LOW-VOLTAGE LIGHTING SYSTEMS (SECTION 7.7.B.7) SHALL MEET THE ADDITIONAL STANDARDS OUTLINED IN SECTION 7.7.E.3 OF THE UDO. ALL SECURITY LIGHTING SHALL MEET THE STANDARDS OUTLINED IN SECTION 7.7.E.5 OF THE UDO.

ISOFOOTCANDLE CURVES

FIGURE: LED 150w Shoebox W/ Shield
MOUNTING HEIGHT: 25 FT
LIGHT SOURCE: LED'S, 4000K, 70 CRI
LUMENS: 19007
PATTERN: TYPE IV B1-UL-03 (zero light at or above 90 degrees)

ASSY LFH-SBX-LED-150-BLK-IV-MULTV...-P (BLACK)
POLE ASSY W/ SHIELD-AP-STL-20FT-BLK-S&S...-P (BLACK)
BRACKET ASSY LFH-SBX-LED-120-BLK-UNV-STL...-P (BLACK)
SHIELD LFH-GLARE-SBX-LED-205...-P

NOTE: THE FOOTCANDLE READINGS BELOW ARE MAINTAINED AND HAVE BEEN DEPRECIATED FOR LED LUMEN DEPRECIATION AND LUMINAIRE DIRT DEPRECIATION. FOR INITIAL FOOTCANDLES, DIVIDE THE READINGS BELOW BY .85.



APPROVED MASTER PLAN
Town of Knightdale
Development Services
Gideon Smith 03/26/2025

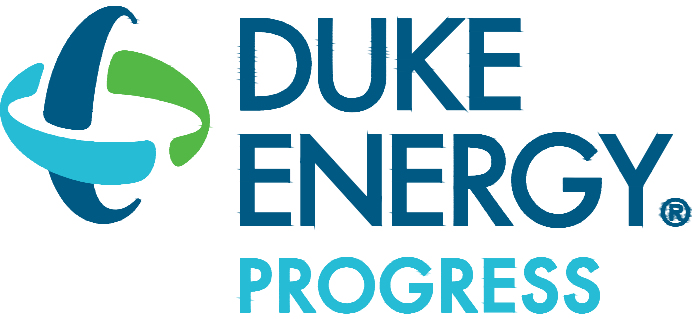
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking	✕	1.1 fc	2.1 fc	0.3 fc	7.0:1	3.7:1

Schedule						
Symbol	Label	QTY	Description	Number Lamps	Lamp Output	LLF
✕	A	2	LED 150w Shoebox - Type IV - 4000K - House Side Shield	48	253	0.85

NO.	DATE	DESCRIPTION	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.

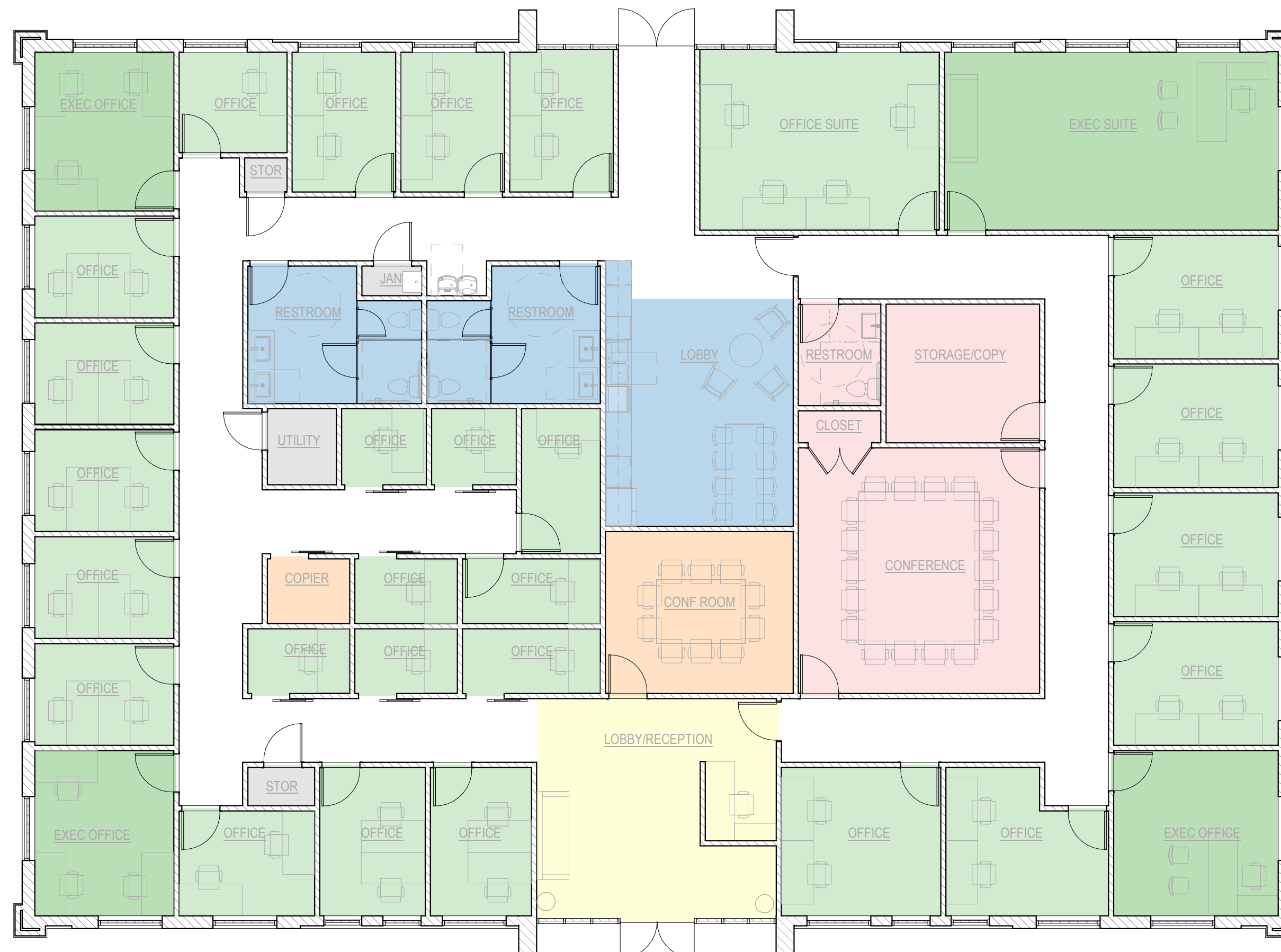


PROPRIETARY & CONFIDENTIAL

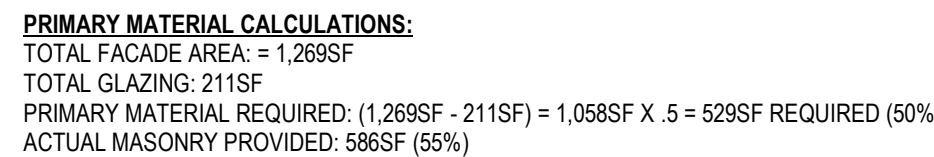
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OLD KNIGHT ROAD OFFICE BUILDING		
Knightdale, NC		
SITE LIGHTING ARRANGEMENT		
Designed by	DUKE ENERGY PROGRESS LIGHTING SOLUTIONS	
Reviewed by	N. Johnson	Scale 1" = 20'
Date	09/26/2024	Size Drawing size "D"
Description	LED Shoebox	
Drawing No.	24-0393A	Sht. 1 OF 1

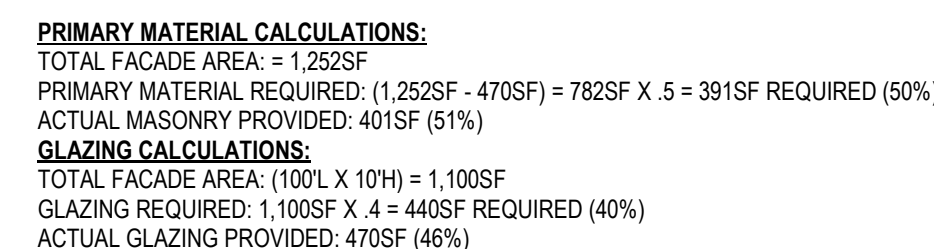
EXTERIOR MATERIAL LEGEND



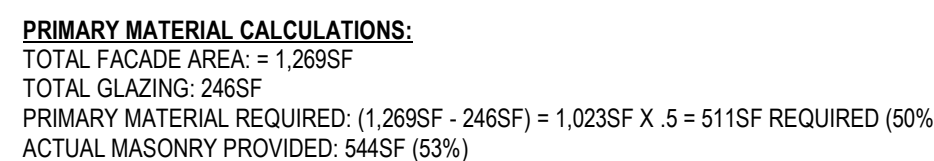
⑤ PLAN
1/8" = 1'-0"



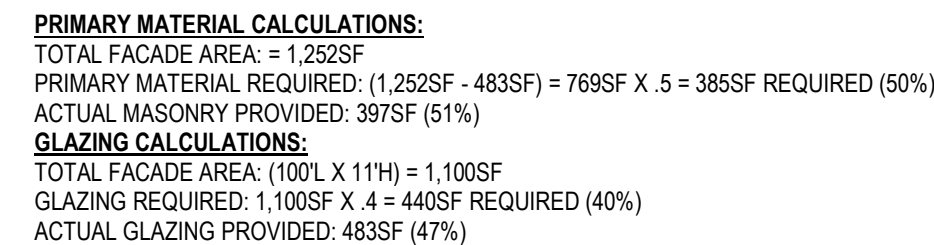
④ NORTH ELEVATION
1/8" = 1'-0"



③ WEST ELEVATION - OLD KNIGHT ROAD
1/8" = 1'-0"

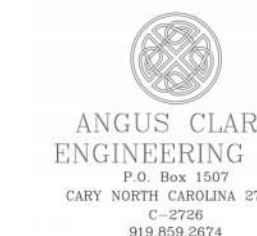


② SOUTH ELEVATION
1/8" = 1'-0"



① EAST ELEVATION
1/8" = 1'-0"

101 FOREST DRIVE
SUITE B - 205
KNIGHTDALE, NC 27545



THESE DRAWINGS ARE INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF THE ARCHITECT. INFRINGEMENT WILL BE PROSECUTED. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND BE RESPONSIBLE FOR FIELD FIT AND QUANTITY OF WORK. NO ALLOWANCES SHALL BE MADE IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART. DRAWING IS NOT TO BE SCALED. ANY SCALE IF INDICATED IS FOR GENERAL REFERENCE ONLY.

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[illegible]

PROJECT #
2083

DATE
12/13/2024

700 OLD KNIGHT RD
KNIGHTDALE, NC 27545



SCALE
As indicated

SHEET NAME

ELEVATIONS, PLAN, & DETAILS

SHEET NUMBER





MOORE'S REALTY & COWORKING
 700 OLD KNIGHT RD
 KNIGHTDALE, NC 27545
 DATE: 09/30/2024



APPROVED MASTER PLAN

Town of Knightdale
 Development Services
 Gideon Smith 03/26/2025



Furini Architects, PLLC

N.C. Office: 919.646.5811
 N.Y.C. Office: 646.685.8866
www.FuriniArchitects.com



MOORE'S REALTY & COWORKING
700 OLD KNIGHT RD
KNIGHTDALE, NC 27545
DATE: 09/30/2024



APPROVED MASTER PLAN
Town of Knightdale
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