NOT TO SCALE

N.C. ONE-CALL CENTER

IT'S THE LAW

liability to Kimley-Horn and Associates, Inc.

# **DEVELOPER**:

MERRITT PROPERTIES, LLC 2066 LORD BALTIMORE DRIVE BALTIMORE, MD, 21244 nrobb@merrittproperties.com

#### **ENGINEER**:

KIMLEY-HORN AND ASSOCIATES, INC 300 MORRIS ST. SUITE 200 TYLER WHITE, P.E. tylerwhite@kimley-horn.com

# SURVEYOR:

MCKIM & CREED 1730 VARSITY DRIVE, VENTURE IV BUILDING SUITE 500 RALEIGH, NC 27606 JEFFREY D. AKER, PLS 919.233.8091 jaker@mckimcreed.com

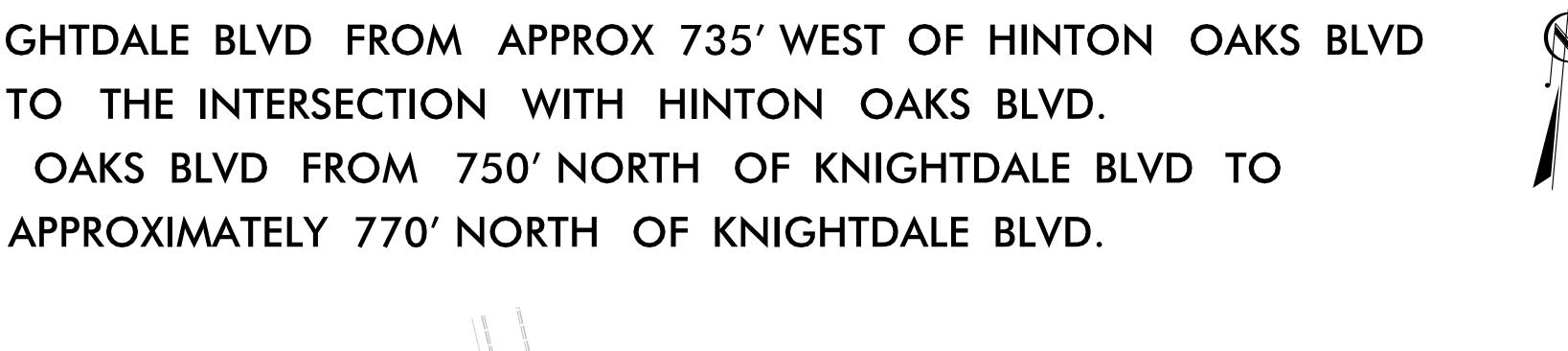
# INDEX OF SHEETS

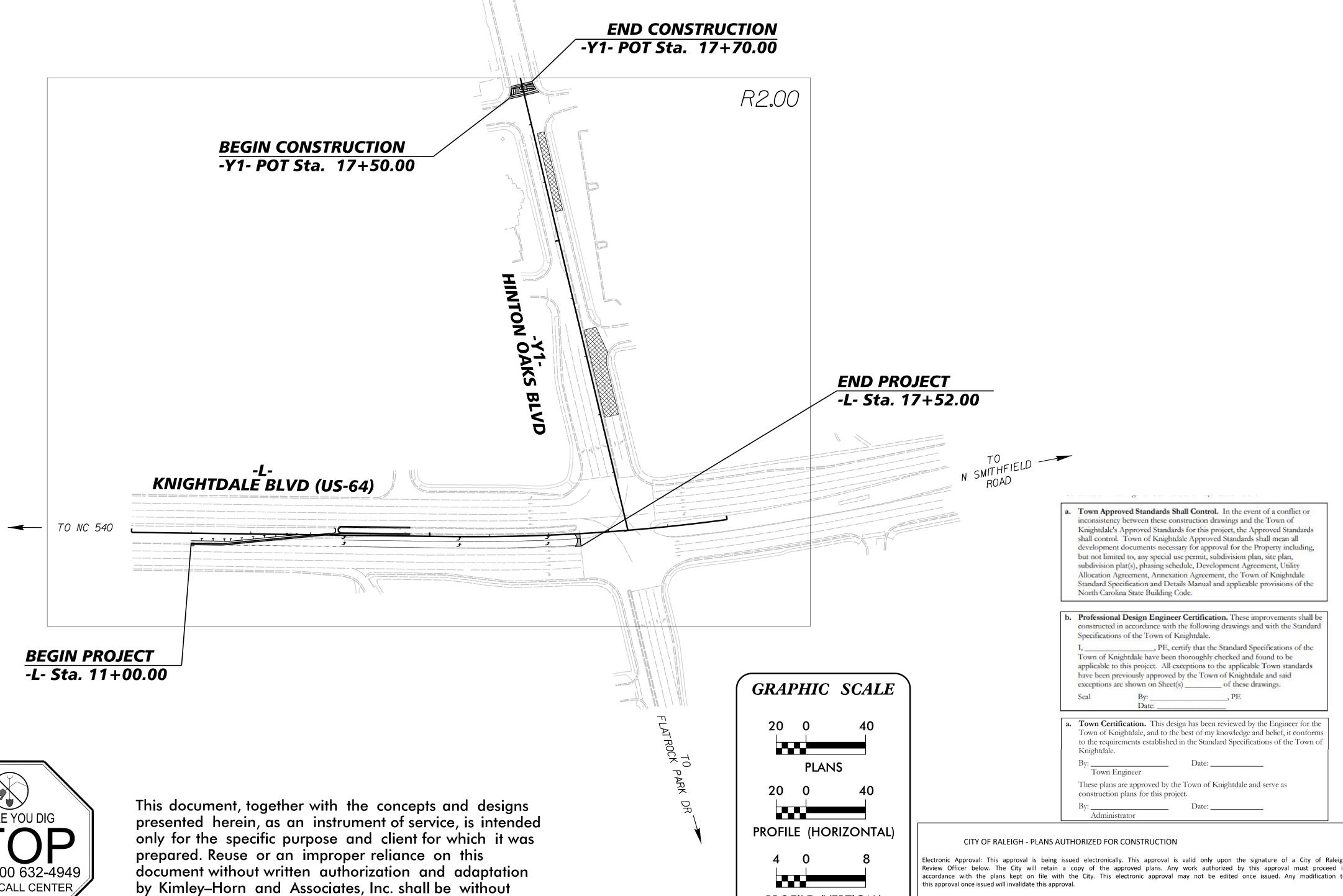
SHEET NO.	DESCRIPTION	
R0.00	TITLE SHEET	
R0.01	PROJECT NOTES	
R0.02	CONVENTIONAL SYMBOLS	
R1.00	TYPICAL SECTIONS	
R1.01	STAMPED ASPHALT CROSSWALK DETAIL	
R1.02	DRAINAGE SUMMARY SHEET	
R1.03	TOWN DETAILS	
R1.04	EXISTING CONDITIONS	
R2.00	PLAN VIEW	
R2.01	PROFILE	
R3.00	TRAFFIC MANAGEMENT PLAN	
R4.00	SIGNING AND MARKING PLAN	
R5.00 THRU R5.04	EROSION CONTROL PLANS	
R6.00 THRU R6.02	ROADWAY CROSS SECTIONS	

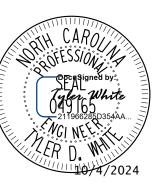
# MERRITT HINTON OAKS BLVD

# OFFSITE IMPROVEMENTS ZMA-3-20

LOCATION: KNIGHTDALE BLVD FROM APPROX 735' WEST OF HINTON OAKS BLVD TO THE INTERSECTION WITH HINTON OAKS BLVD. HINTON OAKS BLVD FROM 750' NORTH OF KNIGHTDALE BLVD TO







SHEE

THINTON OAD OFFICE OVEMENTS ERRITT

> SHEET NUMBER R0.00

this approval once issued will invalidate this approval.

Raleigh Water Review Officer

City of Raleigh Development Approval

PROFILE (VERTICAL)

# GENERAL NOTES

- WORK IN THIS PROJECT SHALL CONFORM TO THESE PLANS, THE LATEST EDITIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) ROAD AND BRIDGE SPECIFICATIONS, THE NCDOT ROAD AND BRIDGE STANDARDS, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS, TOWN OF KNIGHTDALE SPECIFICATIONS, AND GENERAL DESIGN STANDARDS. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN UNLESS OTHERWISE NOTED IN THESE PLANS.
- 2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL JOBSITE SAFETY, INCLUDING BUT NOT LIMITED TO TRENCH SAFETY, DURING ALL PHASES OF CONSTRUCTION.
- 3. THE LOCATION AND SIZE OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTALLY AND VERTICALLY LOCATING AND PROTECTING ALL PUBLIC OR PRIVATE UTILITIES (SHOWN OR NOT SHOWN) WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE NORTH CAROLINA ONE-CALL UTILITIES LOCATION SERVICE (ULOCO) AT 1-800-632-4949 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE SITE.
- 4. THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL CONSTRUCTION PHASES. THE CONTRACTOR SHALL REPAIR. AT HIS OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- 5. TRAFFIC MANAGEMENT ON PUBLIC STREETS IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN CONFORMANCE WITH THE TRAFFIC CONTROL PLAN, THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," AND AS FURTHER DIRECTED BY THE TOWN AND STATE INSPECTORS.
- 6. ALL MANUFACTURERS' PRODUCTS SPECIFIED IN THESE PLANS OR USED AS APPROVED ALTERNATES SHALL BE INSTALLED PER THE MANUFACTURERS' SPECIFICATIONS.
- 7. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES. OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- 8. CONSTRUCTION STAKEOUT FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ARRANGE THE MEETING WITH NCDOT AND THE TOWN OF KNIGHTDALE.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING OR OBTAINING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION. NCDOT ENCROACHMENTS SHALL BE OBTAINED BY THE ENGINEER.
- II. THE FRAMES AND COVERS OF ALL EXISTING AND PROPOSED DRAINAGE, SANITARY SEWER, WATER MAIN, GAS, AND WIRE UTILITY STRUCTURES SHALL BE ADJUSTED TO MATCH PROPOSED FINISHED ELEVATIONS AND SLOPES.
- 12. ROADWAYS MUST BE CAPABLE OF SUPPORTING FIRE APPARATUS DURING CONSTRUCTION.
- 13. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT NCDOT STANDARDS, SPECIFICATIONS, DETAILS AND ENCROACHMENT AGREEMENTS.
- 14. NO CHANGES TO ANY ASPECT OF THIS ROADWAY PLAN, INCLUDING BUT NOT LIMITED TO, LANDSCAPING, GRADING, BUILDING ELEVATIONS, LIGHTING, OR UTILITIES WILL BE MADE WITHOUT THE APPROVAL OF NCDOT.
- 15. CONTRACTOR TO ENSURE THAT ALL STREETS WITHIN THE LIMITS OF THE PROJECT AND IN FRONT OF THE PROJECT ARE KEPT CLEAN AT ALL TIMES OR A WASH STATION WILL BE REQUIRED.
- 16. ALL STORM DRAIN FRAMES & GRATES SHALL BE STAMPED WITH "DRAINS TO RIVER" PER CITY OF RALEIGH STANDARDS.
- 17. LIMITS OF OFFSITE IMPROVEMENTS NOT WITHIN FLOODPLAIN.

# UTILITY NOTES

- I. WATER VALVE BOXES THAT ARE ENCOUNTERED WITHIN THE PROJECT LIMITS ARE TO BE RAISED OR LOWERED TO MATCH THE ADJACENT FINISHED WORK.
- 2. WATER METER BOXES THAT ARE ENCOUNTERED WITHIN THE PROJECT LIMITS OUTSIDE THE PROPOSED PAVEMENT SECTION ARE TO BE RAISED OR LOWERED TO MATCH THE ADJACENT FINISHED WORK.
- 3. WATER METER BOXES THAT ARE ENCOUNTERED WITHIN THE PROPOSED PAVEMENT SECTION ARE TO BE RELOCATED OUT OF THE PROPOSED PAVEMENT.

# GRADING

- I. THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AND EXISTING PAVEMENT AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
- 2. REFER TO EROSION CONTROL SHEETS FOR CLEARING LIMITS AND TEMPORARY EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
- 3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RESEEDED, AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- 4. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, AND AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. IN ADDITION TO THE MEASURES SHOWN IN THESE PLANS, THE CONTRACTOR SHALL USE INTERIM SILT FENCES, DIVERSION DITCHES, BERMS, OR OTHER METHODS AS REQUIRED TO DIRECT DRAINAGE AS SHOWN ON THESE PLANS, TO BEST UTILIZE THE EROSION CONTROL DEVICES IN PLACE, AND TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
- 5. GRADING CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS.
- 6. ALL MATERIALS USED FOR BACKFILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, BOULDERS, OR ANY OTHER NON-COMPATIBLE SOIL TYPE MATERIAL. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN-MADE FILLS AND REFUSE DEBRIS DERIVED FROM ANY SOURCE.
- 7. ALL GRADING / SOIL COMPACTION OPERATIONS WITHIN THE LIMITS OF STATE RIGHT OF WAYS SHALL ADHERE TO NCDOT REQUIREMENTS, IN ACCORDANCE WITH AASHTO T99 AS MODIFIED BY THE DEPARTMENT. COPIES OF THESE MODIFIED TESTING PROCEDURES ARE AVAILABLE UPON REQUEST FROM THE DEPARTMENT'S MATERIALS AND TESTS UNIT.
- 8. ALL DEMOLITION DEBRIS AND OTHER EXCESS MATERIAL SHALL BE HAULED OFF-SITE AS DIRECTED BY THE OWNER AND PROPERLY DISPOSED OF.
- 9. PROPOSED CONTOURS AND GUTTER GRADIENTS ARE APPROXIMATE. PROPOSED ROADWAY PROFILES/SUPERELEVATIONS ARE TO BE USED IN CASE OF DISCREPANCY.
- IO. REFER TO ROADWAY PLAN FOR HORIZONTAL DIMENSIONS.
- II. WHERE FILL IS TO BE PLACED ON EXISTING SLOPES STEEPER THAN 4:1, CONTRACTOR SHALL EXCAVATE BENCHES WITH A MAXIMUM DEPTH OF 3'.
- 12. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR BLASTING ROCK IF BLAST ROCK IS ENCOUNTERED. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL BLASTING AND SAFETY REQUIREMENTS.
- 13. TREE PROTECTION FENCING SHALL BE INSTALLED AND INSPECTED BEFORE THE GRADING PERMIT IS
- CROSS SLOPES AND ELEVATIONS SHOWN ON CROSS SECTIONS ARE APPROXIMATE. PROPOSED PAVEMENT CROSS SLOPES ARE TO BE BASED ON EXISTING CROSS SLOPE DETERMINED IN FIELD. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLANS, NOTIFY ENGINEER IMMEDIATELY.

### PAVING/CURBING

- WHERE PROPOSED CURB AND GUTTER TIES TO EXISTING CURB OR CURB AND GUTTER, A TRANSITION OF 10' SHALL BE MADE TO CONFORM TO THE EXISTING HEIGHTS AND SHAPES.
- 2. BEFORE ANY EARTHWORK IS DONE, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED IN THE PLANS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
- ALL PAVEMENT SUB GRADES SHALL BE SCARIFIED TO A DEPTH OF 8 INCHES AND COMPACTED TO A MINIMUM DENSITY OF 100 PERCENT OF ASTM D-1557 DENSITY AT OPTIMUM MOISTURE CONTENT UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS OR AS DIRECTED BY THE GEOTECHICAL ENGINEER. FILL SHALL BE PLACED AND COMPACTED IN MAXIMUM 8" LIFTS. IN AREAS WHERE ROCK IS ENCOUNTERED AT FINAL SUB GRADE ELEVATION, THE EXPOSED ROCK SHALL BE TOPPED WITH A LEVELING COURSE OF SANDY CLAY OR CLAYEY SAND (P.I. BETWEEN 4 AND 15) AS NEEDED TO PROVIDE A SMOOTH SURFACE FOR PAVING.
- 4. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
- 5. ALL CURB JOINTS SHALL EXTEND THROUGH THE CURB. MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS IS 1.5 FEET. ALL JOINTS SHALL BE SEALED WITH JOINT SEALANT.
- 6. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE NOMINATION OF THE TESTING LABORATORY AND THE PAYMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE NCDOT SPECIFICATIONS.
- 7. ALL REINFORCING STEEL SHALL BE NEW DOMESTIC BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS.
- 8. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES ON PUBLIC STREETS SHALL CONFORM TO MUTCD, AND NCDOT STANDARDS.
- 9. ALL HANDICAP RAMPING, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA REQUIREMENTS AND THE "NORTH CAROLINA STATE BUILDING CODE, VOL I-C ACCESSIBILITY CODE." ALL RAMPS SHALL COMPLY WITH THE LATEST NCDOT STANDARDS. WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
- IO. CONTRACTOR SHALL SAWCUT & REMOVE ANY THE EXISTING PAVEMENT WHEN THE EXISTING PAVEMENT IS BEING WIDENED OR WHERE NEW CURB AND GUTTER IS PROPOSED.
- II. ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. 225.04 & 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

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HINT(

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

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

SHEET NUMBER R0.01

 $\Box$ 

Vineyard -

# CONVENITIONIAL PLAN SHEET SYMBOLS

State Line ————————————————————————————————————	
County Line —	
Township Line ————————————————————————————————————	
City Line	
Reservation Line ————————————————————————————————————	
Property Line ————————————————————————————————————	
Existing Iron Pin (EIP)	<u>O</u>
Computed Property Corner	×
Existing Concrete Monument (ECM)	 ECM
Parcel/Sequence Number ————————————————————————————————————	
Existing Fence Line ————————————————————————————————————	×××
Proposed Woven Wire Fence	— <del></del>
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary —————	
Existing Endangered Animal Boundary ——	
existing Endangered Plant Boundary ————————————————————————————————————	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water ——	- % - w - % - w -
Contaminated Site: Known or Potential —	
BUILDINGS AND OTHER CUL	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap	<i>TURE:</i> — 0
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Gign	<i>TURE:</i> — ○ — ♀ §
BUILDINGS AND OTHER CUL  Bas Pump Vent or U/G Tank Cap  ign  Vell	<i>TURE:</i> — ○  — ○
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Gign Well Gmall Mine	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Vell  Small Mine  Soundation	TURE:  —
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Well  Small Mine  Foundation  Area Outline	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Well  Small Mine  Foundation  Area Outline  Cemetery	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Well  Small Mine  Foundation  Area Outline  Cemetery  Building	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Well  Small Mine  Foundation  Area Outline  Cemetery  Building  School	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap  Sign Well Small Mine Foundation Area Outline Cemetery Suilding School Church	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap  Sign Well Small Mine Foundation Area Outline Cemetery Suilding School Church Dam	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY:	TURE:
Contaminated Site: Known or Potential  BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Well  Small Mine  Foundation  Area Outline  Cemetery  Building  School  Church  Dam  HYDROLOGY:  Stream or Body of Water	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY: Stream or Body of Water Hydro, Pool or Reservoir	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Well  Small Mine  Foundation  Area Outline  Cemetery  Building  School  Church  Dam  HYDROLOGY:  Stream or Body of Water  Hydro, Pool or Reservoir  Jurisdictional Stream	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY: Stream or Body of Water Hydro, Pool or Reservoir Jurisdictional Stream Buffer Zone 1	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY: Stream or Body of Water Hydro, Pool or Reservoir Jurisdictional Stream Buffer Zone 1 Buffer Zone 2	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY: Stream or Body of Water Hydro, Pool or Reservoir Jurisdictional Stream Buffer Zone 1 Buffer Zone 2 Flow Arrow	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY: Stream or Body of Water Hydro, Pool or Reservoir Jurisdictional Stream Buffer Zone 1 Buffer Zone 2 Flow Arrow	TURE:
BUILDINGS AND OTHER CUL Gas Pump Vent or U/G Tank Cap Sign Well Small Mine Foundation Area Outline Cemetery Building School Church Dam HYDROLOGY: Stream or Body of Water Hydro, Pool or Reservoir Jurisdictional Stream Buffer Zone 1 Buffer Zone 2	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign Well  Small Mine  Foundation  Area Outline  Cemetery  Building  School  Church  Dam  HYDROLOGY:  Stream or Body of Water  Hydro, Pool or Reservoir  Jurisdictional Stream  Buffer Zone 1  Buffer Zone 2  Flow Arrow  Disappearing Stream	TURE:
BUILDINGS AND OTHER CUL  Gas Pump Vent or U/G Tank Cap  Sign  Well  Small Mine  Foundation  Area Outline  Cemetery  Building  School  Church  Dam  HYDROLOGY:  Stream or Body of Water  Hydro, Pool or Reservoir  Jurisdictional Stream  Buffer Zone 1  Buffer Zone 2  Flow Arrow  Disappearing Stream  Spring	TURE:

CONVENT	TONAL
RAILROADS:	- 0 - 12
Standard Gauge —	CSX TRANSPORTATION
RR Signal Milepost —	⊙ MILEPOST 35
Switch —	SWITCH
RR Abandoned	
RR Dismantled	
RIGHT OF WAY & PROJECT CO	NTROL:
Primary Horiz Control Point ————	
Primary Horiz and Vert Control Point ——	
Secondary Horiz and Vert Control Point —	
Vertical Benchmark ————	
Existing Right of Way Monument———	
Proposed Right of Way Monument ————————————————————————————————————	
Proposed Right of Way Monument ————————————————————————————————————	
Existing Permanent Easement Monument ——	$\langle \cdot \rangle$
Proposed Permanent Easement Monument — (Rebar and Cap)	<b>♦</b>
Existing C/A Monument —	$\Diamond$
Proposed C/A Monument (Rebar and Cap) —	<b>A</b>
Proposed C/A Monument (Concrete) —	
Existing Right of Way Line	
Proposed Right of Way Line ———	_
Existing Control of Access Line —	
Proposed Control of Access Line ————	
Proposed ROW and CA Line ————	
Existing Easement Line —————	
Proposed Temporary Construction Easement—	——Е——
Proposed Temporary Drainage Easement ——	—— TDE ——
Proposed Permanent Drainage Easement ——	PDE
Proposed Permanent Drainage/Utility Easement	DUE
Proposed Permanent Utility Easement ———	
Proposed Pedestrian Access Easement ———	
Proposed Temporary Utility Easement ———	
Proposed Aerial Utility Easement ————	
ROADS AND RELATED FEATURE	
Existing Edge of Pavement	
Existing Curb ——————	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill ————	
Proposed Curb Ramp —————	
Existing Metal Guardrail —————	
Proposed Guardrail ————————————————————————————————————	
Existing Cable Guiderail	
_	
Proposed Cable Guiderail	
	<b>\</b>
Pavement Removal ————————————————————————————————————	
VEGETATION:	
Single Tree —————————————————————————————————	슌
Single Shrub ————————————————————————————————————	¢
Hedge ————	······································
Woods Line ——————	-ىزنىدىنىدىنىدىنىد
Orchard ————	윤 윤 윤 윤

# **EXISTING STRUCTURES:** MAJOR: Bridge, Tunnel or Box Culvert ——— [ Bridge Wing Wall, Head Wall and End Wall – ) CONC WW ( MINOR: Head and End Wall Pipe Culvert ———— Footbridge —— Drainage Box: Catch Basin, DI or JB ——— Storm Sewer Manhole Storm Sewer **UTILITIES:** \* SUE - Subsurface Utility Engineering LOS – Level of Service – A,B,C or D (Accuracy) POWER: Existing Power Pole ———— Proposed Power Pole ———— Existing Joint Use Pole ———— Proposed Joint Use Pole Power Line Tower —— Power Transformer ————— U/G Power Cable Hand Hole ———— H-Frame Pole ----U/G Power Line Test Hole (SUE – LOS A)\* — U/G Power Line (SUE - LOS B)\* ------U/G Power Line (SUE – LOS D)\* ———— TELEPHONE: Existing Telephone Pole ———— Proposed Telephone Pole ———— Telephone Manhole Telephone Pedestal ———— Telephone Cell Tower ———— U/G Telephone Cable Hand Hole ——— U/G Telephone Test Hole (SUE – LOS A)\* — U/G Telephone Cable (SUE – LOS B)\* — -----U/G Telephone Cable (SUE – LOS C)\* — — — — — — — U/G Telephone Cable (SUE – LOS D)\* —— —— -U/G Telephone Conduit (SUE – LOS B)\* — -----U/G Telephone Conduit (SUE – LOS C)\* — — — — — — — — U/G Telephone Conduit (SUE – LOS D)\* — TC— U/G Fiber Optics Cable (SUE – LOS B)\* — ----U/G Fiber Optics Cable (SUE – LOS C)\* — — — — TFO — — U/G Fiber Optics Cable (SUE – LOS D)\*—— TFO —— GAS: Gas Valve Gas Meter ————— U/G Gas Line Test Hole (SUE – LOS A)\* —

Water Manhole —————	W
Water Meter —	0
Water Valve	$\otimes$
Water Hydrant —	❖
U/G Water Line Test Hole (SUE – LOS A)* —	
U/G Water Line (SUE – LOS B)*	w
U/G Water Line (SUE – LOS C)*	
U/G Water Line (SUE – LOS D)*	—— w
Above Ground Water Line ————	A/G Water
TV:	
TV Pedestal ————————————————————————————————————	C
TV Tower —	$\otimes$
U/G TV Cable Hand Hole ————	H <sub>H</sub>
U/G TV Test Hole (SUE – LOS A)*	
U/G TV Cable (SUE – LOS B)*	Tv
U/G TV Cable (SUE – LOS C)*	
U/G TV Cable (SUE – LOS D)*	тv
U/G Fiber Optic Cable (SUE – LOS B)* ——	TV FO
U/G Fiber Optic Cable (SUE – LOS C)* ——	TV FO
U/G Fiber Optic Cable (SUE – LOS D)* ——	TV FO
SANITARY SEWER:	
Sanitary Sewer Manhole	•
Sanitary Sewer Cleanout —	$\oplus$
U/G Sanitary Sewer Line —————	ss
Above Ground Sanitary Sewer ————	A/G Sanitary Sewe
SS Force Main Line Test Hole (SUE – LOS A)	*
SS Force Main Line (SUE – LOS B)* ———	— — — FSS— —
SS Force Main Line (SUE – LOS C)* ———	——————————————————————————————————————
SS Force Main Line (SUE – LOS D)* ———	FSS
MISCELLANEOUS:	
Utility Pole ———————	•
Utility Pole with Base —————	
Utility Located Object —	$\odot$
Utility Traffic Signal Box —	S
Utility Unknown U/G Line (SUE - LOS B)*	
U/G Tank; Water, Gas, Oil ———————————————————————————————————	
Underground Storage Tank, Approx. Loc. ——	(UST)
A/G Tank; Water, Gas, Oil —————	
Geoenvironmental Boring —	
Abandoned According to Utility Records —	AATUR
End of Information	E.O.I.
•	

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

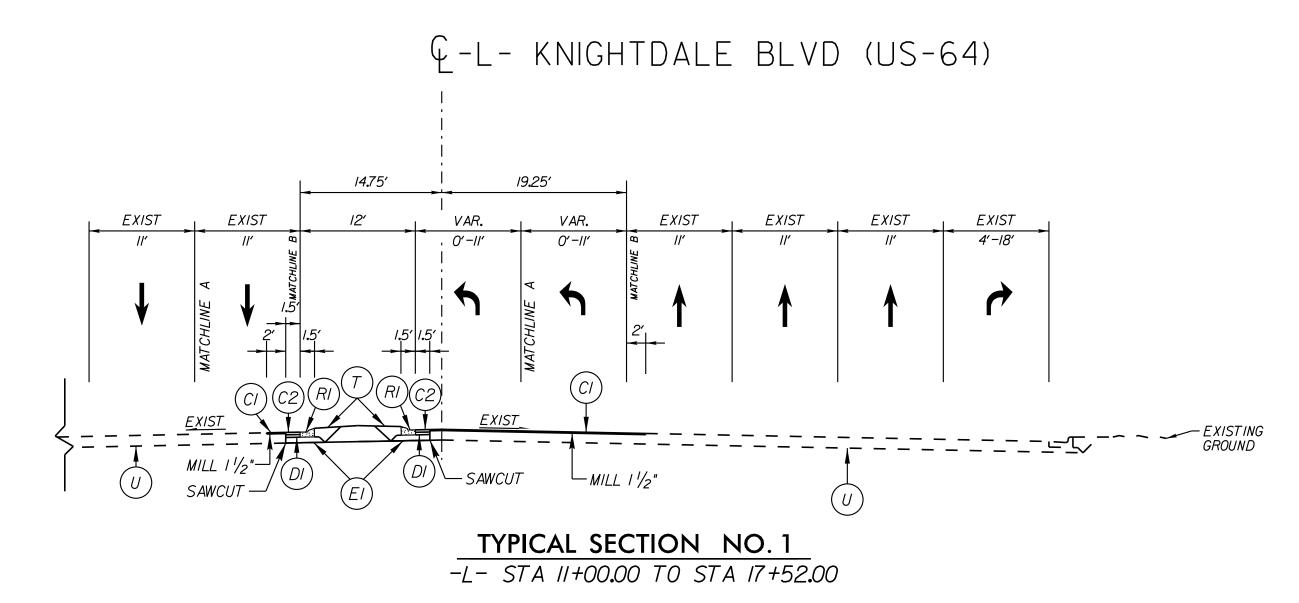


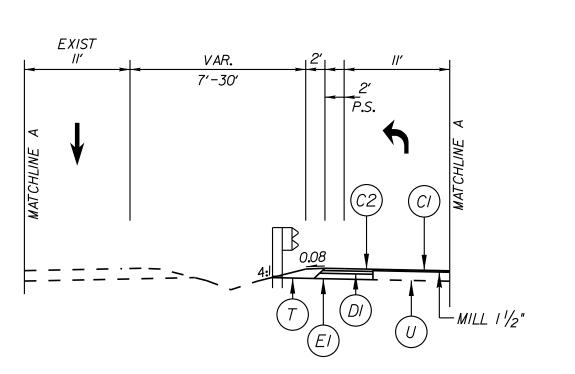
CONVENTIONA SYMBOLS

ERRITT HINTON OA BLVD OFFSITE IMPROVEMENTS

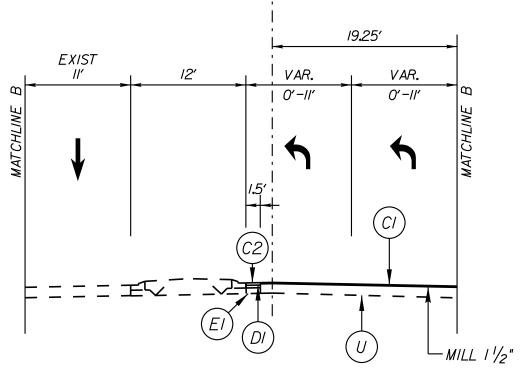
SHEET NUMBER R0.02

NOTES: I.REFER TO PLAN SHEETS FOR VARIABLE WIDTHS.

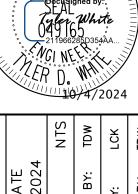




TYPICAL SECTION NO. 1A
-L- STA //+00.00 TO STA /3+52.00



TYPICAL SECTION NO. 1B -L- STA 14+67.00 TO STA 17+52.00



SECTIONS

MERRITT HINTON OAKS BLVD OFFSITE IMPROVEMENTS

SHEET NUMBER R1.00

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

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

DECORATIVE STREET PRINT TYPE 'A' PRODUCT: TRAFFICPATTERNSXD BY ENNIS-FLINT HERRINGBONE PATTERN: COLOR: **COLONIAL BRICK** 

DECORATIVE STREET PRINT TYPE 'B' PRODUCT: TRAFFICPATTERNSXD

BY ENNIS-FLINT SINGLE SOLDIER COURSE PATTERN:

COLOR: **COLONIAL BRICK**  NOTE: CONTRACTOR SHALL CONSTRUCT 6'X6' MOCK-UP WITH PATTERN AND COLOR REPRESENTING FINAL FINISH FOR REVIEW AND APPROVAL BY PROJECT LANDSCAPE ARCHITECT OF EACH TYPE OF DECORATIVE STREET PRINT.

NOTE: HERRINGBONE PATTERN SHALL BE LAID ON 45° BIAS.

FINISHED POST PRINT DEPTH 10 mm - PATTERN AS SPECIFIED -MILL & OVERLAY 1.5" ASPHALT CONCRETE SURFACE COURSE S9.5C -EXIST PAVEMENT

SECTION

NOT TO SCALE

≅ - 8" WHITE THERMOPLASTIC STREET PRINT DECORATIVE STREET PRINT TYPE 'B' DECORATIVE STREET PRINT TYPE 'A'

> PLAN VIEW NOT TO SCALE

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

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R1.01

O

STAMPED ASPHALT CROSSWALK DETAIL

MERRITT HINTON OAKS BLVD OFFSITE IMPROVEMENTS

SHEET NUMBER

**DATE:** 08/12/2024

DRAINAGE SUMMARY SHEET

0

MERRITT HINTON OAKS BLVD OFFSITE IMPROVEMENTS

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

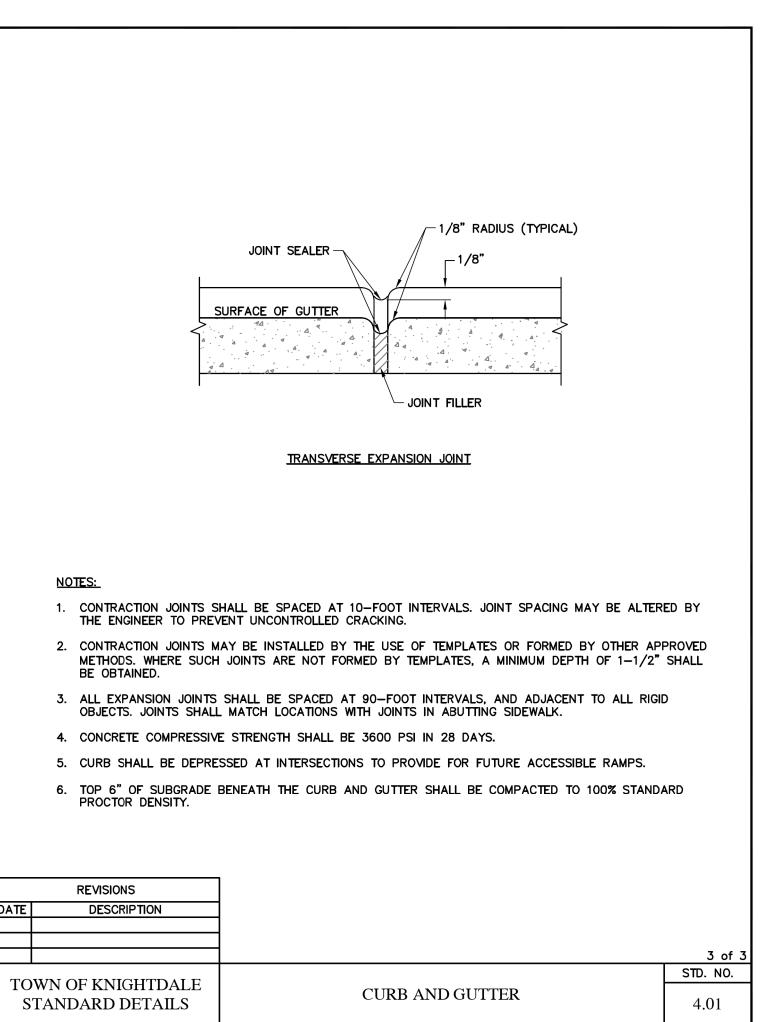
By: \_\_\_\_\_ Date: \_\_\_\_\_ Administrator

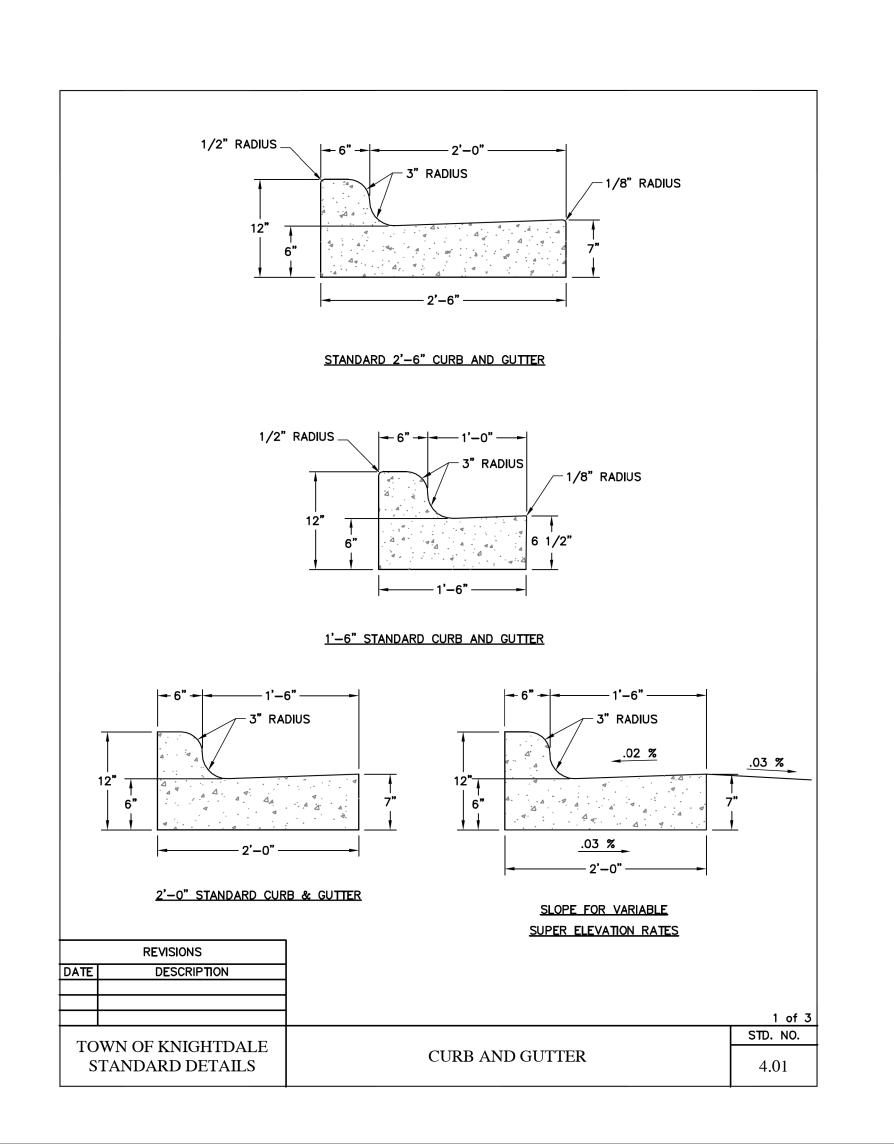
a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of

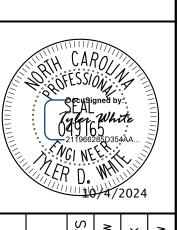
PROJECT NO.

SHEET NO

SHEET NUMBER R1.02







D OFFSITE OVEMENTS ERRITT BLVD IMPRC

a. Town Certification. This design has been reviewed by the Engineer for the

These plans are approved by the Town of Knightdale and serve as

By: \_\_\_\_\_\_ Town Engineer

construction plans for this project.

Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of

> SHEET NUMBER R1.03

TRIREX HOSPITAL INC

DB 13269 PG 434 BM 2008 PG 1899 These plans are approved by the Town of Knightdale and serve as

construction plans for this project.

SHEET NUMBER

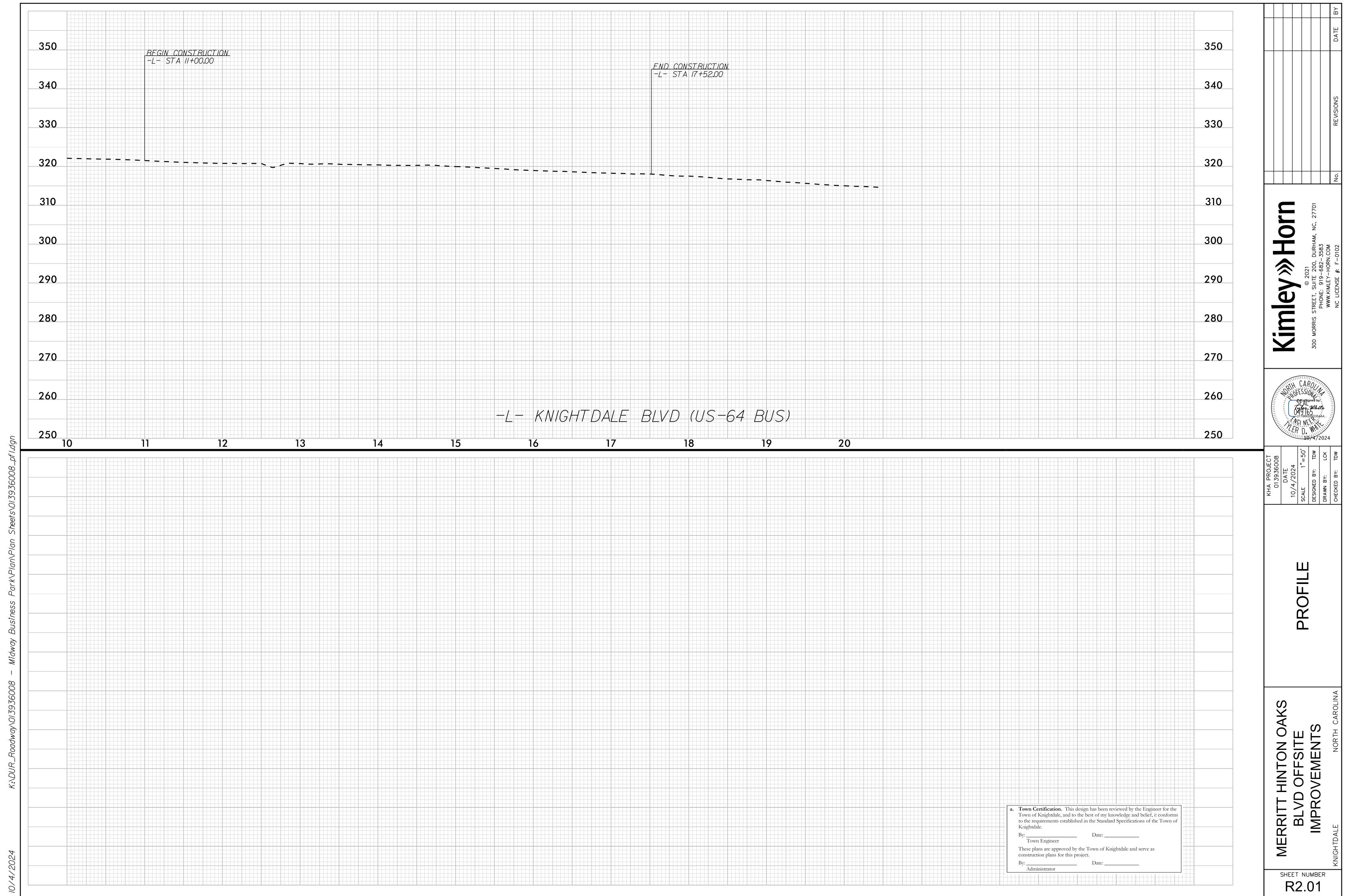
R1.04

STONE & HIXSON REAL ESTATE LLC

DB 17151 PG 2669 BM 1994 PG 840 KNIGHTDALE BUSINESS CONDOMINIUM

DB 8364 PG 2723

	The Configuration This desired to the second to the Engineer Config	FND MILLING			
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION  Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.  City of Raleigh Development Approval  Raleigh Water Review Officer   LIMITS OF MILL AND OVERLAY  5' MONOLITHIC CONCRETE ISLAND (KEYED IN 3')  GENERAL SHEET NOTES:  I.RADII DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED (APPLIES TO ALL SHEETS)	a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.  By: Date: Town Engineer  These plans are approved by the Town of Knightdale and serve as construction plans for this project.  By: Date: Date: Administrator	END MILLING -YI- STA, I7 +70,00 DECORATIVE STAMPED ASHALT CROSSWALK SEE DETAIL SHEET RION BEGIN MILLING -YI- STA, I7 +50,00  BEGIN CONST. RUCTION -YI- POT Sta, I7 +50,00	END CONSTRUCTION  SYI- POT Sta. 17+80.00  END CONSTRUCTION  12"PVC  45' TOWN OF KNIGHTDALE WATER/SE	WER EASEMENT (TYP)  LOS MIDWAY PLANTATION  DB 17505 PG 2670  BM 2005 PG 1127	
	-L- 18+59.23 ° 47' 19.5" (LT) 47' 25.8" 58.41' (30.37' 3,200.00'	S 02°44′36° E  LOI MIDWAY COMMONS  DB 14615 PG 1625  BM 2008 PG 343  N 85°48′27° E  155.98′  N 85°48′27° E	MILL AND OVERLAY 1.5° OF \$9.5C -YI- STA 15+48 TO 16+83	3	Kimley >> Horn Street, Suite 200, Durham, NC, 27701 PHONE: 919-682-3583 www.kimley-horn.com
Sheets/0/336008_psh_4.dgn DB 1.20 BM 20	DWAY COMMONS 505 PG 2677 2008 PG 343	LOI MIDWAY COMMONS  DB 14394 PG 502  BM 2008 PG 343	BL-26  BL-26  BL-26  BRIPYCH  AND OF KNIGH	MILL AND OVERLAY  1.5° OF \$9.5C  -YI- STA II+93 TO 13+44  LOI MIDWAY PLANTATION  DB 17505 PG 2670  BM 2006 PG 129	SCALE 1"=40"  DESIGNED BY: TDW  CHECKED BY: TDW  CHECKED BY: TDW
-L- POT Sta. IO+00.00  W/TV BEGIN GUARDRAIL TIE TO EXIST A  EXISTING  BL-23  BL	RETAIN EXIST SYSTEM TIE TO EX -L- STA I CAT-I RAL- STA I2+80.00	-L- PC Sta. 15+28.86  286 (IST 4+67.00 TF 0 PRINTING RAW PERSTING RAW	SPLICE BOX BUT PROPERTY OF STATE OF STA	METER  SPLICE  BOX  BOX  BOX  BOX  BOX  BOX  BOX  BO	
US HIGHWAY 64 VARIABLE WIDTH R/W N 85°	X 4'-10" 2G -A PER STD. DWG 840.17  RETAIN EXIST 18" RCP  19.25'  T T T 2' P.S. 18 RCP  BEGIN 1'-6" C&G  -L- STA 13+46.00  17 & RT  END 2' P.S.  BEGIN 1'-6" C&G  -L- STA 13+52.00  SYSTEM  EXISTING R/W  0301  200' DUAL LEFT TURN TAPER  KNICHTDALE PUSINESS CONDOMINATION	ABAND  IF-6'C&G  III  ABAND  US BUS 64 / KNIGHT DALE BLVD (WESTBOUND)  ABAND  US BUS 64 / KNIGHT DALE BLVD (U  ABAND  US BUS 64 / KNIGHT DALE BLVD (U  ABAND  ABAND  US BUS 64 / KNIGHT DALE BLVD (U  ABAND  ABAND  ABAND  US BUS 64 / KNIGHT DALE BLVD (U  ABAND  ABAND  ABAND  US BUS 64 / KNIGHT DALE BLVD (U  ABAND  ABAND  ABAND  US BUS 64 / KNIGHT DALE BLVD (U  ABAND  ABAND	<b>3</b>	DB 12675 PG 172  BM 2508 AC 10	



# TRAFFIC NOTES

ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST MUTCD AND 2024 NCDOT STANDARDS

ADAPT THE TRAFFIC CONTROL CONCEPTS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLÁPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

1. HINTON OAKS BLVD 2. KNIGHTDALE BLVD

DAY AND TIME RESTRICTIONS MONDAY THROUGH FRIDAY FROM 6 AM TO 9 AM AND FROM 4 PM TO 6 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

### 1. HINTON OAKS BLVD

2. KNIGHTDALE BLVD

#### HOLIDAY

- 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 9:00 P.M. DECEMBER 31st TO 6:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 A.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 9:00 P.M. THURSDAY AND 6:00 A.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 9:00 P.M. FRIDAY TO 6:00 A.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 9:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 9:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE TUESDAY AFTER

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 9:00 P.M. FRIDAY AND 6:00 A.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 9:00 P.M. TUESDAY TO 6:00 A.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 9:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9. FOR SPECIAL EVENTS, NOTED BY THE ENGINEER, BETWEEN THE HOURS OF 9:00 P.M. THE DAY BEFORE THE SPECIAL EVENT AND 6:00 A.M.THE DAY FOLLOWING THE SPECIAL EVENT.

IF THE SPECIAL EVENT IS ON A FRIDAY, SATURDAY, OR SUNDAY. THEN BETWEEN THE HOURS OF 9:00 PM THE THURSDAY BEFORE THE SPECIAL EVENT AND 6:00 AM THE MONDAY AFTER THE SPECIAL EVENT, OR AS OTHERWISE DIRECTED BY THE ENGINEER.

C) DO NOT STOP TRAFFIC FOR MORE THAN 15 MINUTES AS FOLLOWS:

. HINTON OAKS BLVD 2. KNIGHTDALE BLVD

DAY AND TIME RESTRICTIONS MONDAY THROUGH FRIDAY FROM 6 AM TO 9 AM AND FROM 4 PM TO 6 PM

OPERATIONS TRAFFIC SHIFTS

D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR OTHERWISE DIRECTED BY THE ENGINEER.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FÁCILITY. CLOSE THE LANE ACCORDING THE ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE. I) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON

A TWO-LANE, TWO-WAY ROAD. J) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

K) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER.

L) DO NOT EXCEED A DIFFERENCE OF 1.5 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE OF THE UNEVEN AREA.

### SIGNING

M) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 100 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. WHEN NO WORK IS BEING CONDUCTED FOR A PERIOD LONGER THAN ONE WEEK, REMOVE OR COVER ALL ADVANCE WORK

ZONE WARNING SIGNS, AS DIRECTED BY THE ENGINEER.

### N) PROVIDE PERMANENT SIGNING.

O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

### TRAFFIC CONTROL DEVICES

P) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH). EXCEPT 10 FT ON-CENTER IN RADII, AND 5 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT.

Q) PLACE SETS OF THREE DRUMS PERPENDICULAR TO THE EDGE OF THE TRAVELWAY ON 300 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC. THESE DRUMS SHALL BE IN ADDITION TO CHANNELIZING DEVICES.

#### PAVEMENT MARKINGS AND MARKERS

R) INSTALL PAVEMENT MARKINGS AS SHOWN ON PLAN SHEETS.

S) REFER TO SECTION 1205 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DÁTED JANUARY 2024 FOR APPLICATION TIMES AND TEMPERATURE CONDITIONS FOR PAVEMENT MARKINGS.

T) PLACE AT LEAST TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- V) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.
- W) PLACE AT LEAST TWO APPLICATIONS OF PAINT ON NEW ASPHALT WITH TEMPORARY TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE OVER THREE (3) MONTHS. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.
- X) CONTRACTOR SHALL MAINTAIN ALL TEMPORARY PAINT PAVEMENT MARKINGS UNTIL COMPLETION OF THERMOPLASTIC PAVEMENT MARKING INSTALLATION.
- Y) BEFORE SHIFTING TRAFFIC TO NEW LOCATIONS, CONTRACTOR SHALL REMOVE ANY MARKINGS WHICH CONFLICT WITH THE NEW TRAFFIC PATTERN(S).
- Z) CHANGES TO THE TRAFFIC CONTROL REQUIRE APPROVAL FROM NCDOT PRIOR TO COMMENCING FIELD OPERATIONS.

#### PEDESTRIAN AND BICYCLIST SAFETY

AA) PEDESTRIAN AND BICYCLIST SAFETY MUST BE MAINTAINED AT ALL TIMES BY ADEQUATE PROJECT LIMITS, FENCING, AND SIGNAGE.

#### MISCELLANEOUS

- BB) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH INTERSECTIONS.
- CC) STOCKPILE EXISTING SIGNS FOR USE WHEN NEEDED IN TEMPORARY LOCATIONS DURING CONSTRUCTION.
- DD) ACCESS SHALL BE MAINTAINED TO ALL RESIDENCES AND BUSINESSES AT ALL TIMES.
- EE) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- FF) EXISTING PEDESTRIAN FACILITIES ARE TO REMAIN OPEN DURING CONSTRUCTION. IF A PEDESTRIAN FACILITY IS IMPACTED BY CONSTRUCTION, CONTRACTOR TO PROVIDE ALTERNATE ADA ROUTE.

# ADVANCE WARNING SIGNS

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED

- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.

- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.

- ADVANCE WARNING SIGN SPACING IS RECOMMENDED TO BE THE FOLLOWING: - HINTON OAKS BLVD - 500' BEFORE CONSTRUCTION LIMITS - KNIGHTDALE BLVD - 500' BEFORE CONSTRUCTION LIMITS

- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

- USE 3 LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3 LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B). MAY BE GALVANIZED STEEL. OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUÍVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS. 3 LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.

WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.

- DO NOT BACK BRACE SIGN SUPPORTS.

TITLE

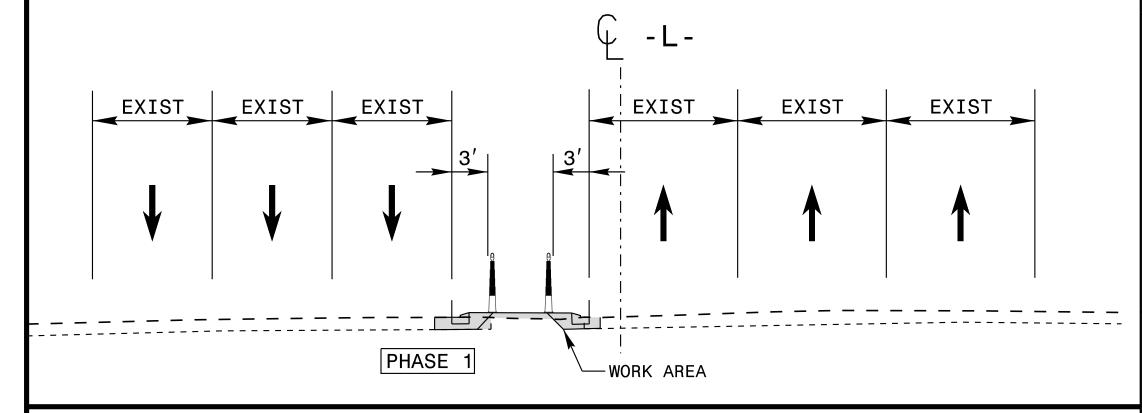
STD. NO.

# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

101.01	WORK ZONE WARNING SIGNS
101.02	TEMPORARY LANE CLOSURES
101.04	TEMPORARY SHOULDER CLOSURES
101.11	TRAFFIC CONTROL DESIGN TABLES
110.01	STATIONARY WORK ZONE SIGNS
110.02	PORTABLE WORK ZONE SIGNS
115.01	FLASHING ARROW BOARDS
130.01	DRUMS
135.01	CONES
145.01	BARRICADES
150.01	FLAGGING DEVICES
180.01	SKINNY DRUM
205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
205.02	PAVEMENT MARKINGS - DIVIDED AND UNDIVIDED ROADWAYS
205.04	PAVEMENT MARKINGS - INTERSECTIONS
205.05	PAVEMENT MARKINGS - TURN LANES
205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
205.13	PAVEMENT MARKINGS - NEW INTERCHANGES AND INTERSECTIONS
250.01	PAVEMENT MARKER SPACING
251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS





# PHASING NOTES

#### PHASE 1

THE CONTRACTOR SHALL PLACE ALL ADVANCE WARNING SIGNS PRIOR TO BEGINNING WORK ACCORDING TO NCDOT STANDARD DRAWING NO. 1101.01. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.

WHILE MAINTAINING EXISTING TRAFFIC AND USING NCDOT STANDARD DRAWING 1101.02, SHEET 1 AND 2 OF 19 FOR TEMPORARY LANE CLOSURES AS NEEDED, THE CONTRACTOR SHALL CONSTRUCT PROPOSED WIDENING, CURB AND GUTTER, STORM DRAINAGE, GUARDRAIL, AND ALL ASSOCIATED GRADING IN THE MEDIAN OF -L- KNIGHTDALE BLVD UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE.

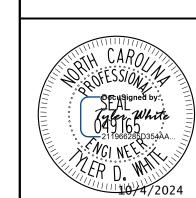
UPON COMPLETTION OF ALL WIDENING, MILL EXISTING PAVEMENT AS REQUIRED TO PLACE THE FINAL SURFACE COURSE.

#### PHASE 2

WHILE MAINTAINING EXISTING TRAFFIC AND USING NCDOT STANDARD DRAWING 1101.02, SHEET 1 AND 2 OF 19 FOR TEMPORARY LANE CLOSURES AS NEEDED, THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED DECORATIVE STAMPED ASPHALT CROSSWALK ON -Y1- HINTON OAKS BLVD.

#### PHASE 3

USING NCDOT STANDARD DRAWING 1101.02 SHEET 1 AND 2 OF 19 AS REQUIRED PLACE THE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS. REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN TRAFFIC TO THE FINAL PATTERN.



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

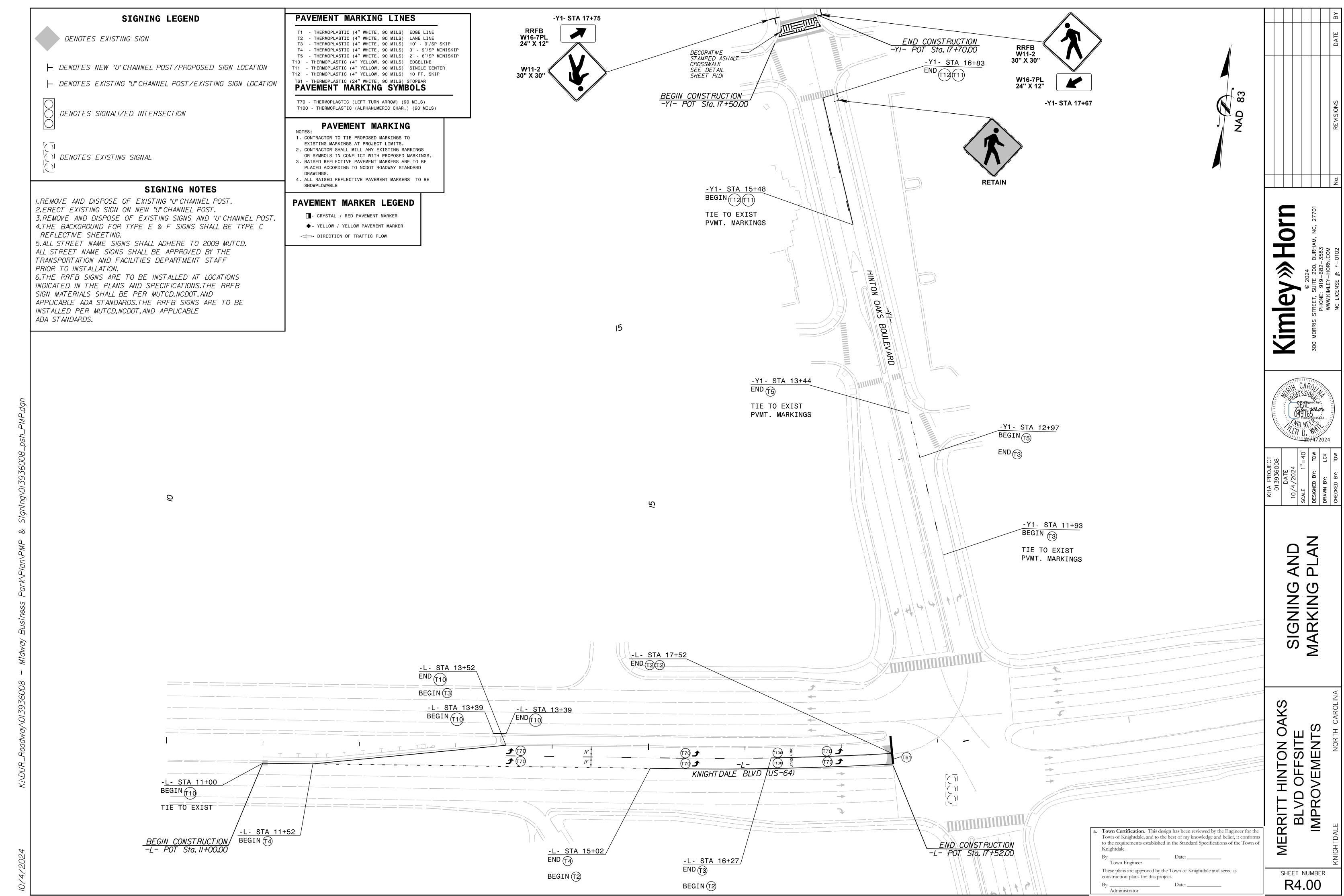
These plans are approved by the Town of Knightdale and serve as

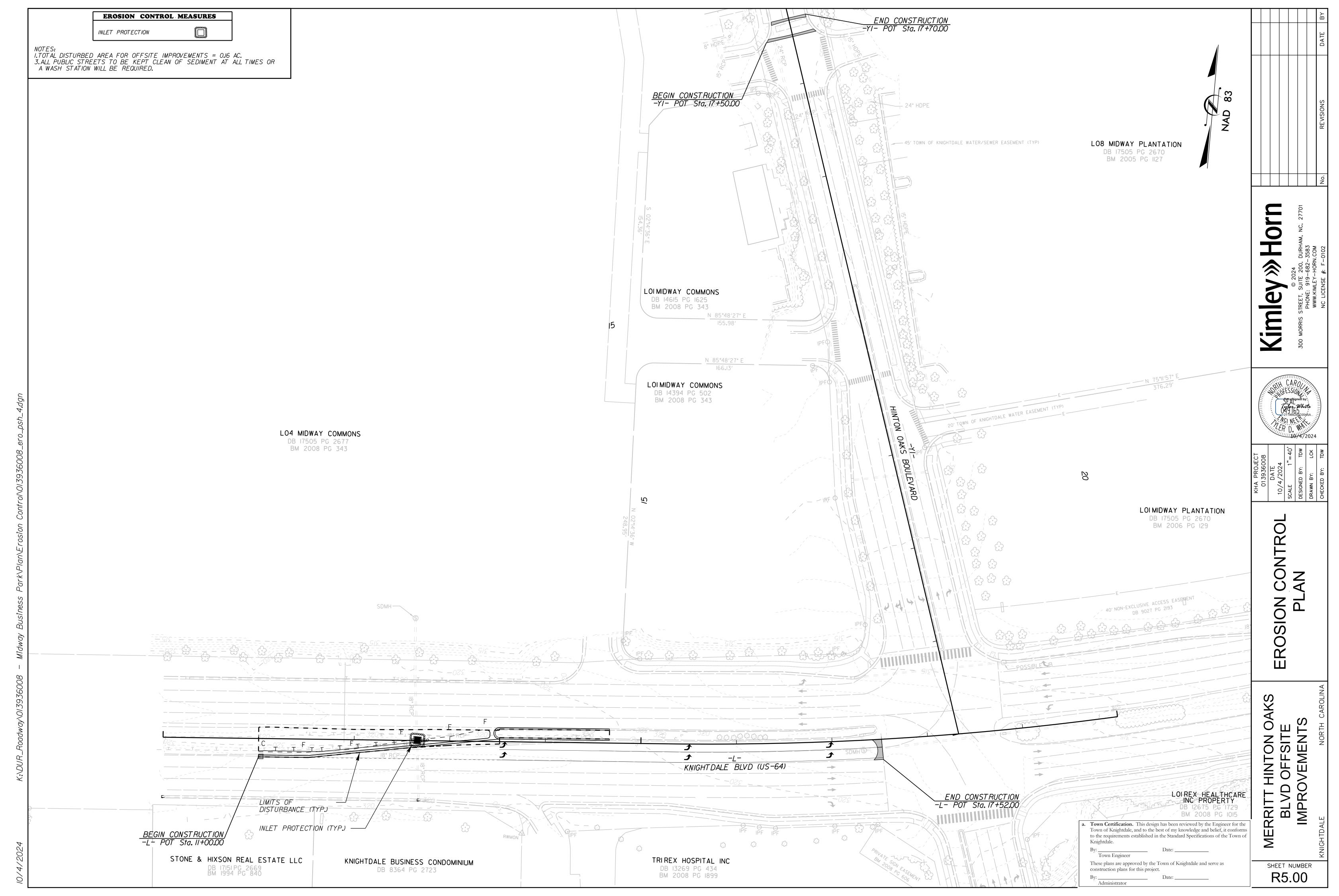
Town Engineer

construction plans for this project.

\_\_\_\_\_ Date: \_\_\_\_\_

SHEET NUMBER R3.00





- 3. Install all erosion control measures as shown;
- 4. Obtain certificate of compliance through on-site inspection by Erosion Control Officer:
- 5. Proceed with grading;
- 6. Clean sediment basins when one-half full:
- 7. Seed and mulch denuded area within 15 days or duration shown on ground stabilization requirements, whichever is shorter, after any phase of grading;
- 8. Maintain soil erosion control measures until permanent ground cover is established:
- 9. Request final approval by Erosion Control Officer;
- 10. Remove soil erosion control measures and stabilize these areas. MAINTENANCE
- Follow the construction sequence throughout project development. When changes in construction activities are needed, amend the sequence schedule in advance to maintain management control.
- Notification of Land Resources Sediment and Erosion Control Self -Inspection Program:
- The Sedimentation Pollution Control Act was amended in 2006 to require that persons responsible for land-disturbing activities inspect a project after each phase of the project to make sure that the approved erosion and sedimentation control plan is being followed. Rules detailing the documentation of these inspections took effect October 1,2010. The self-inspection program is separate from the weekly self-monitoring program of the NPDES Stormwater Permit for Construction Activities. The focus of the self-inspection report is the installation and maintenance of erosion and sedimentation control measures according to the approved plan. The inspections must be conducted after each phase of the project, and continue until permanent ground cover is established in accordance with NCGS 113A-54.1 and 15A NCAC 4B.0131. The Self-Inspection Report form is available as an Excel spreadsheet from http://portal.ncdenr.org/web/Ir/erosion.lf you have questions or cannot access the form, please contact NCDENR Division of Land Resources at (919) 791-4200.

### MAINTENANCE PLAN

- I. The Contractor shall inspect all erosion and sediment control practices for stability and operation within 24 hours following every runoff producing 0.5" rainfall (in a 24 hour period) but in no case less than once every week. Any needed repairs will be made immediately by the Contractor needed repairs will be made immediately by the Contractor to maintain all practices as designed. Also per National Pollutant Discharge Elimination System (NPDES) general stormwater permit, a rain gauge must be installed on site. The rain gauge must be kept onsite and inspections by the Contractor must be made and logged after every half inch of rainfall and once a week.
- P. The Contractor shall remove sediment from sediment basin when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pool no longer drains properly.
- 3. The Contractor shall remove sediment from behind silt fence when it becomes 0.5 feet deep at the fence. Silt fence will be repaired as necessary to maintain a barrier.
- 4. The Contractor shall fertilize, reseed as necessary, and mulch all seeded areas according to specifications in the vegetative plan to maintain a vigorous, dense vegetative
- 5. The Contractor must inspect all outlets where stormwater runoff leaves the site and evaluate the effect on nearby streams or wetlands. Corrective action must be taken if sediment is deposited off site or into stream or wetland, or causes a visible increase in turbidity of any waterbody.
- 6. The Contractor shall provide ground cover on exposed slopes or other areas within the timeframe speficied in the stabilization table or sooner of completion of any phase of grading.

### GROUND STABILIZATION REQUIREMENTS

Contractor shall stabilize (temporary or permanent) all disturbed areas within 7 or 14 days of termination of grading operations per the following guidlines.

Perimeter dikes, swales, ditches and slopes - 7 days High Quality Water Zones - 7 days Slopes 2:1 or steeper - 7 days

Slopes between 2:1 and 3:1 greater than 10' in length— 7 days Slopes between 2:1 and 3:1 less than 10' in length- 14 days Slopes between 3:1 and 4:1 less than 50' in length-14 day's Slopes between 3:1 and 4:1 greater than 50' in length— 7 days Slopers flatter than 4:1— 14 days

# VEGETATIVE PLAN (NCDENR 6.11)

#### SEEDING AND MULCHING

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer.

<u>Date</u>	Туре	Planting Rate
Mar.I-Aug.3I  Sep.I-Feb.28	Tall Fescue Centipede Hulled Common Bermudagrass Fertilizer Limestone Tall Fescue Centipede Unhulled Common Bermudagrass Fertilizer Limestone	50 lbs./acre 5 lbs./acre 25 lbs./acre 500 lbs./acre 4000 lbs./acre 50 lbs./acre 5 lbs./acre 35 lbs./acre 4000 lbs./acre

Slopes (2:1 and steeper) and Waste & Borrow Locations

Jan.1-Dec. 31	Tall Fescue Unhulled Common Bermudagrass Fertilizer Limestone		75 lbs./acre 35 lbs./acre 500 lbs./acre 4000 lbs./acre
•	<u>Approved Tall Fe</u>	scue Cultivars	
Adventure Apache Brookstone Chesapeake Debutante Finelawn Petite Grande Jaguar Monarch Pacer Rebel Safari Tomahawk Wolfpack	Adventure II Apache II Bonanza Chieftain Duster Finelawn Guardian Jaguar III Montauk Phoenix Rebel Jr. Shenandoah Trailblazer Wrangle	Amigo Arid Bonanza II Coronado Falcon Finelawn I Hawk Kentucky 3I Mustang Pixie Rebel II Tempo Tribute	Anthem Austin Chapel Hill Crossfire II Falcon II Genesis Houndog Kitty Olympic Pyramid Renegade Titan Vegas

#### SEEDING AND MULCHING

On cut and fill slopes 2:1 or steeper, add 30\* (23kg) Sericea Lespefeza January I-December 31.

Fertilizer shall be 10-20-20 analysis. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the I-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant flood as a 10-20-20 analysis.

#### SEEDBED PREPARATION

The Contractor shall cut and satisfactorily dispose of weeds or other unacceptable growth on the areas to be seeded. Uneven and rough areas outside of the graded section, such as crop rows, farm contours, ditches, and ditch spoil banks, fence line and hedgerow soil accumulations, and other minor irregularities which cannot be obliterated by normal seedbed preparation operations, shall be shaped and smoothed as directed by the Engineer to provide for more effective seeding and for ease of subsequent mowing operations.

The soil shall then be scarified or otherwise loosened to a depth of not less than 5 inches except as otherwise provided below or otherwise directed by the Engineer. Clods shall be broken and the top 2 to 3 inches of soil shall be worked into an acceptable seedbed by the use of soil pulverizers, drags, or harrows; or by other methods approved by the Engineer. All rock and debris 3 inches or larger shall be removed on median, shoulder, and ditch cut or fill slopes which are 3:1 or flatter. prior to the application of seed and fertilizer.

On cut slopes that are 2:1 and steeper, both the depth of preparation and the degree of smoothness of the seedbed may be reduced as permitted by the Engineer, but in all cases the slope surface shall be scarified, grooved, trenched, or punctured so as to provide pockets, ridges, or trenches in which the seeding materials can lodge. Contractor shall be responsible for providing the required seed bed. It may be necessary to seed these sections with a hydro-seeded.

On cut slopes that are either 2:1 or steeper, the Engineer may permit the preparation of a partial or complete seedbed during the grading of the slope. If at the time of seeding and mulching operations such preparation is still in a condition acceptable to the Engineer, additional seedbed preparation may be reduced or eliminated.

Seedbed preparation within 2 feet of the edge of any pavement shall be limited to a depth of 2 to 3 inches.

The preparation of seedbeds shall not be done when the soil is frozen, extremely wet, or when the Engineer determines that it is an otherwise unfavorable working condition.

### APPLYING AND COVERING LIMESTONE, FERTILIZER, AND SEED

### A) GENERAL:

Seasonal limitation for seeding operations; the kinds of grades of fertilizers; the kinds of seed; and the rates of application of limestone, fertilizer, and seed shall be as stated in the special provisions.

Equipment to be used for the application, covering, or compaction of limestone, fertilizer, and seed shall have been approved by the Engineer before being used on the project. Approval may be revoked at any time if equipment is not maintained in satisfactory working condition, or if the equipment operation damages the seed.

Limestone, fertilizer, and seed shall be applied within 24 hours after completion of seedbed preparation unless otherwise permitted by the Engineer, but no limestone or ferilizer shall be distributed and no seed shall be sown when the Engineer determines the weather and soil conditions are unfavorable for such operations.

During the application of fertilizer, adequate precautions shall be taken to prevent damage to traffic, structures, guardrails, traffic control devices, or any other appurtenances. The Contractor shall either provide adequate drainage covering or change methods of application as required to avoid such damage. When such damage occurs the Contractor shall repair it, including any cleaning that may be necessary.

#### APPLYING AND COVERING LIMESTONE, FERTILIZER, AND SEED

Limestone may be applied as a part of the seedbed preparation, provided it is immediately worked into the soil. If not so applied, limestone and fertilizer shall be distributed uniformly over the prepared seedbed at the specified rate of

B) LIMESTONE AND FERTILIZER:

worked or mixed into the seedbed.

If liquid fertilizer is used, storage containers for the liquid fertilizer shall be located on the project and shall be equipped for agitation of the liquid prior to its use. The storage containers shall be equipped with approved measuring or metering devices which will enable the Engineer to record at any time the amount of liquid that has been removed from the container. Application equipment for liquid fertilizer, other than a hydraulic seeder, shall be calibrated to ensure that the required rate of fertilizer is applied uniformly.

application and then harrowed, raked, or otherwise thoroughly

#### C) SEED:

Seed shall be distributed uniformly over the seedbed at the required rate of application, and immediately harrowed, dragged, raked, or otherwise worked so as to over the seed with a layer of soil. The depth of covering shall be as directed by the Engineer. If 2 kinds of seed are to be used which require different depths of covering, they shall be sown separately.

When a combination seed and fertilizer drill is used, fertilizer may be drilled in with the seed after limestone has been applied and worked into the soil. If 2 kinds of seed are being used which require different depth of covering, the seeding requiring the lighter covering may be sown broadcast or with a special attachment to the drill, or drilled lightly following the initial drilling operation.

When a hydraulic seeder is used for application of seed and fertilizer.the seed shall not remain in water containing fertilizer for more than 30 minutes prior to application unless otherwise permitted by the Engineer.

Immediately after seed has been properly covered the seedbed shall be compacted in the manner and degree approved by the Engineer.

#### MULCHING

#### GENERAL:

All seeded areas shall be mulched unles otherwise indicated in the special provisions or directed by the Engineer.

Grain straw may be used as mulch at any time of year.If permissions to use material other than grain straw is requested by the Contractor and the use of such material is approved by the Engineer, the seasonal limitations, the methods and rates of application, the type of binding material, or other conditions governing the use of such material will be established by the Engineer at the time of approval.

### B) APPLYING MULCH:

Mulch shall be applied within 24 hours after completion of seeding unless otherwise permitted by the Engineer.Care shall be exercised to prevent displacement of soil or seed or other damage to the seeded area during the mulching operations. Mulch shall be uniformly spread by hand or by approved mechanical spreaders or blowers that will provide an acceptable application. An acceptable application will be that which will allow some sunlight to penetrate and air to circulate but will also partially shade the ground, reduce erosion, and conserve soil moisture.

### C) HOLDING MULCH:

Mulch shall be held in place by applying a sufficient amount of asphalt or other approved binding material to assure that the mulch is properly held in place. The rate and method of application of binding material shall meet the approval of the Engineer. Where the binding material is not applied directly with the mulch it shall be applied immediately following the mulch application.

During the application of asphalt binding material, or other approved binding materials which may cause damage, adequate precautions shall be taken to prevent damage to traffic, structures, quardails, traffic control devices, or any other appurtenances. The Contractor shall either provide adequate covering or change methods of application as required to avoid such damage. When such damage occurs the Contractor shall repair it, including any cleaning that may be necessary.

The Contractor shall take sufficient precautions to prevent mulch from entering drainage structures through displacement by wind, water, or other causes and shall promptly remove any blockage to drainage facilities that may occur.

# TOPSOILING (6.04)

### MATERIALS

CONSTRUCTION SPECIFICATIONS

Determine whether the quality and quantity of available topsoil justifies selective handling. Quality topsoil has the following characteristics:

Texture - loam, sandy loam, and silt loam are best; sandy clay loam, silty clay loam, clay loam, and loamy sand are fair. Do not use heavy clay and organic soils such as peat or muck as topsoil.

Organic matter content - (sometimes referred to as "humic matter") should be greater than 1.5% by weight.

Acidity - pH should be greater than 3.6 before liming, and liming is required if it is less than 6.0.

Soluble salts - should be less than 500 ppm.

Sodium - sodium adsorption ratio should be less than 12.

The depth of material meeting the above qualifications should be at least 2 inches. Soil factors such as rock fragments, slope, depth to water table, and layer thickness affect the ease of excavation and spreading of topsoil.

Generally, the upper part of the soil, which is richest in organic matter, is most desirable; however, material excavated from deeper layers may be worth storing if it meets the other criteria listed above.

Organic soils such as mucks and peats do not make good topsoil. They can be identified by their extremely light weight when dry.

Strip topsoil only from those areas that will be disturbed by excavation, filling, roadbuilding, or compaction by equipment. A 4 to 6-inch stripping depth is common, but depth varies depending on the site. Determine depth of stripping by taking soil cores at several locations within each area to be stripped. Topsoil depth generally varies along a gradient from hilltop to toe of the slope. Put sediment basins, diversions, and other controls into place before strippina.

#### STOCKPILING

CONSTRUCTION SPECIFICATIONS

layers with minimal mixing.

riprap should be apparent.

MAINTENANCE

Select stockpile location to avoid slopes and natural drainageways, avoiding traffic routes. On large sites, respreading is easier and more economical when topsoil is stockpiled in small piles located near areas where they will be used. All stockpile areas used shall be stabilized with silt fence and seeded.

Sediment barriers — Use sediment fences or other barriers where necessary to retain sediment.

RIP RAP (6.15)

lines and grades shown on the plans. Compact any fill required in the subgrade

material. Cut the subgrade sufficiently deep that the finished grade of the riprap

sufficiently to allow placement of the riprap in a manner such that the finished

will be at the elevation of the surrounding area. Channels should be excavated

depression's with riprap. Remove brush, trees, stumps and other objectional

inside dimensions and grade of the riprap meet design specifications.

If extensive damage is suspected, remove and replace the entire sheet.

fine gravel or sand may be needed to protect the filter cloth.

to a density approximating that of the surrounding undisturbed material or overfill

Subgrade Preparation - Prepare the subgrade for riprap and filter to the required

Sand and gravel filter blanket — Place the filter blanket immediately after the ground

foundation is prepared. For gravel, spread filter stone in a uniform layer to the

Synthetic filter fabric — Place the cloth filter directly on the prepared foundation.

specified depth. Where more than one layer of filter material is used, spread the

Overlap the edges by at least 12 inches, and space anchor pins every 3 ft along

ground and where necessary, bury the lower end of the cloth or overlap with the

next section as required. Take care not to damage the cloth when placing riprap. If damage occurs remove the riprap and repair the sheet by adding another layer

of filter material with a minimum overlap of 12 inches around the damaged area.

Where large stones are used or machine placement is difficult, a 4-inch layer of

Stone Placement - Placement of riprap should follow immediately after placement of the filter. Place riprap so that if forms a dense, well-graded mass of stone with

a minimum of voids. The desired disbribution of stones throughout the mass may

be obtained by selective loading at the quarry and controlled dumping during final placement. Place riprap to its full thickness in one operation. Do not place

stone sizes. Take care not to dislodae the underlying base or filter when placing

The finished slope should be free of pockets of small stone or clusters of large

stone sizes to produce a relatively smooth, uniform surface. The finished grade

of the riprap should blend with the surrounding area. No overfall or protrusion of

Inspect channels at regular intervals as well as after major rains, and make repairs

vigorous condition to protect the area from erosion and scour during out—of—bank

promptly. Give special attention to the outlet and inlet sections and other points

look for indications of piping, scour hole's, or bank failu'res. Make repairs

flow. Control of weed and brush growth may be needed in some locations.

immediately. Maintain all vegetation adjacent to the channel in a healthy,

where concentrated flow enters. Carefully check stability at road crossings and

riprap by dumping through chutes or other methods that cause segregation of

stones. Hand placing may be necessary to achieve the proper distribution of

the overlap. Bury the upstream end of the cloth a minimum of 12 inches below

# Temporary seeding - Protect topsoil stockpiles by temporarily seeding as soon as possible, no more than 30 working days or 120 calendar days after the

Permanent vegetation - If stockpiles will not be used within 12 months they must be stabilized with permanent vegetation to control erosion and weed

#### SITE PREPARATION

formation of the stockpile.

Before spreading topsoil, establish erosion and sedimentation control practices such as diversions, berms, dikes, waterways, and sediment basins.

Grading — Maintain grades on the areas to be topsoiled according to the approved plan and do not alter them by adding topsoil.

Liming of subsoil — Where the pH of the existing subsoilis 6.0 or less,or the soil is composed of heavy clays, incorporate agricultural limestone in amounts recommended by soil tests or specified for the seeding mixture to be used. Incorporate lime to a depth of at least 2 inches by disking.

Roughening — Immediately prior to spreading the topsoil.loosen the subgrade by disking or scarifying to a depth of at least 4 inches, to ensure bonding of the topsoil and subsoil. If no amendments have been incorporated, loosen the soil to a depth of at least 6 inches before spreading topsoil.

#### SPREADING TOPSOIL

Do not spread topsoil while it is frozen or muddy or when subgrade is wet or frozen. Correct any irregularities in the surface that result from topsoiling or other operations to prevent the formation of depressions or water pockets.

Compact the topsoil enough to ensure good contact with the underlying soil, but avoid excessive compaction, as it increases runoff and inhibits seed germination. Light packing with a roller is recommended where high-maintenance turf is to be established.

On slopes and areas that will not be mowed, the surface may be left rough after spreading topsoil. A disk may be used to promote bonding at the interface between topsoil and subsoil.

After topsoil application, follow procedure for seedbed preparation, taking care to avoid excessive mixing of topsoil into the subsoil.

# LAND GRADING (6.02)

#### CONSTRUCTION SPECIFICATIONS

I. Construct and maintain all erosion and sedimentation control practices and measures in accordance with the approved sedimentation control plan and construction schedule.

2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.

3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.

4. Clear and grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill. 5. Ensure that fill material is free of brush,rubbish,rocks,logs,stumps,

building debris, and other materials inappropriate for constructing stable fills.

6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.

7. Do not incorporate frozen material or soft or highly compressible materials into fill slopes.

8. Do not place fill on a frozen foundation, due to possible subsidence and

9. Keep diversions and other water conveyance measures free of sediment during all phases of development. 10. Handle seeps or springs encountered during construction in accordance

with approved methods. II. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for

12. Show topsoil stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

### *MAINTENANCE*

15 working days or longer.

Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversion and other water-disposal practices, If washouts or breaks occur, repair them immediately. Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

# GRASS-LINED CHANNELS (6.30)

### CONSTRUCTION SPECIFICATIONS

. Remove all trees, brush, stumps, and other objectionable material from the foundation area and dispose of properly.

2. Excavate the channel and shape it to neat lines and dimensions shown on the plans plus a 0.2-ft overcut around the channel perimeter to allow for bulking during seedbed preparations and sod buildup.

3. Remove and properly dispose of all excess soil so that surface water may enter the channel freely.

4. The procedure used to establish grass in the channel will depend upon the severity of the conditions and selection of species. Protect the channel with mulch or a temporary liner sufficient to withstand anticipated velocities during the establishment period.

# MAINTENANCE

During the establishment period, check grass—lined channels after every rainfall. After grass is established, periodically check the channel; check it after every heavy rainfall event. Immediately make repairs. It is particularly important to check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes. Remove all significant sediment accumulations to mainfain the designed carrying capacity. Keep the grass in a healthy, vigorous condition at all times, since it is the primary erosion protection for the channel.

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

Town Engineer

construction plans for this project.

These plans are approved by the Town of Knightdale and serve as

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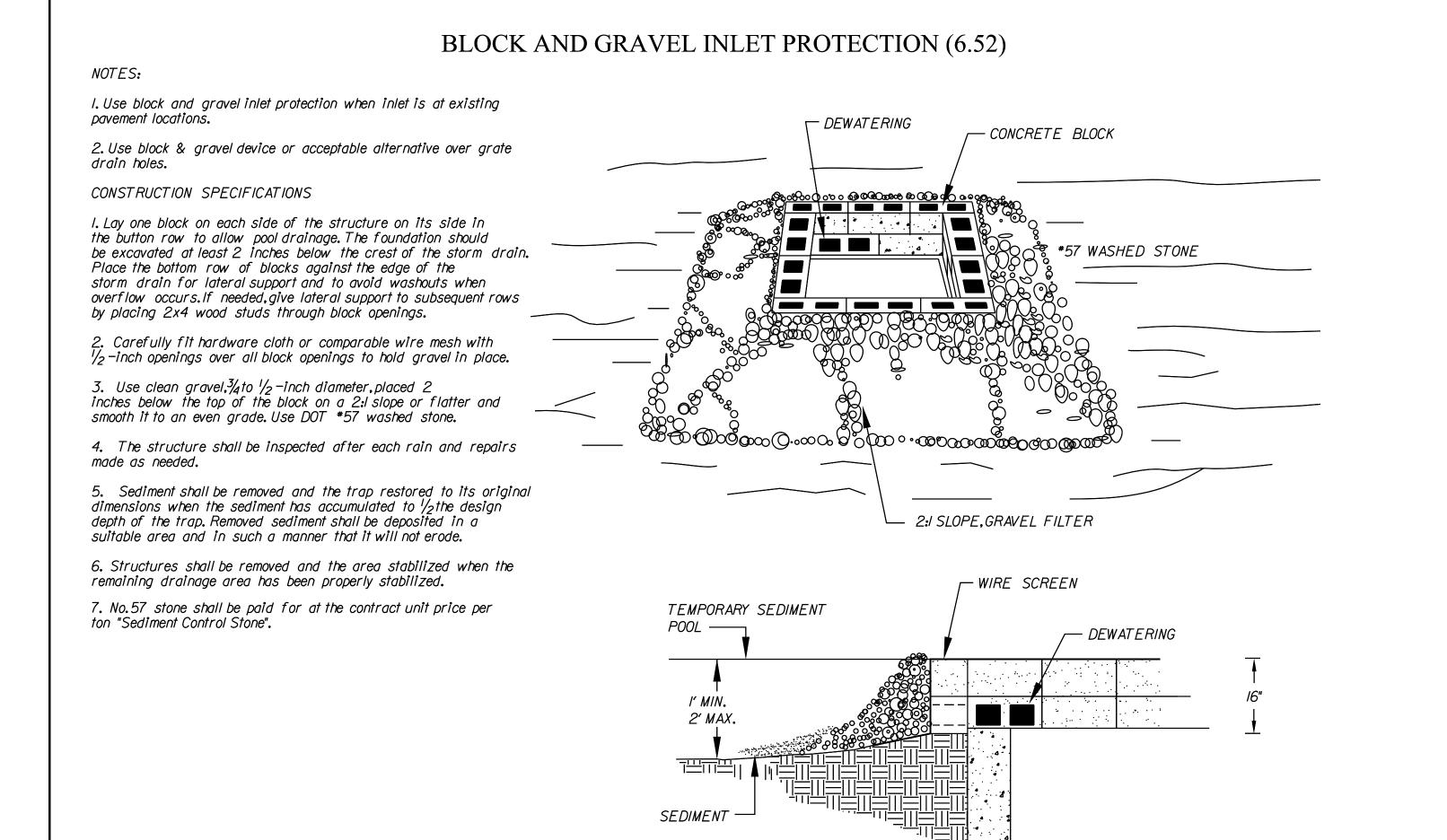
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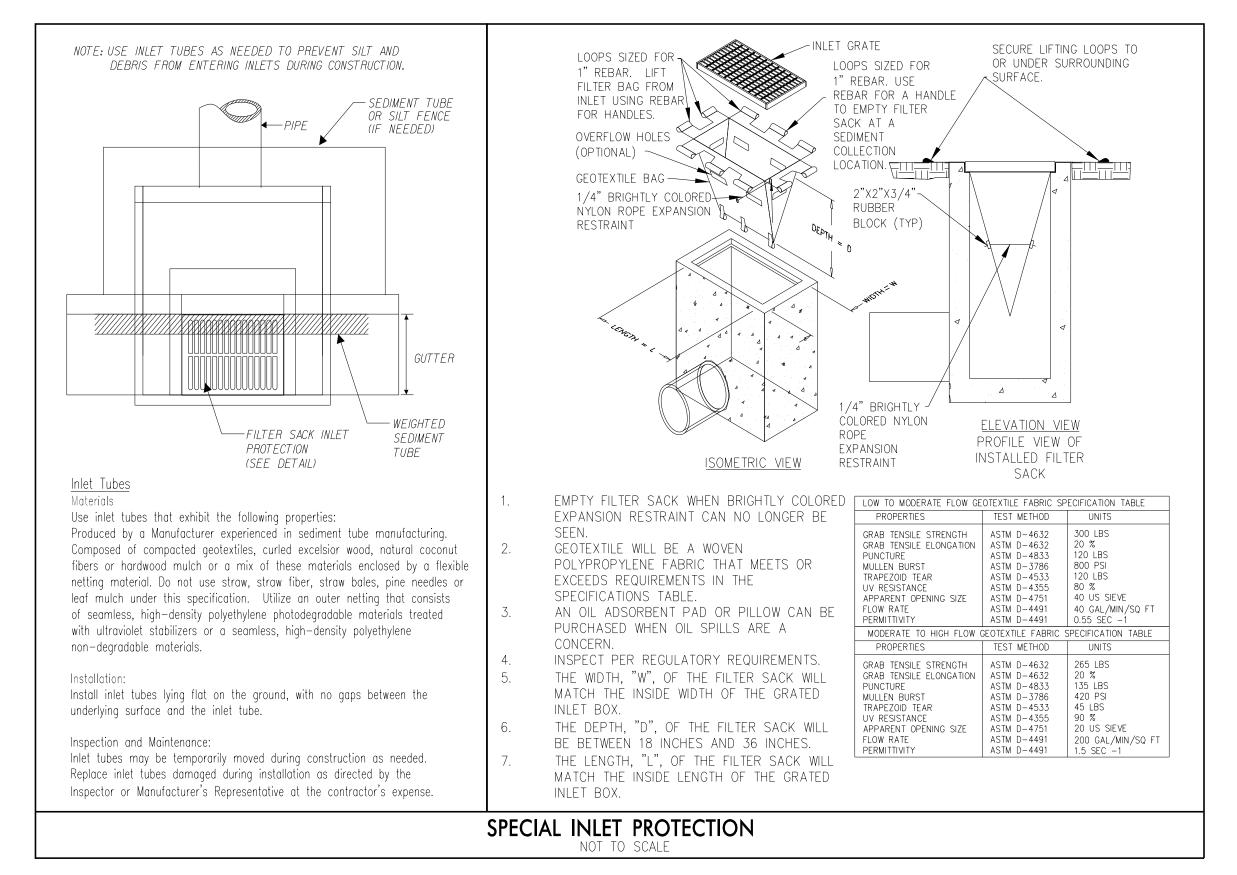
R5.02

to the requirements established in the Standard Specifications of the Town of

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms

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





# GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

#### **SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes				
Si	te Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations	
(a)	Perimeter dikes, swales, ditches, and perimeter slopes	7	None	
(b)	High Quality Water (HQW) Zones	7	None	
(c)	Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed	
(d)	Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed	
(e)	Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope	

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

### **GROUND STABILIZATION SPECIFICATION**

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

Temporary Stabilization	Permanent Stabilization
Temporary grass seed covered with straw or other mulches and tackifiers	Permanent grass seed covered with straw or other mulches and tackifiers
<ul> <li>Hydroseeding</li> <li>Rolled erosion control products with or without temporary grass seed</li> </ul>	<ul> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> </ul>
<ul><li>Appropriately applied straw or other mulch</li><li>Plastic sheeting</li></ul>	Shrubs or other permanent plantings covered with mulch
	<ul> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> </ul>
	<ul> <li>Structural methods such as concrete, asphalt or retaining walls</li> </ul>
	Rolled erosion control products with grass seed

### POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- 1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- 2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.

  Apply flocculants at the concentrations specified in the NC DWR List of Approved.
- 3. Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- 5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

#### **EQUIPMENT AND VEHICLE MAINTENANCE**

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

### LITTER. BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
   Provide a sufficient number and size of waste containers (e.g dumpster, trash
- 3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.

receptacle) on site to contain construction and domestic wastes.

- 4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- 5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- 6. Anchor all lightweight items in waste containers during times of high winds.
- 7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- 8. Dispose waste off-site at an approved disposal facility.
- 9. On business days, clean up and dispose of waste in designated waste containers.

#### PAINT AND OTHER LIQUID WASTE

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

# PORTABLE TOILETS

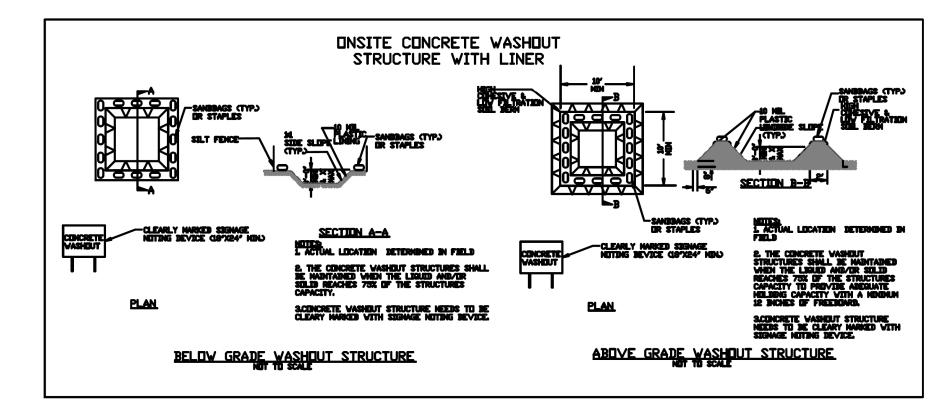
- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- 2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- 3. Monitor portable toilets for leaking and properly dispose of any leaked material.

  Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

### EARTHEN STOCKPILE MANAGEMENT

- 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably
- 2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- 3. Provide stable stone access point when feasible.
  - Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.





### **CONCRETE WASHOUTS**

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

### HERBICIDES, PESTICIDES AND RODENTICIDES

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

### HAZARDOUS AND TOXIC WASTE

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

7701 No. REVISIONS DATE

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WWW.KIMLEY-HORN.COM



0/4/2024

ALE 1"=40'

SIGNED BY: TDW

AWN BY: LCK

OSION CONTRC DETAILS

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ERRITT HINTON OA BLVD OFFSITE IMPROVEMENTS

SHEET NUMBER R5.03

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# PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

#### **SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts.  If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol> <li>Identification of the measures inspected,</li> <li>Date and time of the inspection,</li> <li>Name of the person performing the inspection,</li> <li>Indication of whether the measures were operating properly,</li> <li>Description of maintenance needs for the measure,</li> <li>Description, evidence, and date of corrective actions taken.</li> </ol>
(3) Stormwater discharge outfalls (SDGs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	<ol> <li>Identification of the discharge outfalls inspected,</li> <li>Date and time of the inspection,</li> <li>Name of the person performing the inspection,</li> <li>Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration,</li> <li>Indication of visible sediment leaving the site,</li> <li>Description, evidence, and date of corrective actions taken.</li> </ol>
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	<ol> <li>If visible sedimentation is found outside site limits, then a record of the following shall be made:</li> <li>Actions taken to clean up or stabilize the sediment that has left the site limits,</li> <li>Description, evidence, and date of corrective actions taken, and</li> <li>An explanation as to the actions taken to control future releases.</li> </ol>
(5) Streams or wetlands onsite or offsite (where accessible)  (6) Ground stabilization	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours  After each phase of grading	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:  1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.  1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm
measures		<ul> <li>drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover).</li> <li>Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.</li> </ul>

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

# PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

#### **SECTION B: RECORDKEEPING**

#### 1. E&SC Plan Documentation

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

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

### 2. Additional Documentation to be Kept on Site

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

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

### 3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

# PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

# PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

#### SECTION C: REPORTING

### 1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

### 2. Reporting Timeframes and Other Requirements

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

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment	Within 24 hours, an oral or electronic notification.
deposition in a stream or wetland	<ul> <li>Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul> <li>with the federal or state impaired-waters conditions.</li> <li>Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	A report at least ten days before the date of the bypass, if possible.  The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(I)(7)]	<ul> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6).</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>



NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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10/4/2024SCALE 1"=40'
DESIGNED BY: TDW
DRAWN BY: LCK

OSION CONTRC

HINTON OAKS
OFFSITE
OVEMENTS

MERRITT HII BLVD O

SHEET NUMBER R5.04

