App# EH2108-0008

Harnett County Department of Public Health

Improvement Permit

A building permit cannot be issued with only an Improvement Permit

PROPERTY LOCATION: 571 Gardner Road (SR 1509)

ISSUED TO: John Roberts / David Adams SUBDIVISION _____ LOT # _____

NEW ☐ REPAIR ☐ EXPANSION ☐

Site Improvements required prior to Construction Authorization Issuance:

Type of Structure: Ext. 3-Bedroom SFD

Proposed Wastewater System Type: Gravel or Equivalent

Projected Daily Flow: 360 GPD

Number of bedrooms: 3 Number of Occupants: 6 max

Basement ☐ Yes ☐ No

Pump Required: ☐ Yes ☐ No ☒ May be required based on final location and elevations of facilities

Type of Water Supply: ☐ Community ☒ Public ☐ Well Distance from well 50+ feet

Permit valid for: ☒ Five years ☐ No expiration

Permit conditions: _____

Authorized State Agent:: _____ Date: 08/19/2021 SEE ATTACHED SITE SKETCH

The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit..

Construction Authorization

(Required for Building Permit)

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, 1958, and .1959 are incorporated by references into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

ISSUED TO: John Roberts / David Adams PROPERTY LOCATION: 571 Gardner Road (SR 1509)

SUBDIVISION _____ LOT # _____

Facility Type: Ext. 3-Bedroom SFD ☐ New ☐ Expansion ☐ Repair

Basement? ☐ Yes ☐ No Basement Fixtures? ☐ Yes ☐ No

Type of Wastewater System** Conventional / 25% Reduction Sys. (Initial) Wastewater Flow: 360 GPD

(See note below, if applicable ☐)

TS-I Subsurface Drip (Repair)

Installation Requirements/Conditions

Septic Tank Size 1000 gallons (IF REQ)

Pump Tank Size _____ gallons

Number of trenches 1

Exact length of each trench 75 feet

Trenches shall be installed on contour at a Maximum Trench Depth of: 20 inches (Trench bottoms shall be level to +/-1/4" in all directions)

Trench Spacing: 9 Feet on Center

Soil Cover: 8 inches (Maximum soil cover shall not exceed 36" above the trench bottom)

Pump Requirements: _____ ft. TDH vs. _____ GPM

Aggregate Depth: NA inches below pipe, NA inches above pipe, NA inches total

Conditions: SEE SITE PLAN

WATER LINES (INCLUDING IRRIGATION) MUST BE 10FT. FROM ANY PART OF SEPTIC SYSTEM OR REPAIR AREA.
NO UTILITIES ALLOWED IN INITIAL OR REPAIR DRAIN FIELD AREA.

**If applicable: *I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.*

Owner/Legal Representative Signature: _____ Date: _____

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. SEE ATTACHED SITE SKETCH

Authorized State Agent: _____ Date: 08/19/2021

ANDREW CORBIN Construction Authorization Expiration Date: 08/19/2026

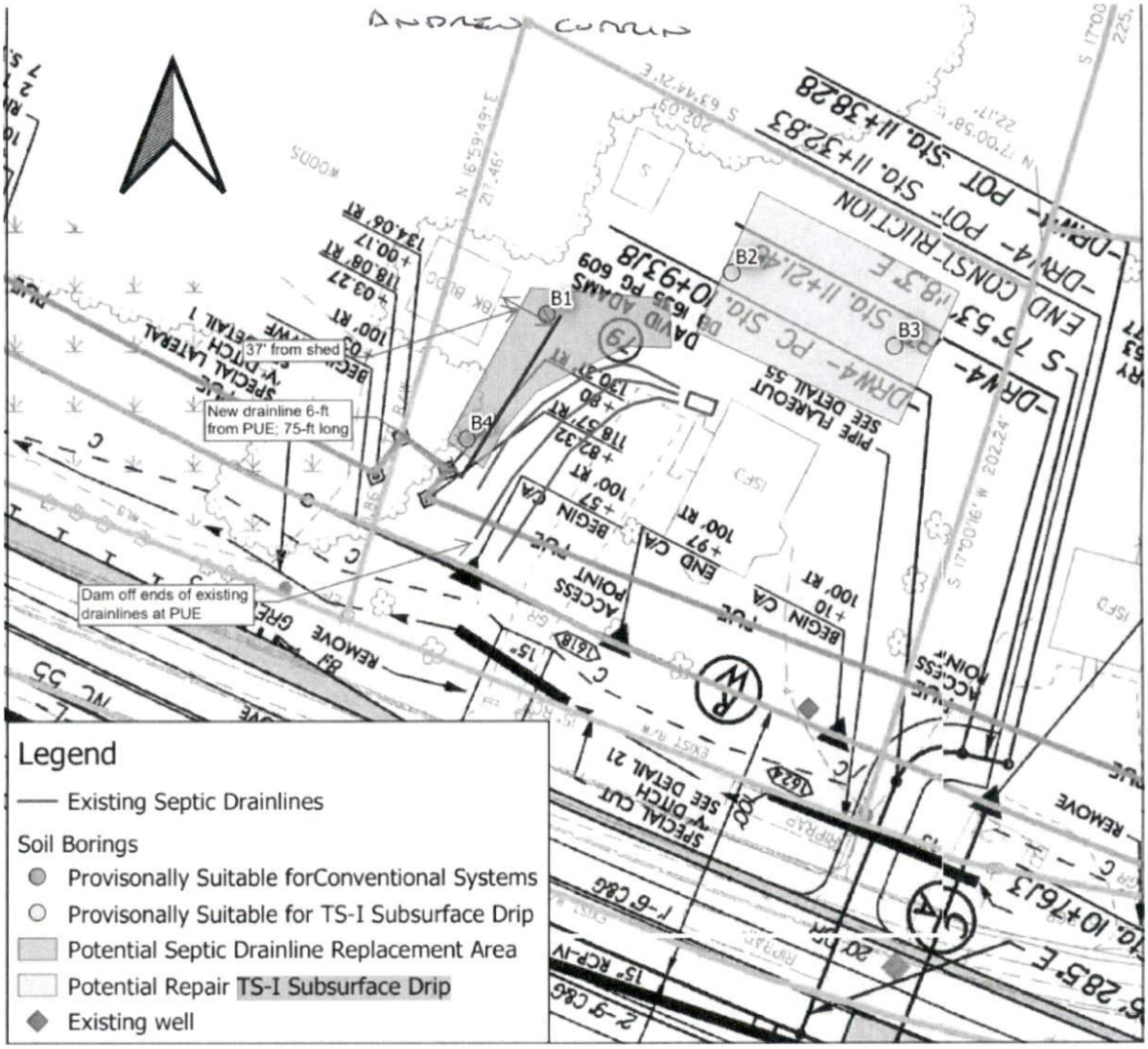
Application # EH2108-0008

Harnett County Department of Public Health
Site Sketch

Property Location: 571 Gardner Road (SR 1509)

Issued To: John Roberts / David Adams Subdivision _____ Lot # _____

Authorized State Agent: _____ Date: 08/19/2021



STEP 1: EXCAVATE TANK AND DETERMINE INTEGRITY OR REPLACE TANK
↳ TANK SHALL BE STRUCTURALLY SOUND W/ INTACT SANITARY TEE

STEP 2: REVIEW DISTRIBUTION METHOD [D-BOX, TEE, SERIAL] AND UNCOVER

STEP 3: SET NEW D-BOX AND TIE ALL LINES TOGETHER [EQUAL DISTRIBUTION REQUIRED]

STEP 4: INSTALL NEW 75FT LINE AS PROPOSED

This drawing is for illustrative purposes only. System installation must meet all pertinent laws, rules, and regulations.

Residential Subsurface Wastewater Treatment and Disposal System Proposal

Property:
571 GARDNER ROAD
Angier, NC
PIN: 0673-51-7357.000
Harnett County, NC
Ground Truth Job # 21-147

Prepared For:

Professional Property Services, Inc.
18335 Old Statesville Road, Unit A
Cornelius, NC 28031

Prepared By:

Ground Truth Soil Consulting, PLLC
1302 Roberts Road
Newport, NC 28570
(252) 725-1320

August 3, 2021

John C. Roberts

LICENSED SOIL SCIENTIST
JOHN C. ROBERTS
1292
STATE OF NORTH CAROLINA

INTRODUCTION & SITE DESCRIPTION

A Soil & Site Evaluation was performed for NCDOT Parcel 079 located at 571 GARDNER ROAD, Angier, NC (PIN: 0673-51-7357.000). Ground Truth Soil Consulting, PLLC (Ground Truth) was retained to prepare a proposal for an on-site wastewater treatment and disposal system that would allow for the relocation of a portion an existing subsurface septic system of a 3-bedroom home (360 GPD). The lot was evaluated in accordance with North Carolina statutes for waste disposal ("Laws and Rules for Sewage Treatment and Disposal Systems", amended December 6, 2018").

The NCDOT project R5705A is proposed to potentially impact the existing septic drainfield. The last 5 to 10-ft of the existing drainlines extend into the permanent utility easement (PUE). A relocation permit is requested to install a new 75-ft gravel drainline below the last existing drainline and dam off the terminal ends of the existing drainlines that extend into the PUE.

The field survey was conducted in June and July 2021 by John C. Roberts, LSS. Soil borings were advanced via a hand auger and evaluated under moist conditions using procedures listed in the *Field book for Describing and Sampling Soils, Version 3.0*. Soil color was determined using a Munsell Soil Color Chart. Observations of the landscape as well as soil properties (depth, texture, structure, soil wetness, restrictive horizons, etc.) were recorded. It was determined sufficient amount of Provisionally Suitable Group II and III soils are available within the project area relocate one septic drainline 9-ft below the lower existing drainline and 6-ft upslope from the PUE. The relocation of the septic drainline is to prevent potential impacts from the proposed NCDOT PUE. Sufficient area of Provisionally Suitable Soils for TS-I Subsurface Drip Systems also exists to support 100% repair area.

LOCATION

The lot is located at 571 GARDNER ROAD, Angier, NC.

PLANS AND SPECIFICATIONS

A. Septic Tank

1. The septic tank shall be replaced if needed. The septic tank will be State approved (Section .1953 of 15A NCAC 18A), watertight, structurally sound, and 1,000 gallons in capacity (at minimum).
2. The septic tank shall be fitted with an approved effluent filter.
3. It is the responsibility of the septic contractor to thoroughly inspect the septic tank prior to accepting delivery to assure that the tanks have had time to properly cure and are free of cracks or other structural deficiencies.

B. Pipes and Fittings

1. All discharge piping, connectors and supply lines should be made of SCH 40 PVC.
2. All joints must be properly "welded" utilizing the appropriate PVC cement for each application.

C. Distribution Method

1. The existing septic drainline is fed via gravity flow. The relocated septic drainline is expected to be fed via gravity flow.

D. Drainfield Installation-Initial

1. The relocated drainline location has been laid out on-site utilizing metal stemmed flags. The new drainline is approximately 75-ft in length. The property owner/builder should mark this area and isolate it as much as possible from construction traffic.
2. Under no circumstances shall any construction take place within the drainfield area while the soil is in a wet condition.
3. The specified system is a gravity-flow system. Conventional gravel drainlines, or equivalent will be utilized. Drainlines shall be installed so that gravity flow can be utilized.
4. The new lateral is to be installed keeping the individual trench bottom level from beginning to end.
6. The trench should be left open for the final inspection by the HCEH.
7. The portions of the exiting drainlines should be dammed off at the PUE.

E. Final Landscaping

1. Final cover over the drainfield shall be at least 6 inches deep. If additional cover is needed, Group II (sandy loam) or Group III (sandy clay loam) soil shall be utilized.
2. The drainfield shall be shaped to shed rainwater and be free from low spots.
3. The drainfield area should be planted with grass as soon as possible to prevent erosion. The soil should be limed (if necessary) and fertilized prior to planting. After applying grass seed, the area should be heavily mulched with straw or other suitable material.

F. Utility Conflicts

1. The builder and property owner must take special care in planning for water, power, gas, telephone and cable lines. These utilities shall be kept clear of all parts of the septic system and its proposed repair area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage and permit revocation. If there are any questions regarding preferred routes, contact the HCEH as soon as possible.
2. Lawn irrigation should not be placed over the drainfield area.

MAINTENANCE

G. In General

1. The owner must maintain the drainfield area through periodic mowing. The drainfield must not be allowed to become overgrown.
2. The septic tank should be pumped every 4 years or when the solids within the septic tank reach an elevation that is equivalent to 25 percent of the volume of the tank. In some situations, the tanks may need to be pumped more frequently. If using a garbage disposal, it is recommended that the homeowner has the septic and pump tanks cleaned out annually.
3. When it becomes necessary to clean the effluent filter, the filter should be removed and the accumulated debris washed back into the septic tank – not onto the lawn.
4. Any damp areas, leakages or malfunctions in the drainfield area should be addressed immediately.
5. Divert gutter downspouts and surface water runoff away from the septic tanks and septic drainfield.

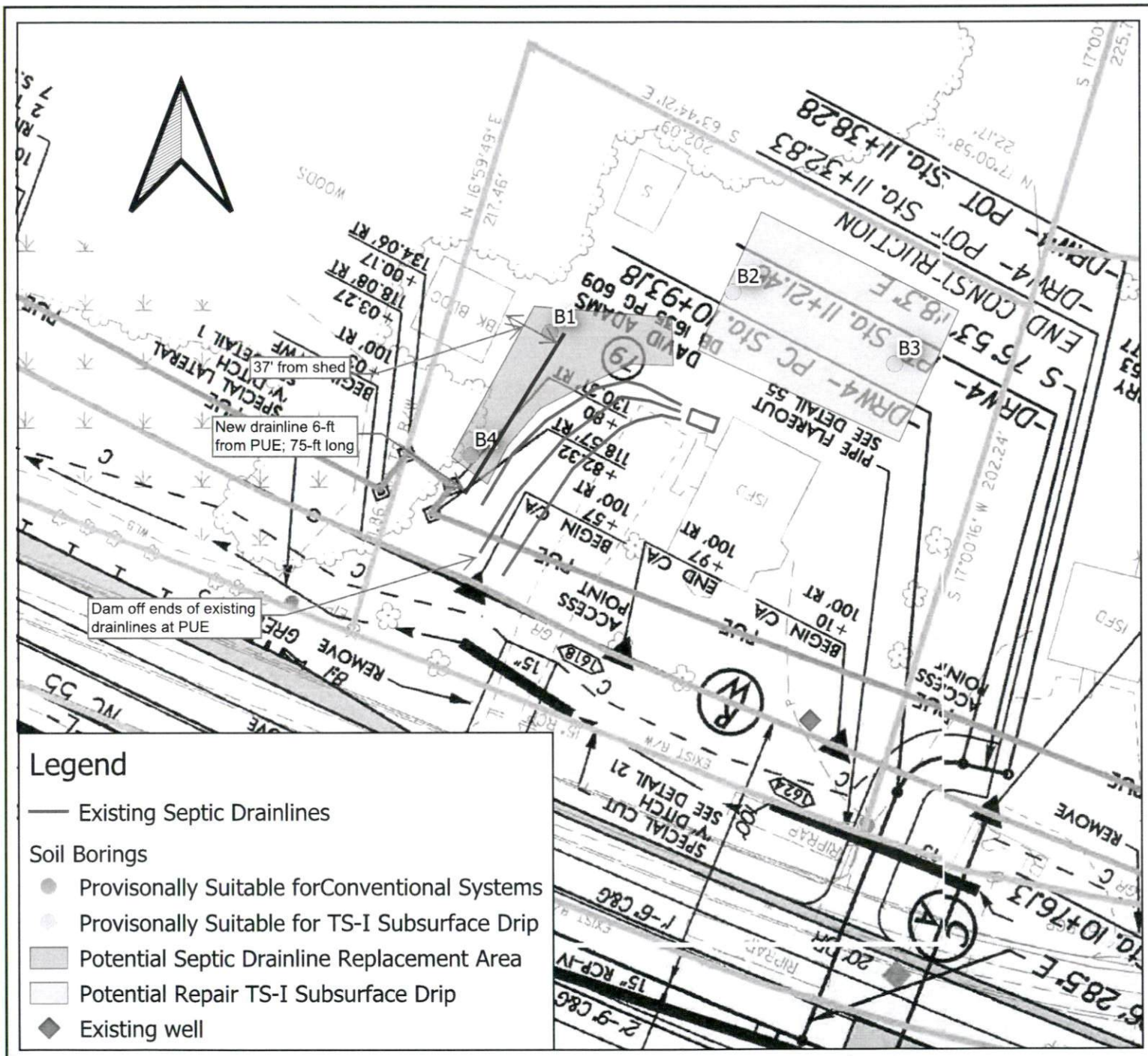
DESIGN SPECIFICS

Initial System

Daily Design Flow:	360 GPD – 3-bedroom house
Septic Tank Size:	1,000 Gallons (minimum)
Effluent Loading Rate:	0.4 GPD per sq. ft.
Drainfield Type:	Gravel or Equivalent
Distribution Method:	N/A
Number of Drainlines:	One
Total Trench Length to Installed:	75 Feet
Maximum Trench Depth:	As needed
Final Cover Requirement:	18 Inches

Repair Specifics

Effluent Loading Rate:	0.2 GPD per sq. ft.
Drainfield Type:	TS-I Subsurface Drip
Distribution Method:	Subsurface Drip
Total Trench Length:	900' (42' x 42')
Maximum Trench Depth:	6 Inches
Final Cover Requirement:	6 Inches



Ground Truth Soil Consulting, PLLC

571 Gardner Rd
Angier, NC

PIN - 0673-51-7357.000

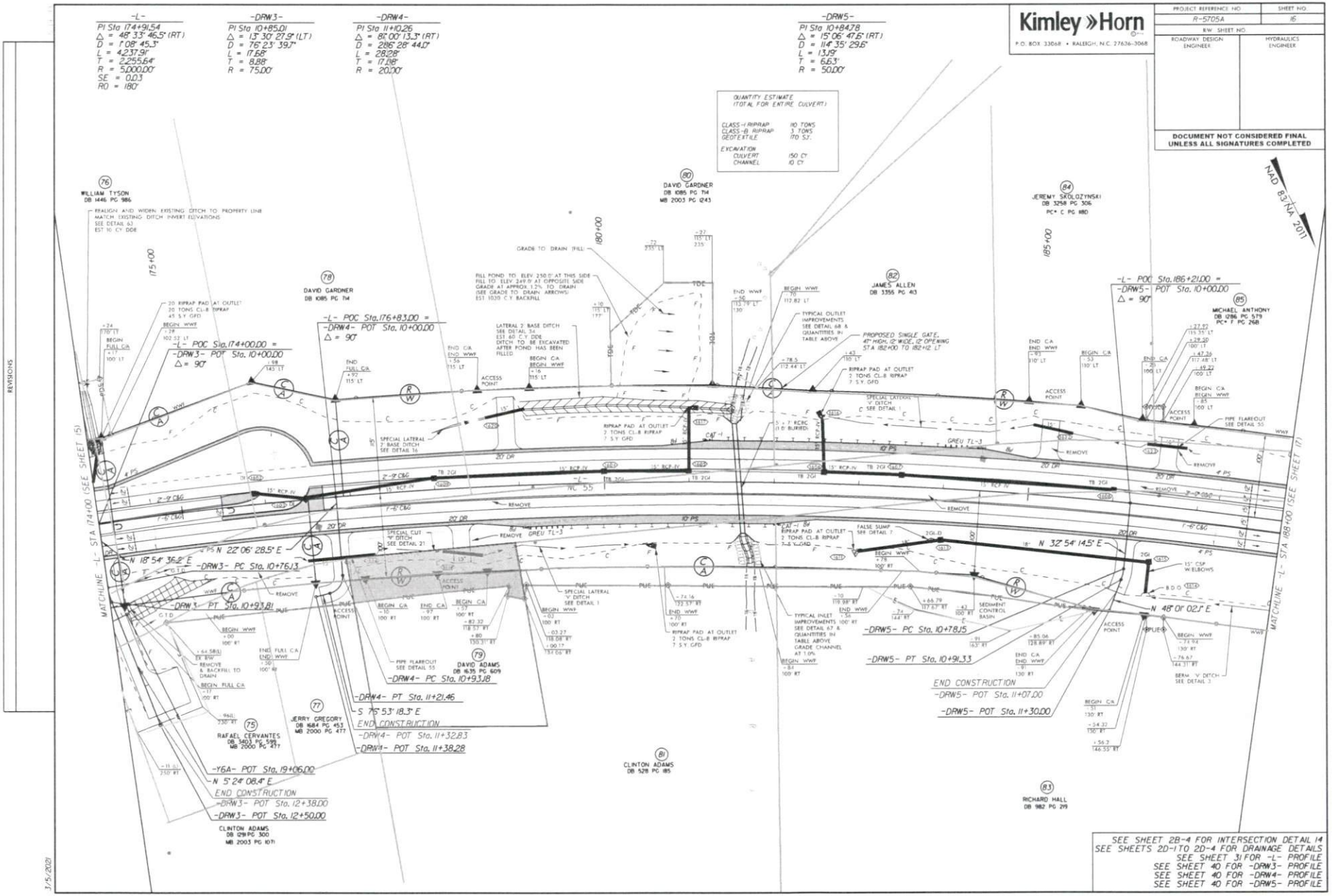
Soil and Site Evaluation

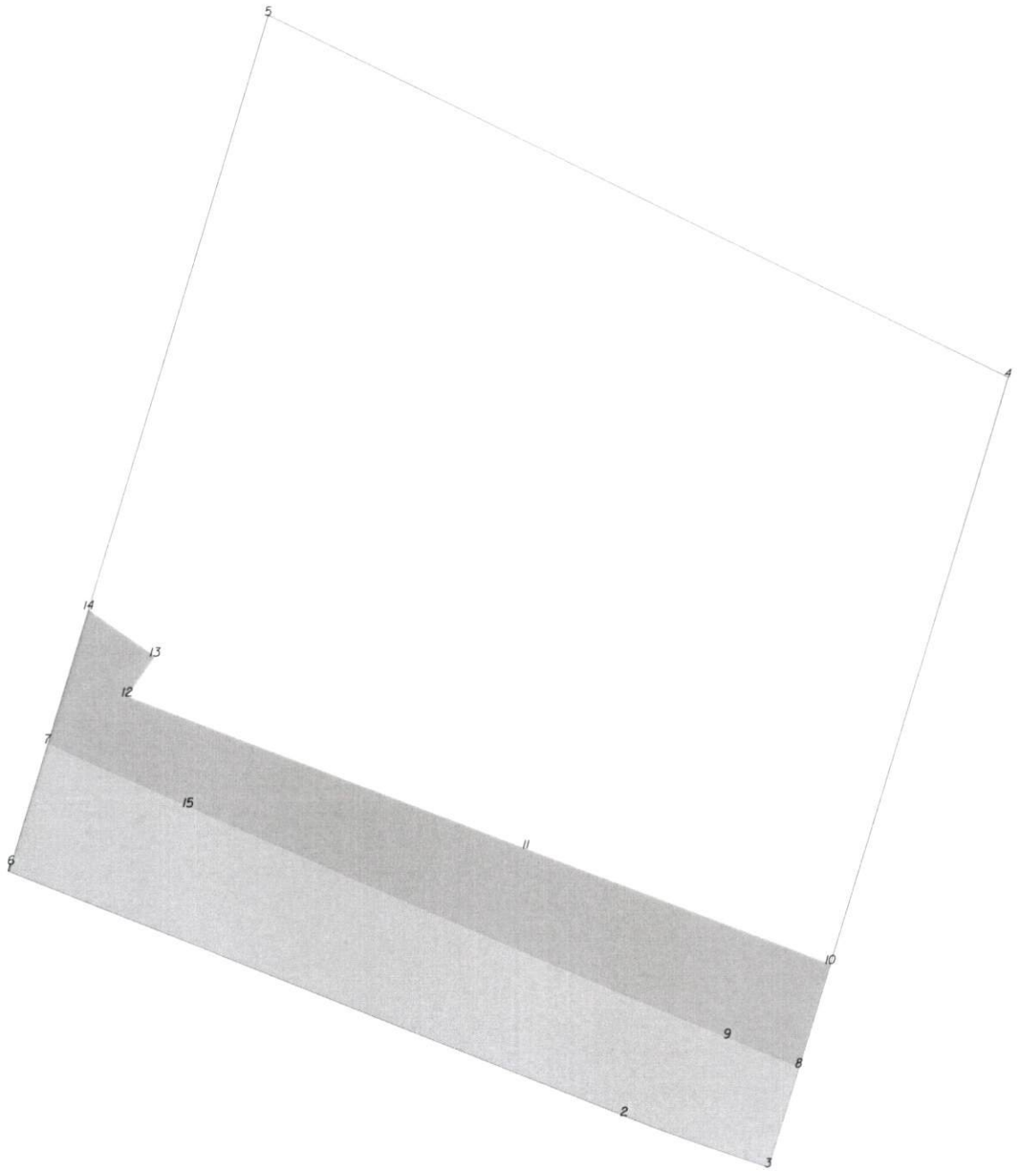
Harnett County

Scale:
0 25 50 ft

Figure	Date:
1	August 2021
	GT Job No. 21-147

LICENSED SOIL SCIENTIST
JOHN C. ROBERTS
1292
STATE OF NORTH CAROLINA


-L-
PI Sta 174+91.54
Δ = 48° 33' 46.5" (RT)
D = 1°08' 45.3"
L = 4,237.91'
T = 2,255.64'
R = 5,000.00'
SE = 0.03
RO = 180°
-DRW3-
PI Sta 10+85.01
Δ = 13° 30' 27.9" (LT)
D = 76° 23' 39.7"
L = 17.68'
T = 8.88'
R = 75.00'
-DRW4-
PI Sta 11+10.26
Δ = 81° 00' 13.3" (RT)
D = 286° 28' 44.0"
L = 28.28'
T = 17.08'
R = 20.00'
-DRW5-
PI Sta 10+84.78
Δ = 15° 06' 47.6" (RT)
D = 114° 35' 29.6"
L = 13.19'
T = 6.63'
R = 50.00'
QUANTITY ESTIMATE (TOTAL FOR ENTIRE CULVERT)
CLASS-I RIPRAP 110 TONS
CLASS-B RIPRAP 3 TONS
GEOTEXTILE 170 SY.
EXCAVATION
CULVERT 150 CY.
CHANNEL 10 CY
Kimley»Horn
P.O. BOX 33068 • RALEIGH, N.C. 27636-3068
PROJECT REFERENCE NO. R-5705A
SHEET NO. 16
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NA 2011
REVISIONS
3/5/2021
MATCHLINE -L- STA 174+00 (SEE SHEET 15)
MATCHLINE -L- STA 188+00 (SEE SHEET 17)
WILLIAM TYSON DB 1446 PG 986
DAVID GARDNER DB 1085 PG 714
DAVID GARDNER DB 1085 PG 714 MB 2003 PG 1243
JAMES ALLEN DB 3356 PG 413
JEREMY SKOLOZYNSKI DB 3258 PG 306 PC# C PG 880
MICHAEL ANTHONY DB 1286 PG 579 PC# F PG 268
DAVID ADAMS DB 1635 PG 609
JERRY GREGORY DB 1684 PG 453 MB 2000 PG 477
RAFAEL CERVANTES DB 5403 PG 598 MB 2000 PG 277
CLINTON ADAMS DB 1219 PG 300 MB 2003 PG 107
CLINTON ADAMS DB 528 PG 185
RICHARD HALL DB 982 PG 219
-L- POC Sta.174+00.00 = -DRW3- POT Sta. 10+00.00 Δ = 90°
-L- POC Sta.176+83.00 = -DRW4- POT Sta. 10+00.00 Δ = 90°
-L- POC Sta.186+21.00 = -DRW5- POT Sta. 10+00.00 Δ = 90°
-DRW3- PC Sta. 10+76.13
-DRW3- PT Sta. 10+93.81
-DRW4- PC Sta. 10+93.18
-DRW4- PT Sta. 11+21.46
-DRW4- POT Sta. 11+32.83
-DRW4- POT Sta. 11+38.28
-DRW5- PC Sta. 10+78.15
-DRW5- PT Sta. 10+91.33
-DRW5- POT Sta. 11+07.00
-DRW5- POT Sta. 11+30.00
-Y6A- POT Sta. 19+06.00
-DRW3- POT Sta. 12+38.00
-DRW3- POT Sta. 12+50.00
END CONSTRUCTION
N 18° 54' 36.2" E
N 22° 06' 28.5" E
N 32° 54' 14.5" E
N 48° 01' 02.1" E
S 75° 53' 18.3" E
N 5° 24' 08.4" E
20' RIPRAP PAD AT OUTLET 30 TONS CL-B RIPRAP 45 S.Y. GFD
PROPOSED SINGLE GATE, 47" HIGH, 12' WIDE, 12' OPENING STA 182+00 TO 182+12 LT
RIPRAP PAD AT OUTLET 2 TONS CL-B RIPRAP 7 S.Y. GFD
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 16
SPECIAL LATERAL V DITCH SEE DETAIL 1
SPECIAL CUT V DITCH SEE DETAIL 21
SPECIAL CATCH V DITCH SEE DETAIL 1
TYPICAL OUTLET IMPROVEMENTS SEE DETAIL 68 & QUANTITIES IN TABLE ABOVE
TYPICAL INLET IMPROVEMENTS 100' RT SEE DETAIL 67 & QUANTITIES IN TABLE ABOVE GRADE CHANNEL AT 1.0%
FALSE SUMP SEE DETAIL 7
SEDIMENT CONTROL BASIN
PIPE FLAREOUT SEE DETAIL 55
BERM 'V' DITCH SEE DETAIL 3
GRADE TO DRAIN (FILL)
FILL POND TO ELEV 250.0' AT THIS SIDE FILL TO ELEV 249.9' AT OPPOSITE SIDE GRADE AT APPROX 1.2% TO DRAIN (SEE GRADE TO DRAIN ARROWS) EST 1030 C.Y. BACKFILL
REALIGN AND WIDEN EXISTING DITCH TO PROPERTY LINE MATCH EXISTING DITCH INVERT ELEVATIONS SEE DETAIL 63 EST 10 CY DDE
ACCESS POINT
REMOVE
REMOVE & BACKFILL TO DRAIN
SEE SHEET 2B-4 FOR INTERSECTION DETAIL 14
SEE SHEETS 2D-1 TO 2D-4 FOR DRAINAGE DETAILS
SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 40 FOR -DRW3- PROFILE
SEE SHEET 40 FOR -DRW4- PROFILE
SEE SHEET 40 FOR -DRW5- PROFILE



THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS. THE PROPERTY SHOWN ON THIS MAP WAS LOCATED FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR HIGHWAY DESIGN PURPOSES. SOME ERROR MAY EXIST BETWEEN THE GRAPHICAL AND ACTUAL GROUND LOCATIONS OF PROPERTY LINES. THIS MAP IS TO BE USED AS A GRAPHICAL REPRESENTATION OF THE NCDOT'S INTENT TO ACQUIRE PROPERTY FOR RIGHT OF WAY PURPOSES, AND IN NO WAY REPRESENTS AN ACTUAL BOUNDARY SURVEY OF THIS PROPERTY.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
RIGHT OF WAY BRANCH	
DAVID ADAMS	03-10-2021
PARCEL # 079	S:\CADD\R5705A\DDRAFT\R5705A_D
DB 1635 PG 609	UNKNOWN SCALE

	SQR FT	ACRES	SQR M	HECTARES
ROW Right	5810.804	0.133	5.39.844	0.054

FROM - TO	DISTANCE (FT/M)		BEARING	RADIUS (FT/M)		CURVE LENGTH (FT/M)	
-L- Sta.177+00 - 7	137.597	41.940	N 19°20'48.0" W				
7 - 6	30.935	9.429	S 16°59'49.2" W				
6 - 1	1.855	0.566	S 16°59'49.2" W				
1 - 2	162.385	49.495	S 68°13'48.0" E				
2 - 3	37.660	11.479	S 70°2'36.2" E	595.045	181.370	37.666	11.481
3 - 8	25.816	7.869	N 17°0'16.0" E				
8 - 9	18.937	5.772	N 67°38'54.1" W	4900.000	1493.523	18.937	5.772
9 - 7	181.758	55.400	N 66°28'29.7" W	4900.000	1493.523	181.769	55.403

	SQR FT	ACRES	SQR M	HECTARES
PUE Right	4784.982	0.110	444.541	0.044

FROM - TO	DISTANCE (FT/M)		BEARING	RADIUS (FT/M)		CURVE LENGTH (FT/M)	
-L- Sta.177+00 - 8	147.352	44.913	N 7°07'57.5" E				
8 - 10	26.384	8.042	N 17°0'16.0" E				
10 - 11	79.848	24.338	N 69°3'6.7" W				
11 - 12	104.843	31.956	N 69°1'29.0" W				
12 - 13	11.955	3.644	N 35°20'26.4" E				
13 - 14	19.966	6.086	N 54°39'33.6" W				
14 - 7	34.360	10.473	S 16°59'49.2" W				
7 - 15	37.706	11.493	S 65°37'57.6" E	4900.000	1493.523	37.706	11.493
15 - 9	144.058	43.909	S 66°41'43.3" E	4900.000	1493.523	144.063	43.910
9 - 8	18.937	5.772	S 67°38'54.1" E	4900.000	1493.523	18.937	5.772

TYPE	COUNT	SQR FEET	ACRES
Parcel	1	42142.465	0.967
ROW Right	1	5810.804	0.133
PUE Right	1	4784.982	0.110
ROW Left	0	0.000	0.000
PDE Left	0	0.000	0.000
PDE Right	0	0.000	0.000
TDE Left	0	0.000	0.000
TDE Right	0	0.000	0.000
TCE Left	0	0.000	0.000
TCE Right	0	0.000	0.000
PUE Left	0	0.000	0.000
TSE Left	0	0.000	0.000
TSE Right	0	0.000	0.000
DUE Left	0	0.000	0.000
DUE Right	0	0.000	0.000
DTE Left	0	0.000	0.000
DTE Right	0	0.000	0.000
AUE_Left	0	0.000	0.000
AUE_Right	0	0.000	0.000
PCE Left	0	0.000	0.000
PCE Right	0	0.000	0.000
TUE Left	0	0.000	0.000
TUE Right	0	0.000	0.000
REM Left	0	0.000	0.000
REM Right	0	0.000	0.000
Other Left	0	0.000	0.000
Other Right	0	0.000	0.000
PE Left	0	0.000	0.000
PE Right	0	0.000	0.000

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
RIGHT OF WAY BRANCH	
DAVID ADAMS	03-10-2021
PARCEL # 079	S:\CADD\R5705A\DDRAFT\R5705A_D
DB 1635 PG 609	UNKNOWN SCALE