

R-2721 Utility Environmental Impact Narrative

Date: June 21, 2018

Utility Owner: Town of Cary, N.C.

Contact: Hinde Engineering, Inc.
ATTN: R. B. Wilkins, PE
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Cary, NC 27513
rwilkins@hindeengineering.com

Utility: Gravity Sewer (various sizes)

General Utility Relocation:

This narrative applies to the relocation of two sanitary sewer outfall lines owned and maintained by the Town of Cary. Both lines are currently located inside utility easements owned by the Town of Cary which will be inside a portion of the proposed right-of-way and crossing the proposed project in a perpendicular configuration. Both lines conflict with proposed construction and the relocation of each is briefly described below.

Environmental Impacts:

- **Site A1:**

1. Station 247+78 to Station 247+95 -L-

This gravity sewer line is 42 inches in diameter and is being relocated across the entire width of the right-of-way with all manholes being located outside the right-of-way and control of access. This will involve installation of approximately 500 linear feet of pipe and four new precast manholes and will represent 35 square feet of mitigable impact in Zone 1 and 237 square feet of allowable impact in Zone 2. These impacts have been listed on the impact summary sheet and noted on the plans.

- **Site A2:**

1. Station 279+63 to Station 280+67 -L-

This gravity sewer line is 36 inches in diameter and is being relocated across the entire width of the right-of-way with all manholes being located outside the right-of-way and control of access. This will involve the relocation of 160 linear feet of pipe and three new precast manholes and will represent 1181 square feet of mitigable impact in Zone 1 and 1203 square feet of allowable impact in Zone 2. These impacts have been listed on the impact summary sheet and noted on the plans.

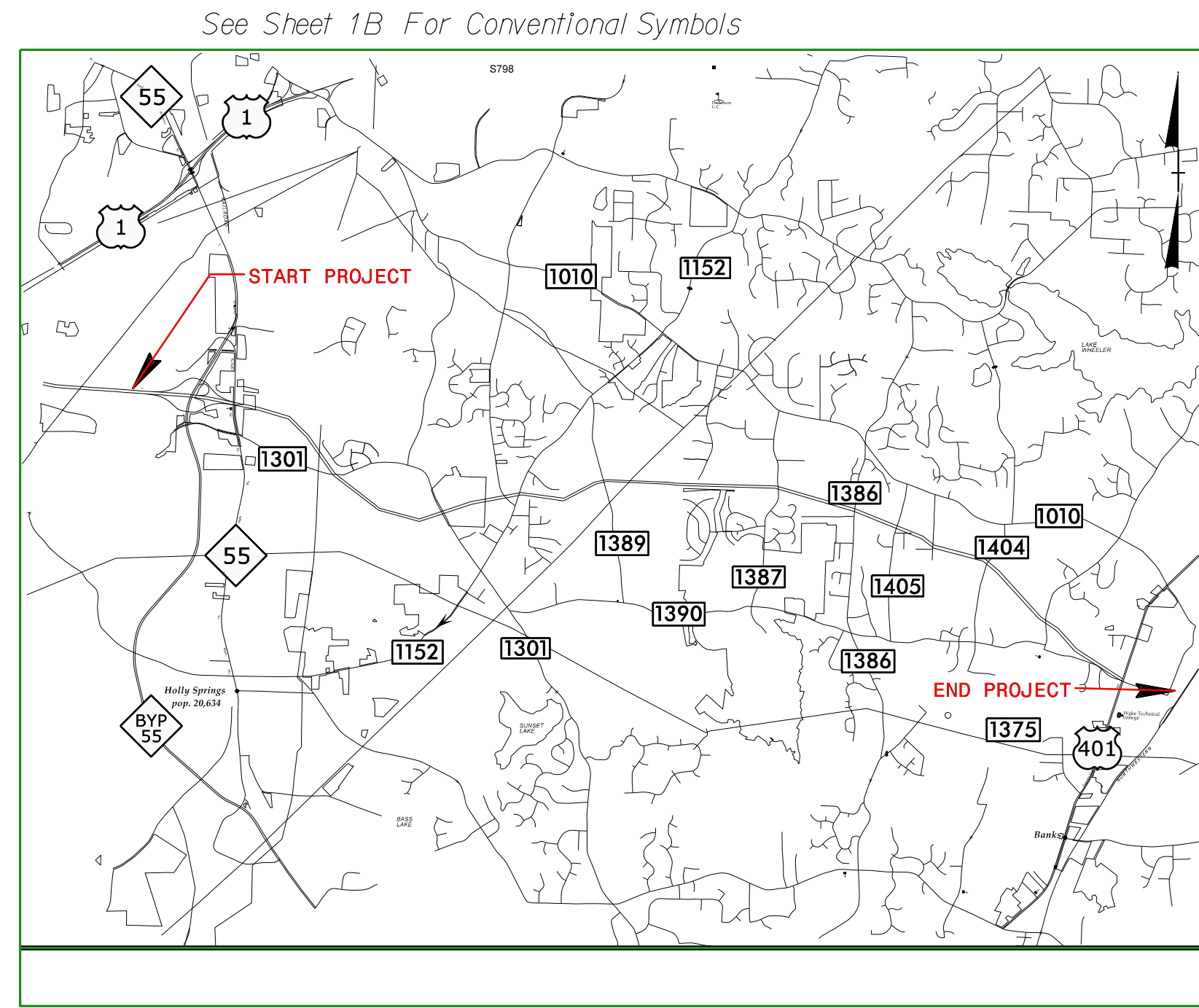
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2721	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
37673.3.GV3 (A)	NHP-0540(041)	PE, R/W	
37673.4.GV3 (B)		PE, R/W	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

EAU PERMIT DRAWINGS WAKE COUNTY

LOCATION: COMPLETE 540 - FROM WEST OF NC55 TO EAST OF HWY 401

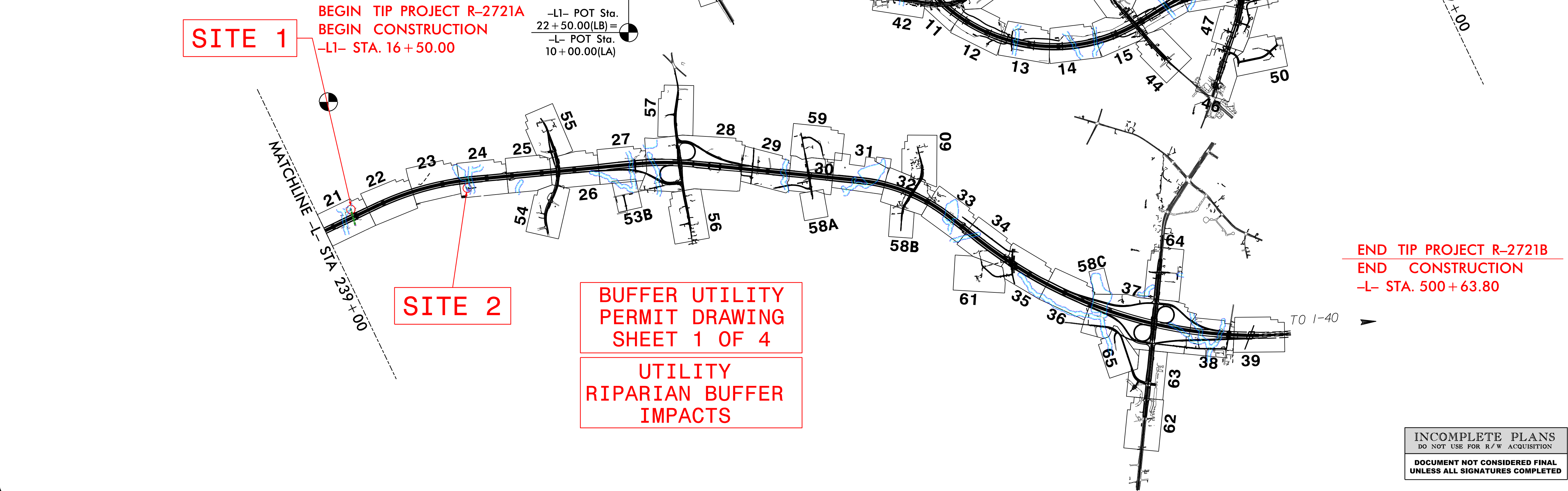
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES



65% SUBMITTAL

TIP PROJECT: R-2721

CONTRACT:



SITE 1

BEGIN TIP PROJECT R-2721A
BEGIN CONSTRUCTION
-L- STA. 16 + 50.00

-L- POT Sta.
22 + 50.00(LB) =
-L- POT Sta.
10 + 00.00(LA)

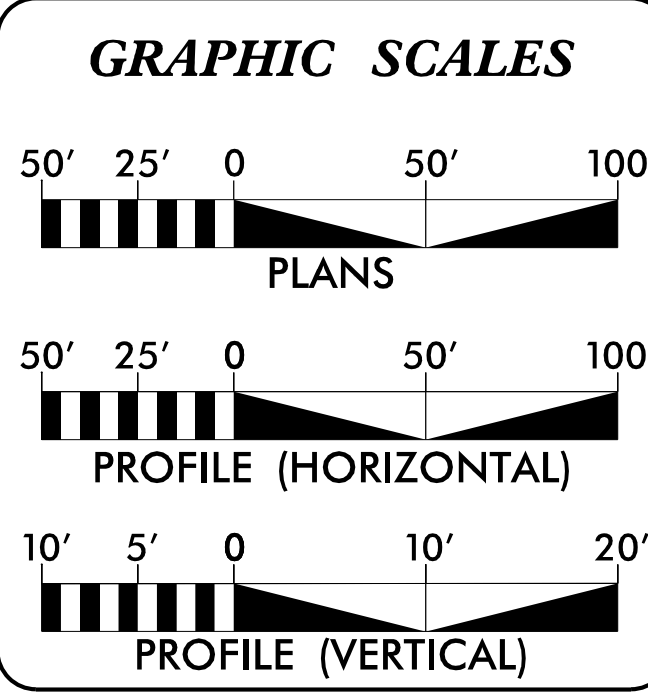
SITE 2

BUFFER UTILITY
PERMIT DRAWING
SHEET 1 OF 4

UTILITY
RIPARIAN BUFFER
IMPACTS

END TIP PROJECT R-2721B
END CONSTRUCTION
-L- STA. 500 + 63.80

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2018	=	28,200
ADT 2040	=	66,400
K	=	12 %
D	=	65 %
T	=	11 % *
V	=	75 MPH
* TTST	=	7% DUAL 4%
FUNC CLASS	=	INTERSTATE STATEWIDE TIER

PROJECT LENGTH

2018 STANDARD SPECIFICATIONS	RIGHT OF WAY DATE:	February 18, 2020
	LETTING DATE:	February 18, 2020

Prepared in the Office of:

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NC License Number F-0159

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SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243

NC FIRM LICENSE No: F-1148
NC FIRM LICENSE No: C-890

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
February 18, 2020

LETTING DATE:
February 18, 2020

Brian K. Eason, PE
PROJECT ENGINEER

Christina L. Yokeley, EI
PROJECT DESIGN ENGINEER

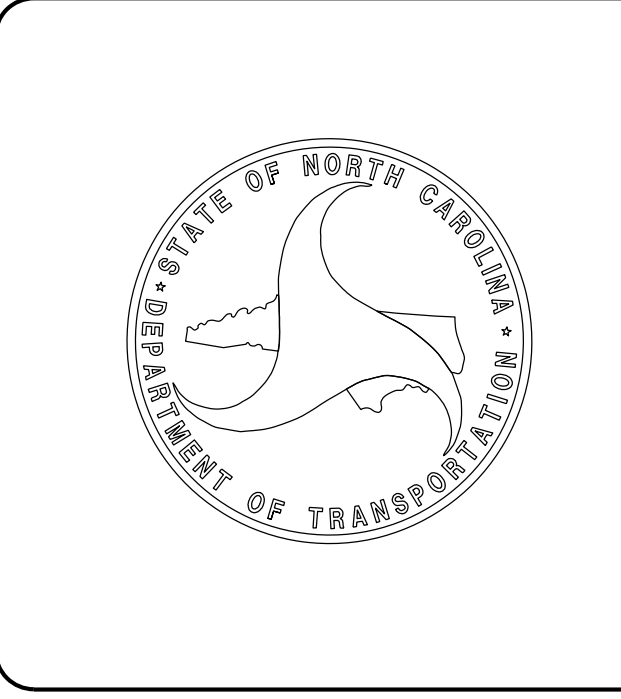
Dennis Jernigan, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



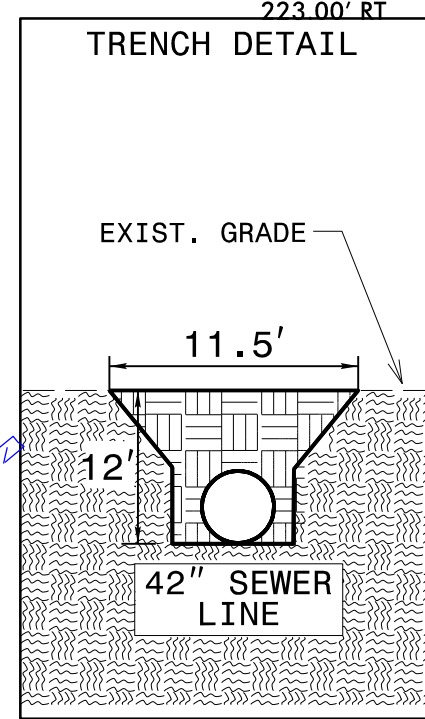
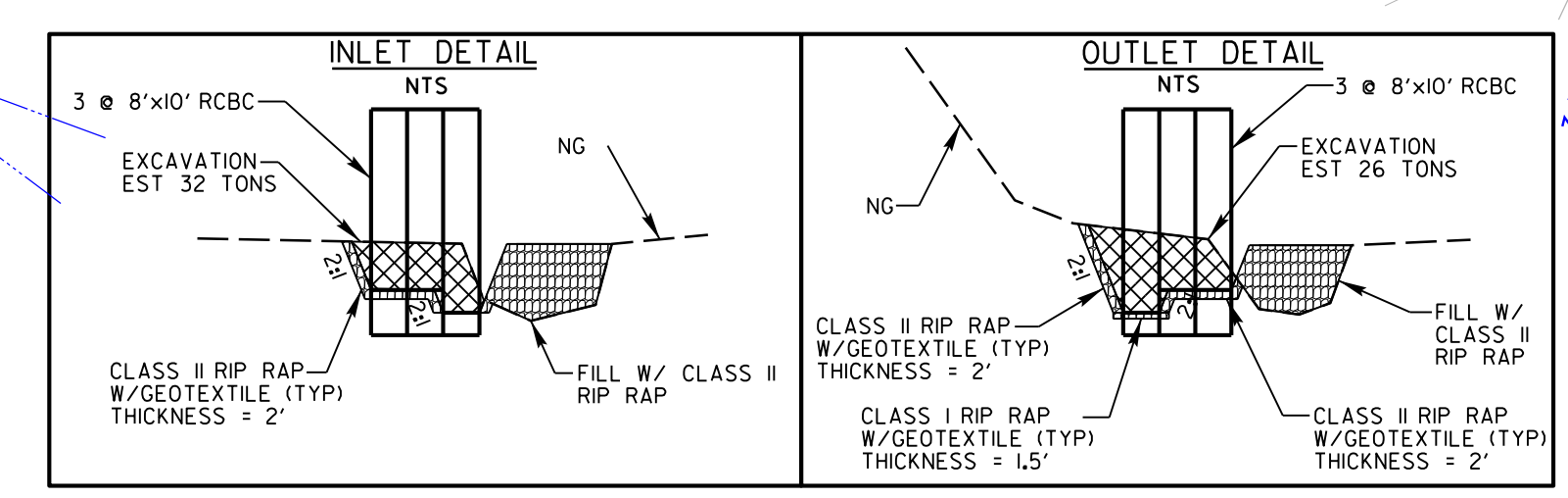
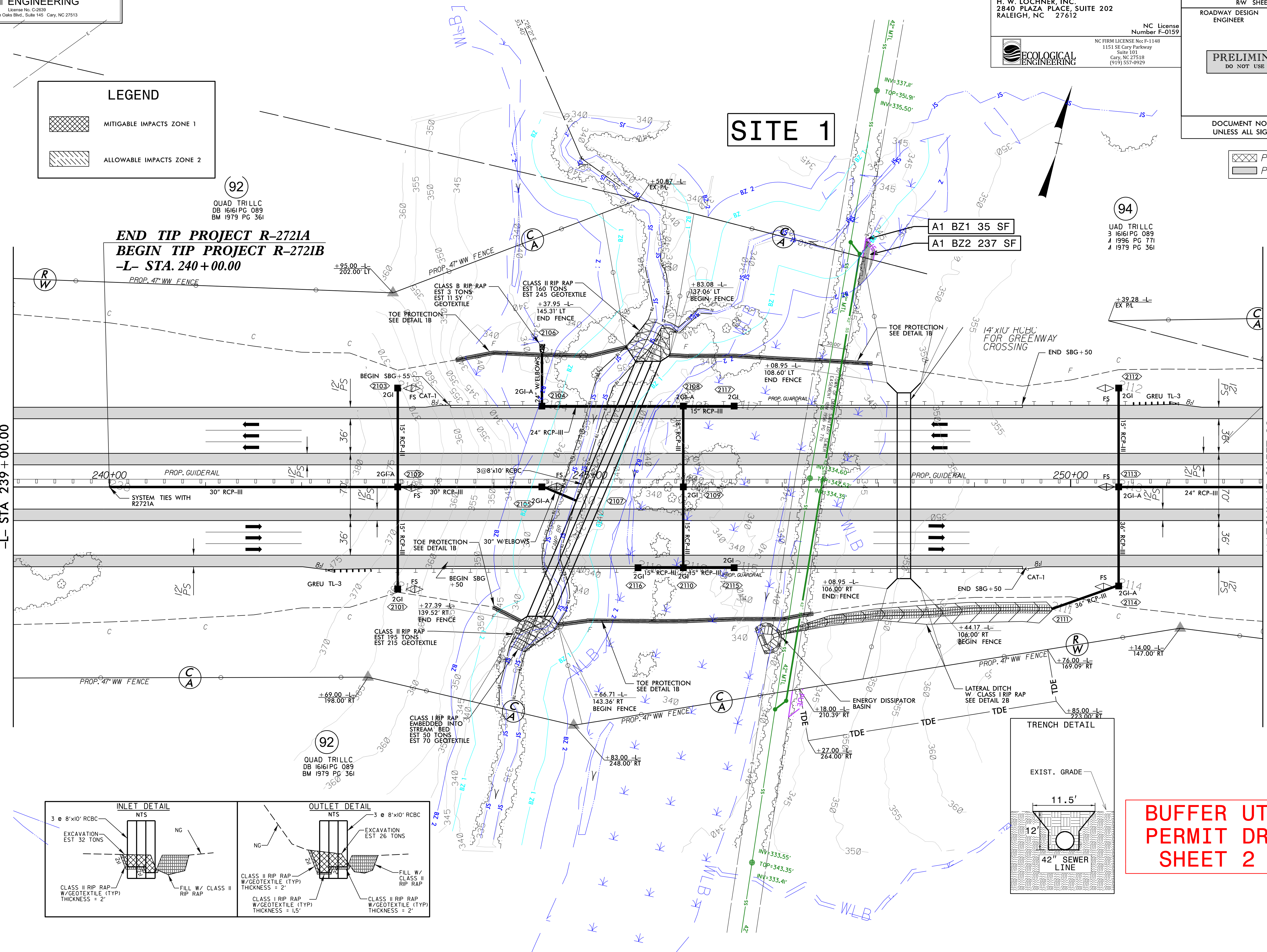
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LEGEND

	MITIGABLE IMPACTS ZONE 1
	ALLOWABLE IMPACTS ZONE 2

MATCHLINE SHEET 20
 -L- STA 239 + 00.00

MATCHLINE SHEET 22
 -L- STA 252 + 00.00



BUFFER UTILITY PERMIT DRAWING SHEET 2 OF 4

SEE SHEET 75 FOR -L- PROFILE

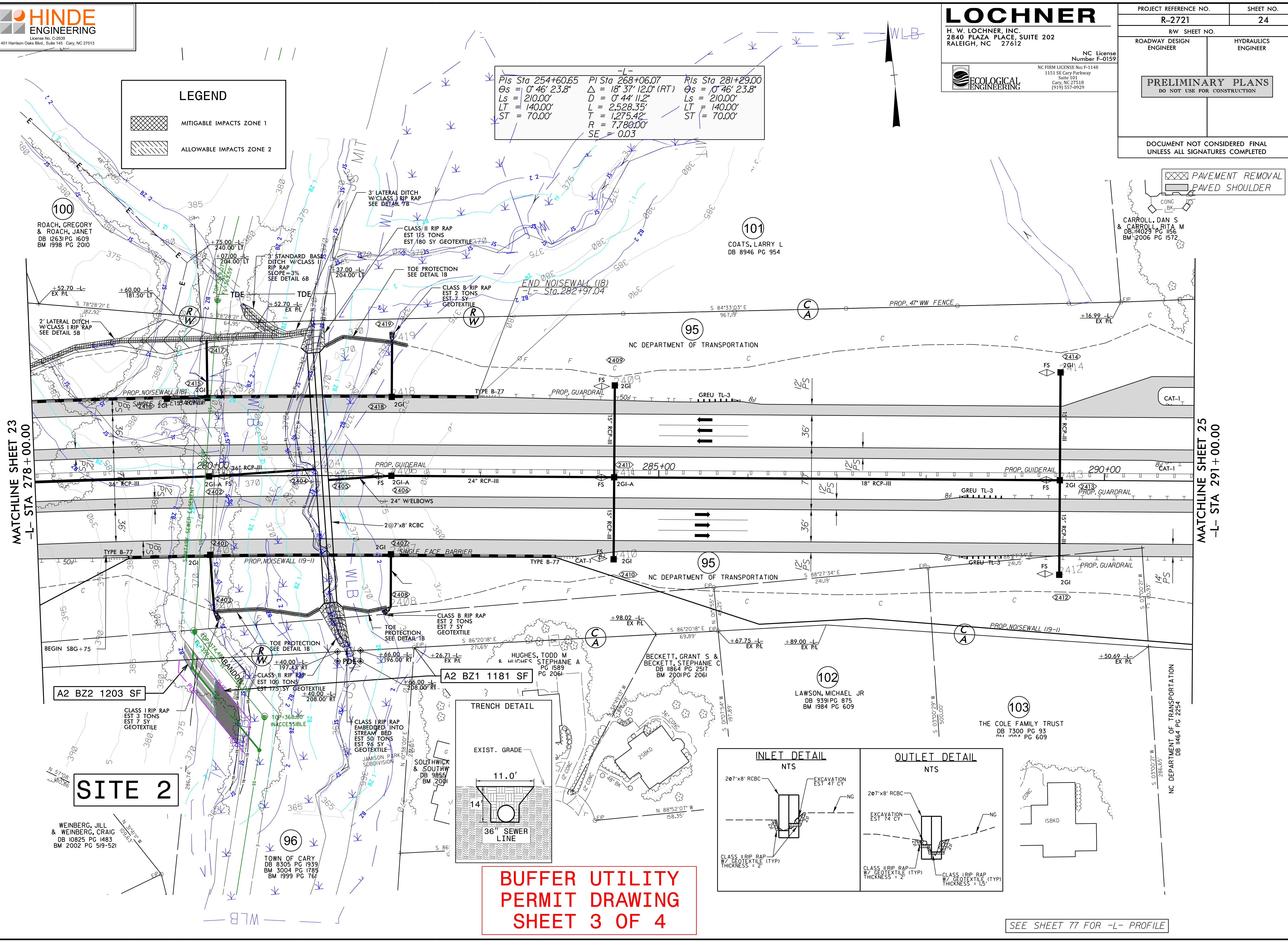
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PROJECT REFERENCE NO. R-2721	SHEET NO. 24
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

LEGEND

	MITIGABLE IMPACTS ZONE 1
	ALLOWABLE IMPACTS ZONE 2

$PIs\ Sta\ 254+60.65$ $\Theta s = 0^{\circ} 46' 23.8"$ $Ls = 210.00'$ $LT = 140.00'$ $ST = 70.00'$	$PI\ Sta\ 268+06.07$ $\Delta = 18^{\circ} 37' 12.0"$ (RT) $D = 0^{\circ} 44' 11.2"$ $L = 2,528.35'$ $T = 1,275.42'$ $R = 7,780.00'$ $SE = 0.03$	$PIs\ Sta\ 281+29.00$ $\Theta s = 0^{\circ} 46' 23.8"$ $Ls = 210.00'$ $LT = 140.00'$ $ST = 70.00'$
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BUFFER UTILITY PERMIT DRAWING SHEET 3 OF 4

SEE SHEET 77 FOR -L- PROFILE

21 JUN 2018 17:31 C:\DOT_R-2721\Drawings\Engineering\Utilities\Design\Utility\Plans\R2721_RDY_PSH_24_Buffer.dgn
 51499

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT		
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)	
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)			
A1	247+78 to 247+95 -L-	42" Gravity Sewer			X			237	237	35		35		
A2	279+ 63 to 280+67 -L-	36" Gravity Sewer			X			1203	1203	1181		1181		
TOTALS*:						0	1440	1440	1216	0	1216	0	0	

NOTES:
Impacts other than perpendicular underground utility crossing (non-electric)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
June 21, 2018
Wake County
R-2721
37673
SHEET 4 OF 4