

J. S. Cook
 EVAN S. COOK
 PROFESSIONAL ENGINEER

GENERAL NOTES: 2012 SPECIFICATIONS
 EFFECTIVE: 01-17-2012
 REVISED: 07-30-2012

GRADE LINE:
 GRADING AND SURFACING:

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 AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

EFF. 01-17-2012
 REV. 10-30-2012

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

STD.NO.	TITLE	SHEET NUMBER	SHEET
DIVISION 2 - EARTHWORK			
200.02	Method of Clearing - Method II	1	TITLE SHEET
225.04	Method of Obtaining Superelevation - Two Lane Pavement	1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
DIVISION 3 - PIPE CULVERTS			
300.01	Method of Pipe Installation	1-B	CONVENTIONAL SYMBOLS
310.10	Driveway Pipe Construction	1-C	SURVEY CONTROL SHEET
DIVISION 5 - SUBGRADES, BASES AND SHOULDERS			
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I	1-D THRU 1-H 2 - 2-S	ALIGNMENT NOTES PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND DETAIL SHEETS
DIVISION 6 - ASPHALT BASES AND PAVEMENTS			
654.01	Pavement Repairs	3-A THRU 3-B 3-C	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF EARTHWORK QUANTITIES AND PAVEMENT REMOVAL
DIVISION 8 - INCIDENTALS			
840.01	Brick Catch Basin - 12" thru 54" Pipe	4 THRU 8	PLAN SHEETS
840.02	Concrete Catch Basin - 12" thru 54" Pipe	9 THRU 13	PROFILE SHEETS
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin	TMP-1 THRU TMP-21	TRAFFIC MANAGEMENT PLANS
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe	PMP-1 THRU PMP-4	PAVEMENT MARKING PLANS
840.24	Frames and Narrow Slot Sag Grates	EC-1 THRU EC-10	EROSION CONTROL
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe	SIGN-1 THRU SIGN-11	SIGNING PLANS
840.66	Drainage Structure Steps	SIG-1 THRU SIG-4	SIGNAL PLANS
846.01	Concrete Curb, Gutter and Curb & Gutter	X-1A	CROSS-SECTION SUMMARY SHEET
848.02	Driveway Turnout - Radius Type	X-1 THRU X-24	CROSS-SECTIONS
848.04	Street Turnout		
852.01	Concrete Islands		
876.02	Guide for Rip Rap at Pipe Outlets		

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 WITH RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS. UTILITY OWNERS ON THIS PROJECT ARE:
 TELEPHONE - AT&T (SHANNON COSTON, 910-341-1623)
 POWER - DUKE ENERGY PROGRESS (SHELIA TALTON, 919-481-6126)
 WATER & SEWER - CAPE FEAR PUBLIC UTILITY AUTHORITY (JIM TAYSON, 910-332-6738)
 CABLE - TIME WARNER CABLE (ROBERT JOHN, 910-619-0192)

08-JUL-2014 15:25 NEW_HANOVER\Castle Hayne RAB_46130\ROADWAY\Pro\PLAN_SHEETS\PSH_1A.dgn
 01-CRBY\ADTHRELE\AT DRIB2744R
 8/17/99
 REVISIONS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ EDM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w.l.b.-
Proposed Wetland Boundary	w.l.b.
Existing Endangered Animal Boundary	-e.a.b.-
Existing Endangered Plant Boundary	-e.p.b.-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	□
Church	⊕
Dam	▬

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-j.s.-
Buffer Zone 1	-b.z. 1-
Buffer Zone 2	-b.z. 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊕
Proposed Lateral, Tail, Head Ditch	▬
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	⊕ WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----
Orchard	⊕
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-S-

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
Recorded U/G Power Line	-P-
Designated U/G Power Line (S.U.E.*)	-P--

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-T-
Designated U/G Telephone Cable (S.U.E.*)	-T--
Recorded U/G Telephone Conduit	-TC-
Designated U/G Telephone Conduit (S.U.E.*)	-TC--
Recorded U/G Fiber Optics Cable	-T FO-
Designated U/G Fiber Optics Cable (S.U.E.*)	-T FO--

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-W-
Designated U/G Water Line (S.U.E.*)	-W--
Above Ground Water Line	-A/G Water-

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-TV-
Designated U/G TV Cable (S.U.E.*)	-TV--
Recorded U/G Fiber Optic Cable	-TV FO-
Designated U/G Fiber Optic Cable (S.U.E.*)	-TV FO--

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-G-
Designated U/G Gas Line (S.U.E.*)	-G--
Above Ground Gas Line	-A/G Gas-

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-SS-
Above Ground Sanitary Sewer	-A/G Sanitary Sewer-
Recorded SS Forced Main Line	-FSS-
Designated SS Forced Main Line (S.U.E.*)	-FSS--

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-UTIL-
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

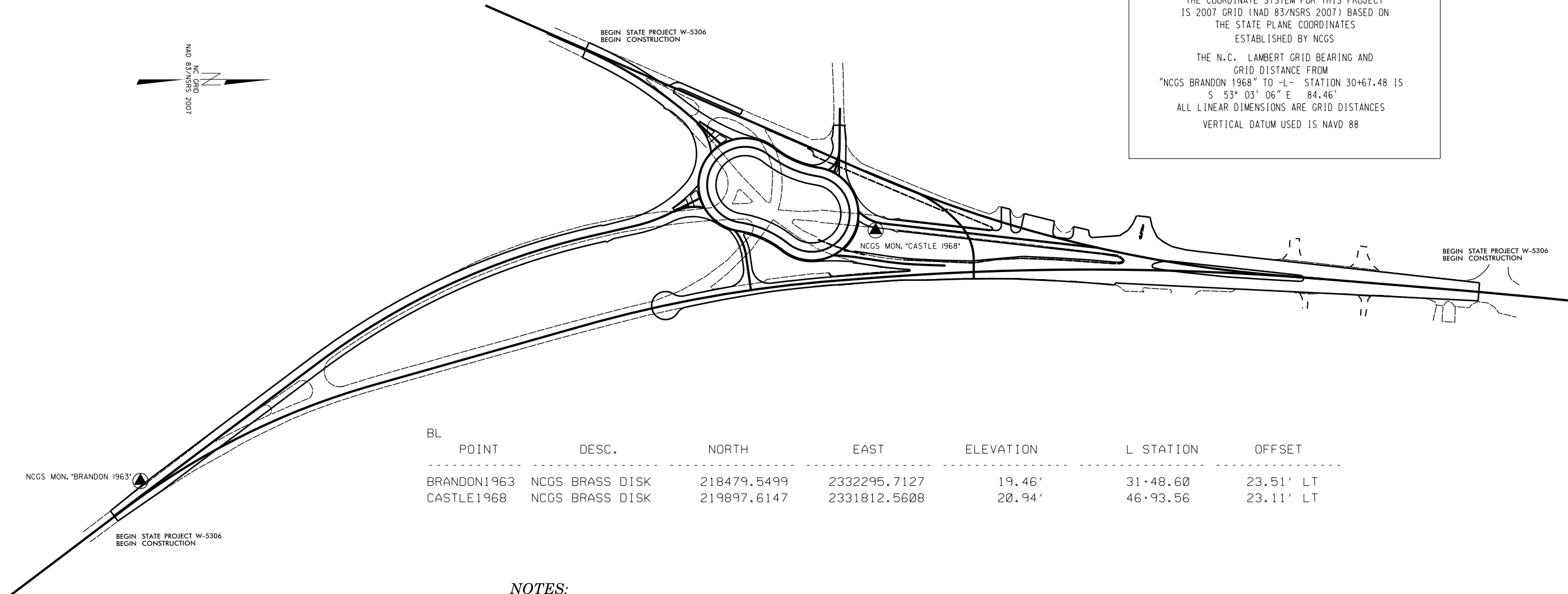
SURVEY CONTROL SHEET W-5306

DATUM DESCRIPTION

THE COORDINATE SYSTEM FOR THIS PROJECT IS 2007 GRID (NAD 83/NSRS 2007) BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS

THE N.C. LAMBERT GRID BEARING AND GRID DISTANCE FROM "NCGS BRANDON 1968" TO -L- STATION 30+67.48 IS
S 53° 03' 06" E 84.46'

ALL LINEAR DIMENSIONS ARE GRID DISTANCES
VERTICAL DATUM USED IS NAVD 88



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	BRANDON1963	NCGS BRASS DISK	218479.5499	2332295.7127	19.46'	31+48.60	23.51' LT
	CASTLE1968	NCGS BRASS DISK	219897.6147	2331812.5608	20.94'	46+93.56	23.11' LT

NOTES:

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

- ⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
- NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
- SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

6/2/09
 15-MAY-2014 15:21
 C:\NBD\01\FREE\NEW_HANOVER\Castle Hayne RAB_46130\ROADWAY\Proj\PLAN_SHEETS\W5306_PSH.LIC.dgn
 81-034412-4444

ALIGNMENT L, L1, AND L2 DESCRIPTIONS

Beginning chain L description
=====

Point 7054 N 218,428.7842 E 2,332,363.2079 Sta 30+67.48

Course from 7054 to PC LC1 N 36° 53' 15.01" W Dist 491.0356

Curve Data *-----*				
Curve LC1				
P.I. Station	=	38+55.25	N	219,058.8585 E 2,331,890.3496
Delta	=	23° 56' 03.03"	(RT)	
Degree	=	4° 05' 33.20"		
Tangent	=	296.7388		
Length	=	584.8222		
Radius	=	1,400.0000		
External	=	31.1023		
Long Chord	=	580.5794		
Mid. Ord.	=	30.4264		
P.C. Station	=	35+58.52	N	218,821.5222 E 2,332,068.4658
P.T. Station	=	41+43.34	N	219,348.0461 E 2,331,823.8334
C.C.	=		N	219,661.8663 E 2,333,188.2076
Back	= N	36° 53' 15.01" W		
Ahead	= N	12° 57' 11.98" W		
Chord Bear	= N	24° 55' 13.50" W		

Course from PT LC1 to PC LC2 N 12° 57' 11.98" W Dist 0.4094

Curve Data *-----*				
Curve LC2				
P.I. Station	=	42+52.37	N	219,454.3074 E 2,331,799.3922
Delta	=	17° 38' 30.07"	(RT)	
Degree	=	8° 11' 06.40"		
Tangent	=	108.6265		
Length	=	215.5339		
Radius	=	700.0000		
External	=	8.3782		
Long Chord	=	214.6835		
Mid. Ord.	=	8.2791		
P.C. Station	=	41+43.75	N	219,348.4451 E 2,331,823.7417
P.T. Station	=	43+59.28	N	219,562.5704 E 2,331,808.2709
C.C.	=		N	219,505.3552 E 2,332,505.9287
Back	= N	12° 57' 11.98" W		
Ahead	= N	4° 41' 18.09" E		
Chord Bear	= N	4° 07' 56.95" W		

Course from PT LC2 to PC LC3 N 4° 41' 18.09" E Dist 1.436.8393

Curve Data *-----*				
Curve LC3				
P.I. Station	=	59+18.55	N	221,116.6174 E 2,331,935.7190
Delta	=	1° 12' 33.62"	(RT)	
Degree	=	0° 29' 38.14"		
Tangent	=	122.4249		
Length	=	244.8408		
Radius	=	11,600.0000		
External	=	0.6460		
Long Chord	=	244.8362		
Mid. Ord.	=	0.6460		
P.C. Station	=	57+96.12	N	220,994.6021 E 2,331,925.7124
P.T. Station	=	60+40.96	N	221,238.3943 E 2,331,948.2984
C.C.	=		N	220,046.4644 E 2,343,486.8990
Back	= N	4° 41' 18.09" E		
Ahead	= N	5° 53' 51.71" E		
Chord Bear	= N	5° 17' 34.90" E		

Course from PT LC3 to 7059 N 5° 53' 51.71" E Dist 640.5146

Point 7059 N 221,875.5186 E 2,332,014.1130 Sta 66+81.48

Ending chain L description
=====

Beginning chain L1 description
=====

Point 7079 N 219,144.8493 E 2,331,379.0710 Sta 10+00.00

Course from 7079 to PC L1C1 N 23° 35' 59.68" E Dist 798.1011

Curve Data *-----*				
Curve L1C1				
P.I. Station	=	22+14.47	N	220,257.7489 E 2,331,865.2828
Delta	=	18° 54' 41.59"	(LT)	
Degree	=	2° 17' 30.59"		
Tangent	=	416.3731		
Length	=	825.1721		
Radius	=	2,500.0000		
External	=	34.4361		
Long Chord	=	821.4314		
Mid. Ord.	=	33.9682		
P.C. Station	=	17+98.10	N	219,876.1998 E 2,331,698.5888
P.T. Station	=	26+23.27	N	220,672.7288 E 2,331,899.3155
C.C.	=		N	220,877.0688 E 2,329,407.6804
Back	= N	23° 35' 59.68" E		
Ahead	= N	4° 41' 18.09" E		
Chord Bear	= N	14° 08' 38.88" E		

Ending chain L1 description
=====

Beginning chain L2 description
=====

Point 7074 N 218,228.3845 E 2,332,516.2405 Sta 20+00.00

Course from 7074 to PC L2C1 N 37° 06' 27.26" W Dist 275.9510

Curve Data *-----*				
Curve L2C1				
P.I. Station	=	25+49.04	N	218,666.2432 E 2,332,184.9996
Delta	=	21° 19' 54.08"	(RT)	
Degree	=	3° 57' 05.16"		
Tangent	=	273.0852		
Length	=	539.8469		
Radius	=	1,450.0000		
External	=	25.4916		
Long Chord	=	536.7344		
Mid. Ord.	=	25.0512		
P.C. Station	=	22+75.95	N	218,448.4566 E 2,332,349.7555
P.T. Station	=	28+15.80	N	218,929.0420 E 2,332,110.7545
C.C.	=		N	219,323.2610 E 2,333,506.1367
Back	= N	37° 06' 27.26" W		
Ahead	= N	15° 46' 33.18" W		
Chord Bear	= N	26° 26' 30.22" W		

Course from PT L2C1 to PC L2C2 N 15° 46' 33.18" W Dist 420.5298

Curve Data *-----*				
Curve L2C2				
P.I. Station	=	34+86.23	N	219,574.2237 E 2,331,928.4797
Delta	=	11° 25' 00.84"	(RT)	
Degree	=	2° 17' 30.59"		
Tangent	=	249.9056		
Length	=	498.1563		
Radius	=	2,500.0000		
External	=	12.4595		
Long Chord	=	497.3325		
Mid. Ord.	=	12.3977		
P.C. Station	=	32+36.33	N	219,333.7315 E 2,331,996.4229
P.T. Station	=	37+34.48	N	219,823.4065 E 2,331,909.4856
C.C.	=		N	220,013.4195 E 2,334,402.2542
Back	= N	15° 46' 33.18" W		
Ahead	= N	4° 21' 32.34" W		
Chord Bear	= N	10° 04' 02.76" W		

Course from PT L2C2 to PC L2C3 N 4° 21' 32.34" W Dist 70.7753

Curve Data *-----*				
Curve L2C3				
P.I. Station	=	42+40.41	N	220,327.8640 E 2,331,871.0330
Delta	=	9° 02' 50.43"	(RT)	
Degree	=	1° 02' 30.27"		
Tangent	=	435.1457		
Length	=	868.4823		
Radius	=	5,500.0000		
External	=	17.1869		
Long Chord	=	867.5803		
Mid. Ord.	=	17.1334		
P.C. Station	=	38+05.26	N	219,893.9770 E 2,331,904.1063
P.T. Station	=	46+73.74	N	220,761.5537 E 2,331,906.6000
C.C.	=		N	220,312.0057 E 2,337,388.1971
Back	= N	4° 21' 32.34" W		
Ahead	= N	4° 41' 18.09" E		
Chord Bear	= N	0° 09' 52.88" E		

Ending chain L2 description
=====

8/17/99
 REVISIONS
 11-JUL-2014 14:40
 D:\RD\KDT\FREE_NEW_HANOVER\Castle Hayne RAE_46130\ROADWAY\Proj\PLAN_SHEETS\PSH_ID_1H.dgn
 11-11-2014 14:40
 D:\RD\KDT\FREE_NEW_HANOVER\Castle Hayne RAE_46130\ROADWAY\Proj\PLAN_SHEETS\PSH_ID_1H.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALIGNMENT TA1, Y1, Y1A, Y1B, AND Y2 DESCRIPTIONS

Beginning chain TA1 description

Point 40000 N 219,876.7638 E 2,331,698.3828 Sta 10+00.00

Course from 40000 to PC DET1-1 N 22° 27' 26.56" E Dist 100.0001

Curve Data

Curve DET1-1
P.I. Station = 11+58.82 N 220,023.5364 E 2,331,759.0501
Delta = 26° 28' 40.92" (RT)
Degree = 22° 55' 05.92"
Tangent = 58.8166
Length = 115.5322
Radius = 250.0000
External = 6.8256
Long Chord = 114.5069
Mid. Ord. = 6.6442
P.C. Station = 11+00.00 N 219,969.1802 E 2,331,736.5824
P.T. Station = 12+15.53 N 220,062.1736 E 2,331,803.3960
C.C. = N 219,873.6812 E 2,331,967.6234
Back = N 22° 27' 26.56" E
Ahead = N 48° 56' 07.48" E
Chord Bear = N 35° 41' 47.02" E

Curve Data

Curve DET1-2
P.I. Station = 12+52.86 N 220,086.6926 E 2,331,831.5378
Delta = 40° 56' 09.70" (RT)
Degree = 57° 17' 44.81"
Tangent = 37.3249
Length = 71.4468
Radius = 100.0000
External = 6.7387
Long Chord = 69.9369
Mid. Ord. = 6.3132
P.C. Station = 12+15.53 N 220,062.1736 E 2,331,803.3960
P.T. Station = 12+86.98 N 220,086.7763 E 2,331,868.8626
C.C. = N 219,986.7766 E 2,331,869.0869
Back = N 48° 56' 07.48" E
Ahead = N 89° 52' 17.19" E
Chord Bear = N 69° 24' 12.33" E

Course from PT DET1-2 to 40004 N 89° 52' 17.08" E Dist 35.3861

Point 40004 N 220,086.8558 E 2,331,904.2486 Sta 13+22.37

Beginning chain Y1 description

Point 1028 N 219,263.4257 E 2,331,432.6340 Sta 10+00.00

Course from 1028 to PC Y1_C1 N 23° 40' 26.53" E Dist 81.6469

Curve Data

Curve Y1_C1
P.I. Station = 12+16.39 N 219,461.6072 E 2,331,519.5225
Delta = 19° 07' 16.91" (RT)
Degree = 7° 09' 43.10"
Tangent = 134.7453
Length = 266.9846
Radius = 800.0000
External = 11.2683
Long Chord = 265.7473
Mid. Ord. = 11.1118
P.C. Station = 10+81.65 N 219,338.2015 E 2,331,465.4179
P.T. Station = 13+48.63 N 219,560.4812 E 2,331,611.0661
C.C. = N 219,016.9753 E 2,332,198.0936
Back = N 23° 40' 26.53" E
Ahead = N 42° 47' 43.45" E
Chord Bear = N 33° 14' 04.99" E

Course from PT Y1_C1 to 1029 N 42° 47' 43.45" E Dist 93.3746

Point 1029 N 219,628.9980 E 2,331,674.5032 Sta 14+42.01

Ending chain Y1 description

Beginning chain Y1A description

Curve Data

Curve Y1A_C1
P.I. Station = 13+77.59 N 219,588.3487 E 2,331,622.8915
Delta = 10° 44' 15.31" (LT)
Degree = 14° 19' 26.20"
Tangent = 37.5913
Length = 74.9625
Radius = 400.0000
External = 1.7625
Long Chord = 74.8528
Mid. Ord. = 1.7548
P.C. Station = 13+40.00 N 219,557.2392 E 2,331,601.7892
P.T. Station = 14+14.96 N 219,622.8451 E 2,331,637.8282
C.C. = N 219,781.7833 E 2,331,270.7606
Back = N 34° 08' 59.74" E
Ahead = N 23° 24' 44.43" E
Chord Bear = N 28° 46' 52.09" E

Ending chain Y1A description

Beginning chain Y1B description

Curve Data

Curve Y1B_C1
P.I. Station = 13+73.48 N 219,576.7719 E 2,331,630.0860
Delta = 40° 48' 53.52" (RT)
Degree = 63° 39' 43.12"
Tangent = 33.4840
Length = 64.1118
Radius = 90.0000
External = 6.0270
Long Chord = 62.7649
Mid. Ord. = 5.6487
P.C. Station = 13+40.00 N 219,552.5047 E 2,331,607.0148
P.T. Station = 14+04.11 N 219,580.0582 E 2,331,663.4083
C.C. = N 219,490.4927 E 2,331,672.2414
Back = N 43° 33' 09.89" E
Ahead = N 84° 22' 03.41" E
Chord Bear = N 63° 57' 36.65" E

Ending chain Y1B description

Beginning chain Y2 description

Point 1031 N 219,345.3119 E 2,331,824.4623 Sta 10+00.00

Course from 1031 to PC Y2_C1 N 13° 04' 23.67" W Dist 90.8042

Curve Data

Curve Y2_C1
P.I. Station = 11+26.22 N 219,468.2582 E 2,331,795.9123
Delta = 13° 27' 52.63" (LT)
Degree = 19° 05' 54.94"
Tangent = 35.4134
Length = 70.5006
Radius = 300.0000
External = 2.0830
Long Chord = 70.3385
Mid. Ord. = 2.0686
P.C. Station = 10+90.80 N 219,433.7626 E 2,331,803.9227
P.T. Station = 11+61.30 N 219,499.9404 E 2,331,780.0900
C.C. = N 219,365.9037 E 2,331,511.6982
Back = N 13° 04' 23.67" W
Ahead = N 26° 32' 16.30" W
Chord Bear = N 19° 48' 19.99" W

Course from PT Y2_C1 to 1032 N 26° 32' 16.30" W Dist 114.6315

Point 1032 N 219,602.4942 E 2,331,728.8739 Sta 12+75.94

Ending chain Y2 description

REVISIONS

8/17/99

11-JUL-2014 14:40
D:\NFD\KDT\FREE_NEW_HANDOVER\Castle Hayne RAE\46130\ROADWAY\Proj\PLAN_SHEETS\PSH_ID_IH.dgn
BY: 46130/2444

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALIGNMENT Y2A, Y2B, Y3, Y4, AND Y5 DESCRIPTIONS

Beginning chain Y2A description

Curve Data					

Curve Y2A_C1					
P.I. Station	12+04.59	N	219,533.4816	E	2,331,751.1549
Delta	= 15° 45' 13.10"	(LT)			
Degree	= 22° 55' 05.92"				
Tangent	= 34.5873				
Length	= 68.7382				
Radius	= 250.0000				
External	= 2.3812				
Long Chord	= 68.5219				
Mid. Ord.	= 2.3588				
P.C. Station	11+70.00	N	219,504.8074	E	2,331,770.4958
P.T. Station	12+38.74	N	219,555.8276	E	2,331,724.7554
C.C.		N	219,365.0095	E	2,331,563.2362
Back	= N 33° 59' 59.73" W				
Ahead	= N 49° 45' 12.82" W				
Chord Bear	= N 41° 52' 36.28" W				

Ending chain Y2A description

Beginning chain Y2B description

Curve Data					

Curve Y2B_C1					
P.I. Station	12+01.73	N	219,536.4396	E	2,331,762.6731
Delta	= 38° 50' 35.26"	(RT)			
Degree	= 63° 39' 43.12"				
Tangent	= 31.7321				
Length	= 61.0146				
Radius	= 90.0000				
External	= 5.4302				
Long Chord	= 59.8529				
Mid. Ord.	= 5.1212				
P.C. Station	11+70.00	N	219,508.1736	E	2,331,777.0938
P.T. Station	12+31.01	N	219,567.4996	E	2,331,769.1696
C.C.		N	219,549.0741	E	2,331,857.2633
Back	= N 27° 01' 46.57" W				
Ahead	= N 11° 48' 48.69" E				
Chord Bear	= N 7° 36' 28.94" W				

Ending chain Y2B description

Beginning chain Y3 description

Point 1037 N 219,594.9463 E 2,331,770.1034 Sta 10+00.00
Course from 1037 to PC Y3_C1 N 53° 47' 57.24" E Dist 60.0331

Curve Data					

Curve Y3_C1					
P.I. Station	10+83.29	N	219,644.1407	E	2,331,837.3171
Delta	= 28° 05' 03.23"	(RT)			
Degree	= 61° 36' 30.11"				
Tangent	= 23.2601				
Length	= 45.5851				
Radius	= 93.0000				
External	= 2.8647				
Long Chord	= 45.1301				
Mid. Ord.	= 2.7791				
P.C. Station	10+60.03	N	219,630.4029	E	2,331,818.5473
P.T. Station	11+05.62	N	219,647.4247	E	2,331,860.3442
C.C.		N	219,555.3563	E	2,331,873.4746
Back	= N 53° 47' 57.24" E				
Ahead	= N 81° 53' 00.47" E				
Chord Bear	= N 67° 50' 28.86" E				

Course from PT Y3_C1 to 1035 N 81° 53' 00.47" E Dist 77.0901

Point 1035 N 219,658.3088 E 2,331,936.6621 Sta 11+82.71

Ending chain Y3 description

Beginning chain Y4 description

Point 1041 N 219,754.9762 E 2,331,863.2119 Sta 10+00.00
Course from 1041 to PC Y4_C1 N 3° 48' 06.01" W Dist 24.1387

Curve Data					

Curve Y4_C1					
P.I. Station	10+66.97	N	219,821.7945	E	2,331,858.7718
Delta	= 12° 13' 20.82"	(RT)			
Degree	= 14° 19' 26.20"				
Tangent	= 42.8269				
Length	= 85.3288				
Radius	= 400.0000				
External	= 2.2861				
Long Chord	= 85.1671				
Mid. Ord.	= 2.2732				
P.C. Station	10+24.14	N	219,779.0618	E	2,331,861.6114
P.T. Station	11+09.47	N	219,864.1597	E	2,331,865.0435
C.C.		N	219,805.5830	E	2,332,260.7312
Back	= N 3° 48' 06.01" W				
Ahead	= N 8° 25' 14.81" E				
Chord Bear	= N 2° 18' 34.40" E				

Course from PT Y4_C1 to PC Y4_C2 N 8° 25' 14.81" E Dist 51.8287

Curve Data					

Curve Y4_C2					
P.I. Station	11+94.57	N	219,948.3434	E	2,331,877.5059
Delta	= 6° 20' 52.99"	(LT)			
Degree	= 9° 32' 57.47"				
Tangent	= 33.2724				
Length	= 66.4766				
Radius	= 600.0000				
External	= 0.9218				
Long Chord	= 66.4427				
Mid. Ord.	= 0.9204				
P.C. Station	11+61.30	N	219,915.4297	E	2,331,872.6334
P.T. Station	12+27.77	N	219,981.5940	E	2,331,878.7093
C.C.		N	220,003.2948	E	2,331,279.1018
Back	= N 8° 25' 14.81" E				
Ahead	= N 2° 04' 21.82" E				
Chord Bear	= N 5° 14' 48.31" E				

Course from PT Y4_C2 to 1044 N 2° 04' 21.82" E Dist 50.6732

Point 1044 N 220,032.2340 E 2,331,880.5420 Sta 12+78.45

Ending chain Y4 description

Beginning chain Y5 description

Point 1045 N 219,834.3164 E 2,331,749.4712 Sta 10+00.00
Course from 1045 to PC Y5_C1 N 41° 24' 58.16" E Dist 47.8625

Curve Data					

Curve Y5_C1					
P.I. Station	10+71.50	N	219,887.9325	E	2,331,796.7670
Delta	= 34° 58' 46.43"	(LT)			
Degree	= 76° 23' 39.74"				
Tangent	= 23.6327				
Length	= 45.7881				
Radius	= 75.0000				
External	= 3.6353				
Long Chord	= 45.0804				
Mid. Ord.	= 3.4672				
P.C. Station	10+47.86	N	219,870.2097	E	2,331,781.1334
P.T. Station	10+93.65	N	219,911.4162	E	2,331,799.4163
C.C.		N	219,919.8240	E	2,331,724.8891
Back	= N 41° 24' 58.16" E				
Ahead	= N 6° 26' 11.73" E				
Chord Bear	= N 23° 55' 34.95" E				

Course from PT Y5_C1 to 1047 N 6° 26' 11.73" E Dist 426.2156

Point 1047 N 220,334.9452 E 2,331,847.1966 Sta 15+19.87

Ending chain Y5 description

REVISIONS

8/17/99

11-JUL-2014 14:40
D:\RD\KDT\HFE\NEW_HANDOVER\Castle Hayne RAE_46130\ROADWAY\Proj\PLAN_SHEETS\PSH_ID_1H.dgn
81 10/24/2014

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALIGNMENT Y6, Y6A, Y6B, AND Y10 DESCRIPTIONS

Beginning chain Y6 description
=====

Point 1038 N 219,828.7078 E 2,331,576.5764 Sta 10+00.00

Course from 1038 to PC Y6_C1 S 89° 25' 54.40" E Dist 74.5351

Curve Data

Curve Y6_C1
P.I. Station 10+96.38 N 219,827.7520 E 2,331,672.9471
Delta = 19° 49' 17.90" (RT)
Degree = 45° 50' 11.84"
Tangent = 21.8403
Length = 43.2441
Radius = 125.0000
External = 1.8937
Long Chord = 43.0288
Mid. Ord. = 1.8654
P.C. Station 10+74.54 N 219,827.9686 E 2,331,651.1079
P.T. Station 11+17.78 N 219,820.1427 E 2,331,693.4190
C.C. = N 219,702.9748 E 2,331,649.8682
Back = S 89° 25' 54.40" E
Ahead = S 69° 36' 36.50" E
Chord Bear = S 79° 31' 15.45" E

Course from PT Y6_C1 to 1039 S 69° 36' 36.50" E Dist 39.5080

Point 1039 N 219,806.3779 E 2,331,730.4516 Sta 11+57.29

Ending chain Y6 description
=====

Beginning chain Y6A description
=====

Point 1088 N 219,827.9909 E 2,331,648.8578 Sta 10+72.28

Course from 1088 to PC Y6A_C1 S 89° 25' 54.40" E Dist 50.7770

Curve Data

Curve Y6A_C1
P.I. Station 11+27.39 N 219,827.4444 E 2,331,703.9631
Delta = 5° 30' 36.34" (LT)
Degree = 63° 39' 43.12"
Tangent = 4.3310
Length = 8.6552
Radius = 90.0000
External = 0.1041
Long Chord = 8.6519
Mid. Ord. = 0.1040
P.C. Station 11+23.06 N 219,827.4874 E 2,331,699.6323
P.T. Station 11+31.71 N 219,827.8175 E 2,331,708.2779
C.C. = N 219,917.4829 E 2,331,700.5249
Back = S 89° 25' 54.40" E
Ahead = N 85° 03' 29.26" E
Chord Bear = N 87° 48' 47.43" E

Ending chain Y6A description
=====

Beginning chain Y6B description
=====

Curve Data

Curve Y6B_C1
P.I. Station 11+06.38 N 219,825.7049 E 2,331,682.8711
Delta = 51° 20' 33.55" (RT)
Degree = 114° 35' 29.61"
Tangent = 24.0326
Length = 44.8049
Radius = 50.0000
External = 5.4758
Long Chord = 43.3208
Mid. Ord. = 4.9353
P.C. Station 10+82.35 N 219,827.5538 E 2,331,658.9097
P.T. Station 11+27.15 N 219,805.8387 E 2,331,696.3950
C.C. = N 219,777.7019 E 2,331,655.0632
Back = S 85° 35' 16.35" E
Ahead = S 34° 14' 42.80" E
Chord Bear = S 59° 54' 59.57" E

Ending chain Y6B description
=====

Beginning chain Y10 description
=====

Point 7069 N 220,426.3340 E 2,331,674.3062 Sta 10+00.00

Course from 7069 to 7070 S 83° 39' 12.75" E Dist 204.2025

Point 7070 N 220,403.7614 E 2,331,877.2573 Sta 12+04.20

Ending chain Y10 description
=====

REVISIONS

8/17/99
I:\JUL-2014\14140\DRVD\KDT\FREE\NEW_HANDOVER\Castle Hayne RAE_46130\ROADWAY\Proj\PLAN_SHEETS\PSH_ID_IH.dgn
BY: [unclear] DATE: 8/17/99

