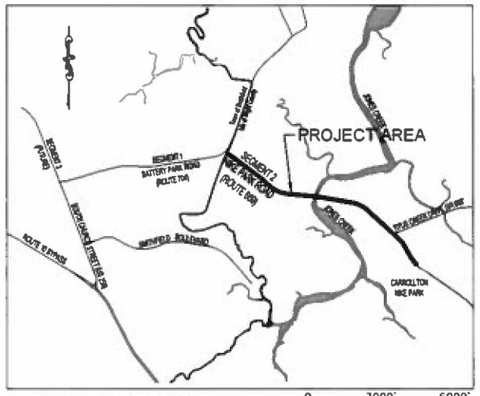
ISLE OF WIGHT COUNTY, VIRGINIA

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL

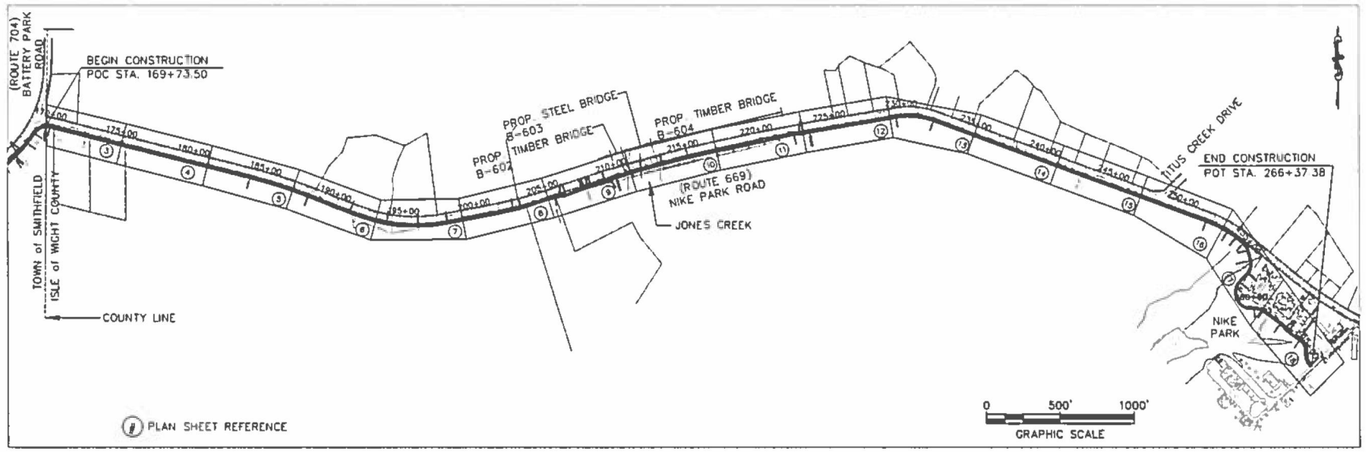
SEGMENT 2 – NIKE PARK ROAD

UPC #101794



VICINITY MAP

0 3000' 6000'
GRAPHIC SCALE



LOCALLY ADMINISTERED PROJECTS TRANSPORTATION ENHANCEMENT PROGRAM
Isle of Wight County, Virginia
NAME OF LOCALITY
RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION
01/03/17 — DATE — JAMIE OLIVER, TRANSPORTATION COORDINATOR
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
01/03/17 — DATE — JAMIE OLIVER, TRANSPORTATION COORDINATOR

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1B	SURVEY CONTROL DATA
1C	GRADING DIAGRAM
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1E–1E(2)	TRANSPORTATION MANAGEMENT PLAN
2	GENERAL NOTES
2A	TYPICAL SECTIONS
3–18	PLAN SHEETS
19–19(7)	PROFILE SHEETS
20(1)	PEDESTRIAN BRIDGE REFERENCE PLAN & GENERAL NOTES
20(2)	PEDESTRIAN BRIDGE B-602 PLAN & DEVELOPED SECTION
20(3)	PEDESTRIAN BRIDGE B-603 PLAN & DEVELOPED SECTION
20(4)–20(7)	PEDESTRIAN BRIDGE B-604 PLAN & DEVELOPED SECTION
20(8)	PEDESTRIAN BRIDGE B-603 TRANSVERSE SECTION & DETAILS
20(9)	PEDESTRIAN BRIDGE B-603 DETAILS
20(10)	PEDESTRIAN BRIDGE B-602 & B-604 GENERAL NOTES
20(11)	PEDESTRIAN BRIDGE B-602 & B-604 DETAILS
20(12)	PEDESTRIAN BRIDGE B-603 PRECAST PILES
20(13)	PEDESTRIAN BRIDGE B-602 & B-604 RETAINING WALL DETAILS
X1–X22	CROSS SECTIONS

PLAN REVIEW HISTORY

DATE	INITIAL	DESCRIPTION
7/13/2011	RRJ	30% INITIAL DESIGN SUBMITTAL
12/5/2011	RRJ	60% PROG. SUBMITTAL TO COUNTY
07/17/2014	RRJ	RW PLANS SUBMITTAL
11/10/2016	RRJ	ADV. AUTH. SUBMITTAL
12/12/2016	RRJ	PS&E

THIS PROJECT IS GRANDFATHERED UNDER THE PROVISIONS OF SECTION 4VAC50-60-48 OF THE VSMP REGULATIONS ADOPTED SEPTEMBER 13, 2011 AND UTILIZES THE TECHNICAL CRITERIA OF PART IIC (4VAC50-60-93.1 ET. SEQ.) FOR DETERMINING ITS POST DEVELOPMENT STORMWATER MANAGEMENT DESIGN.

THIS PROJECT HAS BEEN DESIGNED ACCORDING TO THE AASHTO 2012 GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH VDOT'S 2007 ROAD AND BRIDGE SPECIFICATIONS, 2008 ROAD AND BRIDGE STANDARDS, 2011 WORK AREA PROTECTION MANUAL AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC .TIF VERSION OF THE PLAN ASSEMBLY.

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT RIGHT OF WAY AND/OR OTHER EASEMENTS WILL BE CONVEYED BY PLAT(S) PREPARED BY OTHERS.

FHWA 534 DATA 21028

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA FOR ADJACENT ROADWAYS

	Fr: SOUTH CHURCH ST. To: NIKE PARK RD.	Fr: BATTERY PARK RD. To: TITUS CREEK DR.	Fr: TITUS CREEK DR. To: REYNOLDS DR.	Fr: SOUTH CHURCH ST. To: CARROLLTON NIKE DISTRICT PARK
Name and Functional Classification:	BATTERY PARK RD. URBAN COLLECTOR	NIKE PARK RD. (NORTH) URBAN COLLECTOR	NIKE PARK RD. (SOUTH) LOCAL	SHARED USE PATH
ADT (2012)	10,159 VPD	9,115 VPD	3,039 VPD	N/A
ADT (2034)	–	–	–	N/A
DHV	–	–	–	N/A
D (%)(design hour)	–%	–%	–%	–%
T (%)(design hour)	–%	–%	–%	–%
V (MPH)	35 MPH (POSTED)	45 MPH (POSTED)	45 MPH (POSTED)	18 MPH (DESIGNED)

POPULATION 36,462 (2013 CENSUS)

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	PPMS NO.	LENGTH FEET	LENGTH MILES	TYPE PROJECT	DESCRIPTION
EN08-046-115	P-101	TEA 5A03(188)	N/A	91219	20782.08	3.936	PREL. ENGR.	Fr: CYPRESS CREEK BRIDGE To: NIKE PARK
	R-201	TEA 5A03(679)	N/A	101794	9635.50	1.824	RIGHT OF WAY	Fr: BATTERY PARK RD. To: NIKE PARK
	M-501	-	1000	101794	9635.50	1.824	CONSTRUCTION	Fr: BATTERY PARK RD. To: NIKE PARK
	B-602	-	X901	101794	77.10	0.015	BRIDGE	PROP. TRAIL OVER WETLANDS
	B-603	-	X981	101794	210.00	0.040	BRIDGE	PROP. TRAIL OVER JONES CREEK
	B-604	-	X901	101794	900.09	0.171	BRIDGE	PROP. TRAIL OVER WETLANDS

NOTE: PROJECT LENGTH BASED ON CONSTRUCTION BASELINE INCLUDING EQUALITIES

811 Know what's below. Call before you dig.

PROJECT OWNER & CONSULTANT

CLIENT / OWNER

ISLE OF WIGHT COUNTY
CONTACT: JAMIE OLIVER
GENERAL SERVICES – ENGINEERING
ADDRESS: 13048 POOR HOUSE ROAD
ISLE OF WIGHT, VA 23397
PHONE: (757) 365-1653

TOWN OF SMITHFIELD
CONTACT: WILLIAM SAUNDERS
PLANNING/ENGINEERING DEPARTMENT
ADDRESS: 310 INSTITUTE STREET
SMITHFIELD, VA 23431
PHONE: (757) 365-4200

V.D.O.T.

CONTACT: DERRICK WILLIAMS
ADDRESS: 1700 N. MAIN STREET
SUFFOLK, VIRGINIA 23434
PHONE: (757) 925-2582

CIVIL ENGINEER

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PHONE: 757-213-8600
FAX: 757-213-8601

SURVEYOR

NXL
CONTACT: TODD FRENCH
ADDRESS: 716 J CLYDE MORRIS BLVD.
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757) 596-4005

COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

PLANS REVISED		
SHEET NO.	DATE	REMARKS

FILE NO.	SHEET NO.	TOTAL SHEETS
	1	XXX

PARCEL NO.	LANDOWNER	SHEET NO.	AREA							PROFFERS	COMMENTS
			TOTAL	FEE TAKING	PRESCRIPTIVE R/W	FEE REMAINDER	EASEMENTS				
							PERMANENT	UTILITY	TEMPORARY		
			SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	YES/NO	
101	Renee L. Chouinard, Cody M. Chouinard, & Hunter L. Chouinard	3					0.0242 (1,054)		0.0081 (354)		
102	Renee L. Chouinard, Cody M. Chouinard, & Hunter L. Chouinard	3					0.1157 (5,041)		0.0405 (1,764)		
103	Paul A. & Rhonda B. Davis	3					0.1160 (5052)		0.0385 (1678)		
104	Edwards, Edwards, & Edwards Farm LLC	4-8					1.4334 (62,437)		0.4298 (18,723)		
105	Frank Garrett Edwards	8					0.0762 (3,319)		0.0335 (1,459)		
106	Harvey Francis Saunders, Jr. & Jacqueline Underwood Saunders	9					0.2905 (12,653)		0.0841 (3,665)		
107	Cypress Creek Farm LLC	9-17					2.2269 (97,001)		0.6924 (30,159)		
108	Isle of Wight County	18					0.7135 (31,084)				
109	Capeheart Homes Inc & RP Finch Inc & Robert P. Finch & Carole A. Finch	17-18					0.0383 (1668)		0.0230 (1,000)		

PROJECT RIGHT OF WAY AND/OR OTHER EASEMENTS WILL BE CONVEYED BY PLAT(S) PREPARED BY OTHERS.

No.	REVISIONS	DATE	BY

Kimley»Horn
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WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

RIGHT-OF-WAY DATA SHEET

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
1A

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:Layout1 December 12, 2016 03:15:40pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\VA RIGHT-OF-WAY DATA SHEET.dwg
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CONTROL STATION ID. 13
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:21.58
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH):1072552.081
X (EAST): 3670928.705

US SURVEY FEET VALUES
Y (NORTH):3,518,864.62
X (EAST):12,043,705.26

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 24.7' BEHIND THE EDGE OF PAVEMENT OF THE SOUTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 2450' SOUTH OF THE INTERSECTION WITH BATTERY PARK ROAD

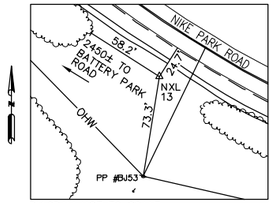

DIAGRAM NOT TO SCALE

CONTROL STATION ID. 605
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:12.78
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH):1072474.672
X (EAST): 3671410.42

US SURVEY FEET VALUES
Y (NORTH):3,518,610.65
X (EAST):12,045,285.69

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 4.7' BEHIND THE EDGE OF PAVEMENT OF THE NORTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 67' WEST OF THE BRIDGE ABUTTMENT FOR FULGHAM BRIDGE

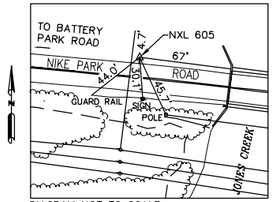

DIAGRAM NOT TO SCALE

CONTROL STATION ID. 604
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:14.69
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH):1072400.185
X (EAST): 3671850.02

US SURVEY FEET VALUES
Y (NORTH):3518366.27
X (EAST):12046727.94

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 10.0' BEHIND THE EDGE OF PAVEMENT OF THE NORTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 1395' EAST OF THE BRIDGE ABUTTMENT FOR FULGHAM BRIDGE

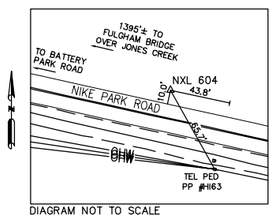

DIAGRAM NOT TO SCALE

CONTROL STATION ID. 603
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:17.67
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH):1072324.669
X (EAST): 3672047.628

US SURVEY FEET VALUES
Y (NORTH): 3,518,118.52
X (EAST):12,047,376.26

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 16.6' BEHIND THE EDGE OF PAVEMENT OF THE SOUTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 1890' EAST OF THE BRIDGE ABUTTMENT FOR FULGHAM BRIDGE

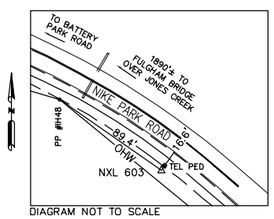

DIAGRAM NOT TO SCALE

CONTROL STATION ID. 602
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:17.91
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH):1072122.333
X (EAST): 3672268.321

US SURVEY FEET VALUES
Y (NORTH): 3,517,454.69
X (EAST):12,048,100.31

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 13.3' BEHIND THE EDGE OF PAVEMENT OF THE SOUTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 2870' EAST OF THE BRIDGE ABUTTMENT FOR FULGHAM BRIDGE

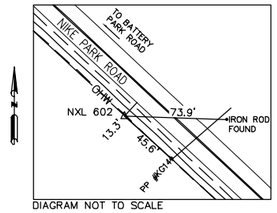

DIAGRAM NOT TO SCALE

CONTROL STATION ID. 601
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:20.70
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH):1071928.088
X (EAST): 3672500.834

US SURVEY FEET VALUES
Y (NORTH):3,516,817.40
X (EAST):12,048,863.15

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 16.8' BEHIND THE EDGE OF PAVEMENT OF THE NORTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 625' WEST OF THE CARROLLTON COURT

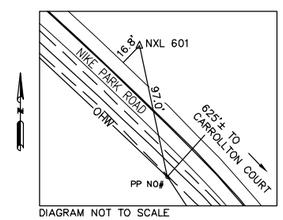

DIAGRAM NOT TO SCALE

CONTROL STATION ID. 639
ROUTE: NIKE PARK ROAD
COUNTY/CITY: ISLE OF WIGHT COUNTY
ESTABLISHED BY: NXL CONSTRUCTION SERVICES, INC.
VERTICAL DATUM: NAVD 88
ELEVATION:21.06
HORIZONTAL DATUM BASED ON VA. STATE PLANE
COORDINATE SYSTEM SOUTH ZONE (NAD 83) US SURVEY FOOT

METRIC VALUES
Y (NORTH): 1071744.256
X (EAST): 3672601.304

US SURVEY FEET VALUES
Y (NORTH): 3,516,214.28
X (EAST):12,049,192.78

DETAILED DESCRIPTION:

STATION IS A ROD & CAP SET 13.4' BEHIND THE EDGE OF PAVEMENT OF THE SOUTH SIDE OF NIKE PARK ROAD. APPROXIMATELY 67' WEST OF THE CARROLLTON COURT

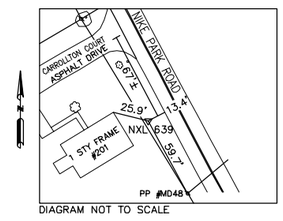

DIAGRAM NOT TO SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 757-213-8600 FAX: 757-213-8601
WWW.KIMLEY-HORN.COM

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

SURVEY CONTROL DATA

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
1B

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:Layout1 December 12, 2016 03:15:58pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\1B SURVEY DATA.dwg
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GRADING DIAGRAM AND SUMMARY

|-130-| Fill — Denotes fill quantity from computer listings and/or manual cross-sections.

|-130-| Cut — Denotes cut quantity from computer listings and/or manual cross-sections. Quantity adjusted for demolition of pavement.

Denotes C.Y. root mat material in cut areas which is included in Regular Excavation quantities.

Denotes C.Y. root mat material removed from fill sections and backfilled with Borrow Excavation

Denotes C.Y. unsuitable material above subgrade which is included in Regular Excavation.

Denotes Borrow Material (Min. CBR 15)

⊗ Denotes item(s) to be paid for on the basis of plan quantities in accordance with the applicable provisions of the current VDOT Road and Bridge Specifications.

① Cut quantity shown does not include the material removed as Demolition of Pavement.

② Quantity shown for use in Grading Diagram only. See other Summaries for pay item(s).

③ Included in Total Regular Excavation.

④ Included in Roadway Cut quantity.

⑤ Quantities for Temporary Sediment Basins and Temporary Sediment Traps are included with the Stormwater Management Basin quantities.

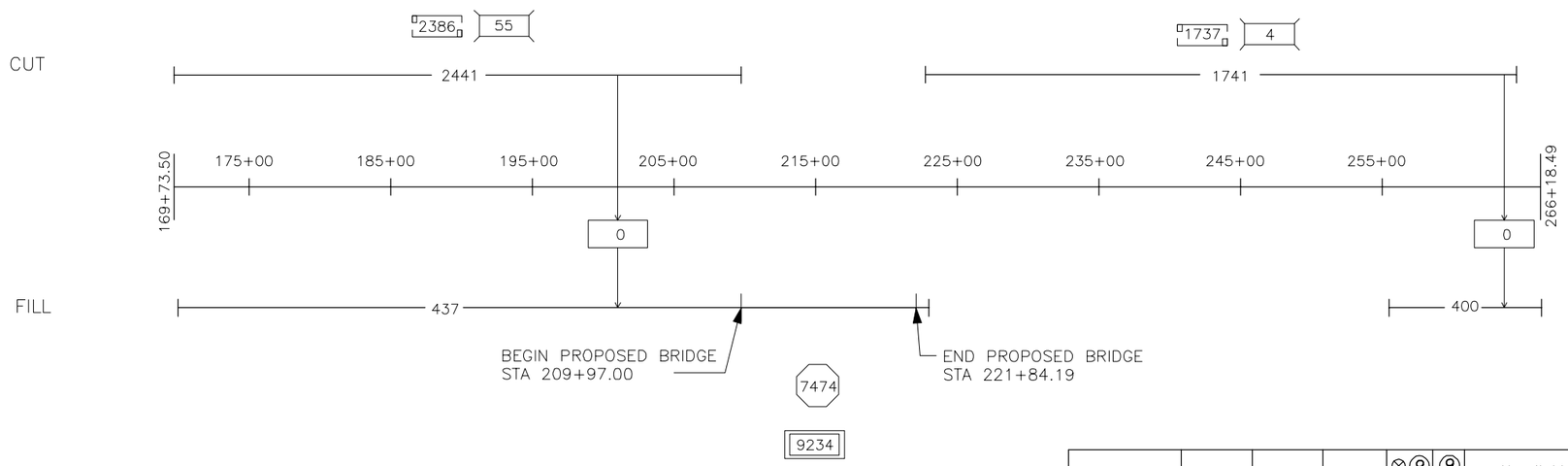
⑥ Denotes pay item.

⑦ Included in total fill quantity.

⑧ This quantity comes from the computer listings and/or manual cross-sections and may be adjusted for other quantities.

⑨ Volumes obtained for Cut Ditches and Fill Ditches not included in computer listings.

⑩ Includes settlement of in-place soil.



NOTES

1) The borrow quantity shown was computed on the basis of the average shrinkage or swell factor of 10% for the general vicinity of the project. The contractor will be responsible for determining the actual factor for the site(s) from which he proposes to secure borrow material needed to complete this project.

FORMULAS

Roadway Cut (C) = Unadjusted Cut from Computer Listings or Manual Cross-Sections minus (−) Demolition of Pavement.

Roadway Fill (J) = Fill Required plus (+) Material for Backfill of Demolition of Pavement Areas in Fill (for heights of fill < 3 feet below subgrade)

Total Reg. Excav. (M) = C + E + F + H +K

Total Fill (N) = J + E + G + H + L + R

Borrow (S) = [N − ([C + F + K + P + Q − D − I] x Compaction Factor)] ÷ Compaction Factor for Borrow Site

(Embankment) (S) = N − (C + F +K + P +Q − D − I) (Embankment = Total Fill − Usable Cut) Estimated Material to be obtained off-site.

Location	⊗ Roadway Cut ① ⑧	Root Mat in Cut Sections	Root Mat in Fill Sections	⊗⑨ Ditches Cut	⑨ Ditches Fill	Unsuitable Material: Below Subgrade	Unsuitable Material: Above Subgrade ⚠	⑩ Roadway Fill ⑧	Entrances: Cut	Entrances: Fill	Total Regular Excavation ⑥	Total Fill	② Demolition of Pavement	② Minor Structure Excavation	⑤ ② Stormwater Management Basins: Cut	Stormwater Management Basins: Fill	⑥ Borrow (Embankment)
	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
Segment 2	4182	4123	7474				59	837			11656	8311					9234
FORMULAS	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
TOTALS	③ 4182	④ 4123	③ ⑦ 7474	③	⑦	③ ⑦	④ 59	⑦ 837	③	⑦	11656	8311				⑦	9234

⚠ The Geotechnical Report prepared by GET Solutions in July 2014 states that clay, silty and clayey sand were encountered at depths of 2 to 4 feet. The unsuitable material above subgrade computed accounts for poor soils found at this depth.

No.	REVISIONS	DATE	BY

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WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2018
PROFESSIONAL ENGINEER

KHA PROJECT
DATE
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

GRADING DIAGRAM

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

SHEET NUMBER
1C

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STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET

The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the VPDES General Permit For Discharges Of Stormwater From Construction Activities (the VPDES Construction Permit) issued July 1, 2014 and VDOT's approved Annual ESC and SWM Standards and Specifications.

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The VDOT RLD will ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans (or other such documents)for the land disturbance (construction) activity.

See Sheet 2 of 3 for Acronyms

* Denotes information that is to be provided/completed by the VDOT RLD.
** Denotes information that is to be provided/completed by the contractor.

SECTION I GENERAL INFORMATION

1. Activity Description - The Smithfield to Nike Park Pedestrian/Bicycle Trail, Segment 1 is located along the southern side of Battery Park Drive (State Route 704). Improvements extend fromt he intersection of Battery Park Drive and South Church Street (State Route 10) to the intersection of Battery Park Drive and Nike Park Road (State Route 669). The improvements include proposed ditches and drainage structures that will tie into the existing storm drainage system.

2. This land disturbance (construction) activity site is located in Isle of Wight County and approximately 8.33 acres will be disturbed by excavation, grading or other construction activities.

3. This proposed activity disturbs one acre or greater and requires coverage under the VPDES General Permit For Discharges Of Stormwater From Construction Activities (the VPDES Construction Permit) as issued by the DEQ. A copy of the VPDES Construction Permit (VAR10), the registration information (LD-445 form) and the permit coverage letter received from DEQ shall be maintained with other SWPPP documents for this land disturbing (construction) activity.

** 4. The location of on-site support facilities that will be covered under the VPDES Construction Permit coverage for this land disturbance (construction) activity shall be provided by the contractor and identified on the record set of plans or in other appropriate contract documents. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storage areas for fertilizers, fuels or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction site.

** 5. Evidence of permit coverage shall be provided by the contractor for all support activities located outside of VDOT right of way or easement in the form of the Construction General Permit coverage letter.

6. List the surface waters that have been identified as impaired in the DEQ 2012 305(b)/303(d) Water Quality Assessment Integrated Report for sediment, total suspended solids, turbidity, nitrogen or phosphorus. These pollutants are considered benthic impairments:
(List the impaired surface waters, when applicable)

Jones Creek (H36R-14-BEN) Aquatic Life

7. Identify the TMDLs where stormwater from construction activities discharges into a watershed with a TMDL waste load allocation established and approved by the State Water Control Board prior to July 1, 2014 for sediment, total suspended solids, turbidity, nitrogen or phosphorus:

Pagan River and Jones Creek Fecal Coliform Enterococci

8. This land disturbance (construction) activity discharges stormwater to the following surface waters that have been identified as exceptional in Section 9VAC25-260-30 A 3 c of the Virginia Administrative Code:
N/A

9.Locations of surface waters and locations where concentrated stormwater is discharged from this land disturbance (construction) activity are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

10. The ESC and SWM plans (where applicable) for this land disturbance (construction) activity have been developed in accordance with VDOT's Annual Erosion and Sediment Control and Stormwater Management Standards and Specifications as approved by the DEQ.

11. (a) List the RLD for the land disturbance activity: (required for erosion and sediment control)
(b) The following individual(s) has delegated authority to sign all reports required by the construction permit including the SWPPP (LD445E) and inspection reports. The individual(s) has overall responsibility for environmental matters for the project: (required only for permitted projects)

Name	Position
Jamie Oliver	Transportation Project Manager, Isle of Wight County

* 12. The name of the individual(s) responsible for the inspection of the erosion and sediment control and pollution prevention measures on this land disturbance (construction) activity is identified on the LD-445E form which will be maintained with the other SWPPP documents for this land disturbance (construction) activity (Note: Individual(s) shall be certified through the DEQ ESC Inspector Certification Program and shall be knowledgeable in the area of pollution prevention at construction sites and shall be a VDOT employee or an agent working for VDOT.)

* 13. The ESC and P2 inspections for this land disturbing (construction) activity shall follow either Schedule 1 or 2 as defined in Section 107.16(e) of the VDOT Road & Bridge Specifications Special Provision S107J31. Rain gage notes apply only to Inspection Schedule 1.

** 14. The location of the on-site rain gage that will be used to determine the occurrence of a measurable storm event for the purposes of ESC and Pollution Prevention inspections will be provided by the contractor and identified on the record set of plans or in other appropriate SWPPP documents for this land disturbance (construction) activity:
Location of rain gauge to be determined upon commencement of construction activities.

The rain gage shall be observed daily at the same time to determine the occurrence of a measurable storm event (i.e., 0.25 inches of rainfall or greater in a 24 hour period). A log book shall be maintained to record observation information which shall include (1) the date, (2) the time, (3) whether or not rainfall is occurring at the time of the observation, (4) the amount of accumulated rainfall in the gage, if any, and (5) whether or not an inspection is required based on the amount of accumulated rainfall in the gage.
If there is no rainfall occurring at the time of the observation, the observation information shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.

If there is rainfall occurring at the time of the observation, the observation information is to be noted in the log book. The rain gage is not to be emptied but left to accumulate additional rainfall until the conclusion of the rainfall event. At the conclusion of the rainfall event, an observation of the rain gage shall be made and the observation information shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.

15. The following VDOT documents serve the purpose of a) permitted projects b) non-permitted projects in Chesapeake Bay Preservation Areas (CBPA) with 2,500 S.F. to 1.0 acre of land disturbance c) non-permitted projects requiring a SWPPP and d) Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP:

VDOT LD-445: Permitted projects, CBPA projects and Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP.
VDOT LD-445A: Permitted projects only.
VDOT LD-445B: Permitted projects only.
VDOT LD-445C: Projects that require a permit or SWPPP.
VDOT LD-445D: Permitted projects, CBPA projects and Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP.
VDOT LD-445E: Permitted projects only.
VDOT LD-445F: Emergency work projects (when applicable).
VDOT LD-445G: Permitted and CBPA projects requesting a Water Quality. Requirement Exception (when applicable).
VDOT LD-445H: Permitted projects only.
VDOT C-107 Part I and Part II: All projects that require a permit or SWPPP.

SECTION II EROSION AND SEDIMENT CONTROL

1. The following variances to the Virginia ESC Regulations have been approved by the DEQ for this land disturbance (construction) activity: N/A

** 2. The intended sequence and timing of activities that disturb soils at the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.) shall be provided by the contractor in accordance with Section 108.03 of the VDOT R&B Specifications and shall be included with the other SWPPP documents for this land disturbance (construction) activity.

3. Directions of stormwater flow and approximate slopes anticipated after major grading activities are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

4. Areas of soil disturbance and areas of the site which will not be disturbed are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

5. Locations of major structural and nonstructural ESC measures intended to filter, settle or similarly remove sediment are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

6. Locations where stabilization practices are expected to occur are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

7. A description of interim and permanent stabilization practices for the site are identified in the applicable sections of the documents identified in the Note 1 of Section III.

** 8. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated will be provided by the contractor and maintained with the record set of plans or other SWPPP documents for this land disturbance (construction) activity.

9.A description and schedule of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good and effective operating conditions are identified in Sections 107.16 and 303.03 of the VDOT R&B Specifications.

10. Nutrients shall be applied in accordance with Sections 603 and 604 of the VDOT Road and Bridge Specifications. Nutrients shall not be applied during rainfall events.

11. All engineering calculations supporting the design of erosion and sediment control measures proposed for this land disturbance (construction) activity are contained in the project drainage file located in the VDOT Hampton Roads District Hydraulics Section or the Isle of Wight County Office and will be made available for review upon request during normal business hours.

12. The temporary erosion and siltation control items shown on the ESC Plan for this land disturbing (construction) activity are intended to provide a general plan for controlling erosion and sediment within the project limits. The ESC Plan is based on field conditions at the time of plan development and an assumed sequence of construction for the project. The contractor, in conjunction with the VDOT Project Engineer and/or ESC Inspector, shall adjust the location, quantity and type of erosion and sediment control items required based on the actual field conditions encountered at the time of construction and the actual scheduling and sequencing of the construction activities. Significant changes to the proposed ESC Plan (e.g., those that require an engineering analysis) shall be submitted to the applicable District Hydraulics Engineer for review and approval. Any changes to the proposed ESC Plan must be noted on the designated record set of plans which shall be retained on the project site and made available upon request during normal business hours.

13. The areas beyond the project's construction area are to be protected from siltation. Perimeter controls such as silt fence, diversion dikes, turbidity curtains, etc. shall be installed prior to any grubbing operations or other earth moving activities.

14. Temporary earthen structures such as dikes and berms are to be stabilized immediately upon installation. Stabilization may include temporary or permanent seeding, riprap, aggregate, sod, mulching, and/or soil stabilization blankets and matting in conjunction with seeding.

15. All channel relocations are to be constructed during the earliest stage of construction and shall be constructed in accordance with all applicable permit requirements and shall be constructed in the dry wherever possible. Stabilization or vegetation shall be established before flow is redirected through the constructed area as directed by the Engineer.

16. The contractor shall plan and implement his land disturbance operations in order to:
a. Control the volume and velocity of stormwater runoff within the site to minimize erosion.
b. Control the peak flow rates, volume and velocity of stormwater discharges to minimize erosion at outlets and in downstream channels.
c. Minimize the amount of soil exposed.
d. Minimize the disturbance of steep slopes.
e. Minimize sediment discharge from the site.
f. Provide and maintain natural buffers around surface waters, direct stormwater runoff to vegetated areas and maximize stormwater infiltration, unless infeasible.
g. Minimize soil compaction (except in those areas where compaction is required by the contract documents) and preserve topsoil where feasible.

** 17. The name of the individual(s) or contractor(s) responsible for the installation and maintenance of the erosion and sediment control measures shall be supplied by the contractor and maintained with the other SWPPP documents for this land disturbance (construction) activity.

18. Soil stockpiles temporarily placed within the project area or on VDOT right of way or easement shall be stabilized or protected with sediment trapping measures.

19. A construction entrance or other approved measure shall be installed at all locations where construction vehicular traffic access routes intersect a paved or a public road in order to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or a public road surface, the road shall be cleaned thoroughly at the end of each work day by shoveling or sweeping. Removed sediment shall be disposed of in accordance with Section 106.04 of the R&B Specifications.

Revised 09/29/16 Sheet 1 of 3

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COMMONWEALTH OF VIRGINIA
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT
DATE
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

STORMWATER POLLUTION PREVENTION PLAN

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL SEGMENT 2

SHEET NUMBER
1D

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✱✱ Denotes information that is to be provided/completed by the contractor.

SECTION III SWPPP

1. All documents related to the SWPPP for this land disturbance (construction) activity shall be maintained at the activity site and shall be readily available for review upon request during normal business hours. Such documents include, but are not limited to, the construction plans (or other such documents), the ESC Plan, the Pollution Prevention Plan, the post construction SWM Plan (if applicable), the VDOT R&B Standards and Specifications, Supplemental Specifications, Special Provisions and Special Provision Copied Notes. Documents related to stormwater pollution prevention which are not a part of those documents referenced above, such as a copies of the VPDES Construction Permit coverage letter (when applicable) and the VPDES General Permit For Discharges Of Stormwater From Construction Activities (when applicable) and those required to be developed by the contractor for pollution prevention associated with any on-site support facilities being included in the VPDES Construction Permit coverage for this land disturbance (construction) activity are to be maintained at the activity site with the other SWPPP documents for this land disturbance (construction) activity. Where no facilities are available at the activity site to maintain the SWPPP documents, they are to be kept by or with the designated RLD at a location convenient to the activity site where they would be made available for review upon request during normal business hours.

2. The SWPPP and any subsequent amendments, modifications and updates shall be implemented from commencement of land disturbance until termination of VPDES Construction Permit coverage or completion of land disturbance (construction) activities where no VPDES Construction Permit coverage is required.

✱✱ 3. For all on-site support facilities that will be included in the VPDES Construction Permit coverage for this land disturbance (construction) activity, the contractor shall develop a SWPPP in accordance with, but not limited to, Section 106.08, 107.02 and 107.16 of the VDOT Road and Bridge Specifications. The SWPPP for the on-site support facilities shall be maintained with and become a component of the SWPPP for this land disturbance (construction) activity. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storageareas for fertilizers, fuels or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction site.

✱ 4. By completing and submitting the SWPPP Certification form LD-445E, the RLD, or his authorized representative, certifies that all documents identified herein to be supplied by the contractor will be reviewed, approved (as applicable) and included with the other SWPPP documents for this land disturbance (construction) activity prior to start of work in those areas identified by such information.

5. For those land disturbing (construction) activities requiring coverage under the VPDES Construction Permit, the SWPPP shall be made available for review upon the request of the DEQ, the EPA, the VSMP Authority, the VESCP Authority, local government officials or the operator of a municipal separate storm sewer system (MS4) receiving discharge from the construction site.

✱ 6. For those land disturbing (construction) activities requiring coverage under the VPDES Construction Permit, the VDOT RLD shall post, or have posted, a copy of the General Permit coverage letter and a copy of a completed LD-445A form, noting the name and contact information for the VDOT person responsible for the land disturbing (construction) activity and its SWPPP, outside the project's construction office along with other Federal and State mandated information. Where there is no construction office (e.g., a maintenance activity), the permit coverage letter and the LD-445A form are to be maintained with the other SWPPP documents for the land disturbing (construction) activity.

7. The SWPPP shall be made available for review by the public upon request. Such reviews shall be at a time and publicly accessible location convenient to the VDOT and shall be scheduled during normal business hours and no less than once per month.

ACRONYMS

BMP - Best Management Practice
DEQ - Department of Environmental Quality
EPA - U.S. Environmental Protection Agency
ESC - Erosion and Sediment Control
IIM - Instructional and Informational Memorandum
R&B - Road and Bridge
RLD - Responsible Land Disturber
TMDL - Total Maximum Daily Load
VDOT - Virginia Department of Transportation
VPDES - Virginia Pollutant Discharge Elimination System
VSMP - Virginia Stormwater Management Program
VESCP - Virginia Erosion and Sediment Control Program

SECTION IV POST CONSTRUCTION STORMWATER MANAGEMENT

1. This land disturbance (construction) activity is grandfathered under Section 9VAC25-870-48 of the VSMP Regulations and utilizes the Part IIC technical criteria (i.e., Performance or Technology Based, MS 19, etc.) in Section 9VAC25-870-93 et.seq. of the VSMP Regulations.

~~2. This land disturbance (construction) activity utilizes the Part IIB technical criteria (i.e., Runoff Reduction Method, Energy Balance Equation, etc.) in Section 9VAC25-870-62 et seq. of the VSMP Regulations.~~

~~3. An exception for (number) pounds of phosphorus removal has been granted for this land disturbance (construction) activity by the DEQ in its letter dated (date).~~

~~4. The following exceptions to the Water Quantity criteria of the VSMP Regulation have been approved by the DEQ for this land disturbance (construction) activity: (list all approved exceptions and include a brief description of the exception, the date approved and the approving DEQ Office)~~

5. The permanent onsite SWM facilities or offsite strategies proposed to meet the water quality/quantity requirements for this land disturbance (construction) activity are listed in Section VI.

6. A description of all post-construction stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges after construction operations have been completed is included in the construction plan set (or other such documents) for this land disturbance (construction) activity.

7. All engineering calculations supporting the design of the post-construction stormwater management measures for this land disturbance (construction) activity, including an explanation of the technical basis used to select the practices, are contained in the project drainage file located in the VDOT Hampton Roads District Hydraulics Section or the Isle of Wight County Office and will be made available for review upon request during normal working business hours.

SECTION V - POLLUTION PREVENTION PLAN

1. The following non-stormwater discharges from this land disturbing (construction) activity and any on-site support facilities are prohibited:
   a. Wastewater from concrete washouts.
   b. Wastewater from the washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials.
   c. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance.
   d. Oils, toxic substances or hazardous substances from spills or other releases.
   e. Soaps, solvents or detergents used in equipment and vehicle washing.
   f. There shall be no discharge of floating solids or visible foam in other than trace amounts

2. The following non-stormwater discharges from this land disturbing (construction) activity and any on-site support facilities are allowed when discharged in compliance with the VPDES Construction Permit:
   a. Discharges from fire fighting activities.
   b. Fire hydrant flushings.
   c. Waters used to wash vehicles or equipment where soaps, solvents or detergents have not been used and the wash water has been filtered, settled or similarly treated prior to discharge.
   d. Water used to control dust that has been filtered, settled or similarly treated prior to discharge.
   e. Potable water sources including uncontaminated waterline flushings.
   f. Routine external building wash down where soaps, solvents or detergents have not been used and the wash water has been filtered, settled or similarly treated prior to discharge.
   g. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (or where all spilled or leaked material has been removed prior to washing), where soaps, solvents or detergents have not been used and where the wash water has been filtered, settled or similarly treated prior to discharge.
   h. Uncontaminated air conditioning or compressor condensate.
   i. Uncontaminated ground water or spring water.
   j. Foundation or footing drains where flows are not contaminated with process materials such as solvents.
   k. Uncontaminated excavation dewatering, including dewatering trenches and excavations that have been filtered, settled or similarly treated prior to discharge.
   l. Landscape irrigation.

✱✱ 3. The contractor shall develop a Pollution Prevention Plan to address any of his on-site operations that have a potential to generate a pollutant that may reasonably be expected to affect the quality of stormwater discharges from this land disturbance (construction) activity. The Pollution Prevention Plan shall be developed in accordance with, but not limited to, Sections 106.08, 107.02 and 107.16 of the VDOT Road and Bridge Specifications and shall include a narrative with appropriate plan detail and shall be provided on standard 8.5 x 11 inch paper or larger and shall:
   a. Identify the potential pollutant-generating activities and the pollutant that is expected to be exposed to stormwater.
   b. Describe the location where the potential pollutant-generating activities will occur, or if identified on the record set of plans, reference the record set of plans.
   c. Identify all non-stormwater discharges, as described in note two of this section, that are or will be commingled with stormwater discharges from the construction activity, including any on-site support activities.
   d. Identify the person(s) or contractor(s) responsible for implementing and maintaining the pollution prevention practice or practices for each pollutant-generating activity.
   e. Describe the pollution prevention practices and procedures that will be implemented to:
      1) Prevent and respond to leaks, spills, and other releases, including procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases, and procedures for reporting leaks, spills, and other releases in accordance with Section 107.16 of the VDOT Road and Bridge Specifications and the requirements within the VPDES Construction Permit.
      2) Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities.
      3) Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including procedures for the clean-up of stucco, paint, form release oils, and curing compounds.
      4) Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing.
      5) Direct concrete wash water into a leak-proof container or leak-proof settling basin. The container or basin shall be designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters.
      6) Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes including building products (such as asphalt sealants, copper flashing, roofing materials, adhesives, and concrete admixtures), pesticides, herbicides, insecticides, fertilizers, landscape materials, construction and domestic wastes (such as packaging materials), scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.
      7) Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes.
      8) Address any other discharge from any potential pollutant-generating activity not listed herein.
      9) Describe and implement procedures for providing pollution prevention awareness (including but not limited to prevention practices, disposal practices and appropriate disposal locations) for all applicable wastes (including any wash water), to appropriate personnel.

Revised 09/29/16

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COMMONWEALTH OF VIRGINIA
REBECCA R. JUCKSCH
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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT
DATE
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

STORMWATER POLLUTION PREVENTION PLAN

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

SHEET NUMBER
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ACRONYMS

BMP - Best Management Practice
DEQ - Department of Environmental Quality
EPA - U.S. Environmental Protection Agency
ESC - Erosion and Sediment Control
IIM - Instructional and Informational Memorandum
R&B - Road and Bridge
RLD - Responsible Land Disturber
SWM - Stormwater Management
SWPPP - Stormwater Pollution Prevention Plan
TMDL - Total Maximum Daily Load
VDOT - Virginia Department of Transportation
VPDES - Virginia Pollutant Discharge Elimination System
VSMP - Virginia Stormwater Management Program
VESCP - Virginia Erosion and Sediment Control Program

SECTION VI - PERMANENT BMP INFORMATION△

✱ Denotes information that is to be completed by the VDOT RLD.
( ) See note referenced by number in parentheses.

INSTALLED BMP INFORMATION
Table A
(VDOT Owned/Operated)

Plan Sheet(s)	BMP Type (See Table 1 and 3)	County or City	Latitude/Longitude (1)		State Hydrologic Unit Code (7)	Receiving Stream Name (2)	Name of Impaired Water (9)	Acres Treated Per BMP (3)			✱ BMP Maintenance ID Number (10)	BMP Maintenance Manual (11)	BMP Inspection Manual (11)
			LAT	LONG				Impervious	Pervious	TOTAL		SECTION	SECTION

ALTERNATIVE BMP INFORMATION
Table B

BMP Type (See Table 2)	Name of Nutrient Credit Generating Entity (6)	County or City (5)	Latitude/Longitude (1) (5)		State Hydrologic Unit Code (5) (7)	Project Acres Treated Per BMP (3)			Nutrient Credits (lbs./acre/year) Acquired (6) (12)
			LAT	LONG		Impervious	Pervious	TOTAL	

Table 1: Permanent BMP Types
(1999 Va. SWM Handbook)
Bio-Retention Basin
Bio-Retention Filter
Constructed Stormwater Wetlands
Extended Detention Basin
Extended Detention Basin Enhanced
Grassed Swale
Infiltration Basin
Infiltration Trench
Manufactured Treatment Device (MTD) (8)
Retention Basin I
Retention Basin II
Retention Basin III
Sand Filter
Vegetated Filter Strip
Other Approved Types (List Type)

Table 2: Alternative BMP Types
Comprehensive SWM Plan (Regional) Facility
Pollutant Loading Pro Rata Share Program
Purchase of Nutrients Credits
Other Approved Options (List Type) (4)

Table 3: Permanent BMP Types
(BMP Clearing House)
Sheet Flow to Vegetated Filter Strip
Grass Channel
Soil Compost Amendment
Permeable Pavement
Infiltration Practice
Bioretention
Dry Swale
Wet Swale
Filtering Practice
Constructed Wetlands
Biorention Conservation
Extended Detention Pond
Wet Pond
Manufactured Treatment Device (MTD)(8)
Other Approved Types (List Type) (4)

NOTES:
(1) In decimal degrees to the nearest one ten-thousandth of a degree.

(2) For streams with no names, list "(Unnamed Tributary to closest stream name)".

(3) Show acres treated to the nearest one tenth acre.

(4) Include agreements with off-site BMP owners.

(5) Information pertains to the alternative BMP option location, where applicable. Exception - Not required for nutrient credit purchase option.

(6) Applies to the purchase of nutrient credits only.

(7) Virginia 6th Order HUC (VAHU6) Example - YO30.

(8) Final approved shop drawings of Manufactured Treatment Devices (MTDs) are to be included with the BMP information submitted with the LD-445D form.

(9) List the name of any impaired water to which the BMP discharges. The determination of impaired water shall be based on those streams listed as impaired in the DEQ 2012 305(b)/303(d) Water Quality Assessment Integrated Report and shall be the first named waterbody to which the BMP discharges. The impaired waters are those impaired by sediment, total suspended solids, turbidity, nitrogen or phosphorus. These pollutants are considered benthic impairments.

(10) BMP Maintenance ID Number is to be assigned by the District Infrastructure Manager at permit termination or project completion.

(11) Provide the section of each Maintenance manual that pertains to the type of BMP. Both manuals can be found at www.vdot.virginia.gov/business/manuals in the Maintenance selections.
Example: Section 4 would be noted for both the maintenance and inspection manuals for a Bioretention I infiltration BMP.

(12) Nutrient credits purchased to the nearest one hundredth pound.

△ Any changes to the proposed SWM Plan or BMPs necessitated during the construction phase of the project that affects the proposed construction details or potentially affects the information shown in the BMP Tables A and/or B shall be coordinated by the VDOT RLD with the appropriate VDOT District Hydraulics Engineer. The construction plans and the BMP Tables A and/or B are to be formally revised to reflect any authorized/approved changes to the proposed SWM Plan and/or the proposed BMP construction details. All plan revisions shall be completed in accordance with the Road Design Manual and the Construction Division IIM-CD-2013-12.01, signed and sealed in accordance with Department's sealing and signing policy IIM-LD-243 and filed with the record set of construction plans maintained in the VDOT Central Office Plan File Room (Falcon Web Suite). Prior to submitting for termination of coverage under the VPDES General Permit For The Discharge Of Stormwater From Construction Activities, the RLD shall have the District Maintenance Infrastructure Manager review the BMPs installed with the project (BMP Table A) for acceptance of maintenance responsibility and to obtain a Maintenance ID number for each BMP listed in BMP Table A. The RLD shall use the information in BMP Tables A and B along with the assigned Maintenance ID number and the date that the BMP became functional as a permanent control measure (for BMPs in Table A only) to complete the LD-445D form when certifying the construction of the BMPs and submitting for termination of coverage under the VPDES General Permit For The Discharge Of Stormwater From Construction Activities.

Revised 09/29/16

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DATE
SCALE AS SHOWN
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DRAWN BY
CHECKED BY

STORMWATER POLLUTION PREVENTION PLAN

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL SEGMENT 2

SHEET NUMBER
1D(2)

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MOT GENERAL NOTES

UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PLAN AND PROSECUTE WORK IN ACCORDANCE WITH THE FOLLOWING SEQUENCE OF CONSTRUCTION AND MAINTENANCE OF TRAFFIC PLAN. IT IS NOT THE INTENT OF THE SEQUENCE OF CONSTRUCTION PLANS TO ENUMERATE EVERY DETAIL WHICH MUST BE CONSIDERED IN TEH CONSTRUCTION OF EACH PHASE, BUT ONLY THE GENERAL HANDLING OF TRAFFIC.

ALL WORK AREAS (AND THE LIMITS THEREOF) AND LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE 2011 VIRGINIA WORK AREA PROTECTION MANUAL (INCLUDING ALL REVISIONS) AND SHALL BE DIRECTED OR APPROVED BY THE ENGINEER. THE OWNER RESERVES THE RIGHT TO CHANGE ANY OR ALL OF THE WORK HOURS STATED BELOW IF SUCH CHANGES ARE IN THE BEST INTEREST OF THE TRAVELING PUBLIC.

THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE, AS REQUIRED, TO PREVENT PONDING OF WATER ON THE EXISTING ROADWAY AND ADJACENT PROPERTIES. ANY TEMPORARY DRAINAGE STRUCTURES INSTALLED ON THE PROJECT ARE THE CONTRACTOR'S RESPONSIBILITY. THE COST OF THE STRUCTURES IS TO BE INCLUDED IN THE PRICE BID FOR OTHER DRAINAGE ITEMS.

THE CONTRACTOR SHALL NOT CONDUCT REPAIR OPERATIONS WHEN THE WEATHER CAUSES UNSAFE CONDITIONS FOR THE TRAVELING PUBLIC AS DETERMINED BY THE ENGINEER.

WHEN PROCEEDING FROM ONE STAGE OF CONSTRUCTION TO ANOTHER STAGE OF CONSTRUCTION ANY EXISTING OR CONSTRUCTION PAVEMENT MARKINGS THAT DO NOT ALIGN WITH THE NEW TRAFFIC PATTERS AND/OR NECESSARY MARKINGS SHALL BE ERADICATED AND RESTRIPED.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ACCESS TO ALL EXISTING ENTRANCES DURING CONSTRUCTION.

HOLIDAY CLOSURES WILL BE IN ACCORDANCE WITH THE ROAD AND BRIDGE SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

THERE SHALL BE NO LANE CLOSURES REQUIRING THE USE OF A FLAGGER WITHOUT PRIOR APPROVAL.

EXISTING TRAFFIC PATTERNS ARE TO BE MAINTAINED DURING CONSTRUCTION EXCEPT WHEN THIS SEQUENCE OF CONSTRUCTION/MAINTENANCE OF TRAFFIC PLAN INDICATES THERE IS TO BE A REDUCTION IN THE NUMBER OF LANES OR ONE WAY FLAGGER-CONTROLLED TRAFFIC OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES SHALL BE KEPT CLEAN, LEGIBLE, AND IN PROPER WORKING ORDER AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE A PERSON WHOSE RESPONSIBILITY SHALL BE TO INSPECT AND MAINTAIN SIGNS, BARRICADES, OTHER CHANNELIZING DEVICES AND LIGHTS DURING THE TIME THAT TRAFFIC IS RESTRICTED DUE TO CONSTRUCTION OPERATIONS.

IF THE CONTRACTOR ELECTS TO WORK AT NIGHT, SUFFICIENT LIGHTING OF THE WORK SITE(S) TO ENABLE THE SATISFACTORY COMPLETION OF THE WORK SHALL BE PROVIDED IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL. LIGHTING SHALL BE ARRANGED SO AS NOT TO INTERFERE WITH OR IMPEDE TRAFFIC APPROACHING THE WORK SITE(S) FROM EITHER DIRECTION.

ANY CONTRACT ITEMS NOT SPECIFICALLY NOTED IN THE SEQUENCE OF CONSTRUCTION MAY BE CONSTRUCTED AT THE CONTRACTOR'S OPTION, AS DIRECTED BY THE ENGINEER. HOWEVER, UNDER NO CIRCUMSTANCES WILL CONCURRENT CONSTRUCTION LEFT AND RIGHT OF ANY ROADWAY BE ALLOWED.

AT THE CONCLUSION OF EACH WORK DAY, ALL PAVEMENT EDGE DROP-OFFS SHALL MEET THE REQUIREMENTS OF FIGURE 2 IN APPENDIX A OF THE 2011 WORK AREA PROTECTION MANUAL FOR THE SAFETY AND PROTECTION OF VEHICULAR TRAFFIC. ALL COSTS FOR MEETING THESE REQUIREMENTS SHALL BE INCLUDED IN THE PRICE OF OTHER BID ITEMS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS WORK.

SEQUENCE OF CONSTRUCTION NOTES

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES.
2. INSTALL IMPROVEMENTS, INCLUDING TRAIL, HANDICAP RAMPS, BRIDGE, AND DRAINAGE IMPROVEMENTS.
3. FINE GRADE SLOPES AND SEED.
4. PLACE FINAL PAVEMENT MARKINGS AND SIGNS.
5. COMPLETE REMAINING BID ITEMS.

TRANSPORTATION MANAGEMENT PLAN (TMP)

Smithfield to Nike Park Pedestrian/Bicycle Trail
Segment 2 – Nike Park Road
UPC #101794

INTRODUCTION

The proposed multi-use trail is located along the southern side of Nike Park Road (State Route 669). The Improvements extend from the intersection of Nike Park Road and Battery Park Road (State Route 704) to the northwestern edge of Nike Park, approximately 0.3 miles southeast of the intersection of Nike Park Road and Titus Creek Drive (State Route 668). The improvements include proposed ditches and drainage structures that will tie into the existing storm drainage system.

TEMPORARY TRAFFIC CONTROL PLAN

General Notes

- The proposed improvements follow the TMP Type A project description.
- The project location is along the south side of Nike Park Road (Route 669). The length of the project is 1.83 miles.
- There are no identified locations within the right of way for the contractor to store equipment and materials. The contractor must make arrangements for these areas according to VDOT policies.
- The work zone shall be maintained according to the Temporary Traffic Control Plans as shown on the plans. The following traffic control specifications from the Virginia Work Area Protection Manual shall be used: TTC 1.0, TTC 4.0, TTC 5.0, TTC 29.0 and TTC 53.0. Information about Clear Zone and Drop-Off Requirements from the Work Area Protection Manual are also provided.
- Entrances will be affected by each work zone and shall be maintained at all times. Types of traffic consist of commuters, residents, and trucks.

Typical Sections

Work to be performed between existing roadway and existing right-of-way.

Special Details

There are no special details for this project that are not addressed in the plans or the Virginia Work Area Protection Manual. Safe access into/out of the work space by work vehicles is best at each end of the work zone.

PUBLIC COMMUNICATIONS PLAN

Project staff is to coordinate with the Hampton Roads District Public Affairs office to publish announcements regarding work activities for the project. Each activity will be governed by the times established by the Regional Traffic Engineer and the Smart Traffic Center. Please provide Public Relations lane closure information two weeks in advance of work so it can be published.

TRANSPORTATION OPERATIONS PLAN

1) The process to notify the Regional Smart Traffic Center to place lane closure Information on the 511 system and VA-Traffic will be:
   a) Contractor to advise VDOT project inspector and/or Construction Manager of planned lane closures a minimum of 24 hours in advance of proposed lane closure.
   b) Construction Manager to advise Residency Maintenance Manager of proposed lane closure. Maintenance Manager to have VA-Traffic operator enter data and advise Smart Traffic Center.
2) The following is a list of local emergency contact agencies:
   Virginia State Police: 757-253-4923 or 1-800-582-8350
3) Procedures to respond to traffic incidents that may occur in the work Zone:
   a. Contractor to notify Virginia State Police and VDOT Inspector in Charge and Smart Traffic Center.
   b. Depending upon severity of incident, contractor may have to shut down work.
   c. Upon arrival on scene, Virginia State Police to determine response necessary to allow traveling public around incident.
   d. Inspector to notify Construction Manager/Resident Administrator of incident and take pictures as necessary, especially pictures of contractor's Work Zone to verify compliance with standards.
4) Process of notification of incident to be followed is:
   Contractor to call:
   a) Smart Traffic Center, Shift Supervisor: (757) 424-9920
   b) Project Maintenance of Traffic Coordinator (Inspector): To Be Determined
   c) Project Manager (Construction Engineer): To Be Determined
   d) Residency Administrator, Joe Lomax: (757) 346-3065
   e) Area Construction Engineer, Paul Moose, PE: (757) 925-1663
   f) District Work Zone Safety Coordinator, Tim Rawls: (757) 925-2571
   g) Regional Traffic Engineer, Mike Corwin, PE: (757) 925-6020
   h) District Public Affairs Manager, Harry Kenyon: (757) 925-1660
5) The Virginia State Police will take control of the incident and direct its clearing and restoration to normal traffic conditions.
6) The Virginia State Police report of the incident will be reviewed by the Residency Administrator to determine if any modification of the Temporary Traffic Control Plan is necessary. If it is determined that it is necessary to alter the plan, then a meeting will be called with the contractor, VDOT project personnel, VDOT traffic safety representatives and the Virginia State Police (if necessary) to discuss modification and implementation of an improved traffic control plan.

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TRANSPORTATION MANAGEMENT PLAN

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL SEGMENT 2

SHEET NUMBER
1E

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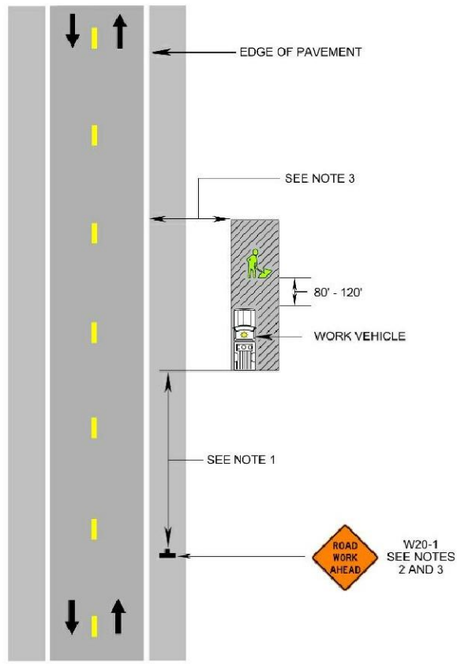
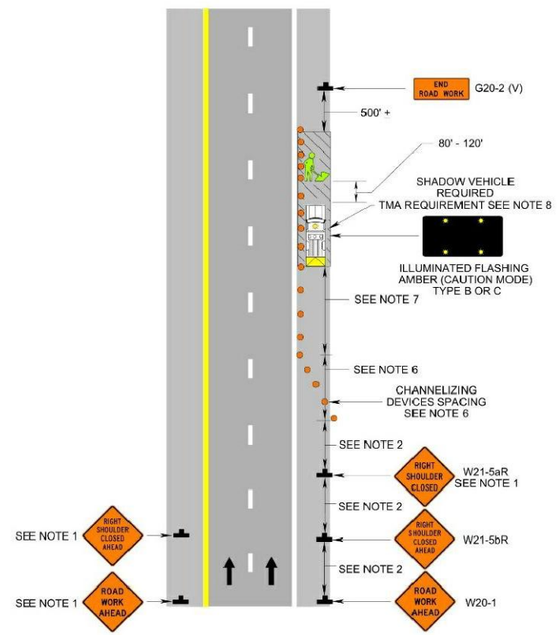
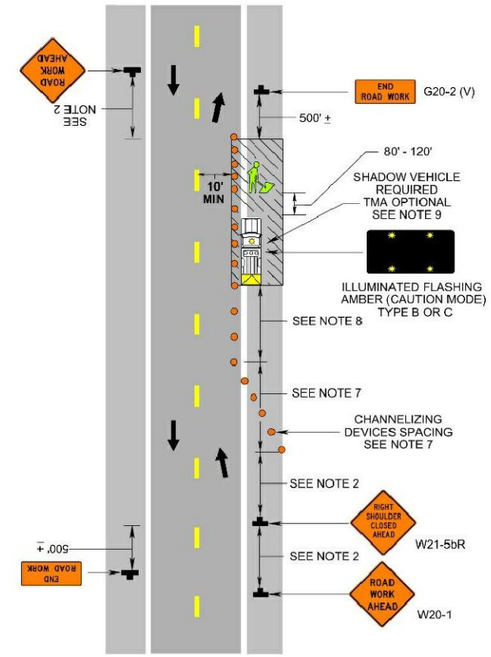
Work Beyond the Shoulder Operation
(Figure TTC-1.0)



Stationary Operation on a Shoulder
(Figure TTC-4.0)



Shoulder Operation with Minor Encroachment
(Figure TTC-5.0)



Typical Traffic Control
Work Beyond the Shoulder Operation
(Figure TTC-1.0)
NOTES

Guidance:

1. *The minimum distance between the sign and work vehicle should be 1300'-1500' on Limited Access highways, and on all other roadways 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limited is 45 mph or less.*

Option:

2. The ROAD WORK AHEAD (W20-1) sign may be replaced with other appropriate signs such as the SHOULDER WORK (W21-5) sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.
3. The ROAD WORK AHEAD sign may be omitted where the work space is behind a barrier, more than 4 feet behind vertical curb (Standard CG-2 and CG-6) on urban roadways, or outside of the clear zone for all other roadways. For clear zone values see Page A-4 of Appendix A.
4. For short-term, short duration or mobile operation, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, oscillating, or strobe lights is used.

Standard:

5. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.**
6. **If the work space is in the median of a divided highway, an advance warning sign shall also be placed on the left side of the directional roadway.**

Typical Traffic Control
Stationary Operation on a Shoulder
(Figure TTC-4.0)
NOTES

Standard

1. **For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed and a RIGHT SHOULDER CLOSED AHEAD (W21-5bR) sign shall be added to that side.**

Guidance

2. *Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*

Option:

3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short duration operations of 1 hour or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, oscillating, or strobe lights is used.

Standard:

5. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.**
6. **Taper length (L) and channelizing device spacing shall be at the following:**

Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = ¼ L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per ¼ mile.		

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

7. **The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.**
8. **A shadow vehicle shall be used whenever a person is required to operate equipment mounted on or in the work vehicle such as buckets, augers, post drivers, etc. For work operations on the shoulder with a duration greater than 1 hour where workers are present, a shadow vehicle shall be used. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.**
9. **When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.**

Typical Traffic Control
Shoulder Operation with Minor Encroachment
(Figure TTC-5.0)
NOTES

Standard

1. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**

Guidance

2. *Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*
3. *When work takes up part of a lane on a high volume roadway; vehicular traffic volumes, vehicle mix, speed and capacity should be analyzed to determine whether the affected lane should be closed. Unless the lane encroachment analysis permits a remaining lane width of 10 feet, the lane should be closed. If the closure operation is on a Limited Access highway, the minimum lane width is 11 feet.*

Option:

4. The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.

Standard:

5. **A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, flashing, oscillating, or strobe light shall be parked 80' - 120' in advance of the first work crew.**
6. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.**
7. **Taper length (L) and channelizing device spacing shall be at the following:**

Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = ¼ L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per ¼ mile.		

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

8. **The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.**
9. **A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.**
10. **When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.**

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TRANSPORTATION MANAGEMENT PLAN

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

SHEET NUMBER
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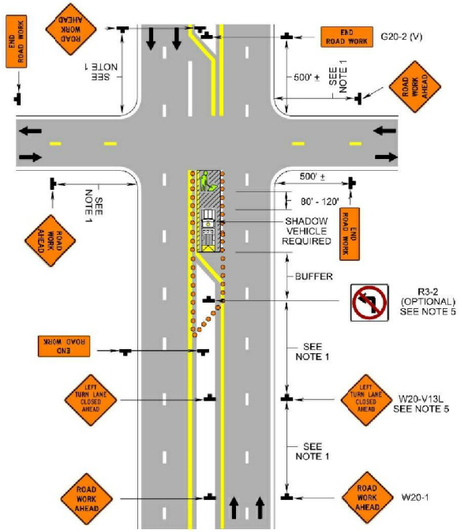
Turn Lane Closure Operation
(Figure TTC-29.0)



Typical Traffic Control
Turn Lane Closure Operation
(Figure TTC-29.0)
NOTES

Guidance:

1. *Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph.*

Standard:

2. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**
3. **To prevent accidental intrusion into the work area, channelizing device spacing shall not exceed 20' on centers.**

Option:

4. This layout may be used for either right or left turn lane closures.
5. For a high volume of turning movements, additional traffic control devices, such as signs (graphic NO LEFT TURN (R3-2) or LEFT LANE MUST TURN LEFT (R3-7L)), channelizing devices and vehicles may be used

Standard:

6. **Taper Length (L) shall be:**

Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
≤25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
Shoulder Taper = ⅓ L Minimum				

7. **Buffer Space Length shall be:**

Posted Speed Limit (mph)	Distance (Feet)
≤20	120±
25	160±
30	200±
35	250±
40	310±
45	360±
50	425±
55	500±
60	570±
65	650±
70	740±

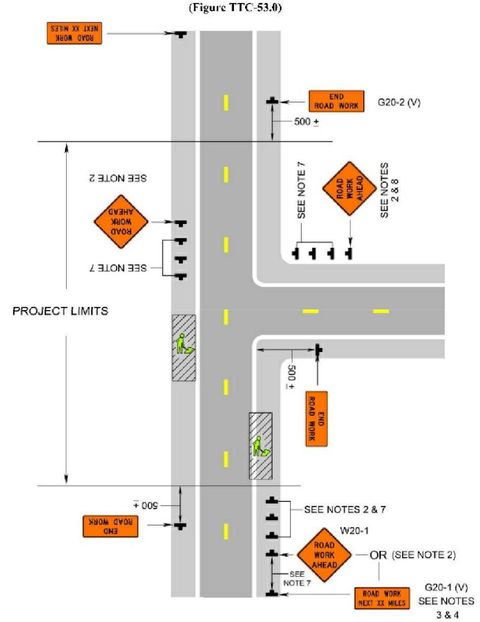
Guidance:

8. *If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TTC-36.*

Support:

9. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might be physically impossible to make certain turns, especially for large vehicles.

Signing for Project Limits
(Figure TTC-53.0)



Typical Traffic Control
Signing for Project Limits
(Figure TTC-53.0)
NOTES

Support:

1. This layout depicts signing requirements for notifying motorist when they are entering and exiting a potential construction/maintenance area with a duration equal to or greater than 60 days.

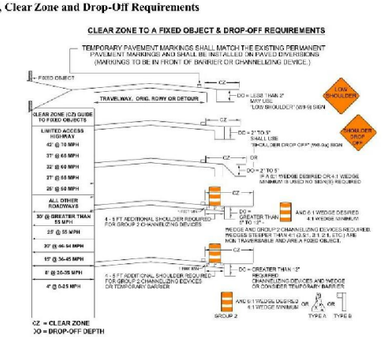
Standard:

2. **The ROAD WORK AHEAD (W20-1) sign or the ROAD WORK NEXT XX MILES (G20-1 (V)) sign shall be placed far enough in advance of the project limits so that other warning signs in a series may be adequately placed prior to the condition they are warning about.**
3. **The ROAD WORK NEXT XX MILES sign shall be used for projects with activity areas greater than 2 miles in length, or when multiple work activities (such as pavement patching, guardrail installations, shoulder restoration, etc.) occur along a highway.**
4. **The distance displayed on the ROAD WORK NEXT XX MILES sign shall be stated to the nearest whole mile from the point of installation to the END ROAD WORK (G20-2 (V)) sign.**
5. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**

Guidance:

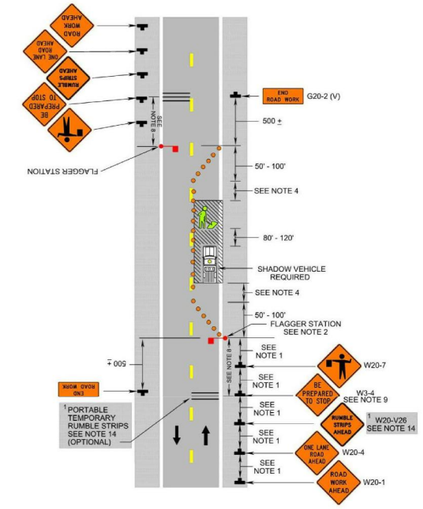
6. *For projects with activity areas 2 miles or less in length, the ROAD WORK AHEAD sign should be the first sign motorist encounter.*
7. *Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*
8. *All connections within the project limits should be identified with signs indicating to motorist they are entering or exiting a potential construction/maintenance area.*

Figure 2, Clear Zone and Drop-Off Requirements



Slopes steeper than 4:1 are considered a fixed object hazard.

Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)



1: Revision 1 – 4/1/2015

Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)
NOTES

Guidance:

1. *Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.*
2. *Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.*

Option:

3. Where Right-of-Way or geometric conditions prevent the use of 48" x 48" signs, 36" x 36" signs may be used.

Standard:

4. **Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).**
5. **All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).**
6. **Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.**[1]
7. **A shadow vehicle with at least one high intensity amber rotating, flashing, or[1] oscillating light shall be parked 80'-120' in advance of the first work crew.**

Option:

8. A supplemental flagger may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.

Guidance:

9. *If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the sign, and if used the portable temporary rumble strips (PTRS)[1], should be readjusted at greater distances.*
10. *When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).*

Standard:

11. **At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).**

Option:

12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

Standard:[1]

14. **When approved for use, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.**

Posted Speed	0 – 35 mph	36 – 55 mph
PTRS Spacing (Center to Center)	5 Feet	8 Feet

1: Revision 1 – 4/1/2015

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REBECCA R. JUCKSCH
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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT	
DATE	
SCALE	AS SHOWN
DESIGNED BY	
DRAWN BY	
CHECKED BY	

TRANSPORTATION MANAGEMENT PLAN

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

SHEET NUMBER
1E(2)

VDOT GENERAL NOTES

GRADING

G-3 Earthwork quantities on this project are based on anticipated settlement and may require adjusting during construction. Payment will be made only for quantities actually moved.

G-4 The cost of removal of all existing concrete items located in the area to be graded, including, but not limited to the following, shall be included in the price bid for regular excavation: sidewalk, curb and gutter, and drainage structures

G-6 The borrow material for this project shall be a minimum CBR 15 or as approved by the Materials Engineer.

PAVEMENT

P-2 The pavement materials on this project will be paid for on a tonnage basis. The weight will vary in accordance with the specific gravity of the aggregates and the asphaltic content of the mix actually used to secure the design depth. The weight of the asphalt concrete is based on 95% of the theoretical maximum density.

EROSION AND SEDIMENT CONTROL (ESC)

E-2 Rock for Check Dams, Inlet Protection, Erosion Control Stone and Riprap shall be in accordance with Section 203 and Section 414 of the applicable VDOT Road and Bridge Specifications.

INCIDENTALS

I-8A Clearing and grubbing shall be confined to those areas needed for construction. No trees or shrubs in ungraded areas shall be cut without the permission of the Engineer.

I-12 St'd. RM-2 Right of Way monuments shall be set by the Contractor.

I-6 Certain trees shall be preserved as noted on plans or as directed by the Engineer.

- See County/Project Specific Note #3.

I-7 Where Standard slope roundoffs would damage trees, bushes or other desirable vegetation, they shall be omitted when so ordered by the Engineer.

I-18 All pavement markings and traffic flow arrows shown on the roadway construction plans are schematic only. The actual location and application of pavement markings shall be in accordance with Section 704 of the applicable VDOT Road and Bridge Specifications, MUTCD, and as directed by the Engineer.

I-20 The Official Electronic PDF Version of the plans will override the paper copies or prints of specific layers. Portions of this plan assembly have been CADD generated. To assist in the preparation of the bid and construction of the project, AutoCADD format (.dwg) files will be made available to the prime contractor during bids and after award of the contract.

I-21 All electronic plan assemblies will include the construction plans in two formats: PDF files and AutoCADD format (.dwg) files. Only the PDF files will be considered as part of the official plan assembly. The AutoCADD format (.dwg) files are furnished only as information for the contractor. These plans are developed in layers to aid in readability. However, the construction items may or may not be in the proper layering scheme as described in the VDOT CADD Manual. The AutoCADD files will only match the scanned files if all required levels are turned on. A AutoCADD Software license is required to be able to read these files.

DRAINAGE

D-1 The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific stations, special design bridges and storm sewer systems.

D-2 The horizontal location and invert elevations shown for proposed culverts and storm sewer outfall pipes are based on existing survey data and required design criteria. If during construction, it is found that the horizontal location or invert elevations shown on the plans differ significantly from the horizontal location or elevations of the stream or swale in which the culvert or storm sewer outfall pipe is to be placed, the Engineer shall confer with, and get approval from, the applicable District Drainage Engineer before installing the culvert or storm sewer outfall pipe.

D-3 The "H" dimensions shown on plans for drop inlets and junction boxes and the "L.F. " dimensions shown for manholes are for estimating purposes and are based on the proposed invert elevations shown for the structure and the anticipated top (rim) elevation based on existing or proposed finished grade. The actual "H" or "L.F. " dimensions are to be determined by the contractor from field conditions.

D-6 Pipes shall conform to any of the allowable types shown on sheet 2A, within the applicable height of cover limitations. For strength, sheet thickness, or class designation; available sizes; height of cover limitations;and other restrictions for a particular pipe type or height of cover, see the VDOT Road and Bridge Standard PC-1. Structural plate pipe may be substituted for corrugated pipe of the same size, provided the substitution complies with the applicable sections of the VDOT Road and Bridge Standards PC-1.

D-13 Existing drainage facilities being utilized as a part of the drainage system, and designated on the plans "To Be Cleaned Out" shall be cleaned as directed by the Engineer. The cost incidental to this shall be included in the contract price for other items.

D-14 Proposed drop inlets with a height (H) less than the standard minimum shown in the VDOT Road and Bridge Standards shall be considered and paid for as Standard Drop Inlets for the type specified. Pipes with less than standard minimum finished height of cover shall be noted as such in the drainage description for the pipe. Specific pipe bedding and cover requirements are provided in the applicable PB-1 and PC-1 standard drawings of the VDOT Road and Bridge Standards.

D-17 St'd. SL-1 Safety Slab locations are based on the assumed use of precast structures. If cast-in-place structures are utilized, and the interior chamber dimensions (length and width, or diameter) are less than 4 feet, the safety slabs shall not be installed.

ENVIRONMENTAL

1. The below listed wetland permits and environmental documents are associated with the project:

- Virginia Marine Resources Commission (VMRC) Permit Number 14-1236 (expires January 27, 2018)
- U.S. Army Corps of Engineers' (COE) Nationwide Permit 23 - Permit Number NAO-2011-1435/ 14-V1236 (expires March 18, 2017)
- Department of Environmental Quality (DEQ) No Permit Required letter
- U.S. Coast Guard Advance Approval determination (expires 5 years from March 6, 2015)
- A Programmatic Categorical Exclusion (PCE) prepared for compliance with NEPA
- National Oceanic and Atmospheric Administration (NOAA) concurrence regarding Atlantic Sturgeon
- Chesapeake Bay Preservation Area (CBPA) Ordinance Exception
- Clarification on RPA Exception Application Memorandum dated August 17, 2015

2. The County has purchased the required 0.14 ac of wetland mitigation credit and provided proof of the purchase of compensation to the COE and VDOT. The Contractor shall be responsible for compliance with all other conditions imposed on the above listed permits and environmental documents for the project.

3. The Contractor will assume all obligations and costs incurred by complying with the terms and conditions of the permits and environmental documentation with the exception of providing the 0.14 ac of compensatory mitigation. Any fines associated with any environmental permit or regulatory violations will be the responsibility of the Contractor.

4. Jurisdictional wetlands and waters and Resource Protection Area (RPA) buffers occur within the project corridor. There shall be no encroachment, fill, discharge of material, soil stockpiles or material storage within wetlands, waters or RPA buffers except as specified and permitted in the above listed wetland permits and RPA Exception.

5. See project specific specification for tree removal and mitigation required in Resource Protection Area (RPA).

6. Yellow placard associated with the VMRC permit must be conspicuously displayed at the work site (Jones Creek Crossing).

7. An As-Built survey which certifies the location and clearance of the bridge that was constructed shall be prepared and submitted to Mr. Chris Libeau, National Ocean Service, N/CS26, Room 7317, 1315 East-West Highway, Silver Spring, MD 20910-3282. This survey will be performed by the Contractor and provided to the Owner/Engineer upon completion. Owner/Engineer shall submit to NOS as required.

8. The Compliance Certification Form associated with the COE permit must be completed and submitted to the COE within 30 days of completion of the project. This activity will be performed and submitted by the Owner/Engineer.

9. The Department of Game and Inland Fisheries (DGIF) standard Canebrake Rattlesnake awareness form must be provided to all contractors prior to starting work. If Canebrake Rattlesnakes are encountered, JD Kleopfer with DGIF must be contacted at 804-829-6703.

10. If any previously unknown historic, cultural or archaeological remains or artifacts are discovered during construction, the contractor shall immediately notify the COE District Engineer of the finding, and, to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed.

SPECIAL PROJECT CONDITIONS

1. NO INSTREAM WORK SHALL TAKE PLACE BETWEEN FEBRUARY 15TH AND JUNE 30TH OF ANY YEAR.

2. AT NO TIME DURING BRIDGE WORK WILL THE WATERWAY (JONES CREEK) BE CLOSED TO NAVIGATION WITHOUT THE PRIOR NOTIFICATION AND APPROVAL OF THE COAST GUARD.

3. THE COAST GUARD, NATIONAL OCEAN SERVICE (NOS) OF NOAA, AND THE VMRC SHALL BE NOTIFIED AT LEAST 15 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ASSOCIATED WITH THE JONES CREEK CROSSING.

4. A TURBIDITY CURTAIN MUST BE PLACED AROUND ALL WORK OCCURRING WITHIN JONES CREEK.

5. ANY TEMPORARY TRESTLES SHALL BE LOCATED AND CONSTRUCTED IN ACCORDANCE WITH THE VMRC AND COE PERMITS.

6. THERE SHALL BE NO CONSTRUCTION STAGING OR LAYDOWN AREAS LOCATED WITHIN THE LIMITS OF CARROLLTON NIKE DISTRICT PARK.

COUNTY/PROJECT SPECIFIC NOTES

1. In areas of trees/vegetative masses, Contractor shall not clear trees beyond designated clearing limits, unless prior approval is granted by the County. Contractor may choose to work around and salvage trees/vegetation as long as the health of the trees/vegetation is not compromised, and with prior approval from the County. The County desires for as many trees/vegetation as possible to remain.

2. No trees/vegetation may remain within a 3' clearance zone from the edge of the path. Limbs of trees and overhang must be trimmed up to a vertical clearance height of 10' within the 3' clearance zone. This work shall be performed and paid for in accordance with the lump sum pay item description in the VDOT Road and Bridge Specifications, Section 301.

- Amended for Pedestrian Bicycle Trail: within a minimum of 3' of the edge of the path.

3. Contractor shall replace in kind any trees noted as "Do Not Disturb" at the Contractor's expense with supervision from the County.

4. The Town/County will obtain right of entry privileges from property owners to perform minor grading and construction activities

5. All proposed traffic signs shall comply with 2008 Road and Bridge Standards and MUTCD (2009 Edition).

6. Construction entrances shall be provided by Contractor to comply with Virginia Standards. Construction entrances shall be paid as an incidental item to the work.

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PROFESSIONAL ENGINEER

KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

GENERAL NOTES

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
2

Plotted By:Lockleor, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:2 March 13, 2017 03:28:55pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment-2\2 GENERAL NOTES.dwg
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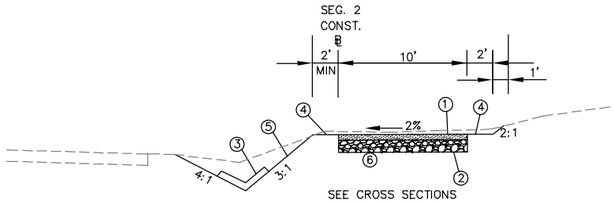
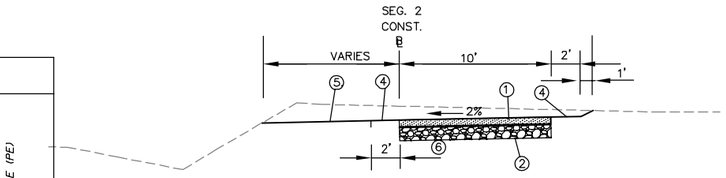
TYPICAL SECTIONS

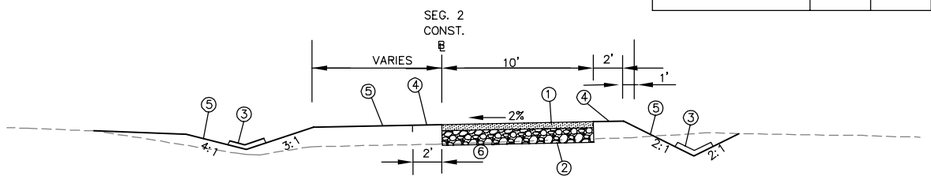


SEE CROSS SECTIONS
STA. 169+73.50 TO STA. 186+75
STA. 188+00 TO STA. 205+75

ALLOWABLE TYPE OF PIPE CULVERT (UNLESS OTHERWISE SHOWN ON PLANS) (SEE ROAD AND BRIDGE STANDARD PC-1 FOR HEIGHT OF COVER LIMITATIONS FOR EACH TYPE)											
LOCATION	CONCRETE	ALUMINUM COATED TYPE 2 CORRUGATED STEEL	POLYMER COATED (10/10) CORRUGATED STEEL	UNCOATED GALVANIZED CORRUGATED STEEL	GALVANIZED STEEL STRUCTURAL PLATE	GALVANIZED STEEL STRUCTURAL PLATE WITH CONCRETE INVERT	CORRUGATED ALUMINUM ALLOY	CORRUGATED ALUMINUM ALLOY STRUCTURAL PLATE	POLYVINYLCHLORIDE (PVC) RIBBED PIPE (SMOOTH INTERIOR)	POLYETHYLENE (PE) CORRUGATED TYPE C	POLYETHYLENE (PE) CORRUGATED TYPE S
NIKE PARK ROAD	YES	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES



SEE CROSS SECTIONS
STA. 222+80 TO STA. 252+25



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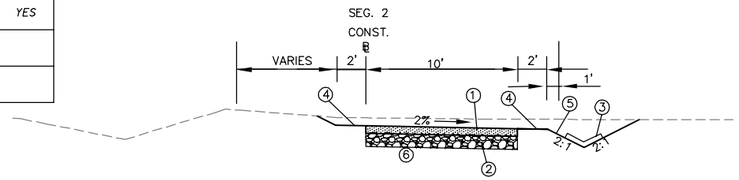
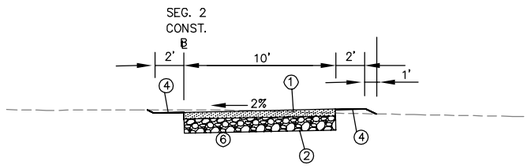
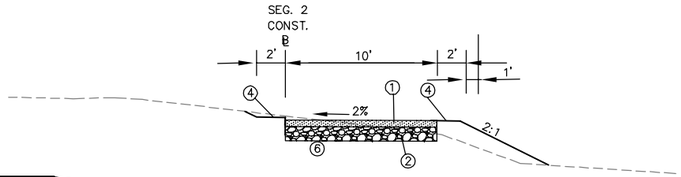
STA. 186+75 TO STA. 188+00



SEE CROSS SECTIONS
STA. 252+25 TO STA. 255+25



SEE CROSS SECTIONS
STA. 205+75 TO STA. 209+97



SEE CROSS SECTIONS
STA. 255+25 TO STA. 266+00

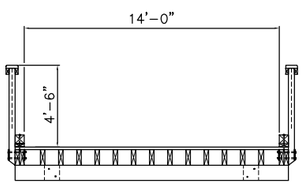
1. 2" ASPHALT CONCRETE, TYPE SM-12.5A
2. 6" AGGREGATE BASE MATERIAL, TYPE I, NO. 21B
3. EC-2 LINING REQ'D. (H=1FT).
4. GRADED SHOULDER WITH TOP SOIL AND SEED (SAME SLOPE AS PATH)
5. SIDE SLOPES WITH TOP SOIL AND SEED
6. STABLE SUBGRADE, COMPACTED TO AT LEAST 100% OF THE THEORETICAL MAXIMUM DRY DENSITY AS DETERMINED BY VTM-1 AND APPROVED BY OWNER. (SEE GEOTECH REPORT)
7. VEGETATIVE TRIMMING AND CLEARING AS NECESSARY TO PROVIDE 16' CLEAR AREA FROM LATERAL OBSTRUCTIONS SUCH AS TREES, ROOTS, BUSHES POLES, ETC. (UP TO A HEIGHT OF 10' ABOVE GRADE).

NOTE:
GEOTEXTILE FABRIC TO BE USED FOR SUBGRADE STABILIZATION AS REQUIRED.

Asphalt Conc. Type
SM-12.5A
@ 165 Lbs. per S.Y.
4" Asphalt Conc. Base Course
BM-25.0
6" Aggr. Base Mat'l. Ty. I
No. 21A or 21B

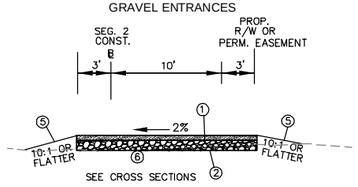
NOT TO SCALE

DETAIL FOR COMMERCIAL PAVEMENT SECTION AT ENTRANCES FOR PARCELS 104 & 105



PROPOSED FOOT BRIDGE
STA. 209+97 TO STA. 221+84.19

DETAIL FOR ADDITIONAL PAVEMENT AT GRAVEL ENTRANCES



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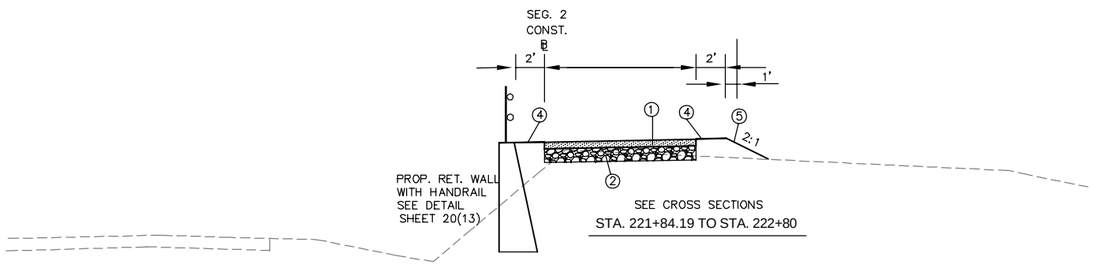
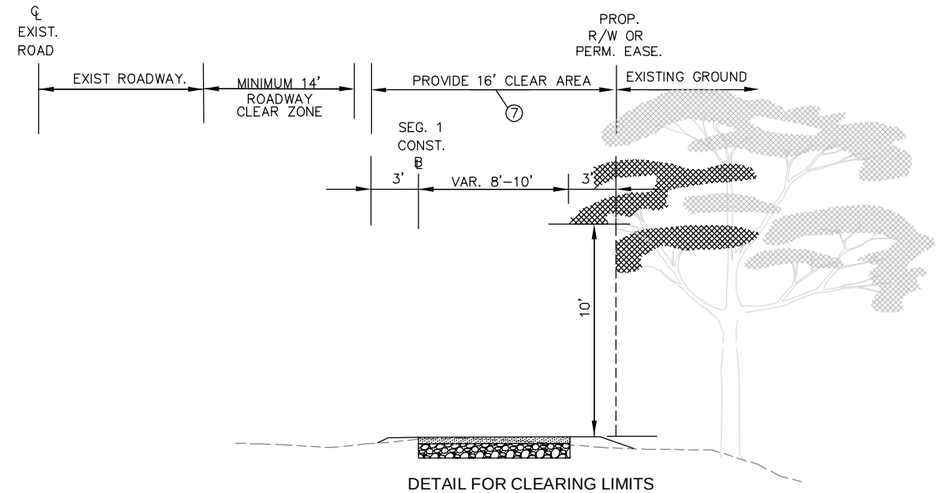


SEE CROSS SECTIONS
STA. 221+84.19 TO STA. 222+80



DETAIL FOR CLEARING LIMITS

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

TYPICAL SECTIONS

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
2A

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\2A TYPICAL SECTIONS.dwg K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\2A TYPICAL SECTIONS.dwg Layout:2A December 12, 2016 03:20:29pm
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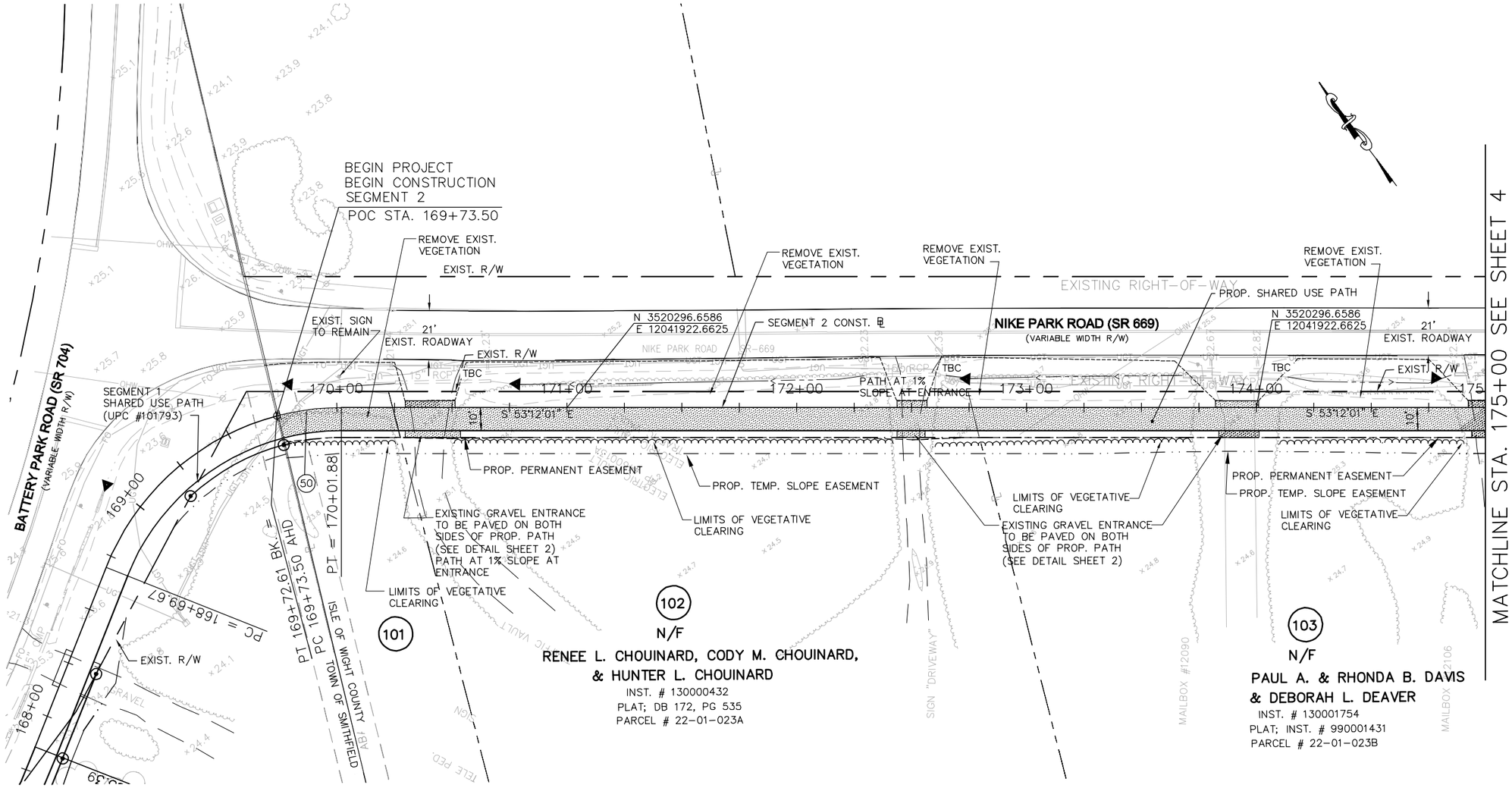

UTILITY CONTACT LIST

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COLUMBIA GAS TRANSMISSION
2410 PRUDEN BOULEVARD
SUFFOLK, VIRGINIA 23434
(757) 733-2486
CONTACT: RUSSELL GLENN

COLUMBIA GAS OF VIRGINIA
1809 COYOTE DRIVE
CHESTER, VIRGINIA 23836
(804) 768-6428
CONTACT: REX PARKER

ELECTRIC
DOMINION VIRGINIA POWER
5272 GODWIN BOULEVARD
SUFFOLK, VIRGINIA 23434
(757) 255-3050
CONTACT: JOEL RIVERA

TELEPHONE
VERIZON
OSP ENGINEERING - EASTERN
VERIZON SOUTH INC.
(757) 482-8063
CONTACT: CHARLES SMALL

HAMPTON ROADS SANITATION DISTRICT
HRSD
1436 AIR RAIL AVENUE
VIRGINIA BEACH, VIRGINIA 23455
(757) 355-5020
CONTACT: COLLEEN WELLS

TOWN OF SMITHFIELD PUBLIC WORKS
293 CARY STREET
SMITHFIELD, VIRGINIA 23430
(757) 365-4200
CONTACT: JESSIE SNEAD

COMMUNICATIONS
CHARTER COMMUNICATIONS
216 MOORE AVENUE
SUFFOLK, VIRGINIA 23434
(757) 735-4007
CONTACT: KIMBERLY MANN

101
N/F
RENEE L. CHOUINARD, CODY M. CHOUINARD & HUNTER L. CHOUINARD
INST. # 130000432
PB 8, PG 70
PARCEL # 22-01-023E

50
Δ = 14° 46' 55" RT
D = 52° 05' 13"
T = 14.27'
L = 28.38'
R = 110.00'
PC = 169+73.50
PI = 169+87.77
PT = 170+01.88
E = MATCH EXISTING
LS = NOT APPLICABLE

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION
- TBC — CLEAN EXISTING CULVERT

0 25' 50'
GRAPHIC SCALE

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PLAN SHEET
STA. 169+73.50 TO STA. 175+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
3

Plotted By:Lockklear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\3 PLAN SHEET.dwg Layout:3 December 12, 2016 03:23:56pm K:\VAB_RDWY\117032000 - IOW Trail - Seg 2
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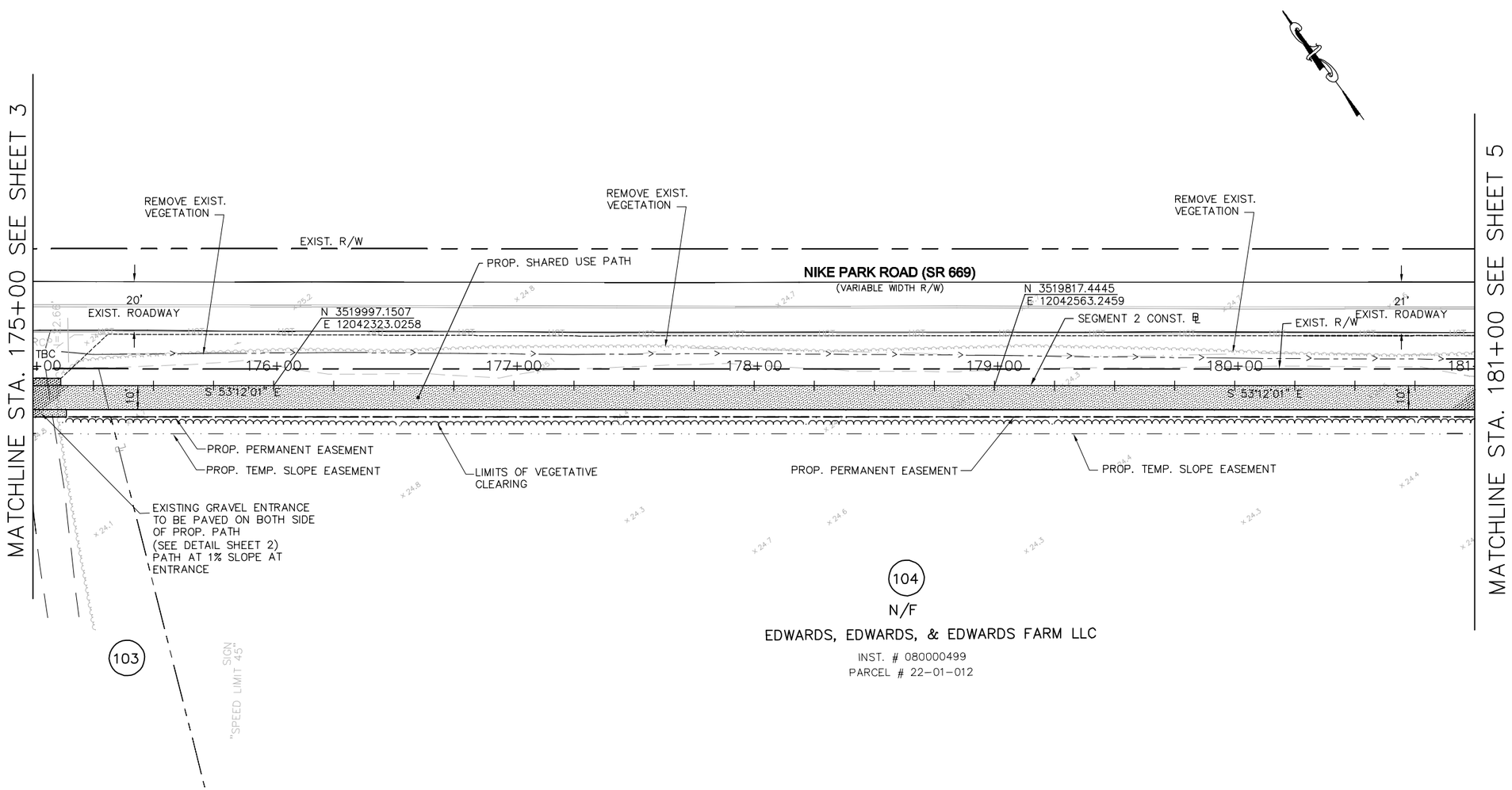

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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 175+00 TO STA. 181+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL

SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER

4

Plotted By:Lockhear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:4 December 12, 2016 03:25:36pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\4 PLAN SHEET.dwg
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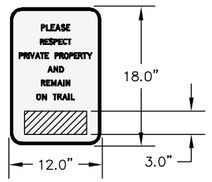
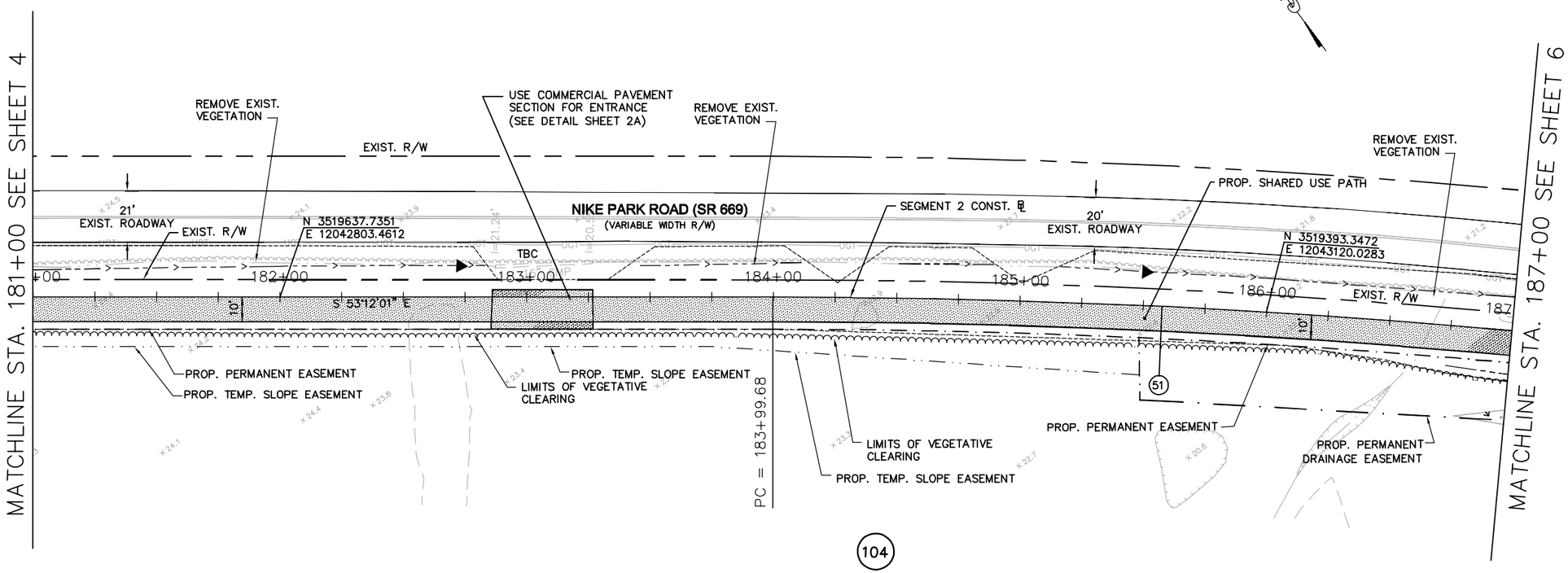


SIGN DETAIL–
LOCATION TO
BE DETERMINED

NOTE: WETLANDS WERE DELINEATED ON 6/22/11 BY KIMLEY–HORN & ASSOCIATES, INC. AND CONFIRMED BY THE COE BY LETTER DATED 9/20/2011 (NAO–2011–1435)



104

N/F

EDWARDS, EDWARDS, & EDWARDS FARM LLC

INST. # 080000499

PARCEL # 23–01–012

51

△ = 7° 12' 28" RT
D = 01° 43' 52"
T = 208.47'
L = 416.39'
R = 3310.00'
PC = 183+99.68
PI = 186+08.16
PT = 188+16.08
E = 2%
Lr = NA
Lt = NA

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION
- TBC — CLEAN EXISTING CULVERT

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn
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4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462
PHONE: 757–213–8600 FAX: 757–213–8601
WWW.KIMLEY–HORN.COM

COMMONWEALTH OF VIRGINIA
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 181+00 TO STA. 187+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL

SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
5

Plotted By:Locklear, Lynda Sheet Set:117031000 – IOW Trail – Seg 2 Layout:5 December 12, 2016 03:27:18pm K:\VAB_RDWY\117032000 – IOW Trail Project\Design\Sheets\Segment_2\5 PLAN SHEET.dwg
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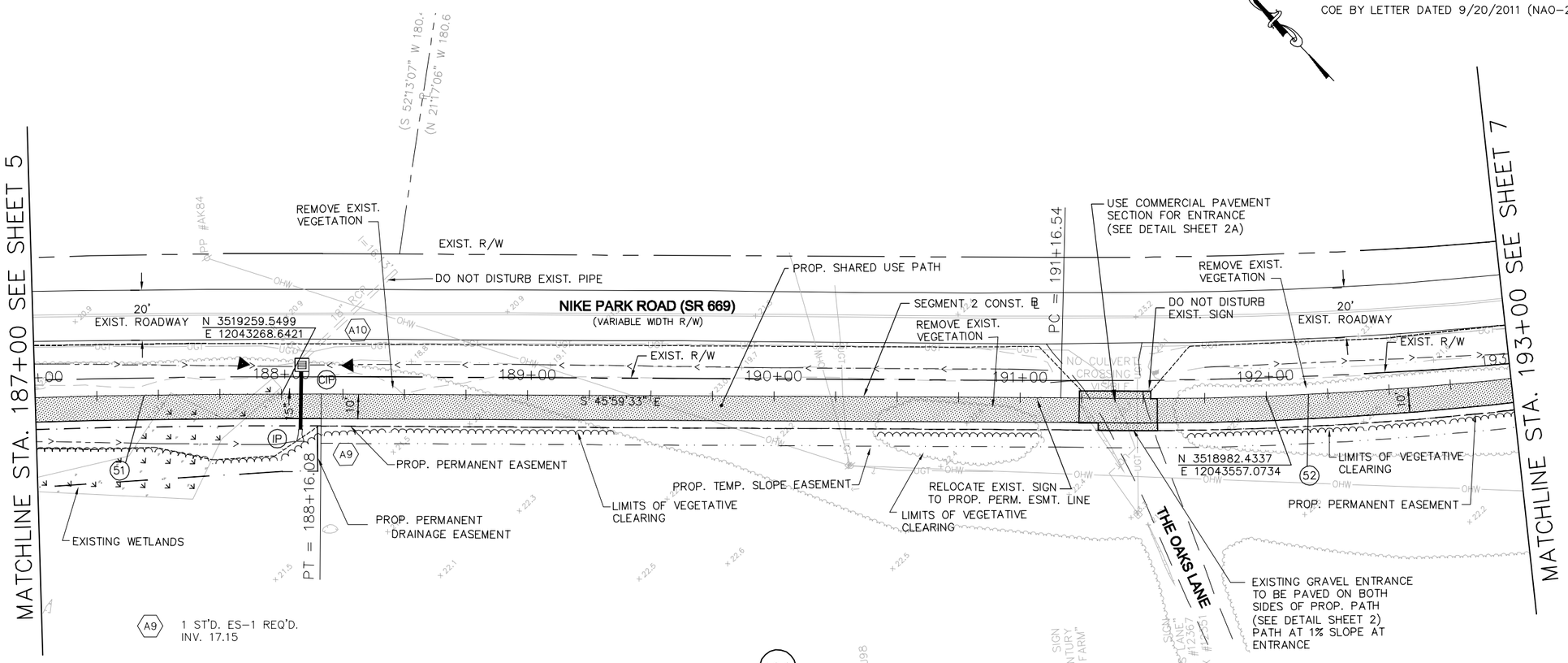

A9 — 1 ST'D. ES-1 REQ'D.
INV. 17.15

A9 — A10 — 24' – 15" PIPE REQ'D.
INV. (IN) 17.15 INV. (OUT) 16.79

A10 — 1 ST'D. DI-5 REQ'D. TYPE AIII GRATE REQ'D.
H=3.3' INV. 16.63
TIE TO EXIST. 18" RCP

(51)

Δ = 7° 12' 28" RT
D = 1° 43' 52"
T = 208.47'
L = 416.39'
R = 3310.00'
PC = 183+99.68
PI = 186+08.16
PT = 188+16.08
E = 2%
Lr = NA
Lt = NA

(52)

Δ = 10° 28' 38" LT
D = 4° 06' 23"
T = 129.94'
L = 259.13'
R = 1395.27'
PC = 191+16.54
PI = 192+46.48
PCC = 193+75.67
E = 2%
Lr = NA
Lt = NA

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION
- TBC — CLEAN EXISTING CULVERT

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn

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4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462
PHONE: 757-213-8600 FAX: 757-213-8601
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 187+00 TO STA. 193+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
6

Plotted By:Locklear, Lynda Sheet Set:117031000 – IOW Trail – Seg 2 Layout:6 March 17, 2017 01:52:30pm K:\VAB_RDWY\117032000 – IOW Trail Project\Design\Sheets\Segment_2\6 PLAN SHEET.dwg
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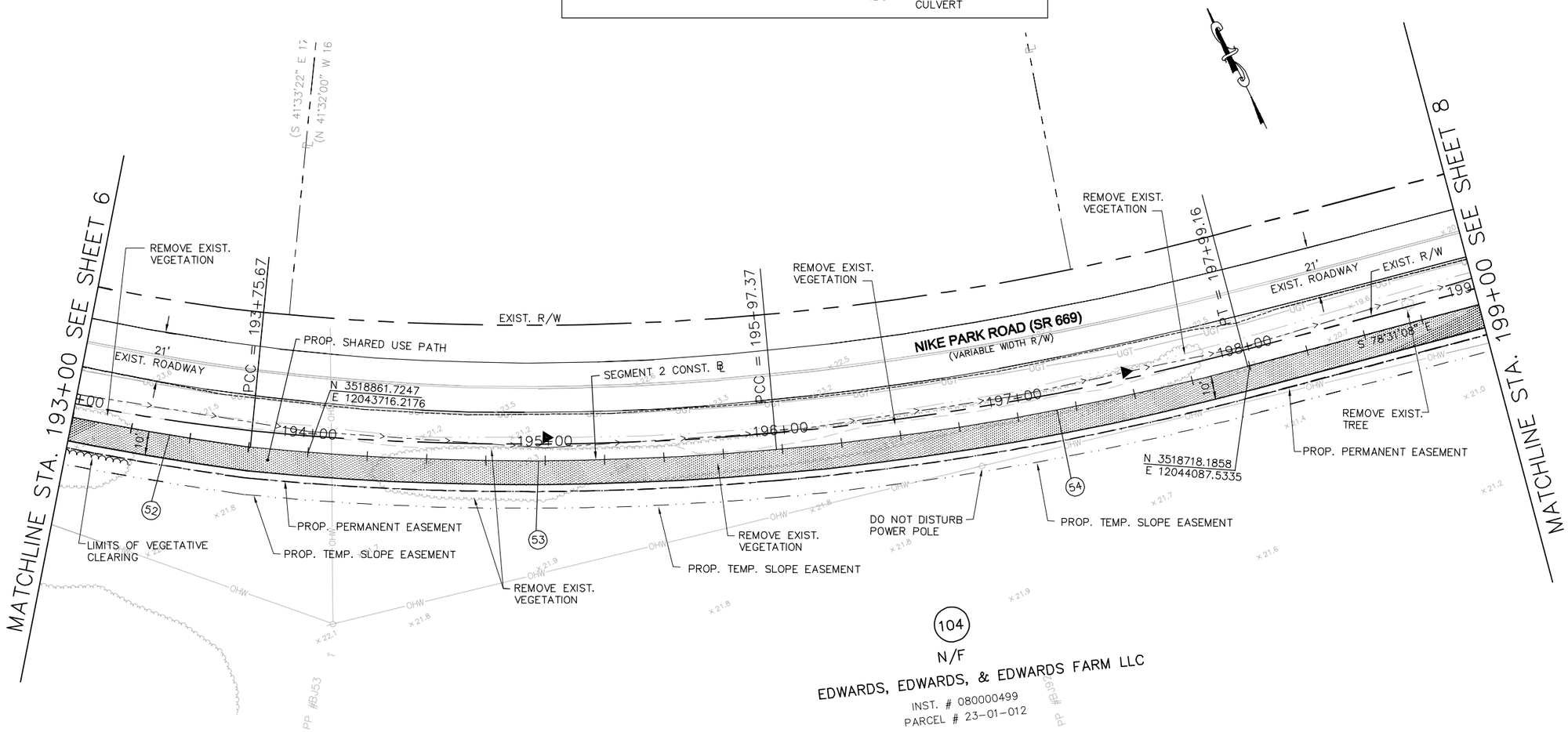
LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION
- TBC — CLEAN EXISTING CULVERT



52

Δ = 10° 38' 28" LT
D = 4° 06' 23"
T = 129.94'
L = 259.13'
R = 1395.27'
PC = 191+16.54
PI = 192+46.48
PCC = 193+75.67
E = 2%
Lr = NA
Lt = NA

53

Δ = 10° 44' 47" LT
D = 4° 50' 50"
T = 111.17'
L = 221.70'
R = 1182.00'
PCC = 193+75.67
PI = 194+86.84
PCC = 195+97.37
E = 2%
Lr = NA
Lt = NA

54

Δ = 9° 46' 53" LT
D = 4° 50' 50"
T = 101.14'
L = 201.79'
R = 1182.00'
PCC = 195+97.37
PI = 196+98.51
PT = 197+99.16
E = 2%
Lr = NA
Lt = NA

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 193+00 TO STA. 199+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
7

Plotted By:Lockliear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\7 PLAN SHEET.dwg December 12, 2016 03:31:11pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\7 PLAN SHEET.dwg Layout:7
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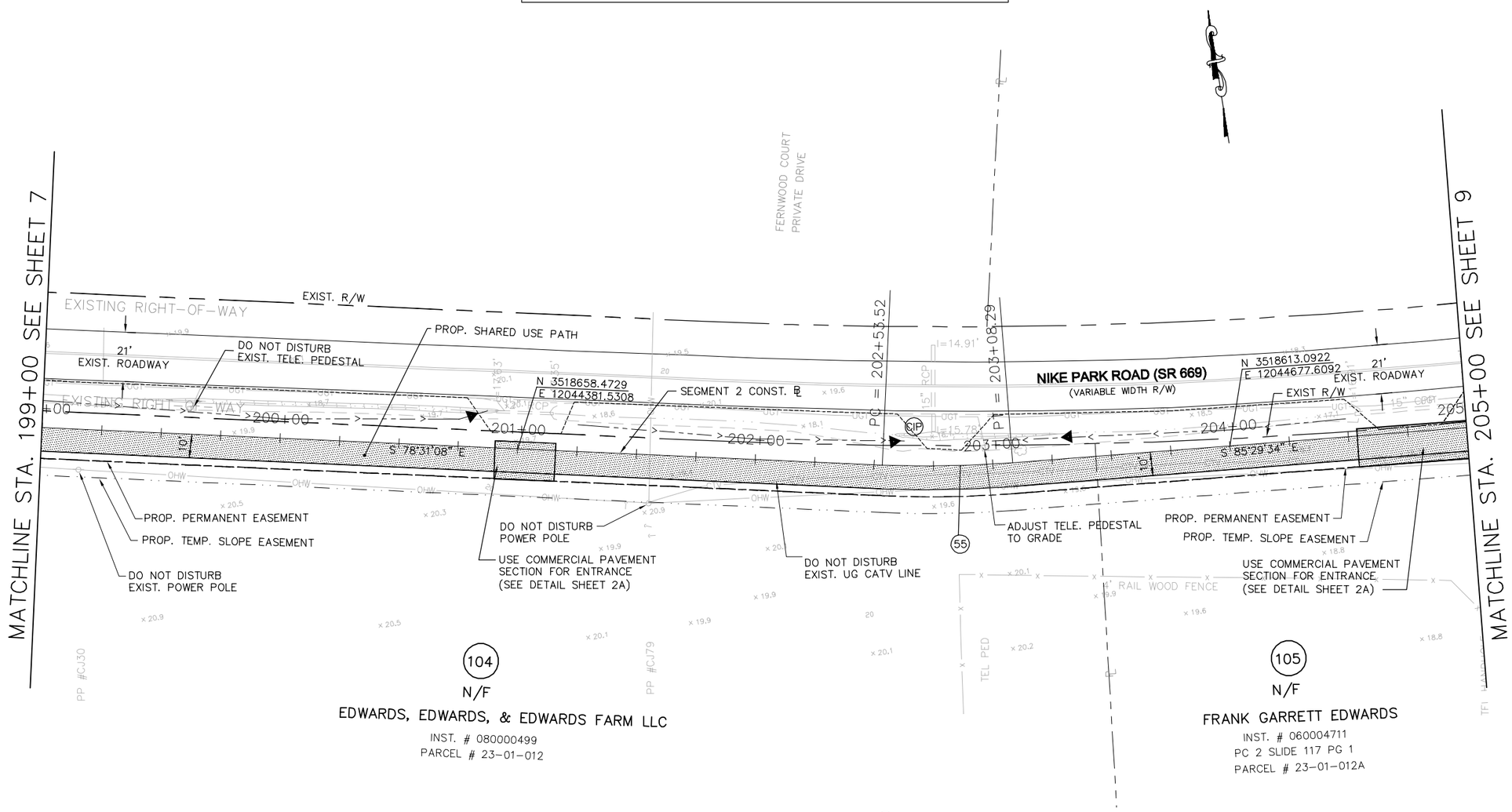
LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION
- TBC — CLEAN EXISTING CULVERT



55

Δ = 6° 58' 25" LT
D = 12° 43' 57"
T = 27.42'
L = 54.77'
R = 450.00'
PC = 202+53.52
PI = 202+80.94
PT = 203+08.29
E = 2%
Lr = NA
Lt = NA

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn

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COMMONWEALTH OF VIRGINIA
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

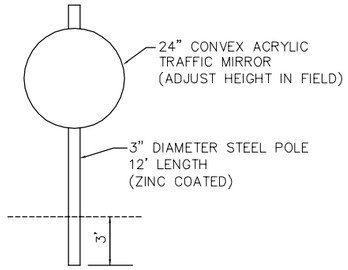
KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 199+00 TO STA. 205+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
8



ENTRANCE MIRROR

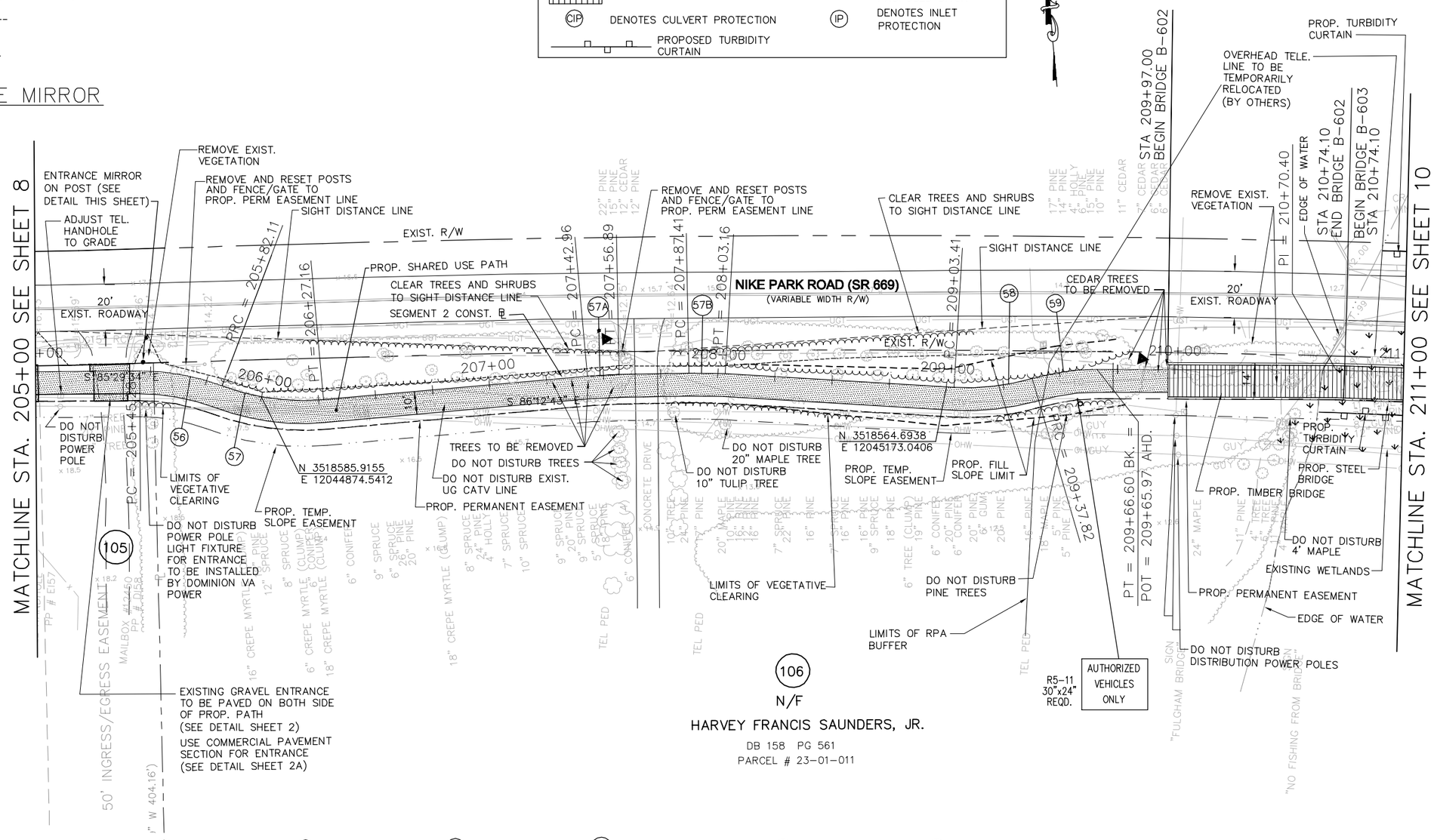
NOTE: CONTRACTOR TO USE CAUTION WHEN WORKING UNDER OR NEAR OVERHEAD POWER LINES. A 10-FT MINIMUM CIRCULAR CLEARANCE MUST BE MAINTAINED AT ALL TIMES. (20' CLEARANCE REQUIRED FOR HIGH POWERED TRANSMISSION LINES)

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP DENOTES CULVERT PROTECTION
- PROPOSED TURBIDITY CURTAIN
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C DENOTES CUT SLOPE
- F DENOTES FILL SLOPE
- SF PROPOSED SILT FENCE
- PROPOSED DITCH
- IP DENOTES INLET PROTECTION

NOTE: *WETLANDS WERE DELINEATED ON 6/22/11 BY KIMLEY-HORN & ASSOCIATES, INC. AND CONFIRMED BY THE COE BY LETTER DATED 9/20/2011 (NAO-2011-1435)

*WETLANDS EXTEND BEYOND WHAT IS SHOWN ON THE SOUTH SIDE. WETLANDS ARE LOCATED ON THE NORTH SIDE BUT WERE NOT DELINEATED. ALL WETLANDS ASSOCIATED WITH JONES CREEK ARE RPA WITH AN ASSOCIATED BUFFER.



56
Δ = 21° 05' 55" RT
D = 57° 17' 45"
T = 18.62'
L = 36.82'
R = 100.00'
PC = 205+45.28
PI = 205+63.91
PRC = 205+82.11
E = 2%
Lr = NA
Lt = NA

57
Δ = 25° 48' 48" LT
D = 57° 17' 45"
T = 22.92'
L = 45.05'
R = 100.00'
PRC = 205+82.11
PI = 206+05.03
PT = 206+27.16
E = 2%
Lr = NA
Lt = NA

57A
Δ = 3° 59' 22" RT
D = 28° 38' 52"
T = 6.97'
L = 13.93'
R = 200.00'
PC = 207+42.96
PI = 207+49.93
PT = 207+56.89
E = 2%
Lr = NA
Lt = NA

57B
Δ = 4° 30' 40" RT
D = 28° 38' 52"
T = 7.88'
L = 15.75'
R = 200.00'
PC = 207+87.41
PI = 207+95.29
PT = 208+03.16
E = 2%
Lr = NA
Lt = NA

58
Δ = 19° 43' 03" LT
D = 57° 17' 45"
T = 17.38'
L = 34.41'
R = 100.00'
PC = 209+03.41
PI = 209+20.79
PRC = 209+37.82
E = 2%
Lr = NA
Lt = NA

59
Δ = 16° 29' 14" RT
D = 57° 17' 45"
T = 14.49'
L = 28.78'
R = 100.00'
PRC = 209+37.82
PI = 209+52.31
PT = 209+66.60
E = 2%
Lr = NA
Lt = NA

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn
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4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462
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WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE DEC. 12, 2016	
SCALE AS SHOWN	
DESIGNED BY CPA	
DRAWN BY LJL	
CHECKED BY RRJ	

PLAN SHEET

STA. 205+00 TO STA. 211+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL

SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
9

Plotted By:Lockleor, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment-2\9 PLAN SHEET.dwg March 13, 2017 03:32:25pm K:\VAB_RDWY\117032000 - IOW Trail - Seg 2 Layout:9
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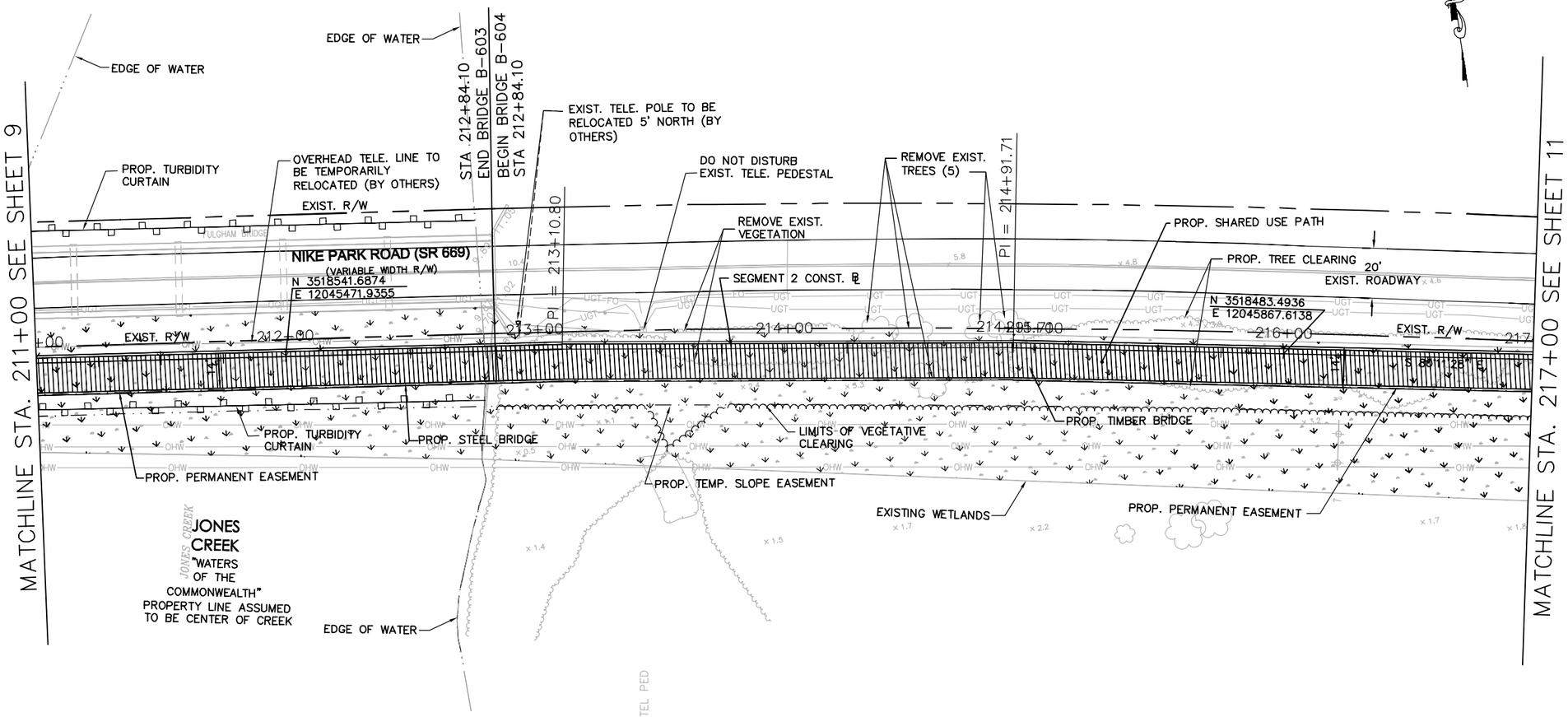
NOTE: SEE ENVIRONMENTAL PERMIT REGARDING SEASONAL RESTRICTIONS OR CONSTRUCTION ACTIVITIES IN JONES CREEK.

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- PROPOSED TURBIDITY CURTAIN
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION



No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
REBECCA R. JUCKSCH
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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 211+00 TO STA. 217+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL

SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER

10

Plotted By:Lockleer, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment 2\10 PLAN SHEET.dwg
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LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- (CIP) DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C DENOTES CUT SLOPE
- F DENOTES FILL SLOPE
- SF PROPOSED SILT FENCE
- PROPOSED DITCH
- (IP) DENOTES INLET PROTECTION

NOTE: CONTRACTOR TO USE CAUTION WHEN WORKING UNDER OR NEAR OVERHEAD POWER LINES. A 10-FT MINIMUM CIRCULAR CLEARANCE MUST BE MAINTAINED AT ALL TIMES. (20' CLEARANCE REQUIRED FOR HIGH POWERED TRANSMISSION LINES)

NOTE: *WETLANDS WERE DELINEATED ON 6/22/11 BY KIMLEY-HORN & ASSOCIATES, INC. AND CONFIRMED BY THE COE BY LETTER DATED 9/20/2011 (NAO-2011-1435)

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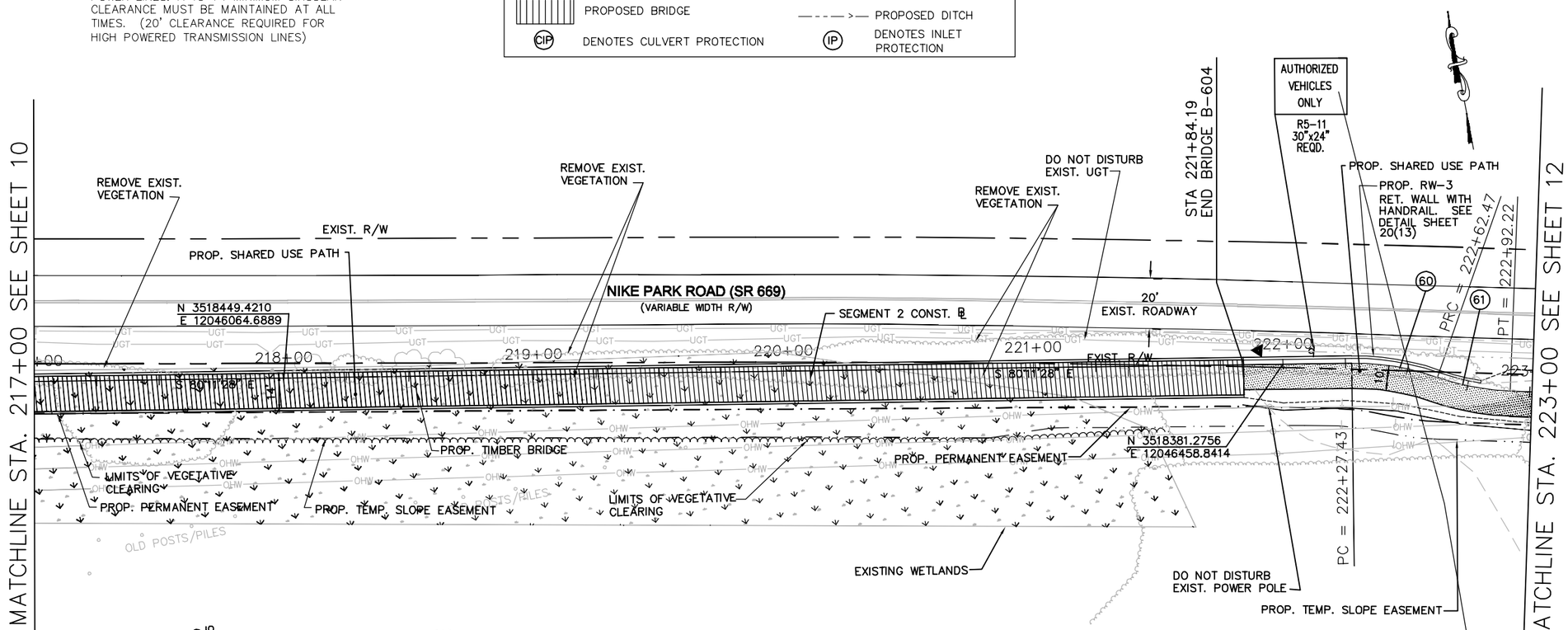

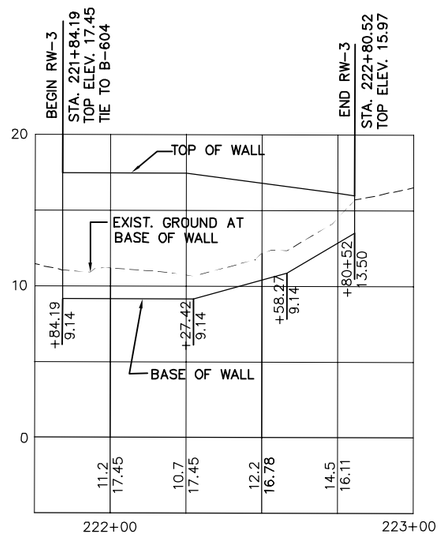

RETAINING WALL PROFILE

107

N/F

CYPRESS CREEK FARM LLC

INST. # 040003685

PARCEL # 23-01-016

60

△ = 20° 04' 47" RT
D = 57° 17' 45"
T = 17.70'
L = 35.05'
R = 100.00'
PC = 222+27.43
PI = 222+45.13
PRC = 222+62.47
E = 2%
Lr = NA
Lt = NA

61

△ = 17° 02' 27" LT
D = 57° 17' 45"
T = 14.98'
L = 29.74'
R = 100.00'
PRC = 222+62.47
PI = 222+77.45
PT = 222+92.22
E = 2%
Lr = NA
Lt = NA

62

NOT USED

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn
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4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PLAN SHEET

STA. 217+00 TO STA. 223+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL

SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER 11

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\11 PLAN SHEET.dwg Layout:11 December 12, 2016 03:39:11pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\11 PLAN SHEET.dwg
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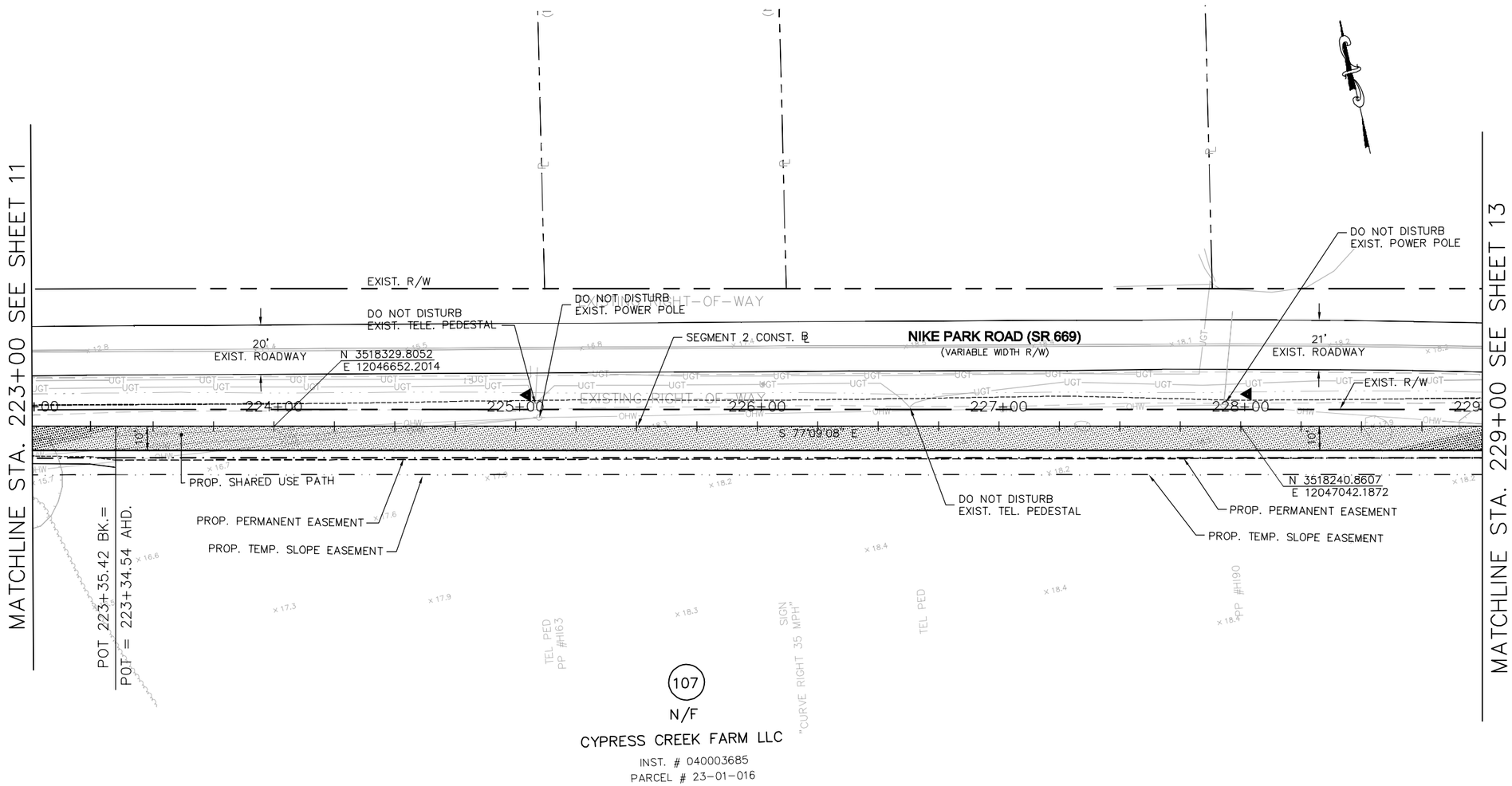
NOTE: CONTRACTOR TO USE CAUTION WHEN WORKING UNDER OR NEAR OVERHEAD POWER LINES. A 10-FT MINIMUM CIRCULAR CLEARANCE MUST BE MAINTAINED AT ALL TIMES. (20' CLEARANCE REQUIRED FOR HIGH POWERED TRANSMISSION LINES)



LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

Kimley»Horn
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 223+00 TO STA. 229+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
12

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:12 December 12, 2016 03:41:06pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\12 PLAN SHEET.dwg
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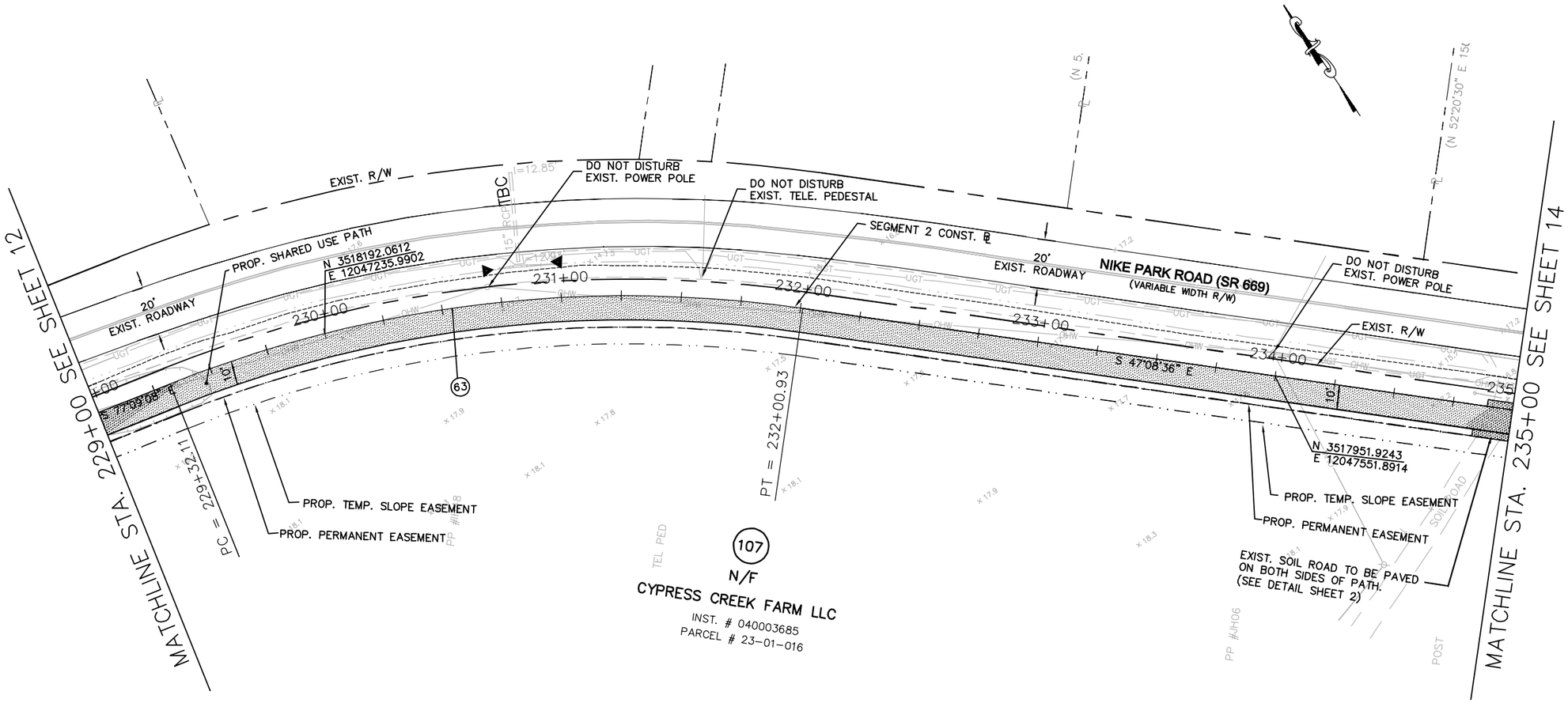

63

Δ = 30° 00' 32" RT
D = 11° 09' 47"
T = 137.57'
L = 268.82'
R = 513.26'
PC = 229+32.11
PI = 230+69.68
PT = 232+00.93
E = 2%
Lr = NA
Lt = NA

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION

0 25' 50'
GRAPHIC SCALE

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KHA PROJECT 117032000	
DATE DEC. 12, 2016	
SCALE AS SHOWN	
DESIGNED BY CPA	
DRAWN BY LJL	
CHECKED BY RRJ	

PLAN SHEET

STA. 229+00 TO STA. 235+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL

SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
13

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:13 December 12, 2016 03:43:09pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\13 PLAN SHEET.dwg
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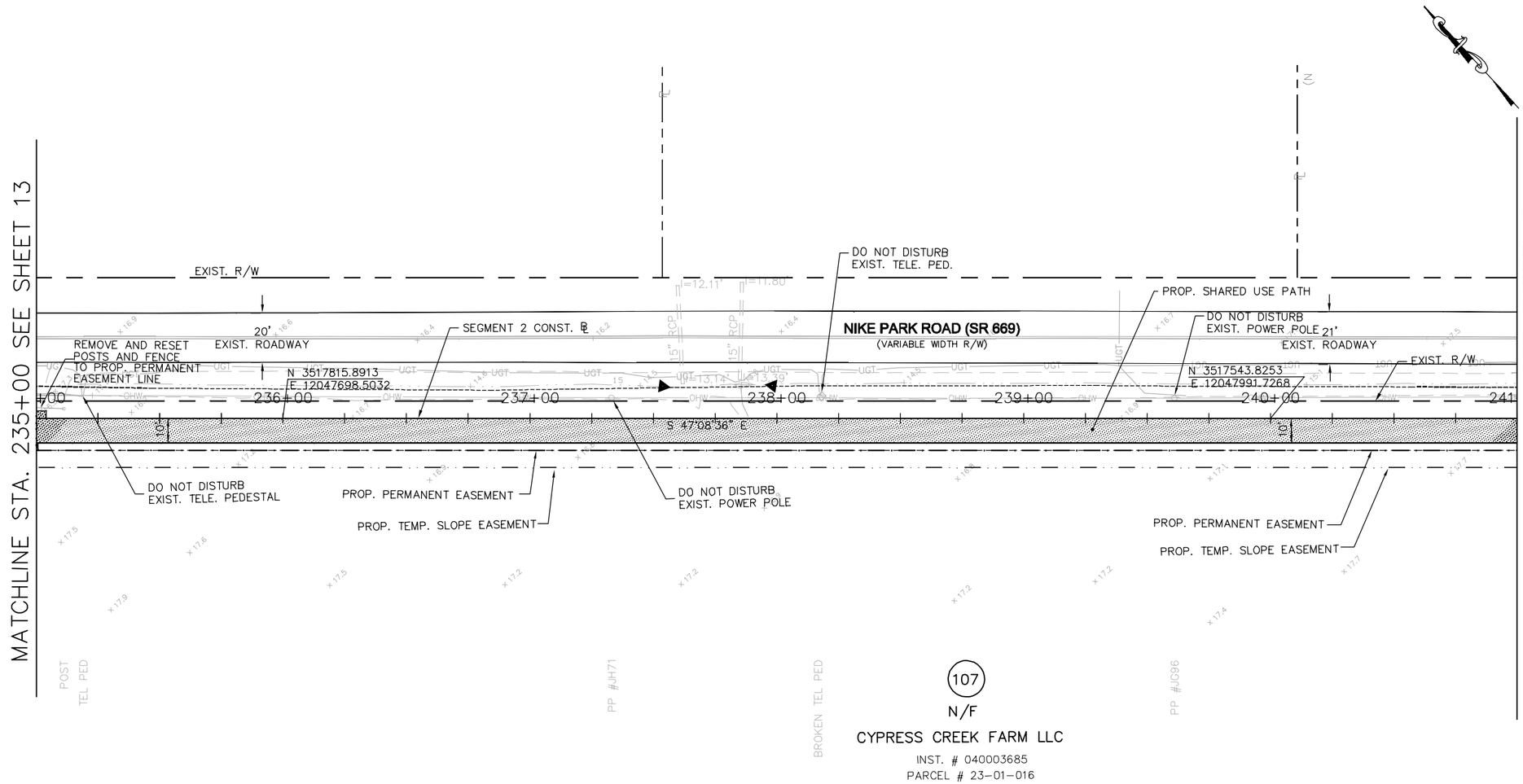

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION
- TBC — CLEAN EXISTING CULVERT

0 25' 50'
GRAPHIC SCALE

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PLAN SHEET

STA. 235+00 TO STA. 241+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
14

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Layout:14 December 12, 2016 03:45:26pm K:\VAB_RDWY\117032000 - IOW Trail - Seg 2 - Seg 2 PLAN SHEET.dwg
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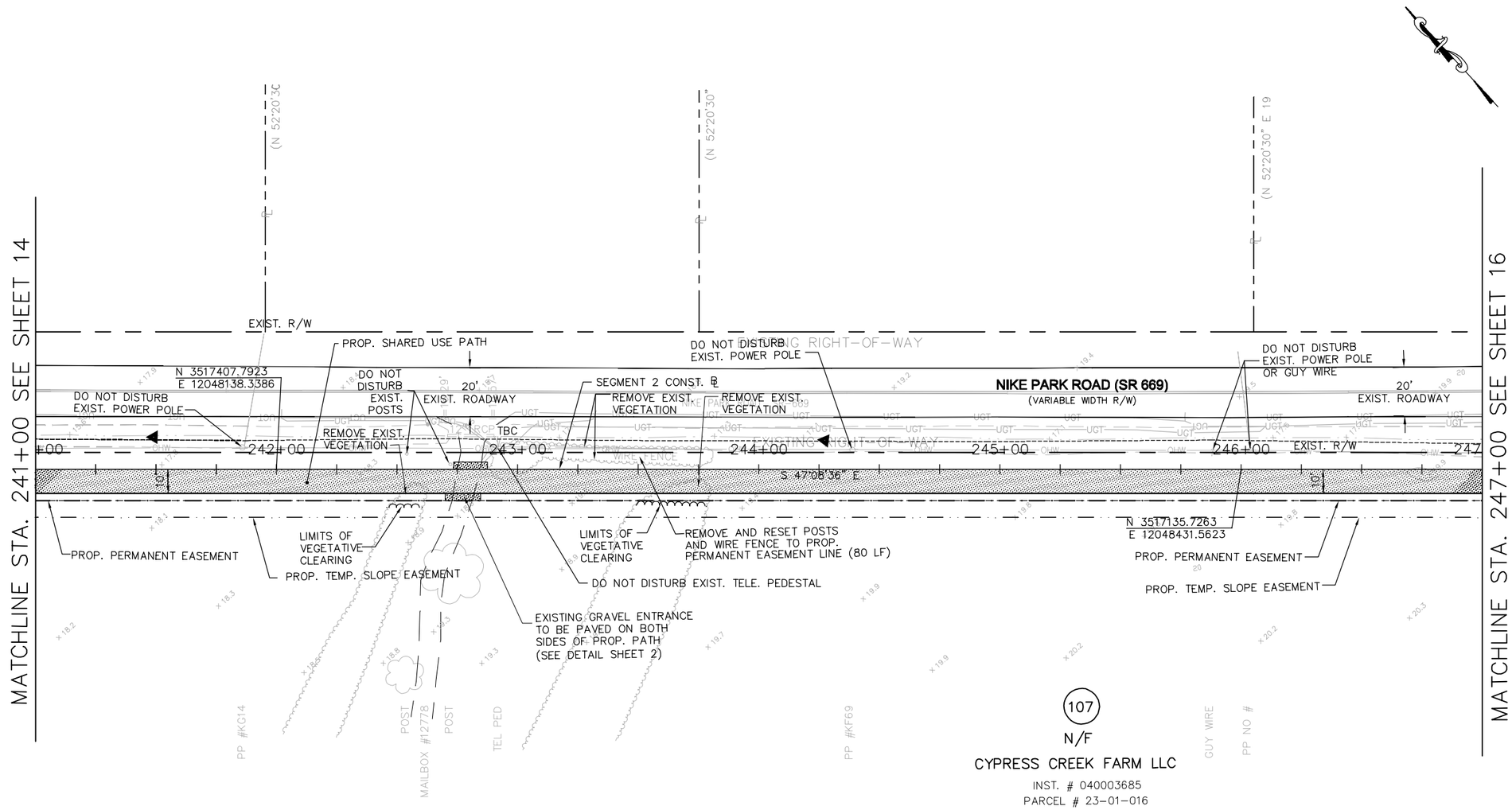

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

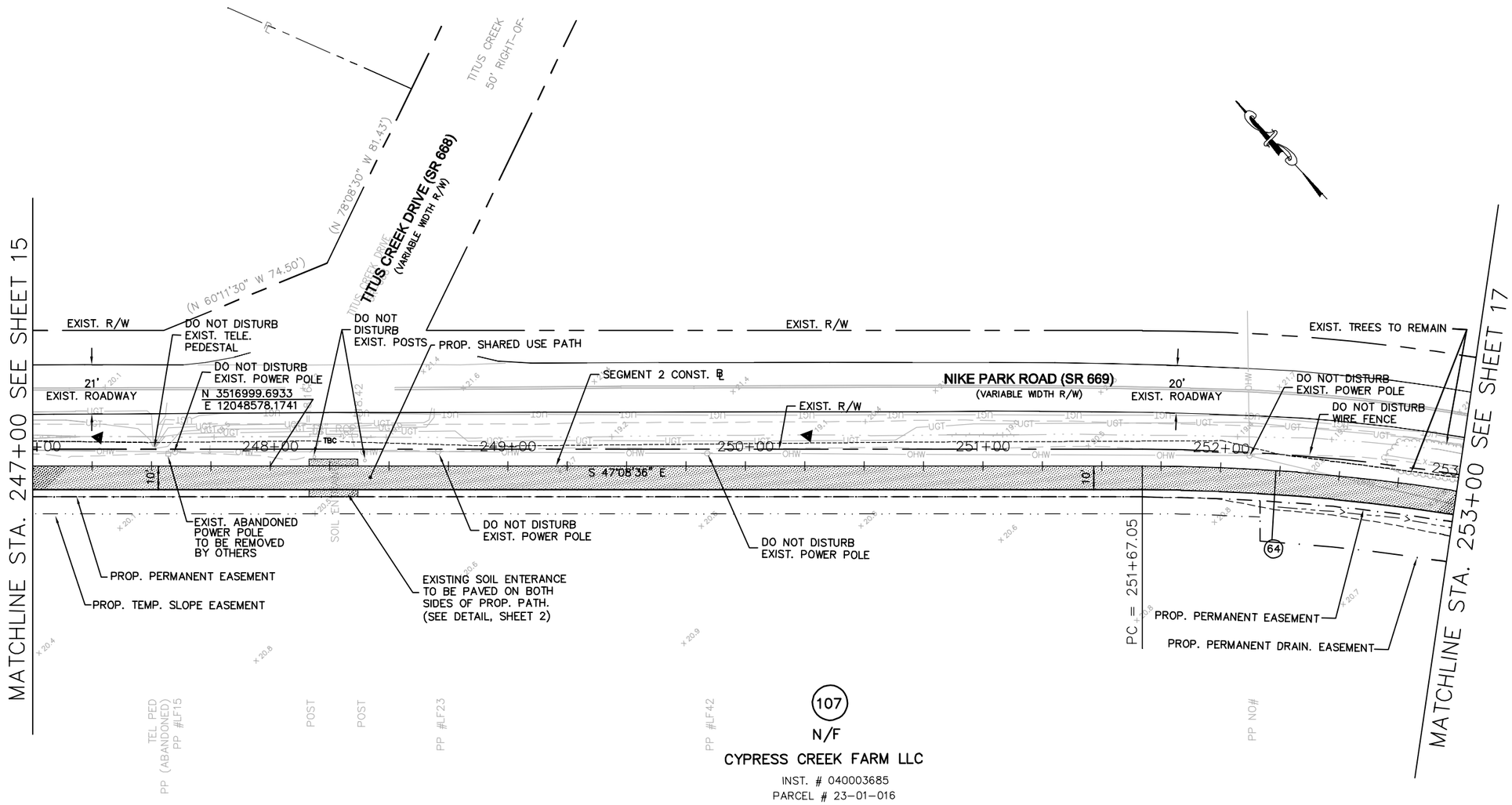
PLAN SHEET

STA. 241+00 TO STA. 247+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
15

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Layout:15 December 12, 2016 03:47:08pm K:\VAB_RDWY\117032000 - IOW Trail - Seg 2 Layout:15 This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



64

Δ = 11° 13' 41" RT
D = 6° 51' 42"
T = 82.08'
L = 163.63'
R = 835.00'
PC = 251+67.05
PI = 252+49.13
PCC = 253+30.68
E = 2%
Lr = 45'
Lt = 45'

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP — DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C — DENOTES CUT SLOPE
- F — DENOTES FILL SLOPE
- SF — PROPOSED SILT FENCE
- PROPOSED DITCH
- IP — DENOTES INLET PROTECTION

0 25' 50'
GRAPHIC SCALE

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PLAN SHEET

STA. 247+00 TO STA. 253+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
16

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment 2\16 PLAN SHEET.dwg Layout:16 December 12, 2016 03:48:57pm K:\VAB_RDWY\117032000 - IOW Trail - Seg 2
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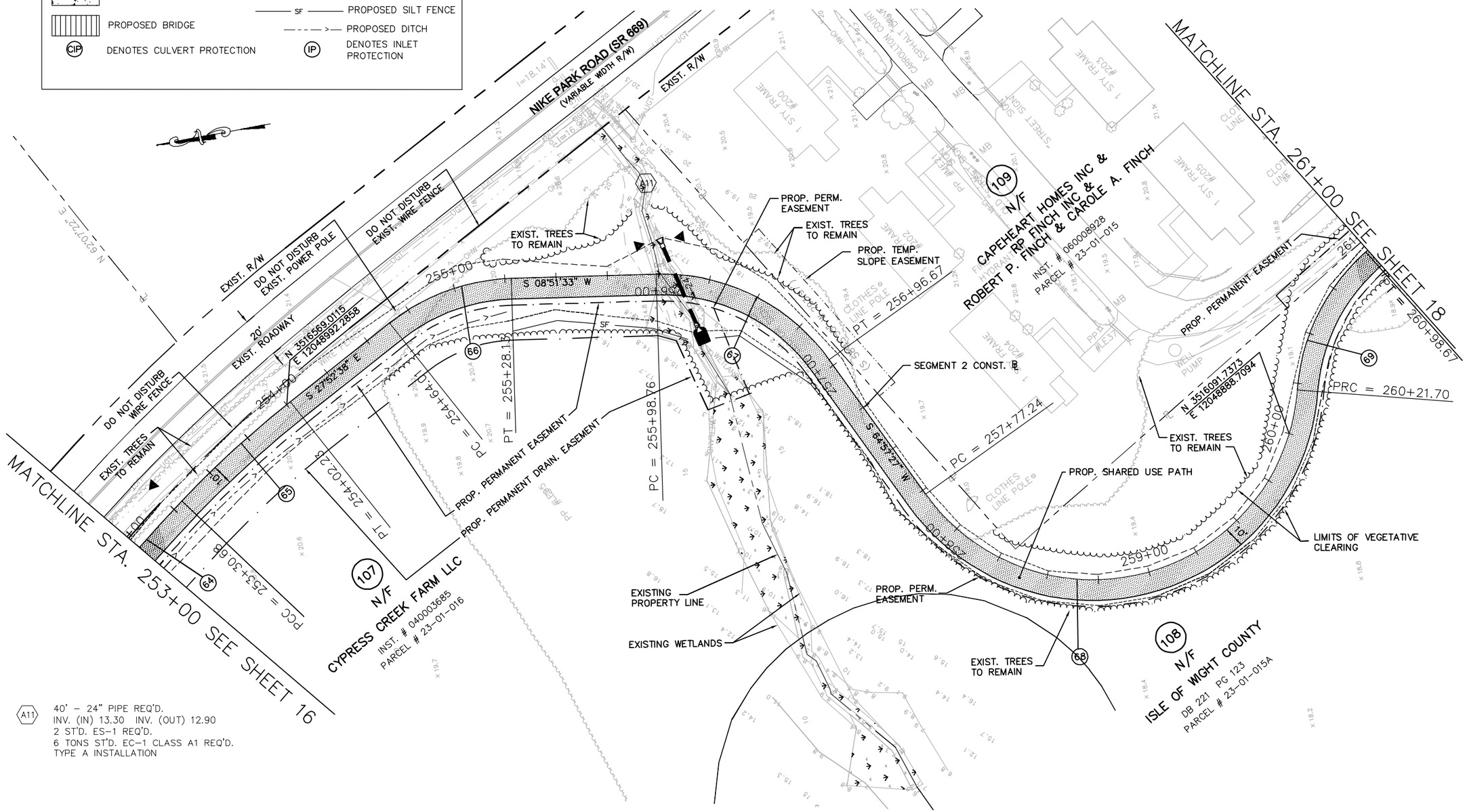
LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C DENOTES CUT SLOPE
- F DENOTES FILL SLOPE
- SF PROPOSED SILT FENCE
- PROPOSED DITCH
- IP DENOTES INLET PROTECTION

NOTE: *WETLANDS WERE DELINEATED ON 6/22/11 BY KIMLEY-HORN & ASSOCIATES, INC. AND CONFIRMED BY THE COE BY LETTER DATED 9/20/2011 (NAO-2011-1435)

*WETLANDS EXTEND BEYOND WHAT IS SHOWN ON THE SOUTH SIDE. WETLANDS ARE LOCATED ON THE NORTH SIDE BUT WERE NOT DELINEATED. ALL WETLANDS ASSOCIATED WITH JONES CREEK ARE RPA WITH AN ASSOCIATED BUFFER.

NOTE: CONTRACTOR TO USE CAUTION WHEN WORKING UNDER OR NEAR OVERHEAD POWER LINES. A 10-FT MINIMUM CIRCULAR CLEARANCE MUST BE MAINTAINED AT ALL TIMES.



A11: 40' – 24" PIPE REQ'D.
INV. (IN) 13.30 INV. (OUT) 12.90
2 ST'D. ES-1 REQ'D.
6 TONS ST'D. EC-1 CLASS A1 REQ'D.
TYPE A INSTALLATION

64
Δ = 11° 13' 41" RT
D = 6° 51' 42"
T = 82.08'
L = 163.63'
R = 835.00'
PC = 251+67.05
PI = 252+49.13
PCC = 253+30.68
E = –2%
Lr = 20'
Lt = 20'

65
Δ = 8° 02' 17" RT
D = 11° 14' 04"
T = 35.83'
L = 71.55'
R = 510.00'
PCC = 253+30.68
PI = 253+66.52
PT = 254+02.23
E = –2%
Lr = NA
Lt = NA

66
Δ = 36° 44' 11" RT
D = 57° 17' 45"
T = 33.20'
L = 64.12'
R = 100.00'
PC = 254+64.01
PI = 254+97.21
PT = 255+28.13
E = –2%
Lr = NA
Lt = NA

67
Δ = 56° 05' 55" RT
D = 57° 17' 45"
T = 53.28'
L = 97.91'
R = 100.00'
PC = 255+98.76
PI = 256+52.05
PT = 256+96.67
E = –2%
Lr = NA
Lt = NA

68
Δ = 140° 03' 50" LT
D = 57° 17' 45"
T = 275.22'
L = 244.46'
R = 100.00'
PC = 257+77.24
PI = 260+52.46
PRC = 260+21.70
E = –2%
Lr = NA
Lt = NA

69
Δ = 44° 06' 18" RT
D = 57° 17' 45"
T = 40.51'
L = 76.98'
R = 100.00'
PRC = 260+21.70
PI = 260+98.67
PT = 260+98.67
E = 2%
Lr = NA
Lt = NA

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PLAN SHEET

STA. 253+00 TO STA. 261+00

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
17

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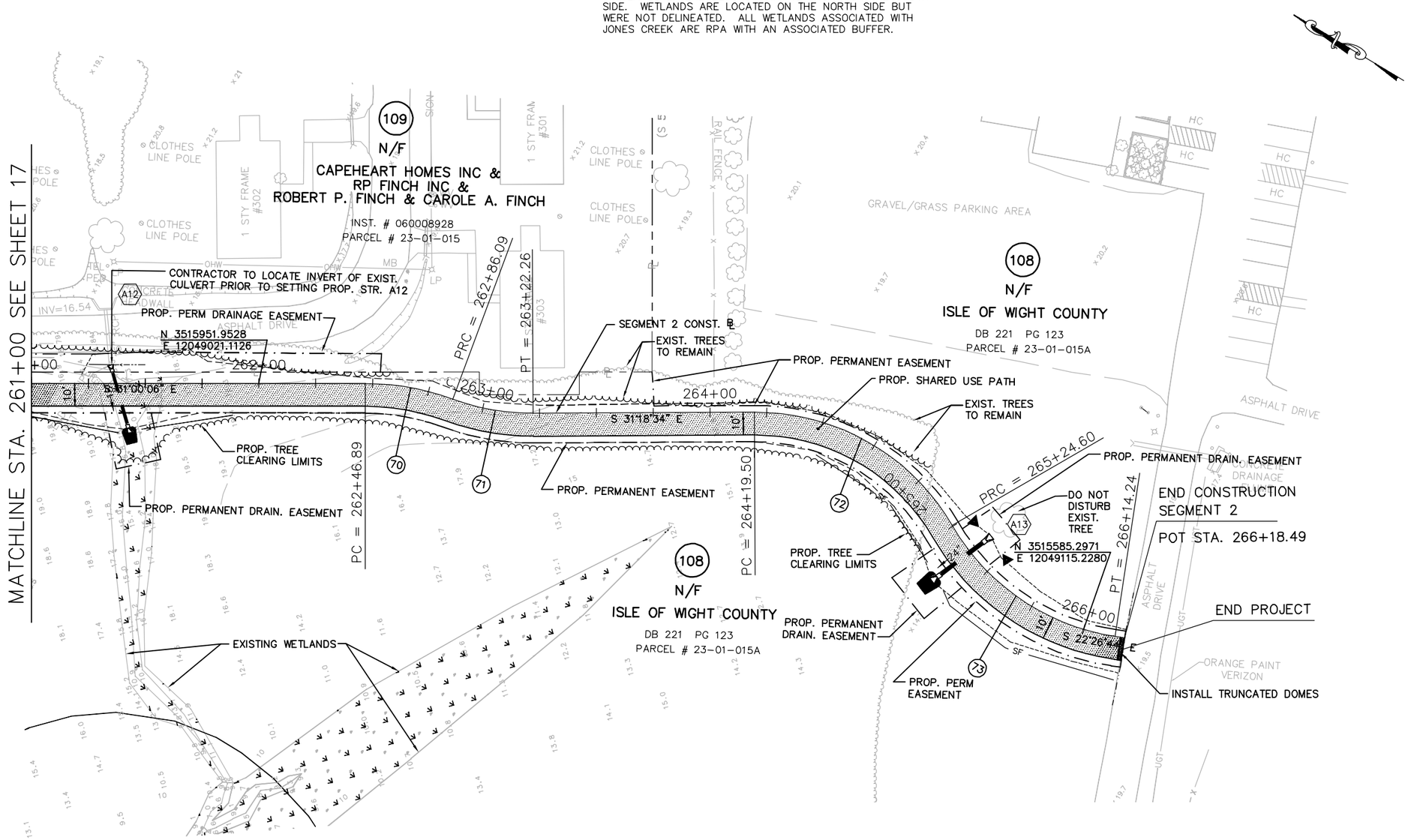
A12 24' – 18" PIPE REQ'D.
INV. (IN) 16.00 INV. (OUT) 15.80
2 ST'D. ES–1 REQ'D.
3.3 TONS ST'D. EC–1 CLASS A1 REQ'D.
TYPE A INSTALLATION

A13 24' – 24" PIPE REQ'D.
INV. (IN) 14.80 INV. (OUT) 14.50
2 ST'D. ES–1 REQ'D.
6 TONS ST'D. EC–1 CLASS A1 REQ'D.
TYPE A INSTALLATION

NOTE: *WETLANDS WERE DELINEATED ON 6/22/11 BY KIMLEY–HORN & ASSOCIATES, INC. AND CONFIRMED BY THE COE BY LETTER DATED 9/20/2011 (NAO–2011–1435)

*WETLANDS EXTEND BEYOND WHAT IS SHOWN ON THE SOUTH SIDE. WETLANDS ARE LOCATED ON THE NORTH SIDE BUT WERE NOT DELINEATED. ALL WETLANDS ASSOCIATED WITH JONES CREEK ARE RPA WITH AN ASSOCIATED BUFFER.



69
Δ = 44° 06' 18" RT
D = 57° 17' 45"
T = 40.51'
L = 76.98'
R = 100.00'
PRC = 260+21.70
PI = 260+62.21
PT = 260+98.67
E = 2%
Lr = NA
Lt = NA

70
Δ = 20° 25' 05" RT
D = 52° 05' 13"
T = 19.81'
L = 39.20'
R = 110.00'
PC = 262+46.89
PI = 262+66.70
PRC = 262+86.09
E = 2%
Lr = NA
Lt = NA

71
Δ = 20° 43' 34" LT
D = 57° 17' 45"
T = 18.29'
L = 36.17'
R = 100.00'
PRC = 262+86.09
PI = 263+04.37
PT = 263+22.26
E = 2%
Lr = NA
Lt = NA

72
Δ = 60° 13' 12" RT
D = 57° 17' 45"
T = 57.99'
L = 105.10'
R = 100.00'
PC = 264+19.50
PI = 264+77.49
PRC = 265+24.60
E = 2%
Lr = NA
Lt = NA

73
Δ = 51° 21' 22" LT
D = 57° 17' 45"
T = 48.08'
L = 89.63'
R = 100.00'
PRC = 265+24.60
PI = 265+72.68
PT = 266+14.24
E = 2%
Lr = NA
Lt = NA

LEGEND

- EXISTING WETLANDS
- PROPOSED ASPHALT PATH
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRIDGE
- CIP DENOTES CULVERT PROTECTION
- TEMP. SLOPE EASEMENT
- PROPOSED VDOT ROCK CHECK DAM TYPE 2
- C DENOTES CUT SLOPE
- F DENOTES FILL SLOPE
- SF PROPOSED SILT FENCE
- PROPOSED DITCH
- IP DENOTES INLET PROTECTION

0 25' 50'
GRAPHIC SCALE

No.	REVISIONS	DATE	BY

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Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PLAN SHEET

STA. 261+00 TO
STA. 266+18.49

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
18

Plotted By:Lockleer, Lynda Sheet Set:117031000 – IOW Trail – Seg 2 Layout:18 December 12, 2016 03:52:29pm K:\VAB_RDWY\117032000 – IOW Trail Project\Design\Sheets\Segment_2\18 PLAN SHEET.dwg
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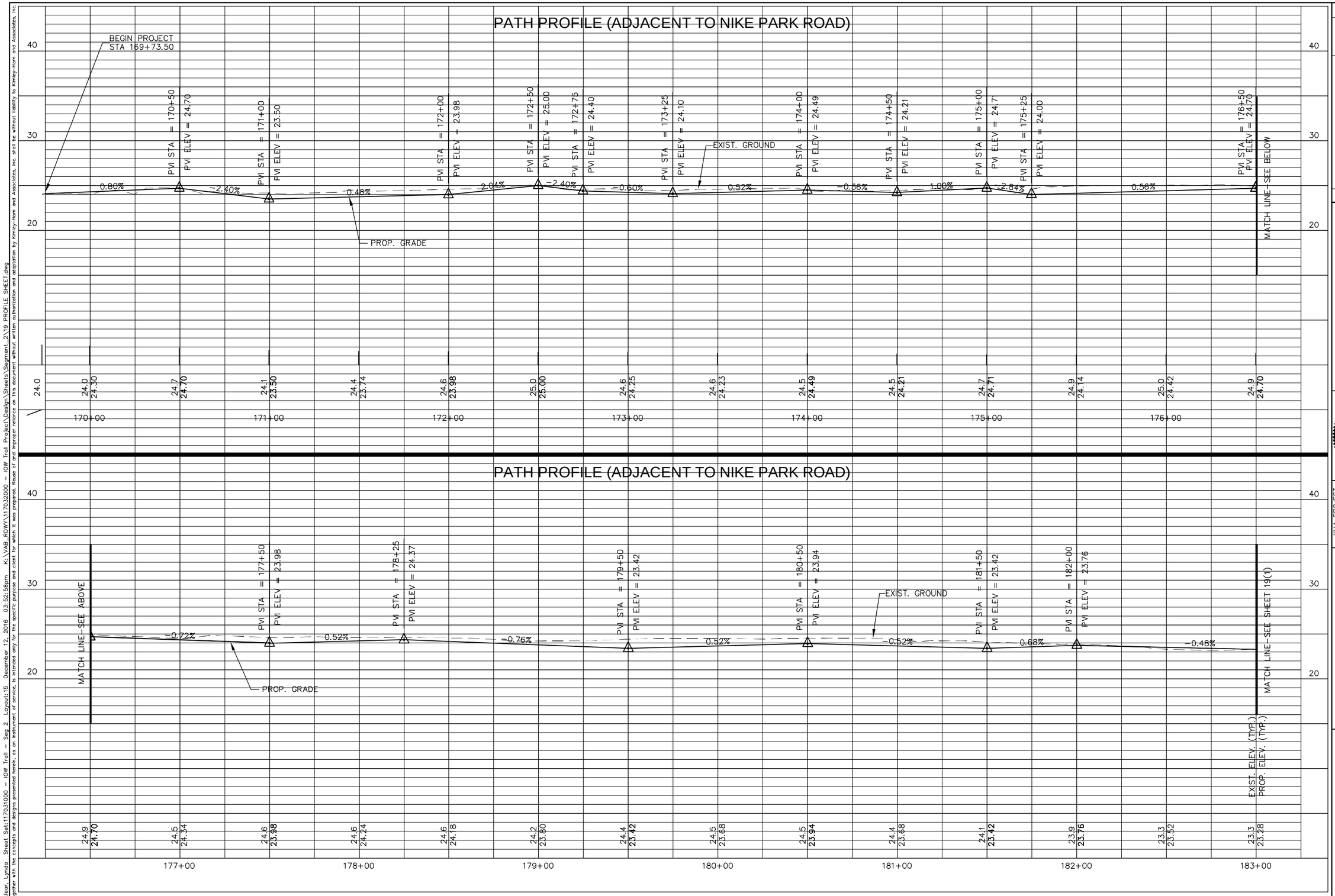

No.	REVISIONS	DATE	BY

Kimley»Horn

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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT	117032000
DATE	APRIL 1, 2015
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

PROFILE SHEET

STA 169+73.50 TO STA 183+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
19

Plotted By:Locklear, Lynda Sheet:117031000 - IOW Trail - Seg 2 Layout:15 December 12, 2016 03:52:58pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19 PROFILE SHEET.dwg
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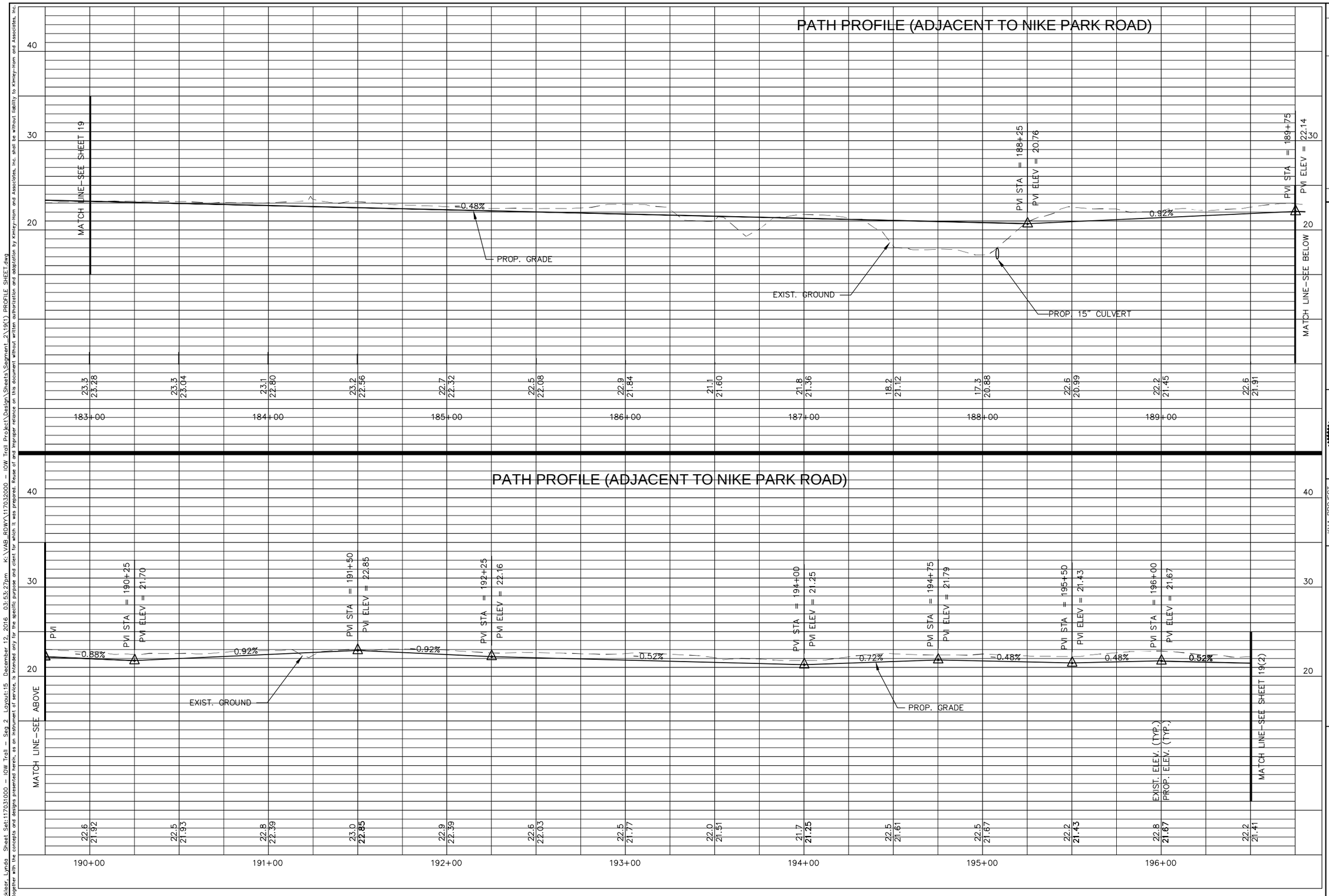

No.	REVISIONS	DATE	BY

Kimley»Horn

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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 1170320000
DATE APRIL 1, 2015
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PROFILE SHEET
STA 183+00 TO STA 196+50

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
19(1)

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:15 December 12, 2016 03:53:27pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19(1) PROFILE SHEET.dwg
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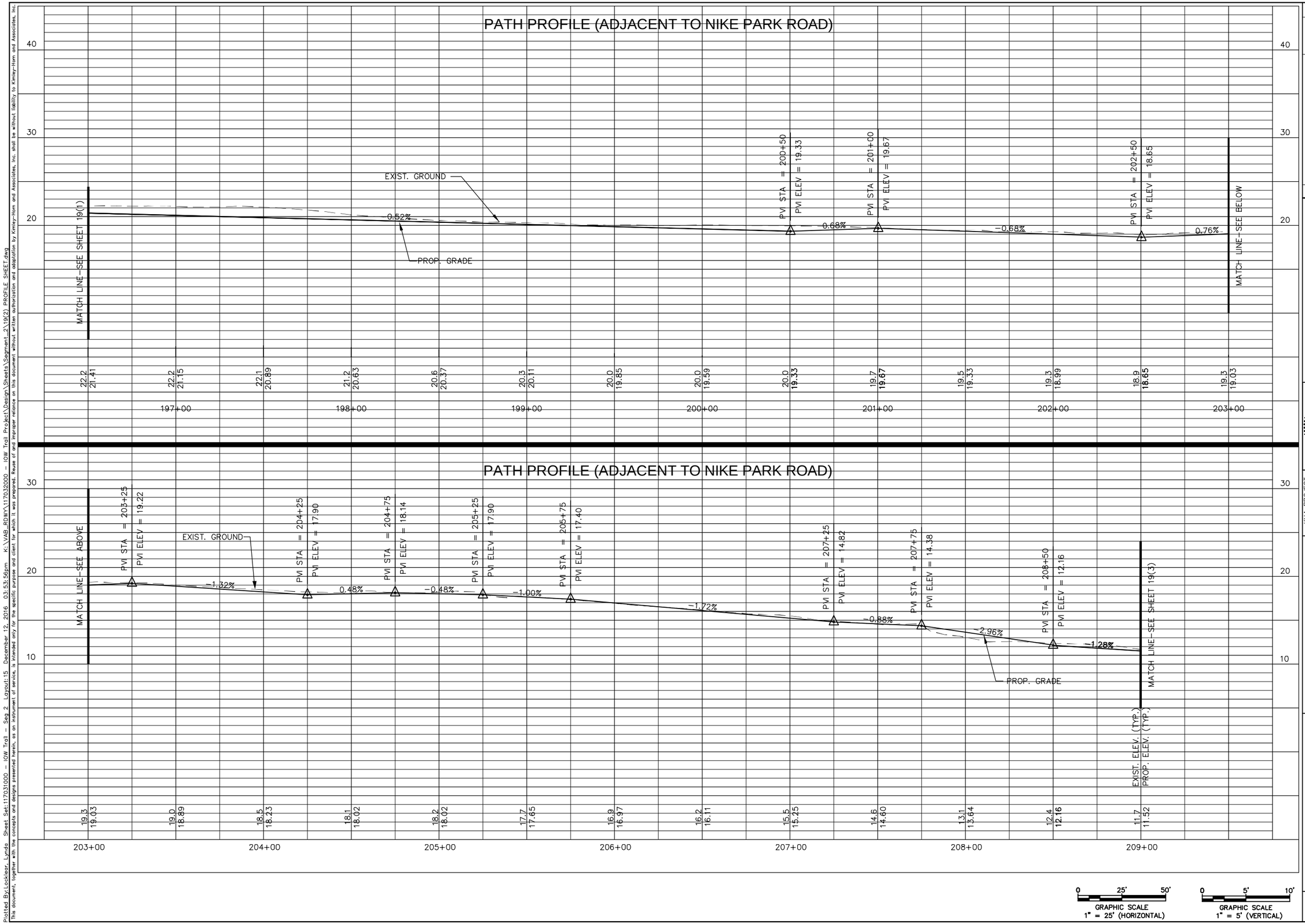

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COMMONWEALTH OF VIRGINIA
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE APRIL 1, 2015
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

PROFILE SHEET
STA 196+50 TO STA 209+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
19(2)

Plotted By:Lockleer, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:15 December 12, 2016 03:53:56pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19(2) PROFILE SHEET.dwg
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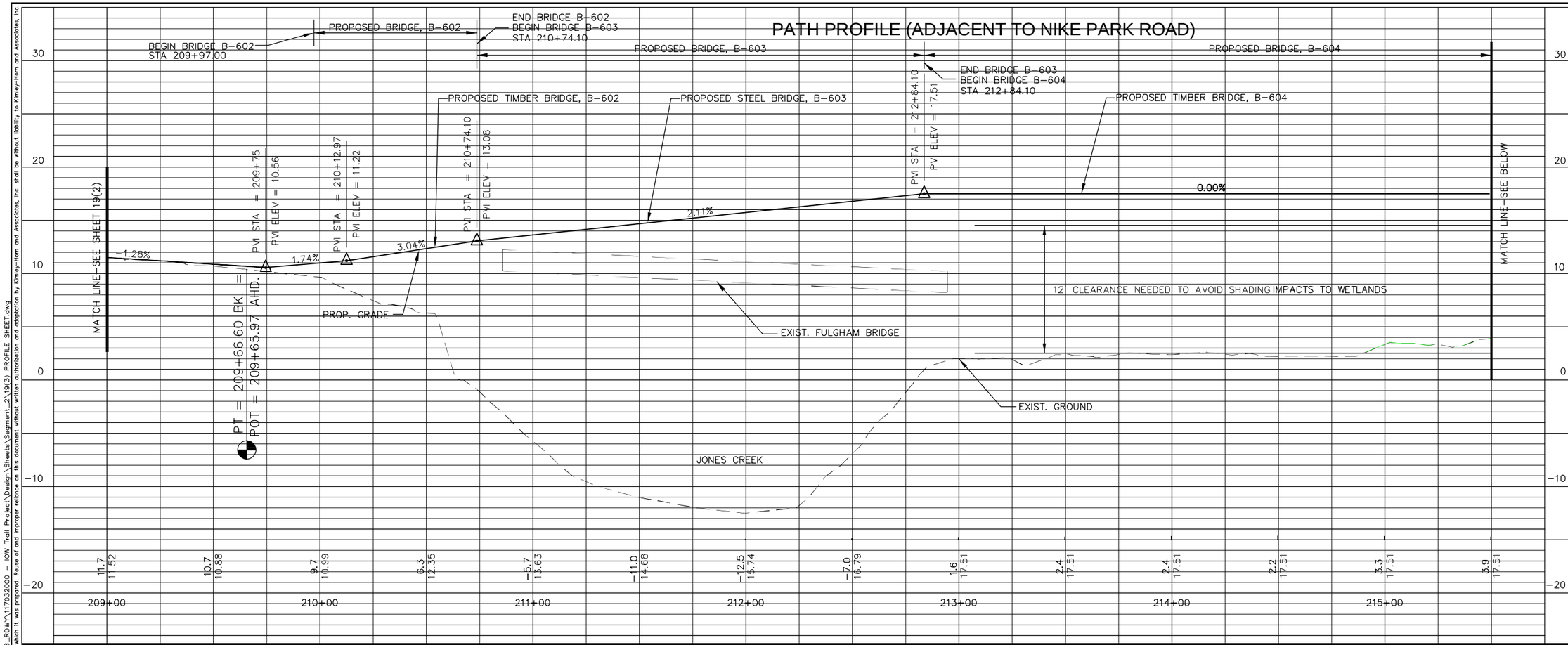

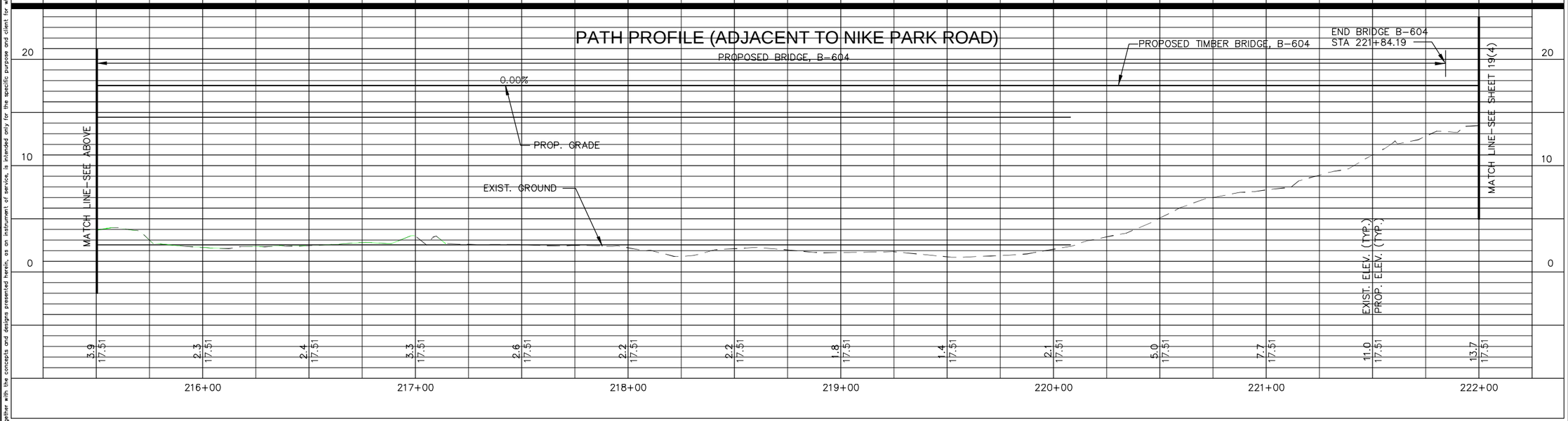

GRAPHIC SCALE
1" = 25' (HORIZONTAL)

GRAPHIC SCALE
1" = 5' (VERTICAL)

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PROFILE SHEET
STA 209+00 TO STA 222+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
19(3)

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:15 December 12, 2016 03:54:27pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19(3) PROFILE SHEET.dwg
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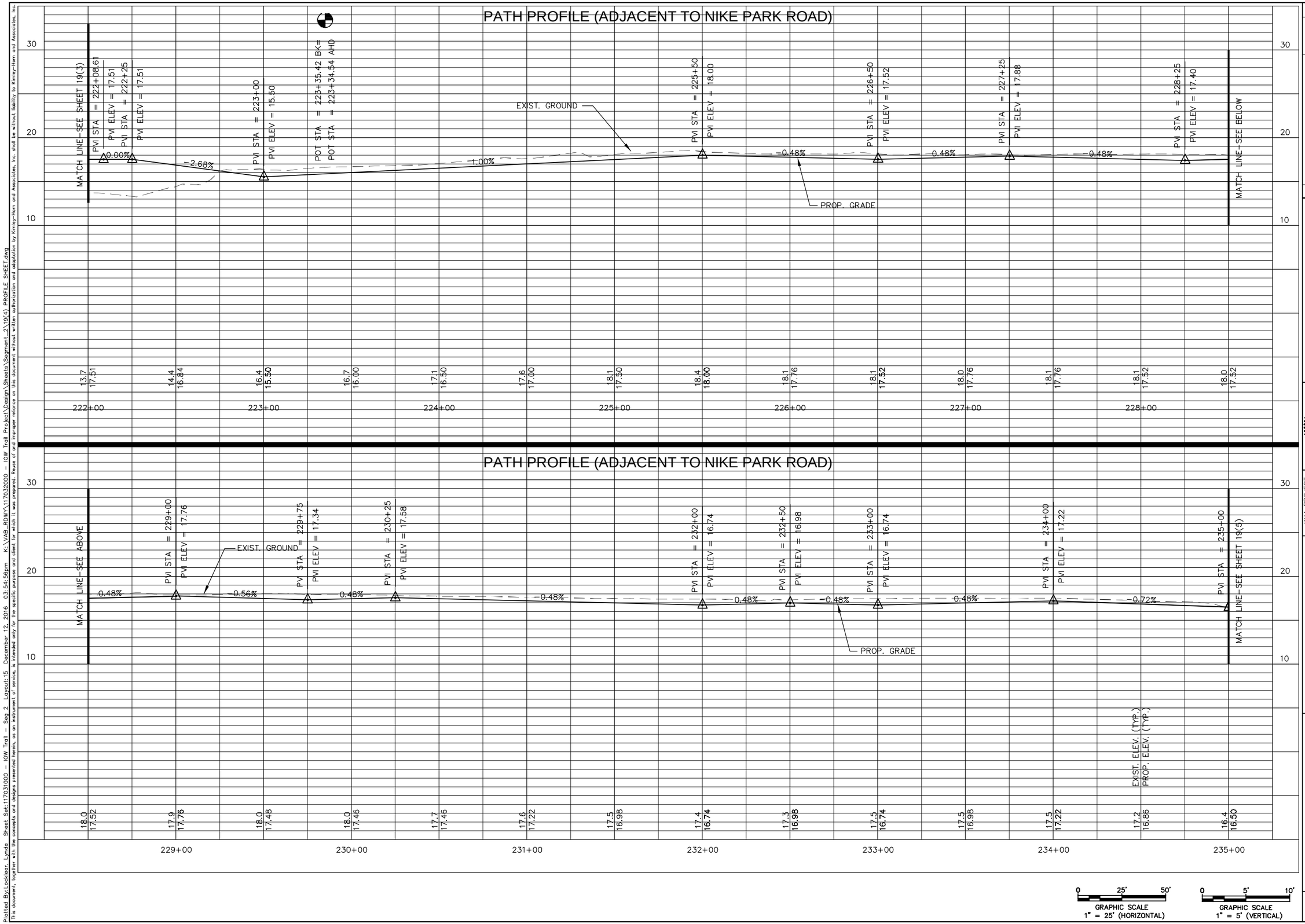

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PROFILE SHEET
STA 222+00 TO STA 235+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
19(4)

Plotted By:Lockiear, Lynda Sheet Set:117031000 - IOW Trail Seg 2 Layout:15 December 12, 2016 03:54:56pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19(4) PROFILE SHEET.dwg
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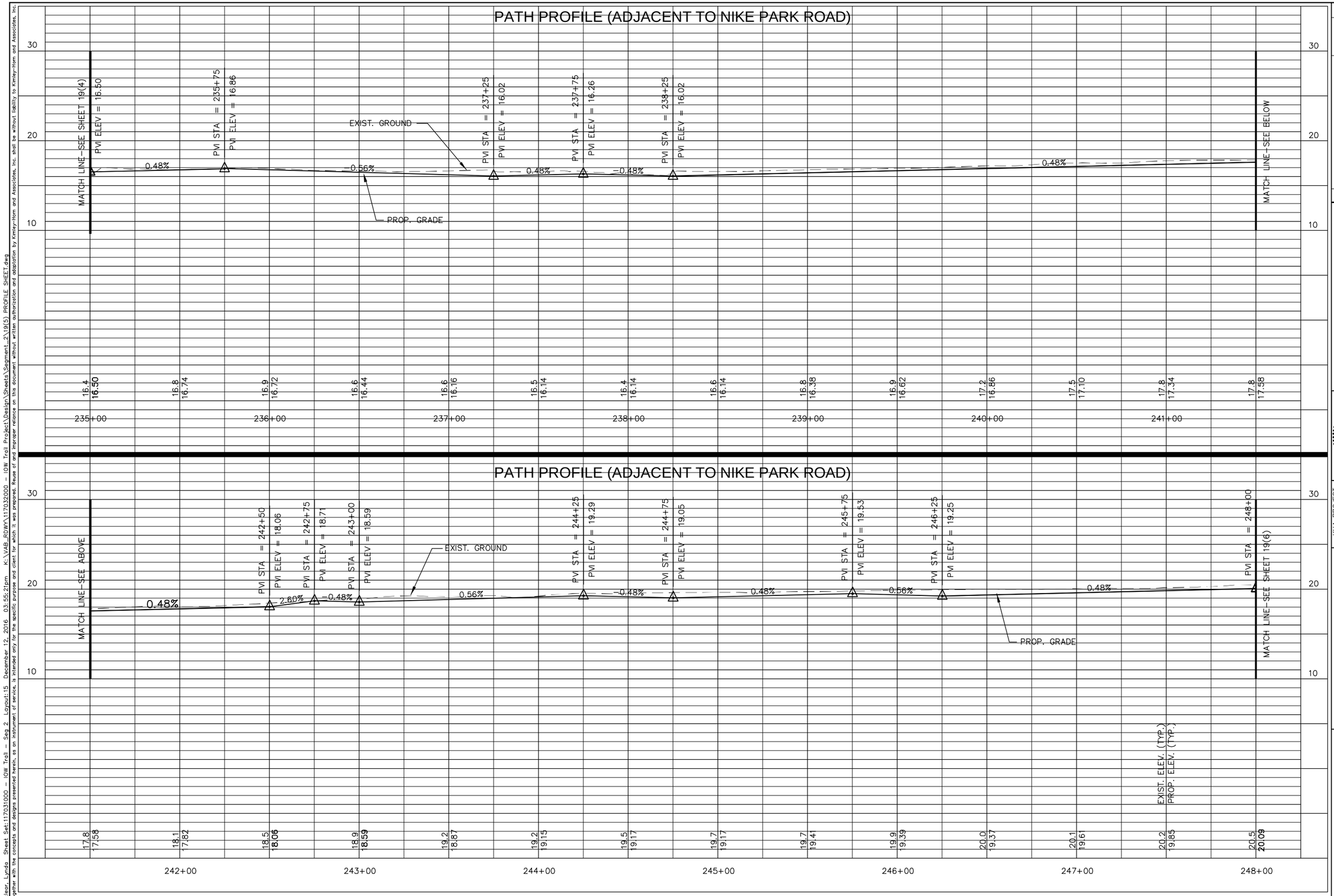

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PROFILE SHEET
STA 235+00 TO STA 248+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
19(5)

Plotted By:Lockiear, Lynda Sheet Set:117031000 - IOW Trail Layout:15 December 12, 2016 03:55:21pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19(5) PROFILE SHEET.dwg
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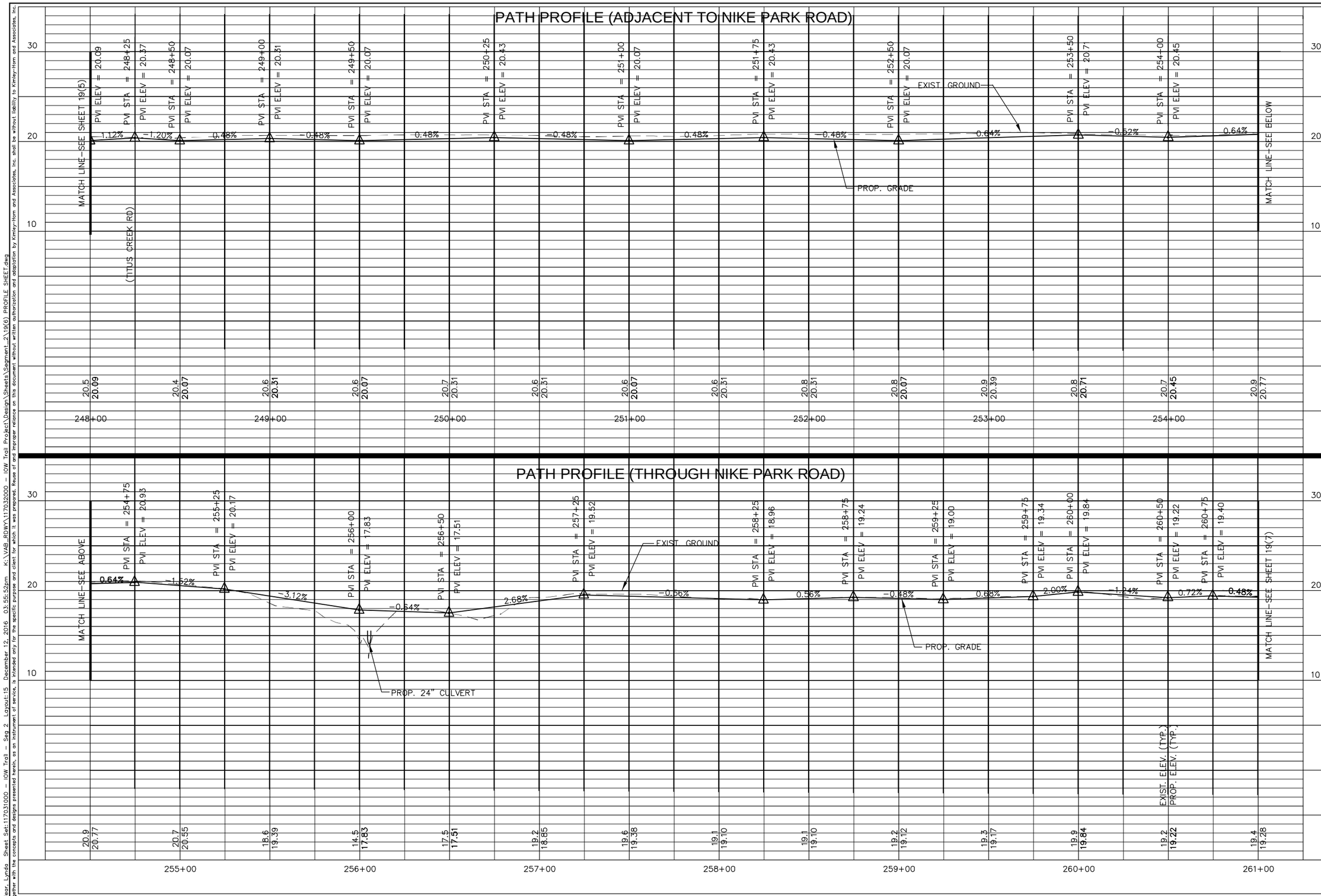

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DATE APRIL 1, 2015
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CHECKED BY RRJ

PROFILE SHEET
STA 248+00 TO STA 261+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
19(6)

Plotted By:Lockleer, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:15 December 12, 2016 03:55:52pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment 2\19(6) PROFILE SHEET.dwg
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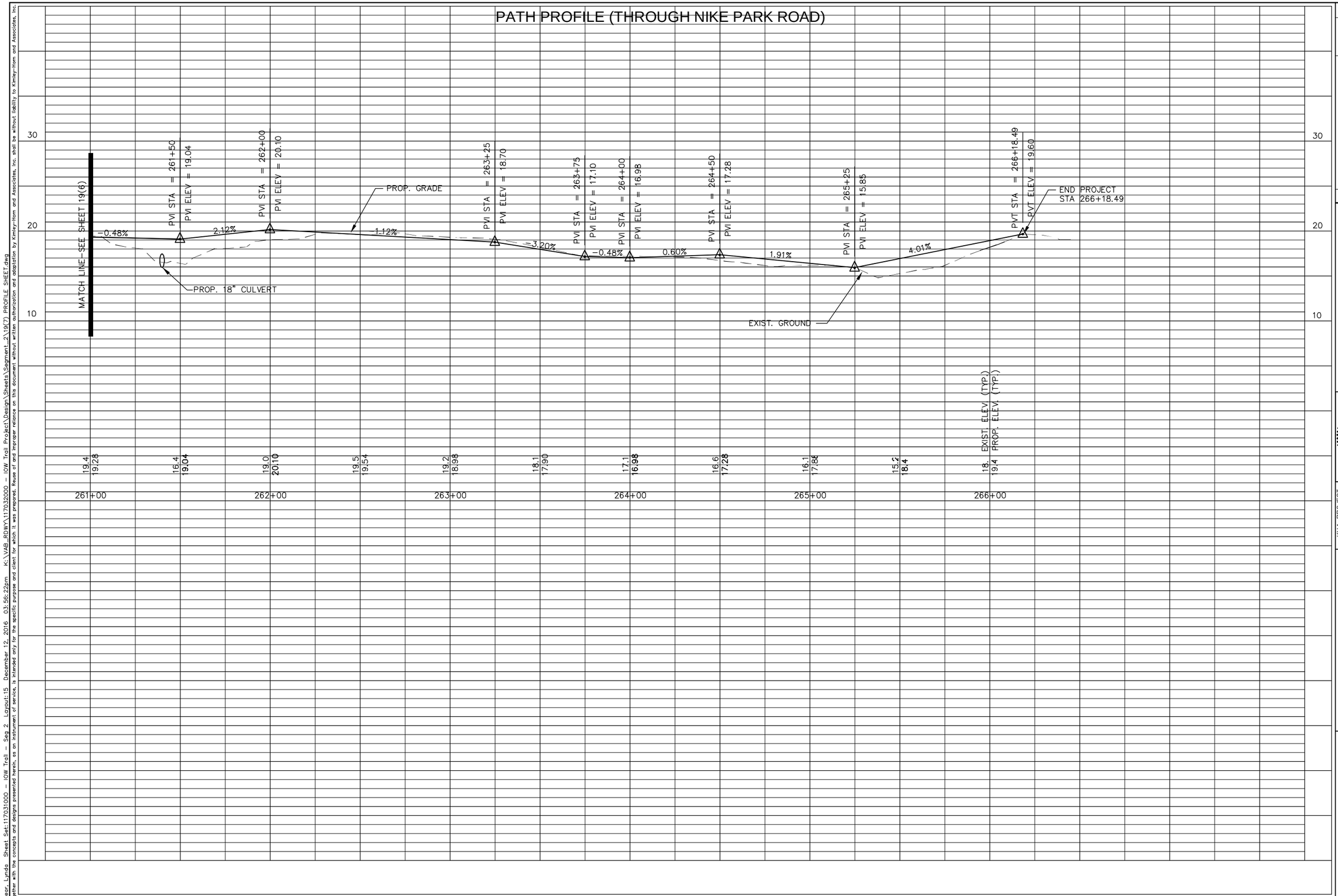
PATH PROFILE (THROUGH NIKE PARK ROAD)



0 25' 50'
GRAPHIC SCALE
1" = 25' (HORIZONTAL)

0 5' 10'
GRAPHIC SCALE
1" = 5' (VERTICAL)

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DATE APRIL 1, 2015
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DRAWN BY LJL
CHECKED BY RRJ

PROFILE SHEET
STA 261+00 TO STA 266+18.49

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
19(7)

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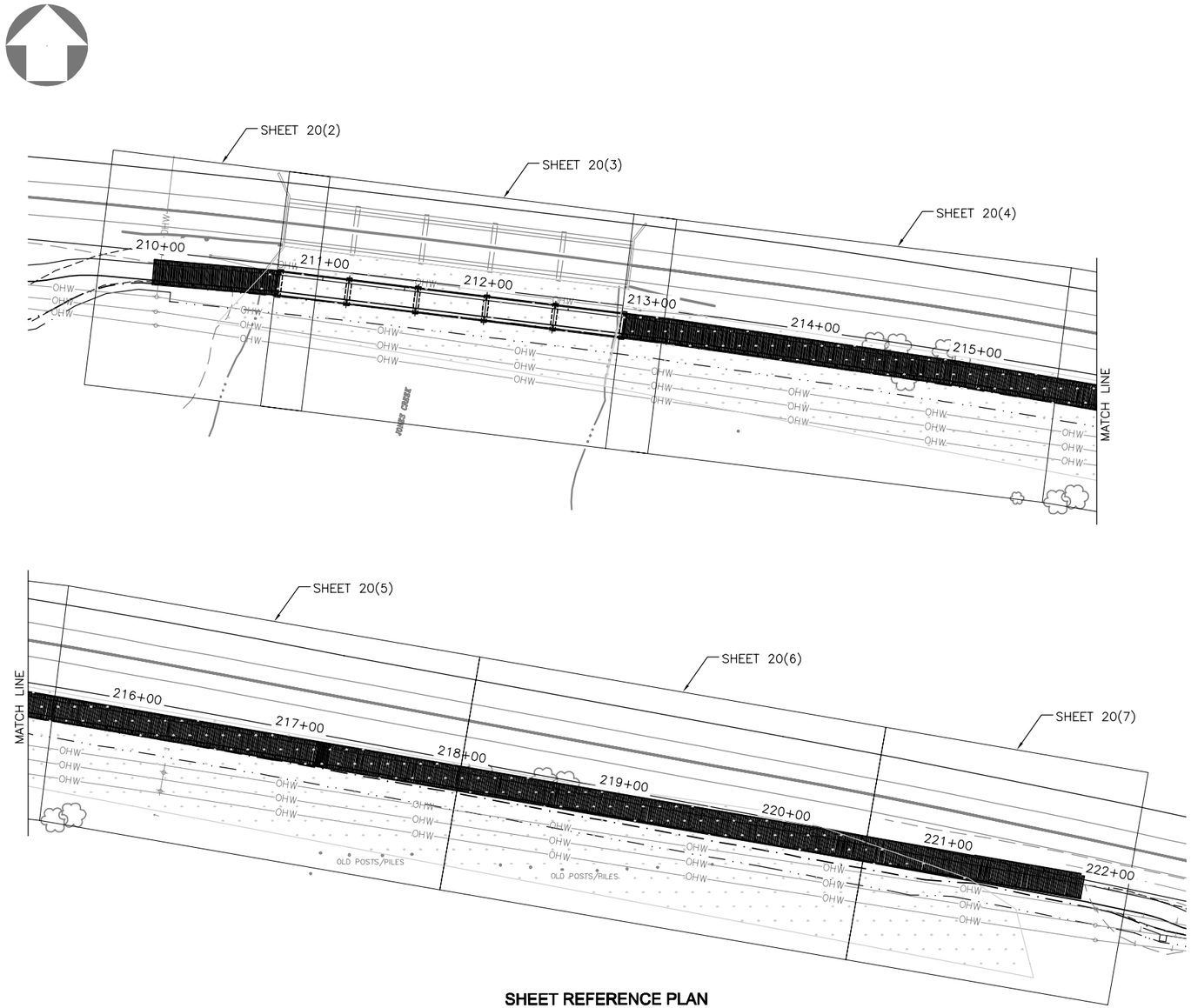

SHEET REFERENCE PLAN

GENERAL NOTES:

THE ORIGINAL APPROVED SHEET, INCLUDING ORIGINAL SIGNATURES IS FILED IN THE ISLE OF WIGHT COUNTY – GENERAL SERVICES. ANY MISUSE OF ELECTRONIC FILES IS ILLEGAL. VIOLATORS WILL BE PROSECUTED TO THE FULL EXTENT OF APPLICABLE LAWS.

WIDTH: 14'–0" FACE–TO–FACE OF BUMPER RAILS.

SPAN LAYOUT: 42'–42'–42'–42'–42' SIMPLE SPAN STEEL GIRDER SPANS OVER JONES CREEK

8' SIMPLE TIMBER APPROACH SPANS

PEDESTRIAN LIVE LOAD: 90 PSF
WIND PRESSURE: 50 PSF – SUPERSTRUCTURE
40 PSF – SUBSTRUCTURE
VEHICLE DESIGN LOADS: 6,500 LB. MAX AXLE LOADING (UNFACTORED).

SPECIFICATIONS:

CONSTRUCTION: VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, 2007.

DESIGN: AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, 2ND EDITION, 2009 AND VDOT MODIFICATIONS.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, 2012 AND VDOT MODIFICATIONS

THESE PLANS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION WORK AREA PROTECTION MANUAL, 2011 AND LATEST REVISIONS.

CONCRETE IN PRESTRESSED PILES SHALL BE CLASS A5; IN SUBSTRUCTURE, CLASS A4

LOW PERMEABILITY CONCRETE SHALL BE USED IN THIS PROJECT.

ALL STRUCTURAL STEEL, INCLUDING BEARINGS, SHALL BE ASTM A709 GRADE 50 AND SHALL BE HOT DIPPED GALVANIZED.

ROLLED BEAMS MAY BE SUPPLIED IN ACCORDANCE WITH ASTM A992 WITH SUPPLEMENTAL TEST 55 FOR CHARPY V–NOTCH IMPACT TESTING. TEST VALUES SHALL MEET THE REQUIREMENTS GIVEN IN ASTM A709 FOR ZONE 2.

MILL CAMBER SHALL BE PLACED UP.

ALL REINFORCING STEEL SHALL BE DEFORMED AND SHALL CONFORM TO ASTM A615 GRADE 60 EXCEPT FOR REINFORCING STEELS NOTED AS CRR (CORROSION RESISTANT REINFORCEMENT) WHICH SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS NOTED IN THE SPECIAL PROVISIONS. ALL REINFORCING BAR DIMENSIONS ON THE DETAILED DRAWINGS ARE TO CENTERS OF BARS EXCEPT WHERE OTHERWISE NOTED AND ARE SUBJECT TO FABRICATION AND CONSTRUCTION TOLERANCES.

CORROSION RESISTANT REINFORCING (CRR) STEELS SHALL CONFORM TO ONE OR MORE OF THE THREE TYPES (LOW CARBON/CHROMIUM, STAINLESS CLAD AND SOLID STAINLESS) LISTED IN THE SPECIAL PROVISION. THE MINIMUM YIELD STRENGTH SHALL BE: 100 KSI FOR LOW CARBON/CHROMIUM STEEL AND 60 KSI FOR STAINLESS CLAD STEEL OR SOLID STAINLESS STEEL. THE TYPE(S) OF CRR STEEL(S) REQUIRED ON THIS PROJECT IS/ARE NOTED ON PLAN SHEETS AND IN THE REINFORCING STEEL SCHEDULE.

SPPC PILES SHALL BE DRIVEN TO A MINIMUM FACTORED DESIGN CAPACITY OF 40 TONS. ALL PILES SHALL BE DRIVEN TO A MINIMUM TIP ELEVATION OF –70 FT, MSL. FOR ADDITIONAL INFORMATION, REFER TO REPORT OF SUBSURFACE INVESTIGATION AND GEOTECHNICAL ENGINEERING SERVICES BY G.E.T. SOLUTIONS, INC., PROJECT NUMBER VB13–199G, REVISION 1, DATED 7/21/2014 FOR EMBEDMENT DEPTH REQUIREMENTS TO ACHIEVE REQUIRED CAPACITY.

SEE SHEET 20(10) FOR TIMBER GENERAL NOTES AND ADDITIONAL PROJECT NOTES.

GRAPHIC SCALE IN FEET
0 20 40 80

No.	REVISIONS	DATE	BY

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9/22/2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE SEP. 22, 2016
SCALE AS SHOWN
DESIGNED BY BJH
DRAWN BY PHH
CHECKED BY JDP

PEDESTRIAN BRIDGE REFERENCE PLAN & GENERAL NOTES

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
20(1)

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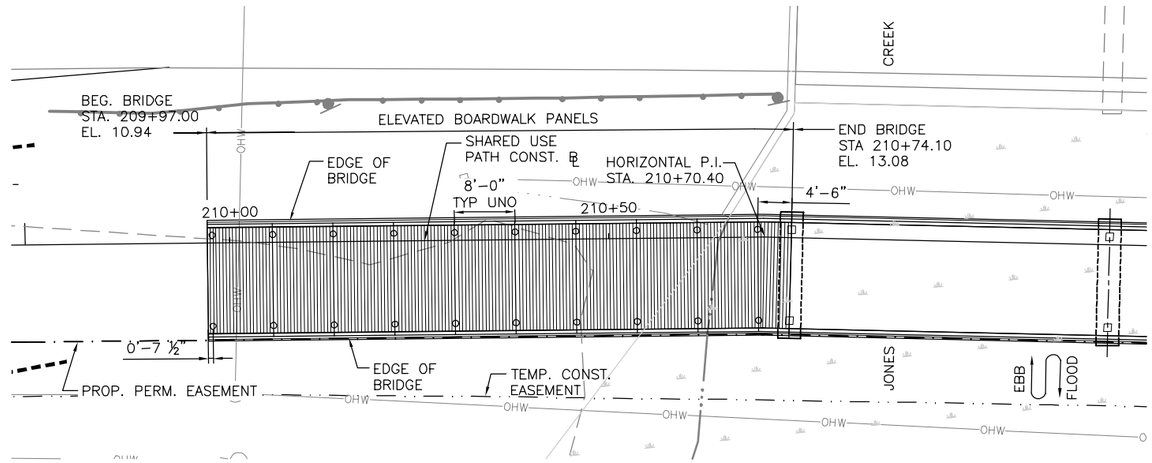
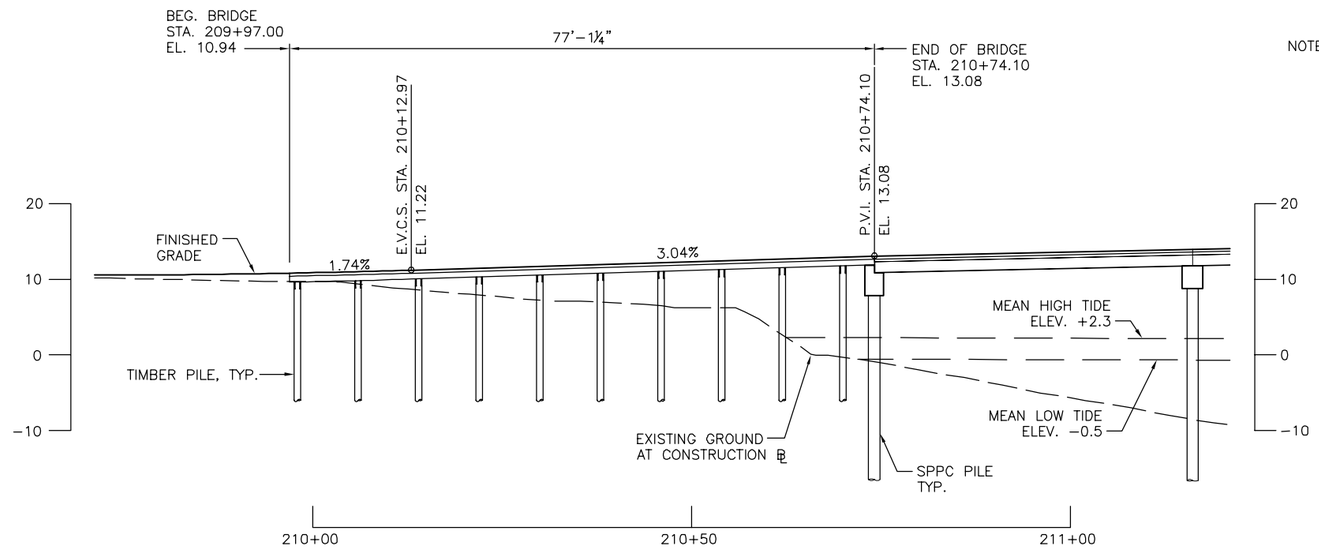


PLAN
Scale: 1" = 10'



NOTE: FOR HORIZONTAL GEOMETRY,
SEE CIVIL PLANS.

DEVELOPED SECTION ALONG CONST. ℄
Scale: 1" = 10'

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KHA PROJECT 117032000
DATE SEP. 22, 2016
SCALE AS SHOWN
DESIGNED BY BJH
DRAWN BY PHH
CHECKED BY JDP

PEDESTRIAN BRIDGE
B-602 PLAN &
DEVELOPED SECTION

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

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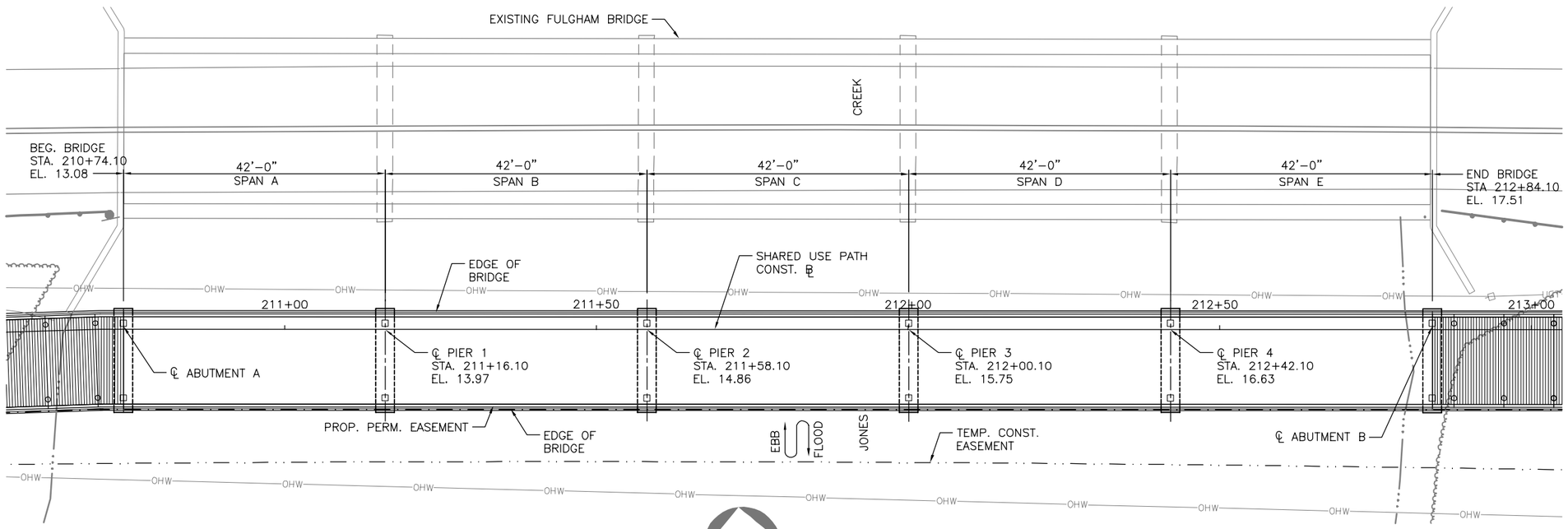

PLAN
Scale: 1" = 10'

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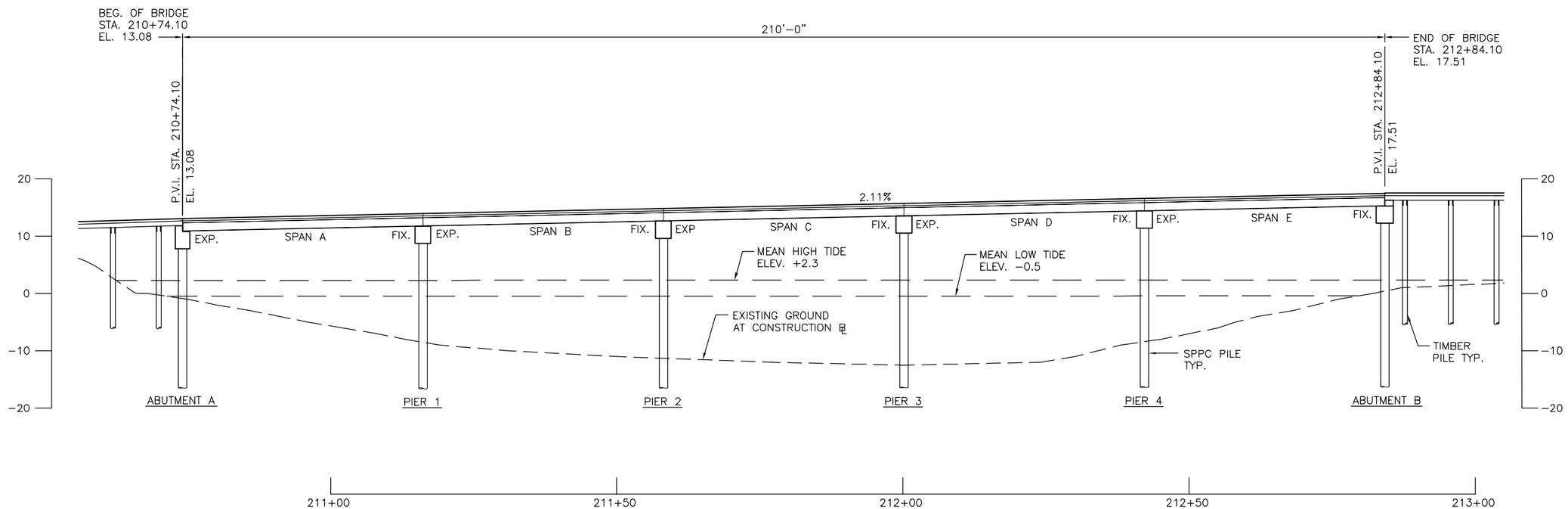

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KHA PROJECT 117032000
DATE SEP. 22, 2016
SCALE AS SHOWN
DESIGNED BY EJT
DRAWN BY PHH
CHECKED BY BJH

PEDESTRIAN BRIDGE B-603 PLAN & DEVELOPED SECTION

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
20(3)

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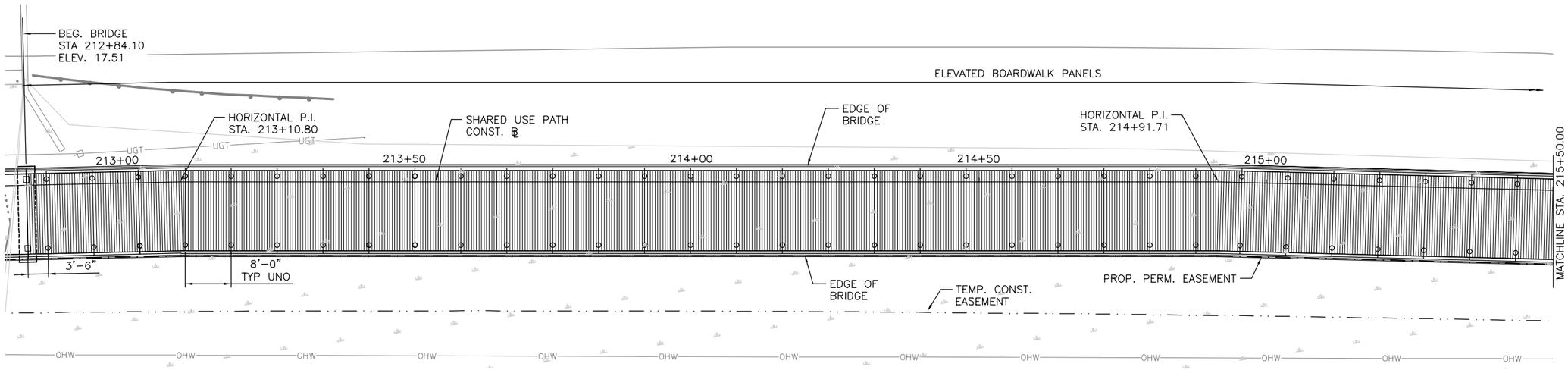
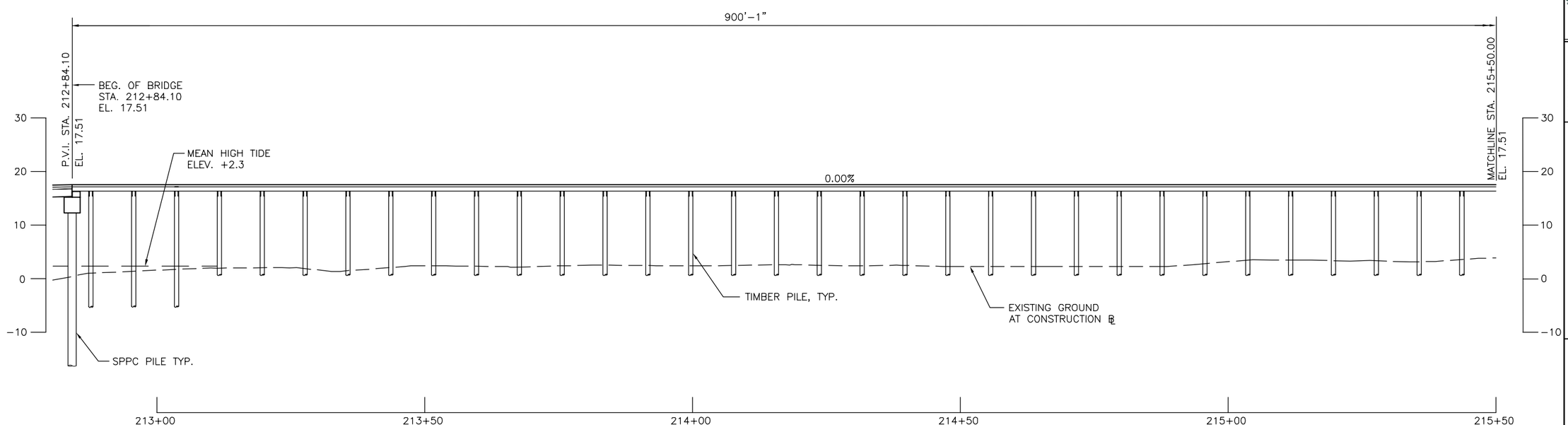


PLAN
Scale: 1" = 10'

NOTE: FOR HORIZONTAL GEOMETRY, SEE CIVIL PLANS.



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PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE SEP. 22, 2016
SCALE AS SHOWN
DESIGNED BY EJT
DRAWN BY PHH
CHECKED BY BJH

PEDESTRIAN BRIDGE
B-604 PLAN &
DEVELOPED SECTION

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
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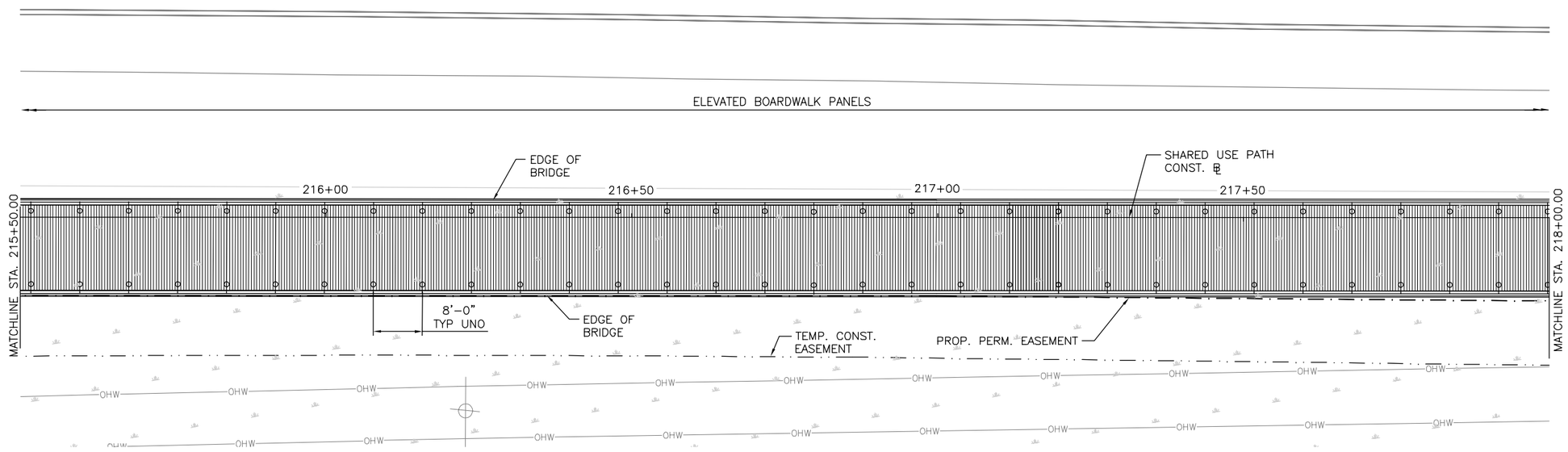
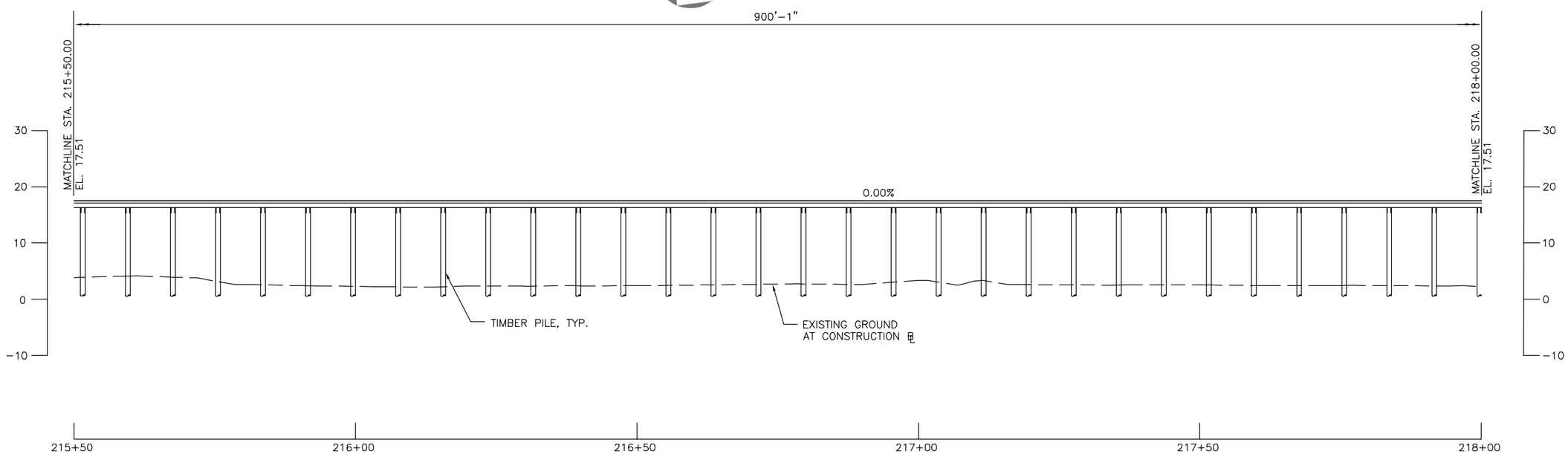


PLAN
Scale: 1" = 10'

NOTE: FOR HORIZONTAL GEOMETRY, SEE CIVIL PLANS.



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DRAWN BY PHH
CHECKED BY JDP

PEDESTRIAN BRIDGE B-604 PLAN & DEVELOPED SECTION

SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
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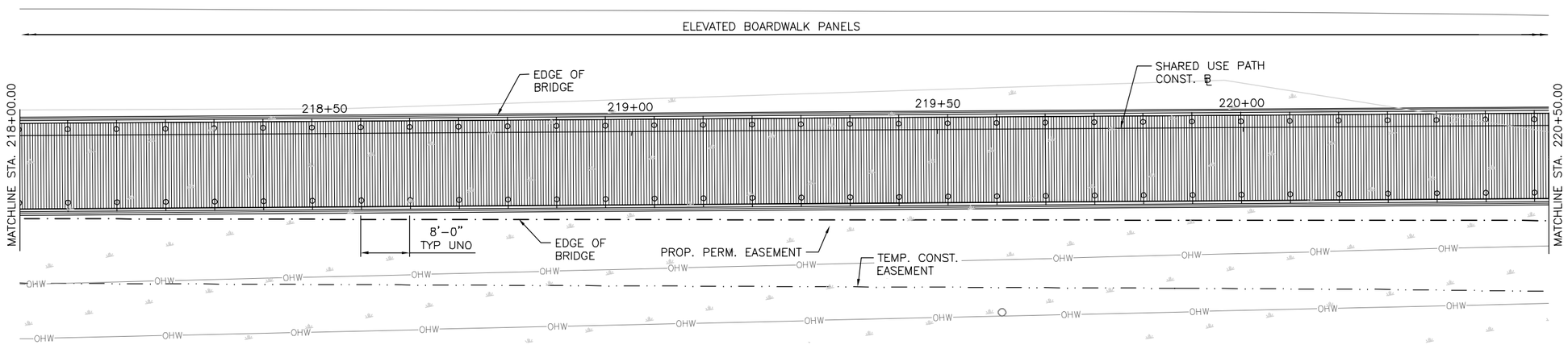
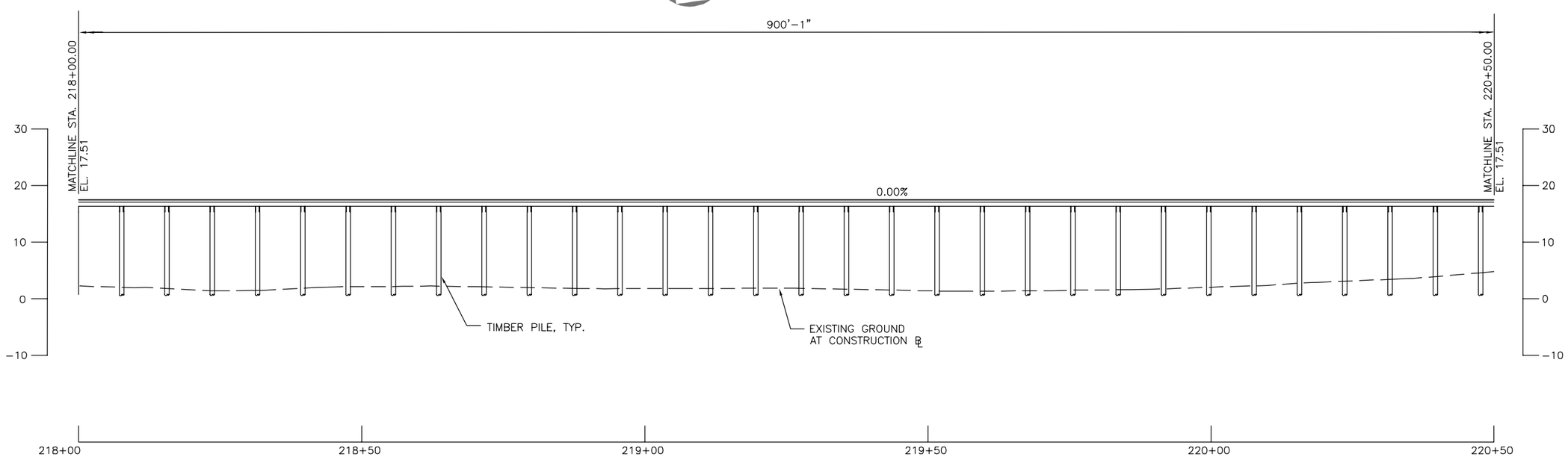


PLAN
Scale: 1" = 10'

NOTE: FOR HORIZONTAL GEOMETRY, SEE CIVIL PLANS.



DEVELOPED SECTION ALONG CONST. ℄
Scale: 1" = 10'

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COMMONWEALTH OF VIRGINIA
LUI KRISTAN ZUKOSKY
Lic. No. 048318
9/22/2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE SEP. 22, 2016
SCALE AS SHOWN
DESIGNED BY BJH
DRAWN BY PHH
CHECKED BY JDP

PEDESTRIAN BRIDGE
B-604 PLAN &
DEVELOPED SECTION

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
20(6)

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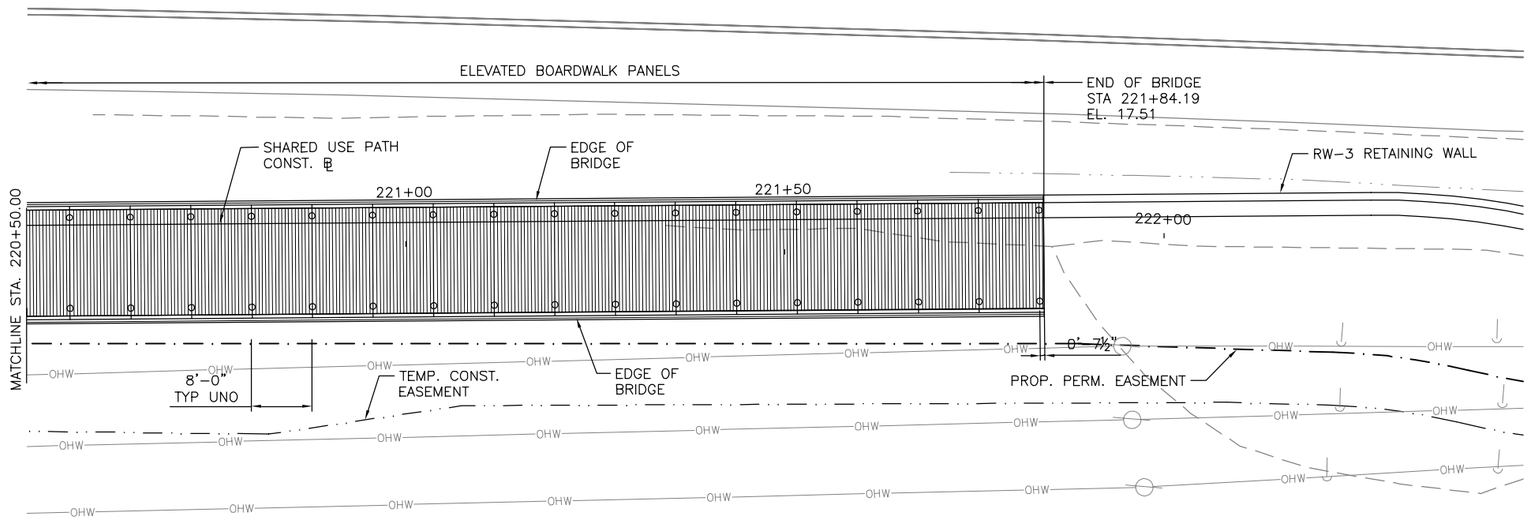
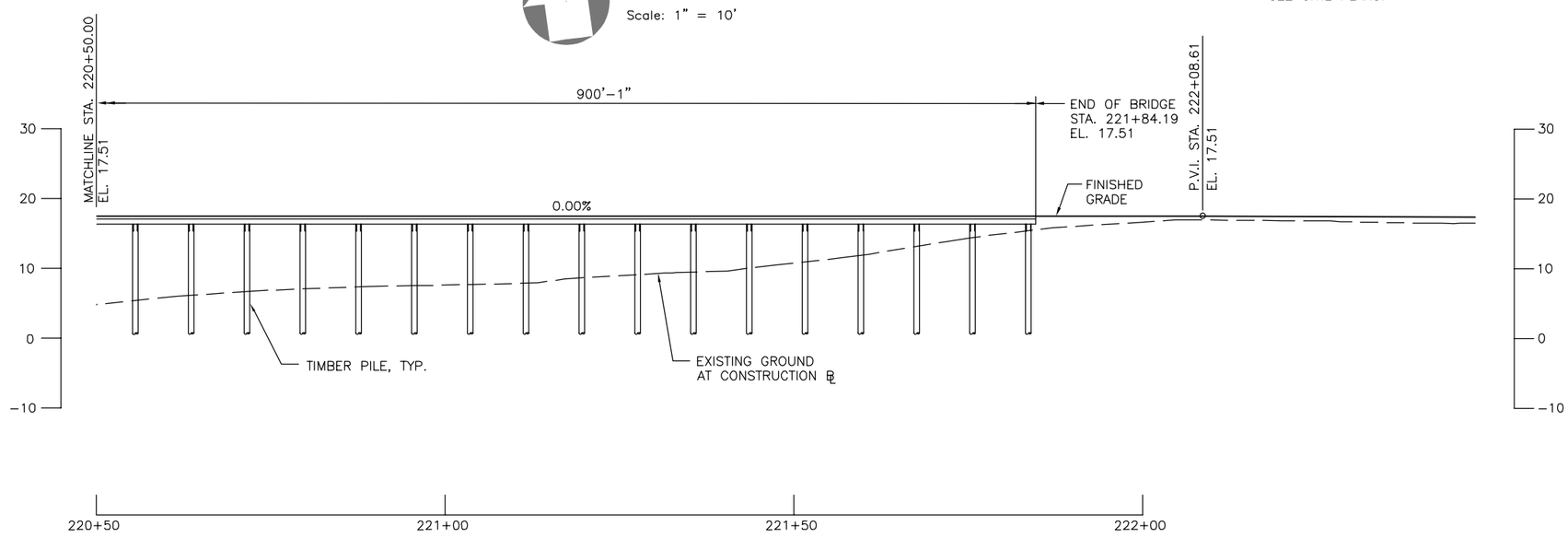


PLAN
Scale: 1" = 10'

NOTE: FOR HORIZONTAL GEOMETRY, SEE CIVIL PLANS.



DEVELOPED SECTION ALONG CONST. ℄
Scale: 1" = 10'

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KHA PROJECT	117032000
DATE	SEP. 22, 2016
SCALE	AS SHOWN
DESIGNED BY	BJH
DRAWN BY	PHH
CHECKED BY	JDP

PEDESTRIAN BRIDGE B-604 PLAN & DEVELOPED SECTION

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

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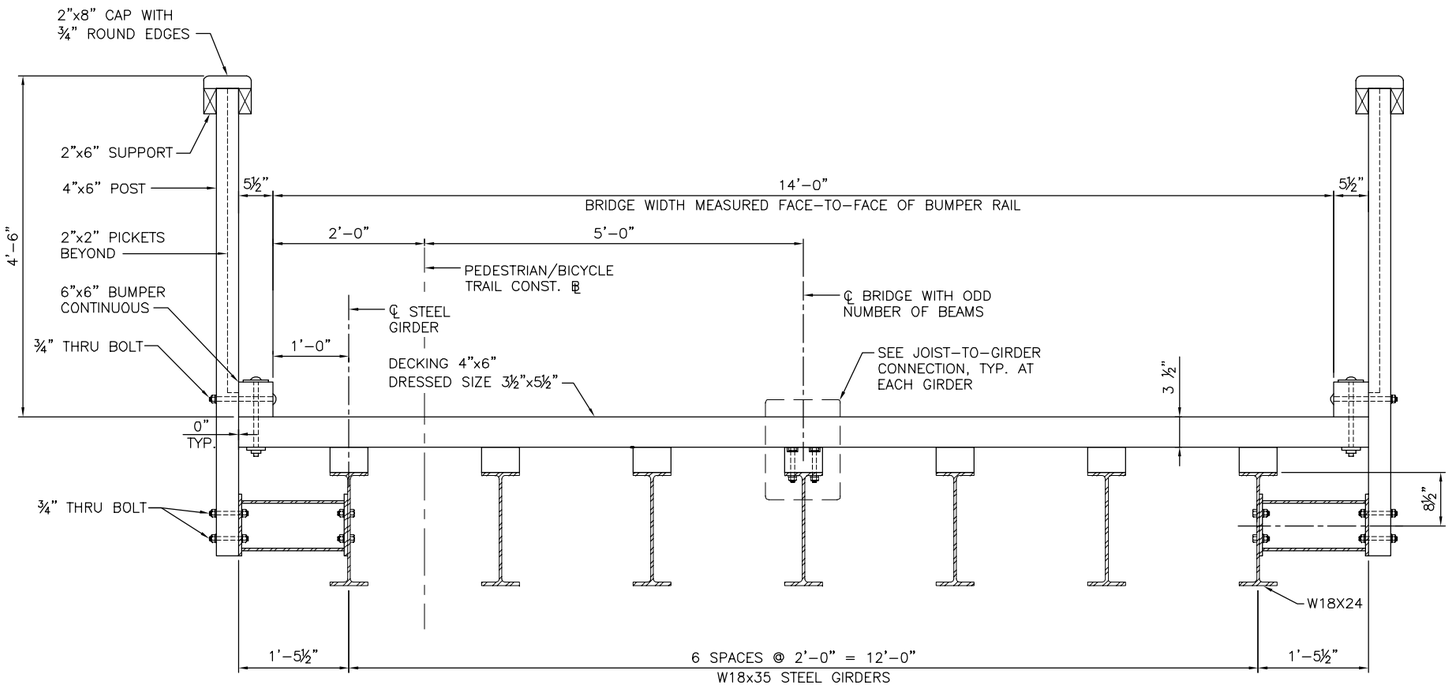
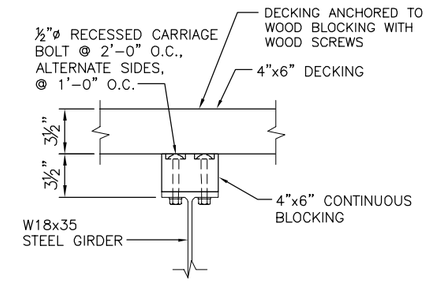
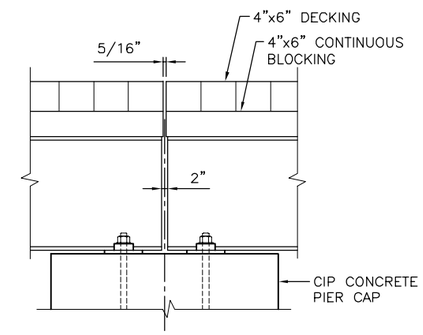


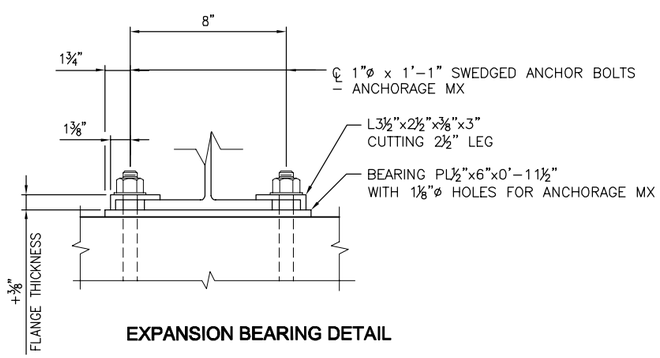
TRANSVERSE SECTION
Scale: 1/2" = 1'-0"



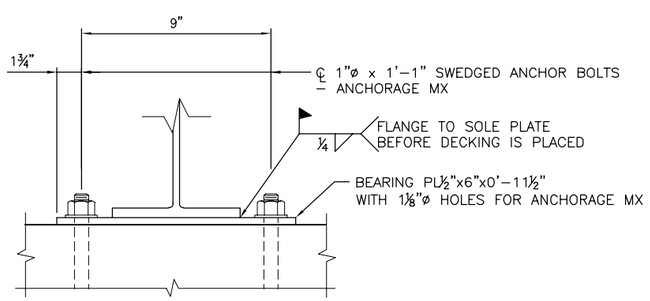
JOIST-TO-GIRDER CONNECTION



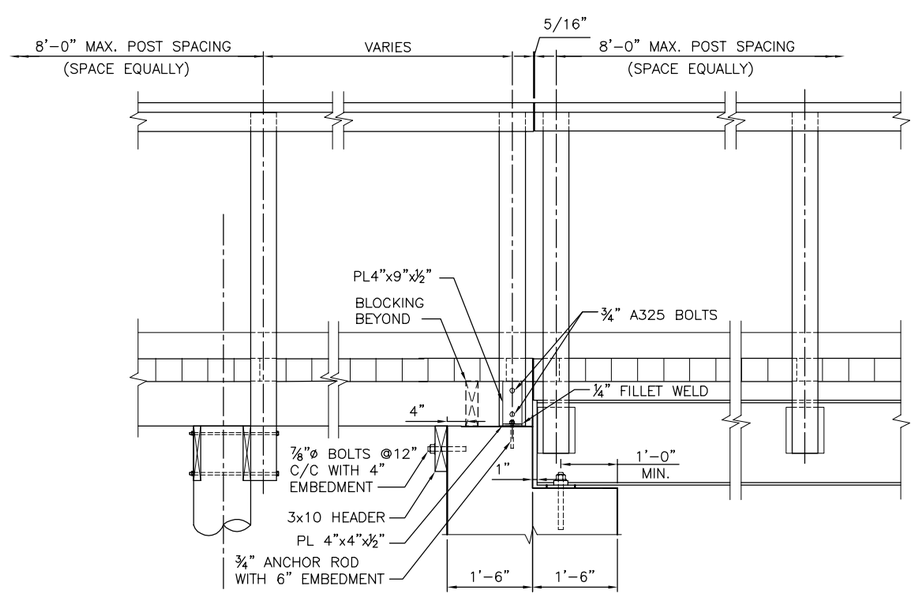
PART SIDE ELEVATION
AT PIER CAP



EXPANSION BEARING DETAIL



FIXED BEARING DETAIL



PART SIDE ELEVATION
AT PIER BENT CAP

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KHA PROJECT 117032000	
DATE 7/3/2014	
SCALE AS SHOWN	
DESIGNED BY	BJH
DRAWN BY	PHH
CHECKED BY	JDP

PEDESTRIAN BRIDGE
B-603 TRANSVERSE SECTION & DETAILS

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
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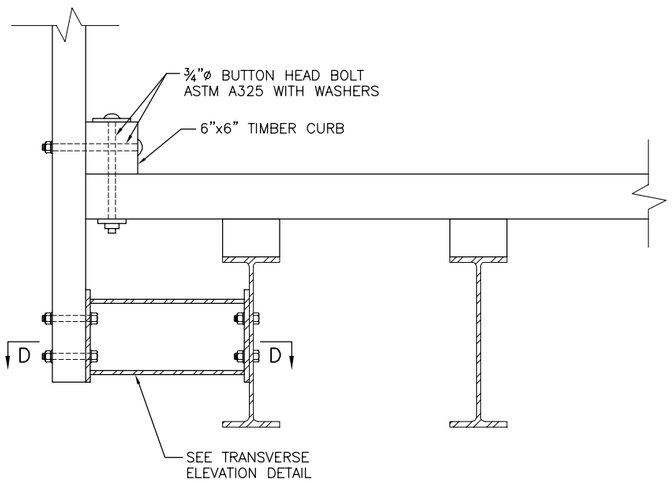
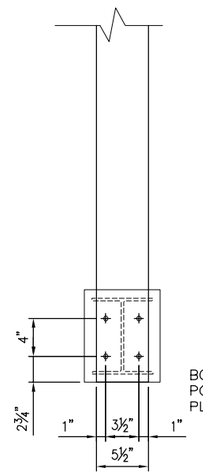
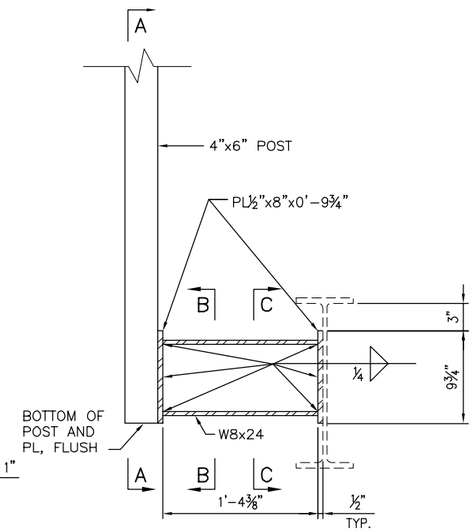


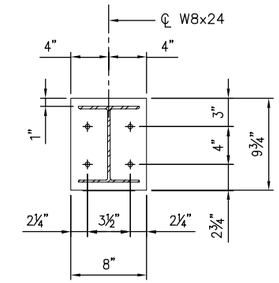
RAILING CONNECTION DETAIL



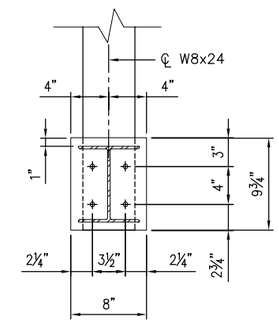
SECTION A-A



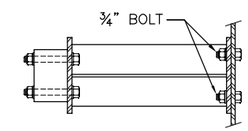
TRANSVERSE ELEVATION



SECTION C-C

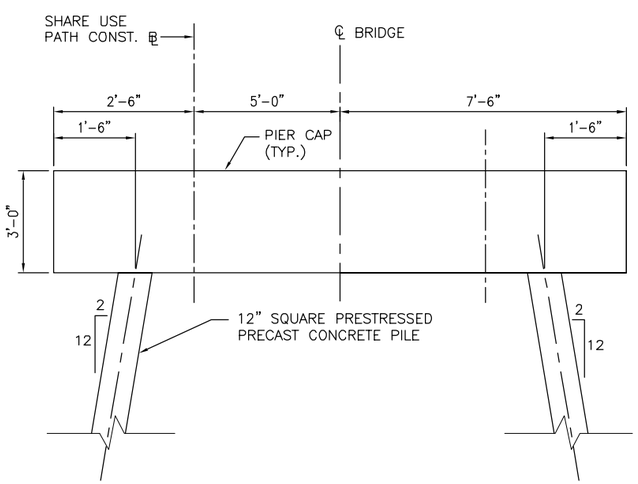


SECTION B-B

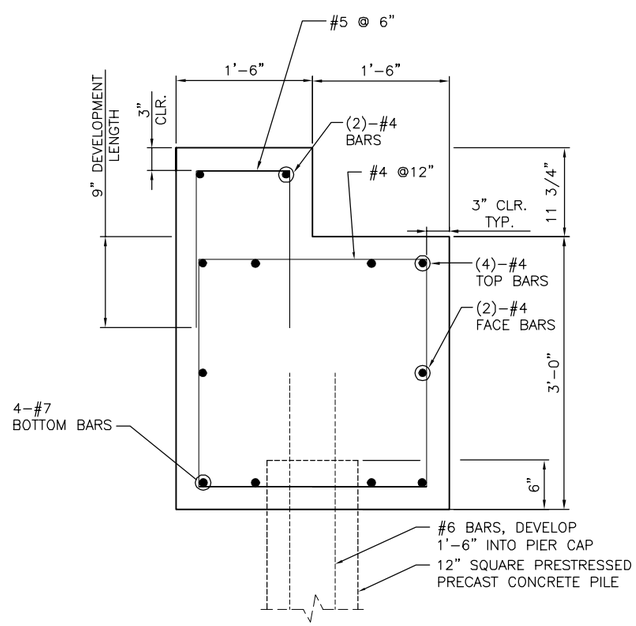


SECTION D-D

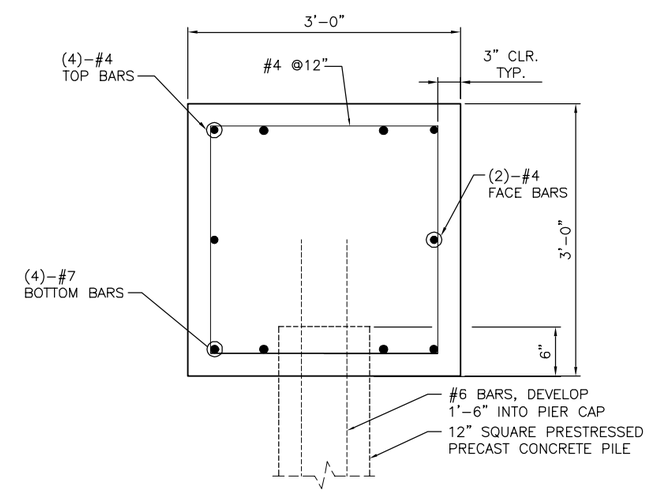
RAILING SYSTEM DETAILS



PIER ELEVATION



STEPPED PIER CAP TYPICAL SECTION



PIER CAP TYPICAL SECTION

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KHA PROJECT 117032000
DATE 7/3/2014
SCALE AS SHOWN
DESIGNED BY BJH
DRAWN BY PHH
CHECKED BY JDP

PEDESTRIAN BRIDGE
B-603
DETAILS

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
20(9)

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GENERAL NOTES:

DESIGN CRITERIA:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, 2012 AND VDOT MODIFICATIONS.

AASHTO GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, 2009 EDITION, AND VDOT MODIFICATIONS

NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 2005 EDITION.

VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), ROAD AND BRIDGE SPECIFICATIONS, 2007

DESIGN LOADS:

PEDESTRIAN LIVE LOAD:	90 PSF
WIND PRESSURE:	50 PSF – SUPERSTRUCTURE
	40 PSF – SUBSTRUCTURE
VEHICLE DESIGN LOAD	6500 LBS. MAX. AXLE LOADING

MATERIALS:

LUMBER

ALL LUMBER SHALL BE SOUTHERN PINE AND GRADED UNDER THE SOUTHERN PINE INSPECTION BUREAU (SPIB) RULES. ALL GIRDERS, JOISTS AND RAILING ELEMENTS SHALL BE S4S (SURFACED FOUR SIDES). ALL LUMBER SHALL BE PRESSURE TREATED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE SPECIFICATIONS, SECTION 236.

ALL LUMBER SHALL BE Fb=1,550 PSI MIN AND SHALL BE GRADED AND STAMPED AS FOLLOWS:

2"x8" RAIL CAP/CROSS BRACING	NO. 1 DENSE
3"x10" JOIST	NON–DENSE
	SELECT STRUCTURAL
3"x12" GIRDER	NON–DENSE
	SELECT STRUCTURAL
4"x6" POST & DECKING	NO. 1 DENSE
2"X2" PICKET	NO. 2 DENSE

MISC. METALS

ALL STRUCTURAL BOLTS AND ALL ASSOCIATED WASHERS AND NUTS SHALL BE ASTM A325 HEX BOLTS, HOT DIP GALVANIZED AND SHALL INCLUDE LOCK WASHERS OR OTHER APPROVED HARDWARE TO PREVENT LOOSENING. SIMPSON OR APPROVED EQUIVALENT SHALL BE USED FOR JOIST–GIRDER CONNECTIONS AND GIRDER–ABUTMENT CONNECTIONS. ALL SIMPSON CONNECTORS USED SHALL HAVE SIMPSON ZMAX GALVANIZED COATING OR APPROVED EQUIVALENT. ALL SCREWS SHALL BE STAINLESS STEEL. ALL OTHER FASTENERS SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL. FASTENERS USED WITH CONNECTORS SHALL HAVE AN ANTI–CORROSION COATING OF THE SAME CAPACITY WHICH DOES NOT REACT WITH THE COATING ON THE CONNECTOR. ALL STRUCTURAL STEEL PLATES S HALL BE GRADE ASTM A36, AND SHALL BE HOT DIP GALVANIZED.

ALL BOLTS SHALL BE RETIGHTEND PRIOR TO FINAL ACCEPTANCE.

TIMBER PILES

FURNISH AND INSTALL TWO (2) TREATED TIMBER PILES AT EACH GIRDER LINE. TIMBER PILES SHALL BE DRIVEN TO THE FOLLOWING TIP ELEVATIONS:

STA. 209+97 TO 210+72 ELEV. –35
STA. 212+86 TO 221+85 ELEV. –45

CONTRACTOR TO PROVIDE PILES WITH A MINIMUM 10" TOP DIAMETER. TIMBER PILES SHALL CONFORM TO VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE SPECIFICATIONS, SECTION 236.

STRUCTURAL BACKFILL

BACKFILL SHALL BE COMPACTED TO 95% PROCTOR MAXIMUM DRY DENSITY.

TERMINATION POINTS SHALL BE BACKFILLED WITH SATISFACTORY SOIL MATERIAL FREE OF CLAY, ROCK OR GRAVEL LARGER THAN ½–INCH, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION AND OTHER DELETERIOUS MATERIAL. THE SATISFACTORY SOIL MATERIAL SHALL EXTEND BACK A MINIMUM LENGTH EQUAL TO THE SUM OF THE HEIGHT OF THE PILE CAP AND TOTAL OVEREXCAVATION DEPTH.

CONTRACTOR SHALL HIRE AN OWNER APPROVED GEOTECHNICAL ENGINEER TO VERIFY PROPER SURFACE PREPARATION PRIOR TO PLACEMENT OF THE ASPHALT PATH AND SHALL VERIFY PROPER SOIL PROPERTIES OF BACKFILL.

SHOP DRAWINGS:

REVIEW OF SHOP DRAWINGS BY THE OWNER IS LIMITED TO COMPLIANCE OF THE COMPLETED STRUCTURE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, COORDINATION WITH OTHER WORKS, AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEW DOES NOT AUTHORIZE CHANGES TO THE CONTRACT.

SHOP DRAWING SUBMITTALS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONNECTION HARDWARE AND RAILING LAYOUT.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE OWNER FOR REVIEW IN ACCORDANCE WITH A SCHEDULE OF SUBMITTALS ACCEPTABLE TO THE OWNER. THESE SHOP DRAWINGS SHALL HAVE BEEN CHECKED BY, AND STAMPED WITH THE APPROVAL OF THE CONTRACTOR. THE DATA SHOWN ON THE SHOP DRAWINGS SHALL BE COMPLETE WITH RESPECT TO DIMENSIONS AND DESIGN CRITERIA.

PRESTRESSED CONCRETE PILES

FURNISH AND INSTALL PRESTRESSED CONCRETE PILES AS SHOWN. DRIVE PILES TO A MINIMUM FACTORED LOAD OF 40 TONS AND NOMINAL PILE RESISTANCE OF 90 TONS. INSTALL TWO TEST PILES IN ACCORDANCE WITH VDOT SPECIFICATIONS, VDOT SPECIAL PROVISION S403B01, AND THE GEOTECHNICAL REPORT BY GET SOLUTIONS. ESTIMATE PILE TIP ELEVATION IS –70. MEASUREMENT AND PAYMENT OF S403B01 DOES NOT APPLY.

MISCELLANEOUS:

CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITIES/SEWER AT THE SITE. CONTRACTOR SHALL VISUALLY LOCATE ADJACENT UTILITIES/SEWER PRIOR TO INSTALLATION OF THE FOUNDATION SYSTEM TO ENSURE NO CONFLICTS ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. IF ANY CONFLICTS ARE FOUND, THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

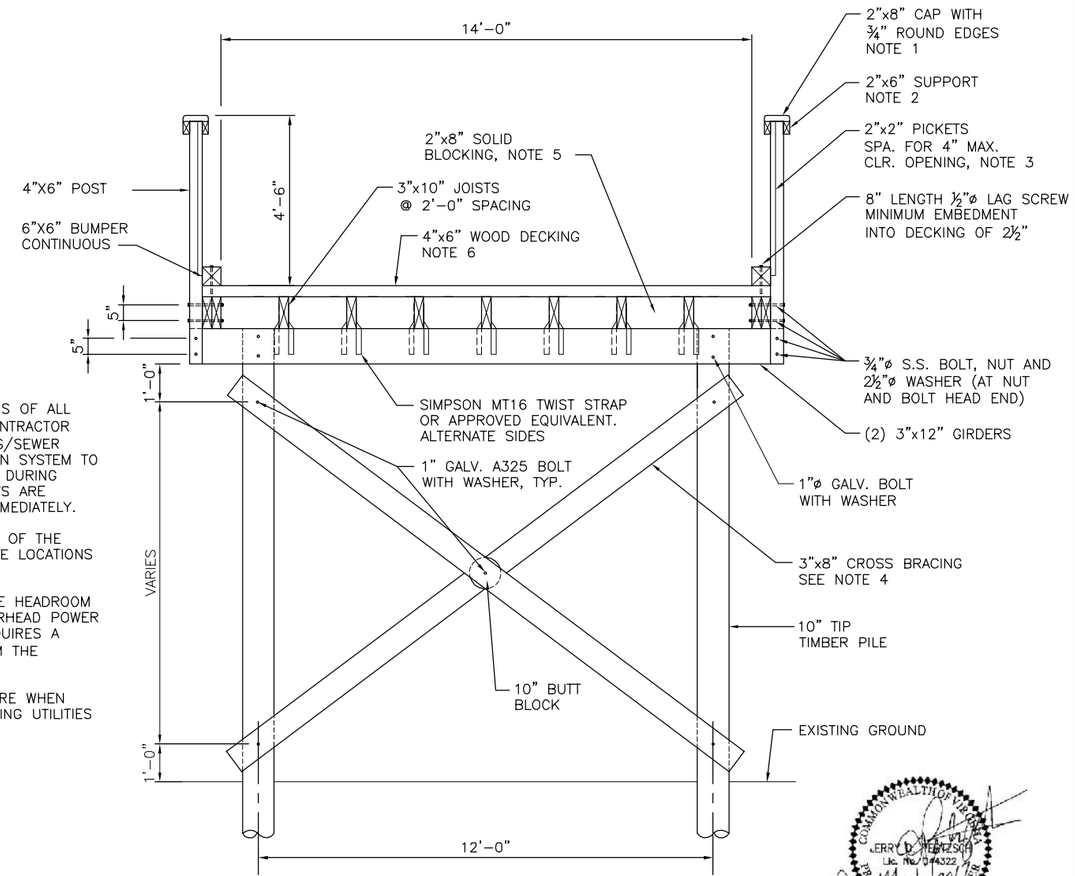
CONTRACTOR SHALL STAKE OUT THE LIMITS OF THE ABUTMENT AND THE OWNER SHALL APPROVE LOCATIONS PRIOR TO INSTALLATION OF ABUTMENT.

CONTRACTOR SHALL FIELD VERIFY AVAILABLE HEADROOM FOR CONSTRUCTION AROUND EXISTING OVERHEAD POWER LINES. THE HIGH VOLTAGE SAFETY ACT REQUIRES A MINIMUM OF 10'–0" CLEAR DISTANCE FROM THE CLOSEST CONDUCTOR.

CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN WORKING AROUND AND ADJACENT TO EXISTING UTILITIES AND STRUCTURES.

MEASUREMENT AND PAYMENT

EXCEPT FOR PILES, BRIDGES 602, 603, AND 604 SHALL BE INCLUDED IN THE LUMP SUM BID PRICE AND INCLUDE ALL MATERIALS AND LABOR TO INSTALL THE STRUCTURES. PILES, INCLUDING TEST PILES, SHALL BE PAID FOR PER LINEAL FOOT. COST OF PILING SHALL INCLUDE ALL LABOR AND MATERIAL TO INSTALL PILES IN ACCORDANCE WITH THE VDOT ROAD AND BRIDGE SPECIFICATIONS AND THE GEOTECHNICAL REPORT BY GET SOLUTIONS. COST OF TEST PILES FOR THE PRESTRESSED CONCRETE PILES SHALL BE INCLUDED IN THE COST PER LINEAL FOOT OF ASSOCIATED PILE TYPE.



TYPICAL BRIDGE SECTION

Scale: ½" = 1'–0"

NOTES:

1. FASTEN CAP TO POST WITH (2) 30d S.S. RING SHANK NAILS OR EQUIVILENT S.S. SCREWS AND TO RAIL EVERY 2 FT. O.C. (PREDRILL PILOT HOLES PRIOR TO FASTENER INSTALLATION).
2. BOLT HORIZONTAL MEMBER TO POST WITH (2) ½"ø S.S. CARRIAGE BOLTS, WASHER (AT NUT AND BOLT HEAD END) AND NUT.
3. FASTEN PICKET TO EACH HORIZONTAL MEMBER WITH S.S. SCREWS. (PREDRILL PILOT HOLES PRIOR TO FASTENER INSTALLATION).
4. DISCONTINUE 3"X8" CROSS BRACING ONCE EXPOSED PILE HEIGHT IS LESS THAN 5'–0".
5. ALTERNATE 2x10 BLOCKING OVER GIRDERS EACH JOIST SPACE. TOENAIL (2) 16d NAILS EACH END (TYPICAL).
6. FASTEN ALL 4X6 DECKING BOARDS TO EACH 3X10 JOIST WITH (2) #10x6" MIN WOOD SCREWS.

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PEDESTRIAN BRIDGE
B-602 & B-604
GENERAL NOTES

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
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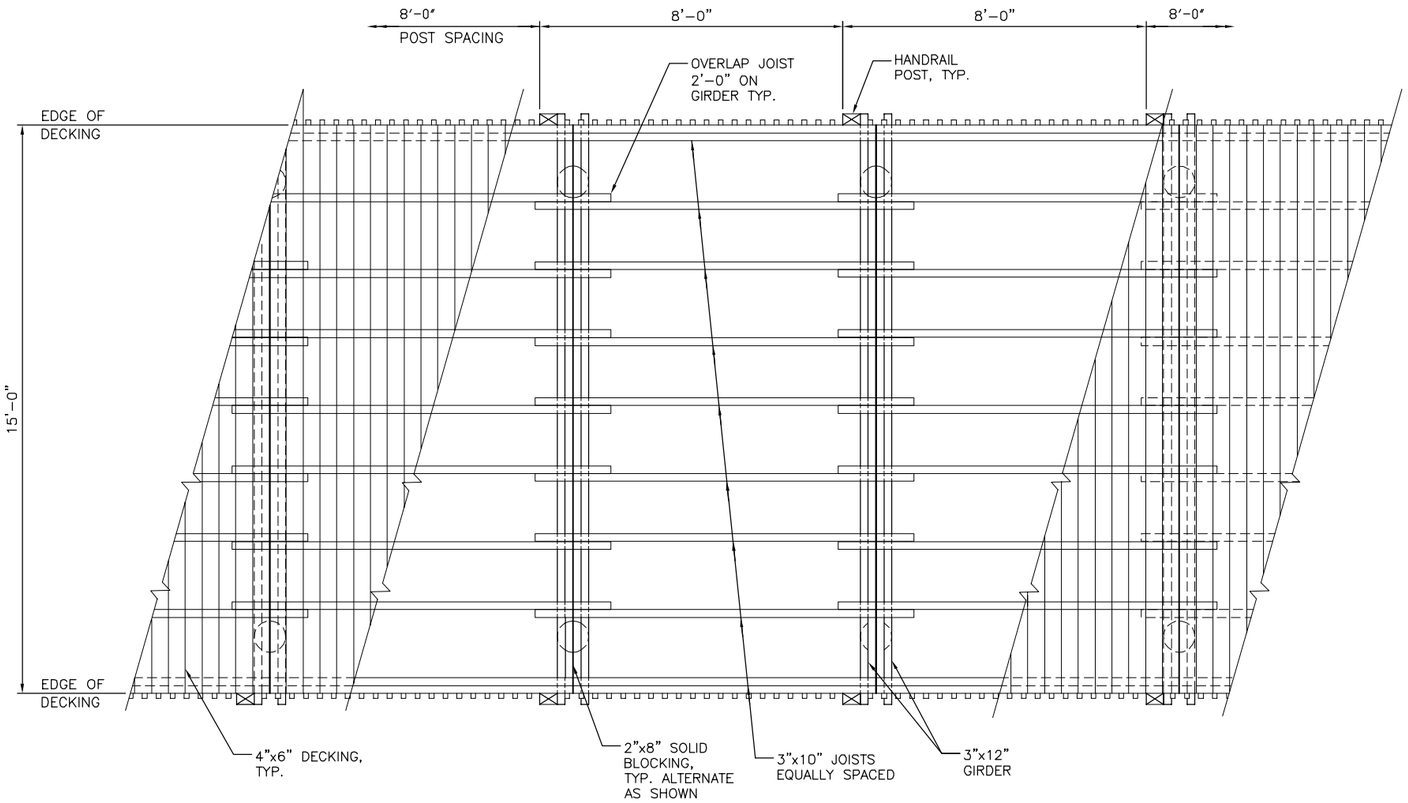
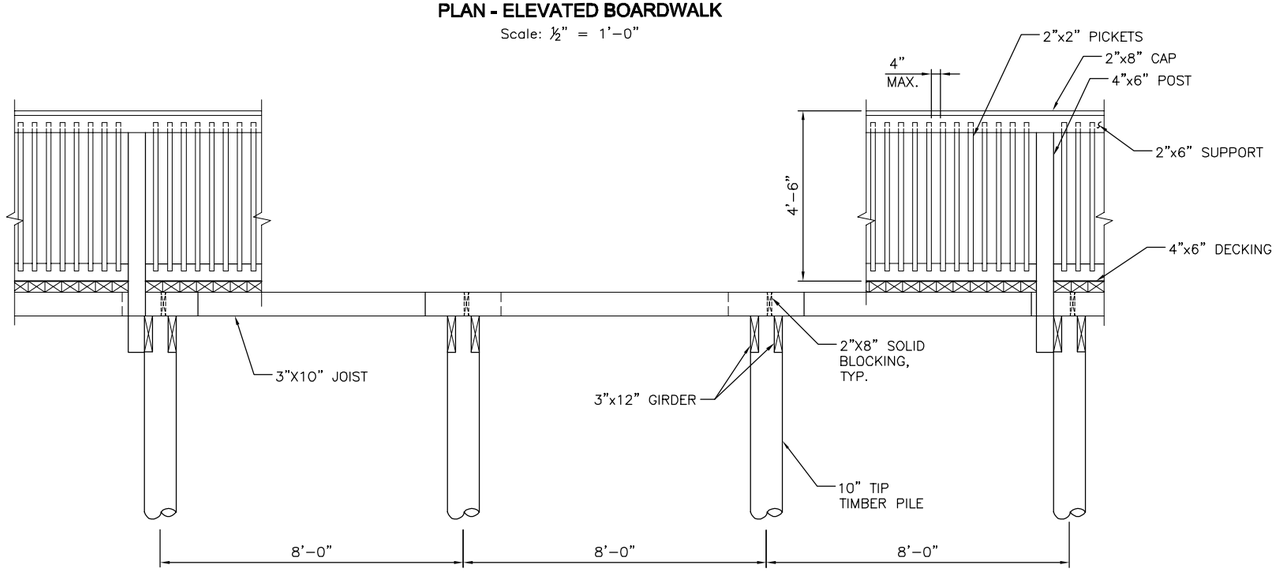
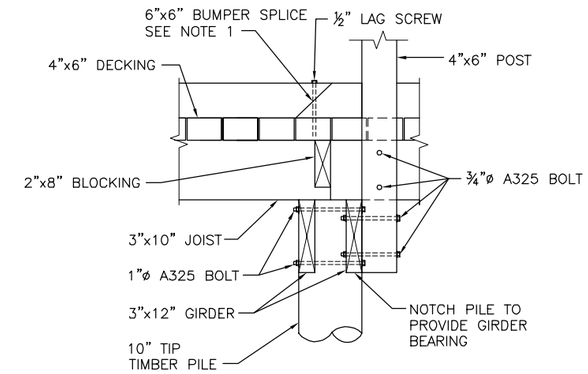


PLAN - ELEVATED BOARDWALK
Scale: ½" = 1'-0"

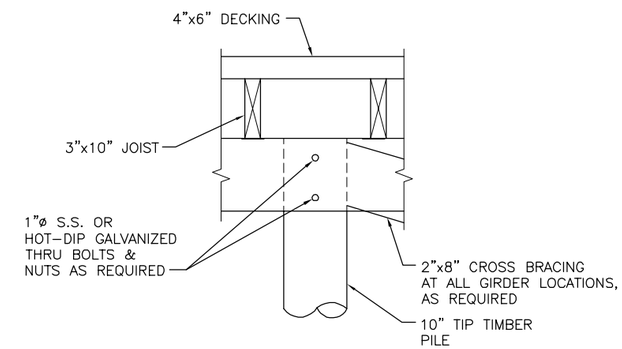


ELEVATION - ELEVATED BOARDWALK
SCALE: ½" = 1'-0"

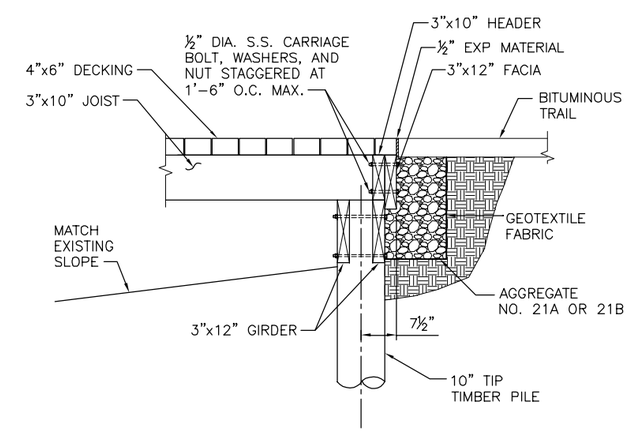


NOTE 1: INSTALL LAG SCREW AT SLICE LOCATIONS AND AT MIDSPAN OF BUMPER

JOIST-TO-GIRDER CONNECTION
Scale: 1" = 1'-0"



CONNECTION DETAIL
Scale: 1" = 1'-0"



END DETAIL
Scale: ⅛" = 1'-0"

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B-602 & B-604
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20(11)

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THESE PLANS ARE UNFINISHED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION.

POINTS	PICK UP POINTS
1	0.292L, 0.708L; L
2	0.207L, 0.586L, 0.207L; L
3	0.145L, 0.355L, 0.355L, 0.145L; L
4	0.107L, 0.262L, 0.262L, 0.262L, 0.107L; L

Unless special lifting devices are attached for pick-up, pick-up points shall be plainly marked on all piles after removal of the forms. The pile shall be supported only at the indicated pick-up points while in storage or while being handled.

The use of proper rigging is required to insure that the pick-up points remain in a straight line during lifting and when positioning the pile for driving.

The use of special embedded or attached lifting devices, the employment of other pick-up points or any other method of pick-up shall be subject to approval by the Engineer.

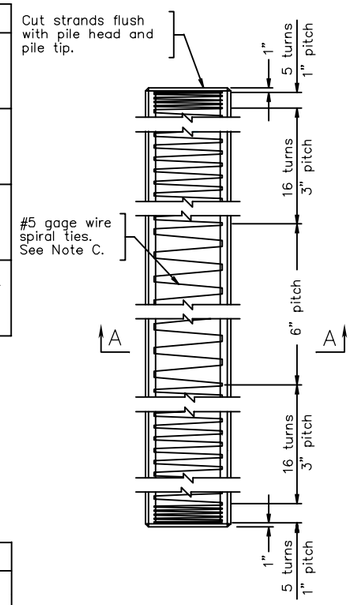
PILE PICK-UP DATA

Pile size	Approx. Wt. per LF	Maximum lengths for various pick-up systems			
		1-Point	2-Point	3-Point	4-Point
W	Lbs.	L	L	L	L
10"	140	47'	66'	95'	129'
12"	150	51'	73'	104'	141'
14"	204	55'	78'	112'	152'
16"	267	62'	88'	126'	171'
18"	338	64'	90'	129'	175'
20"	417	69'	97'	138'	188'
24"	600	72'	102'	146'	198'

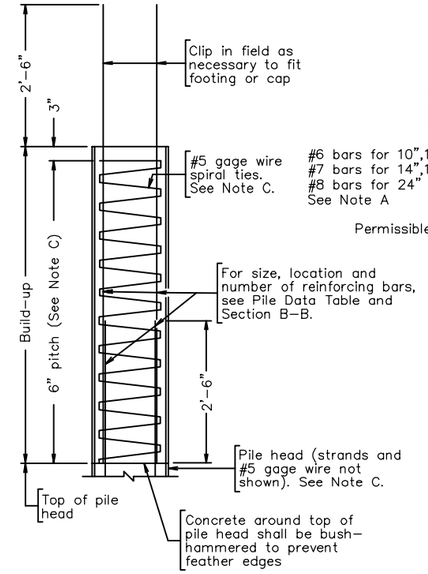
Maximum lengths are determined from impact loads. L is the maximum pick-up length based on a concrete compressive strength of 5000 psi. If piles are picked up when concrete strength is less than 5000 psi, the maximum pick-up length shall be the tabulated length reduced by 1% for every 250 psi below 5000 psi.

PILE DATA

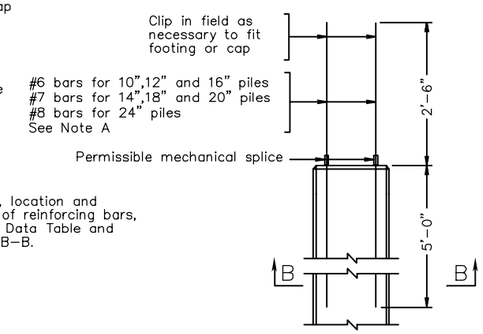
Pile size W (in.)	Strand pattern	Total no. of strands in pile	Diameter of strands in.	Strand spacings M	Strand spacings N	Prestressing force per strand pounds	Effective prestress after losses psi
10"	Square	4	?	1	1	28,910	966
	Circular	4	?	—	—	28,910	966
12"	Square	4	?	1	1	30,970	751
	Circular	4	?	—	—	30,970	751
14"	Square	6	?	2	1	30,970	820
	Circular	6	?	—	—	30,970	820
16"	Square	8	?	2	2	30,970	836
	Circular	8	?	—	—	30,970	836
18"	Square	10	?	3	2	30,970	826
	Circular	10	?	—	—	30,970	826
20"	Square	12	?	3	3	30,970	805
	Circular	12	?	—	—	30,970	805
24"	Square	16	?	4	4	30,970	751
	Circular	16	?	—	—	30,970	751



PILE ELEVATION



PILE BUILD-UP ELEVATION
See Note B



PILE HEAD PROJECTING BAR DETAIL
Strands and #5 gage wire not shown

Note:

All concrete shall be Class A5 having a minimum compressive cylinder strength at 28 days equal to 5000 psi and a minimum compressive cylinder strength at time of release of strands equal to 3500 psi.

All strands shall be low relaxation and shall have an ultimate strength of 270 ksi.

Deformed reinforcing bars shall conform to ASTM A615, Grade 60.

One splice will be permitted where the length of pile required is greater than the maximum for 2-point pick-up unless specifically prohibited.

Build-ups shall be used only with written permission by the Engineer and then only after driving is complete.

Subject to approval by the Engineer, the bars projecting from the pile head may be cut prior to driving and rewelded upon completion of driving. The method of welding used shall develop the tensile strength of the bar.

Mechanical splices for reinforcing bars shall be in accordance with Section 406.03(e) of the Specifications. The Contractor shall provide adequate shielding to protect the ends of the reinforcing bars until the pile is driven and the bars are spliced.

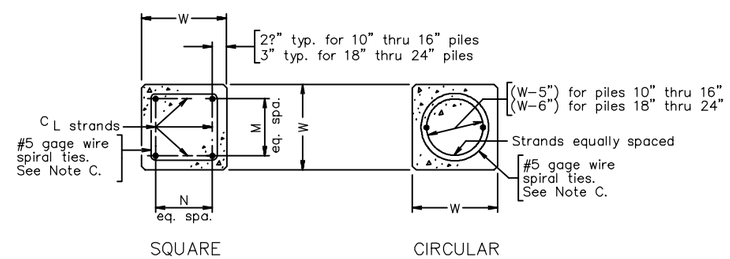
When pile cut-off is greater than 2'-6" at least 30 inches of all the strands shall project into the cap or footing to serve for anchorage.

Where piles are exposed in bridges over tidal water such as in pile bents and in footings constructed above Mean High Tide elevation, the spiral ties and all other reinforcing bars in the pile shall be hot dip galvanized.

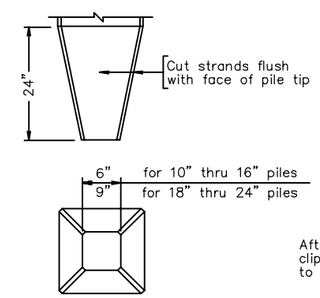
Note A:
In lieu of the reinforcing bars projecting from the head:
1. The pile may be cast 2'-6" longer than required. After driving the concrete pile, remove the concrete from the added length to expose the strands. The strands must be thoroughly cleansed before casting the footing or cap; or
2. 1"ϕ preformed plain holes or 2"ϕ holes formed with galvanized corrugated metal may be used. #6, #7, and #8 reinforcing bars shall be installed once the pile has been driven and cleansed. Holes shall be filled with approved non-shrink grout.

Note B:
If alternate circular strand arrangement is used, bar extension must be placed to fit.

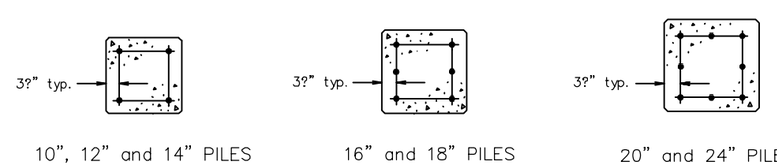
Note C:
For Seismic Performance Category B bridges (structures), #4/0 gage wire or #3 bars shall be used and the pitch shall be 3".



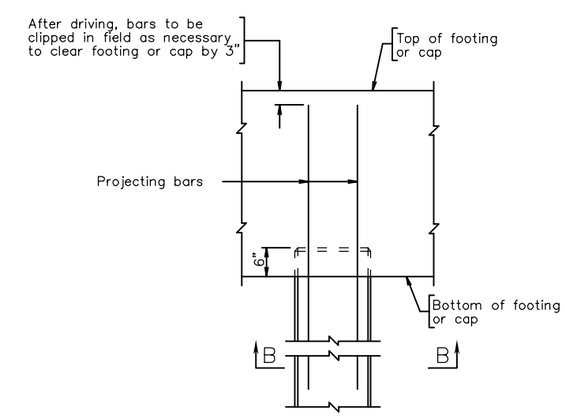
SECTION A-A: STRAND PATTERN FOR PILE



PILE TIP
Pile tip(s) shall be used only when specified. Strands not shown.



SECTION B-B: PILE HEAD
See Note B



PROJECTING BAR CLIP DETAIL
Strands and #5 gage wire not shown

No.	REVISIONS	DATE	BY

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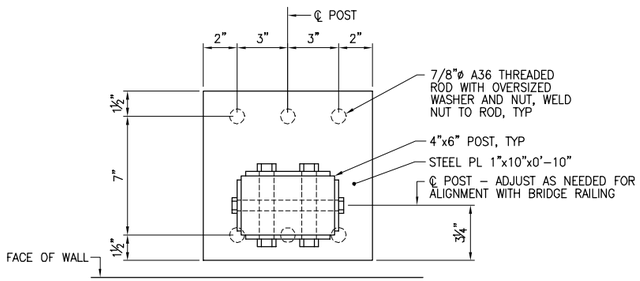
COMMONWEALTH OF VIRGINIA
LUI KRISTAN ZUKOSKY
Lic. No. 048318
9/22/2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE 9/22/2016
SCALE AS SHOWN
DESIGNED BY BJH
DRAWN BY PHH
CHECKED BY JDP

PEDESTRIAN BRIDGE
B-603
PRECAST PILES

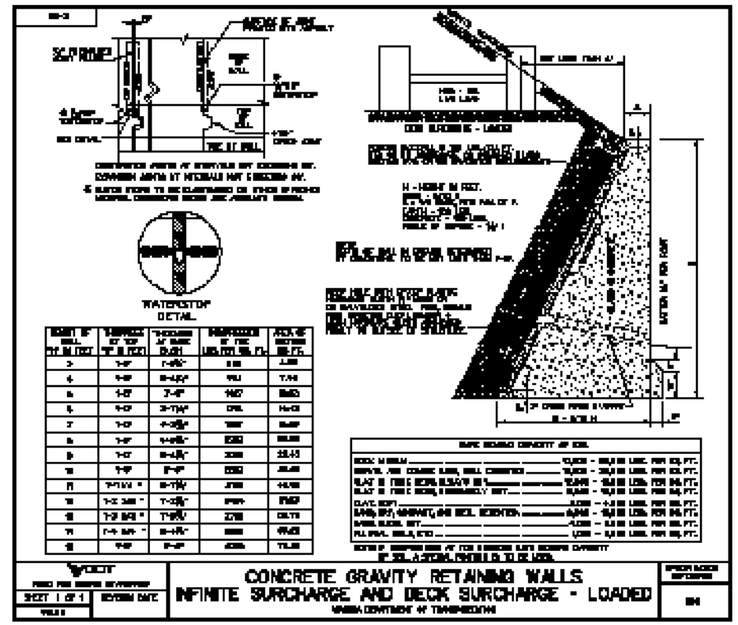
SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

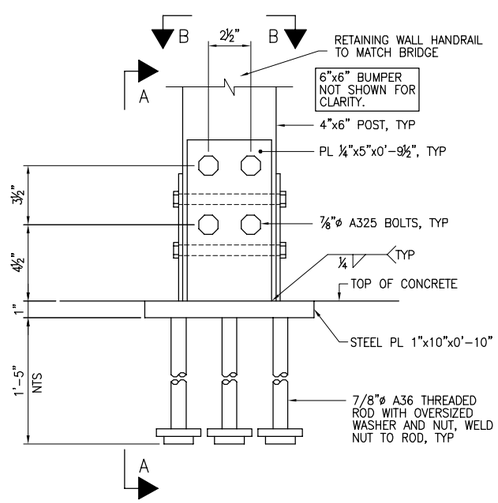
SHEET NUMBER
20(12)



SECTION B–B

SCALE: 3" = 1'-0"



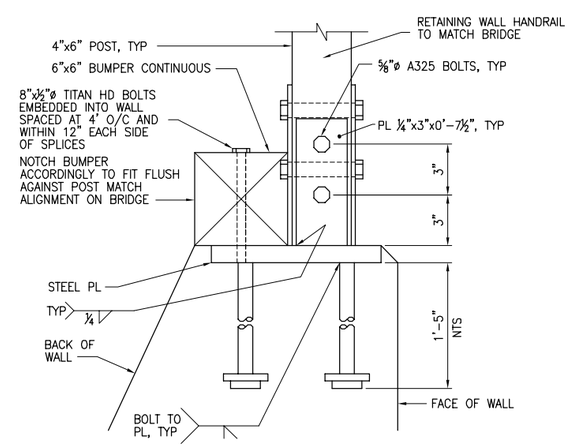


POST RETAINING WALL CONNECTION

SCALE: 3" = 1'-0"

(FOR RETAINING WALL HANDRAIL)

NOTE: HANDRAIL COST SHALL BE INCIDENTAL TO RETAINING WALL.



SECTION A–A

SCALE: 3" = 1'-0"

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COMMONWEALTH OF VIRGINIA
LUI KRISTAN ZUKOSKY
Lic. No. 048318
9/22/2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	SEP. 22, 2016
SCALE	AS SHOWN
DESIGNED BY	BJH
DRAWN BY	PHH
CHECKED BY	JDP

PEDESTRIAN BRIDGE
B-602 & B-604
RETAINING WALL DETAILS

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
20(13)

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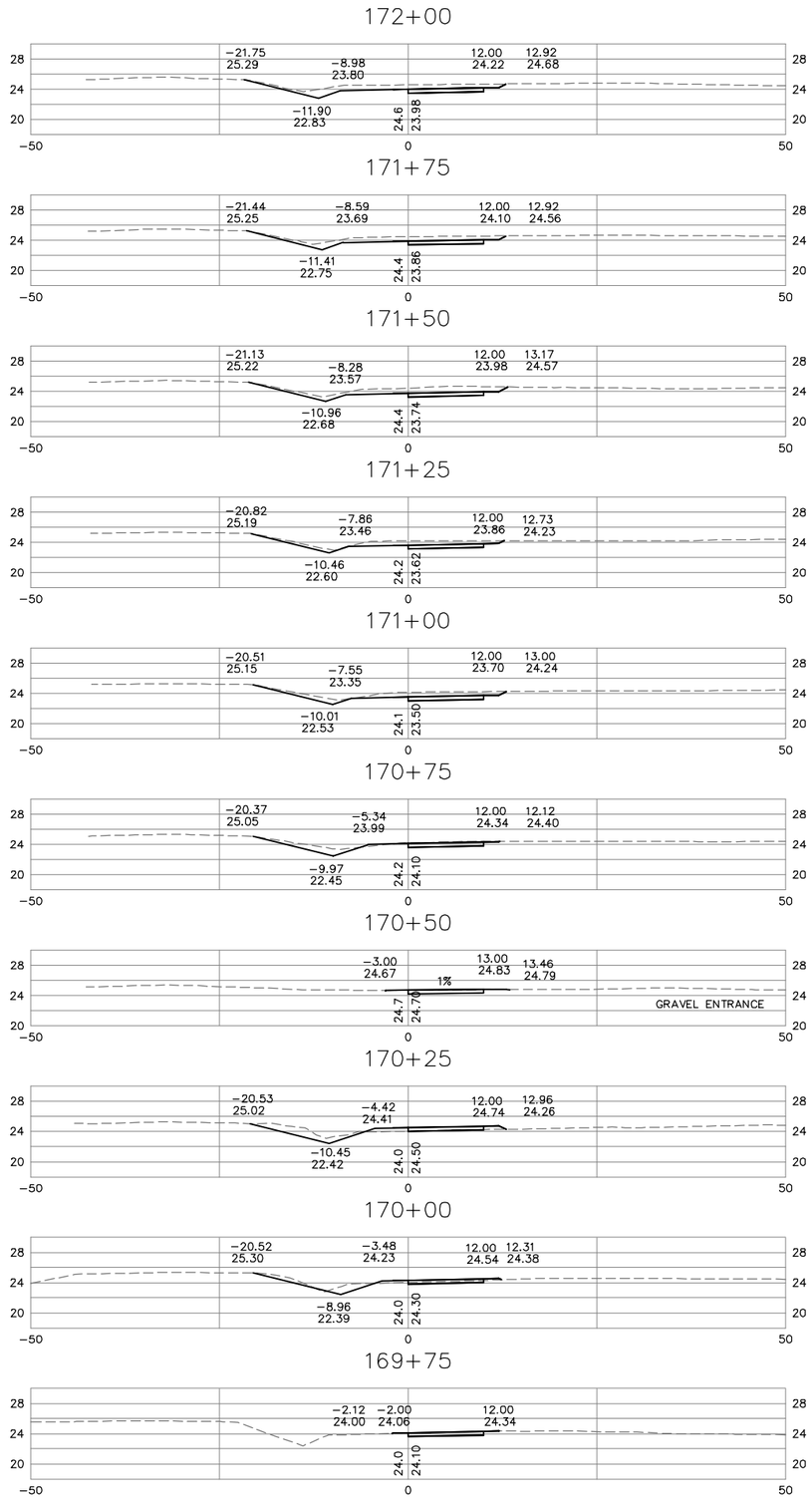

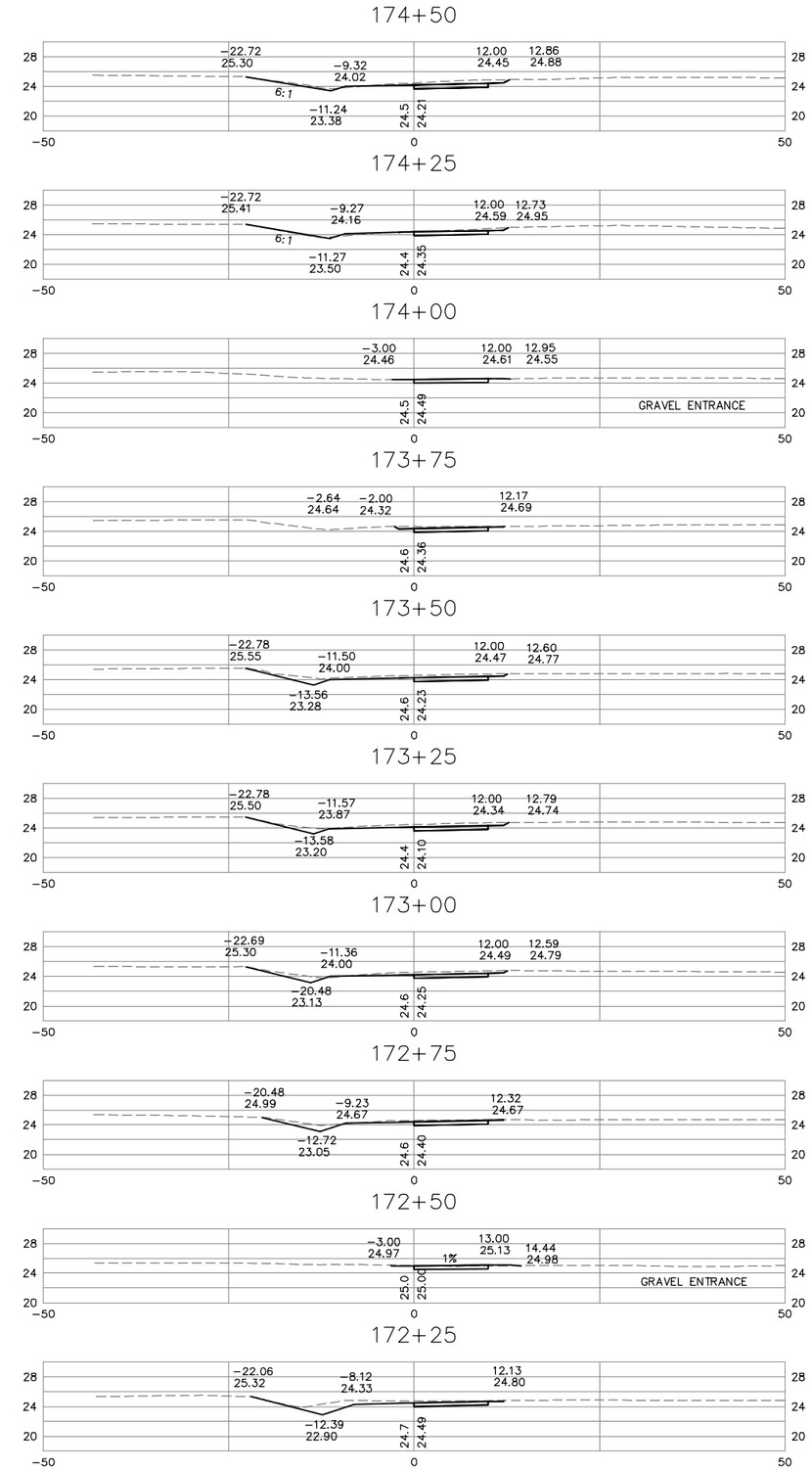

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn
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Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS
STA. 169+75 TO STA. 174+50

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X1

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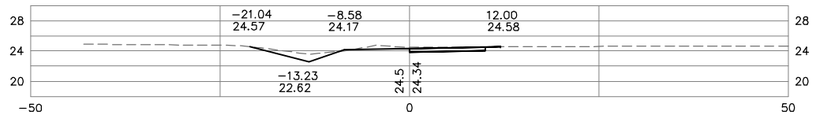

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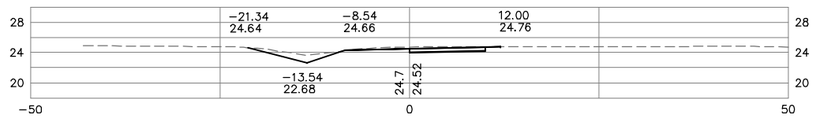

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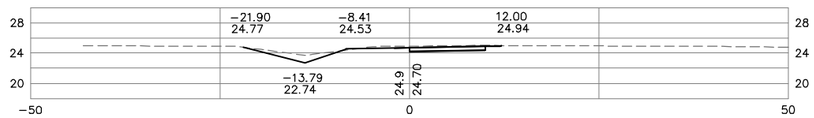

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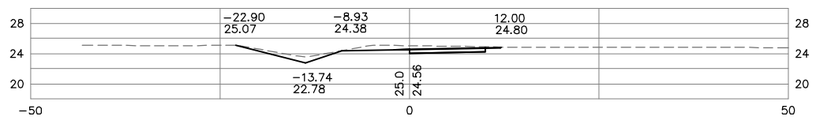

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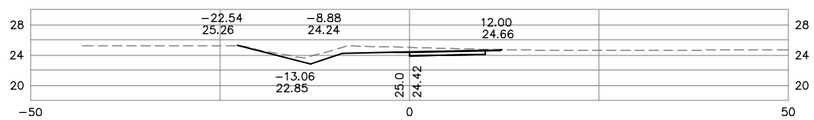

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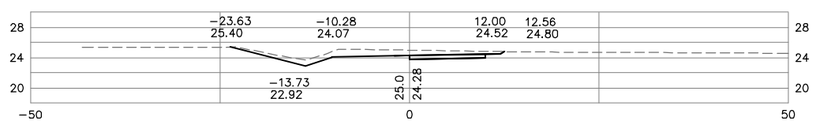

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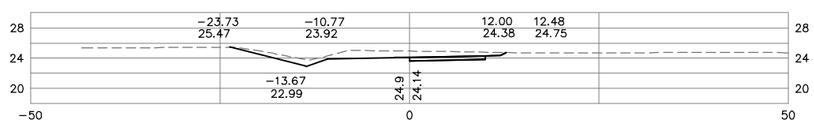

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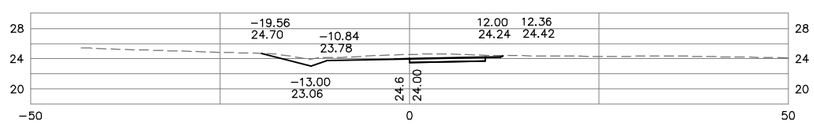

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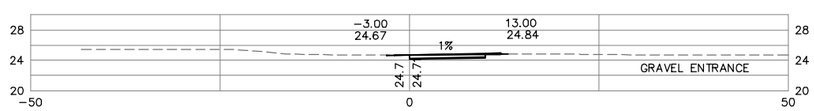

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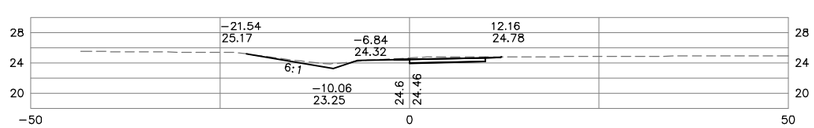

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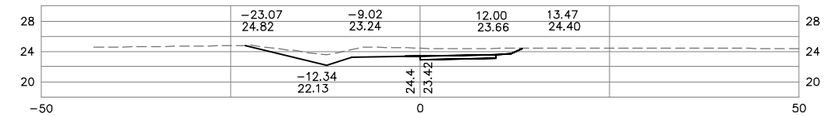

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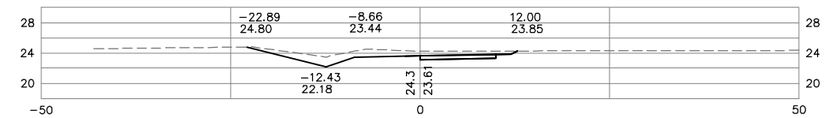

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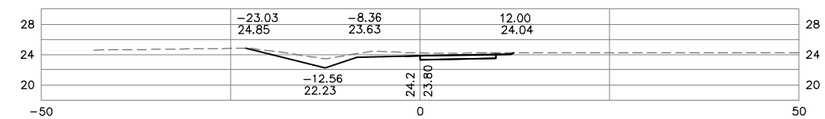

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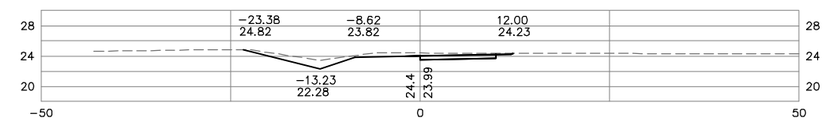

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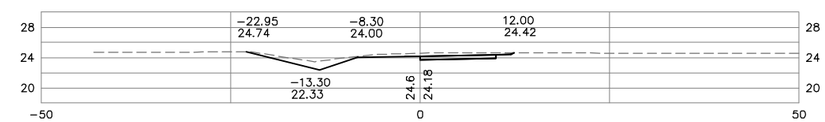

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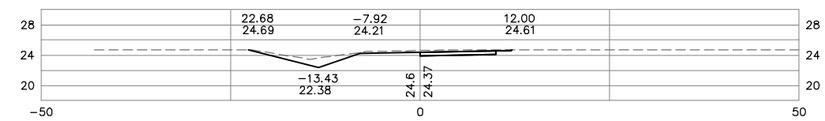

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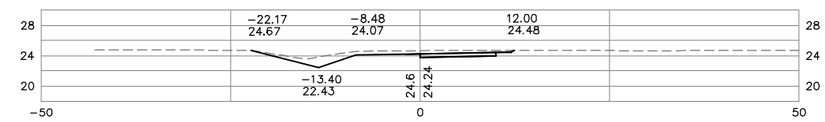

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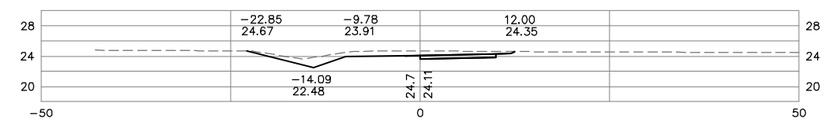

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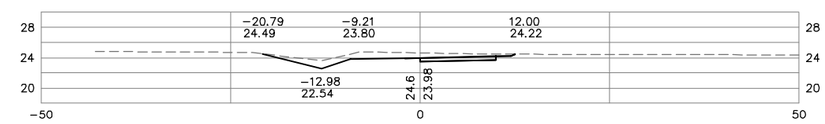

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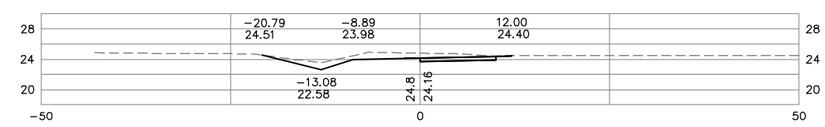

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

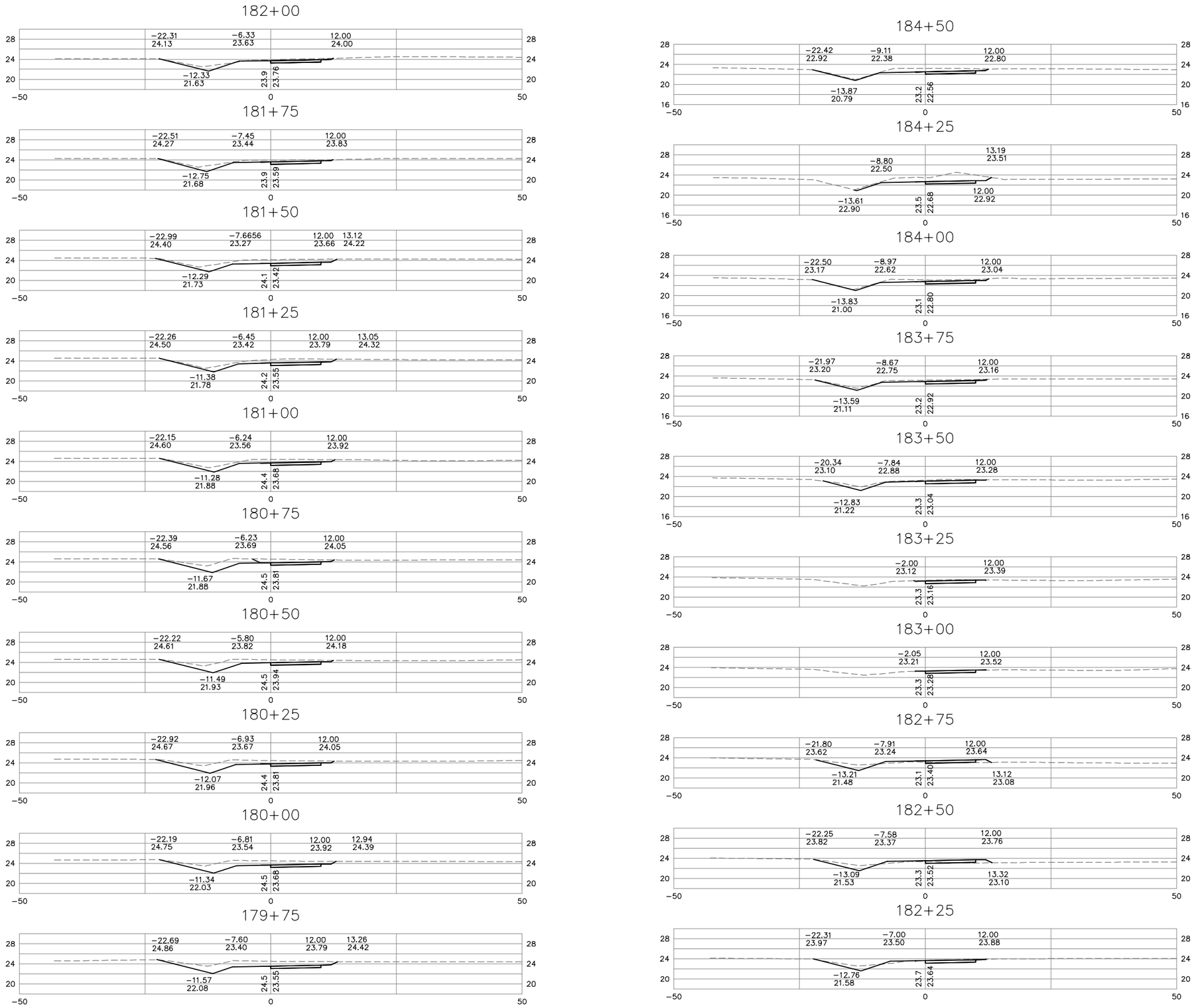
CROSS SECTIONS

STA. 174+75 TO STA. 179+50

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X2



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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS

STA. 179+75 TO STA. 184+50

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X3

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Segment 2 Layout:X3 December 12, 2016 03:59:55pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X3 CROSS SECTIONS.dwg
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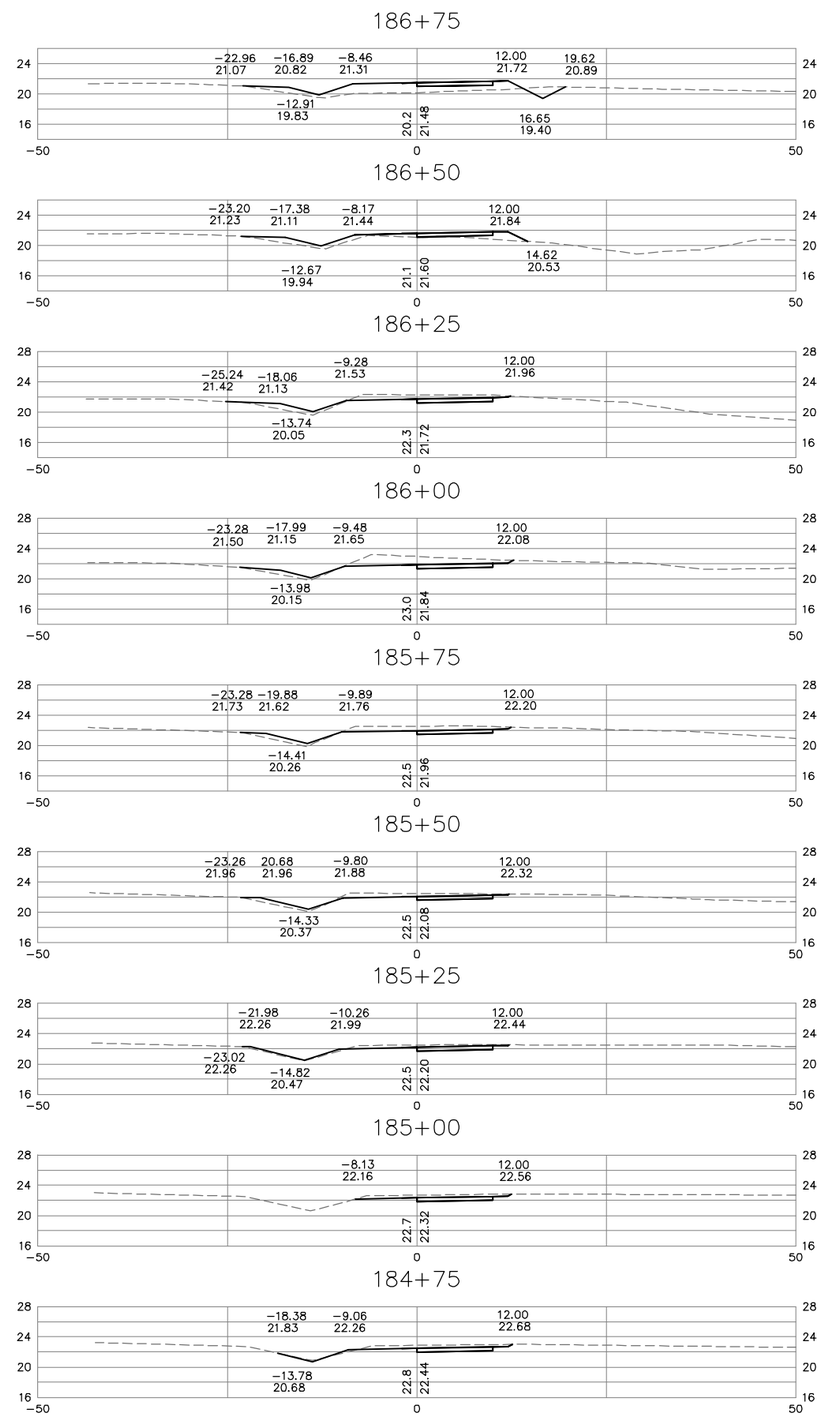

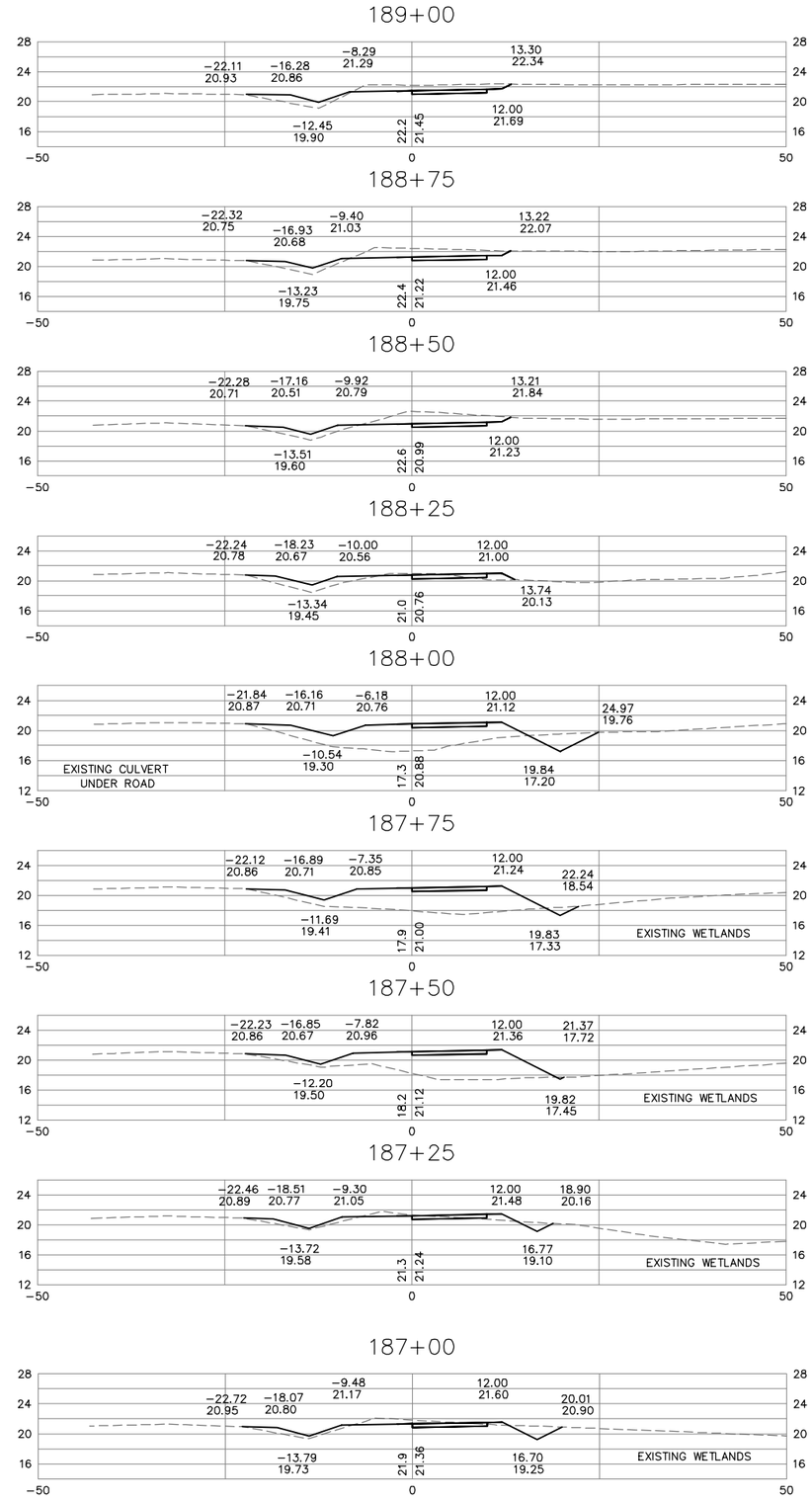

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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DATE DEC. 12, 2016
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CROSS SECTIONS
STA. 184+75 TO STA. 189+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2
ISLE OF WIGHT VA

SHEET NUMBER
X4

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X4 December 12, 2016 04:00:26pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X4 CROSS SECTIONS.dwg
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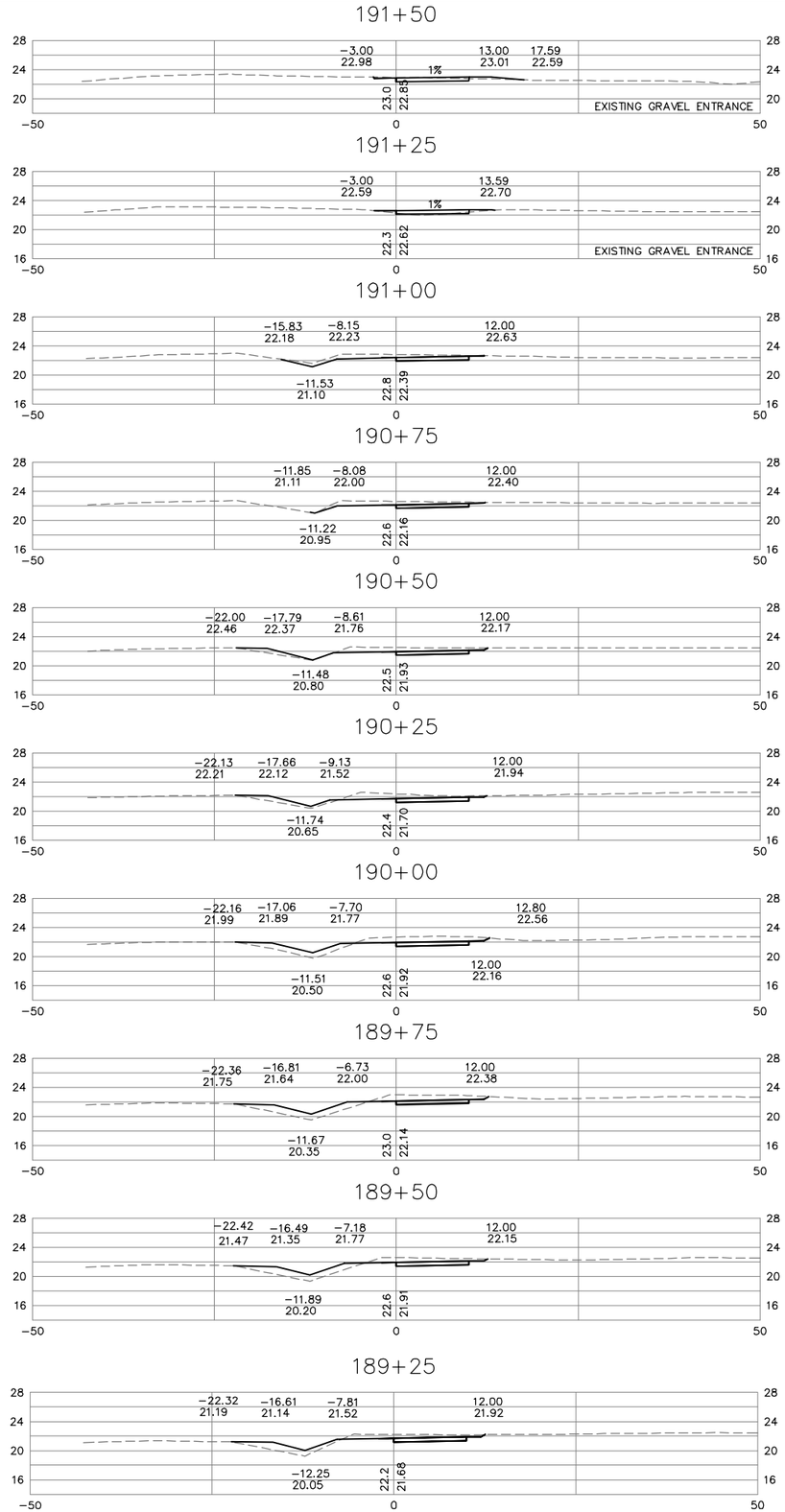

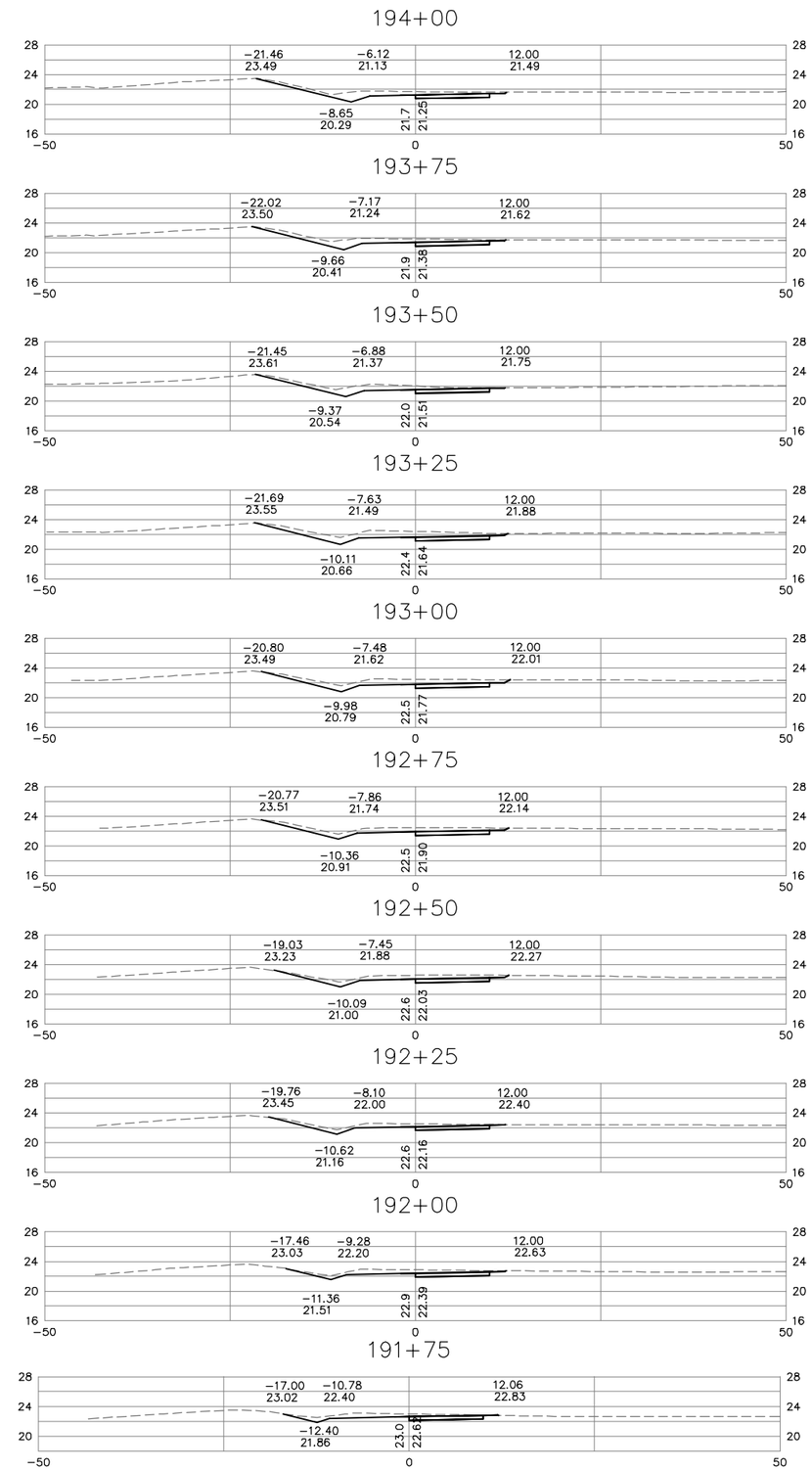

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS
STA. 189+25 TO STA. 194+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X5

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X5 December 12, 2016 04:00:59pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X5 CROSS SECTIONS.dwg
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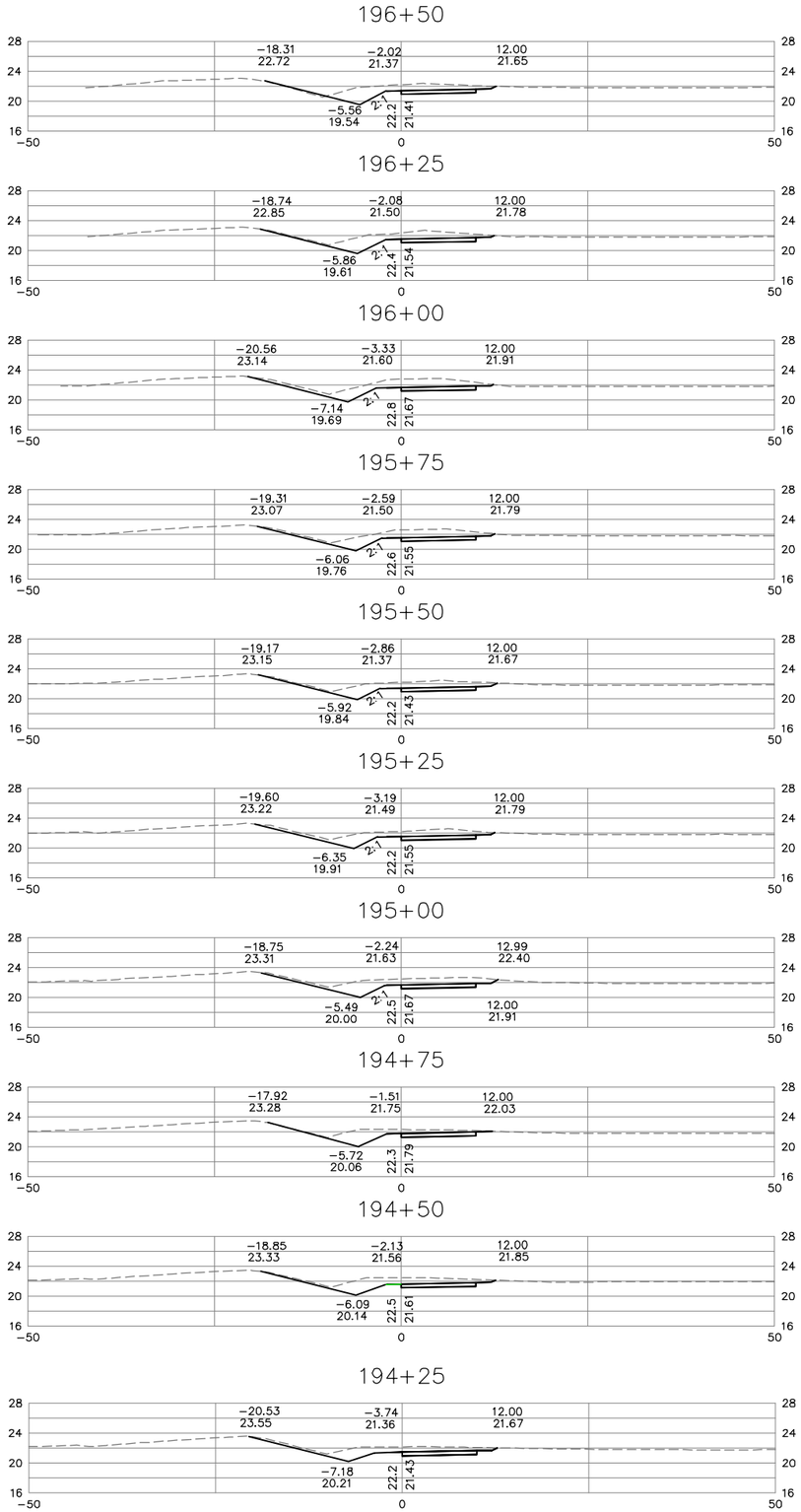

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS

STA. 194+25 TO STA. 199+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X6

Plotted By:Lockleur, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X6 December 12, 2016 04:01:28pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X6 CROSS SECTIONS.dwg
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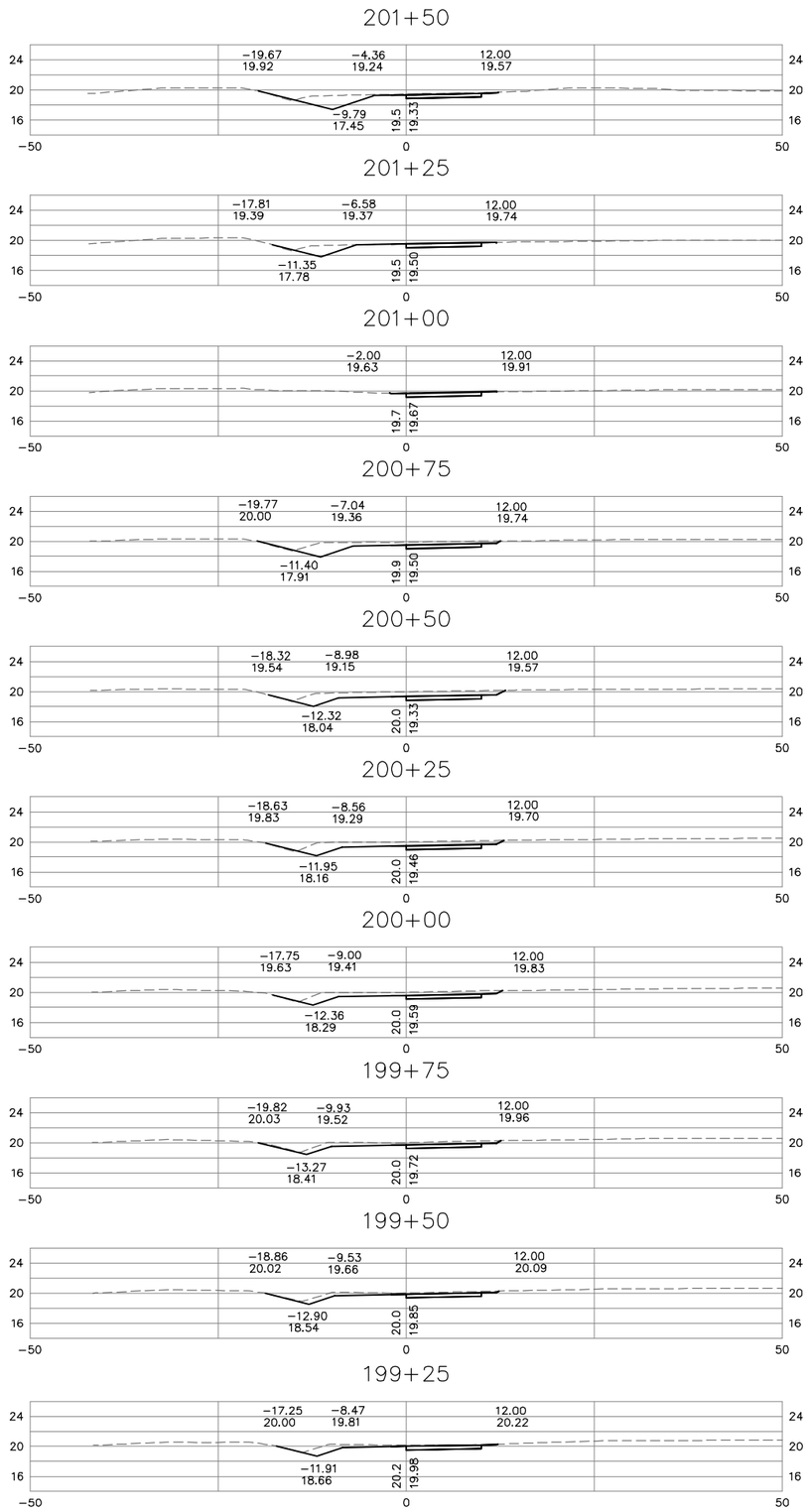

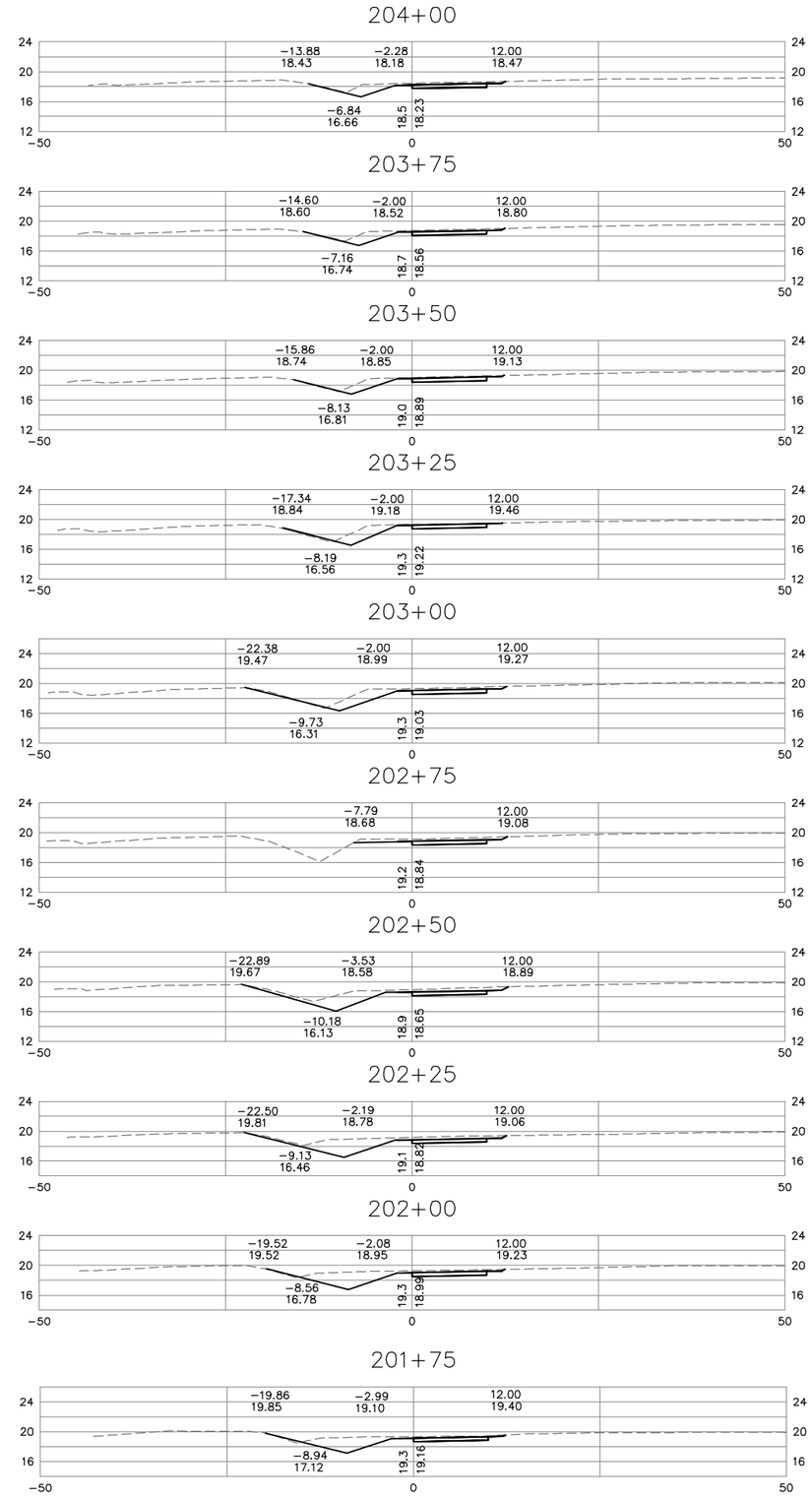

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

CROSS SECTIONS
STA. 199+25 TO STA. 204+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X7

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X7 December 12, 2016 04:01:58pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X7 CROSS SECTIONS.dwg
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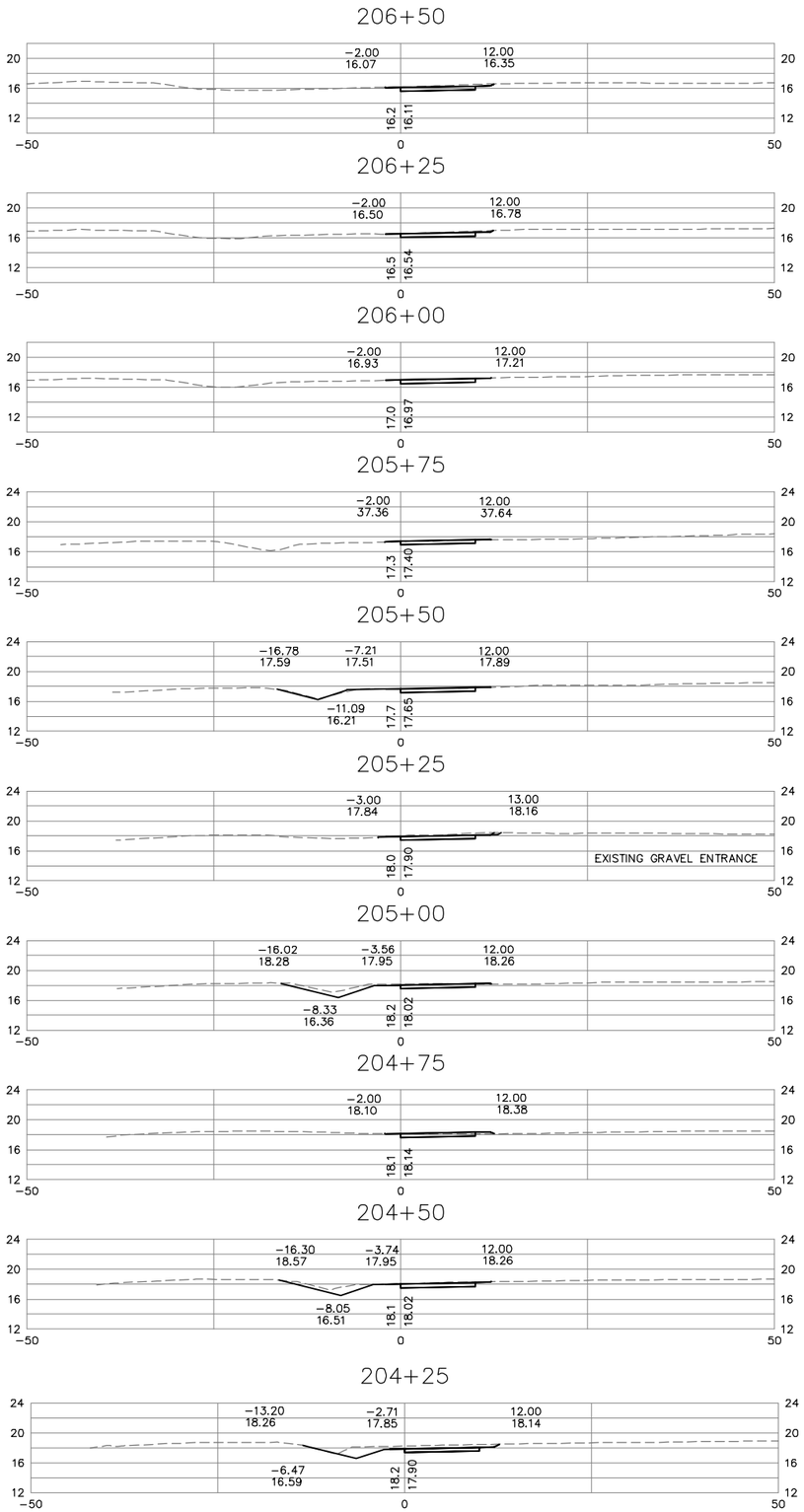

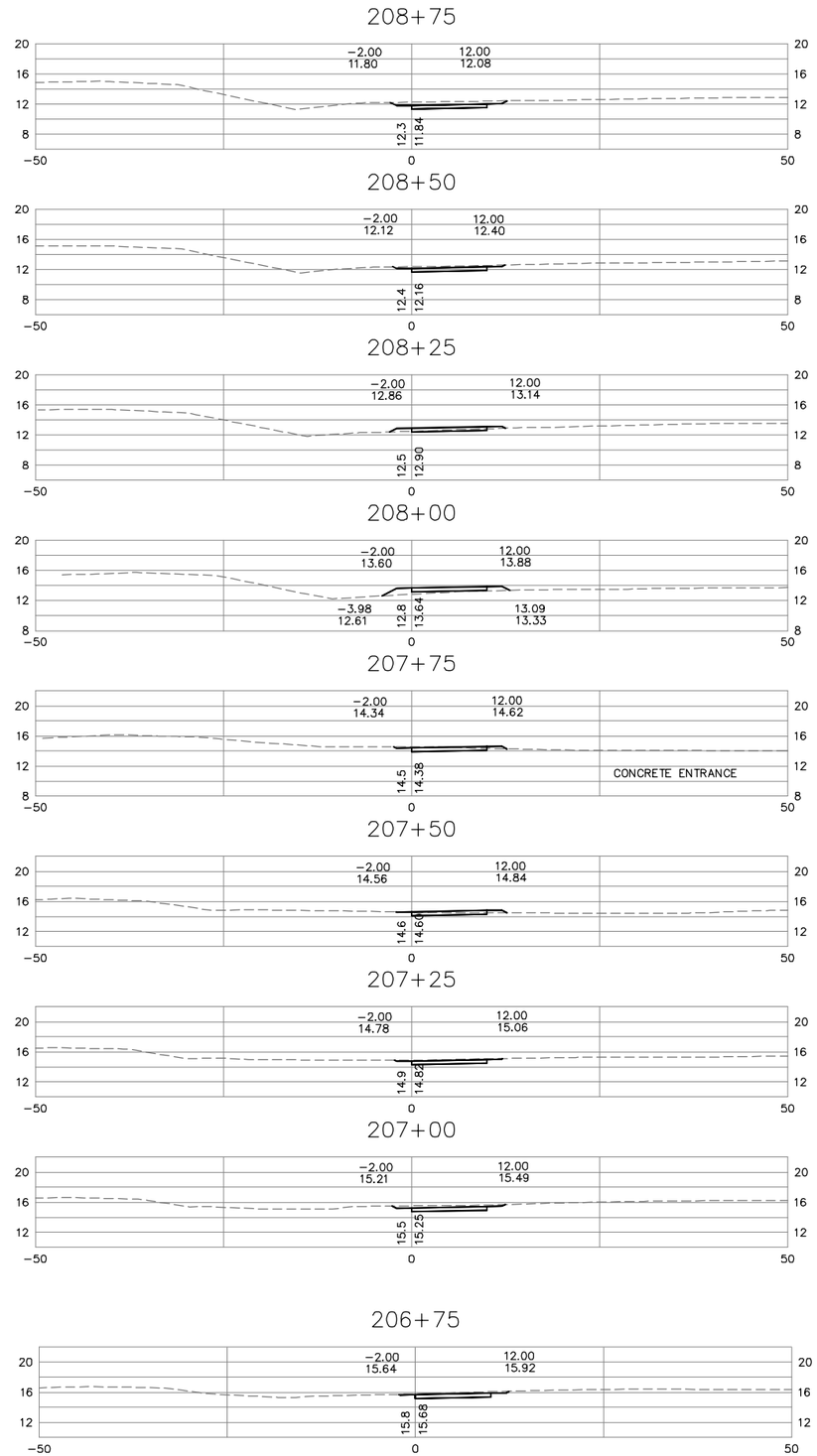

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

CROSS SECTIONS

STA. 204+25 TO STA. 208+75

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X8

Plotted By:Lockler, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X8 December 12, 2016 04:02:28pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X8 CROSS SECTIONS.dwg
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Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\X9 CROSS SECTIONS.dwg December 12, 2016 04:02:58pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X9 CROSS SECTIONS.dwg Layout:X9
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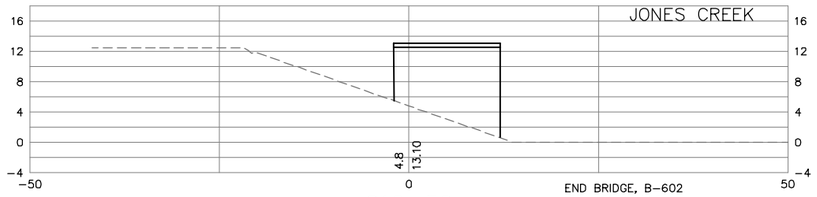
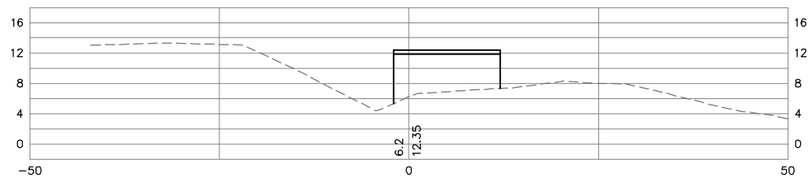
210+75



END BRIDGE, B-602
STA. 210+74.10
BEGIN BRIDGE, B-603

210+50



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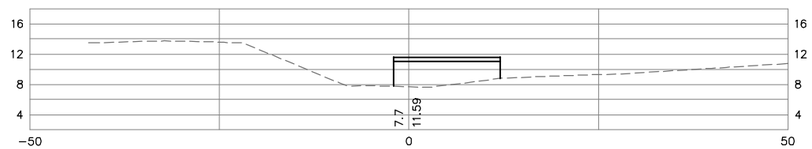
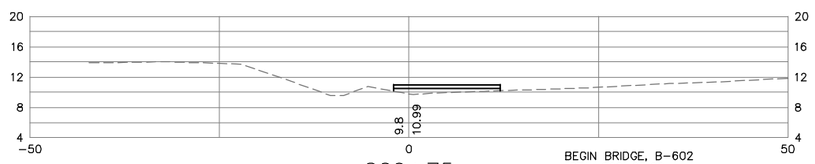
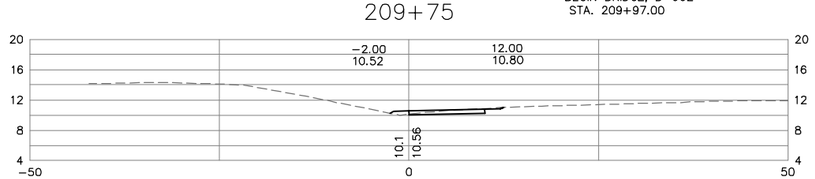


210+00



BEGIN BRIDGE, B-602
STA. 209+97.00

209+75



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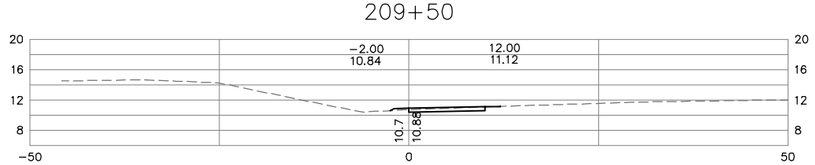

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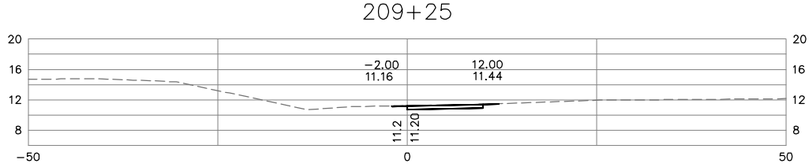
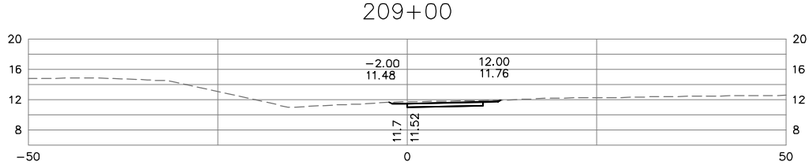
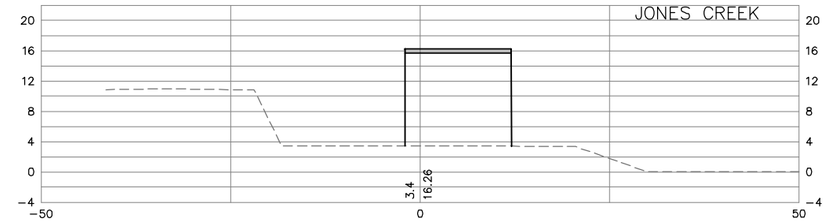


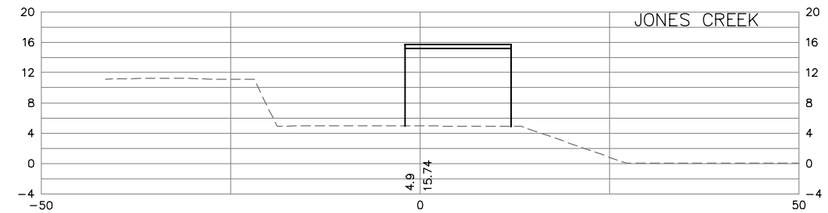
209+00



212+25



212+00



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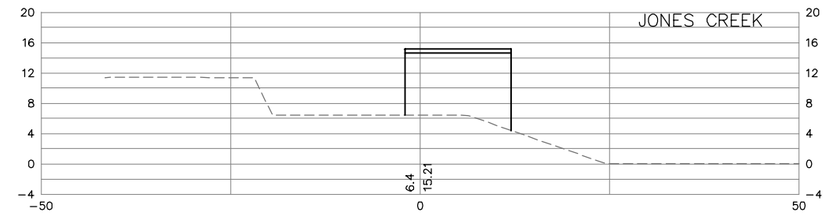

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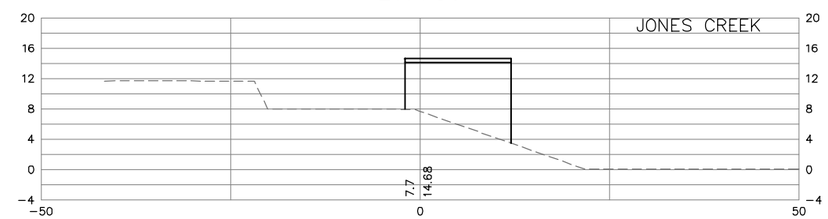

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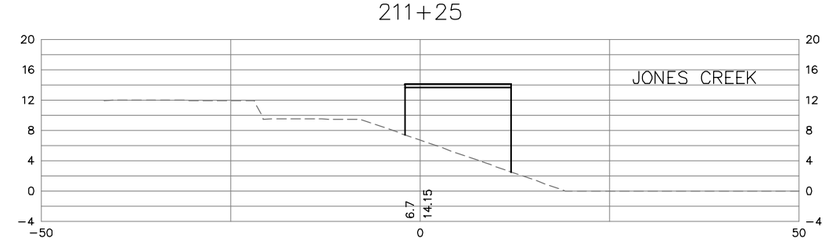
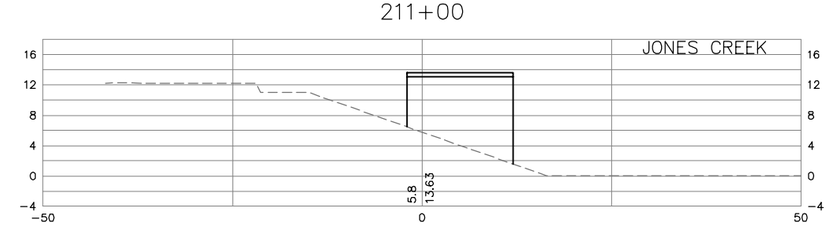


211+00



0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

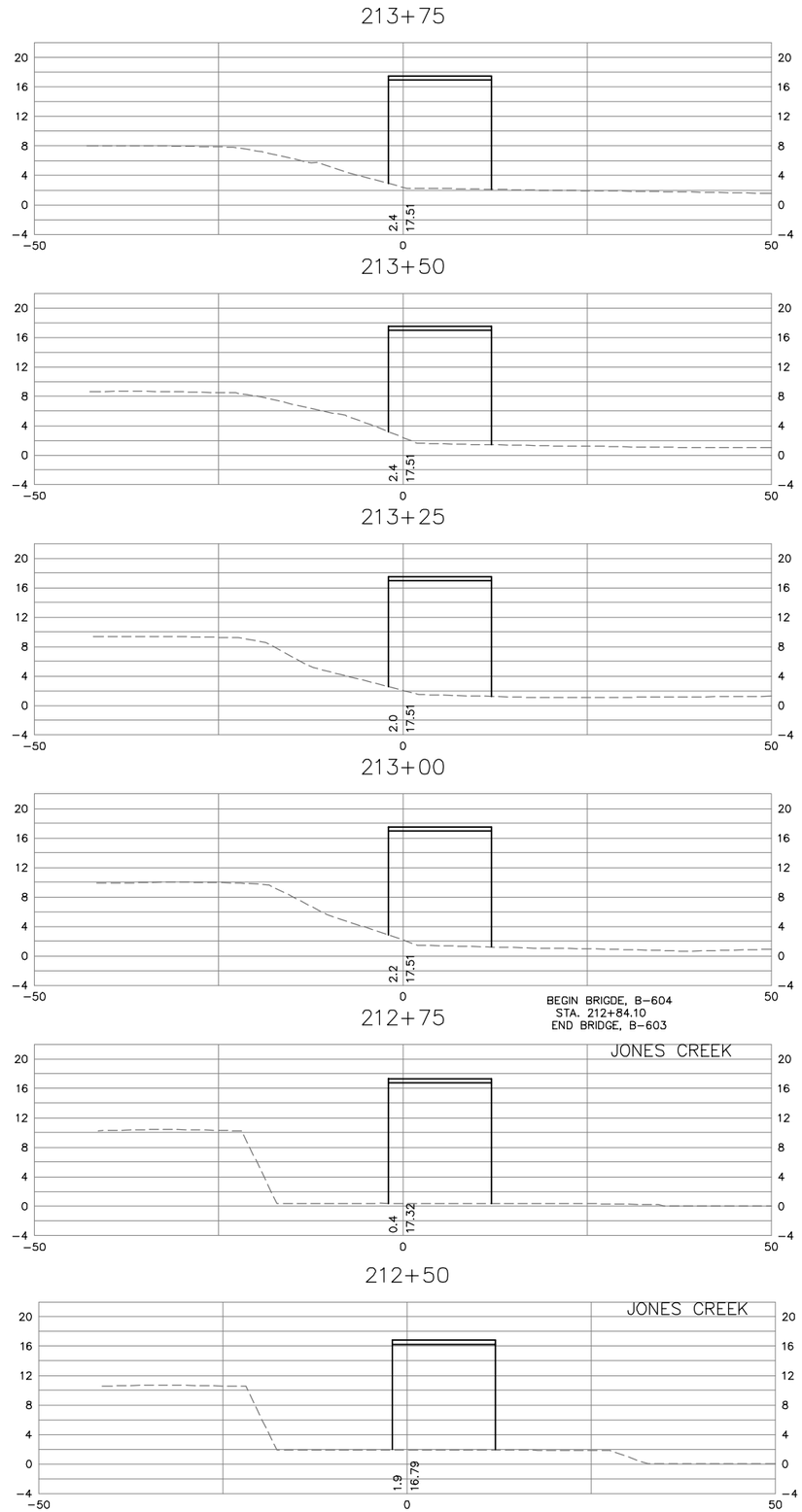
CROSS SECTIONS

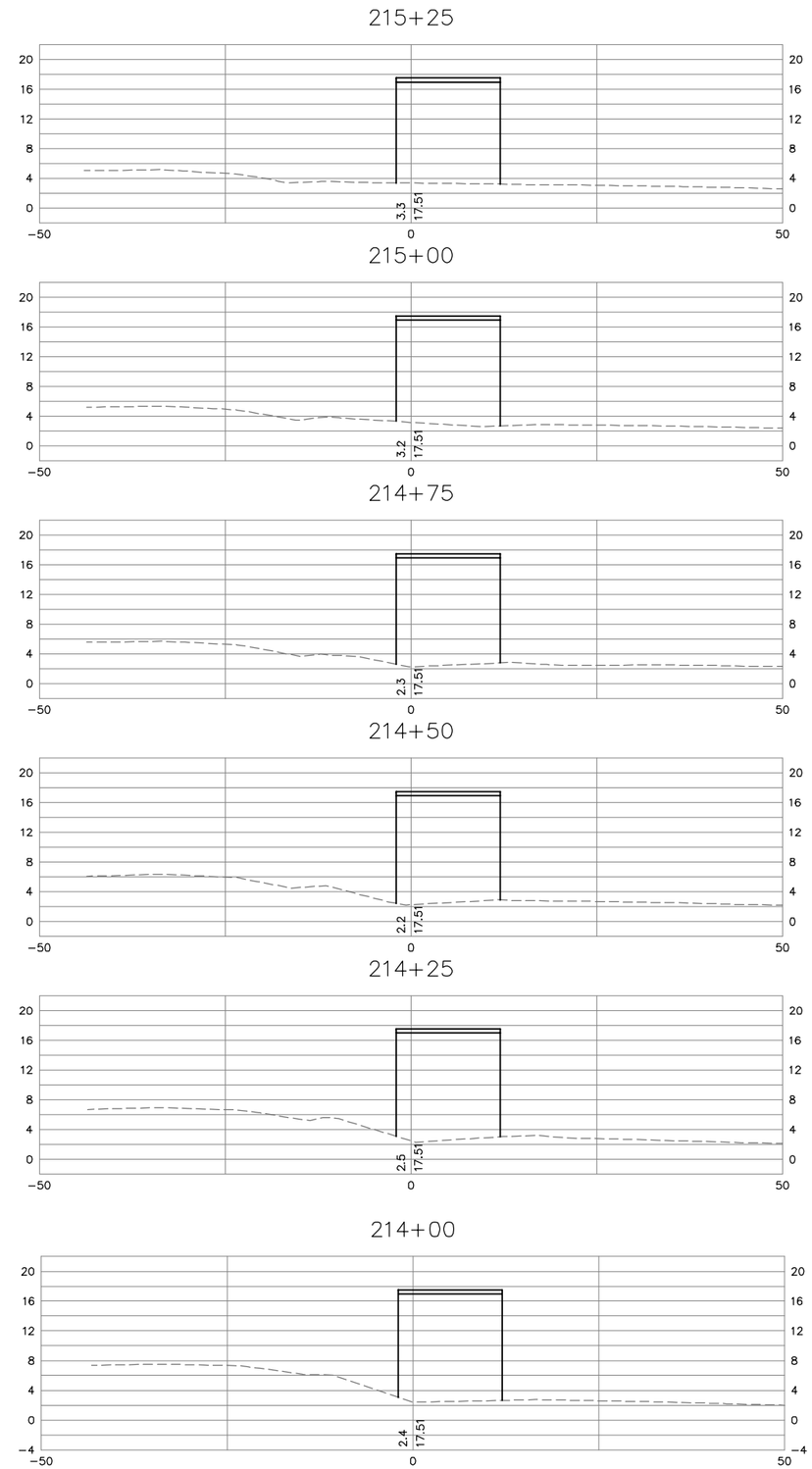
STA. 209+00 TO STA. 212+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X9





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GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS

STA. 212+50 TO STA. 215+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X10

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Layout:X10 December 12, 2016 04:03:28pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X10_CROSS SECTIONS.dwg
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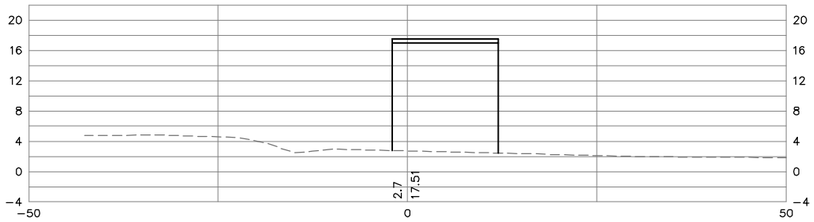
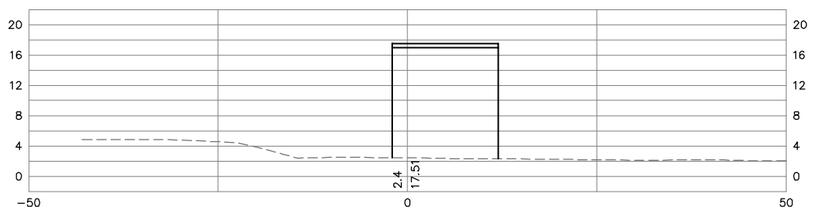
216+75



216+50



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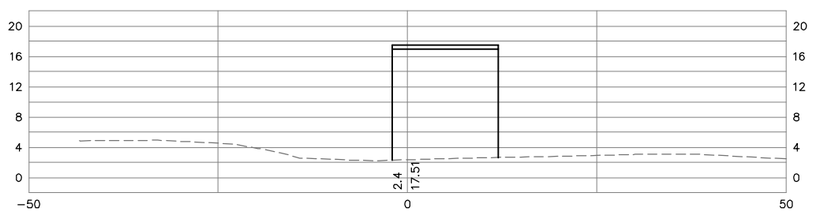

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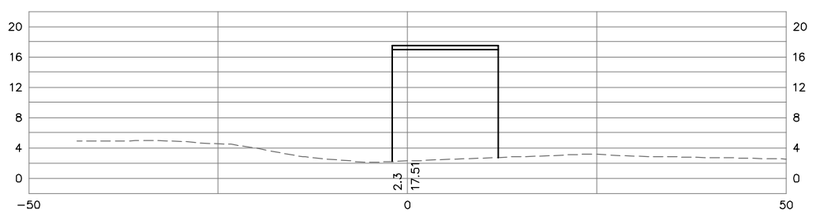

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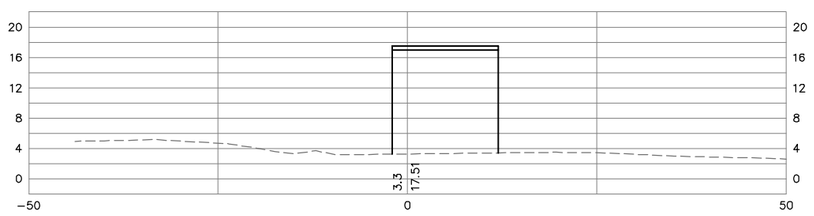

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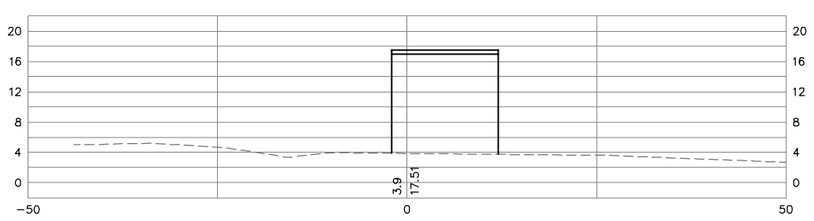

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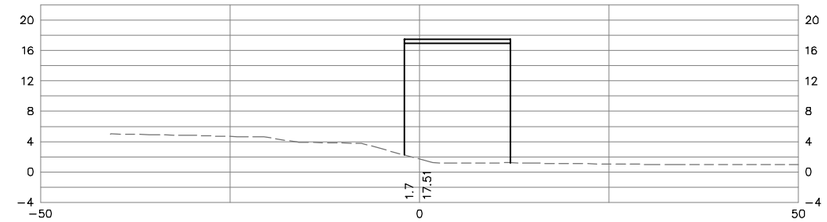

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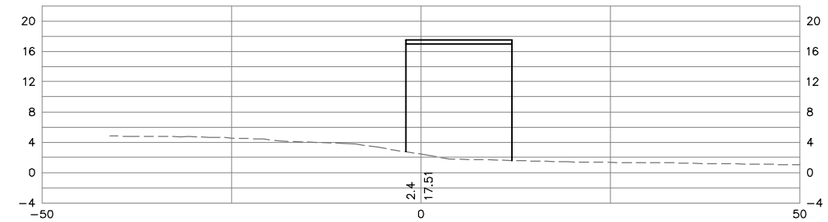

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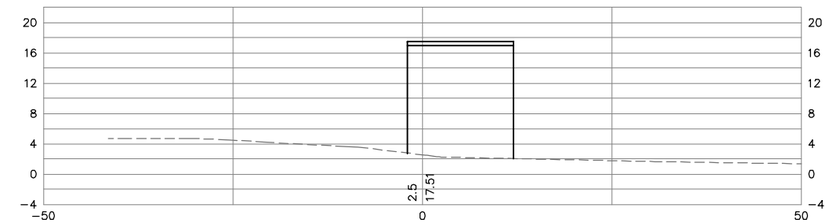

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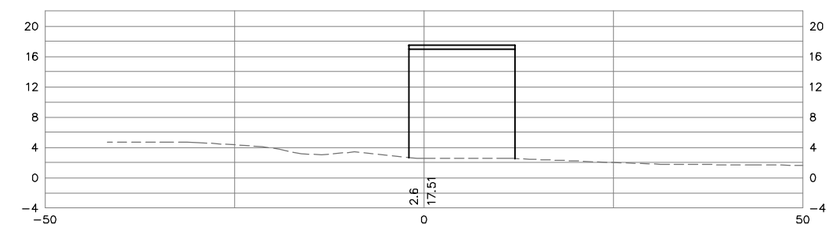

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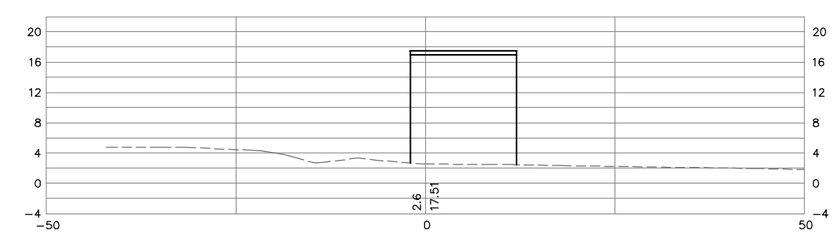

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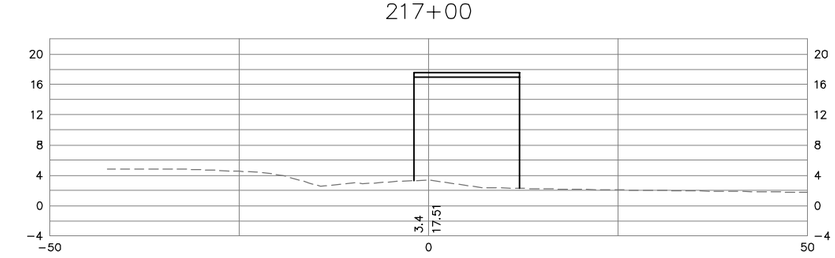

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

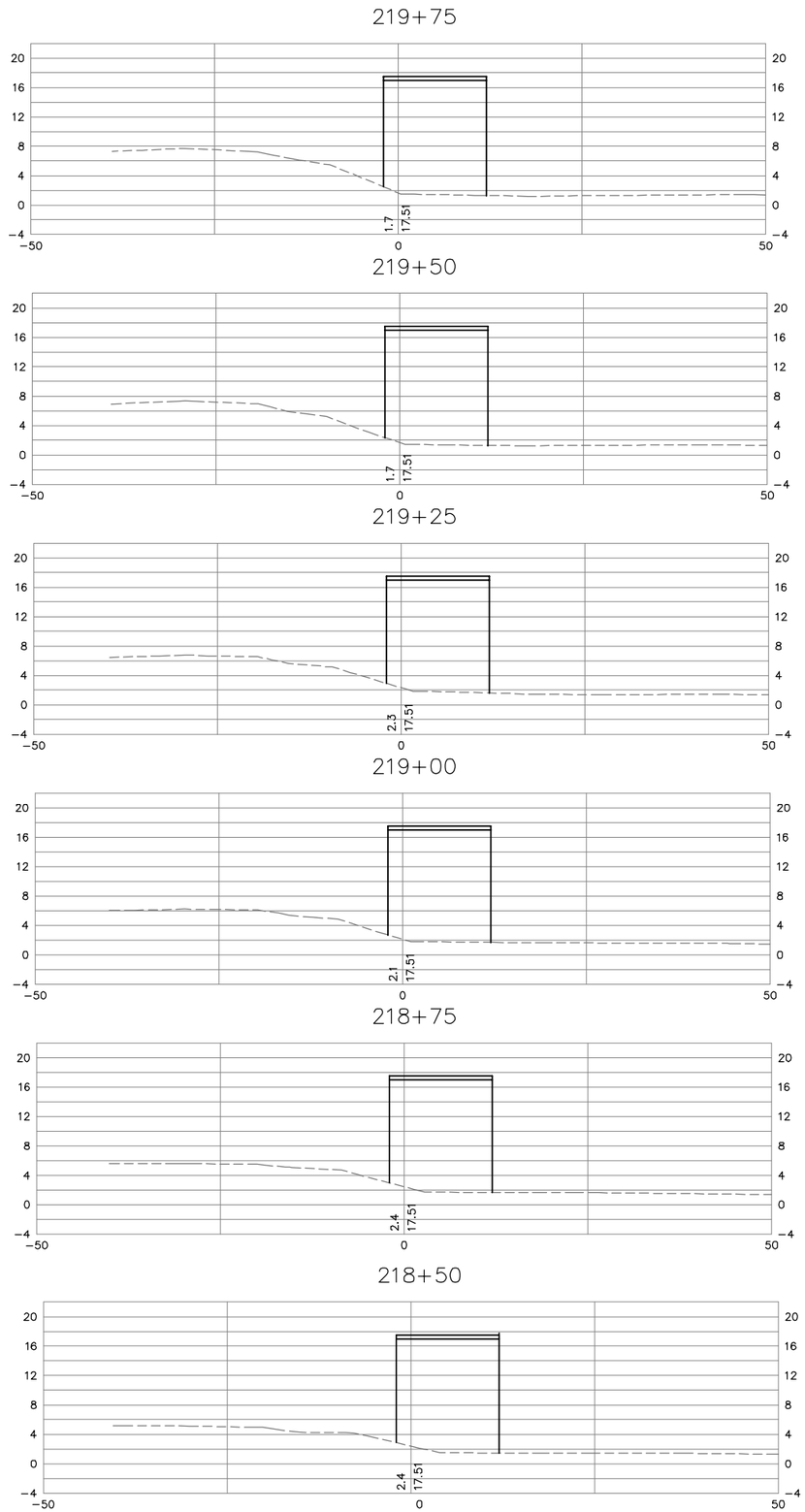
CROSS SECTIONS

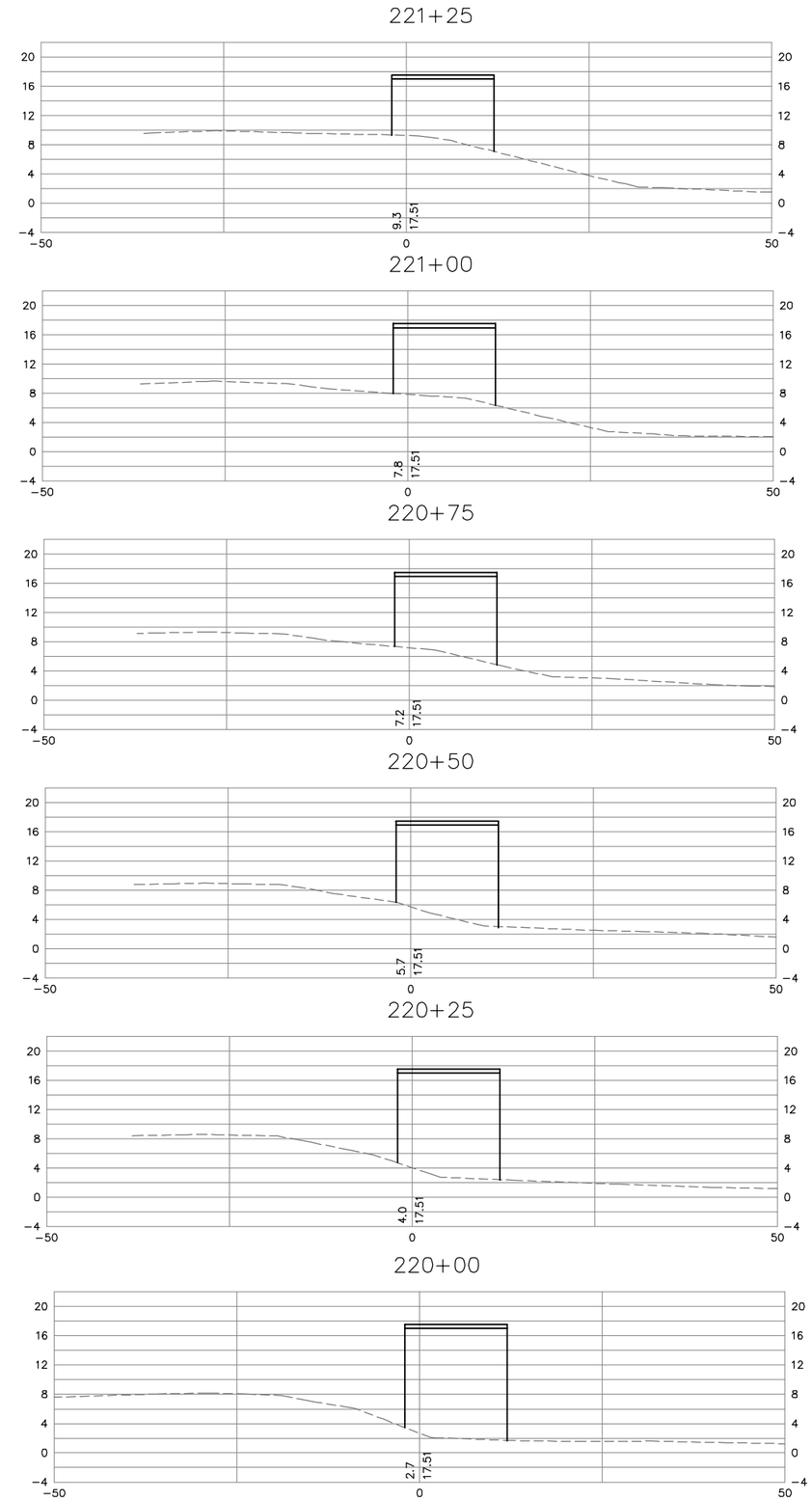
STA. 215+50 TO STA. 218+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X11





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GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS

STA. 218+50 TO STA. 221+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X12

Plotted By:Lockleer, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\X12 December 12, 2016 04:04:28pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X12_CROSS SECTIONS.dwg
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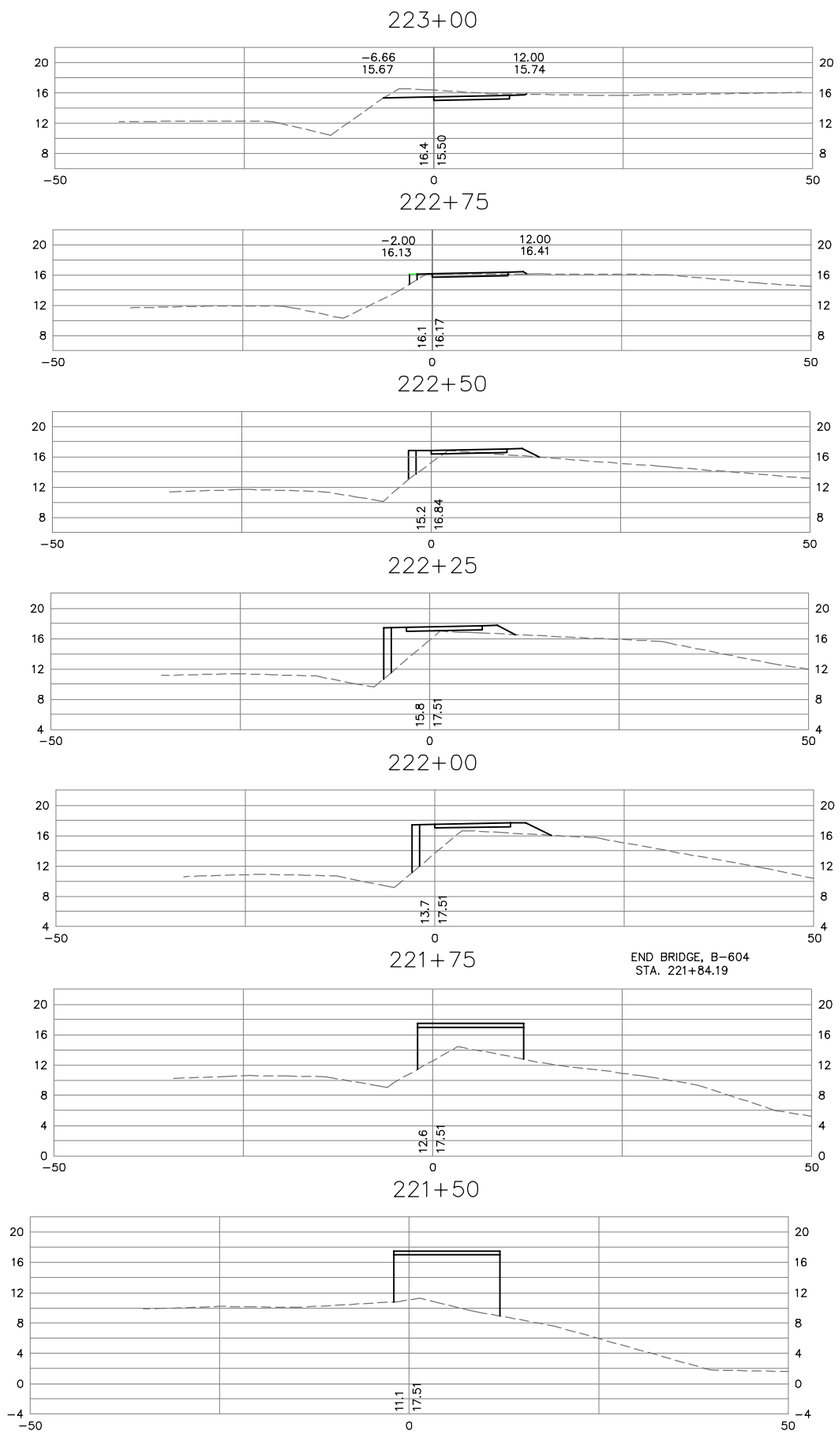

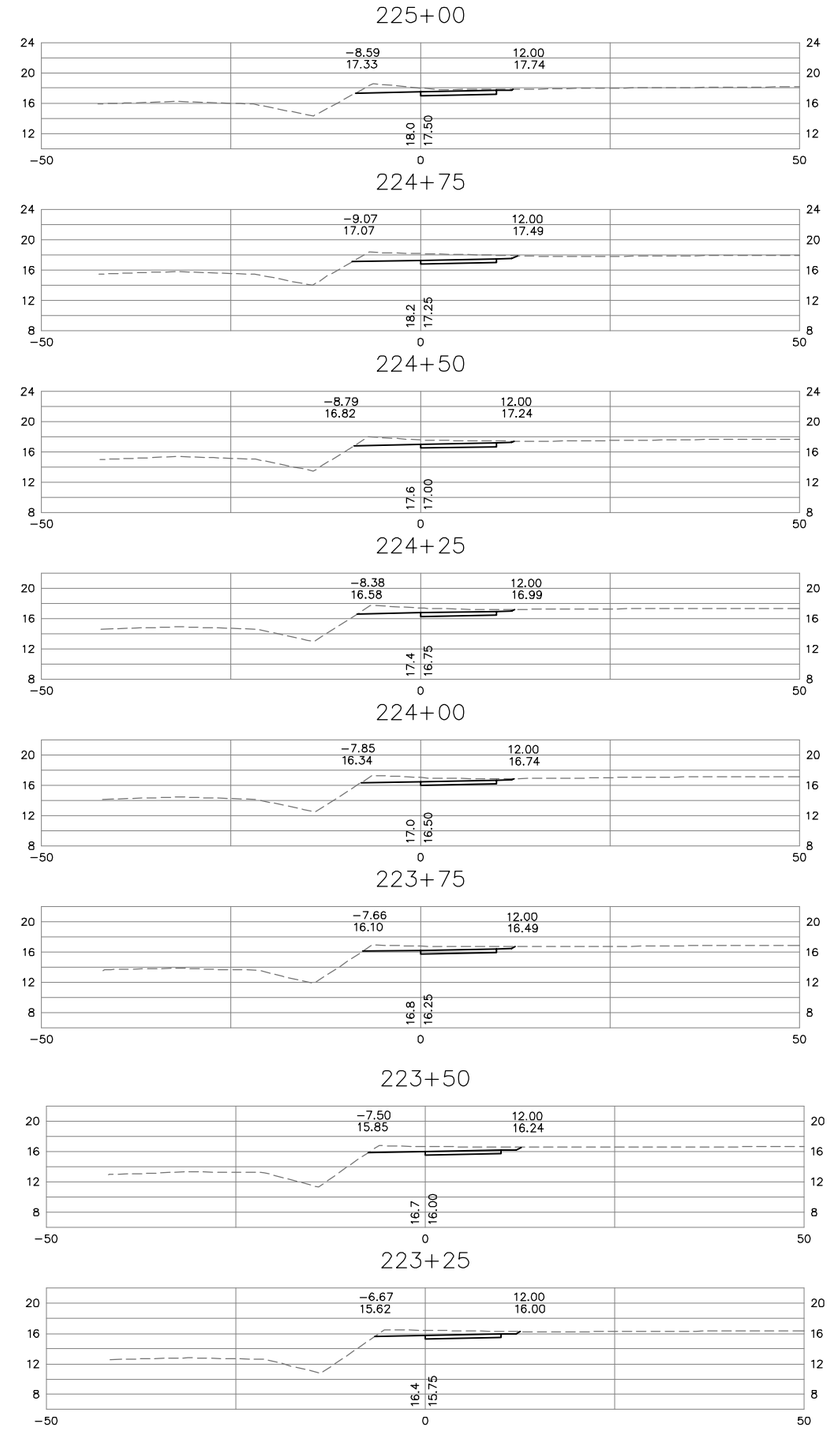

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GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS

STA. 221+50 TO STA. 225+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X13

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Project\Design\Sheets\Segment_2\X13 CROSS SECTIONS.dwg December 12, 2016 04:04:58pm K:\VAB_RDWY\117032000 - IOW Trail - Seg 2 Layout:X13
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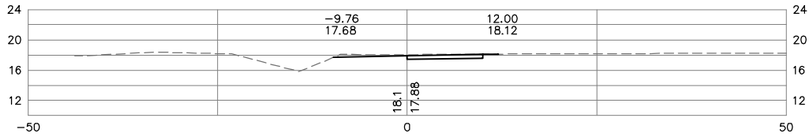
227+25



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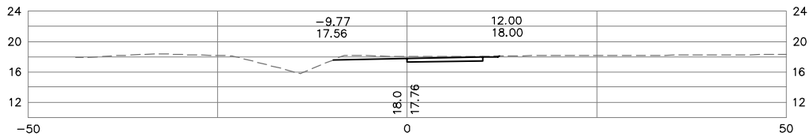

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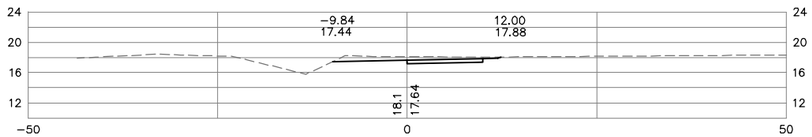

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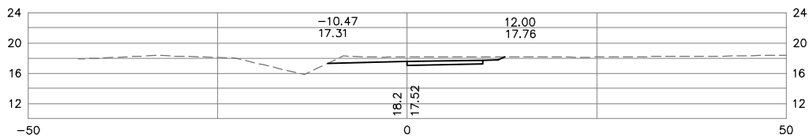

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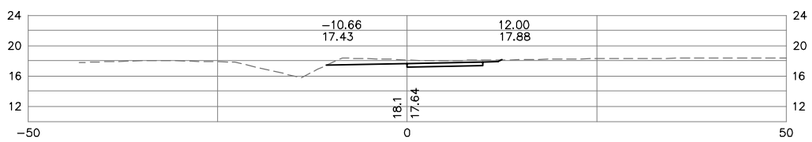

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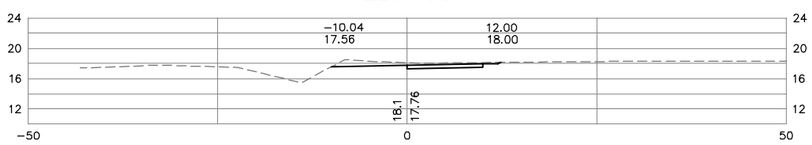

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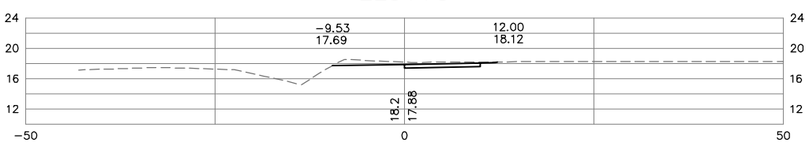

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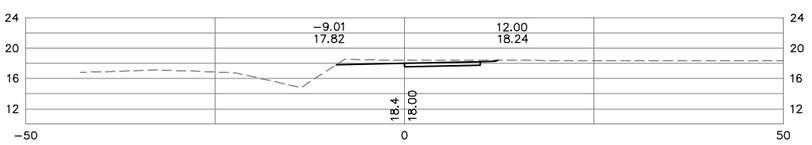

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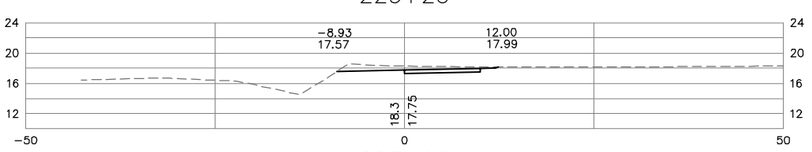

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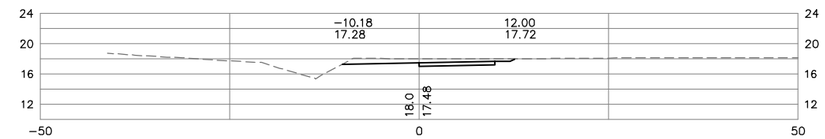

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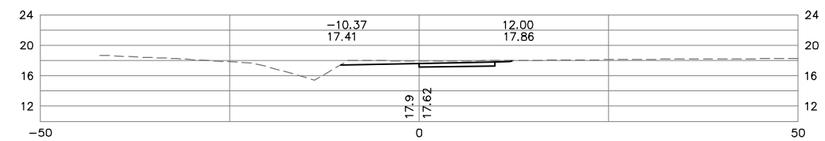

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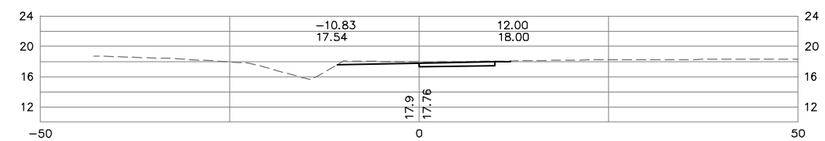

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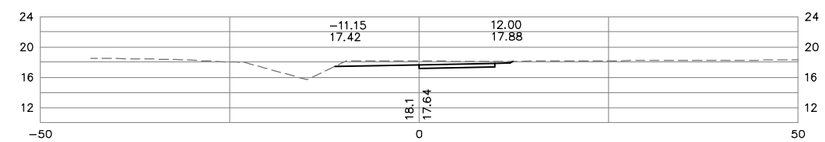

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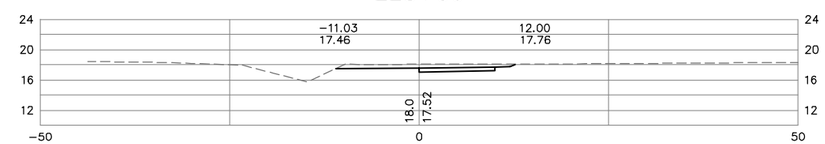

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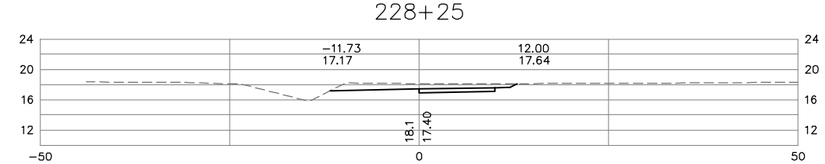

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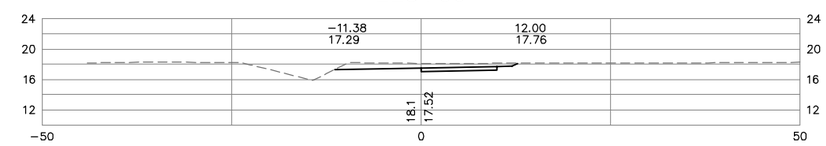

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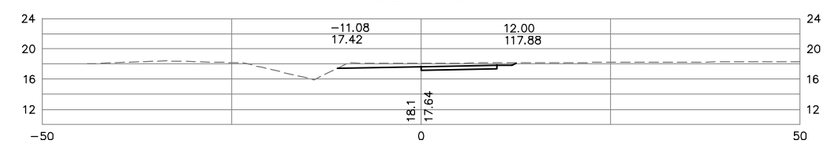

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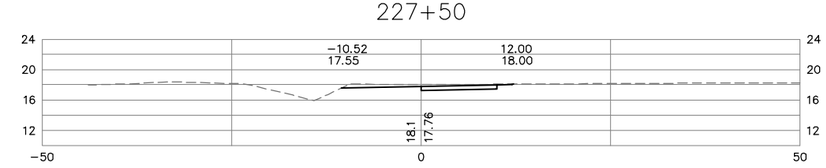

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn

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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	L.JL
CHECKED BY	RRJ

CROSS SECTIONS

STA. 225+25 TO STA. 229+50

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X14

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X15 December 12, 2016 04:05:58pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X15 CROSS SECTIONS.dwg
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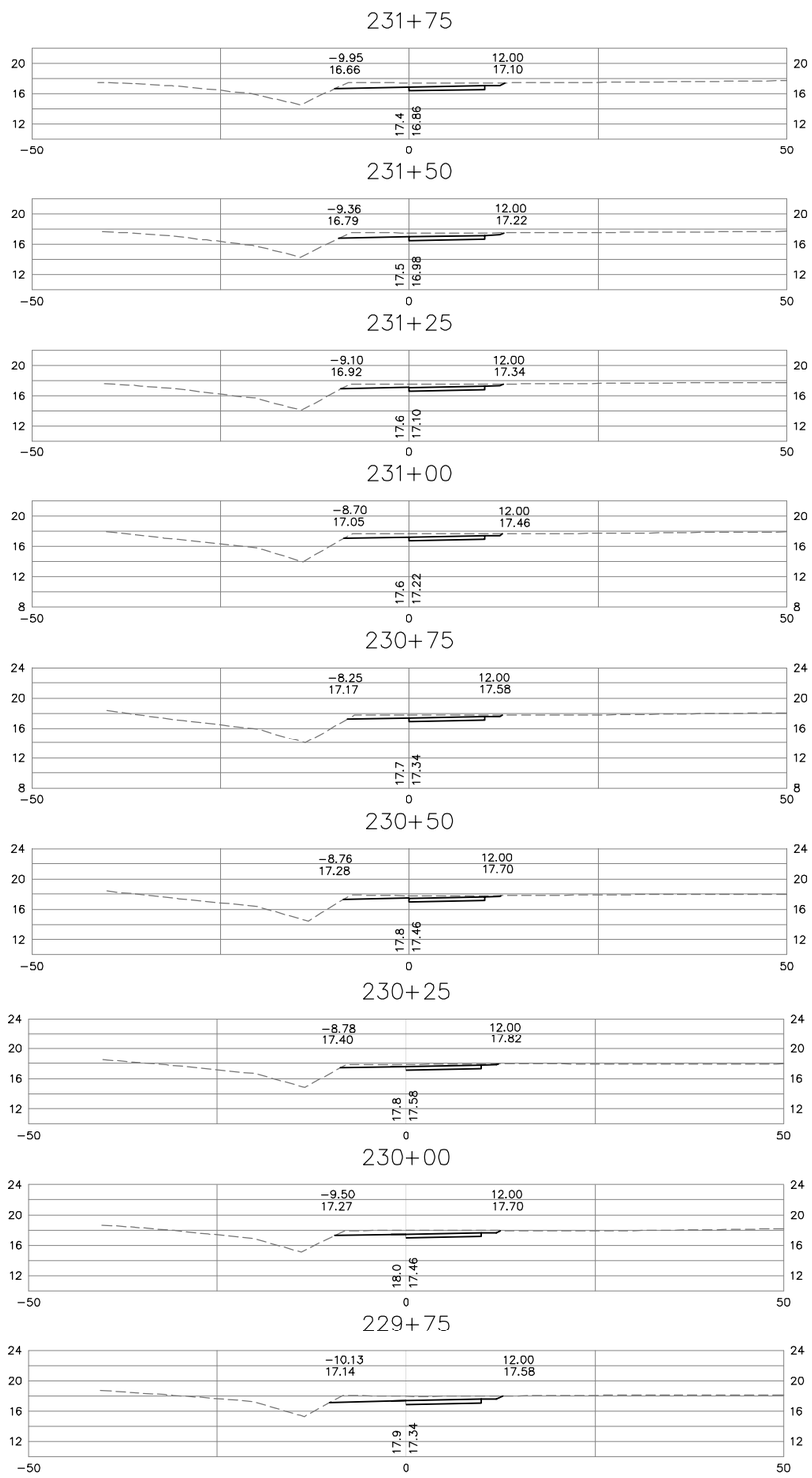

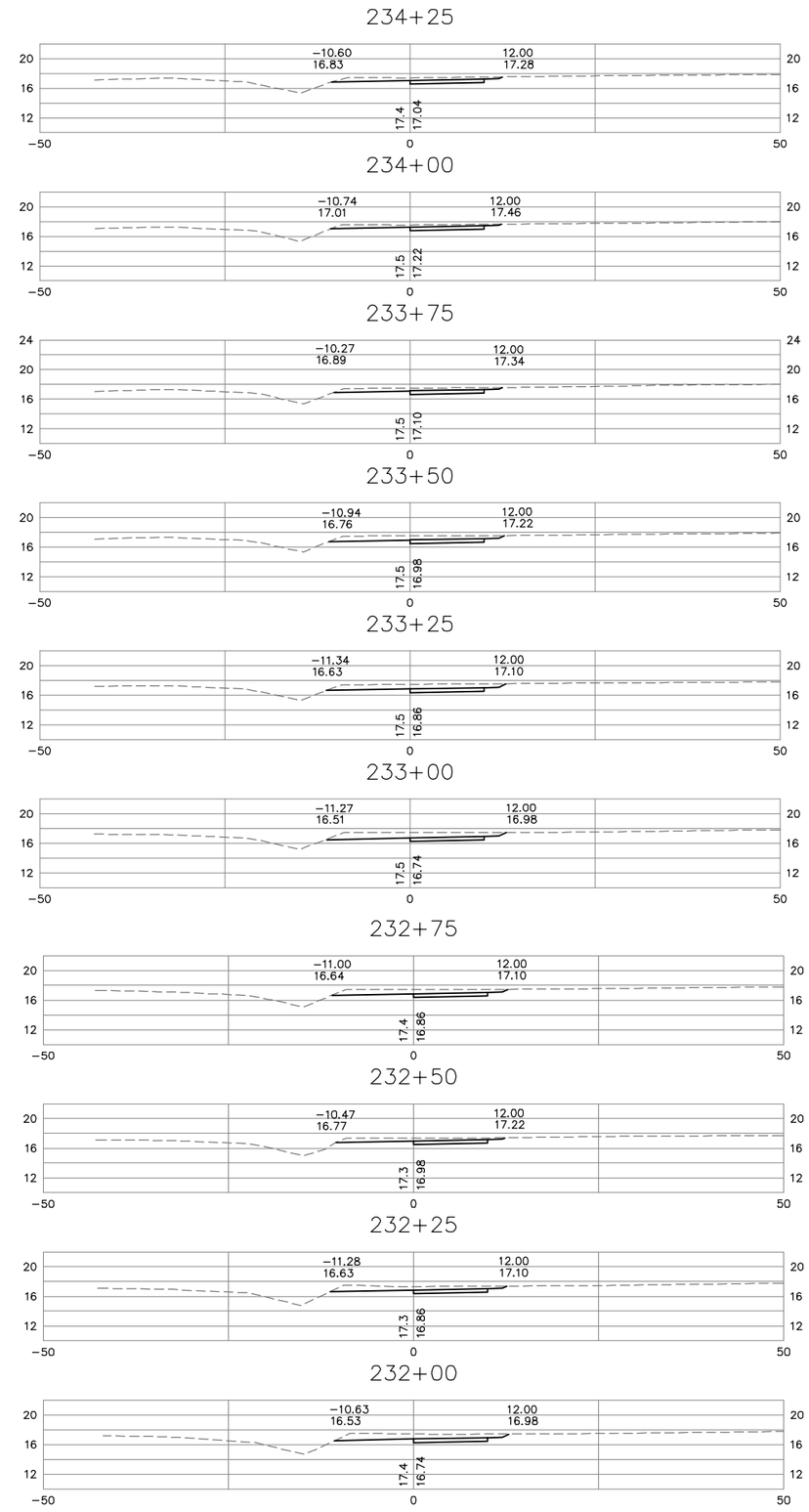

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	L.JL
CHECKED BY	RRJ

CROSS SECTIONS
STA. 229+75 TO STA. 234+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
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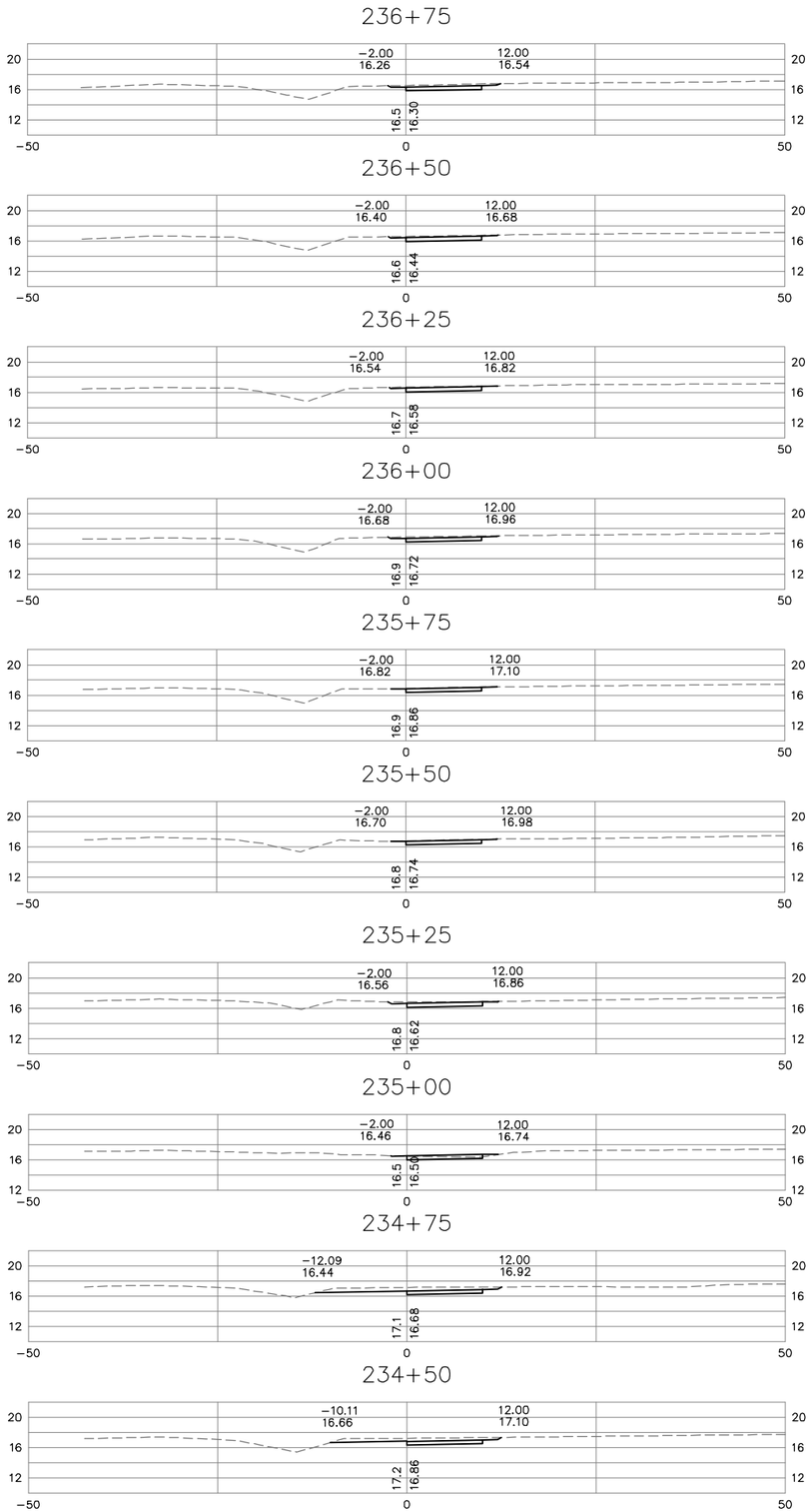

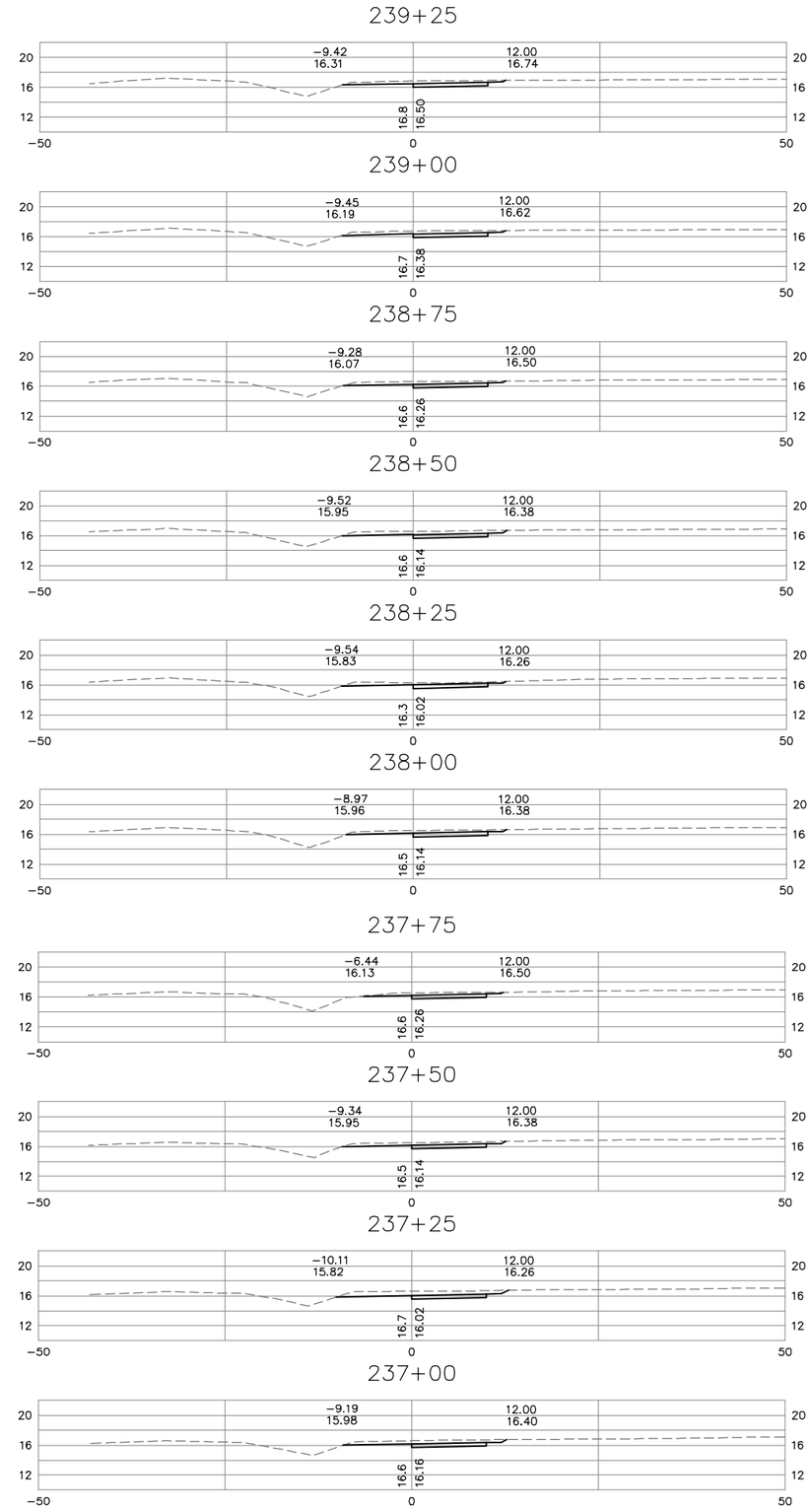

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GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

CROSS SECTIONS

STA. 234+50 TO STA. 239+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X16

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Layout:X16 December 12, 2016 04:06:29pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X16 CROSS SECTIONS.dwg
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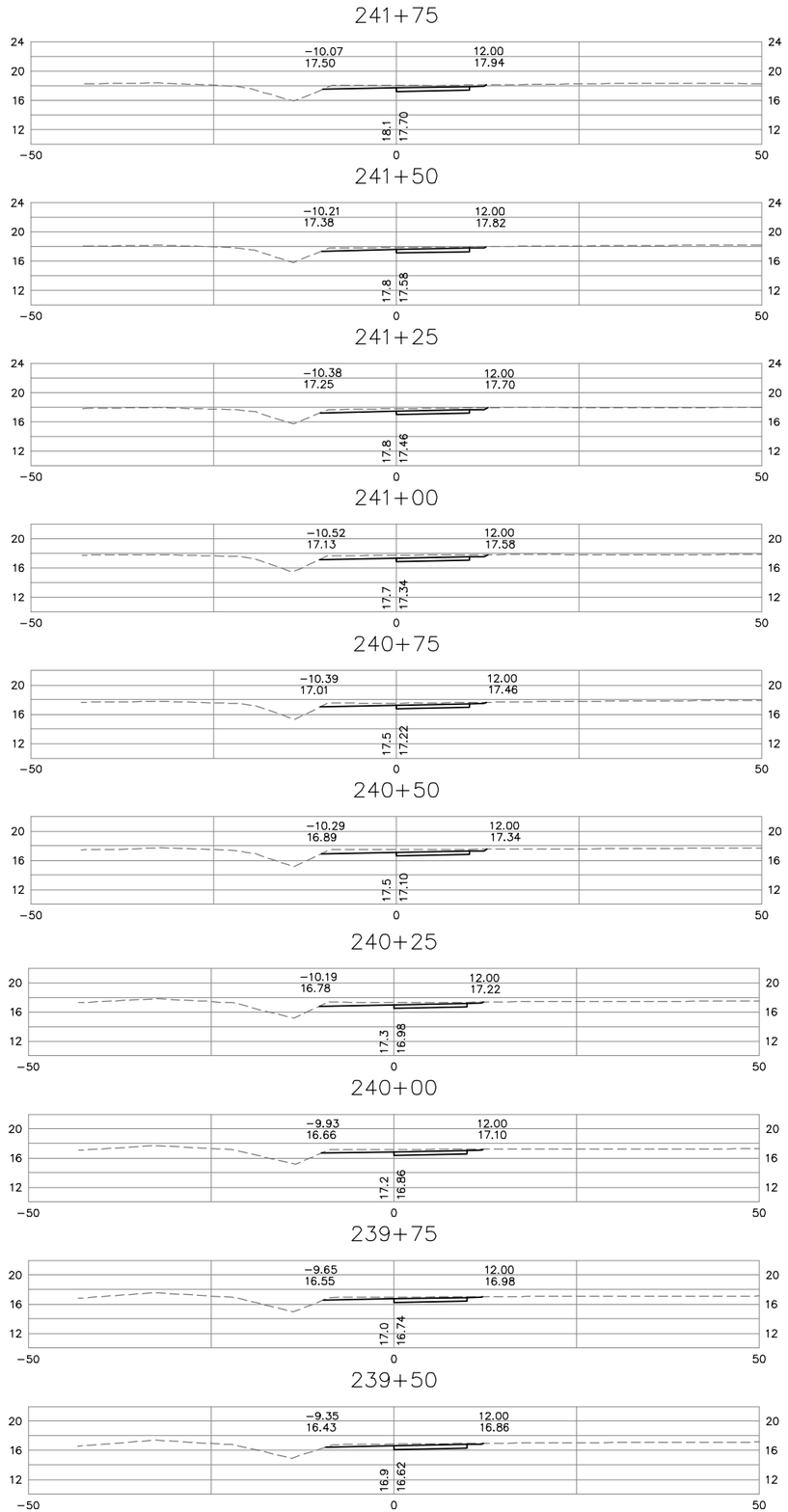

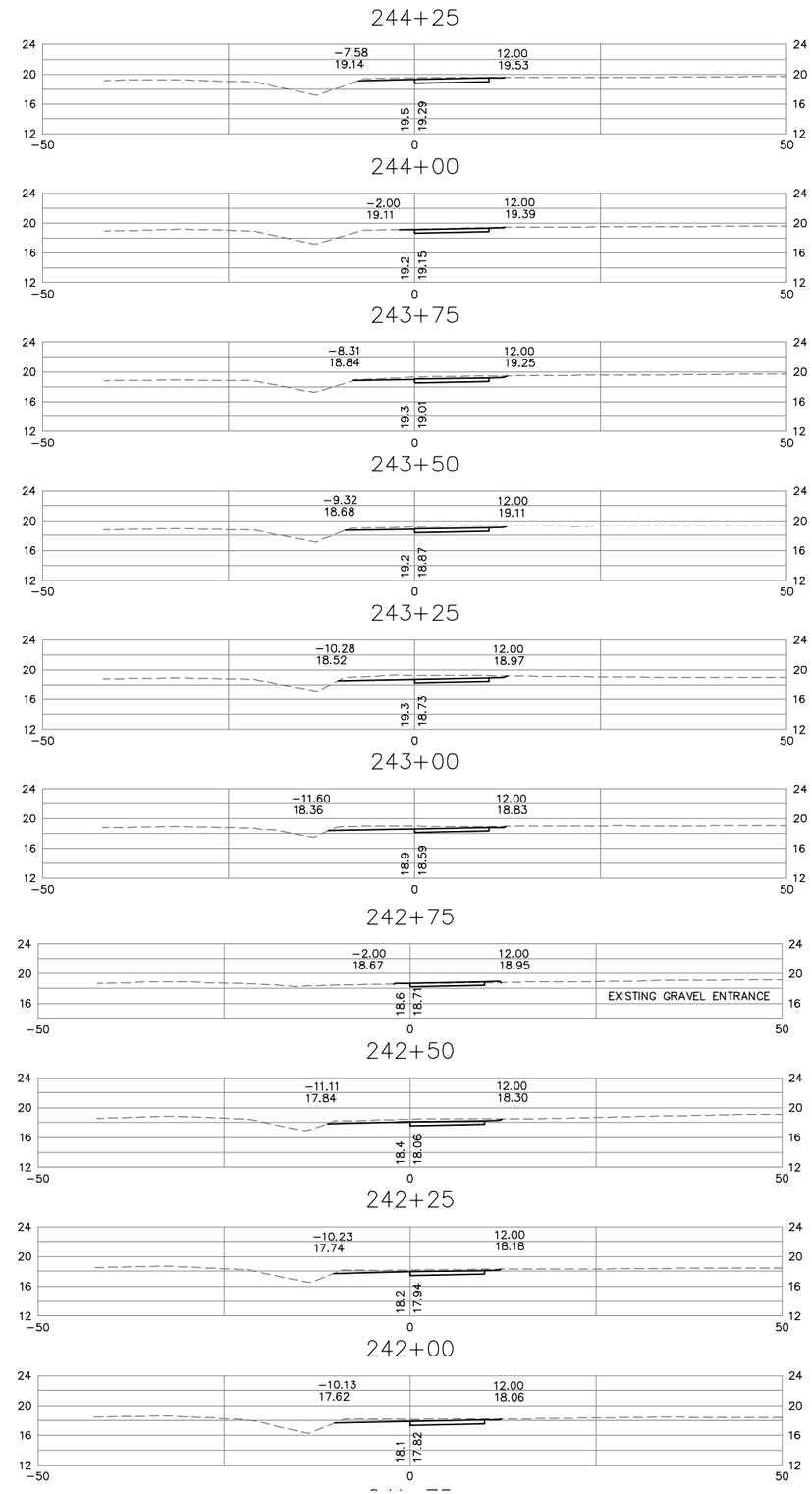

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

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DRAWN BY	LJL
CHECKED BY	RRJ

CROSS SECTIONS

STA. 239+50 TO STA. 244+25

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X17

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail Segment_2 Layout:X18 December 12, 2016 04:07:28pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X18 CROSS SECTIONS.dwg
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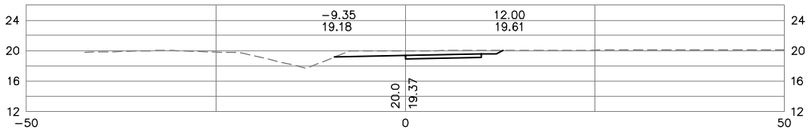

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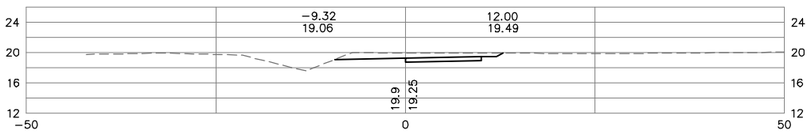

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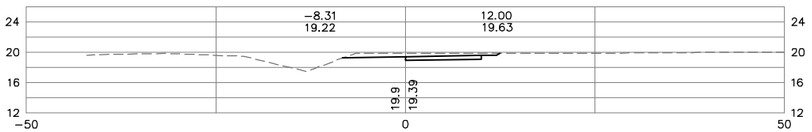

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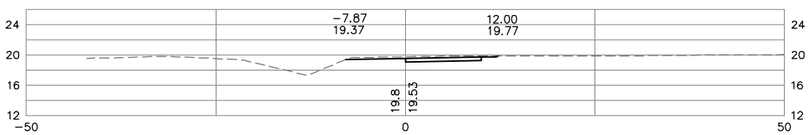

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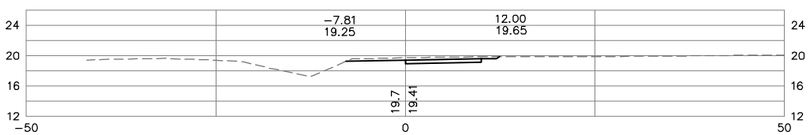

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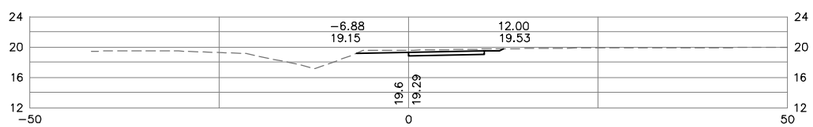

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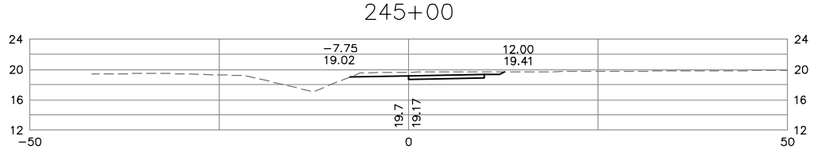

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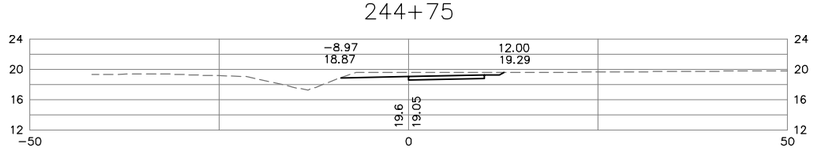

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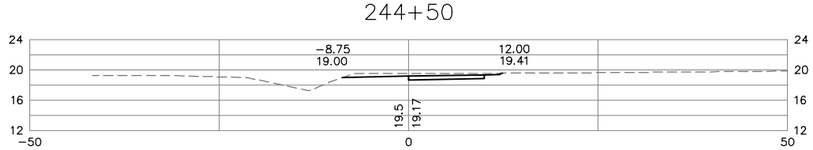

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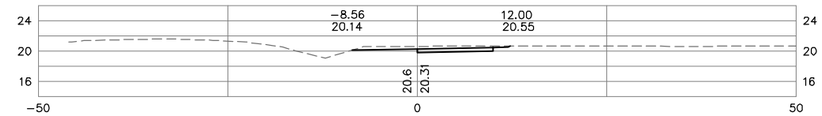

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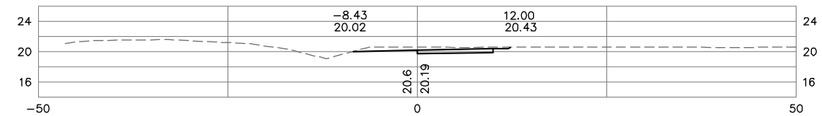

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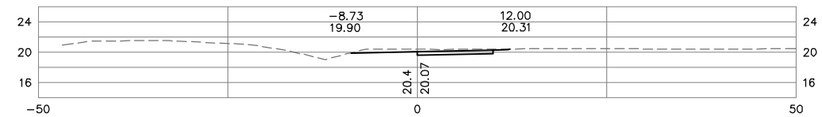

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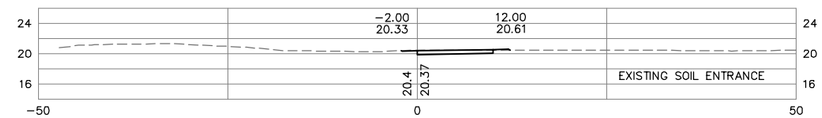

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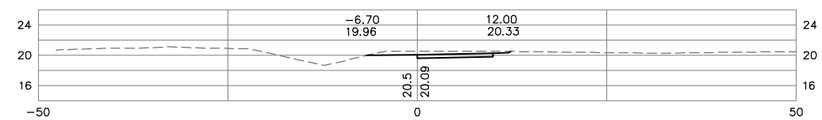

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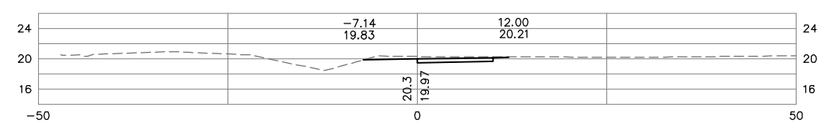

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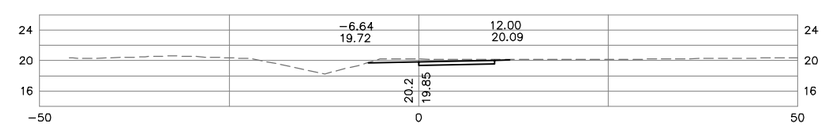

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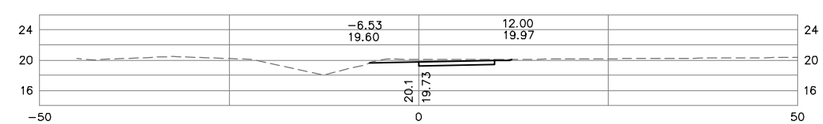

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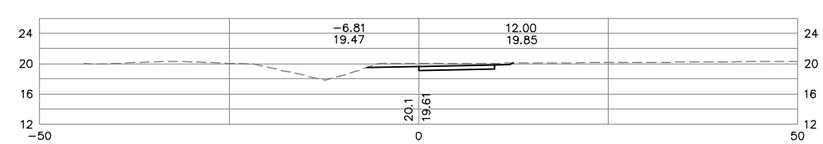

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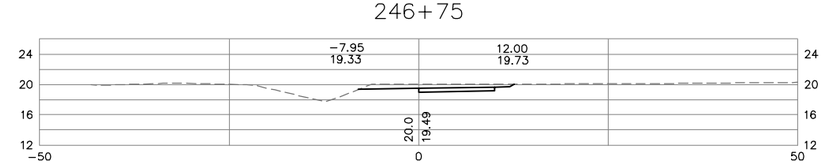

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
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PHONE: 757-213-8600 FAX: 757-213-8601
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000
DATE DEC. 12, 2016
SCALE AS SHOWN
DESIGNED BY CPA
DRAWN BY LJL
CHECKED BY RRJ

CROSS SECTIONS

STA. 244+50 TO STA. 249+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X18

Plotted By:Locklear, Lynda Sheet Set:117031000 – IOW Trail – Seg 2 Layout:X19 December 12, 2016 04:07:58pm K:\VAB_RDWY\117032000 – IOW Trail Project\Design\Sheets\Segment_2\X19 CROSS SECTIONS.dwg
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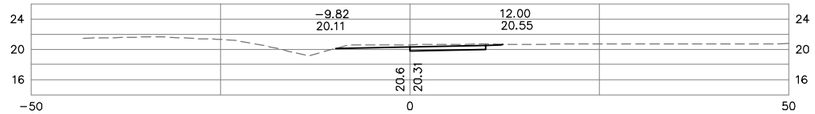

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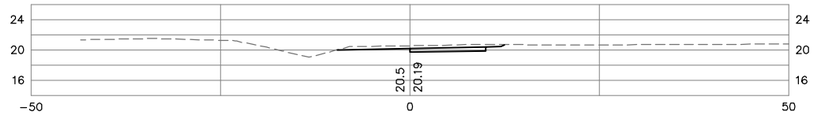

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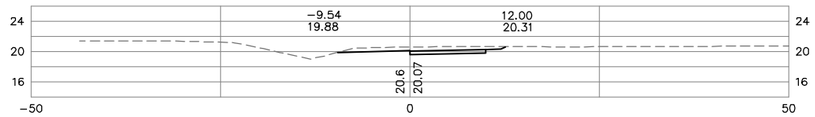

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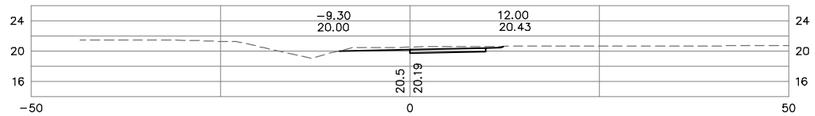

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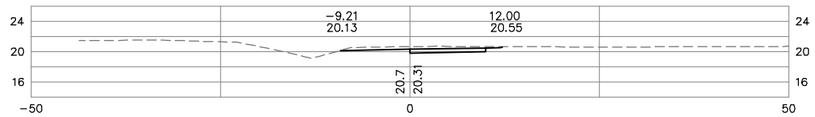

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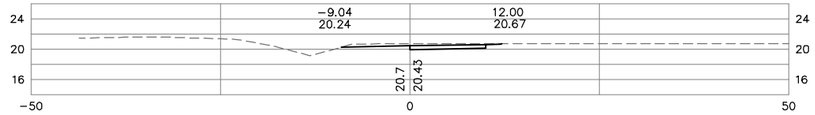

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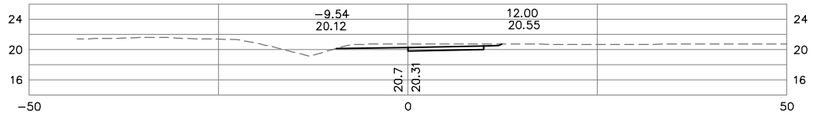

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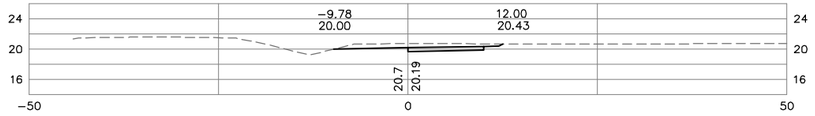

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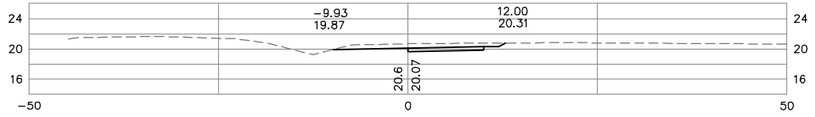

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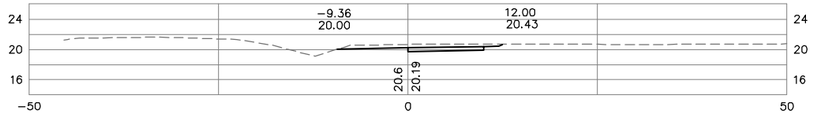

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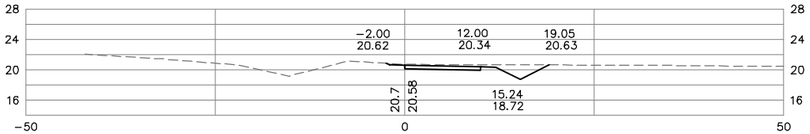

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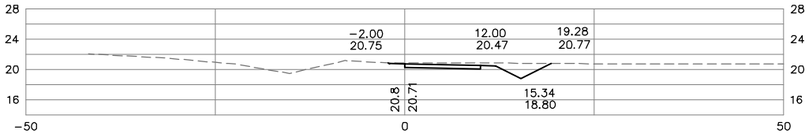

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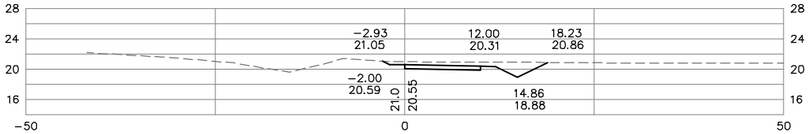

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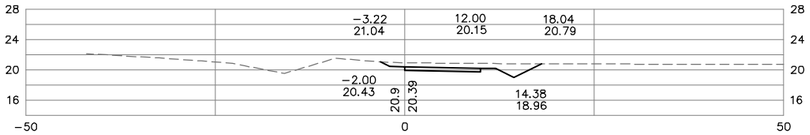

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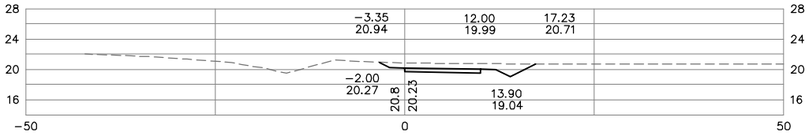

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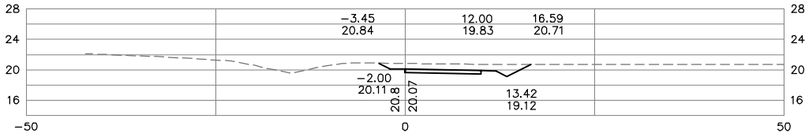

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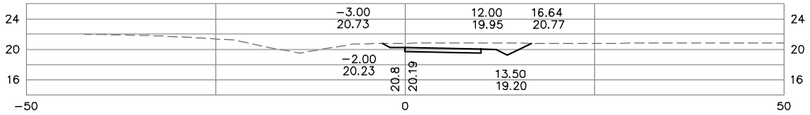

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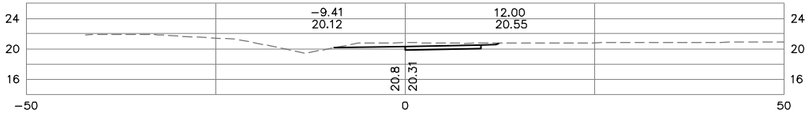

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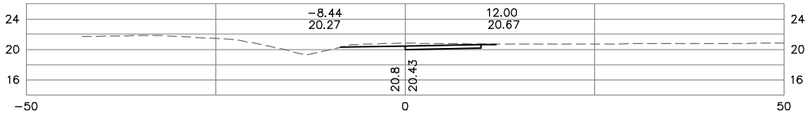

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn

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4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462
PHONE: 757-213-8600 FAX: 757-213-8601
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT	117032000
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

CROSS SECTIONS

STA. 249+25 TO STA. 253+75

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X19

Plotted By:Locklear, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X20 December 12, 2016 04:08:28pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X20 CROSS SECTIONS.dwg
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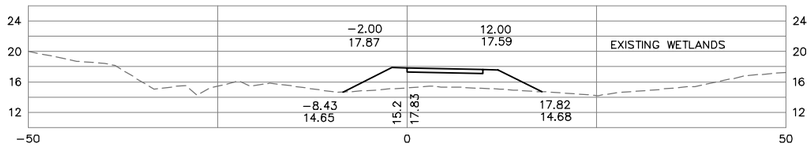

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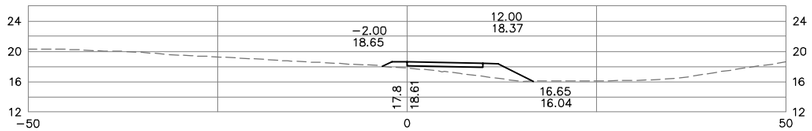

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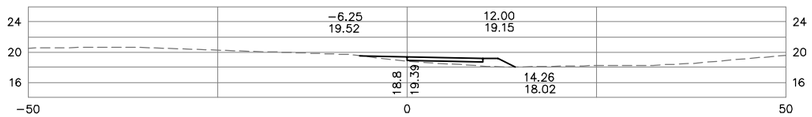

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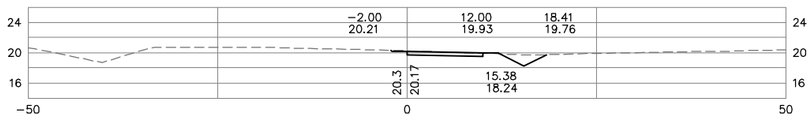

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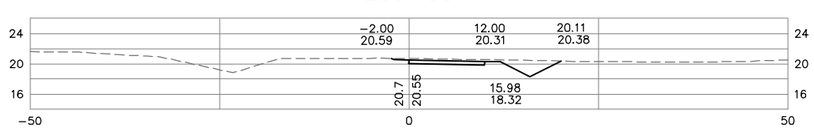

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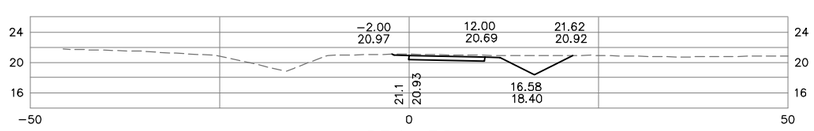

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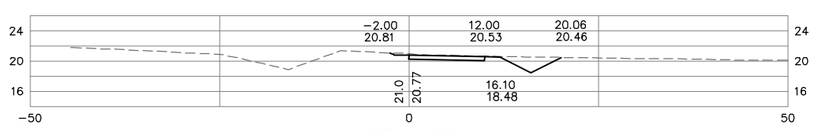

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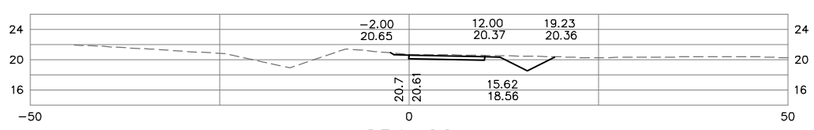

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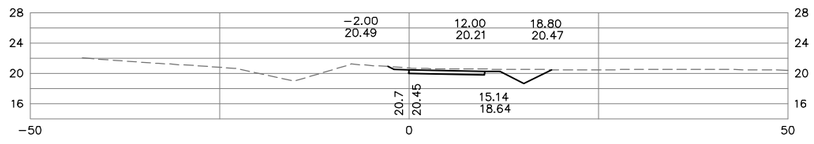

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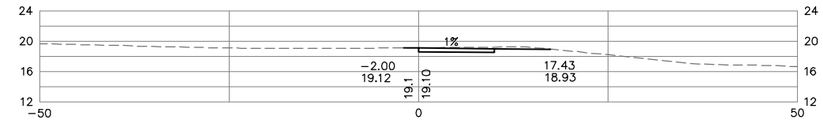

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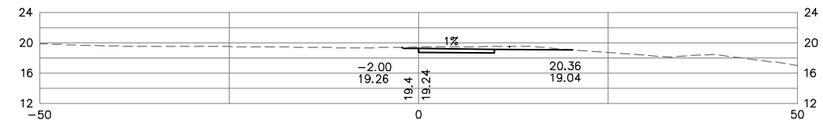

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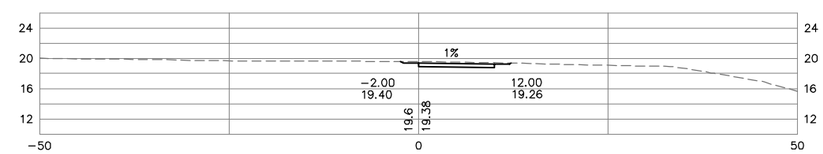

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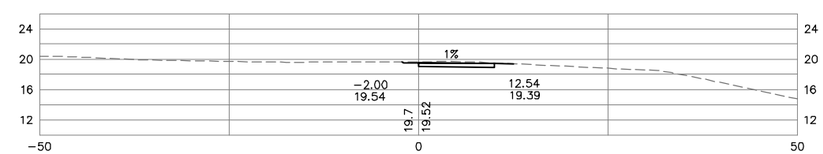

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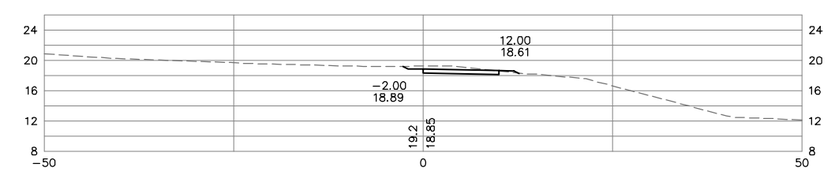

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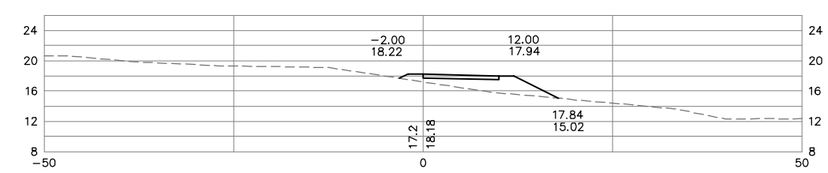

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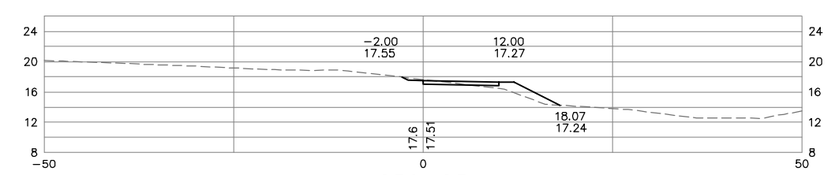

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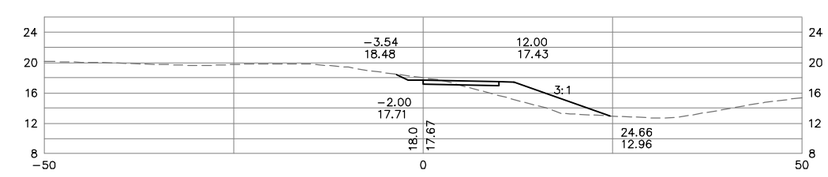

0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn

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4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462
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COMMONWEALTH OF VIRGINIA
Rebecca R. Jucksch
REBECCA R. JUCKSCH
Lic. No. 022894
12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

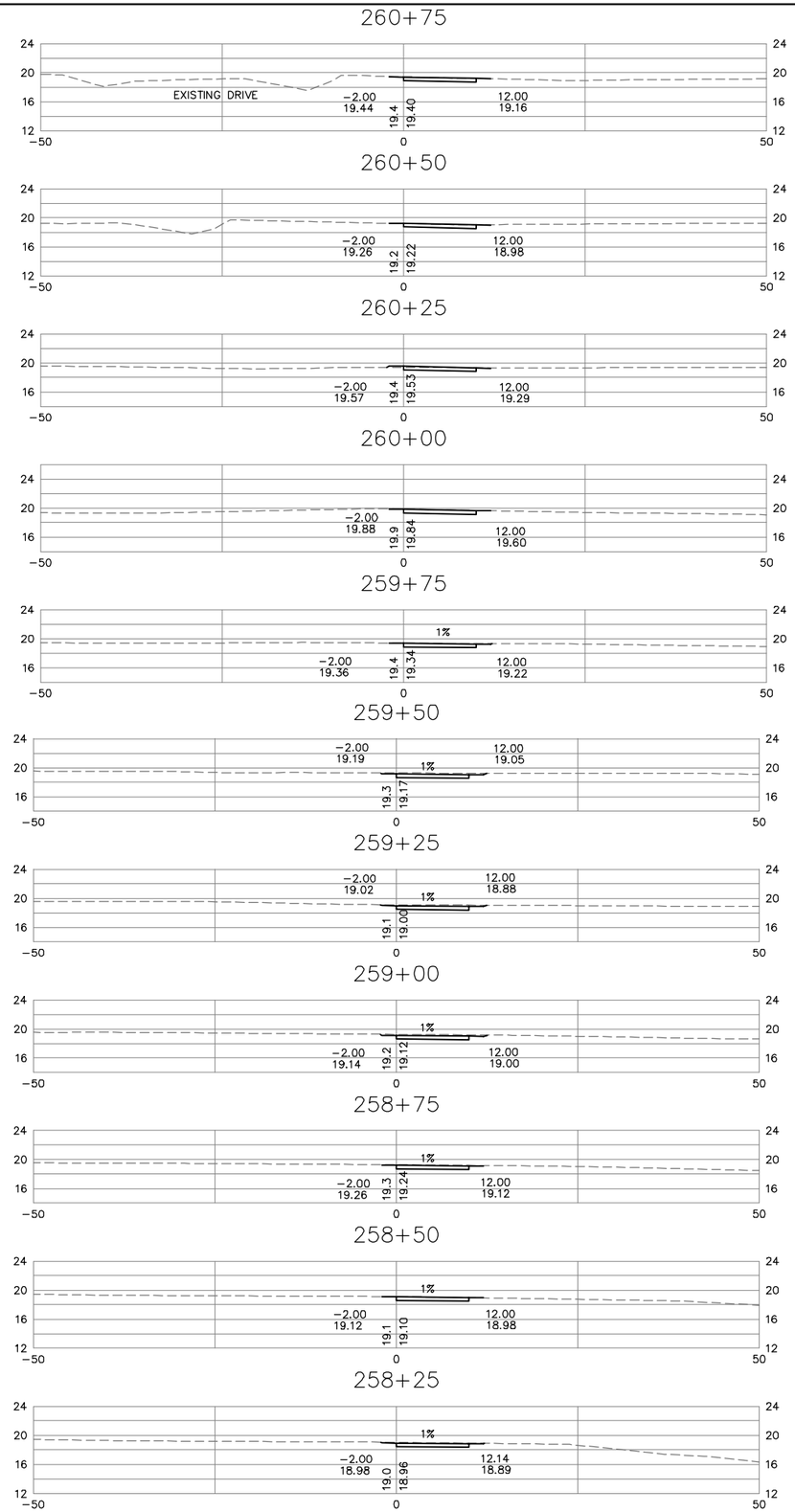
CROSS SECTIONS

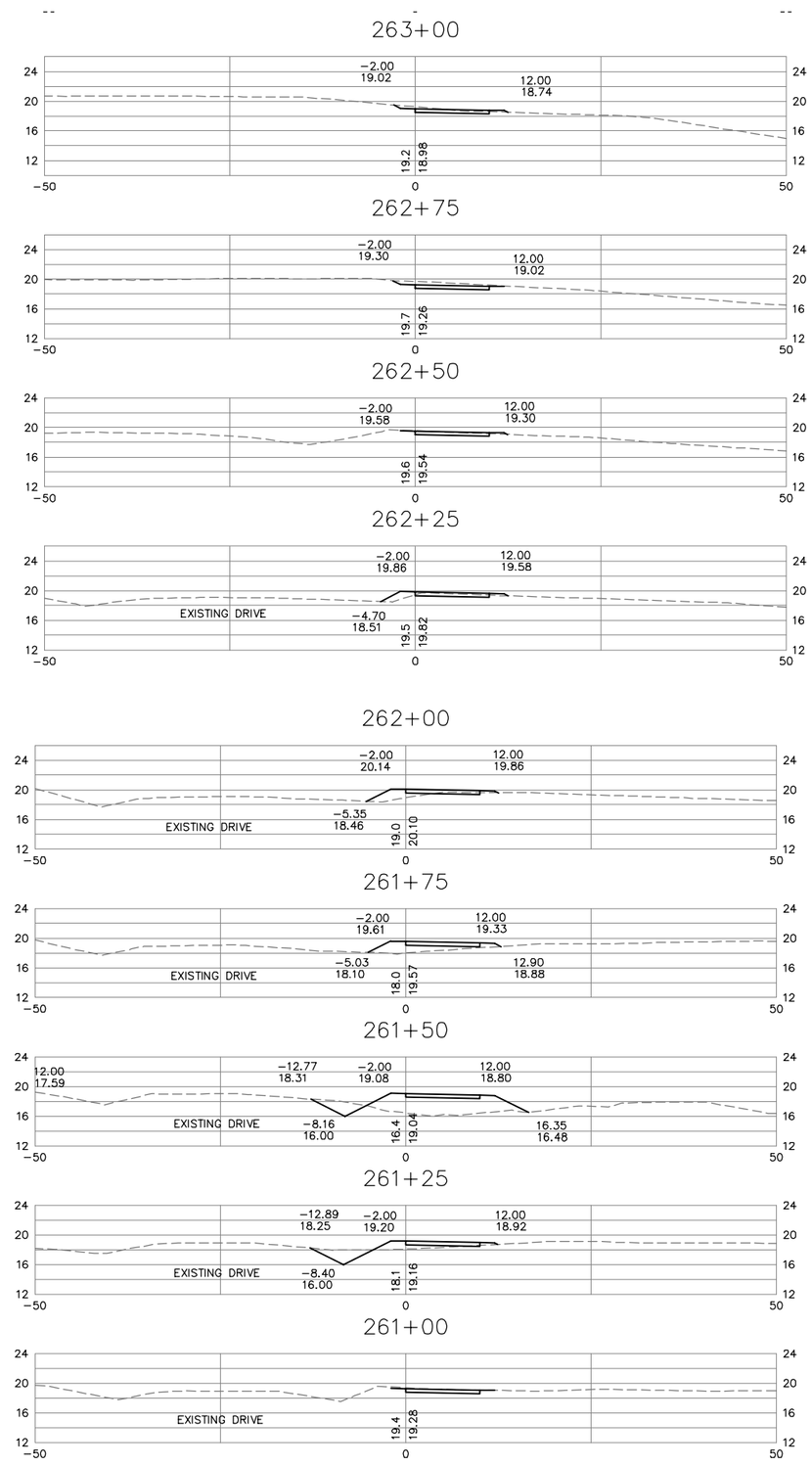
STA. 254+00 TO STA. 258+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X20





0 10' 20'
GRAPHIC SCALE
HORIZ. AND VERT.

No.	REVISIONS	DATE	BY

Kimley»Horn
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12-12-2016
PROFESSIONAL ENGINEER

KHA PROJECT 117032000	
DATE	DEC. 12, 2016
SCALE	AS SHOWN
DESIGNED BY	CPA
DRAWN BY	LJL
CHECKED BY	RRJ

CROSS SECTIONS
STA. 258+25 TO STA. 263+00

SMITHFIELD TO NIKE PARK
PEDESTRIAN/BICYCLE TRAIL
SEGMENT 2

ISLE OF WIGHT VA

SHEET NUMBER
X21

Plotted By:Lockler, Lynda Sheet Set:117031000 - IOW Trail - Seg 2 Layout:X21 December 12, 2016 04:08:59pm K:\VAB_RDWY\117032000 - IOW Trail Project\Design\Sheets\Segment_2\X21 CROSS SECTIONS.dwg
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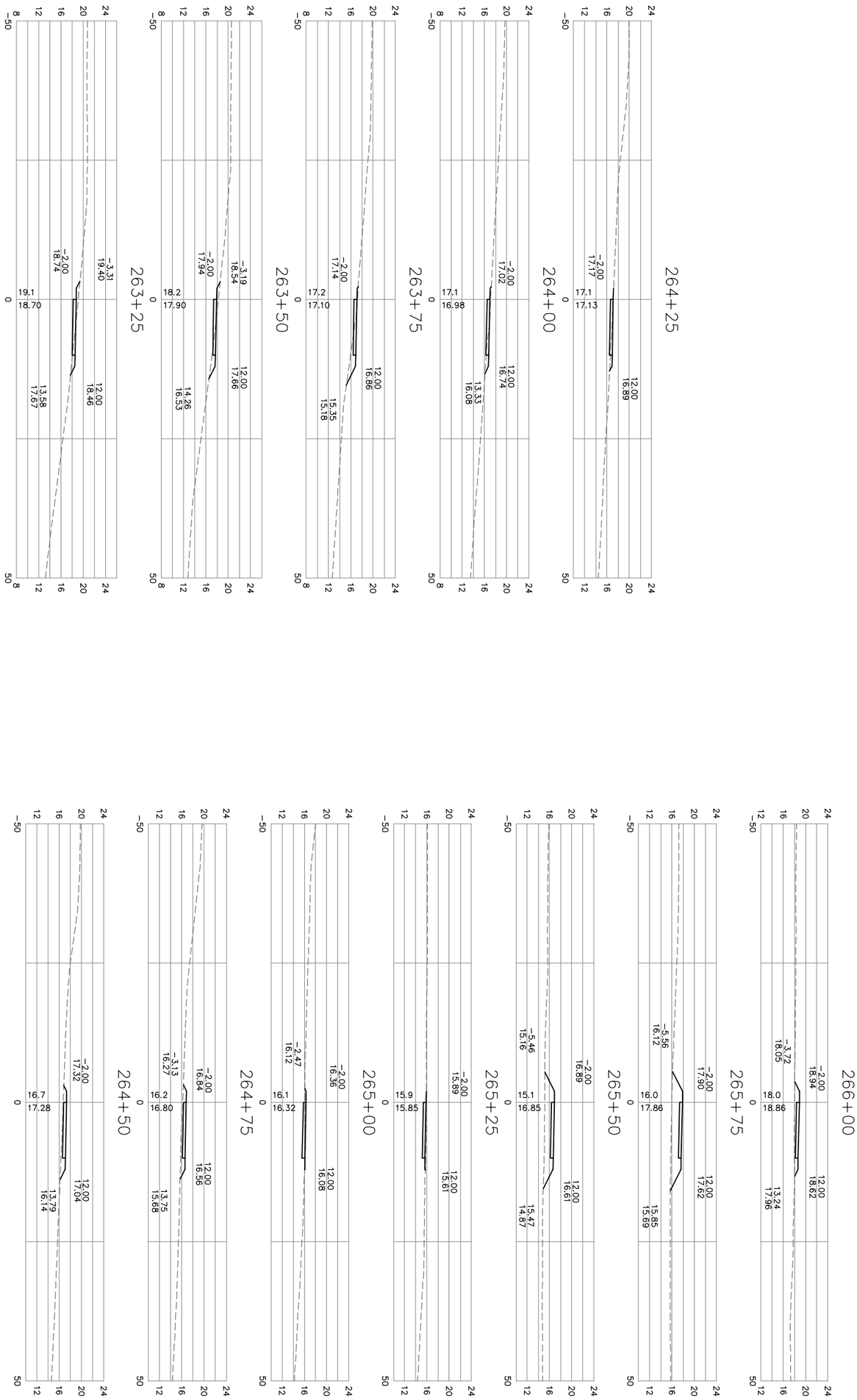

SHEET NUMBER X22	SMITHFIELD TO NIKE PARK PEDESTRIAN/BICYCLE TRAIL SEGMENT 2 ISLE OF WIGHT VA	CROSS SECTIONS STA. 263+25 TO STA. 266+00	KHA PROJECT 117032000 DATE DEC. 12, 2016 SCALE AS SHOWN DESIGNED BY CPA DRAWN BY LJL CHECKED BY RRJ

COMMONWEALTH OF VIRGINIA
REBECCA R. JACKSON
Lic. No. 022894
12-12-2016
REGISTERED PROFESSIONAL ENGINEER

Kimley»Horn

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