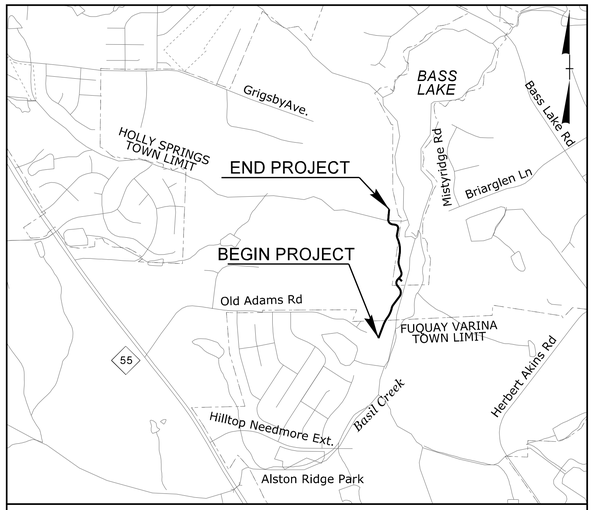
See Sheet 1-A For Index Of Sheets
See Sheet 1-B For Conventional Sheet Symbols



VICINITY MAP **NOT TO SCALE**

WAKE COUNTY

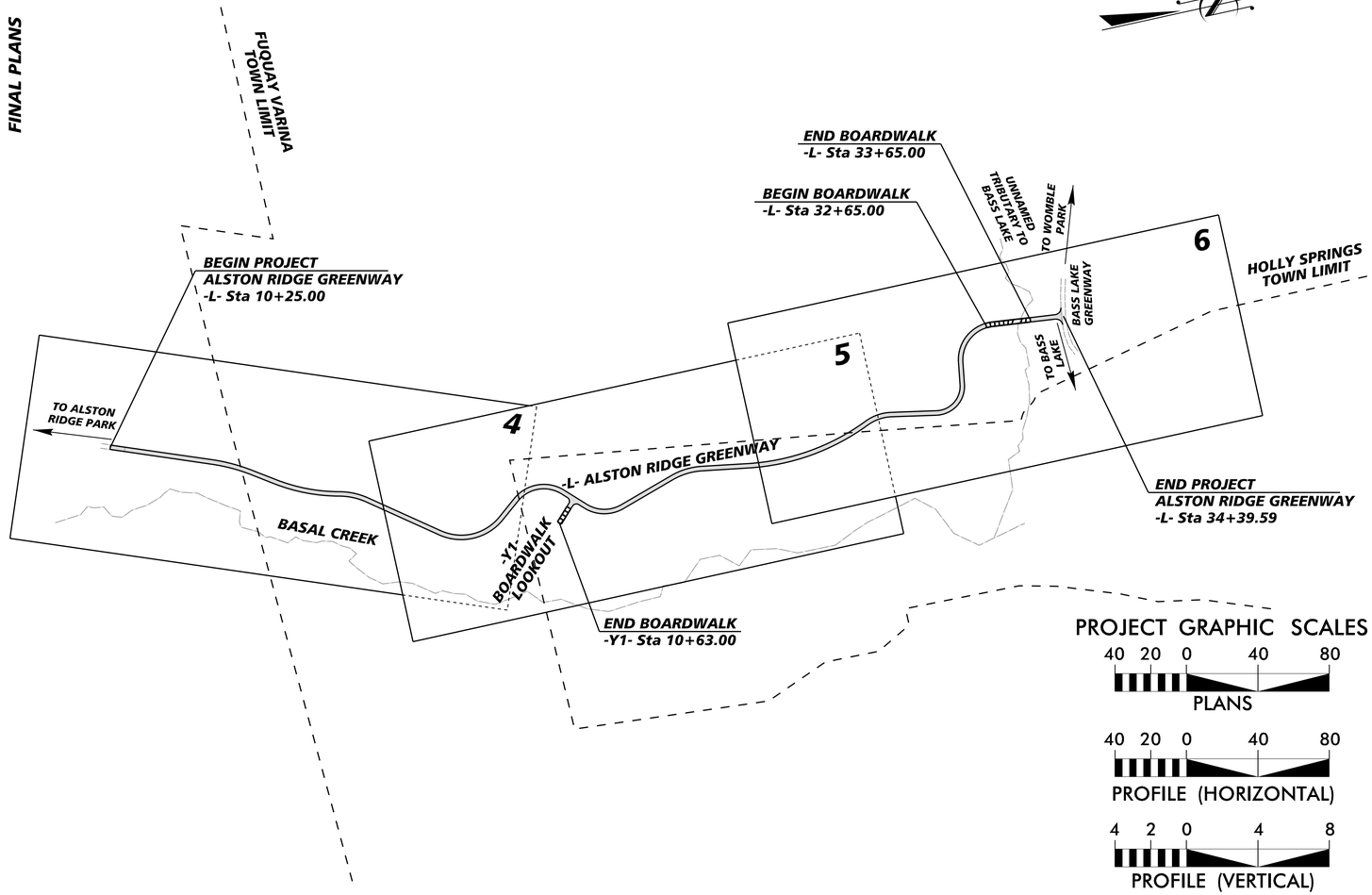
FINAL PLANS

TOWN OF FUQUAY-VARINA

ALSTON RIDGE GREENWAY
FUQUAY–VARINA, NORTH CAROLINA 27526

TYPE OF WORK: ***GRADING, BOARDWALK, DRAINAGE, PAVING, SIGNING, AND MARKINGS***

LENGTH OF PROJECT: ***APPROX. 0.46 MILES OF NEW LOCATION GREENWAY***
APPROX. 0.03 MILES OF BOARDWALK



PROJECT GRAPHIC SCALES

PLANS
40 20 0 40 80

PROFILE (HORIZONTAL)
40 20 0 40 80

PROFILE (VERTICAL)
4 2 0 4 8

UTILITY AND GOVERNING AGENCIES CONTACT LIST:

WATER COMPANY
TOWN OF FUQUAY-VARINA UTILITIES DEPT.
134 N. MAIN STREET
FUQUAY-VARINA, NC 27526
(919)567-3911 TEL
CONTACT: JAY T. MEYERS

SANITARY SEWER COMPANY
TOWN OF FUQUAY-VARINA UTILITIES DEPT.
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FUQUAY-VARINA, NC 27526
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CONTACT: JAY T. MEYERS

FIRE CHIEF
FUQUAY-VARINA FIRE DEPARTMENT
134 N. MAIN STREET
FUQUAY-VARINA, NORTH CAROLINA 27526
(919) 753-1002 TEL
CONTACT: ANTHONY MAULDIN

EROSION CONTROL
NCDEQ
DIVISION OF LAND RESOURCES
3800 BARETT DRIVE
RALEIGH, NORTH CAROLINA 27609
(919) 791-4200 TEL
CONTACT: TBD

DEPARTMENT OF TRANSPORTATION
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2612 NORTH DUKE STREET
DURHAM, NC 27704
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PLANNING DEPARTMENT
TOWN OF FUQUAY-VARINA PLANNING DEPARTMENT
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CONTACT: PAM DAVISON

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TOWN OF FUQUAY-VARINA POLICE DEPARTMENT
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CHIEF OF POLICE: LAURA FAHNESTOCK

ENGINEERING DEPARTMENT
TOWN OF FUQUAY-VARINA
ENGINEERING DEPARTMENT
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PHONE: (919) 653-2905

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

DATE	FILE NUMBER	SHEET NUMBER	TOTAL SHEETS
8/13/2024		1	42

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NORTH CAROLINA PROFESSIONAL SEAL 040255 ENGINEER JAY TAYLOR MEYERS 8/13/2024
SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: TITLE SHEET

KHA PROJECT: 012622018
DATE: 8/13/2024
FINAL PLANS

1

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8/13/2024

ALSTON RIDGE GREENWAY

INDEX OF SHEETS

GENERAL NOTES

2024 SPECIFICATIONS
EFFECTIVE: 01-01-2024
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.WHERE NO GRADE LINES ARE SHOWN,THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED.GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD.848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS.LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

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

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

LIST OF 2024 ROADWAY STANDARD DRAWINGS

EFF.01-01-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N.C.Department of Transportation - Raleigh,N.C.,Dated January,2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
	DIVISION 2 - EARTHWORK
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
	DIVISION 3 - PIPE CULVERTS
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
	DIVISION 5 - SUBGRADE,BASES AND SHOULDERS
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
	DIVISION 8 - INCIDENTALS
806.01	Concrete Right-of-Way Marker
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std.Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
876.01	Rip Rap In Channels
876.02	Guide for Rip Rap at Pipe Outlets

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SEAL

NO. | DATE | REVISIONS

PLANS PREPARED FOR: TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: INDEX OF SHEETS GENERAL NOTES NCDOT ROADWAY STANDARD DRAWINGS

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

1-A

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6-3-2024

ALSTON RIDGE GREENWAY

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP) — EIP
- Computed Property Corner
- Existing Concrete Monument (ECM) — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line
- Existing Control of Access Line
- Proposed Control of Access Line
- Proposed ROW and CA Line
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

** SUE – Subsurface Utility Engineering*
LOS – Level of Service – A,B,C or D (Accuracy)

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Test Hole (SUE – LOS A)*
- U/G Telephone Cable (SUE – LOS B)* — T
- U/G Telephone Cable (SUE – LOS C)* — T
- U/G Telephone Cable (SUE – LOS D)* — T
- U/G Telephone Conduit (SUE – LOS B)* — TC
- U/G Telephone Conduit (SUE – LOS C)* — TC
- U/G Telephone Conduit (SUE – LOS D)* — TC
- U/G Fiber Optics Cable (SUE – LOS B)* — T FO
- U/G Fiber Optics Cable (SUE – LOS C)* — T FO
- U/G Fiber Optics Cable (SUE – LOS D)* — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)*
- U/G Water Line (SUE – LOS C)*
- U/G Water Line (SUE – LOS D)*
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)* — TV
- U/G TV Cable (SUE – LOS C)* — TV
- U/G TV Cable (SUE – LOS D)* — TV
- U/G Fiber Optic Cable (SUE – LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS D)* — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)* — G
- U/G Gas Line (SUE – LOS C)* — G
- U/G Gas Line (SUE – LOS D)* — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)* — FSS
- SS Force Main Line (SUE – LOS C)* — FSS
- SS Force Main Line (SUE – LOS D)* — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line (SUE – LOS B)* — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

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8/13/2024
SEAL

REVISIONS | DATE | NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: INDEX OF SHEETS GENERAL NOTES NCDOT ROADWAY STANDARD DRAWINGS

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

1-B

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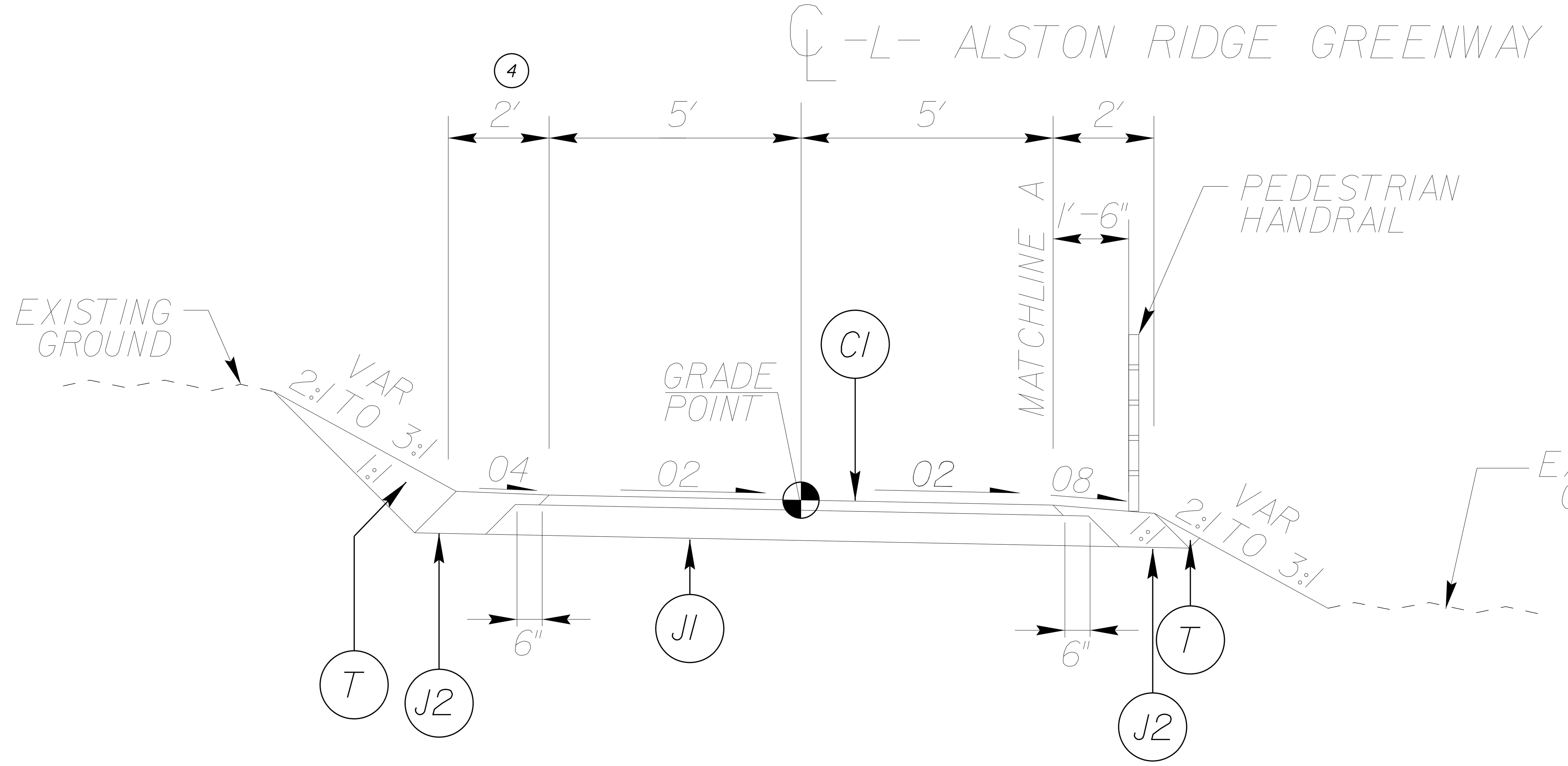
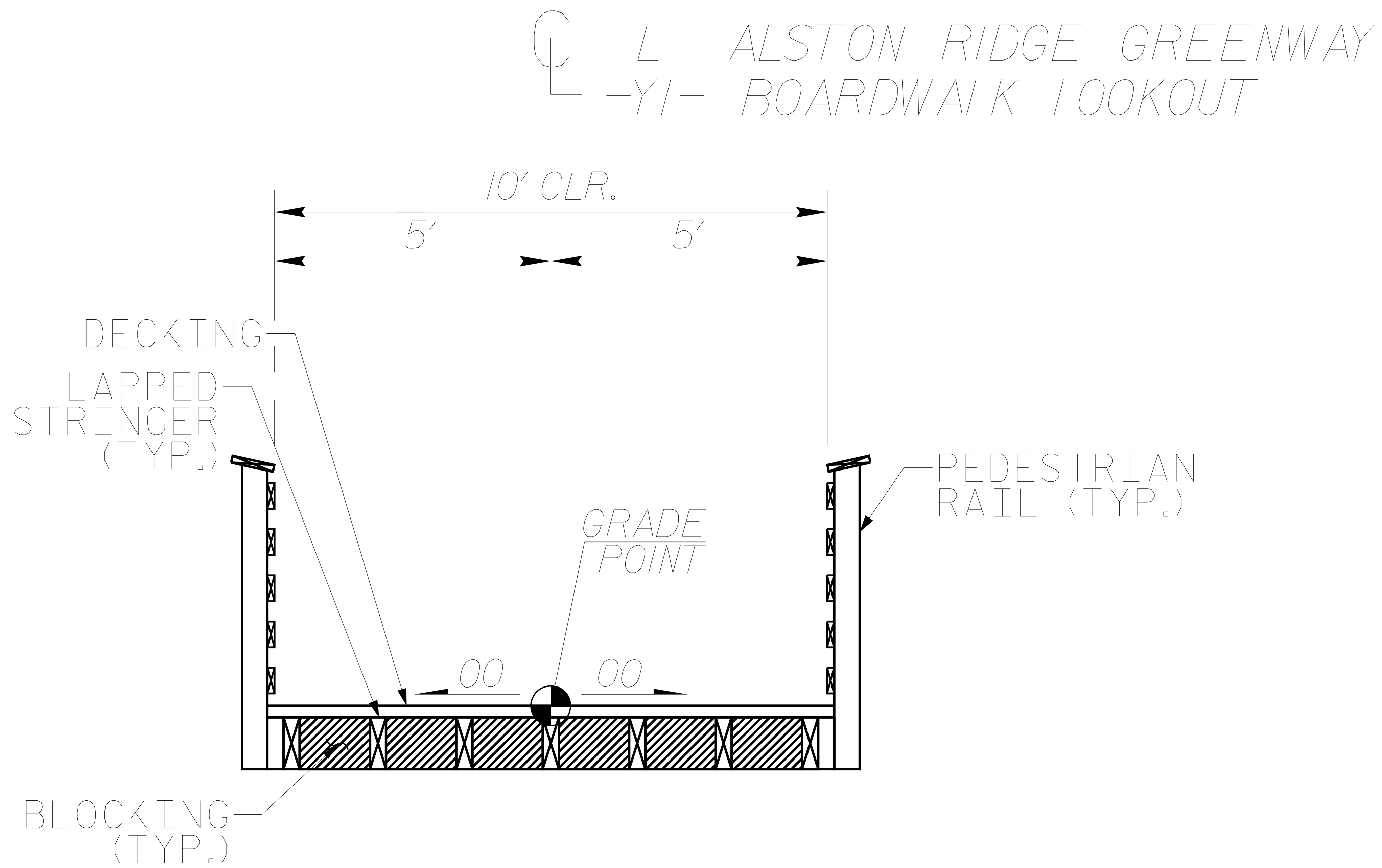
6-3-2024



1 TYPICAL SECTION

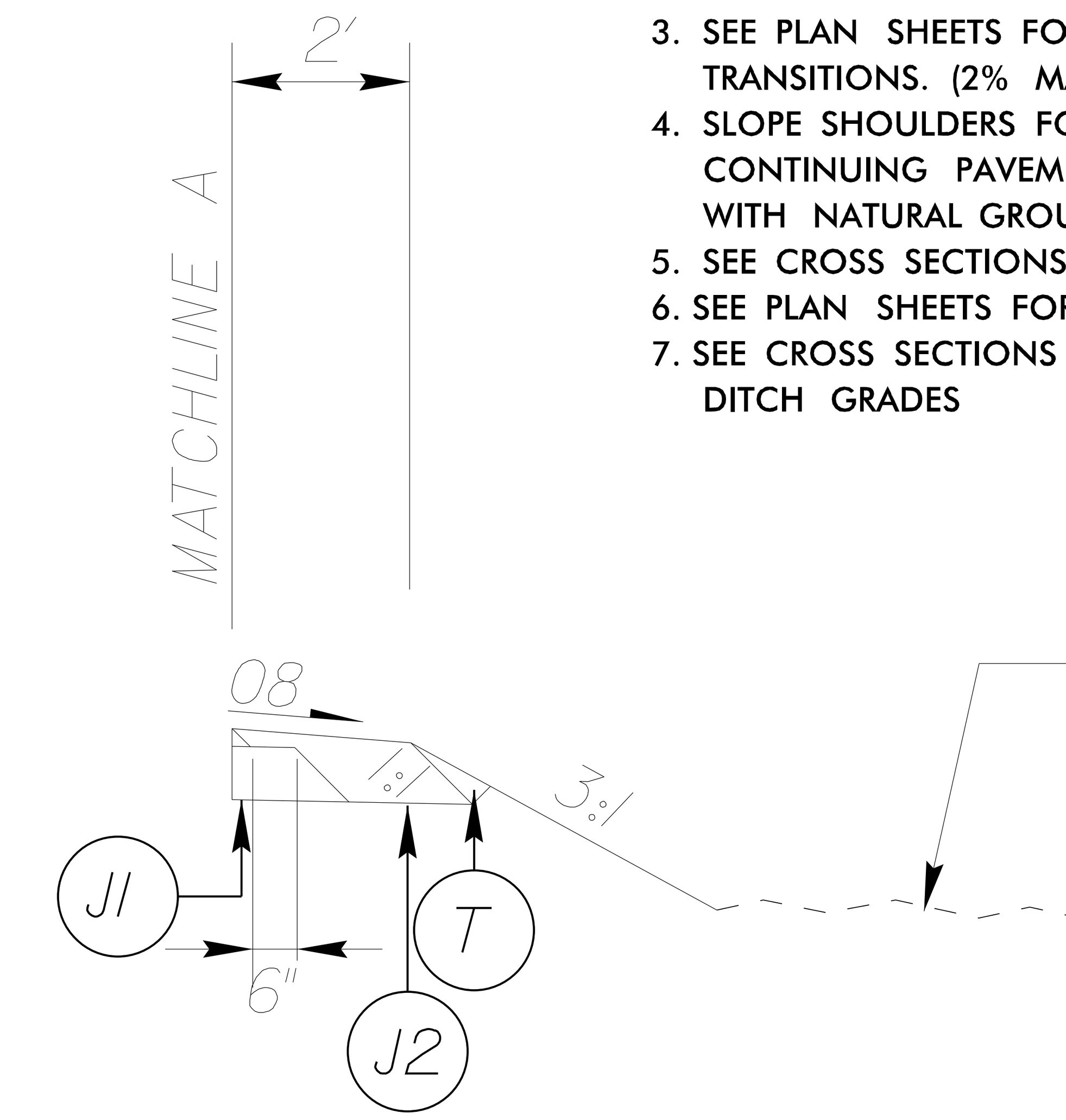
-L- STA 10+25.00 TO STA 32+44.99
-L- STA 33+54.99 TO STA 34+44.60
-Y1- STA 10+05.00 TO STA 10+23.00



2 TYPICAL SECTION

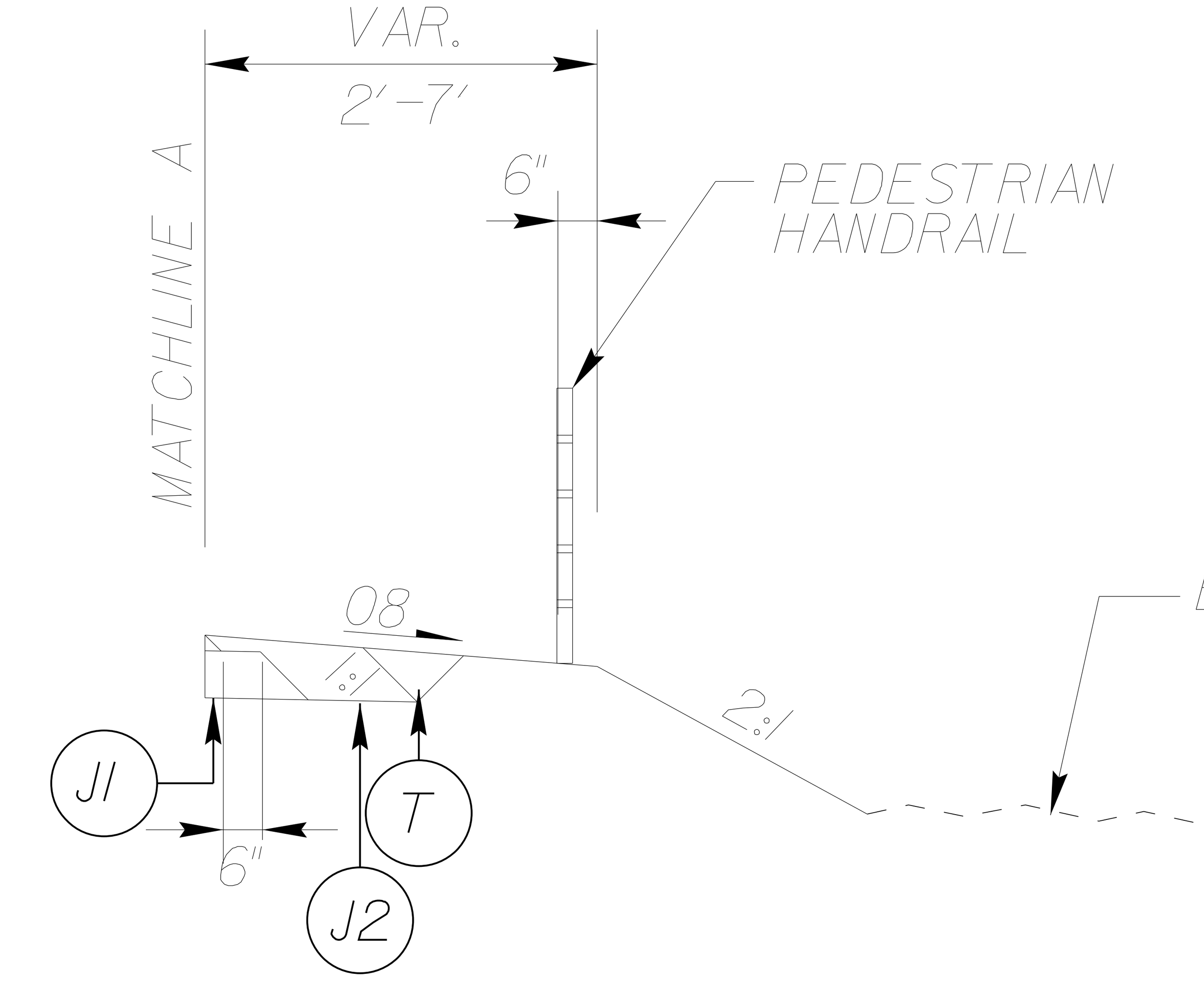
-L- STA 32+44.99 TO STA 33+54.99
-Y1- STA 10+23.00 TO STA 10+63.00

NOTES:
1. SEE PLANS FOR SPECIFIC MULTI-USE PATH LOCATIONS.
2. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
3. SEE PLAN SHEETS FOR MULTI-USE PATH SUPERELEVATION TRANSITIONS. (2% MAX SUPERELEVATION)
4. SLOPE SHOULDERS FOR POSITIVE DRAINAGE. OFTEN REQUIRES CONTINUING PAVEMENT OR SHOULDER SLOPE UNTIL TIE-IN WITH NATURAL GROUND (SEE CROSS SECTIONS)
5. SEE CROSS SECTIONS FOR SPECIFIC CUT/FILL SLOPES
6. SEE PLAN SHEETS FOR PEDESTRIAN HANDRAIL LOCATIONS.
7. SEE CROSS SECTIONS AND PROFILES FOR SPECIAL DITCH GRADES



1A TYPICAL SECTION

-L- STA 17+25.00 TO STA 18+75.00
-L- STA 25+75.00 TO STA 29+25.00



1B TYPICAL SECTION

-L- STA 19+92.19 TO STA 21+18.62

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
J1	PROPOSED 8" AGGREGATE BASE COURSE
J2	PROPOSED AGGREGATE BASE COURSE (SHOULDER - MATCH ADJACENT BASE DEPTH)
T	PROPOSED COMPACTED EARTH MATERIAL
U	EXISTING PAVEMENT

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SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: TYPICAL SECTIONS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

2

K:\RAL_Roadway\012622018.A - Alston Ridge Greenway\Plan\Plan Sheets\Alston_typ.dgn

8/13/2024

-L-

PI Sta 13+00.72	PI Sta 14+77.82	PI Sta 15+83.42
△ = 13° 14′ 59.3″ (RT)	△ = 21° 19′ 16.1″ (LT)	△ = 24° 07′ 08.7″ (RT)
D = 14° 19′ 26.2″	D = 14° 19′ 26.2″	D = 38° 11′ 49.9″
L = 92.50′	L = 148.85′	L = 63.14′
T = 46.46′	T = 75.30′	T = 32.05′
R = 400.00′	R = 400.00′	R = 150.00′

-L-

PI Sta 18+83.62	PI Sta 20+69.51	PI Sta 22+22.79	PI Sta 24+26.61
△ = 75° 29′ 52.7″ (LT)	△ = 83° 10′ 06.4″ (RT)	△ = 62° 09′ 27.8″ (LT)	△ = 26° 48′ 29.9″ (RT)
D = 49° 49′ 20.7″	D = 71° 37′ 11.0″	D = 71° 37′ 11.0″	D = 38° 11′ 49.9″
L = 151.53′	L = 116.13′	L = 86.79′	L = 70.18′
T = 89.04′	T = 70.99′	T = 48.22′	T = 35.75′
R = 115.00′	R = 80.00′	R = 80.00′	R = 150.00′

-L-

PI Sta 27+11.62	PI Sta 28+81.18	PI Sta 30+73.49	PI Sta 32+33.39
△ = 32° 44′ 22.8″ (LT)	△ = 34° 09′ 29.6″ (RT)	△ = 92° 05′ 51.2″ (LT)	△ = 87° 24′ 21.6″ (RT)
D = 11° 27′ 33.0″	D = 57° 17′ 44.8″	D = 95° 29′ 34.7″	D = 71° 37′ 11.0″
L = 285.71′	L = 59.62′	L = 96.44′	L = 122.04′
T = 146.87′	T = 30.72′	T = 62.24′	T = 76.46′
R = 500.00′	R = 100.00′	R = 60.00′	R = 80.00′

K:\RAL_Roadway\012622018.A – Alston Ridge Greenway\Plan\Plan Sheets\Alston_Curve Data.dgn

8/13/2024

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REVISIONS | DATE | NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

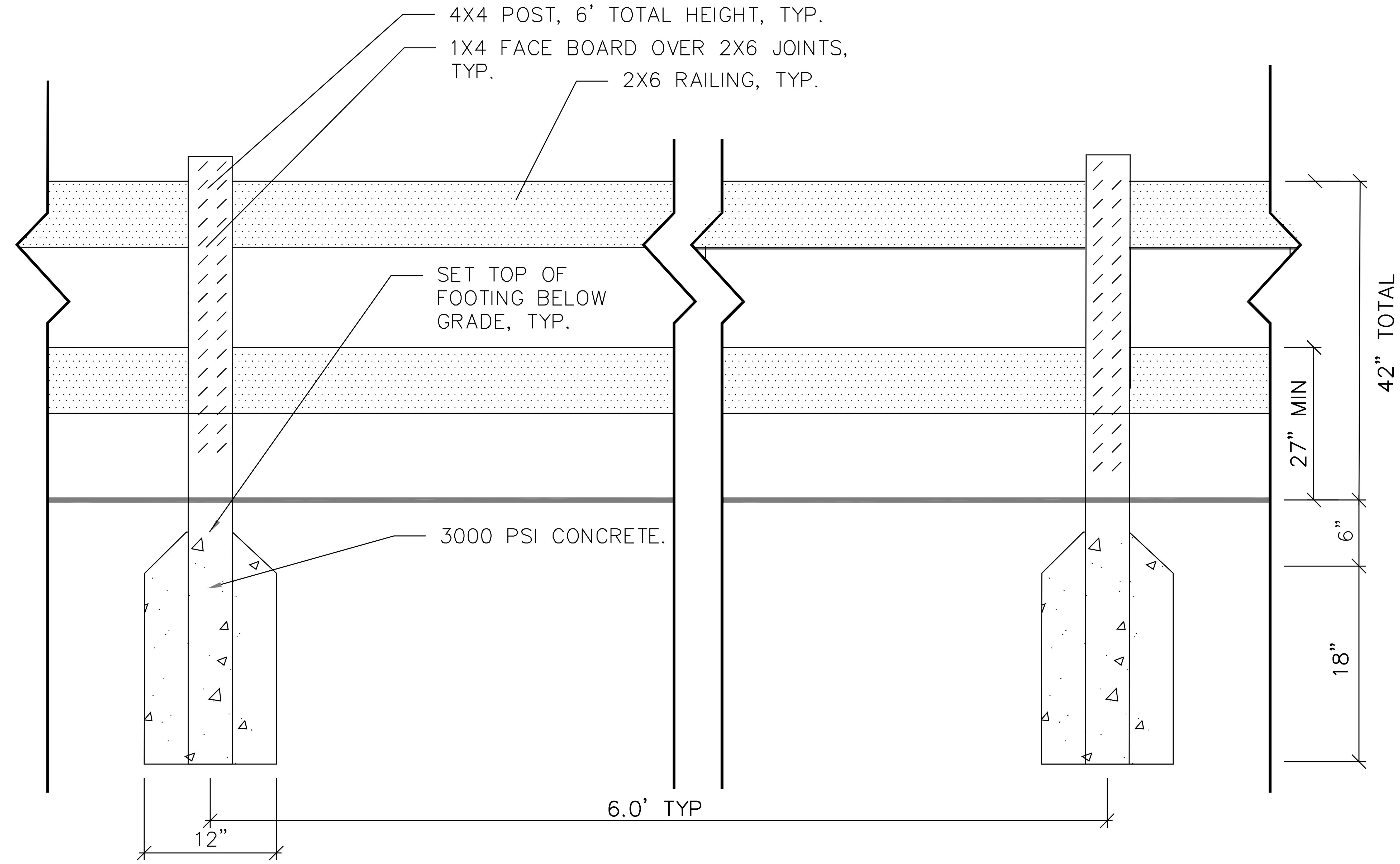
TITLE: ALIGNMENT CURVE DATA

KHA PROJECT: 012622018
DATE: 8/13/2024

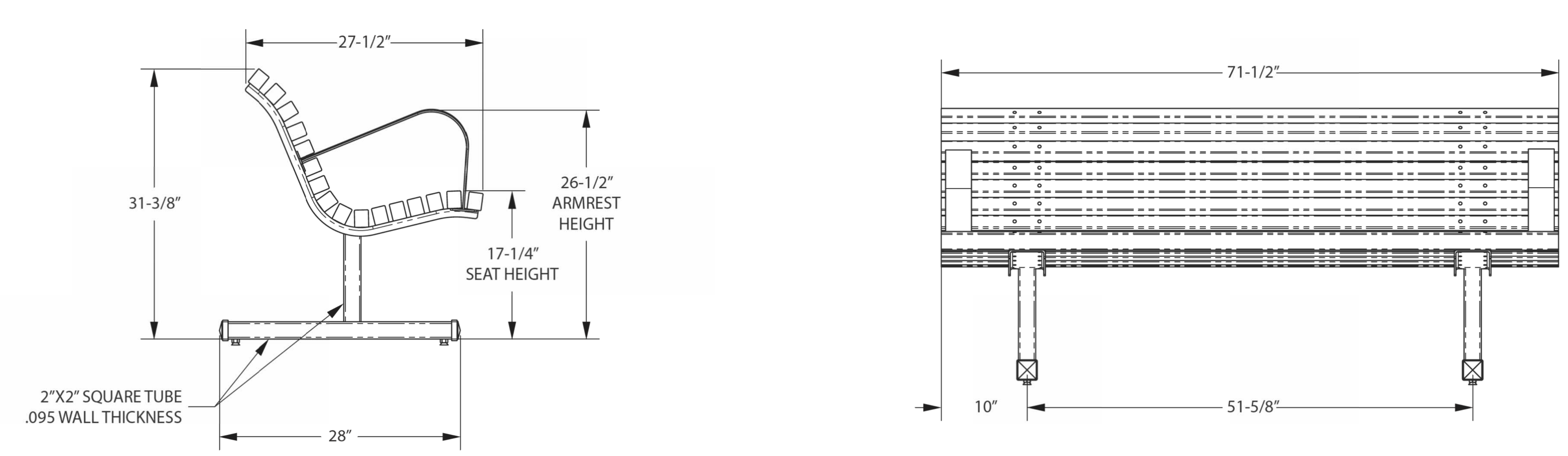
FINAL PLANS

2A

NOTES:
1. ALL WOOD TO BE NO. 2 SOUTHERN YELLOW PINE, SEE SPECIFICATIONS.
2. ALL FENCE AND GATE HARDWARE TO BE GALVANIZED. SEE SPECIFICATIONS.
3. ALL NAILS AND STAPLES TO BE GALVANIZED. SEE SPECIFICATIONS
4. SLOPE TOP OF CONCRETE FOOTING AWAY FROM POST.
5. FENCING TO BE FIELD CONFIRMED BY ENGINEER/OWNER PRIOR TO INSTALLATION



DETAIL 1 – TIMBER RAILING



DETAIL 2 – WOOD BENCH

PLANS PREPARED BY:

Kimley»Horn

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NC LICENSE #F-0102
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DocuSigned by: Bryan Vickery 8E07294B9629413...
8/13/2024
SEAL

REVISIONS | DATE | NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: ALSTON RIDGE GREENWAY

TITLE: DETAIL SHEET

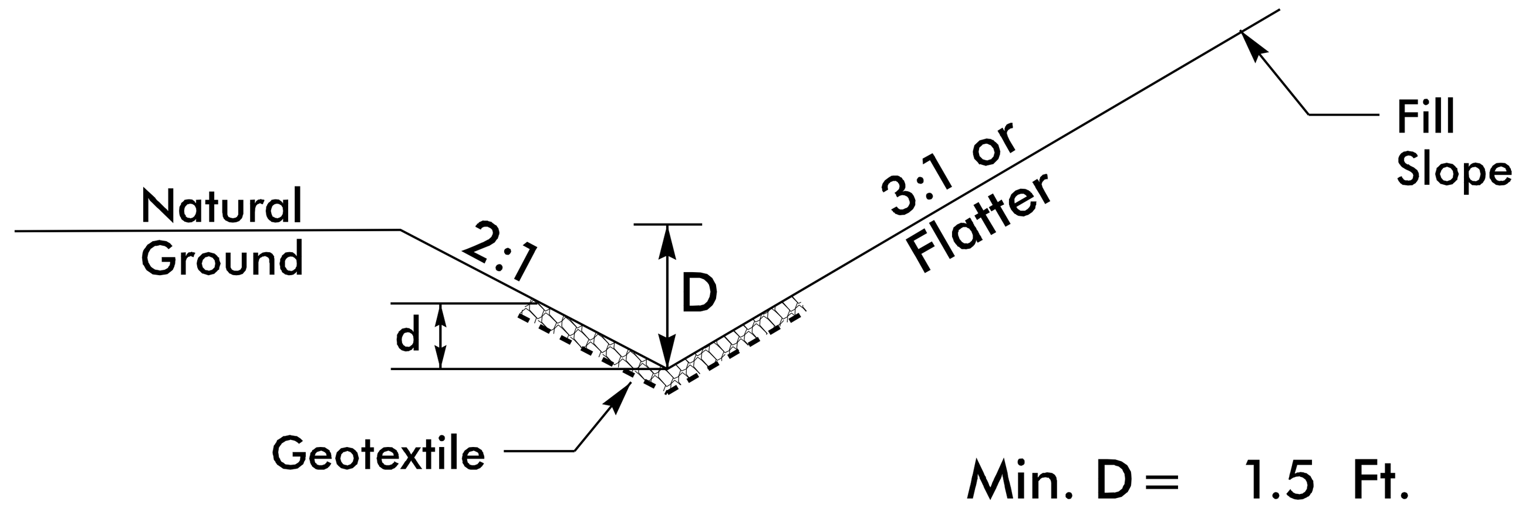
KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

2B

K:\RAL_Roadway\012622018_A - Alston Ridge Greenway\Plan\Plan Sheets\Alston_typ.dgn
8/13/2024

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

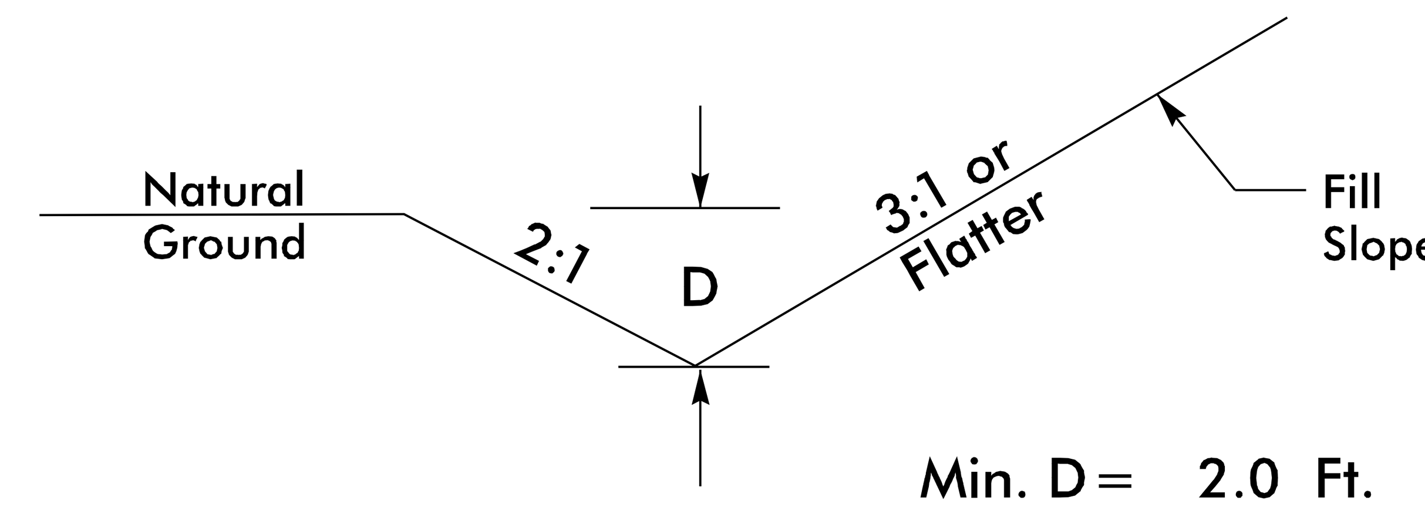


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = Class 'B' Rip–Rap

FROM STA. 14 + 00 TO STA. 14 + 65 –L– (LT)

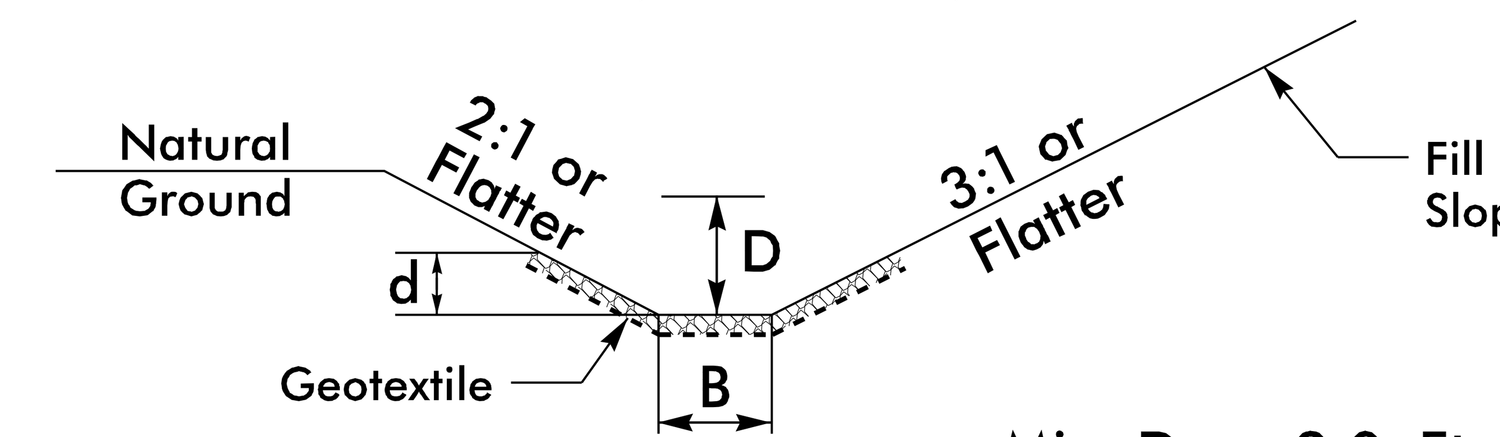
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 2.0 Ft.

FROM STA. 16 + 00 TO STA. 17 + 90 –L– (LT)

DETAIL 3
SPECIAL LATERAL BASE DITCH
(Not to Scale)

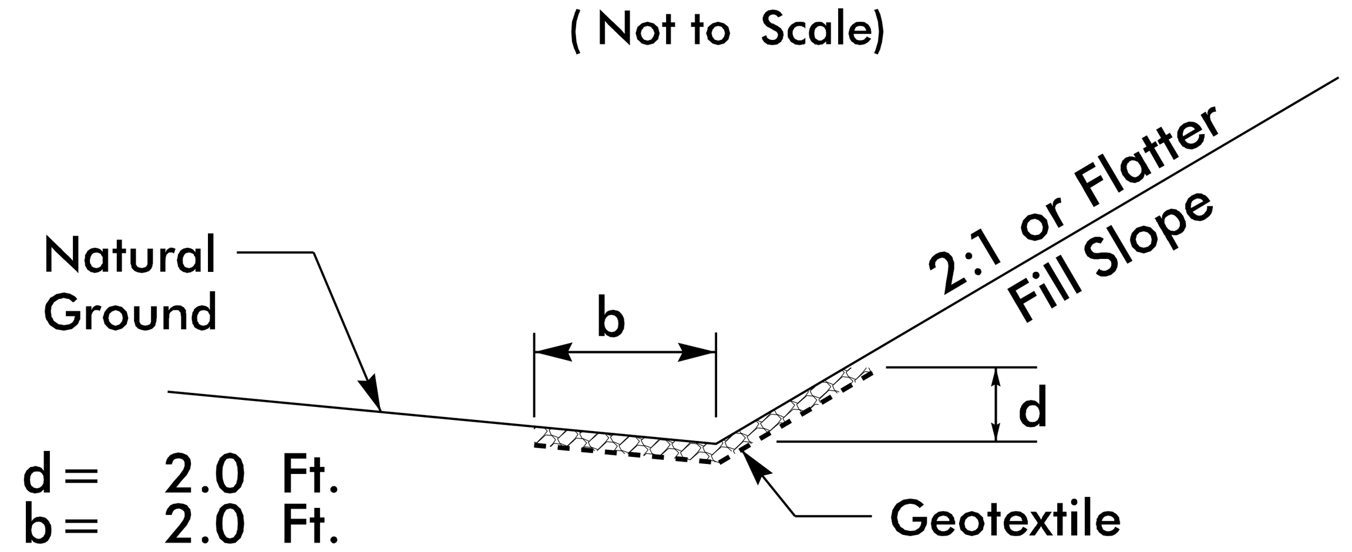


Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 2.0 Ft.

Type of Liner = Class 'B' Rip–Rap

FROM STA. 17 + 90 TO STA. 19 + 50 –L– (LT)
FROM STA. 26 + 00 TO STA. 26 + 72 –L– (LT)

DETAIL 4
TOE PROTECTION
(Not to Scale)

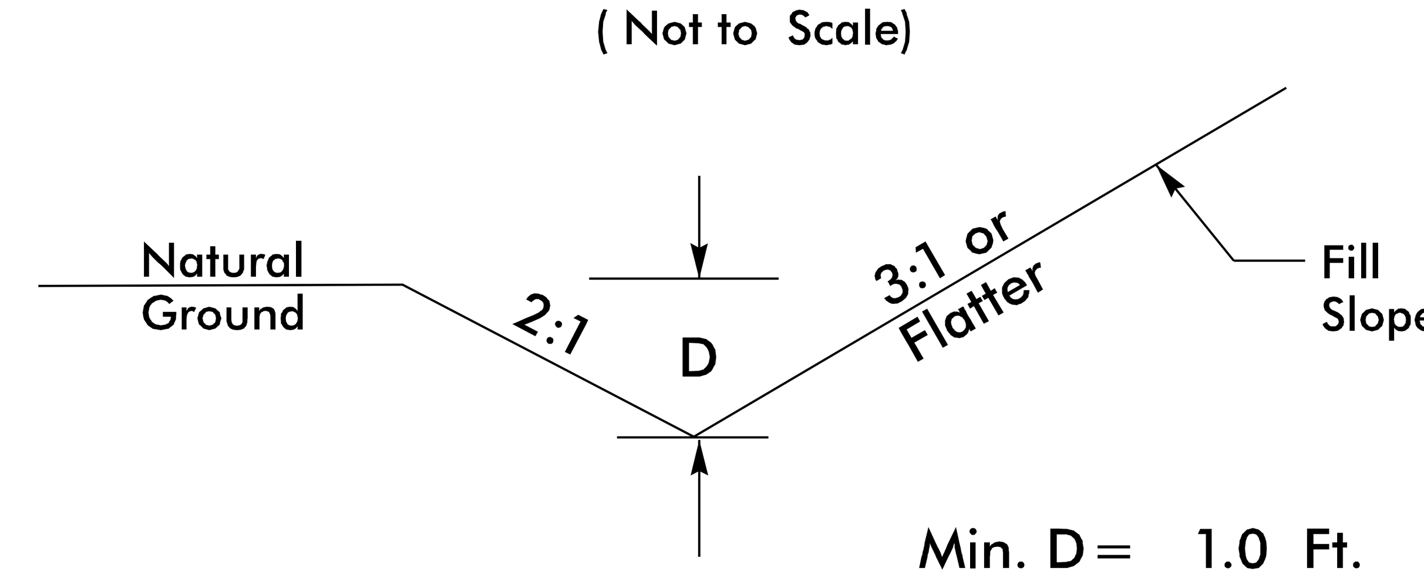


d = 2.0 Ft.
b = 2.0 Ft.

Type of Liner = Class 'B' Rip–Rap

FROM STA. 21 + 00 TO STA. 24 + 50 –L– (LT)

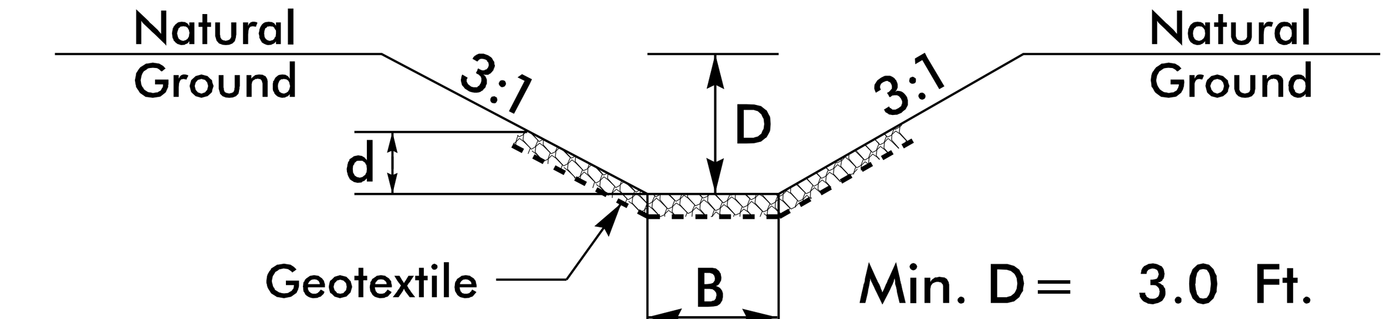
DETAIL 5
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.

FROM STA. 19 + 50 TO STA. 20 + 00 –L– (LT)
FROM STA. 26 + 72 TO STA. 27 + 50 –L– (LT)

DETAIL 6
STANDARD BASE DITCH
(Not to Scale)



Min. D = 3.0 Ft.
Max. d = 2.0 Ft.
B = 7.0 Ft.

Type of Liner = Class I Rip–Rap

STA. 26 + 72 –L– (RT)

K:\RAL_Roadway\012622018_A – Alston Ridge Greenway\Plan\Plan Sheets\Alston_typ.dgn

8/13/2024

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY 8/13/2024
DocuSigned by: Bryan Vickery 8E07294B9629413...
SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: DRAINAGE DETAILS

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

2C

SUMMARY OF QUANTITIES

ITEM NUMBER	SEC #	QTY	UNIT	DESCRIPTION
0000100000-N	800	1	LS	Mobilization
0000400000-N	801	1	LS	Construction Surveying
0043000000-N	226	325	CY	Undercut Excavation
0036000000-E	226	1	LS	Grading
0134000000-E	240	15	CY	Drainage Ditch Excavation
0195000000-E	265	325	CY	Select Granular Material
0196000000-E	270	185	SY	Geotextile for Soil Stabilization
0320000000-E	300	80	SY	Foundation Conditioning Geotextiles
0372000000-E	310	48	LF	18" RC Pipe Culverts, Class III
0378000000-E	310	52	LF	24" RC Pipe Culverts, Class III
0384000000-E	310	112	LF	30" RC Pipe Culverts, Class III
1121000000-E	520	2000	TON	Aggregate Base Course
1519000000-E	610	240	TON	Asphalt Concrete Surface Course, Type S9.5B
1575000000-E	620	20	TON	Asphalt Binder for Plant Mix
	PSP	2260	LF	Pedestrian Handrail
	PSP	1	EA	Pedestrian Bench
3628000000-E	876	70	TON	Rip Rap, Class I
3649000000-E	876	490	TON	Rip Rap, Class B
3656000000-E	876	1100	SY	Geotextile For Drainage
4025000000-E	901	35	SF	Contractor Furnished, Type E Sign
4072000000-E	903	120	LF	Supports, 3-LB Steel U-Channel
4102000000-N	904	8	EA	Sign Erection, Type E
4457000000-N	SP	1	LS	Temporary Traffic Control
6000000000-E	1605	2425	LF	Temporary Silt Fence
6009000000-E	1610	130	TON	Erosion Control Stone, Class B
6012000000-E	1610	55	TON	Sediment Control Stone
6015000000-E	1615	2	ACR	Temporary Mulching
6018000000-E	1620	200	LB	Seed For Temporary Seeding
6021000000-E	1620	1	TON	Fertilizer For Temporary Seeding
6021000000-E	1622	200	LF	Temporary Slope Drains
6029000000-E	SP	200	LF	Safety Fence
6030000000-E	1630	110	CY	Silt Excavation
6037000000-E	SP	100	SY	Coir Fiber Mat
6042000000-E	1632	155	LF	1/4" Hardware Cloth
6084000000-E	1660	3	ACR	Seeding And Mulching
6087000000-E	1660	3	ACR	Mowing
6090000000-E	1661	50	LB	Seed For Repair Seeding
6093000000-E	1661	0.25	TON	Fertilizer For Repair Seeding
6096000000-E	1662	75	LB	Seed For Supplemental Seeding
6108000000-E	1665	2	TON	Fertilizer Topdressing
6114500000-N	1667	10	MHR	Specialized Hand Mowing
	PSP	140	LF	Boardwalk

K:\RAL_Roadway\012622018_A – Alston Ridge Greenway\Plan\Plan Sheets\Alston_psh_SUM.dgn
8/13/2024

PLANS PREPARED BY:

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SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: SUMMARY OF QUANTITIES

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

3

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	STATION	STATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + 20%	BORROW	WASTE
-L-	10+25.00	32+65.00	1561	325	5898	4662	325
-L-	33+65.00	34+39.59	1	0	94	93	0
CONTIGENCY			25	0	30	30	0
SUBTOTALS			1562	325	6022	4785	325
ADJUSTMENTS:							
EARTH WASTE TO REPLACE BORROW						0	0
PROJECT TOTALS			1562	325	6022	4785	325
EST. 5% FOR REPLACING TOPSOIL ON BORROW PITS						239	
GRAND TOTALS			1562			5024	
SAY			1600			5100	

Note: Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading"

Note: Embankment column does not include backfill for undercut.

K:\RAL_Roadway\012622018_A – Alston Ridge Greenway\Plan\Plan Sheets\Alston_psh_SUM.dgn

8/13/2024

PLANS PREPARED BY:
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SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: TOWN OF FUQUAY-VARINA

FUQUAY-VARINA north carolina

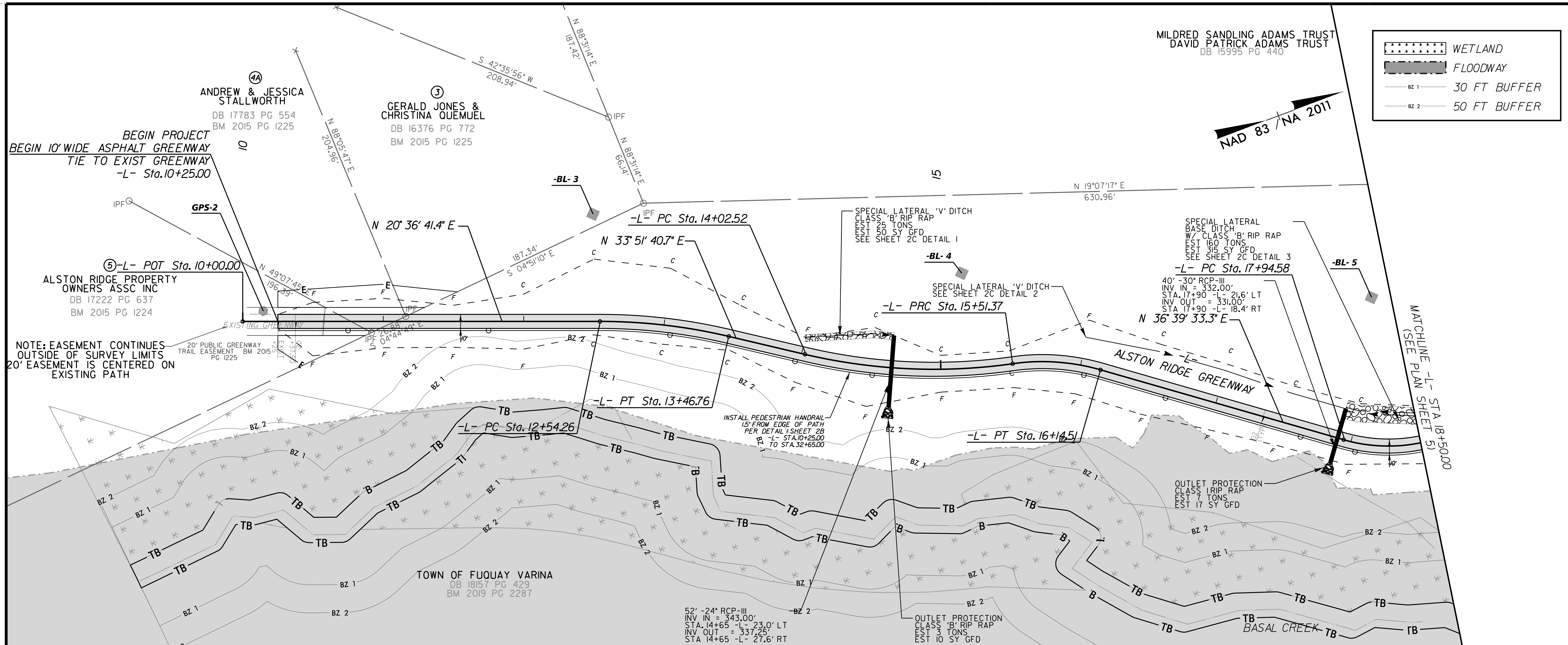
PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

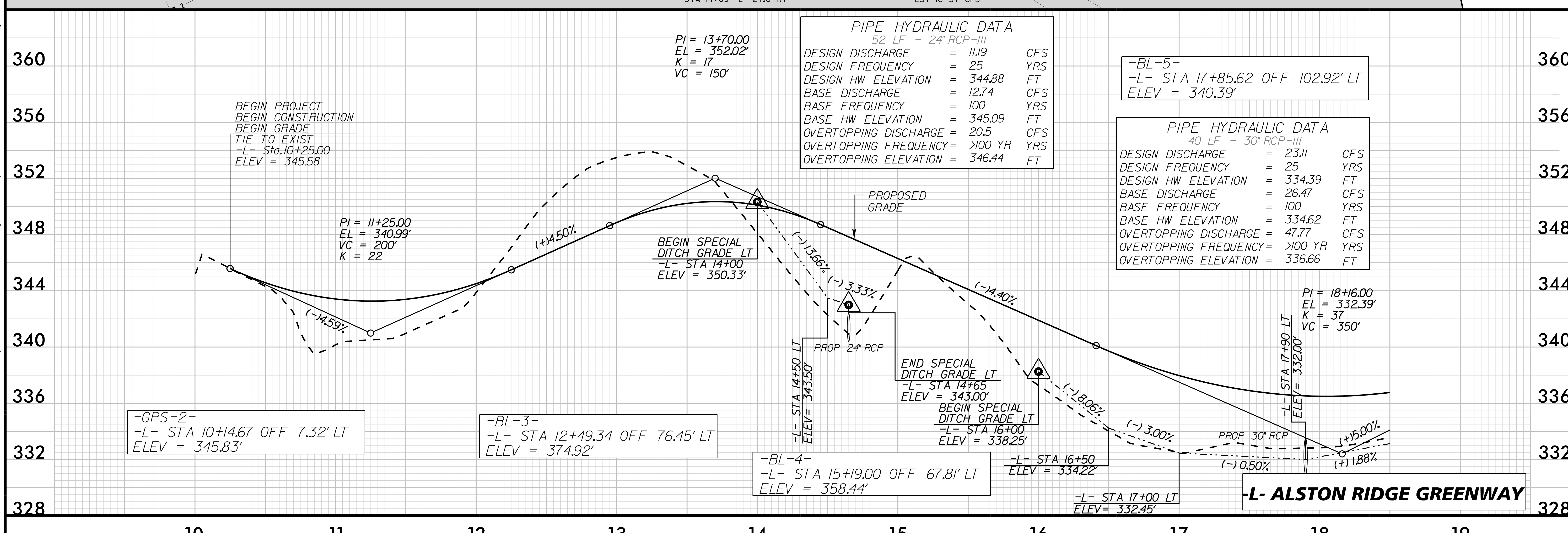
TITLE: SUMMARY OF EARTHWORK

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS





PIPE HYDRAULIC DATA
52 LF - 24" RCP-III

DESIGN DISCHARGE	=	11.19	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	344.88	FT
BASE DISCHARGE	=	12.74	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	345.09	FT
OVERTOPPING DISCHARGE	=	20.5	CFS
OVERTOPPING FREQUENCY	=	>100 YR	YRS
OVERTOPPING ELEVATION	=	346.44	FT

PIPE HYDRAULIC DATA
40 LF - 30" RCP-III

DESIGN DISCHARGE	=	23.11	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	334.39	FT
BASE DISCHARGE	=	26.47	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	334.62	FT
OVERTOPPING DISCHARGE	=	47.77	CFS
OVERTOPPING FREQUENCY	=	>100 YR	YRS
OVERTOPPING ELEVATION	=	336.66	FT

K:\RAL_Roadway\012622018_A - Alston Ridge Greenway\Plan\Plan Sheets\Alston_psh_4.dgn
8/13/2024

PLANS PREPARED BY:
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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY
8/13/2024
SEAL

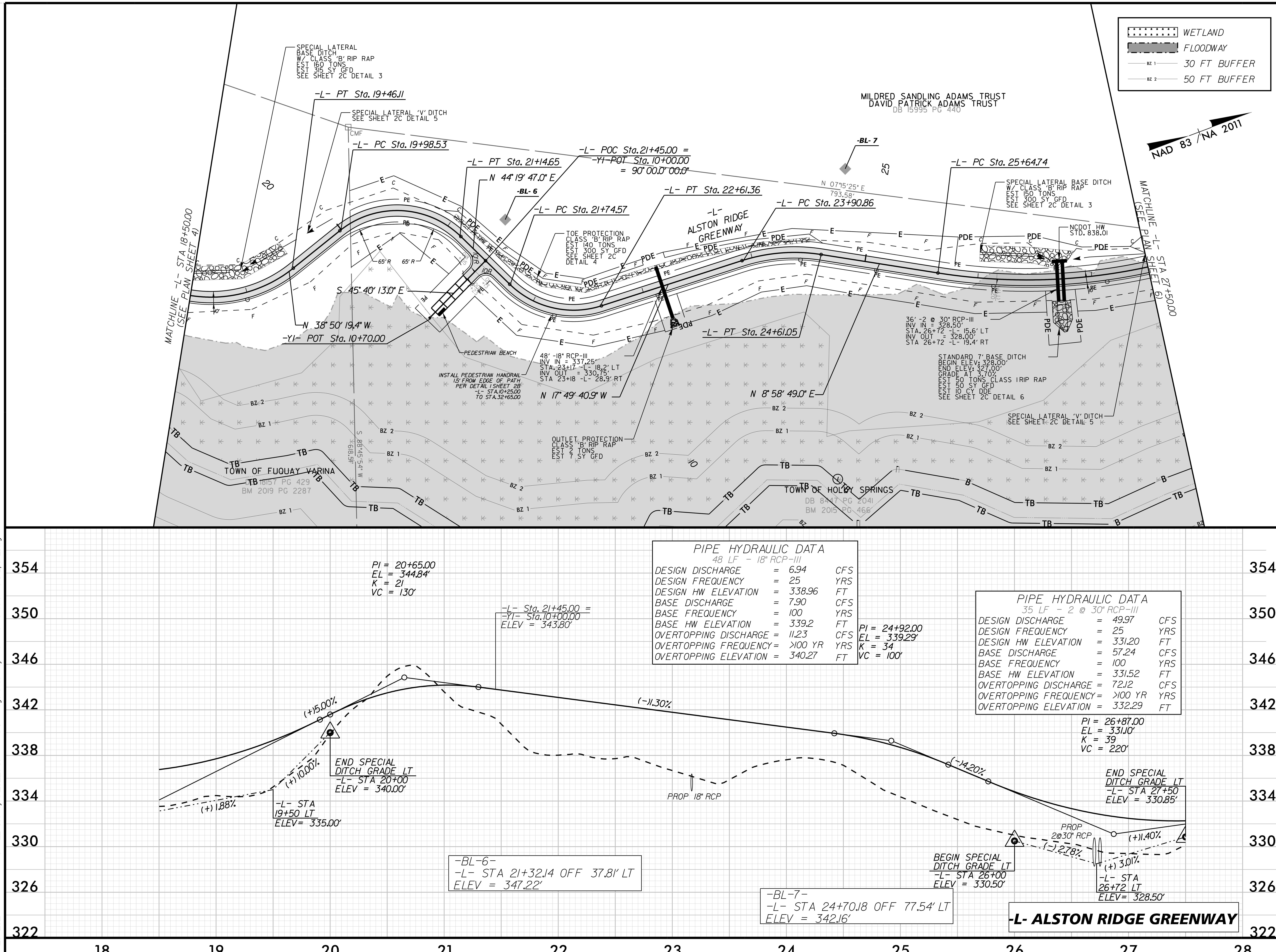
NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: PLAN AND PROFILE SHEET

KHA PROJECT: 012622018
DATE: 8/13/2024
FINAL PLANS



PIPE HYDRAULIC DATA
48 LF - 18" RCP-III

DESIGN DISCHARGE	=	6.94	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	338.96	FT
BASE DISCHARGE	=	7.90	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	339.2	FT
OVERTOPPING DISCHARGE	=	11.23	CFS
OVERTOPPING FREQUENCY	=	>100 YR	YRS
OVERTOPPING ELEVATION	=	340.27	FT

PIPE HYDRAULIC DATA
35 LF - 2 @ 30" RCP-III

DESIGN DISCHARGE	=	49.97	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	331.20	FT
BASE DISCHARGE	=	57.24	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	331.52	FT
OVERTOPPING DISCHARGE	=	72.12	CFS
OVERTOPPING FREQUENCY	=	>100 YR	YRS
OVERTOPPING ELEVATION	=	332.29	FT

-L- ALSTON RIDGE GREENWAY

K:\RAL_Roadway\012622018.A - Alston Ridge Greenway\Plan\Plan Sheets\Alston_psh_5.dgn

10/25/2024

PLANS PREPARED BY:

Kimley»Horn

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042751 BRYAN T. VICKERY

10/25/2024 SEAL

REVISIONS | NO. | DATE

PLANS PREPARED FOR: TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

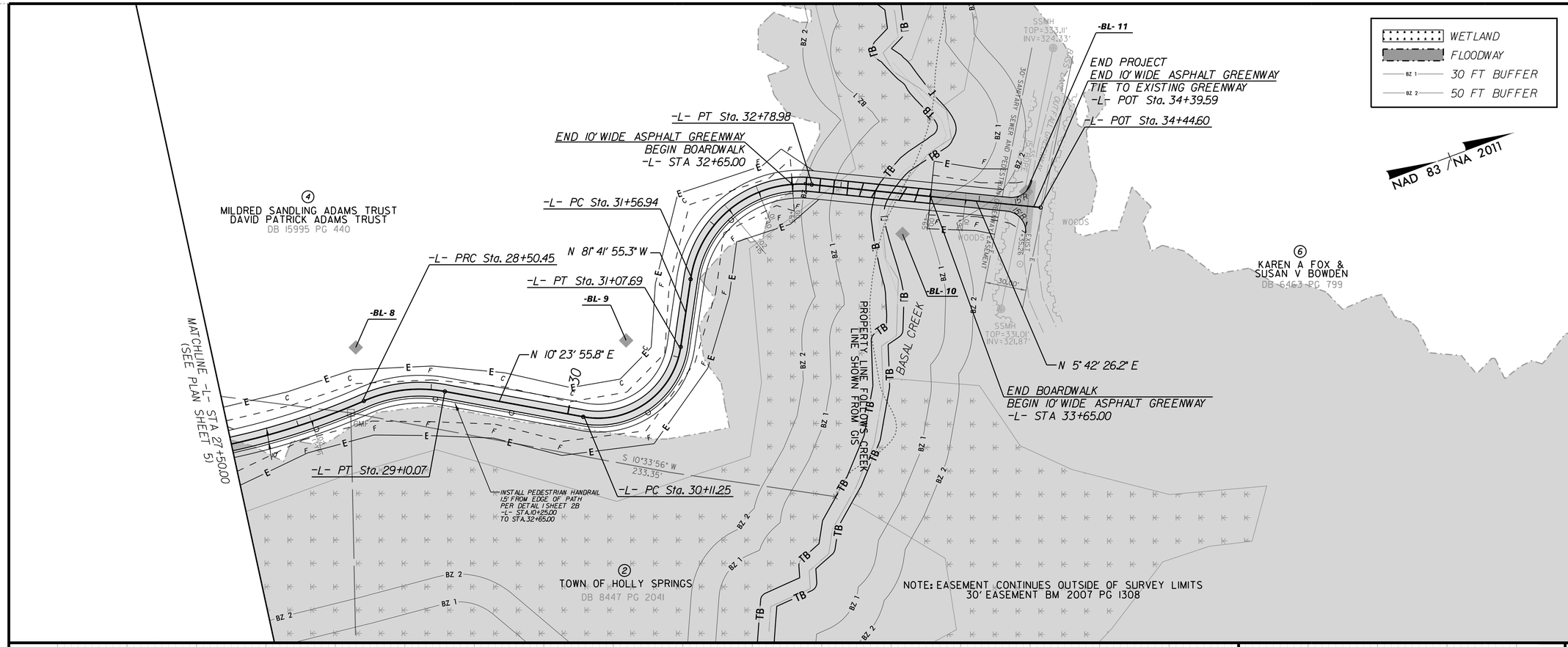
TITLE: PLAN AND PROFILE SHEET

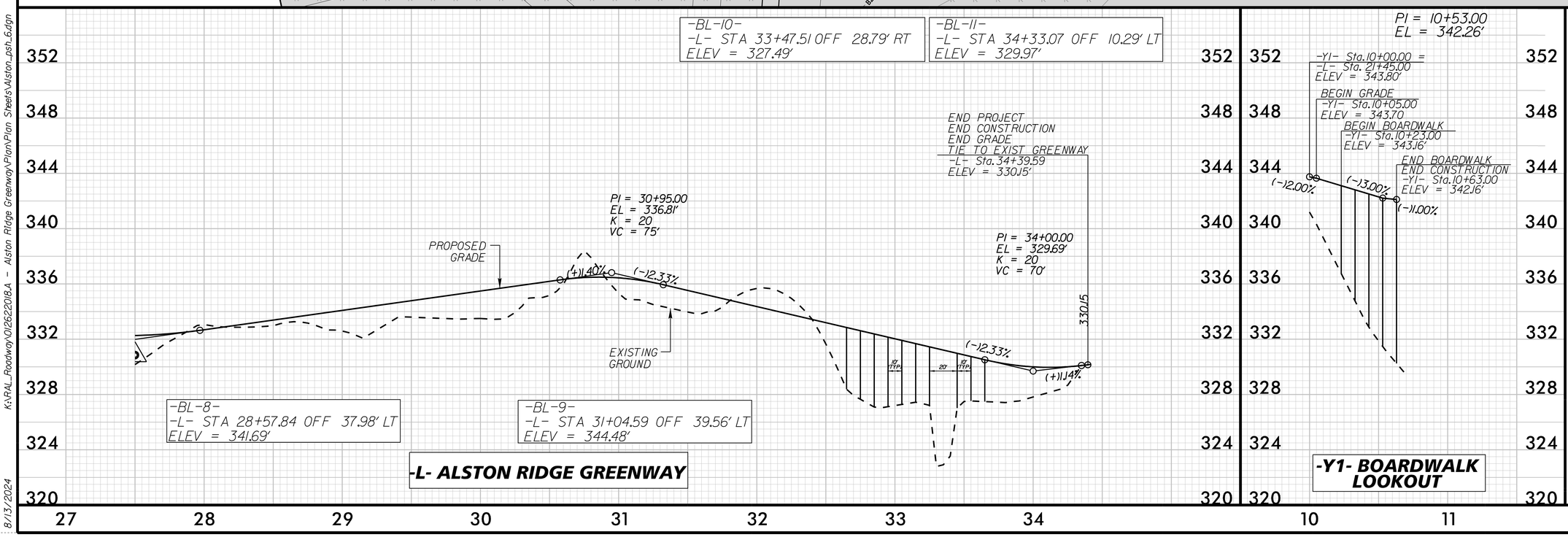
KHA PROJECT: 012622018

DATE: 10/25/2024

FINAL PLANS

5





PLANS PREPARED BY:
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NORTH CAROLINA PROFESSIONAL SEAL 040255 ENGINEER STEFAN T. VITEK 8/13/2024
SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: PLAN AND PROFILE SHEET

KHA PROJECT: 012622018
DATE: 8/13/2024
FINAL PLANS

6

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8/13/2024

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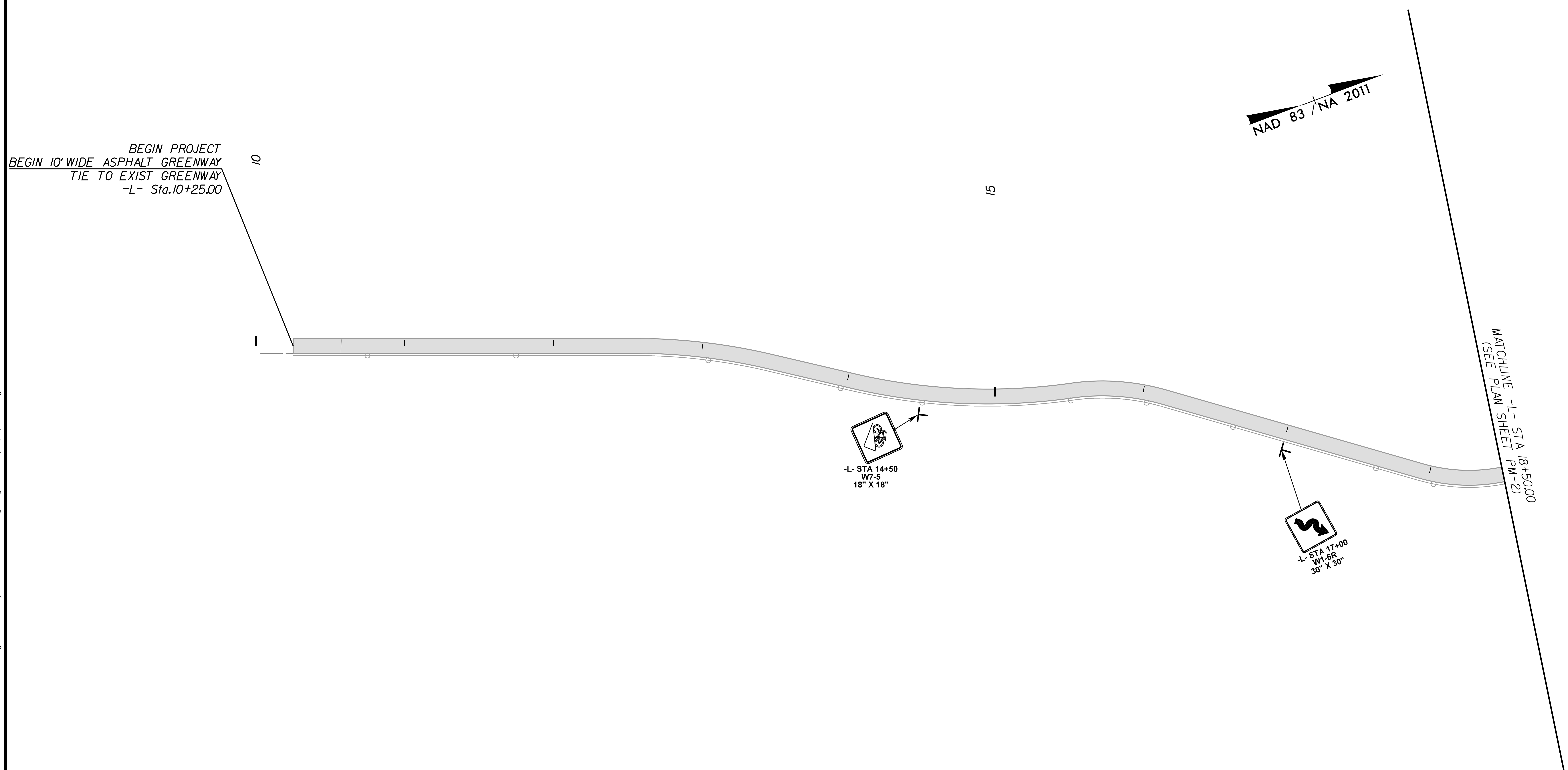

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8/13/2024

PROJECT NOTES

1	DISPOSAL OF SIGN, D, E, OR F
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	DISPOSAL OF SUPPORT, U-CHANNEL
4	SIGN ERECTION, RELOCATE, SIGN TYPE F
5	SIGN ERECTION, RELOCATE, SIGN TYPE E

PLANS PREPARED BY:

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY

DocuSigned by:

8/13/2024

SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina

TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

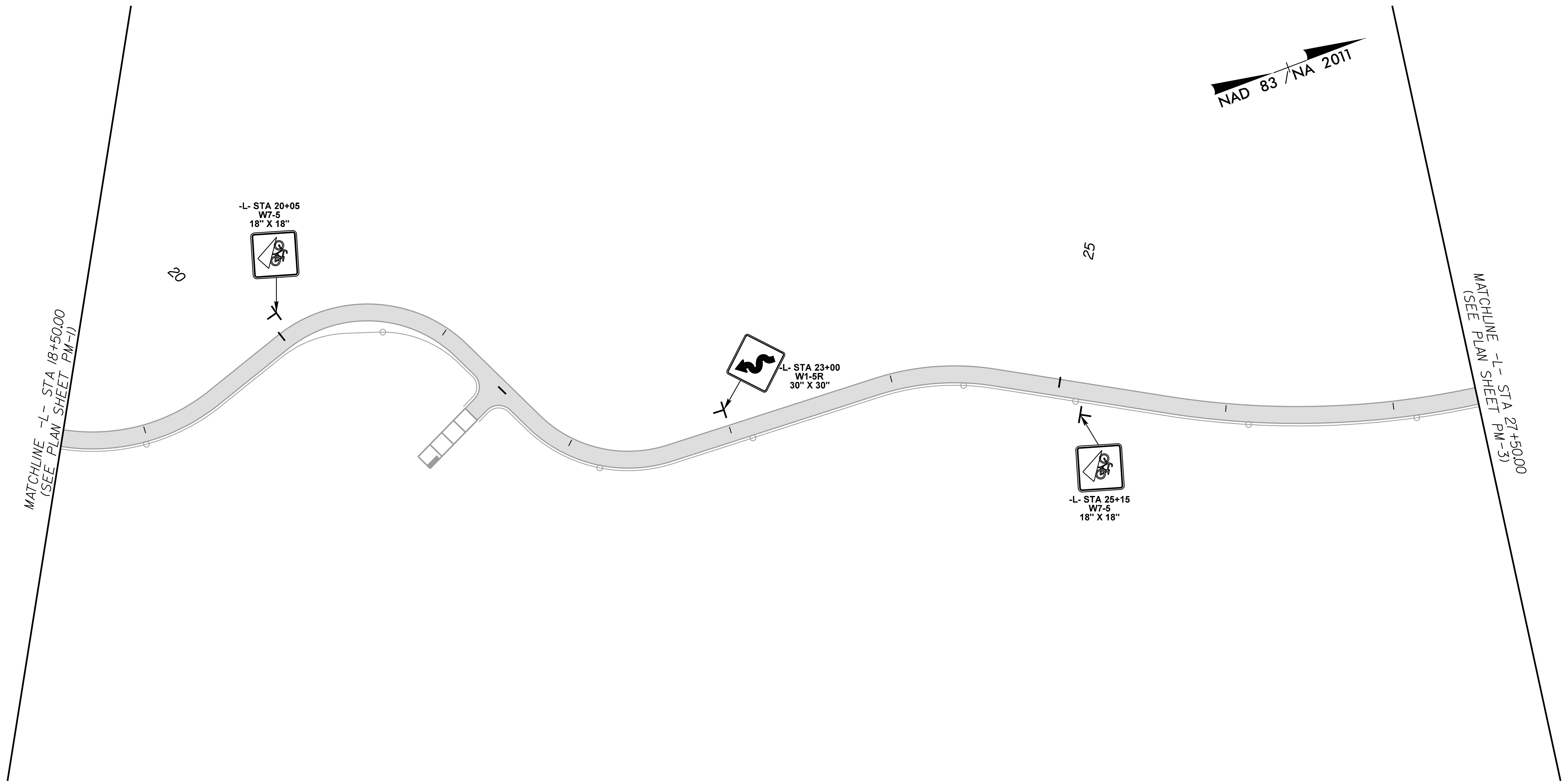
TITLE: PAVEMENT MARKING AND SIGNING PLANS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

PM-1



K:\RAL_Roadway\012622018.A - Alston Ridge Greenway\Plan\PMP & Signing\Alston_pmp_psh_5.dgn

8/13/2024

PROJECT NOTES

1	DISPOSAL OF SIGN, D, E, OR F
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	DISPOSAL OF SUPPORT, U-CHANNEL
4	SIGN ERECTION, RELOCATE, SIGN TYPE F
5	SIGN ERECTION, RELOCATE, SIGN TYPE E

PLANS PREPARED BY:

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DocuSigned by: Bryan Vickery
8E07294B9629413
8/13/2024
SEAL

REVISIONS
NO. DATE

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

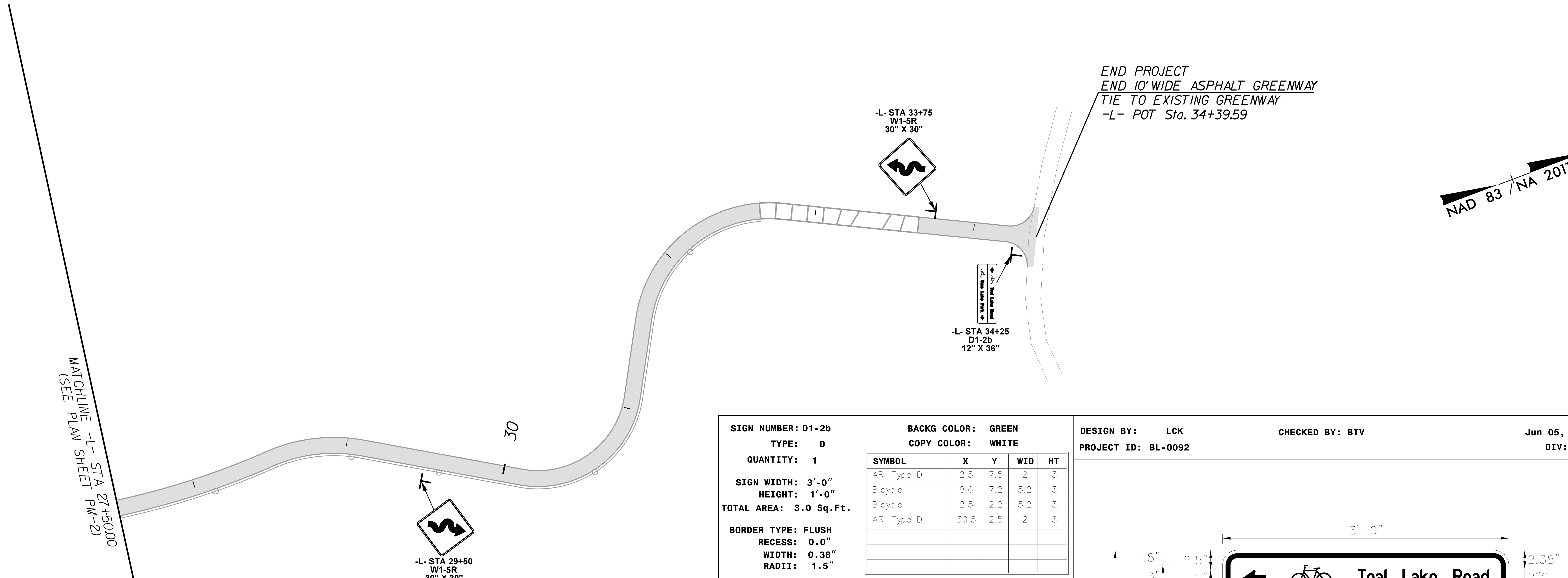
PROJECT: TIP: BL-00092
ALSTON RIDGE GREENWAY

TITLE: PAVEMENT MARKING AND SIGNING PLAN

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

PM-2



SIGN NUMBER: D1-2b
TYPE: D
QUANTITY: 1

SIGN WIDTH: 3'-0"
HEIGHT: 1'-0"
TOTAL AREA: 3.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.0"
WIDTH: 0.38"
RADII: 1.5"

NO. Z BARS:
LENGTH:

BACKG COLOR: GREEN
COPY COLOR: WHITE

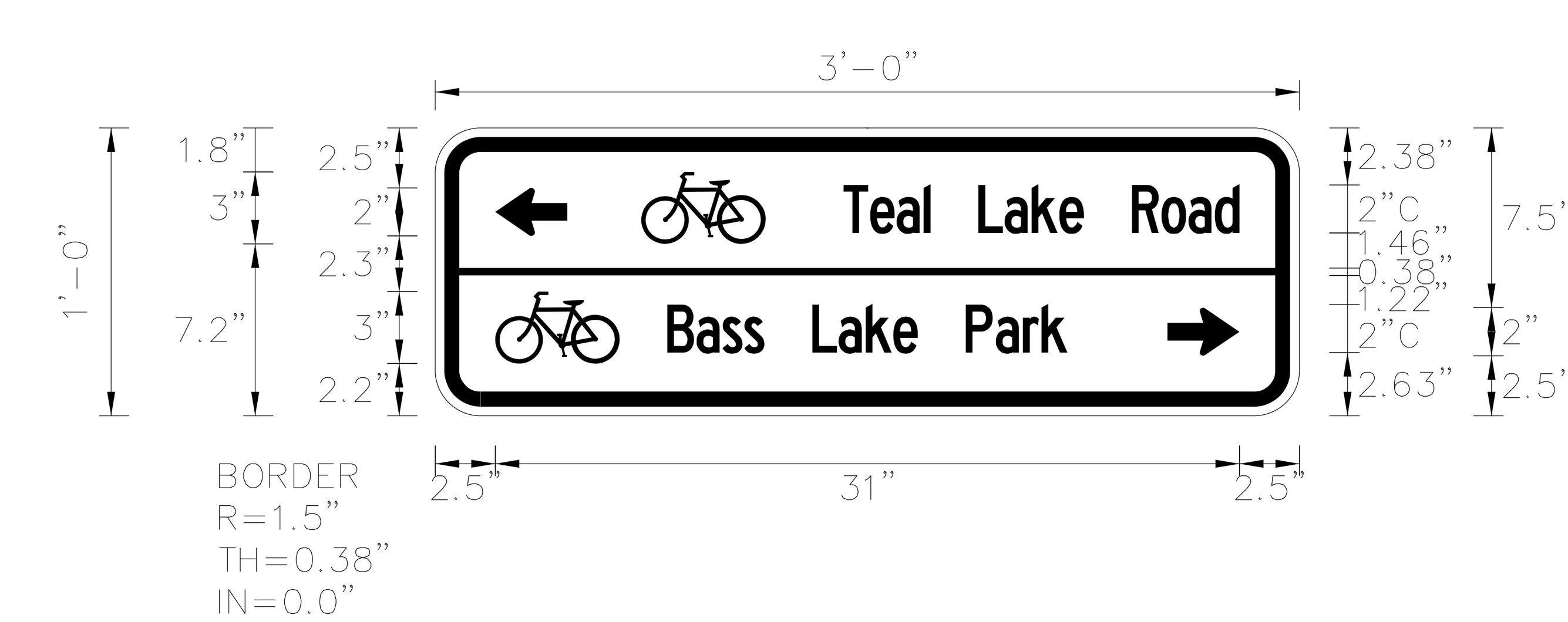
SYMBOL	X	Y	WID	HT
AR_Type D	2.5	7.5	2	3
Bicycle	8.6	7.2	5.2	3
Bicycle	2.5	2.2	5.2	3
AR_Type D	30.5	2.5	2	3

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: LCK
PROJECT ID: BL-0092
CHECKED BY: BTV
Jun 05, 2024
DIV: 05



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																Series/Size Text Length
		T	e	a	l		L	a	k	e		R	o	a	d	C 2000
	17	1.1	1.1	1.1	0.3	2	1.1	1.1	1.1	1	2	1.2	1.1	1.1	1	2.5	16.5
		B	a	s	s		L	a	k	e		P	a	r	k	C 2000
	9.7	1.2	1.1	0.9	0.8	2	1.1	1.1	1.2	1	2	1.3	1.1	0.8	1.1	9.7	16.7

FILENAME: Guidsign_English_8-2-13

NORTH CAROLINA D.O.T. SIGN DETAIL

PROJECT NOTES

1	DISPOSAL OF SIGN, D, E, OR F
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	DISPOSAL OF SUPPORT, U-CHANNEL
4	SIGN ERECTION, RELOCATE, SIGN TYPE F
5	SIGN ERECTION, RELOCATE, SIGN TYPE E

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10/30/2024

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10/30/2024
SEAL

REVISIONS | DATE | NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: PAVEMENT MARKING AND SIGNING PLAN

KHA PROJECT: 012622018
DATE: 10/30/2024

FINAL PLANS

PM-3

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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

TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
ALL ROADS	6:00-9:00 A.M. & 4:00-7:00 MONDAY THRU FRIDAY

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

ROAD NAME

ALL ROADS

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

GENERAL NOTES (CONT.)

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT SINGLE VEHICLE HAULING AS FOLLOWS; INGRESS AND EGRESS FROM RAMPS WILL BE ALLOWED:

ROAD NAME	DAY AND TIME RESTRICTIONS
ALL ROADS	6:00-9:00 A.M. & 4:00-7:00 MONDAY THRU FRIDAY

D) DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS; INGRESS AND EGRESS FROM RAMPS WILL NOT BE ALLOWED:

ROAD NAME	DAY AND TIME RESTRICTIONS
ALL ROADS	6:00-9:00 A.M. & 4:00-7:00 MONDAY THRU FRIDAY

E) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

F) DO NOT CLOSE OR NARROW TRAVEL LANES ALONG WEST CAMPUS DRIVE AND EAST CAMPUS DRIVE FOR THE WAKE MED RALEIGH CAMPUS AT ANYTIME DURING CONSTRUCTION.

LANE AND SHOULDER CLOSURE REQUIREMENTS

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

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

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

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

J) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

K) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

L) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON NEW BERN AVE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

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

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

TRAFFIC PATTERN ALTERATIONS

N) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

O) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

TRAFFIC CONTROL DEVICES

P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT,10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKINGS AND MARKERS

Q) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	TEMPORARY PAINT	NOTES

R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

T) ACCESS TO ALL DRIVEWAYS MUST BE PROVIDED AT ALL TIMES WITHIN THE PROJECT LIMITS.

U) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

V) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

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8/13/2024

PLANS PREPARED BY:

Kimley»Horn

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© 2024

NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY 8/13/2024

DocuSigned by: Bryan Vickery 8E07294B9629413...

SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: TOWN OF FUQUAY-VARINA

FUQUAY-VARINA north carolina

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: TRAFFIC MANAGEMENT PLAN

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

TMP-1

CONSTRUCTION PHASING

PHASE I

STEP 1

PRIOR TO BEGINNING CONSTRUCTION, INSTALL ADVANCE WARNING SIGNS AS SHOWN ON RSD. 1101.01.

STEP 2

WHILE MAINTAINING TRAFFIC ALONG ALL ROADWAY CORRIDORS, INTERSECTIONS, AND DRIVEWAYS, USING TEMPORARY LANE CLOSURES AS NEEDED AS SHOWN ON NCDOT ROADWAY STANDARD DRAWING 1101.02, PERFORM THE FOLLOWING:

CONSTRUCT PROPOSED IMPROVEMENTS, CURB AND GUTTER, CURB RAMPS, SIDEWALK, AND DRAINAGE. IMPLEMENT PEDESTRIAN DETOURS AS NEEDED TO MAINTAIN PEDESTRIANS DURING CONSTRUCTION.

NOTES:
-PROVIDE WEDGING AS NECESSARY TO TIE NEW CONSTRUCTION INTO EXISTING PAVEMENT FOR SMOOTH TRANSITIONS AND POSITIVE DRAINAGE USING TEMPORARY LANE CLOSURES.

LOCAL NOTES

PEDESTRIAN ACCOMMODATIONS

A) CONTACT PUBLIC TRANSIT AGENCIES, EMERGENCY, FIRE AND RESCUE AT LEAST THREE WEEKS PRIOR TO ANY ROAD CLOSURES

B) DO NOT PLACE EQUIPMENT ON OR RESTRICT PEDESTRIAN MOVEMENTS ON SIDEWALKS AT ANY TIME, UNLESS OTHERWISE APPROVED BY THE CITY OR THE ENGINEER. ADA REQUIREMENTS SHALL BE MET ALONG THE PROJECT CORRIDOR.

C) PEDESTRIAN ACCESS SHALL BE MAINTAINED ALONG ALL EXISTING SIDEWALKS FOR THE DURATION OF CONSTRUCTION, UNLESS OTHERWISE DIRECTED OR APPROVED BY THE CITY OR THE ENGINEER. PROTECT PEDESTRIANS FROM WORK AREAS BY USE OF WATER FILLED BARRIERS, SAFETY FENCE, AND OTHER DEVICES AS NECESSARY.

D) MAINTAIN EXISTING PEDESTRIAN ROUTES DURING CONSTRUCTION. AT ALL POSSIBLE TIMES, MAINTAIN EXISTING SIDEWALK UNTIL NEW SIDEWALK IS IN PLACE, USING SAFETY FENCE AS NEEDED TO KEEP PEDESTRIANS OUT OF THE WORK AREAS.

E) CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED.

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8/13/2024

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DocuSigned by: Bryan Vickery 8E07294B9629413...
8/13/2024
SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: TRAFFIC MANAGEMENT PLAN

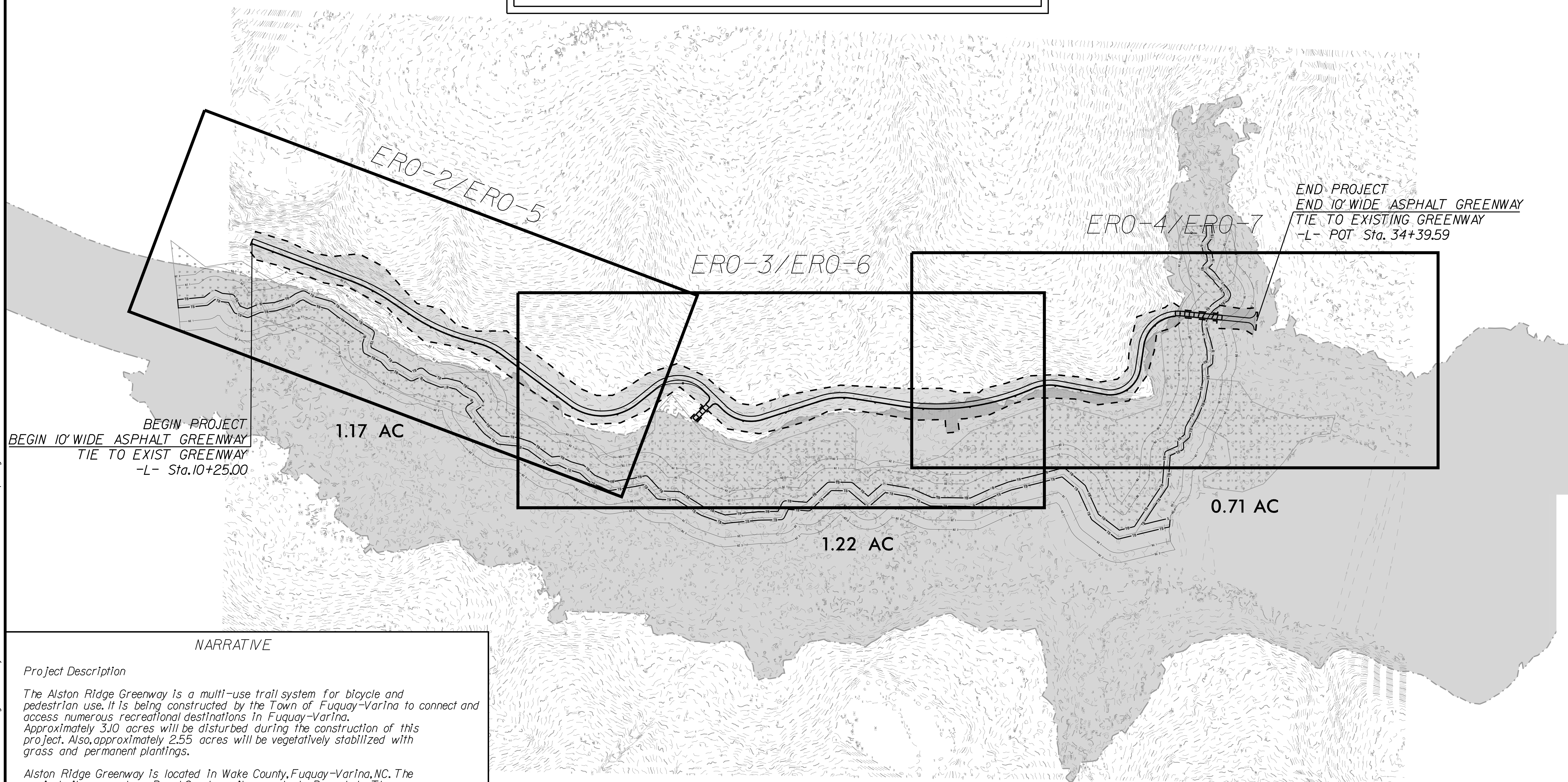
KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

TMP-2

Total Disturbed Area (shaded) = 3.10 acres

NAD 83 / NA 2011



NARRATIVE

Project Description

The Alston Ridge Greenway is a multi-use trail system for bicycle and pedestrian use. It is being constructed by the Town of Fuquay-Varina to connect and access numerous recreational destinations in Fuquay-Varina.
Approximately 3.10 acres will be disturbed during the construction of this project. Also, approximately 2.55 acres will be vegetatively stabilized with grass and permanent plantings.

Alston Ridge Greenway is located in Wake County, Fuquay-Varina, NC. The project site runs along Basal Creek as it connects to Bass Lake. The greenway travels through multiple residental areas, beginning at Old Addams Road, where the trail will connect to the existing greenway, and terminating near Briarglen Lane, where it will connect to the existing Bass Lake Trail.

Site Description

The site has a downward slope that travels from the western side of the project to the eastern side. The site has some existing sanitary sewer pipes and manholes. Land use along the project is predominantly residential with some areas along Alston Pond properties. Drainage from the project site sheet flows down the slope of the site and eventually flows through Basal Creek into Bass Lake and eventually into the Neuse River Watershed, thus no new drainage patterns will be introduced. Pre-construction runoff equals Post-construction runoff for all existing system outlets that are to be retained. The fill slopes and drainage ditches around the project appear to be stable and do not show signs of significant erosion soils.

Soils

The soil types throughout the project limits are mostly sandy loam (AaA, BbA, PaE, WeD, and WeE).

- - - - PROJECT DENUDED AREAS

IMPERVIOUS AND PERVIOUS SURFACES IN
ALSTON RIDGE GREENWAY DISTURBED AREAS

PROPOSED IMPERVIOUS SURFACE = 0.55 AC
PROPOSED PERVIOUS SURFACE = 2.55 AC

100 0 200

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8/13/2024

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8/13/2024
SEAL

REVISIONS | DATE | NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: DENUDED AREAS

KHA PROJECT: 012622018
DATE: 8/13/2024
FINAL PLANS

ERO-1

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1 AND 3:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS

ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. CONTRACTOR TO COORDINATE WITH TOWN INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTICAL STABILIZATION OF SOIL.

BOARDWALK AND CULVERT EROSION CONTROL PHASING:

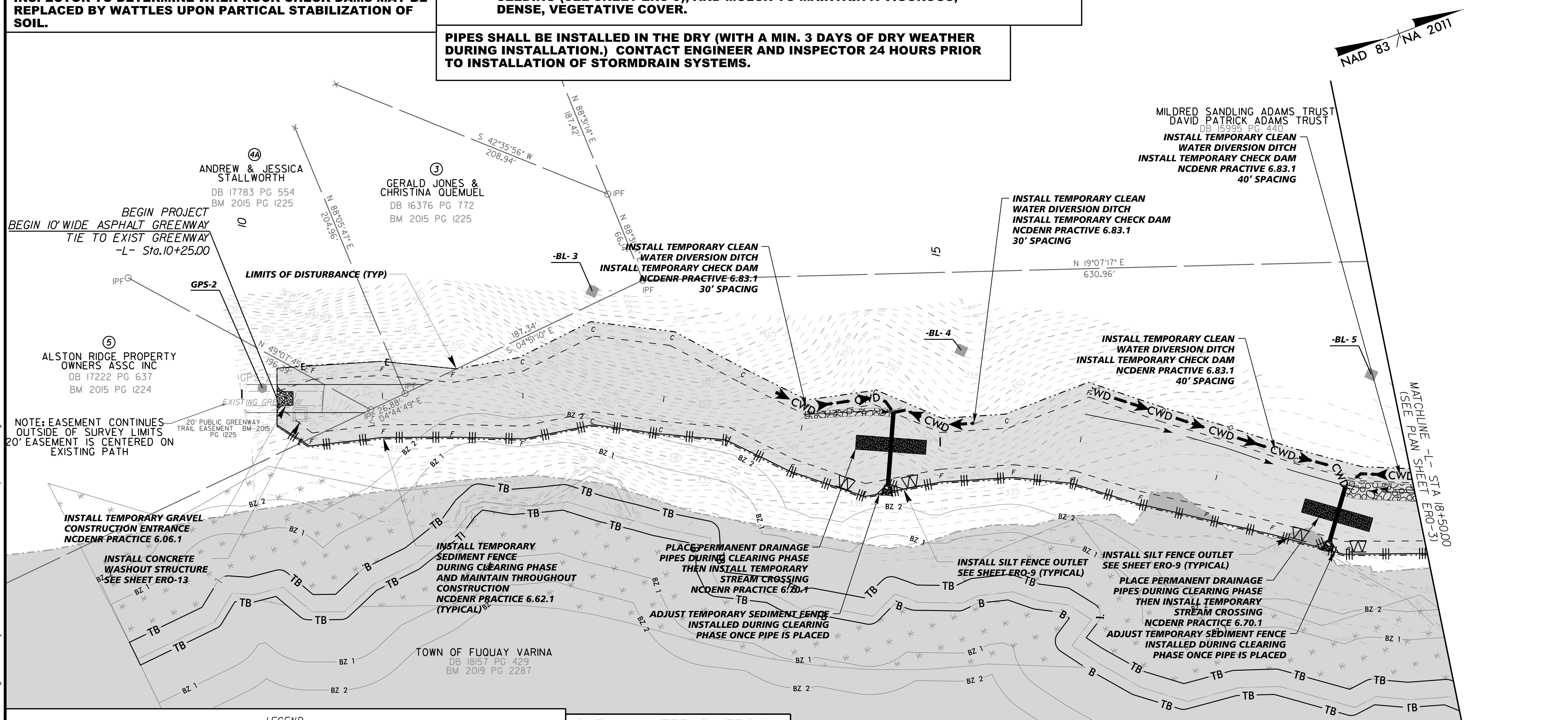
1. **CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.**
2. **CONTRACTOR TO ACCESS BOARDWALK AND CULVERT LOCATIONS USING PROPOSED GREENWAY PATH FOOTPRINT. USE MUD MATS (SEE EROSION CONTROL DETAILS) IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.**
3. **CONTRACTOR TO DEWATER EXCAVATED AREAS AS NEEDED USING IMPERVIOUS DIKES, SPECIAL STILLING BASINS, AND BYPASSING PUMPING (DEWATERING METHOD INCIDENTAL TO BOARDWALK INSTALLATION).**
4. **AFTER BOARDWALK AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET ERO-9), AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.**

PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE MARCH 31, 2024 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B.0131

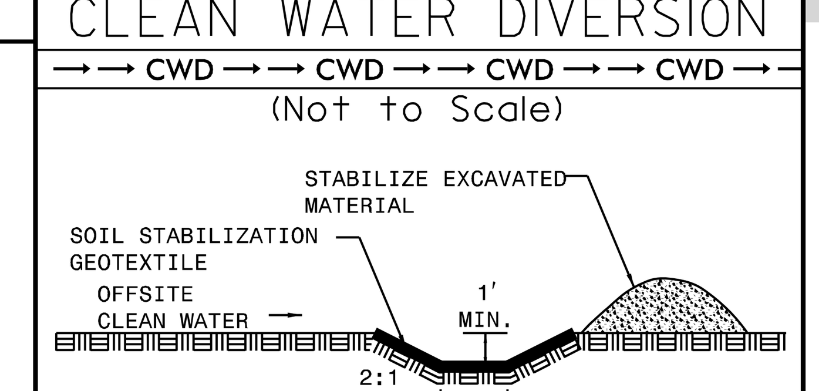
THIS SHEET REPRESENTS THE CLEARING AND GRUBBING PHASE OF THE PROJECT. SEE SHEET ERO-5 FOR THE CONSTRUCTION PHASE.



LEGEND

CONSTRUCTION LIMIT	C F	LIMITS OF DISTURBANCE (LABELED ON PLANS)	
TEMPORARY SILT FENCE (SEE DETAIL SHEETS)		STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)	
SPECIAL SEDIMENT CONTROL FENCE / SILT FENCE OUTLET (SEE DETAIL SHEETS)		TEMPORARY ROCK SILT CHECK, TYPE A (SEE NCDOT STD.1633.01)	
TEMPORARY CONSTRUCTION ENTRANCE (SEE NCDOT STD.1607.01)		TEMPORARY ROCK SILT CHECK, TYPE B (SEE DETAIL SHEETS)	
ROCK PIPE INLET SEDIMENT TRAP, TYPE B (SEE NCDOT STD.1635.02)		TREE PROTECTION (SEE DETAIL SHEETS)	
		WATTLE (SEE DETAIL SHEETS)	
CONCRETE WASHOUT (SEE DETAIL SHEETS)		EXISTING CONTOUR	
OUTLET PROTECTION (SEE DETAIL SHEETS)		PROPOSED CONTOUR	

CLEAN WATER DIVERSION



NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

GENERAL NOTES (TYPICAL ALL SHEETS):

1. WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVERTHE PIPE OUTLETS.
2. SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.
3. USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION
4. DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.
5. MINIMIZE BUFFER DISTURBANCE AS MUCH AS POSSIBLE. WORK WITHIN BUFFER ZONE SHOULD BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME THAT DISTURBED AREAS ARE EXPOSED.

GENERAL NOTES (CONT) (TYPICAL ALL SHEETS):

6. STREAM BANK STABILIZATION SHOULD BE PHASED SO THAT EACH DAY'S WORK IS COMPLETED AND ADEQUATELY STABILIZED AT THE END OF EACH WORK DAY.
7. ADEQUATE TEMPORARY SEDIMENT CONTROLS SHALL BE PROVIDED AT THE END OF EACH WORK DAY AT ALL STREAM CROSSINGS UNTIL ADEQUATE PERMANENT GROUND COVER IS PROVIDED.

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8/13/2024

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SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042554 BRYAN T. VICKERY 8/13/2024
DocuSigned by: Bryan Vickery 8E07294B9629413

REVISIONS | NO. | DATE

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL PLANS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-2

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1 AND 3:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS

ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTICAL STABILIZATION OF SOIL.

BOARDWALK AND CULVERT EROSION CONTROL PHASING:

1. **CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.**
2. **CONTRACTOR TO ACCESS BOARDWALK AND CULVERT LOCATIONS USING PROPOSED GREENWAY PATH FOOTPRINT. USE MUD MATS (SEE EROSION CONTROL DETAILS) IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.**
3. **CONTRACTOR TO DEWATER EXCAVATED AREAS AS NEEDED USING IMPERVIOUS DIKES, SPECIAL STILLING BASINS, AND BYPASSING PUMPING (DEWATERING METHOD INCIDENTAL TO BOARDWALK INSTALLATION).**
4. **AFTER BOARDWALK AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET ERO-9), AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.**

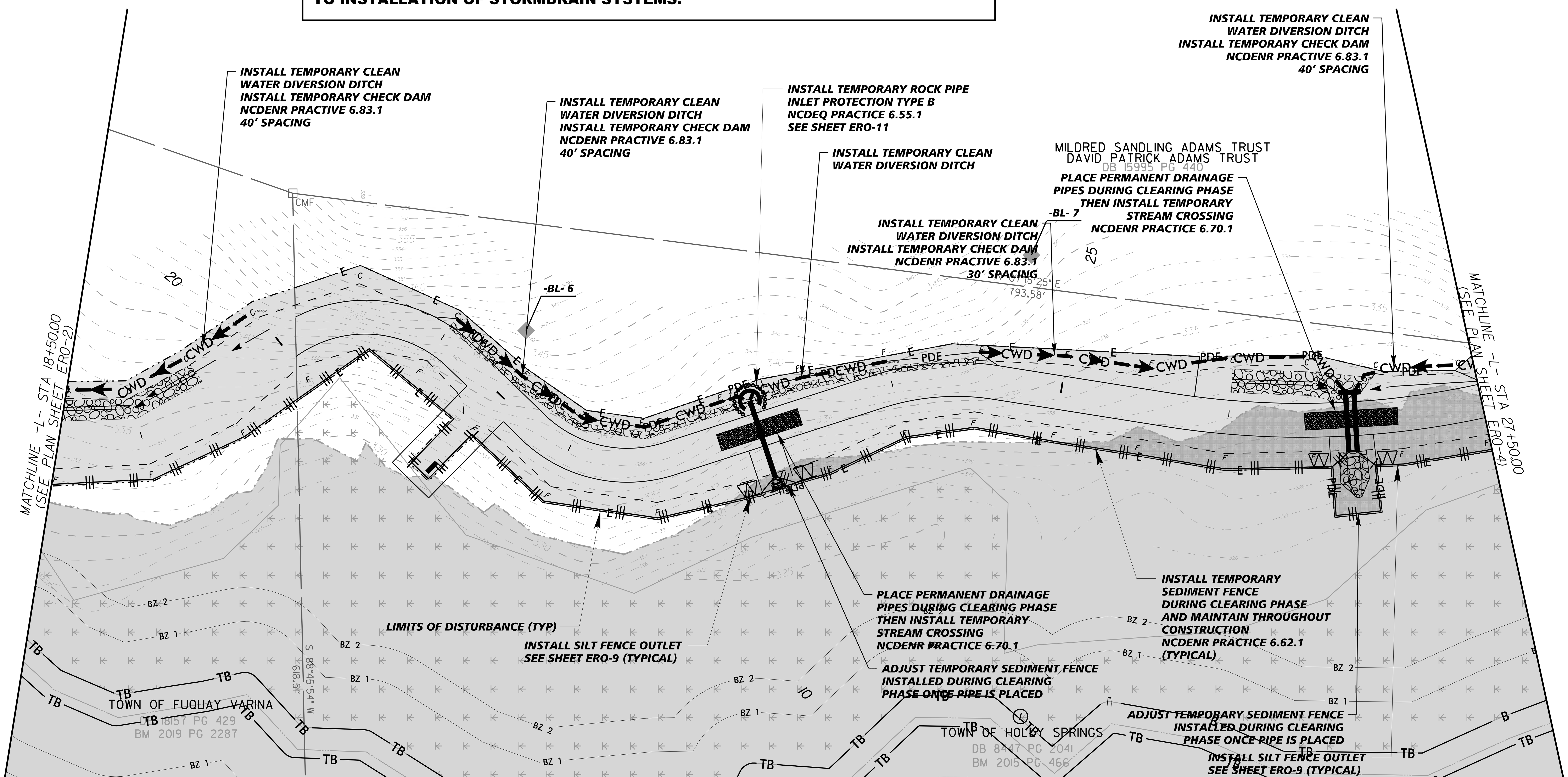
PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE MARCH 31, 2024 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B.0131

THIS SHEET REPRESENTS THE CLEARING AND GRUBBING PHASE OF THE PROJECT. SEE SHEET ERO-6 FOR THE CONSTRUCTION PHASE.

NAD 83 / NA 2011

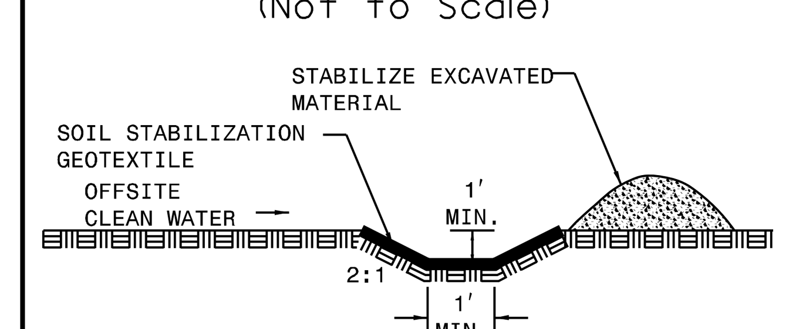


LEGEND

CONSTRUCTION LIMIT	C F	LIMITS OF DISTURBANCE (LABELED ON PLANS)	
TEMPORARY SILT FENCE (SEE DETAIL SHEETS)		STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)	
SPECIAL SEDIMENT CONTROL FENCE / SILT FENCE OUTLET (SEE DETAIL SHEETS)		TEMPORARY ROCK SILT CHECK, TYPE A (SEE NCDOT STD.1633.01)	
TEMPORARY CONSTRUCTION ENTRANCE (SEE NCDOT STD.1607.01)		TEMPORARY ROCK SILT CHECK, TYPE B (SEE DETAIL SHEETS)	
ROCK PIPE INLET SEDIMENT TRAP, TYPE B (SEE NCDOT STD.1635.02)		TREE PROTECTION (SEE DETAIL SHEETS)	
		WATTLE (SEE DETAIL SHEETS)	
CONCRETE WASHOUT (SEE DETAIL SHEETS)		EXISTING CONTOUR	
OUTLET PROTECTION (SEE DETAIL SHEETS)		PROPOSED CONTOUR	

CLEAN WATER DIVERSION

(Not to Scale)



NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

GENERAL NOTES (TYPICAL ALL SHEETS):

1. WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVERTHE PIPE OUTLETS.

2. SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.

3. USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION

4. DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.

5. MINIMIZE BUFFER DISTURBANCE AS MUCH AS POSSIBLE. WORK WITHIN BUFFER ZONE SHOULD BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME THAT DISTURBED AREAS ARE EXPOSED.

GENERAL NOTES (CONT) (TYPICAL ALL SHEETS):

6. STREAM BANK STABILIZATION SHOULD BE PHASED SO THAT EACH DAY'S WORK IS COMPLETED AND ADEQUATELY STABILIZED AT THE END OF EACH WORK DAY.

7. ADEQUATE TEMPORARY SEDIMENT CONTROLS SHALL BE PROVIDED AT THE END OF EACH WORK DAY AT ALL STREAM CROSSINGS UNTIL ADEQUATE PERMANENT GROUND COVER IS PROVIDED.

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8/13/2024

PLANS PREPARED BY:

Kimley»Horn

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY 8/13/2024

DocuSigned by: 8E07294B9620413

SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — **TOWN OF FUQUAY-VARINA**

PROJECT: **TIP: BL-00092 ALSTON RIDGE GREENWAY**

TITLE: **EROSION CONTROL PLANS**

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-3

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1 AND 3:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS

ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTICAL STABILIZATION OF SOIL.

BOARDWALK AND CULVERT EROSION CONTROL PHASING:

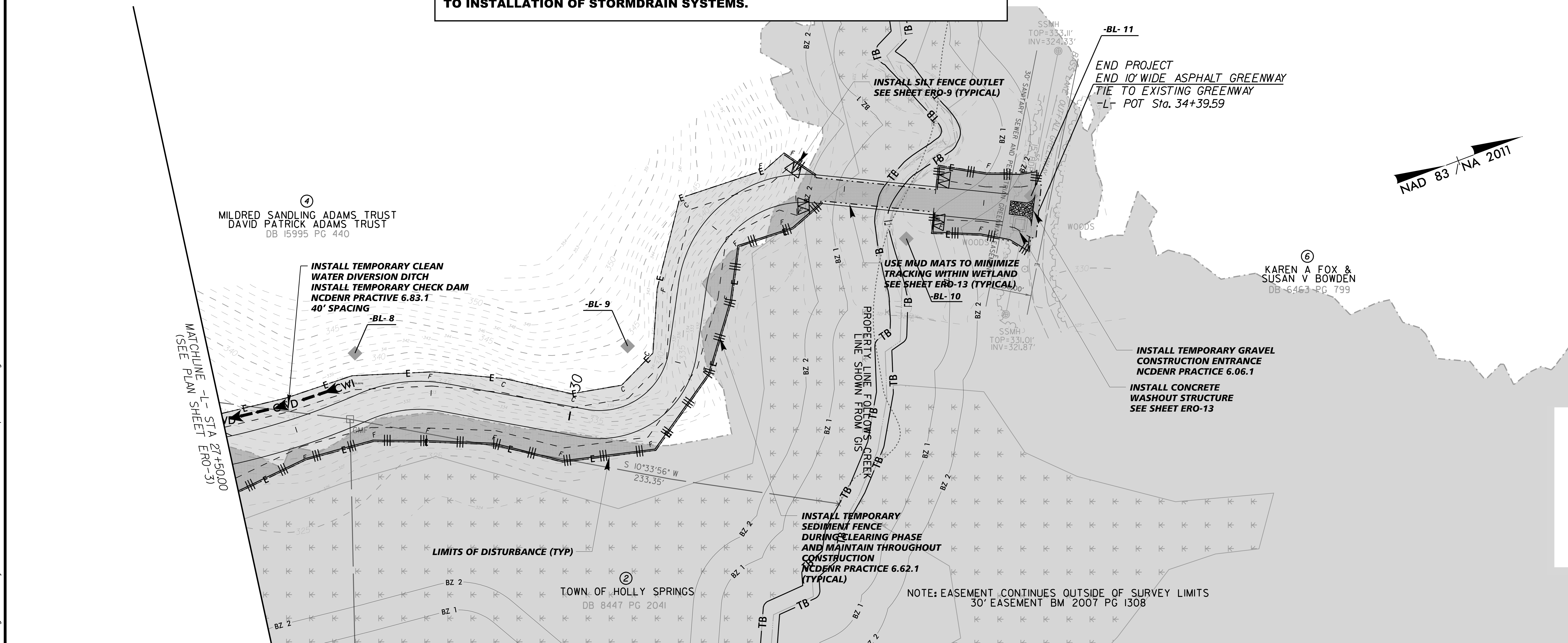
1. **CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.**
2. **CONTRACTOR TO ACCESS BOARDWALK AND CULVERT LOCATIONS USING PROPOSED GREENWAY PATH FOOTPRINT. USE MUD MATS (SEE EROSION CONTROL DETAILS) IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.**
3. **CONTRACTOR TO DEWATER EXCAVATED AREAS AS NEEDED USING IMPERVIOUS DIKES, SPECIAL STILLING BASINS, AND BYPASSING PUMPING (DEWATERING METHOD INCIDENTAL TO BOARDWALK INSTALLATION).**
4. **AFTER BOARDWALK AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET ERO-9), AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.**

PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE MARCH 31, 2024 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B.0131

THIS SHEET REPRESENTS THE CLEARING AND GRUBBING PHASE OF THE PROJECT. SEE SHEET ERO-7 FOR THE CONSTRUCTION PHASE.

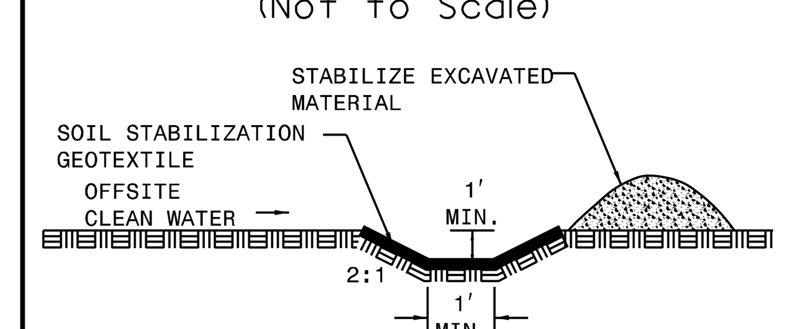


LEGEND

CONSTRUCTION LIMIT	C F	LIMITS OF DISTURBANCE (LABELED ON PLANS)	
TEMPORARY SILT FENCE (SEE DETAIL SHEETS)		STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)	
SPECIAL SEDIMENT CONTROL FENCE / SILT FENCE OUTLET (SEE DETAIL SHEETS)		TEMPORARY ROCK SILT CHECK,TYPE A (SEE NCDOT STD.1633.01)	
TEMPORARY CONSTRUCTION ENTRANCE (SEE NCDOT STD.1607.01)		TEMPORARY ROCK SILT CHECK,TYPE B (SEE DETAIL SHEETS)	
ROCK PIPE INLET SEDIMENT TRAP,TYPE B (SEE NCDOT STD.1635.02)		TREE PROTECTION (SEE DETAIL SHEETS)	
		WATTLE (SEE DETAIL SHEETS)	
CONCRETE WASHOUT (SEE DETAIL SHEETS)		EXISTING CONTOUR	
OUTLET PROTECTION (SEE DETAIL SHEETS)		PROPOSED CONTOUR	

CLEAN WATER DIVERSION

(Not to Scale)



NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

GENERAL NOTES (TYPICAL ALL SHEETS):

1. WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVERTHE PIPE OUTLETS.
2. SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.
3. USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION
4. DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.
5. MINIMIZE BUFFER DISTURBANCE AS MUCH AS POSSIBLE. WORK WITHIN BUFFER ZONE SHOULD BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME THAT DISTURBED AREAS ARE EXPOSED.

GENERAL NOTES (CONT) (TYPICAL ALL SHEETS):

6. STREAM BANK STABILIZATION SHOULD BE PHASED SO THAT EACH DAY'S WORK IS COMPLETED AND ADEQUATELY STABILIZED AT THE END OF EACH WORK DAY.
7. ADEQUATE TEMPORARY SEDIMENT CONTROLS SHALL BE PROVIDED AT THE END OF EACH WORK DAY AT ALL STREAM CROSSINGS UNTIL ADEQUATE PERMANENT GROUND COVER IS PROVIDED.

PLANS PREPARED BY:
Kimley»Horn
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NC LICENSE #F-0102

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042554 BRYAN T VICKERY
DocuSigned by: Bryan Vickery
8E07294B9629413
8/13/2024
SEAL

REVISIONS | DATE | NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL PLANS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-4

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8/13/2024

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1 AND 3:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS

ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTICAL STABILIZATION OF SOIL.

BOARDWALK AND CULVERT EROSION CONTROL PHASING:

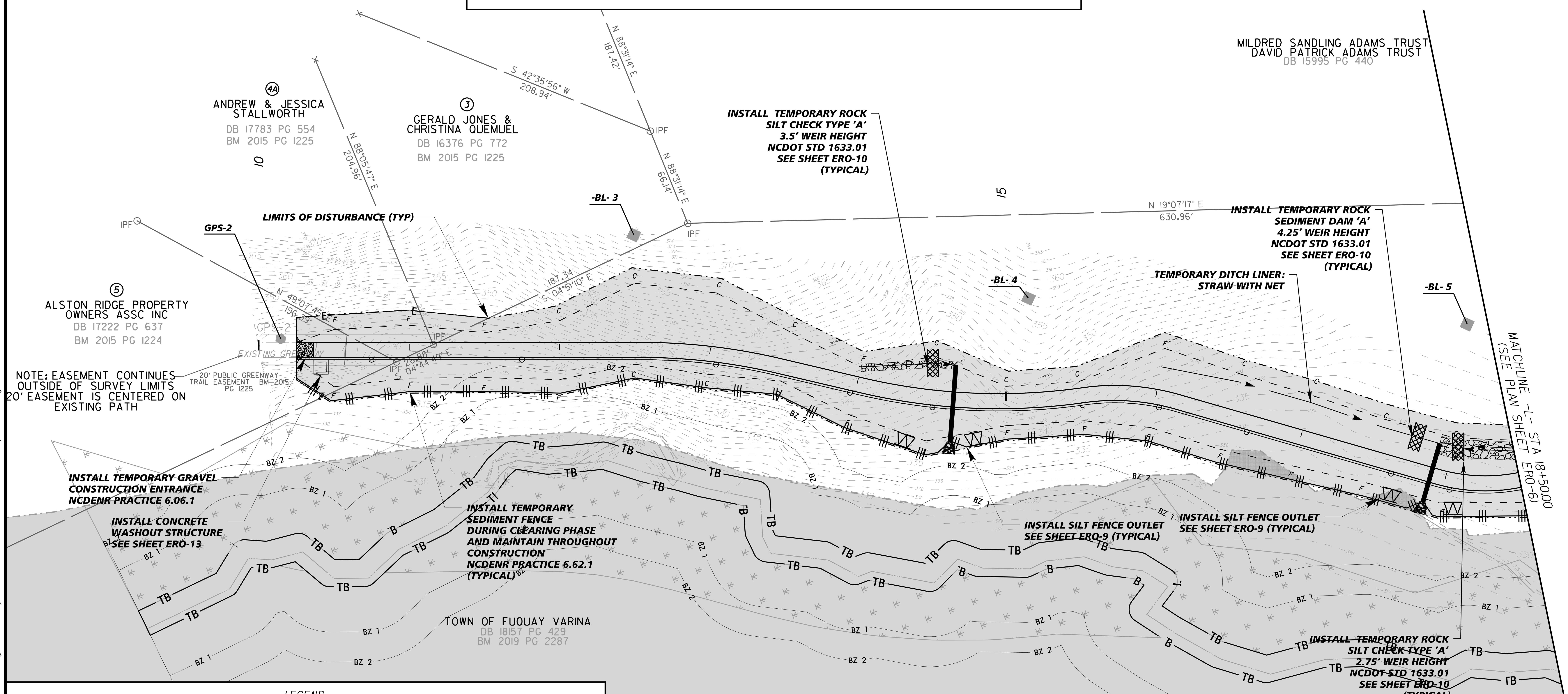
1. **CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.**
2. **CONTRACTOR TO ACCESS BOARDWALK AND CULVERT LOCATIONS USING PROPOSED GREENWAY PATH FOOTPRINT. USE MUD MATS (SEE EROSION CONTROL DETAILS) IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.**
3. **CONTRACTOR TO DEWATER EXCAVATED AREAS AS NEEDED USING IMPERVIOUS DIKES, SPECIAL STILLING BASINS, AND BYPASSING PUMPING (DEWATERING METHOD INCIDENTAL TO BOARDWALK INSTALLATION).**
4. **AFTER BOARDWALK AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET ERO-9), AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.**

PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE MARCH 31, 2024 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUTE 113A-54.1(e) AND 15A NCAC 04B.0131

THIS SHEET REPRESENTS THE CONSTRUCTION PHASE OF THE PROJECT. SEE SHEET ERO-2 FOR THE CLEARING & GRUBBING PHASE.



LEGEND

CONSTRUCTION LIMIT	C F	LIMITS OF DISTURBANCE (LABELED ON PLANS)	
TEMPORARY SILT FENCE (SEE DETAIL SHEETS)		STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)	
SPECIAL SEDIMENT CONTROL FENCE / SILT FENCE OUTLET (SEE DETAIL SHEETS)		TEMPORARY ROCK SILT CHECK, TYPE A (SEE NCDOT STD.1633.01)	
TEMPORARY CONSTRUCTION ENTRANCE (SEE NCDOT STD.1607.01)		TEMPORARY ROCK SILT CHECK, TYPE B (SEE DETAIL SHEETS)	
ROCK PIPE INLET SEDIMENT TRAP, TYPE B (SEE NCDOT STD.1635.02)		TREE PROTECTION (SEE DETAIL SHEETS)	
CONCRETE WASHOUT (SEE DETAIL SHEETS)		WATTLE (SEE DETAIL SHEETS)	
OUTLET PROTECTION (SEE DETAIL SHEETS)		EXISTING CONTOUR	
		PROPOSED CONTOUR	

NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

GENERAL NOTES (TYPICAL ALL SHEETS):

1. WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVERTHE PIPE OUTLETS.
2. SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.
3. USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION
4. DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.
5. MINIMIZE BUFFER DISTURBANCE AS MUCH AS POSSIBLE. WORK WITHIN BUFFER ZONE SHOULD BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME THAT DISTURBED AREAS ARE EXPOSED.

GENERAL NOTES (CONT) (TYPICAL ALL SHEETS):

6. STREAM BANK STABILIZATION SHOULD BE PHASED SO THAT EACH DAY'S WORK IS COMPLETED AND ADEQUATELY STABILIZED AT THE END OF EACH WORK DAY.
7. ADEQUATE TEMPORARY SEDIMENT CONTROLS SHALL BE PROVIDED AT THE END OF EACH WORK DAY AT ALL STREAM CROSSINGS UNTIL ADEQUATE PERMANENT GROUND COVER IS PROVIDED.

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8/13/2024

PLANS PREPARED BY:

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY 8/13/2024

SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina

TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL PLANS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-5

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1 AND 3:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS

ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTICAL STABILIZATION OF SOIL.

BOARDWALK AND CULVERT EROSION CONTROL PHASING:

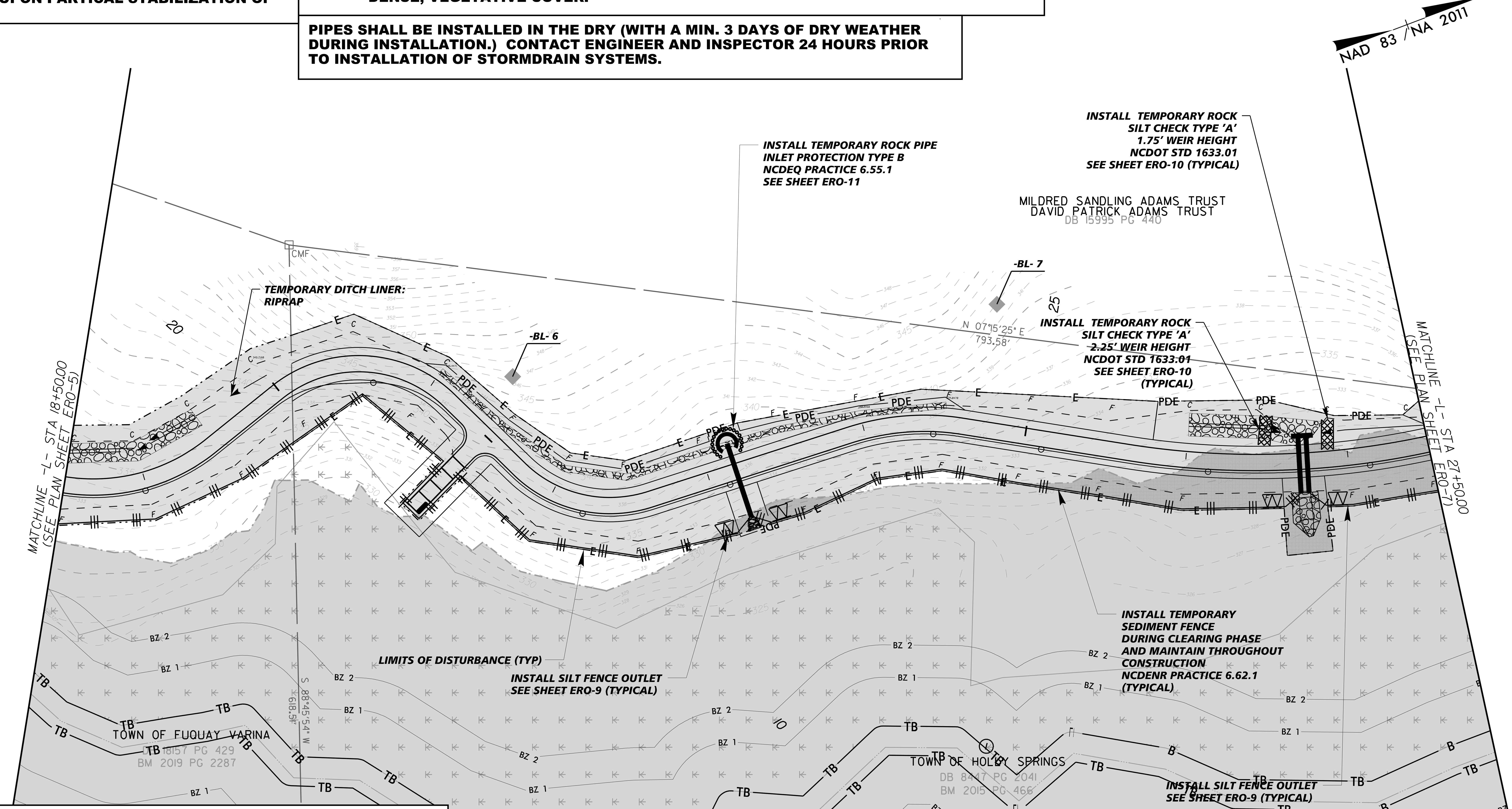
1. **CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.**
2. **CONTRACTOR TO ACCESS BOARDWALK AND CULVERT LOCATIONS USING PROPOSED GREENWAY PATH FOOTPRINT. USE MUD MATS (SEE EROSION CONTROL DETAILS) IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.**
3. **CONTRACTOR TO DEWATER EXCAVATED AREAS AS NEEDED USING IMPERVIOUS DIKES, SPECIAL STILLING BASINS, AND BYPASSING PUMPING (DEWATERING METHOD INCIDENTAL TO BOARDWALK INSTALLATION).**
4. **AFTER BOARDWALK AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEETS ERO-9), AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.**

PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE MARCH 31, 2024 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B.0131

THIS SHEET REPRESENTS THE CONSTRUCTION PHASE OF THE PROJECT. SEE SHEET ERO-3 FOR THE CLEARING & GRUBBING PHASE.



LEGEND

CONSTRUCTION LIMIT	C F	LIMITS OF DISTURBANCE (LABELED ON PLANS)	
TEMPORARY SILT FENCE (SEE DETAIL SHEETS)		STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)	
SPECIAL SEDIMENT CONTROL FENCE / SILT FENCE OUTLET (SEE DETAIL SHEETS)		TEMPORARY ROCK SILT CHECK, TYPE A (SEE NCDOT STD.1633.01)	
TEMPORARY CONSTRUCTION ENTRANCE (SEE NCDOT STD.1607.01)		TEMPORARY ROCK SILT CHECK, TYPE B (SEE DETAIL SHEETS)	
ROCK PIPE INLET SEDIMENT TRAP, TYPE B (SEE NCDOT STD.1635.02)		TREE PROTECTION (SEE DETAIL SHEETS)	
		WATTLE (SEE DETAIL SHEETS)	
CONCRETE WASHOUT (SEE DETAIL SHEETS)		EXISTING CONTOUR	
OUTLET PROTECTION (SEE DETAIL SHEETS)		PROPOSED CONTOUR	

NPDES GENERAL STORMWATER PERMIT
SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

GENERAL NOTES (TYPICAL ALL SHEETS):

1. *WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVERTHE PIPE OUTLETS.*
2. *SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.*
3. *USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION*
4. *DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.*
5. *MINIMIZE BUFFER DISTURBANCE AS MUCH AS POSSIBLE. WORK WITHIN BUFFER ZONE SHOULD BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME THAT DISTURBED AREAS ARE EXPOSED.*

GENERAL NOTES (CONT) (TYPICAL ALL SHEETS):

6. *STREAM BANK STABILIZATION SHOULD BE PHASED SO THAT EACH DAY'S WORK IS COMPLETED AND ADEQUATELY STABILIZED AT THE END OF EACH WORK DAY.*
7. *ADEQUATE TEMPORARY SEDIMENT CONTROLS SHALL BE PROVIDED AT THE END OF EACH WORK DAY AT ALL STREAM CROSSINGS UNTIL ADEQUATE PERMANENT GROUND COVER IS PROVIDED.*

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8/13/2024

PLANS PREPARED BY:

Kimley»Horn

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY 8/13/2024
DocuSigned by: 8E07294B9629413
SEAL

REVISIONS | NO. | DATE

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL PLANS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-6

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1 AND 3:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS

ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTICAL STABILIZATION OF SOIL.

BOARDWALK AND CULVERT EROSION CONTROL PHASING:

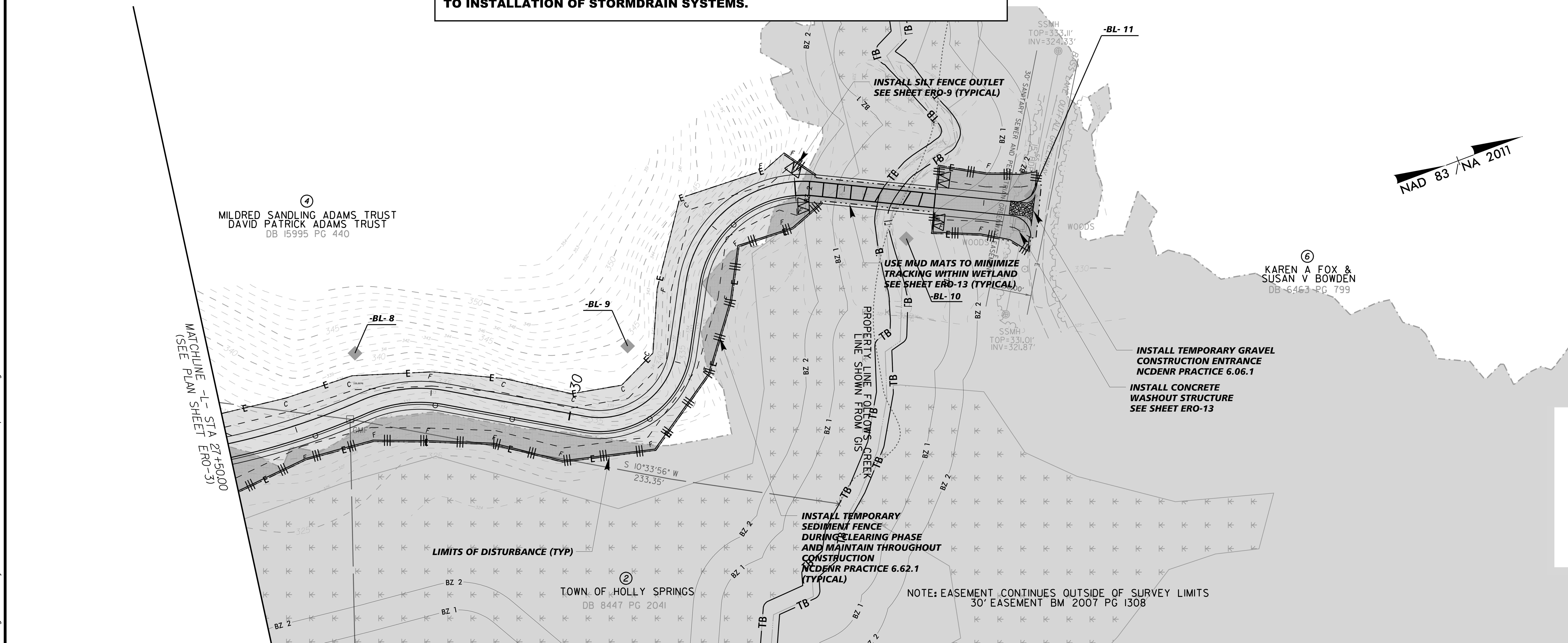
1. **CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.**
2. **CONTRACTOR TO ACCESS BOARDWALK AND CULVERT LOCATIONS USING PROPOSED GREENWAY PATH FOOTPRINT. USE MUD MATS (SEE EROSION CONTROL DETAILS) IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.**
3. **CONTRACTOR TO DEWATER EXCAVATED AREAS AS NEEDED USING IMPERVIOUS DIKES, SPECIAL STILLING BASINS, AND BYPASSING PUMPING (DEWATERING METHOD INCIDENTAL TO BOARDWALK INSTALLATION).**
4. **AFTER BOARDWALK AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET ERO-9), AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.**

PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE MARCH 31, 2024 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO. NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B.0131

THIS SHEET REPRESENTS THE CONSTRUCTION PHASE OF THE PROJECT. SEE SHEET ERO-4 FOR THE CLEARING & GRUBBING PHASE.



LEGEND

CONSTRUCTION LIMIT	C F
TEMPORARY SILT FENCE (SEE DETAIL SHEETS)	
SPECIAL SEDIMENT CONTROL FENCE / SILT FENCE OUTLET (SEE DETAIL SHEETS)	
TEMPORARY CONSTRUCTION ENTRANCE (SEE NCDOT STD.1607.01)	
ROCK PIPE INLET SEDIMENT TRAP, TYPE B (SEE NCDOT STD.1635.02)	
CONCRETE WASHOUT (SEE DETAIL SHEETS)	
OUTLET PROTECTION (SEE DETAIL SHEETS)	
LIMITS OF DISTURBANCE (LABELED ON PLANS)	
STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)	
TEMPORARY ROCK SILT CHECK, TYPE A (SEE NCDOT STD.1633.01)	
TEMPORARY ROCK SILT CHECK, TYPE B (SEE DETAIL SHEETS)	
TREE PROTECTION (SEE DETAIL SHEETS)	
WATTLE (SEE DETAIL SHEETS)	
EXISTING CONTOUR	
PROPOSED CONTOUR	

NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

GENERAL NOTES (TYPICAL ALL SHEETS):

1. WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVERTHE PIPE OUTLETS.
2. SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.
3. USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION
4. DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.
5. MINIMIZE BUFFER DISTURBANCE AS MUCH AS POSSIBLE. WORK WITHIN BUFFER ZONE SHOULD BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME THAT DISTURBED AREAS ARE EXPOSED.

GENERAL NOTES (CONT) (TYPICAL ALL SHEETS):

6. STREAM BANK STABILIZATION SHOULD BE PHASED SO THAT EACH DAY'S WORK IS COMPLETED AND ADEQUATELY STABILIZED AT THE END OF EACH WORK DAY.
7. ADEQUATE TEMPORARY SEDIMENT CONTROLS SHALL BE PROVIDED AT THE END OF EACH WORK DAY AT ALL STREAM CROSSINGS UNTIL ADEQUATE PERMANENT GROUND COVER IS PROVIDED.

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8/13/2024

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8/13/2024
SEAL

REVISIONS | NO. | DATE

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL PLANS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-7

CONSTRUCTION SCHEDULE

CONSTRUCTION SPECIFICATIONS

1. Please refer to the Erosion and Sediment Control plans for detailed construction scheduling and sequencing.
2. Obtain plan approval and other applicable permits including grading permits for borrow site. Refer to Section 230 "Borrow Excavation" in the 2024 NCDOT Standard Specifications.
3. Flag the work limits for protection.
4. Hold preconstruction conference at least one week prior to starting construction and invite NCDEQ Liaison. Please contact NCDEQ Liaison David Lee at (919) 791-4200.
5. Prior to any land disturbing (including demolition) activities, install clean water diversion ditches, fabric/block and gravel drop inlet protection, temporary gravel construction entrance/exits, check dams, tree protection fence, temporary rock silt checks, concrete washout structures, and silt fence as shown on the erosion control plans.
6. In accordance with the erosion control plans and traffic control plans: Install inlet protection and erosion control measures. After inlet protection and erosion control measures are in place, grade roadway, install storm drain system. Until boxes are built and yard inlet devices installed, install and maintain storm drain under construction at end of day or onset of rain. Place outlet protection as shown on plans. Place additional check dams and stabilized ditches as indicated. Modify silt fence placement around pipe inlets and outlets as necessary, place silt fence around top of proposed headwalls.
7. Complete final grading for roads and stabilize with gravel.
8. Finish drainage inlets, place curb and gutter and pavement, and build shoulders.
9. Finish grading of slopes, topsoil critical areas and permanently vegetate, seed and mulch.
10. Vegetation along stream banks should be cut and root mat/stumps left to stabilize bank until such time as construction activity warrants their removal.
11. All graded areas will be seeded, fertilized and mulched according to NCDOT specifications to maintain a vigorous, dense, vegetative cover within 21 calendar days or sooner of completion of any phase of grading. If work on the project ceases for more than the aforementioned length of time, all disturbed areas shall have temporary vegetative ground cover established and erosion control devices maintained.
12. After seeding is established, the contractor shall call NCDEQ and arrange for a final site inspection. Upon approval, all temporary erosion control measures shall be removed from the project.
13. All erosion and sediment control practices will be inspected weekly and after rainfall events. Needed repairs will be made immediately to restore sediment containment.
14. All appicable erosion and sediment control must be maintained until a vigorous stand of permanent ground cover is established and permanent vegetation is well established.
    Estimated time before final stabilization is 18 months.
15. Site includes approximately 2.55 acre of permanent vegetation area.
16. After site is stabilized, temporary sediment traps, temporary diversion, construction staging and material area stockpile areas, and all other erosion control devices shall be removed, restored as existing, and permanently vegetated as described in the maintenance and vegetative plan.

MAINTENANCE

Follow the construction sequence throughout project development. When changes in construction activities are needed, amend the sequence schedule in advance to maintain management control.

Notification of Land Resources Sediment and Erosion Control Self-Inspection Program:

The Sedimentation Pollution Control Act was amended in 2006 to require that persons responsible for land-disturbing activities inspect a project after each phase of the project to make sure that the approved erosion and sedimentation control plan is being followed. Rules detailing the documentation of these inspections took effect October 1, 2010. The self-inspection program is separate from the weekly self-monitoring program of the NPDES Stormwater Permit for Construction Activities. The focus of the self-inspection report is the installation and maintenance of erosion and sedimentation control measures according to the approved plan. The inspections must be conducted after each phase of the project, and continue until permanent ground cover is established in accordance with NCGS 113A-54J and 15A NCAC 4B.0131. The Self-Inspection Report form is available as a Word Document and PDF from at https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/erosion-and-sediment-control/erosion-and-sediment-control-forms. If you have questions or cannot access the form, please contact NCDEQ Liaison David Lee at (919) 791-4200.

MAINTENANCE PLAN

1. The Contractor shall check all erosion and sediment control practices for stability and operation following every runoff producing rainfall but in no case less than once every week. Any needed repairs will be made immediately by the Contractor to maintain all practices as designed. Also per National Pollutant Discharge Elimination System (NPDES) general stormwater permit, a rain gauge must be installed on site. The rain gauge must be kept onsite and inspections by the contractor must be made and logged after every half inch of rainfall and once a week.
2. The Contractor shall remove sediment from sediment trap when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pool no longer drains properly.
3. The Contractor shall remove sediment from behind silt fence when it becomes 0.5 feet deep at the fence. Silt fence will be repaired as necessary to maintain a barrier.
4. The Contractor shall fertilize, reseed as necessary, and mulch all seeded areas according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.
5. The angle for graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion-control devices or structures. In any event, slopes left exposed will, within 7 or 14 calendar days of completion of any phase of grading, be planted or otherwise provided with temporary ground cover, devises or structures sufficient to restrain erosion. Permanent groundcover will be provided for all disturbed areas within 15 working days or no more than 90 calendar days (whichever is shorter) following completion of construction.
6. The Town of Fuquay-Varina contact is Matt Poling (919) 753-1035.

RIP RAP (6.15)

CONSTRUCTION SPECIFICATIONS

Subgrade Preparation - Prepare the subgrade for riprap and filter to the required lines and grades shown on the plans. Compact any fill required in the subgrade to a density approximating that of the surrounding undisturbed material or overfill depressions with riprap. Remove brush, trees, stumps and other objectional material. Cut the subgrade sufficiently deep that the finished grade of the riprap will be at the elevation of the surrounding area. Channels should be excavated sufficiently to allow placement of the riprap in a manner such that the finished inside dimensions and grade of the riprap meet design specifications.

Sand and gravel filter blanket - Place the filter blanket immediately after the ground foundation is prepared. For gravel, spread filter stone in a uniform layer to the specified depth. Where more than one layer of filter material is used, spread the layers with minimal mixing.

Synthetic filter fabric - Place the cloth filter directly on the prepared foundation. Overlap the edges by at least 12 inches, and space anchor pins every 3 ft along the overlap. Bury the upstream end of the cloth a minimum of 12 inches below ground and where necessary, bury the lower end of the cloth or overlap with the next section as required. Take care not to damage the cloth when placing riprap. If damage occurs remove the riprap and repair the sheet by adding another layer of filter material with a minimum overlap of 12 inches around the damaged area. If extensive damage is suspected, remove and replace the entire sheet.

Where large stones are used or machine placement is difficult, a 4-inch layer of fine gravel or sand may be needed to protect the filter cloth.

Stone Placement - Placement of riprap should follow immediately after placement of the filter. Place riprap so that if forms a dense, well-graded mass of stone with a minimum of voids. The desired disbribution of stones throughout the mass may be obtained by selective loading at the quarry and controlled dumping during final placement. Place riprap to its full thickness in one operation. Do not place riprap by dumping through chutes or other methods that cause segregation of stone sizes. Take care not to dislodge the underlying base or filter when placing the stones.

The finished slope should be free of pockets of small stone or clusters of large stones. Hand placing may be necessary to achieve the proper distribution of stone sizes to produce a relatively smooth, uniform surface. The finished grade of the riprap should blend with the surrounding area. No overfall or protrusion of riprap should be apparent.

MAINTENANCE

Inspect channels at regular intervals as well as after major rains, and make repairs promptly. Give special attention to the outlet and inlet sections and other points where concentrated flow enters. Carefully check stability at road crossings and look for indications of piping, scour holes, or bank failures. Make repairs immediately. Maintain all vegetation adjacent to the channel in a healthy, vigorous condition to protect the area from erosion and scour during out-of-bank flow. Control of weed and brush growth may be needed in some locations.

LAND GRADING (6.02)

CONSTRUCTION SPECIFICATIONS

1. Construct and maintain all erosion and sedimentation control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil, as determined by a Geotechnical Engineer from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear and grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen material or soft or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods.
11. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for 15 working days or longer.
12. Show topsoil stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

MAINTENANCE

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

VEGETATIVE PLAN (6.11)

SEEDING SCHEDULE

Shoulders, Side Ditches, Slopes (3:1)

Date	Type	Planting Rate
Aug.15-Nov.1	Tall Fescue	250 lbs./acre
Nov.1-Mar.1	Tall Fescue	250 lbs./acre
	& Abruzzi Rye	25 lbs./acre
Mar.1-Apr.15	Tall Fescue	250 lbs./acre
Apr.15-Jun.15	Hulled Common Bermudagrass	12 lbs./acre
Jun.15-Aug.15	Tall Fescue	60 lbs./acre
	& Browntop Millet ***	35 lbs./acre
	or Sorghum-Sudan Hybrids ***	30 lbs./acre
	Slopes (3:1 to 2:1)	
Mar.1-Jun.1	Sericea Lespedeza (scarified) and	50 lbs./acre
(Mar.1-Apr.15)	Add Tall Fescue	60 lbs./acre
(Mar.1-Jun.30)	or Add Weeping Lovegrass	5 lbs./acre
(Mar.1-Jun.30)	or Add Hulled Common Bermudagrass	8 lbs./acre
Jun.1-Sep.1	Tall Fescue ***	60 lbs./acre
	& Browntop Millet ***	35 lbs./acre
	or Sorghum-Sudan Hybrids ***	30 lbs./acre
Sep.1-Mar.1	Sericea Lespedeza (unhulled-unscarified)	70 lbs./acre
	& Tall Fescue	50 lbs./acre
(Nov.1-Mar.1)	Add Abruzzi Rye	25 lbs./acre

Consult Conservation Engineer or Soil Conservation Service for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those which do well under local conditions: other seeding rate combinations are possible.

*** Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing, otherwise, fescue may be shaded out.

SEEDING SPECIFICATIONS

1) After rough grading is completed, till soil in areas to be seeded and planted to a depth of six inches.
2) Apply agricultural lime, fertilizer, and superphosphate to disturbed areas to be vegetated.
   A minimum of 2 tons limestone/acre with 3 tons limestone /acre in clay soils or per soils test
   35 lbs.10-10-10 fertilizer/1000 sq.ft.(1500 lbs/acre)
   40 lbs.50% superphosphate/1000 sq.ft.(1750 lbs/acre)
3) Disk nutrients into soil to a depth of six inches until surface is uniform and free of large dirt clods.
4) Seeding permanent grass.
   3.0 lbs.KY-31 tall fescue/1000 sq.ft.(130 lbs./acre) during February 15 through May 15 or August 15 through November 15.
   -OR-
   3.0 lbs.KY-31 tall fescue and 2.0 lbs.annual ryegrass/1000 sq.ft.during November 15 through February 15.
5) Mulch seeded area with small grain straw at 90 lbs/1000 sq.ft.(2 tons/acre). Spread uniformly. Approximately 1/2 of ground surface should be visible to avoid blocking sunlight to seedlings. On areas where the ground surface equals or exceeds a 3:1 slope, and in the inverts of all drainage swales, tack mulch with asphalt emulsion at a rate of 400 gallons emulsion per acre of straw.
6) Mulch around shubbery and trees with pine straw to depth of 3 inches.
7) Temporary cover
   1.0 lbs.brown top millet/1000 sq.ft.May through August 25.
   -OR-
   1.0 lbs.annual ryegrass/1000 sq.ft.August 25 through April.
6) Maintenance: Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

NOTE: For Riparian Buffer areas, see Sheet ERO-6 for seeding plan.

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8/13/2024

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SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina — TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

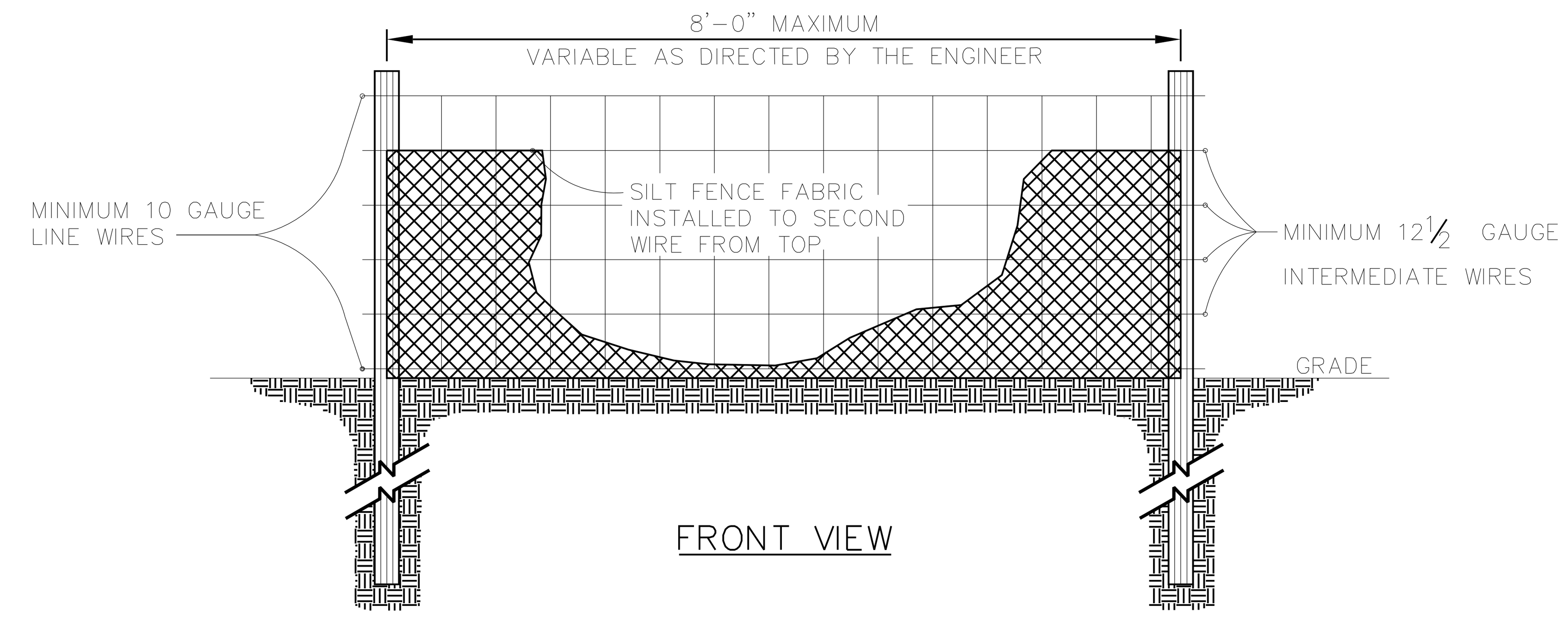
TITLE: EROSION CONTROL DETAILS

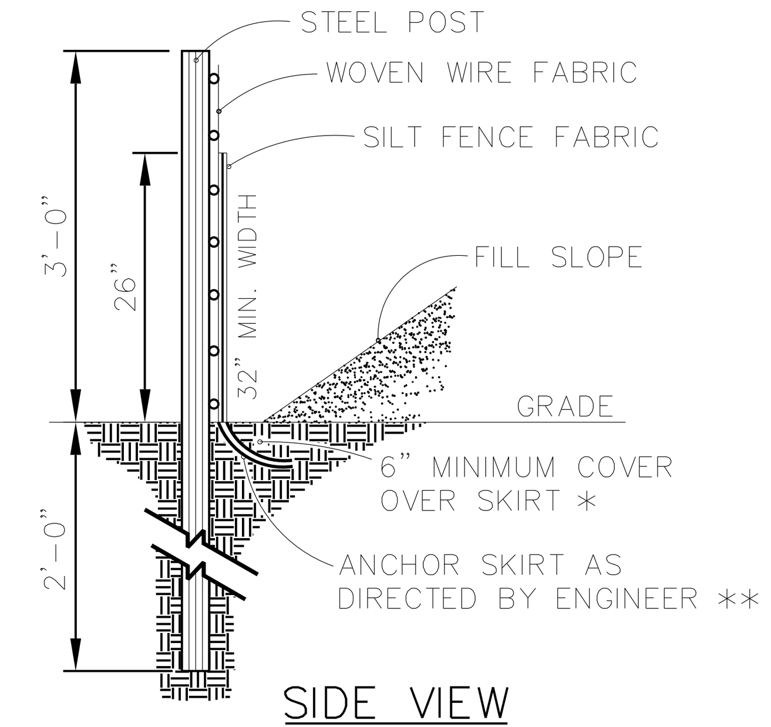
KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-8





* FOR REPAIR OF SILT FENCE FAILURES USE SILT FENCE OUTLET DETAIL

** ANCHOR SKIRT FOLLOWING SKIRT TRENCH REQUIREMENTS, PER NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FIGURE 6.62A (6.62.5)

NOTE:
USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.

STANDARD TEMPORARY SILT FENCE (6.62.1)

CONSTRUCTION SPECIFICATIONS

1. Use a synthetic filter fabric of at least 95% by weight of polyolefins or polyester, which is certified by the manufacturer or supplier as conforming to the requirements in ASTM D 6461, which is shown in part in Table 6.62b.

Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120° F.

2. Ensure that posts for sediment fences are 1.25 lb/linear ft minimum steel with a minimum length of 5 feet. Make sure that steel posts have projections to facilitate fastening the fabric.

3. For reinforcement of standard strength ?lter fabric, use wire fence with a minimum 14 gauge and a maximum mesh spacing of 6 inches.

CONSTRUCTION

1. Construct the sediment barrier of standard strength or extra strength synthetic filter fabrics.

2. Ensure that the height of the sediment fence does not exceed 24 inches above the ground surface. (Higher fences may impound volumes of water sufficient to cause failure of the structure.)

3. Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post.

4. Support standard strength filter fabric by wire mesh fastened securely to upslope side of the posts. Extend the wire mesh support to the bottom of the trench. Fasten the wire reinforcement, then fabric on the upslope side of the fence post. Wire or plastic zip ties should have minimum 50 pound tensile strength.

5. When a wire mesh support fence is used, space posts a maximum of 8 feet apart. Support posts should be driven securely into the ground a minimum of 24 inches.

6. Extra strength filter fabric with 6 feet post spacing does not require wire mesh support fence. Securely fasten the filter fabric directly to posts. Wire or plastic zip ties should have minimum 50 pound tensile strength.

7. Excavate a trench approximately 4 inches wide and 8 inches deep along the proposed line of posts and upslope from the barrier (Figure 6.62a).

8. Place 12 inches of the fabric along the bottom and side of the trench.

9. Backfill the trench with soil placed over the filter fabric and compact. Thorough compaction of the backfill is critical to silt fence performance.

10. Do not attach filter fabric to existing trees.

MAINTENANCE

Inspect sediment fences and fence outlets at least once a week and after each rainfall. Make any required repairs immediately.

Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly. Replace burlap every 60 days.

Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid undermining the fence during cleanout.

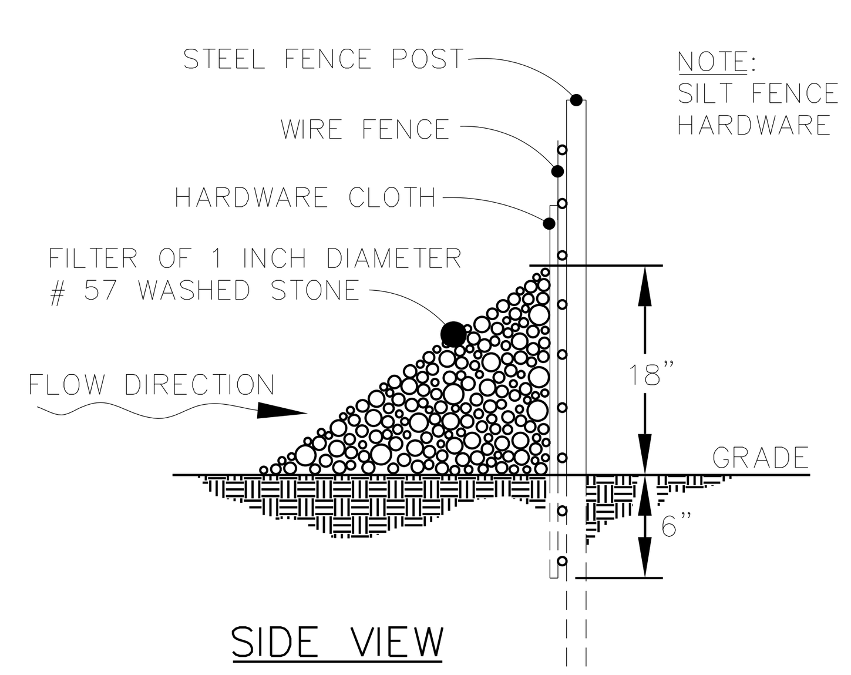
Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

RIPARIAN BUFFER SEEDING PLAN

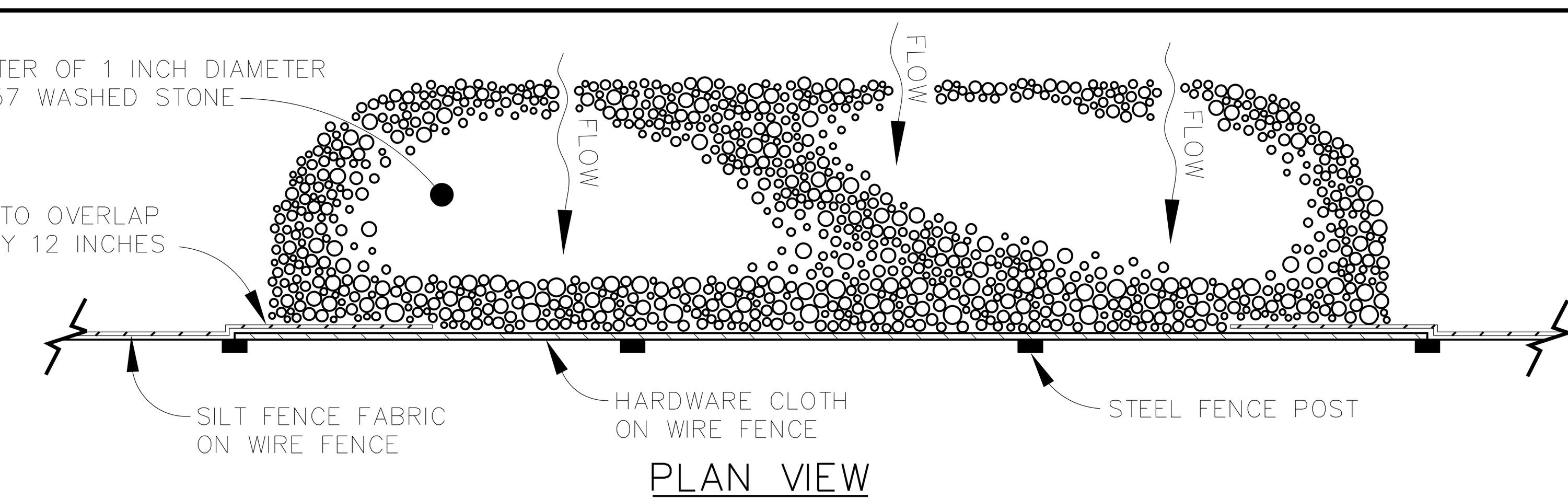
A RIPARIAN SEED MIX AT THE RATE OF ¼ LB PER 1,000 SQ FT OR 10 LBS PER ACRE SHALL BE USED FOR SEEDING. THE FOLLOWING TABLE LISTS HERBACEOUS, PERMANENT SEED MIXTURE LABELED "RIPARIAN SEED MIX"•

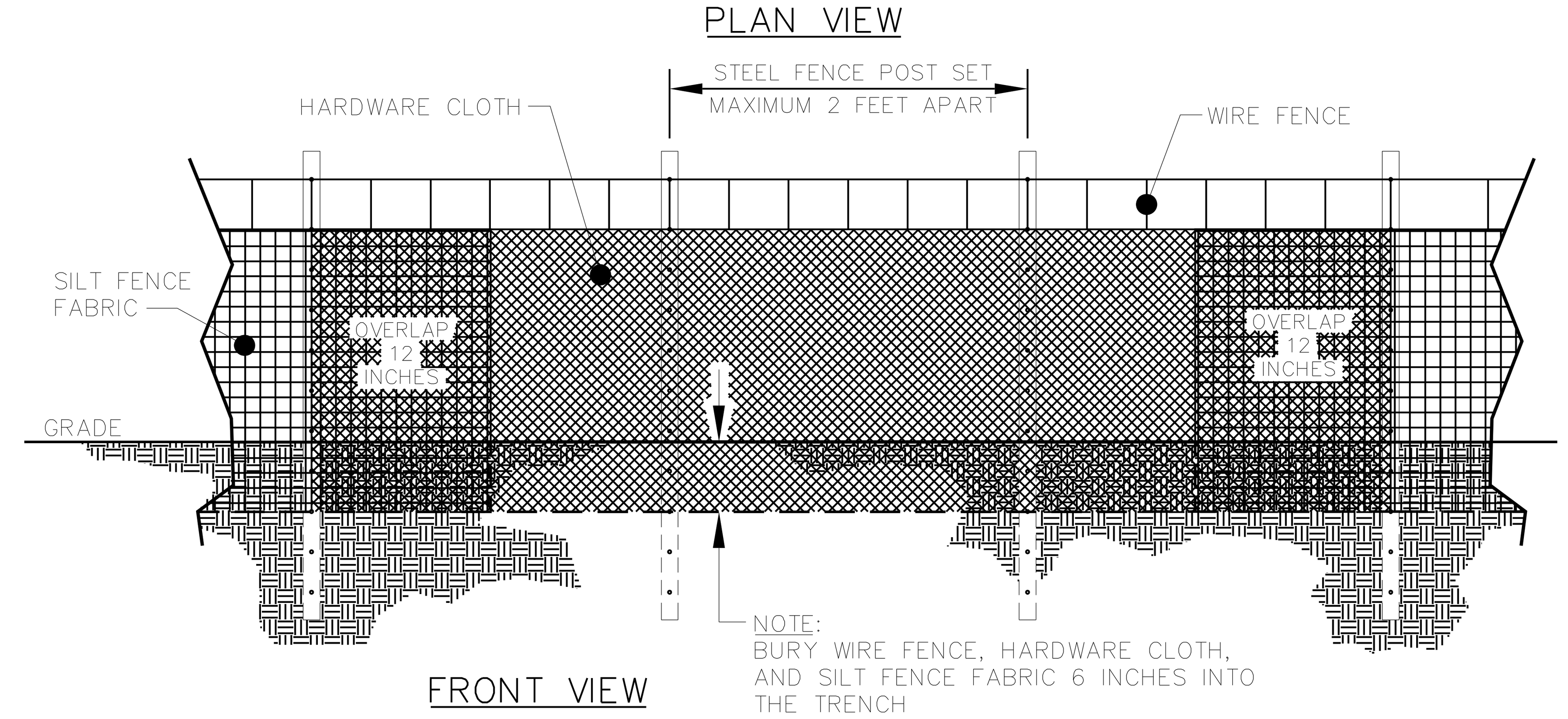
SCIENTIFIC NAME	COMMON NAME	PER CENT COMPOSITION
Agrostis alba	Red Top	10
Elymus virginicus	Virginia Wild Rye	15
Panicum virgatum	Switchgrass	15
Tripsicum dactyloides	Gamma Grass	5
Polygonum pennsylvanicum	Pennsylvania Smartweed	5
Schizachyrium scoparium	Little Bluestem	5
Juncus effusus	Soft Rush	5
Bidens aristosa	Tickseed	10
Coreopsis lanceolata	Lance-leaved coreopsis	10
Panicim clandestinum	Deer Tongue	10
Andropogon gerardii	Big Bluestem	5
Sorgastrum nutans	indiangrass	5

1: A SIMILAR MIXTURE CAN BE USED WITH APPROVAL BY ENGINEER.



NOTE:
SILT FENCE FABRIC TO OVERLAP HARDWARE CLOTH BY 12 INCHES





NOTE:
USE SILT FENCE OUTLETS ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND THERE IS A LOW AREA. USE AS A REPAIR OF SILT FENCE FAILURES.

NOTE:
BURY WIRE FENCE, HARDWARE CLOTH, AND SILT FENCE FABRIC 6 INCHES INTO THE TRENCH

STANDARD SILT FENCE OUTLET

CONSTRUCTION SPECIFICATIONS

MATERIALS

1. Use a synthetic filter fabric or a pervious sheet of polypropylene, nylon, polyester, or polyethylene yarn, which is certified by the manufacturer or supplier as conforming to the requirements shown in the table below.

Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

2. Ensure that posts for sediment fences are 1.33 lb/linear ft steel with a minimum length of 4 ft. Make sure that steel posts have projections to facilitate fastening the fabric.

3. For reinforcement of standard strength filter fabric, use wire fence with a minimum 14 gauge and a maximum mesh spacing of 6 inches.

CONSTRUCTION

1. Construct the sediment barrier of standard strength or extra strength synthetic filter fabrics.

2. Ensure that the height of the sediment fence does not exceed 18 inches above the ground surface. (Higher fences may impound volumes of water sufficient to cause failure of the structure).

3. Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with overlap to the next post.

4. Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, or the wires. Extend the wire mesh support to the bottom of the trench.

5. When a wire mesh support fence is used, space posts a maximum of 8 ft apart. Support posts should be driven securely into the ground to a minimum of 18 inches on the downslope side of the trench.

6. Extra strength filter fabric with 6-ft post spacing does not require wire mesh support fence. Staple or wire the filter fabric directly to posts.

7. Excavate a trench approximately 4 inches wide and 8 inches deep along the proposed line of posts and upslope from the barrier.

8. Adjust spacing to place posts at low points along the fence line.

9. Backfill the trench with compacted soil or gravel placed over the filter fabric.

10. Do not attach filter fabric to existing trees.

11. Fasten support wire fence to upslope side of posts, extending 6 inches into the trench.

12. Attach continuous length of fabric to upslope side of fence posts. Avoid joints, particularly at low points in the fence line. When joints are necessary, fasten fabric securely support posts and overlap to the next post.

13. Attach warning sign (see Tree Protection Detail) to fence where fence is located adjacent to and in buffer areas. Warning sign is incidental to silt fence.

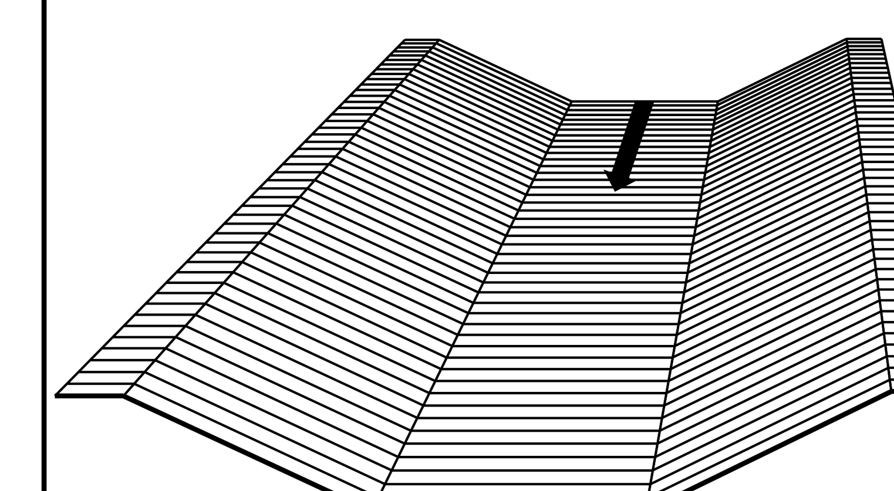
MAINTENANCE

Inspect sediment fences and fence outlets at least once a week and after each rainfall. Make any required repairs immediately.

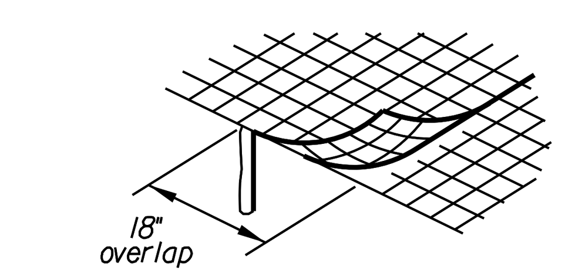
Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly. Replace burlap every 60 days.

Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid undermining the fence during cleanout.

Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.



In channels, roll out strips of netting parallel to the direction of flow and over the protective mulch.



Join strips by anchoring and overlapping.

CONSTRUCTION SPECIFICATIONS

SYNTHETIC ROVING

Use North American Green PS 300 permanent erosion control matting or equivalent product approved by engineer.

Synthetic roving is wound into a cylindrical package so that it can be continuously withdrawn from the center using a compressed air ejector. Roving expands into a mat or glass fibers as it contacts the soil surface. It is often used over a straw mulch, but must still be tacked with asphalt.

Spread roving uniformly over the area at a rate of 0.25 to 0.35 lb/sq yd. Anchor with asphalt immediately after application, at a rate of 450 gallons per acre.

As a channel lining, and at other sites of concentrated flow, the roving mat must be further anchored to prevent undermining. It may be secured with stakes placed at intervals no greater than 10 ft along the drainageway, and randomly throughout its width, but not more than 10 ft apart. As an option to staking, the roving can be buried to a depth of 5 inches at the upgrade end and at intervals of 50 ft along the length of the channel.

NETS AND MATS

Nets alone generally provide little moisture conservation benefits and only limited erosion protection. Therefore, they are usually used in conjunction with an organic mulch such as straw.

Except when wood fiber slurry is used, netting should always be installed over the mulch. Wood fiber may be sprayed on top of an installed net.

Mats, including "excelsior" (wood fiber) blankets, are considered protective mulches and may be used alone, on erodible soils, and during all times of the year. Place the matting in firm contact with the soil and staple securely.

INSTALLATION OF NETTING AND MATTING

Products designed to control erosion should be installed in accordance with manufacturer's instructions. Any mat or blanket-type product used as a protective mulch should provide cover of at least 30% of the surface where it is applied. Installation is illustrated below.

1. Apply lime, fertilizer and seed before laying the net or mat. If open-weave netting is used, lime may be incorporated before installing the net and fertilizer and seed sprayed on afterward.

2. Start laying the net from the top of the channel or slope and unroll it down the grade. Allow netting to lay loosely on the soil but without wrinkles-do not stretch.

3. To secure the net, bury the upslope end in a slot or trench no less than 6 inches deep, cover with soil, and tamp firmly. Staple the net every 12 inches across the top end and every 3 ft around the edges and bottom. Where 2 strips of net are laid side by side, the adjacent edges should be overlapped 3 inches and stapled together. Each strip of netting should also be stapled down the center, every 3 ft. Do not stretch the net when applying staples.

4. To join two strips, cut a trench to anchor the end of the new net. Overlap the end of the previous roll 18 inches, as shown below, and staple every 12 inches just below the anchor slot.

MAINTENANCE

Inspect all mulches, nets, and mats at least weekly and after each significant (1/2 inch or greater) rain fall event repair immediately. Good contact with the ground must be maintained, and erosion must not occur beneath the nets and mats. Any ares of the nets and mats that are damaged or not in close contact with the ground shall be repaired and stapled. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and eroded area protected. Where erosion is observed, apply additional mulch. If washout occurs, repair the clope grade, reseed and reinstall mulch. Monitor and repair mats and liners as necessary until ground cover is established.

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8/13/2024
SEAL

REVISIONS | NO. | DATE

PLANS PREPARED FOR: FUQUAY-VARINA north carolina TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-0092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL DETAILS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

ERO-9

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8/13/2024

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HARDWARE CLOTH AND GRAVEL INLET PROTECTION DETAIL (6.51J)

CONSTRUCTION SPECIFICATIONS

1. As synthetic fabric, use a previous sheet of nylon, polyester, or ethylene yarn – extra strength (50 lb/l inch minimum) – that contains ultraviolet ray inhibitors and stabilizers. Fabric should be sufficiently porous to provide adequate drainage of the temporary sediment pool. Burlap may be used for short-term applications. It must be replaced every 60 days.

2. Cut fabric from a continuous roll to eliminate joints.

3. For stakes, use 5-foot steel posts.

4. Space stakes evenly around the perimeter of the inlet a maximum of 4 ft apart, and securely drive them into the ground, approximately 24 inches deep.

5. Place a 2 foot flap of wire mesh under the gravel for anchoring.

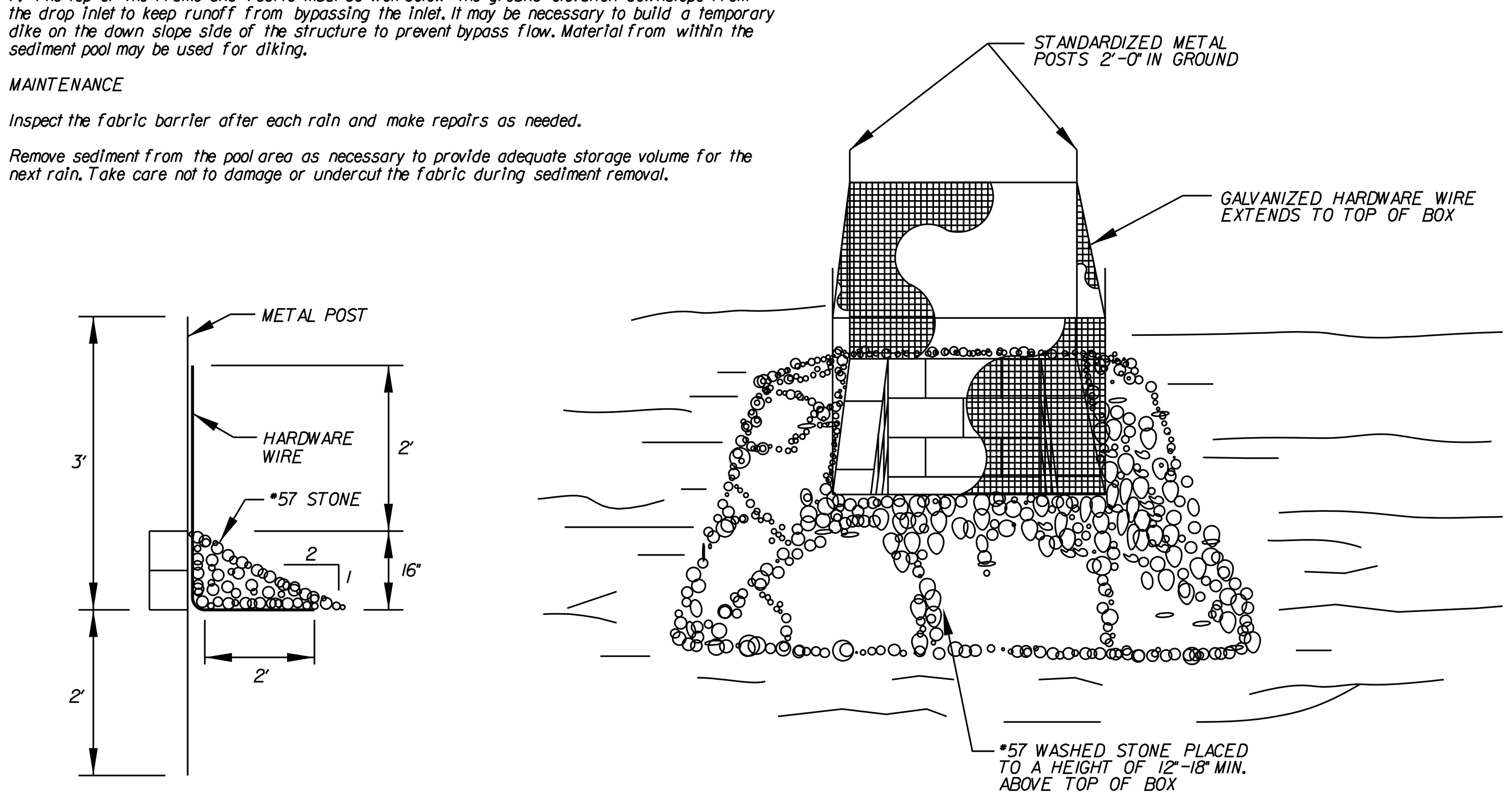
6. Fasten fabric securely to the stakes and frame. Joints must be overlapped to the next stake.

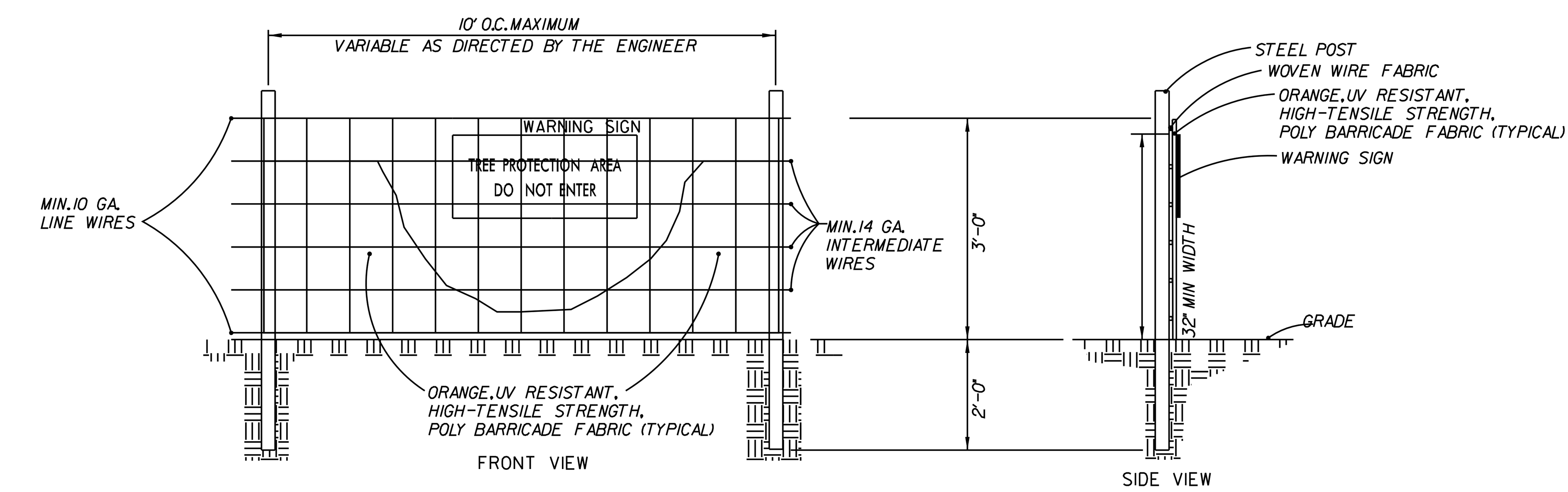
7. The top of the frame and fabric must be well below the ground elevation downslope from the drop inlet to keep runoff from bypassing the inlet. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow. Material from within the sediment pool may be used for diking.

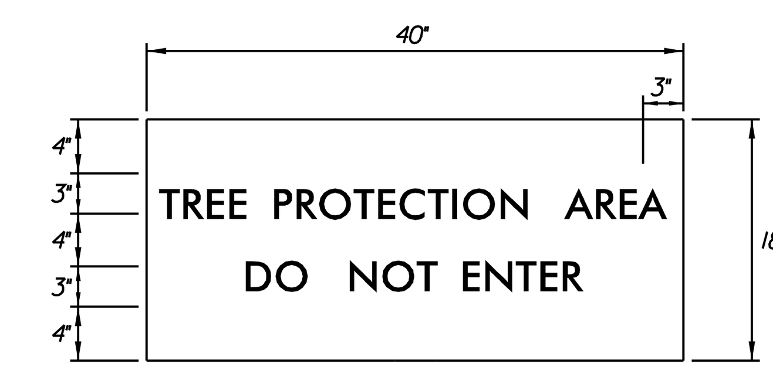
MAINTENANCE

Inspect the fabric barrier after each rain and make repairs as needed.

Remove sediment from the pool area as necessary to provide adequate storage volume for the next rain. Take care not to damage or undercut the fabric during sediment removal.







WARNING SIGN DETAIL

NOTES

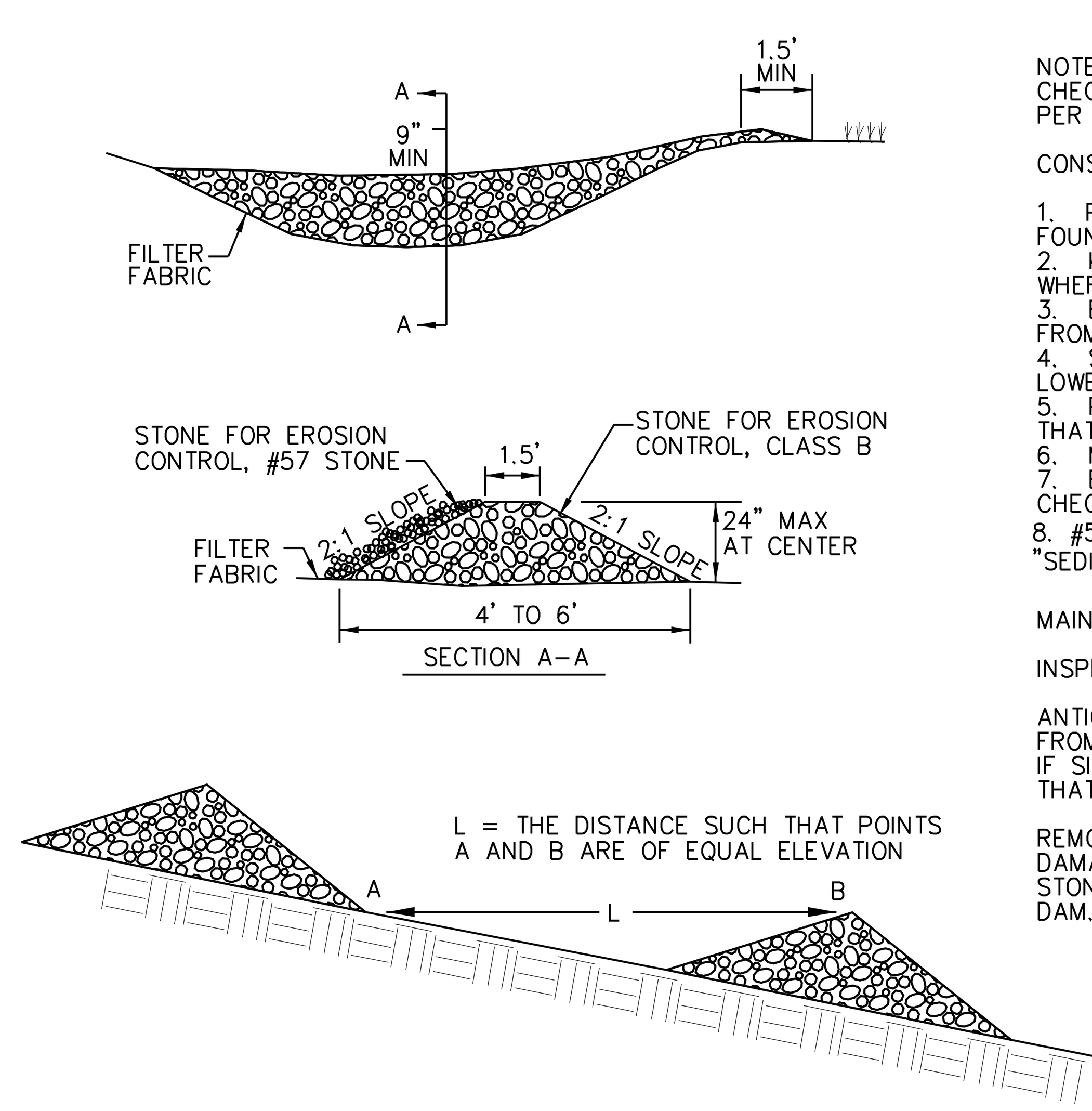
WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS.
PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.
FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
ADDITIONAL SIGNS MAY BE REQUIRED BY TOWN OF FUQUAY-VARINA OR NCDENR. BASED ON ACTUAL FIELD CONDITIONS.
SIGNS SHALL BE INCIDENTAL TO THE FENCE.

MAINTENANCE:

Inspect tree protection fences at least once a week and after each rainfall.
Make any required repairs immediately.
Should the fabric of a tree protection fence collapse, tear, decompose or become ineffective, replace it promptly.

TREE PROTECTION DETAIL

TEMPORARY ROCK SILT CHECK, TYPE B (6.83)



NOTE:
CHECK DAMS TO BE INSTALLED AS INDICATED ON PLAN OR IF GRADE IS STEEPER PER PLAN DETAIL.

CONSTRUCTION SPECIFICATIONS

1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
2. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND STONE AT LEAST 1.5 FT BEYOND THE DITCH BANKS TO KEEP OVERFLOW WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
4. SET SPACING BETWEEN DAMS TO ASSURE THAT THE ELEVATION AT THE TOP OF THE LOWER DAM IS THE SAME AS THE TOE ELEVATION OF THE UPPER DAM.
5. PROTECT THE CHANNEL DOWNSTREAM FROM THE LOWEST CHECK DAM, CONSIDERING THAT WATER WILL FLOW OVER AND AROUND THE DAM.
6. MAKE SURE THAT THE CHANNEL REACH ABOVE THE MOST UPSTREAM DAM IS STABLE.
7. ENSURE THAT CHANNEL APPURTENANCES, SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
8. #57 WASHED STONE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON "SEDIMENT CONTROL STONE."

MAINTENANCE

INSPECT CHECK DAMS AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT.

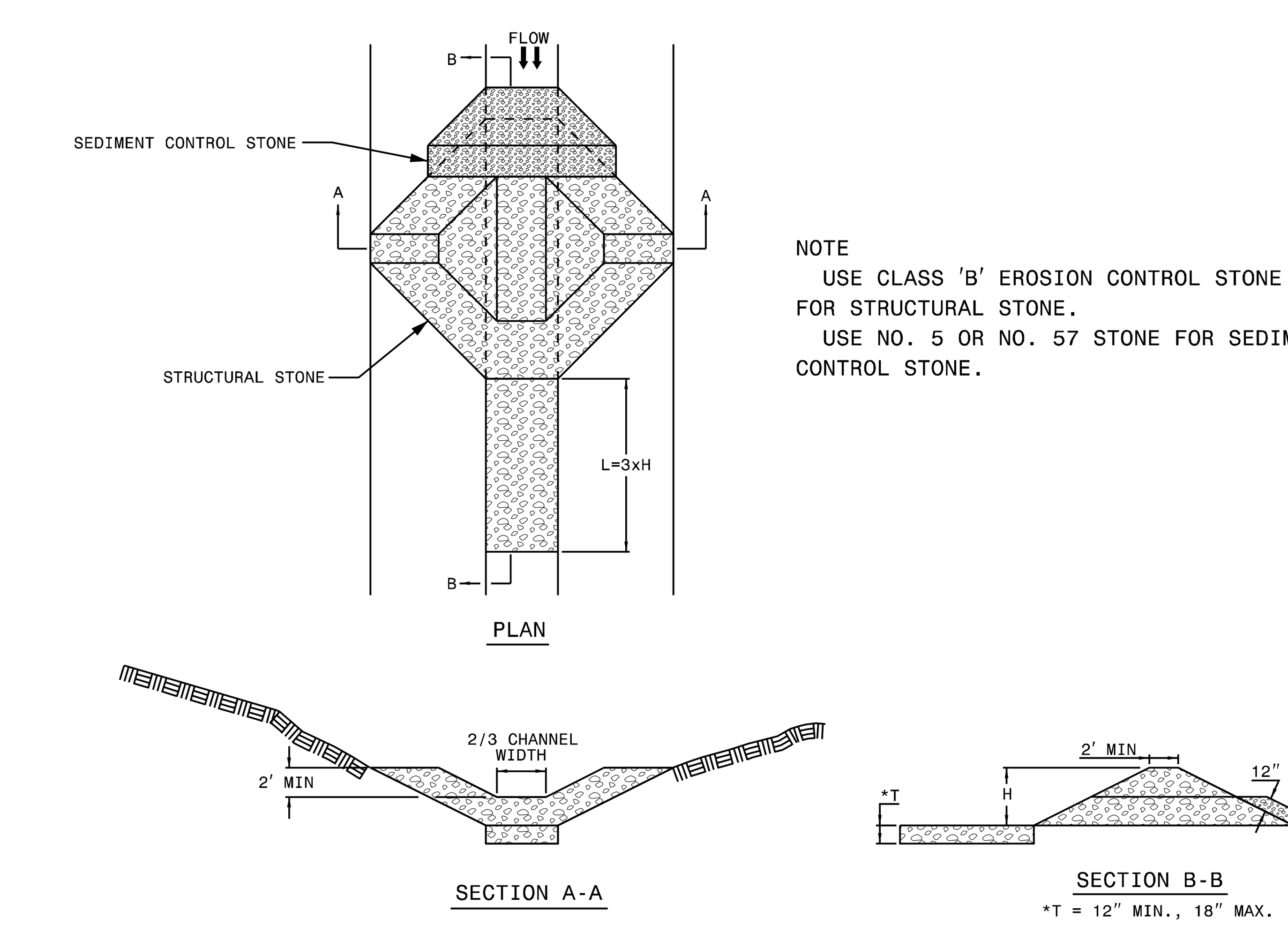
ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL.

REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SILT CHECK TYPE 'A'

SHEET 1 OF 1
1633.01



NOTE
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SILT CHECK TYPE 'A'

SHEET 1 OF 1
1633.01

MAINTENANCE

Inspect silt checks and channels for damage after each runoff event.

Anticipate submergence and deposition above the silt check and erosion from high flows around the edges of the check. Correct all damage immediately. If significant erosion occurs, install a protective riprap liner in that portion of the channel.

Remove sediment accumulated behind the checks as needed to prevent damage to channel vegetation, allow the channel to drain through the silt check, and prevent large flows from carrying sediment over the check. Add stones to checks as needed to maintain design height and cross section.

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8/13/2024

SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR:
FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT:
TIP: BL-00092
ALSTON RIDGE GREENWAY

TITLE:
EROSION CONTROL DETAILS

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

ERO-10

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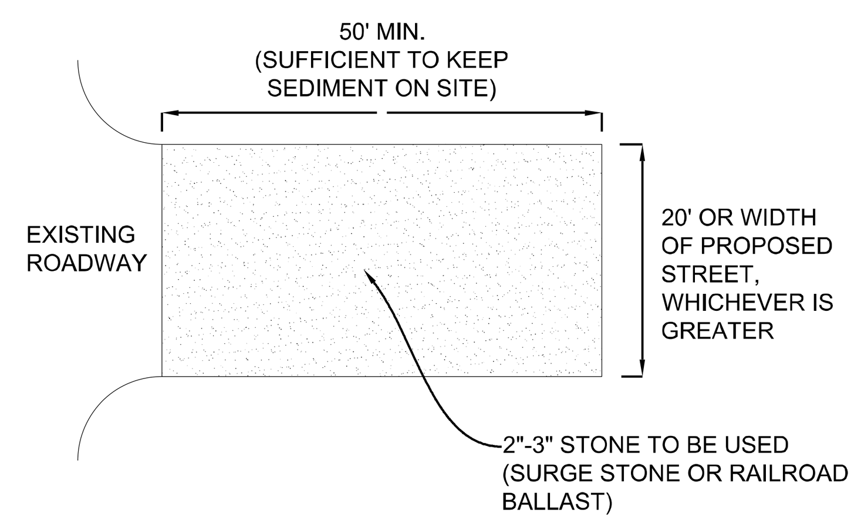
8/13/2024

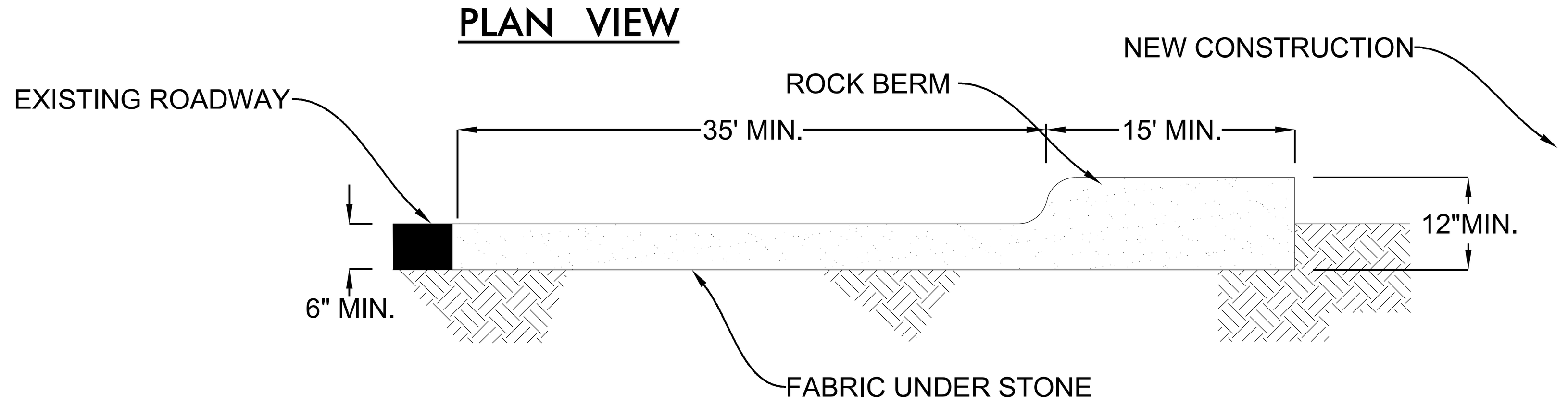
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT (6.06.I)



NOTES:

PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.

PLAN VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it.
2. Place the stone to the specific grade and dimensions shown on the plans, and smooth it.
3. Provide drainage to carry water to a sediment trap or other suitable outlet.
4. Use geotextile fabrics because they improve stability of the foundation in locations subject to seepage or high water table.
5. Use 2-3" coarse aggregate base course or larger.
6. Payment shall be made at the contract unit price per ton "Incidental Stone Base."

MAINTENANCE

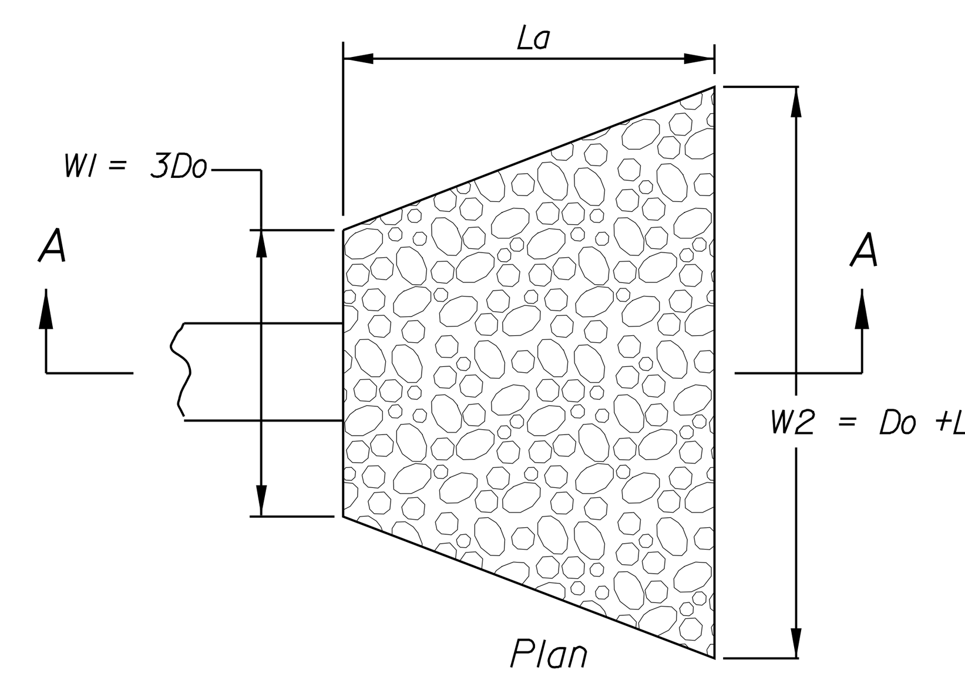
Maintain the stone pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone. After each rainfall, inspect any structure used to trap sediment and clean it out as necessary. Immediately remove all objectionable materials spilled, washed, or tracked onto public roadways.

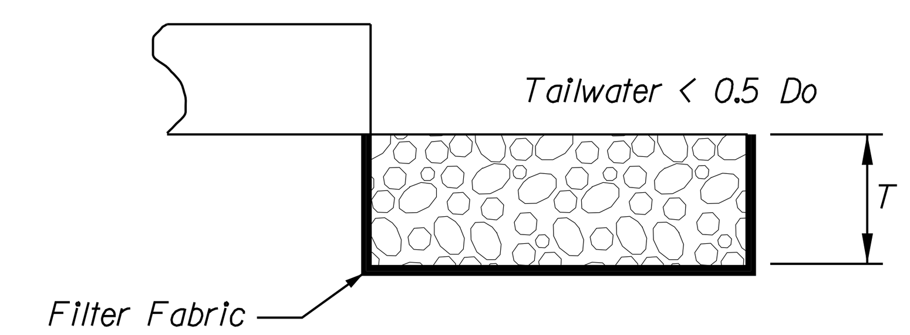
Installation: Avoid curves in public roads and steep slopes. Remove all vegetation and other objectionable material from the foundation area. Grade and crown foundation for positive drainage.

If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.

OUTLET STABILIZATION STRUCTURE DETAIL

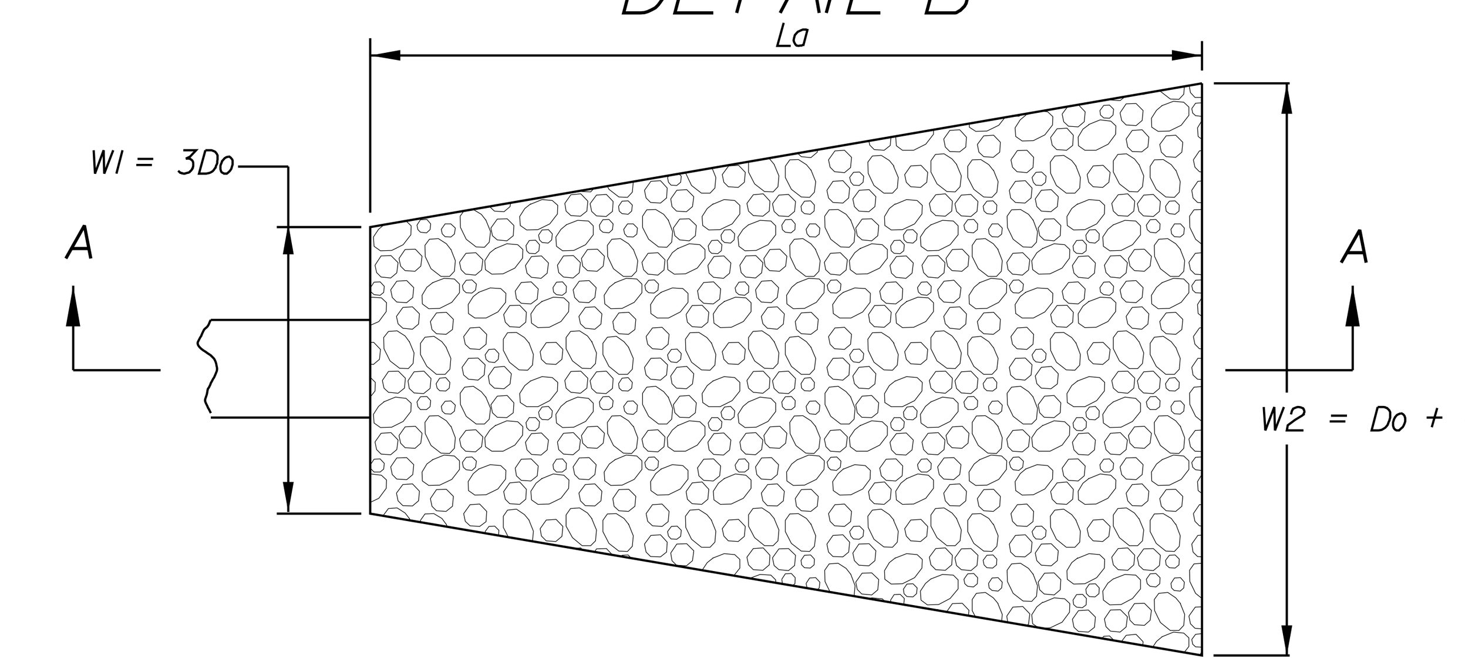
DETAIL A

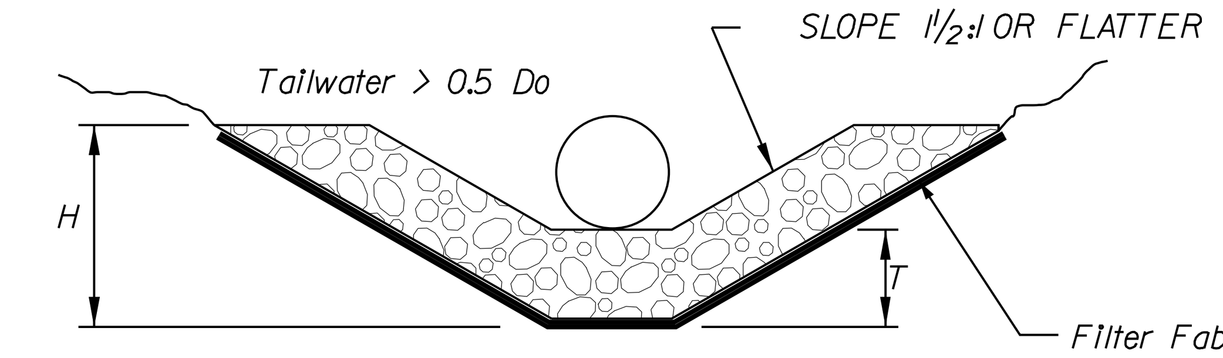




Pipe Outlet To Flat Area
With No Defined Channel

DETAIL B





H = Rip Rap to Top of Pipe (Max. H = D + T)
T = 1.5•Dmax, Unless Otherwise Shown On Plans

Pipe Outlet to Well-Defined Channel

CONSTRUCTION SPECIFICATIONS

1. Ensure that the subgrade for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
2. The riprap and gravel filter must conform to the specified grading limits shown on the plans.
3. Filter cloth, when used, must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter cloth over the damaged area. All connecting joints should overlap a minimum of 1 foot. If damage is extensive, replace the entire filter cloth.
4. Riprap may be placed by equipment, but take care to avoid damaging the filter.
5. The minimum thickness of the riprap should be 1.5 times the maximum stone diameter.
6. Riprap may be field stone or rough quarry stone. It should be hard, angular, highly weather-resistant and well graded.
7. Construct the apron on zero grade with no overfall at the end. Make the top of the riprap at the downstream end level with the receiving area or slightly below it.
8. Ensure that the apron is properly aligned with the receiving stream and preferably straight throughout its length. If a curve is needed to fit site conditions, place it in the upper section of the apron.
9. Immediately after construction, stabilize all disturbed areas with vegetation.

MAINTENANCE

Inspect riprap outlet structures after heavy rains to see if any erosion around or below the riprap has taken place or if stones have been dislodged. Immediately make all needed repairs to prevent further damage.

ROADWAY STANDARD DRAWING FOR ROCK PIPE INLET SEDIMENT TRAP TYPE B

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

SHEET 1 OF 1

1635.02

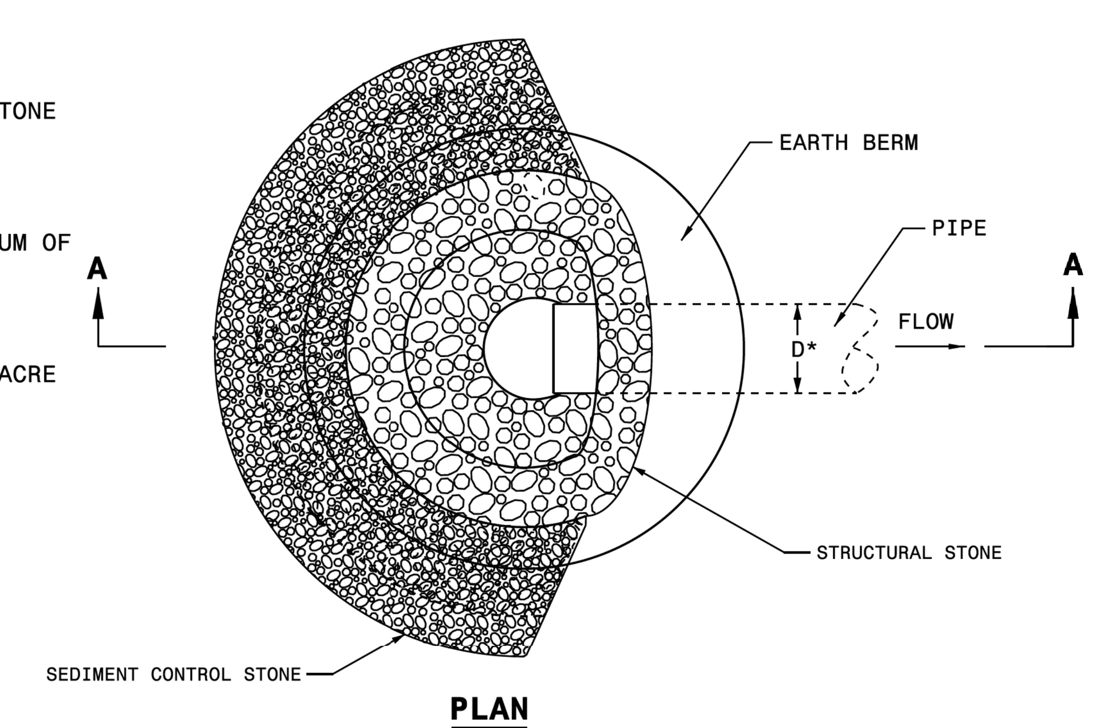
NOTES

USE CLASS A EROSION CONTROL STONE FOR STRUCTURAL STONE.

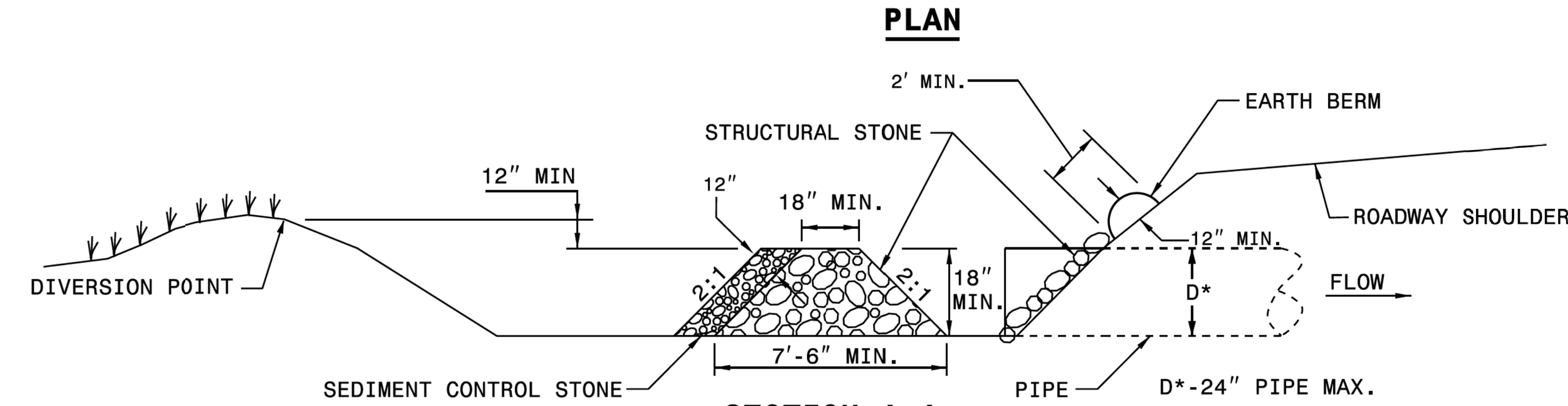
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR DIVERSION POINT.

PROVIDE A TOTAL SEDIMENT TRAP VOLUME OF 3600± CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY UP OR DOWNSTREAM CONTROLS.



PLAN

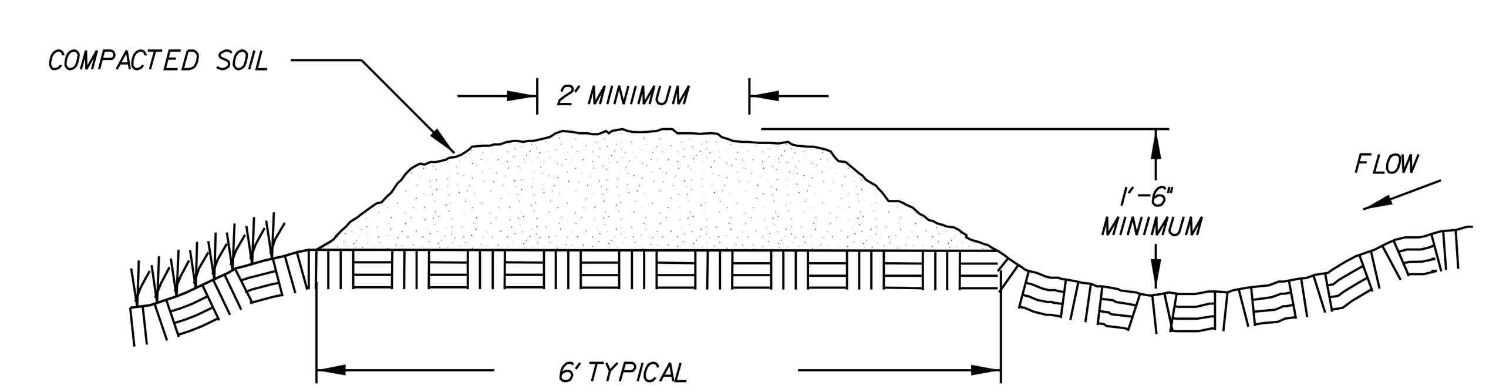


SECTION A-A

MAINTENANCE

INSPECT ROCK PIPE INLET PROTECTION DEVICES AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT.
ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE ROCK PIPE INLET PROTECTION DEVICE AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DEVICE. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS, INSTALL A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED BEHIND THE DEVICE AS NEEDED TO PREVENT DAMAGE TO THE DEVICE AND CONTANIMATION OF THE FLOW INTO THE PIPE. ALLOW THE CHANNEL TO DRAIN THROUGH THE DEVICE, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DEVICE. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

TEMPORARY DIVERSION DITCH DETAIL (6.20)



CROSS SECTIONAL VIEW

-STABILIZE DIVERSION DITCH WITH TEMPORARY SEEDING AND STRAW W/ NET.

CONSTRUCTION SPECIFICATIONS

1. Remove and properly dispose of all trees, brush, stumps, and other objectionable material.
2. Ensure that the minimum constructed cross section meets all design requirements.
3. Ensure that the top of the dike is not lower at any point than the design elevation plus the specified settlement.
4. Provide sufficient room around diversions to permit machine regrading and cleanout.
5. Vegetate the ridge immediately after construction, unless it will remain in place less than 30 working days.
6. Use temporary liner where noted on plans.
7. Temporary diversion ditch construction shall be paid for at the contract unit price per cubic yard "Drainage Ditch Excavation."

MAINTENANCE

Inspect temporary diversions once a week and after every rainfall. Immediately remove sediment from the flow area and repair the diversion ridge. Carefully check outlets and make timely repairs as needed. When the area protected is permanently stabilized, remove the ridge and the channel to blend with the natural ground level and appropriately stabilize it.

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8/13/2024

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REVISIONS	DATE	NO.

PLANS PREPARED FOR: FUQUAY-VARINA north carolina TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

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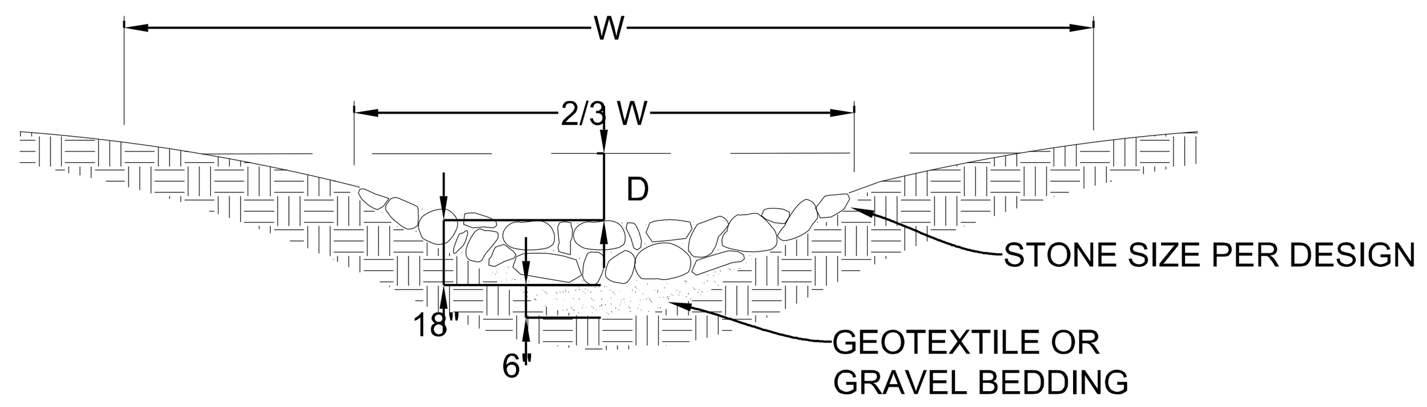
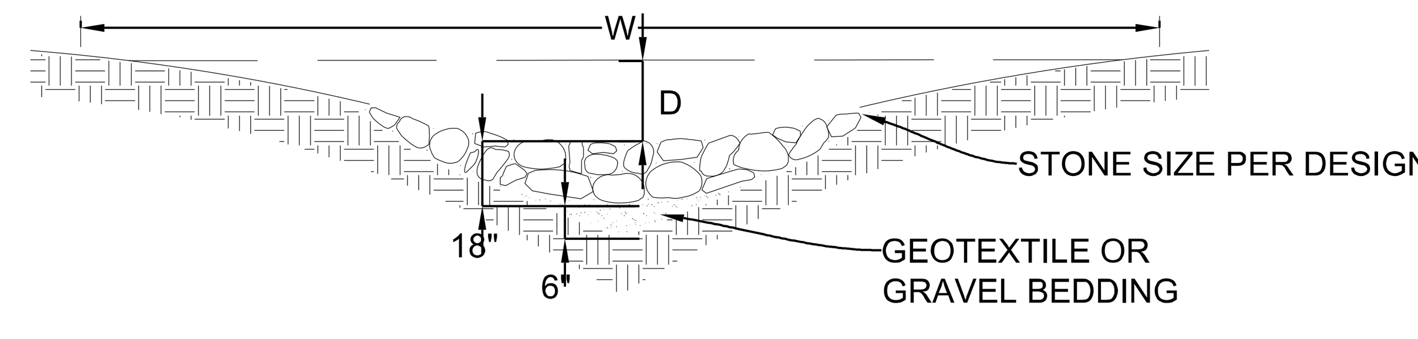
FINAL PLANS

ERO-11

RIPRAP CHANNELS (6.31)

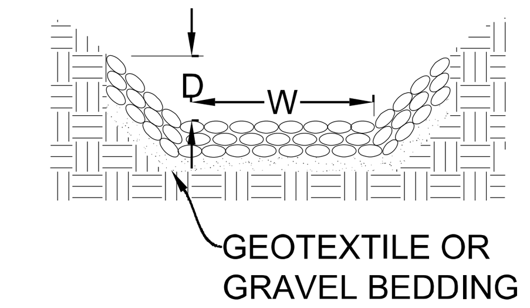


PARABOLIC-SHAPED WATERWAY WITH STONE CENTER DRAIN
(SHAPED BY BULLDOZER)



V-SHAPED WATERWAY WITH STONE CENTER DRAIN
(SHAPED BY MOTOR GRADER)

TYPICAL RIP RAP CHANNEL



TRAPEZOIDAL

TABLE

STONE CLASSIFICATION	RIP RAP DEPTH
A	9"
B	18"
CLASS 1	24"
CLASS 2	24"-36"

NOTE:
1. TO BE USED WHERE EXCESSIVE STORMWATER VELOCITIES PROHIBIT VEGETATIVE LININGS.
2. SIZE OF STONE MUST BE DETERMINED BY APPROPRIATE DESIGN PROCEDURE.
3. DIMENSIONS FOR D & W VARIES ACCORDING TO DESIGN.
4. RIP RAP DEPTH AS PER DESIGN OR REFER TO TABLE.

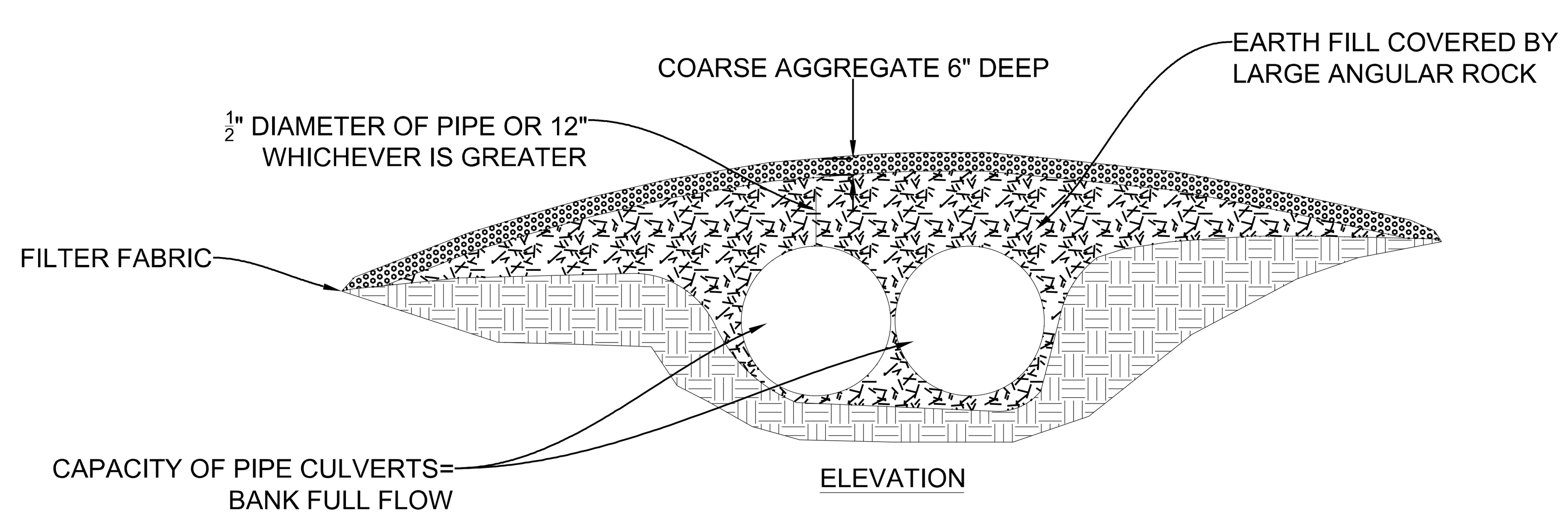
CONSTRUCTION SPECIFICATIONS

1. Clear the foundation area of trees, stumps, roots, loose rock, and other objectionable material.
2. Excavate the cross section to the lines and grades of the foundation of the liner as shown on the plans. Bring over-excavated areas to grade by increasing the thickness of the liner or by backfilling with moist soil compacted to the density of the surrounding material.
3. Rock riprap linings: Practice 6.15, Riprap.
4. Place filters, beddings, and foundation drains to line and grade in the manner specified. Place filter and bedding materials immediately after slope preparation. For synthetic filter fabrics, overlap the downstream edge by at least 12 inches with the upstream edge which is buried a minimum 12 inches in a trench. See figure 6.14a, page 6.14.6. Space anchor pins every 3 feet along the overlap. Spread granular materials in a uniform layer. When more than one gradation is required, spread the layers so there is minimal mixing. Filter material should consist of at least 3 inches of material on all sides of the drain pipe. The drain pipe conduit should be a minimum of 4 inches in diameter. Acceptable materials include perforated, continuous, closed-joint conduits of clay, concrete, metal, plastic, or other suitable material (Practice 6.81, Subsurface Drain).
5. Perform all channel construction to keep erosion and water pollution to a minimum. Immediately upon completion of the channel, vegetate all disturbed areas or otherwise protect them against soil erosion. Where channel construction will take longer than 30 days, stabilize channels by reaches.

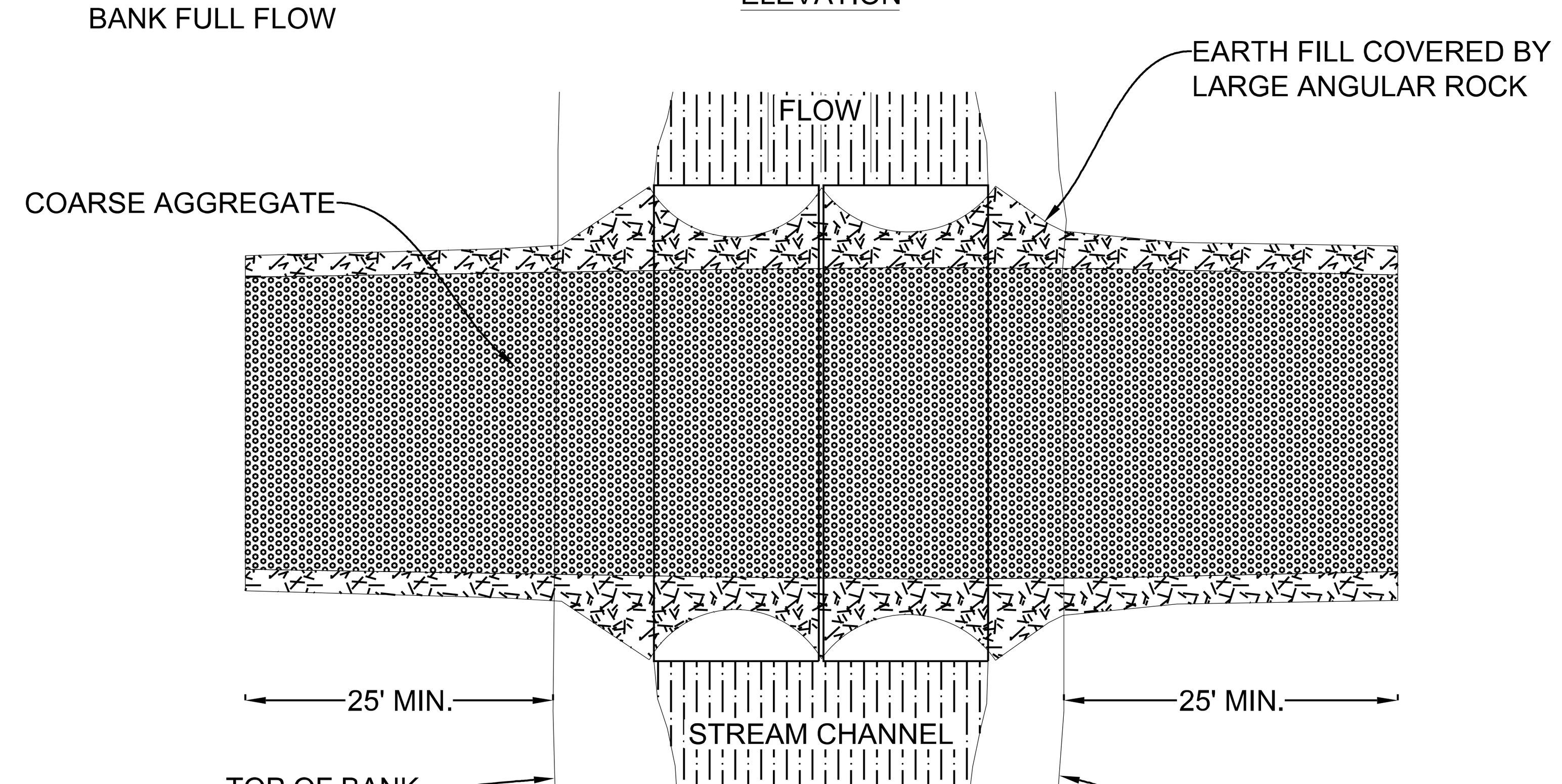
MAINTENANCE

Inspect channels at regular intervals as well as after major rains, and make repairs promptly. Give special attention to the outlet and inlet sections and other points where concentrated flow enters. Carefully check stability at road crossings, and look for indications of piping, scour holes, or bank failures. Make repairs immediately. Maintain all vegetation adjacent to the channel in a healthy, vigorous condition to protect the area from erosion and scour during out-of-bank flow.

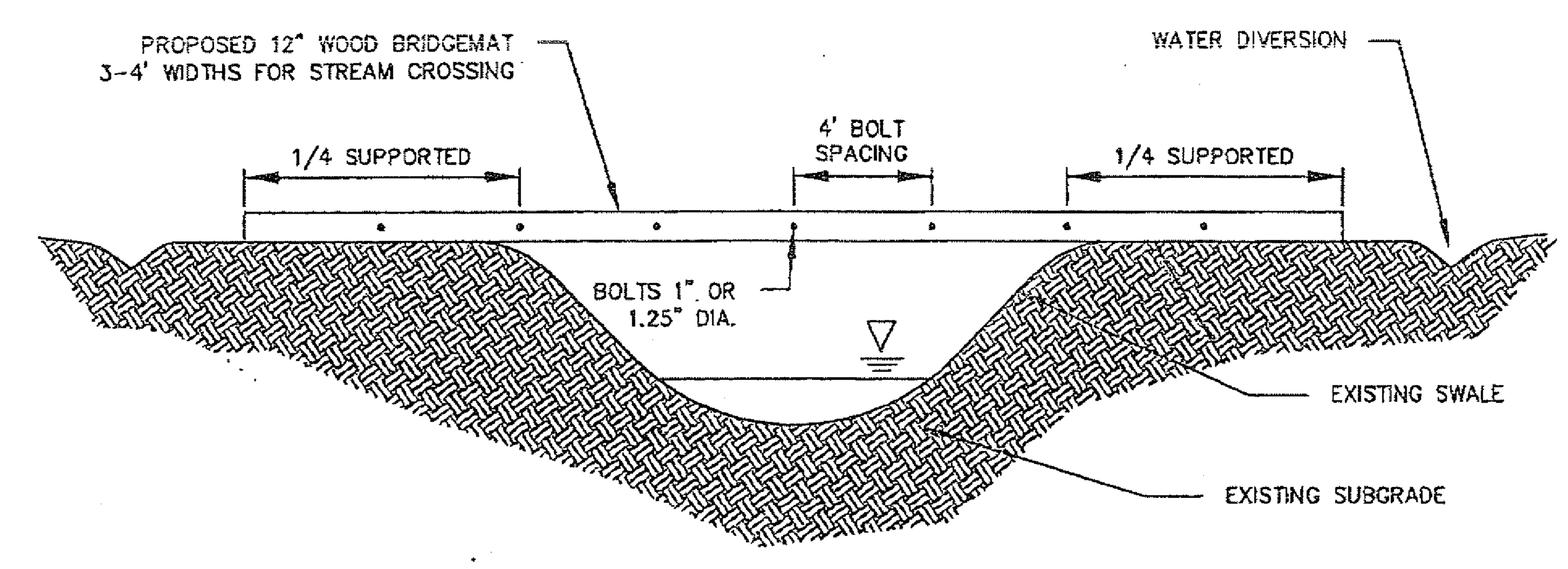
TEMPORARY STREAM CROSSING (6.70)



ELEVATION



PLAN



ALTERNATE TEMPORARY STREAM CROSSING (BRIDGEMAT)
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. Keep clearing and excavation of the stream banks and bed and approach sections to a minimum.
2. Divert all surface water from the construction site onto undisturbed areas adjoining the stream.
3. Keep stream crossing at right angles to the stream flow.
4. Align road approaches with the center line of the crossing for a minimum distance of 30 feet. Raise bridge abutments and culvert fills a minimum of 1 foot above the adjoining approach sections to prevent erosion from surface runoff and to allow flood flows to pass around the structure.
5. Stabilize all disturbed areas subject to flowing water, including planned overflow areas, with riprap or other suitable means if design velocity exceeds the allowable for the in-place soil.
6. Ensure that bypass channels necessary to dewater the crossing site are stable before diverting the stream. Upon completion of the crossing, fill, compact, and stabilize the bypass channel appropriately.
7. Remove temporary stream crossings immediately when they are no longer needed. Restore the stream channel to its original cross-section, and smooth and appropriately stabilize all disturbed areas.
8. Any in-stream control measures must be removed upon stabilization of the area.

MAINTENANCE

Inspect temporary stream crossings after runoff-producing rains to check for blockage in channel, erosion of abutments, channel scour, riprap displacement, or piping. Make all repairs immediately to prevent further damage to the installation.

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8/13/2024

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SEAL

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TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092
ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL DETAILS

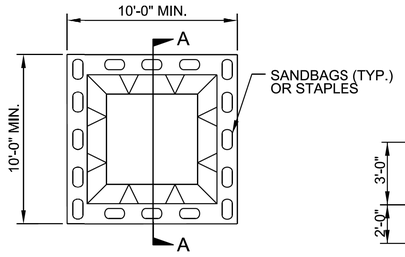
KHA PROJECT: 012622018
DATE: 8/13/2024

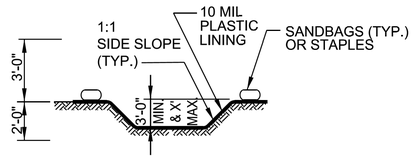
FINAL PLANS

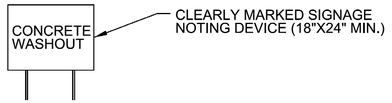
ERO-12

WITH LINER, NO GRAVEL APPROACH

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER







PLAN

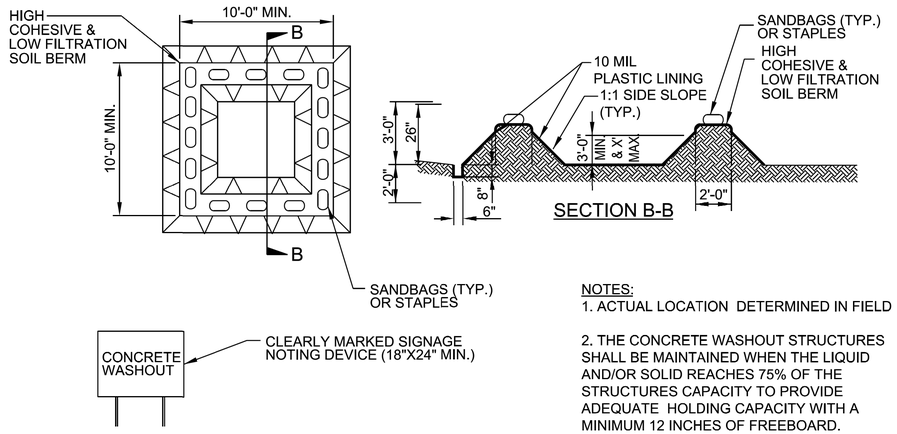
SECTION A-A

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



PLAN

SECTION B-B

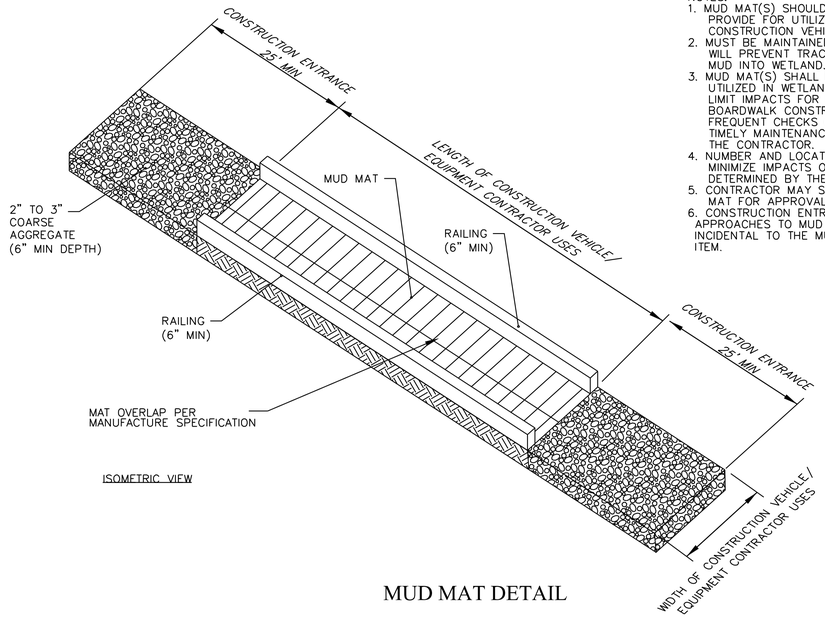
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

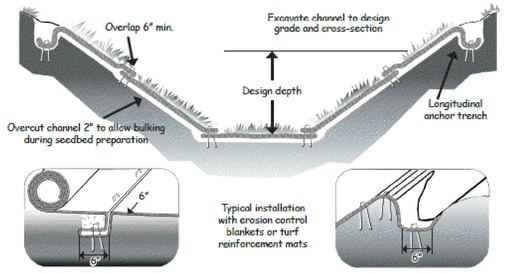


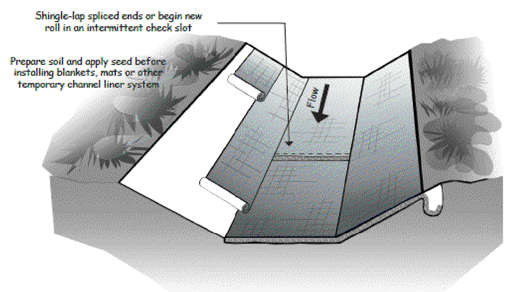
NOTES:
1. MUD MAT(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
2. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD INTO WETLAND.
3. MUD MAT(S) SHALL BE UTILIZED IN WETLAND AREAS TO LIMIT IMPACTS FOR BRIDGE AND BOARDWALK CONSTRUCTION. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED BY THE CONTRACTOR.
4. NUMBER AND LOCATION OF MUD MATS TO MINIMIZE IMPACTS OR DETERMINED BY THE ENGINEER.
5. CONTRACTOR MAY SUBMIT ALTERNATE MUD MAT FOR APPROVAL.
6. CONSTRUCTION ENTRANCE APPROACHES TO MUD MAT SHALL BE INCIDENTAL TO THE MUD MAT PAY ITEM.

ISOMETRIC VIEW

MUD MAT DETAIL

TEMPORARY LINERS (RECP'S)





NOTES:
1. Design velocities exceeding 2 ft/sec require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established.
2. Grass-lined channels with design velocities exceeding 6 ft/sec should include turf reinforcement mats

Table 6.17b Permissible Shear Stress, τ_p, of Various RECP's

Category	Product Type	Max. Permissible Shear Stress (lb/ft^2)	Slopes* Up To
Degradable RECP's (Unvegetated)	Nets and Mulch	0.1 - 0.2	20:1
	Coir Mesh	0.4 - 3.0	3:1
	Blanket - Single Net	1.55 - 2.0	2:1
	Blanket - Double Net	1.65 - 3.0	1:1
Nondegradable RECP's	Unvegetated TRM**	2 - 4	1:1
	Partially Vegetated TRM	4 - 6	>1:1
	Fully Vegetated	5 - 10	>1:1

* Steeper slope limits may apply. For further information, contact the manufacturer.
** Turf Reinforcement Mat.

CONSTRUCTION SPECIFICATIONS

CONSTRUCTION

Grade the surface of installation areas so that the ground is smooth and loose. When seeding prior to installation, follow the steps for seed bed preparation, soil amendments, and seeding. All gullies, rills, and any other disturbed areas must be fine graded prior to installation. Spread seed before RECP installation. (Important: Remove all large rocks, dirt clods, stumps, roots, grass clumps, trash, and other obstructions from the soil surface to allow for direct contact between the soil surface and the RECP.)

Terminal anchor trenches are required at RECP ends and intermittent trenches must be constructed across channels at 25-foot intervals. Terminal anchor trenches should be a minimum of 12 inches in depth and 6 inches in width, while intermittent trenches need be only 6 inches deep and 6 inches wide.

Installation for Slopes – Place the RECP 2-3 feet over the top of the slope and into an excavated end trench measuring approximately 12 inches deep by 6 inches wide. Pin the RECP at 1 foot intervals along the bottom of the trench, backfill, and compact. Unroll the RECP down (or along) the slope maintaining direct contact between the soil and the RECP. Overlap adjacent rolls a minimum of 3 inches. Pin the RECP to the ground using staples or pins in a 3 foot center-to-center pattern. Less frequent stapling/pinning is acceptable on moderate slopes.

Installation in Channels – Excavate terminal trenches (12 inches deep and 6 inches wide) across the channel at the upper and lower end of the lined channel sections. At 25-foot intervals along the channel, anchor the RECP across the channel either in 6 inch by 6 inch trenches or by installing two closely spaced rows of anchors. Excavate longitudinal trenches 6 inches deep and wide along channel edges (above water line) in which to bury the outside RECP edges. Place the first RECP at the downstream end of the channel. Place the end of the first RECP in the terminal trench and pin it at 1 foot intervals along the bottom of the trench.

Once pinned and backfilled, the RECP is deployed by wrapping over the top of the trench and unrolling upstream. If the channel is wider than the provided rolls, place ends of adjacent rolls in the terminal trench, overlapping the adjacent rolls a minimum of 3 inches. Pin at 1 foot intervals, backfill, and compact. Unroll the RECP in the upstream direction until reaching the first intermittent trench. Fold the RECP back over itself, positioning the roll on the downstream side of the trench, and allowing the mat to conform to the trench.

Then pin the RECP (two layers) to the bottom of the trench, backfill, and compact. Continue up the channel (wrapping over the top of the intermittent trench) repeating this step at other intermittent trenches, until reaching the upper terminal trench. At the upper terminal trench, allow the RECP to conform to the trench, secure with pins or staples, backfill, compact and then bring the mat back over the top of the trench and onto the existing mat (2 to 3 feet overlap in the downstream direction), and pin at 1 foot intervals across the RECP. When starting installation of a new roll, begin in a trench or shingle-lap ends of rolls a minimum of 1 foot with upstream RECP on top to prevent uplifting. Place the outside edges of the RECP(s) in longitudinal trenches, pin, backfill, and compact.

MAINTENANCE

1. Inspect Rolled Erosion Control Products at least weekly and after each significant (1/2 inch or greater) rain fall event repair immediately.

2. Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.

3. Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.

4. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the eroded area protected.

5. Monitor and repair the RECP as necessary until ground cover is established.

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VU
8/13/2024
SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA city | county
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: EROSION CONTROL DETAILS

KHA PROJECT: 012622018
DATE: 8/13/2024
FINAL PLANS

ERO-13

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

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

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

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

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

GROUND STABILIZATION SPECIFICATION

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

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

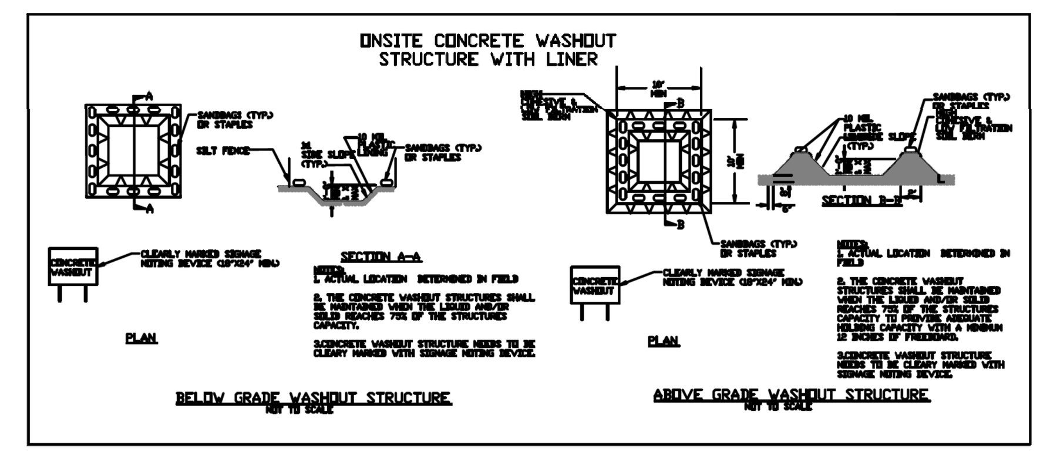
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled,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

PORTABLE TOILETS

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

EARTHEN STOCKPILE MANAGEMENT

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



CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

HAZARDOUS AND TOXIC WASTE

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

NORTH CAROLINA Environmental Quality

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

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

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

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

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

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

2. Additional Documentation to be Kept on Site

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

(a) This General Permit as well as the Certificate of Coverage, after it is received.

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

3. Documentation to be Retained for Three Years

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

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

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

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

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

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

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

TITLE: EROSION CONTROL DETAILS	PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY	PLANS PREPARED FOR: FUQUAY-VARINA north carolina TOWN OF FUQUAY-VARINA	NO. / DATE / REVISIONS	PLANS PREPARED BY: Kimley»Horn

KHA PROJECT: 012622018
DATE: 8/13/2024
FINAL PLANS
SEAL
ERO-14

GENERAL NOTES

SPECIFICATION

1. CURRENT EDITION OF THE AASHTO LRFD GUIDE SPECIFICATIONS FOR PEDESTRIAN BRIDGES, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BICYCLE FACILITIES PLANNING AND DESIGN GUIDELINES, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN MANUAL, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THE INCORPORATED PROJECT SPECIAL PROVISIONS.
2. FOR TIMBER BOARDWALK, SEE SPECIAL PROVISIONS.
3. FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
4. FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
5. FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

MATERIAL AND WORKMANSHIP

1. PROVIDE ALL MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, 2024 EDITION, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS.

DESIGN DATA

1. UNIFORM PEDESTRIAN LIVE LOAD_______________90 PSF
2. VEHICULAR LIVE LOAD__________________________AASHTO H-5
3. WIND LOAD____________________________________PER AASHTO
4. WATER LOAD___________________________________PER AASHTO
5. SEISMIC LOAD_________________________________PER AASHTO
6. TEMPERATURE LOAD_____________________________PER AASHTO

FOUNDATIONS

1. FOR FOUNDATION RECOMMENDATIONS AND DESIGN INFORMATION, REFER TO THE TERRACON GEOTECHNICAL ENGINEERING REPORT; TERRACON PROJECT NO. 70205155 DATED MAY 11, 2021.
2. FOUNDATION RECOMMENDATIONS ARE BASED ON THE MAXIMUM FACTORED AXIAL PILES LOADS LISTED BELOW. IF THE FINAL DESIGN LOADS EXCEED THESE LOADS, REVISED FOUNDATION RECOMMENDATIONS SHALL BE PROVIDED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER. IF REVISED FOUNDATION RECOMMENDATIONS ARE REQUIRED, SUBMIT THEM TO THE NCDOT EASTERN REGIONAL GEOTECHNICAL OPERATIONS ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
4. PILES SHALL BE SPACED ON-CENTER NO CLOSER THAN THREE TIMES THE PILES BUTT DIAMETER OR WIDTH.
5. PILES SHOULD EXTEND THROUGH THE SOFT TO MEDIUM STIFF CLAY AND LOOSE TO MEDIUM DENSE SAND MATERIALS AND BEAR ON THE MEDIUM DENSE SAND SOILS IDENTIFIED IN THE BORING LOGS.
6. TIMBER PILES AT ALL BOARDWALK BENTS HAVE A FACTORED ALLOWABLE AXIAL RESISTANCE OF 5 KIPS PER PILE WHEN DRIVEN TO A MINIMUM OF 20 FEET BELOW EXISTING GRADE AND INTO MEDIUM DENSE SAND SOILS.
7. TIMBER PILES AT ALL BOARDWALK LOOKOUT BENTS HAVE A FACTORED ALLOWABLE AXIAL RESISTANCE OF 6 KIPS PER PILE WHEN DRIVEN TO A MINIMUM OF 15 FEET BELOW EXISTING GRADE AND INTO MEDIUM DENSE SAND SOILS.
8. THE ALLOWABLE UPLIFT CAPACITY SHOULD BE TAKEN AS APPROXIMATELY 90-PERCENT OF THE WEIGHT OF THE PILE.
9. IT HAS BEEN ESTIMATED THAT HAMMER WITH AN EQUIVALENT RATED ENERGY OF AT LEAST 10,000 FT.-LBS. PER BLOW WILL BE REQUIRED TO DRIVE PILES. THIS ESTIMATED ENERGY REQUIREMENT DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUB ARTICLE 450-3 (D)(S) OF THE STANDARD SPECIFICATIONS. CONTRACTOR SHALL PROVIDE THE DRIVING EQUIPMENT SPECIFICATIONS TO GEOTECHNICAL ENGINEER TO PERFORM PILE DRIVING ANALYSES.
10. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
11. TESTING PILES WITH PDA DURING DRIVING, RESTRIKING, OR REDRIVING IS REQUIRED.
12. TIMBER PILES SHALL HAVE A MINIMUM TIP DIAMETER OF 8".
13. TO MINIMIZE DAMAGE TO THE TIMBER PILES DURING DRIVING, COMPRESSIVE DRIVING STRESS SHALL NOT EXCEED THREE TIMES THE ALLOWABLE DESIGN STRESS.
14. TIMBER PILE TIP ELEVATIONS SHALL BE DETERMINED IN THE FIELD BY A REPRESENTATIVE OF TERRACON DURING TIMBER PILE DRIVING OPERATIONS, USING A SUITABLE PILE DRIVING FORMULA.
15. PROVIDE DRIVING EQUIPMENT IN ACCORDANCE WITH SUB ARTICLE 450-3 (D)(2) OF THE STANDARD SPECIFICATIONS.

WATER ELEVATIONS

1. THE WATER ELEVATIONS SHOWN IN THE PLANS ARE FOR INFORMATION ONLY AND THE ACTUAL WATER ELEVATIONS DURING CONSTRUCTION MAY VARY DEPENDING ON WEATHER CONDITIONS SEASONAL FLUCTUATIONS.
2. ADDITIONAL PAYMENT FOR DEWATERING WILL NOT BE ALLOWED. CONTRACTOR SHALL INCLUDE COST IN LUMP SUM PAY ITEMS FOR EACH BOARDWALK SECTION.

TIMBER BOARDWALK

1. TIMBER BOARDWALK SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER BASED UPON THE SPECIFIED DESIGN CRITERIA. THE TIMBER BOARDWALK PLANS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. PLANS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. CONSTRUCTION OF THE TIMBER BOARDWALK SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.

APPROACH RAILINGS

1. APPROACH RAILINGS SHALL BE PROVIDED AT EACH CORNER OF THE BOARDWALK PER TIMBER BOARDWALK SPECIAL PROVISION.

STRUCTURAL TIMBER AND LUMBER

1. ALL STRUCTURAL FRAMING, DECKING, NAILERS, AND PEDESTRIAN RAIL COMPONENTS SHALL BE PRESSURE TREATED SOUTHERN PINE SURFACE DRY (S4S) WITH A MOISTURE CONTENT OF 19% OR LESS, MEETING THE REQUIREMENTS OF SECTION 1082 OF THE STANDARD SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. ALL TIMBER PILES SHALL BE SOUTHERN PINE CONFORMING TO ASTM D25.
3. TIMBER AND LUMBER SHALL BE TREATED WITH WATERBORNE PRESERVATIVES (CCA OR ACQ) IN ACCORDANCE WITH AWPA STANDARD U1, COMMODITY SPECIFICATION A, TO THE REQUIREMENTS OF THE FOLLOWING USE CATEGORIES:
   A. PILES: UC4C
   B. BACKWALLS, WINGWALLS, CAP BEAMS AND STRINGERS: UC4B
   C. DECKING, PEDESTRIAN RAILING COMPONENTS, ALL OTHER LUMBER: UC3B
4. EACH DECKING MEMBER SHALL BE INSTALLED BARK SIDE UP TO PREVENT CUPPING.
5. MAXIMUM SPACING OF DECKING MEMBERS SHALL BE 1/8".
6. ALL VERTICAL MEMBERS SHALL BE PLUMB.
7. ALL SAW CUTS, BOLT HOLES, AND OTHER HOLES SHALL BE TREATED WITH APPROPRIATE PRESERVATION SOLUTION PRIOR TO INSTALLING BOLTS.
8. UNLESS NOTED OTHERWISE, MECHANICAL WOOD CONNECTIONS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS, WITH ALL FASTENER HOLES FULLY POPULATED.
9. ALL CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
10. ALL FASTENERS, CONNECTORS AND BOLTS SHALL BE HOT-DIP GALVANIZED AND CONFORM TO ASTM F3125 GRADE A325, WITH NUTS CONFORMING TO ASTM A563 AND WASHERS CONFORMING TO ASTM F436, UNLESS NOTED OTHERWISE.
11. ALL BOLTED CONNECTIONS SHALL INCLUDE OVERSIZED OGEE WASHERS INSTALLED BETWEEN THE WOOD AND THE BOLT HEAD AND BETWEEN THE WOOD AND THE NUT.

BOARDWALK FOUNDATIONS

	SOIL PARAMETERS			AXIAL PARAMETERS	
DEPTH (FEET BELOW GROUND SURFACE)	ASSUMED TOTAL UNIT WEIGHT (PCF)	COHESION C (PSF)	FRICTION ANGLE ϕ	ALLOWABLE SKIN FRICTION (LBS PER LINEAR FOOT)	ALLOWABLE END BEARING CAPACITY (LBS)
1 - 3	110	300	-	150	-
3 - 8	110	-	30	90	1,365
8+	110	-	31	165	2,375

BOARDWALK LOOKOUT FOUNDATIONS

	SOIL PARAMETERS			AXIAL PARAMETERS	
DEPTH (FEET BELOW GROUND SURFACE)	ASSUMED TOTAL UNIT WEIGHT (PCF)	COHESION C (PSF)	FRICTION ANGLE ϕ	ALLOWABLE SKIN FRICTION (LBS PER LINEAR FOOT)	ALLOWABLE END BEARING CAPACITY (LBS)
1 - 3	110	600	-	225	-
3 - 8	110	-	29	120	1,200
8 - 12	110	-	31	185	2,565
12+	110	-	32	285	3,825

CONSTRUCTION

1. CONSTRUCTION OF THE BOARDWALKS SHALL BE PERFORMED SO AS TO NOT ALLOW DEBRIS TO FALL INTO THE WATER.

TOTAL BILL OF MATERIALS

	TIMBER BOARDWALK[1]
	LUMP SUM
TIMBER BOARDWALK	LUMP SUM
TIMBER BOARDWALK LOOKOUT	LUMP SUM

1. PAY ITEMS FOR TIMBER BOARDWALK SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY AND OTHER INCIDENTALS NECESSARY FOR THE TIMBER BOARDWALK, APPROACH SLAB, APPROACH RAILING, PILE EXCAVATION, DEWATERING, ETC.

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1/21/2025

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NORTH CAROLINA PROFESSIONAL SEAL 049152 ENGINEER MITCHELL D. MAGEE
DocuSigned by: Mitchell D. Magee 88EF0F642B4C443...
1/21/2025
SEAL

NO. | DATE | REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-0092 ALSTON RIDGE GREENWAY

TITLE: GENERAL NOTES

KHA PROJECT: 012622018
DATE: 1/21/2025

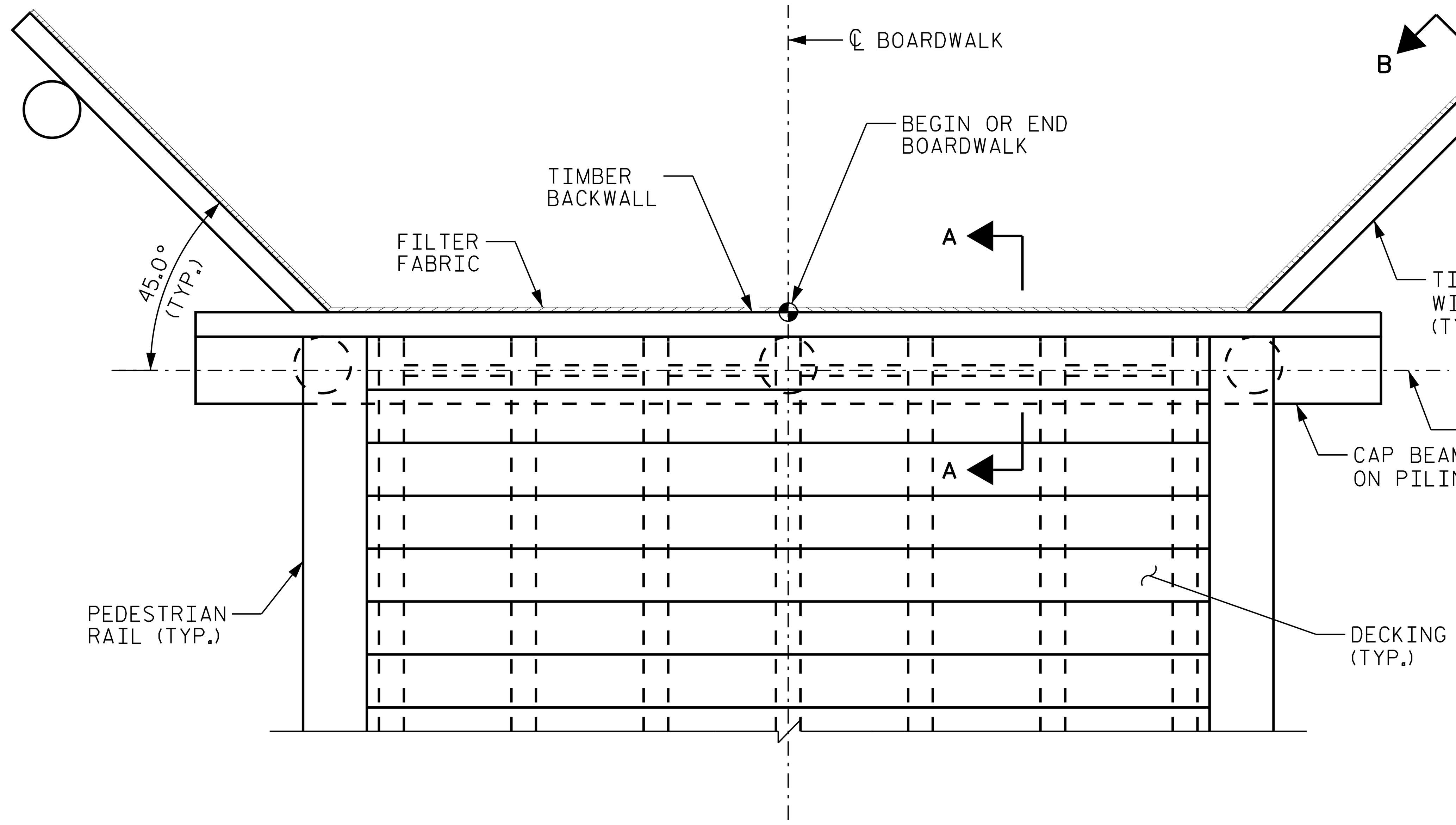
FINAL PLANS

S-1

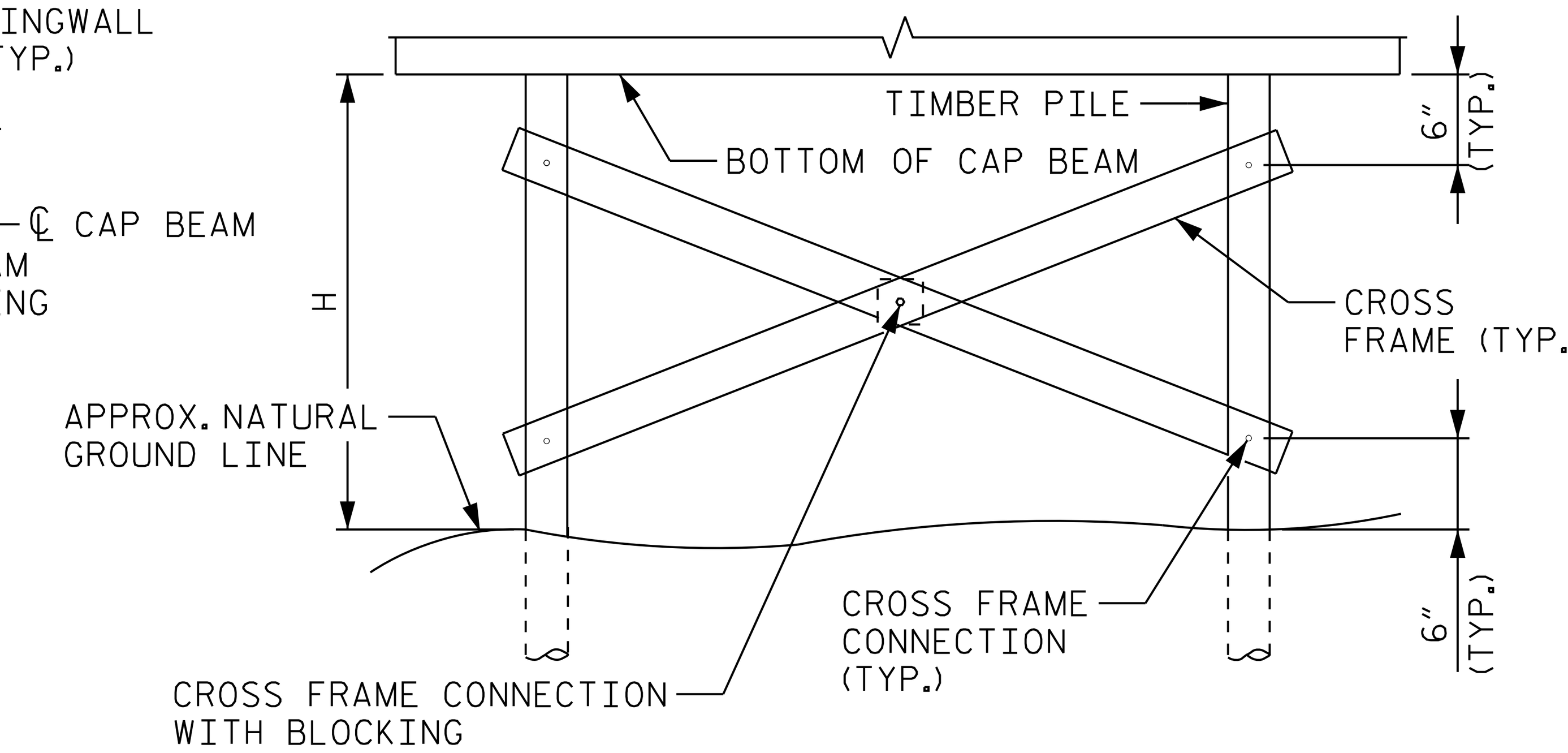
NOTES

APPROACH SLAB REQUIRED IF BOARDWALK IS TRANSITIONING TO ASPHALT PAVEMENT. WHEN NEW APPROACH SLAB IS REQUIRED, IT SHALL BE 10'x10' AND CONSTRUCTED PER "SECTION A-A".

NUMBER OF TIMBER PILES SHOWN AT END BENTS AND BENTS IS FOR DESIGN INTENT ONLY. ACTUAL NUMBER OF TIMBER PILES AND TIMBER PILE BATTER REQUIRED AT END BENTS AND BENTS SHALL BE DETERMINED BY THE CONTRACTOR'S ENGINEER.

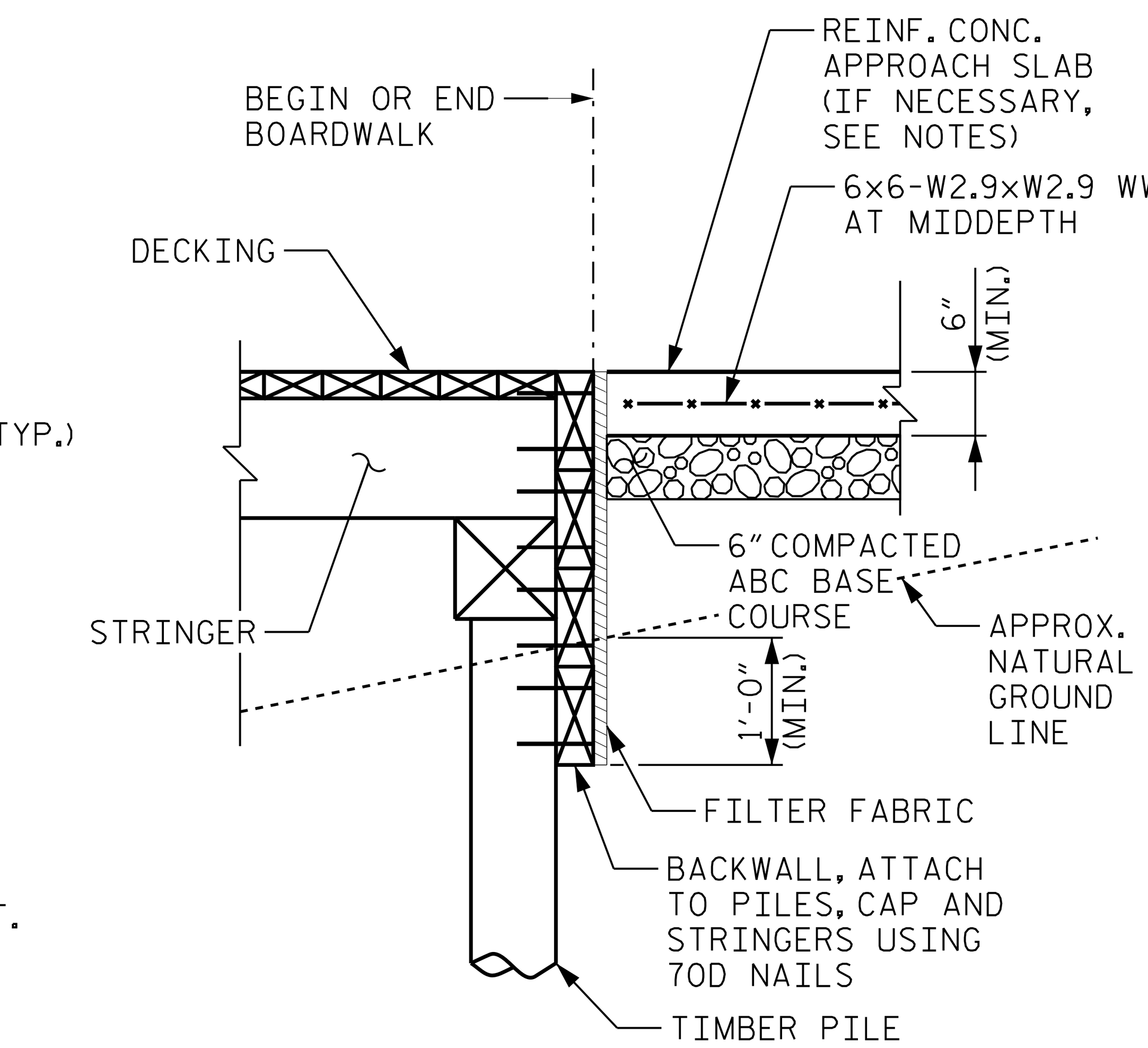


TIMBER BOARDWALK END BENT PLAN

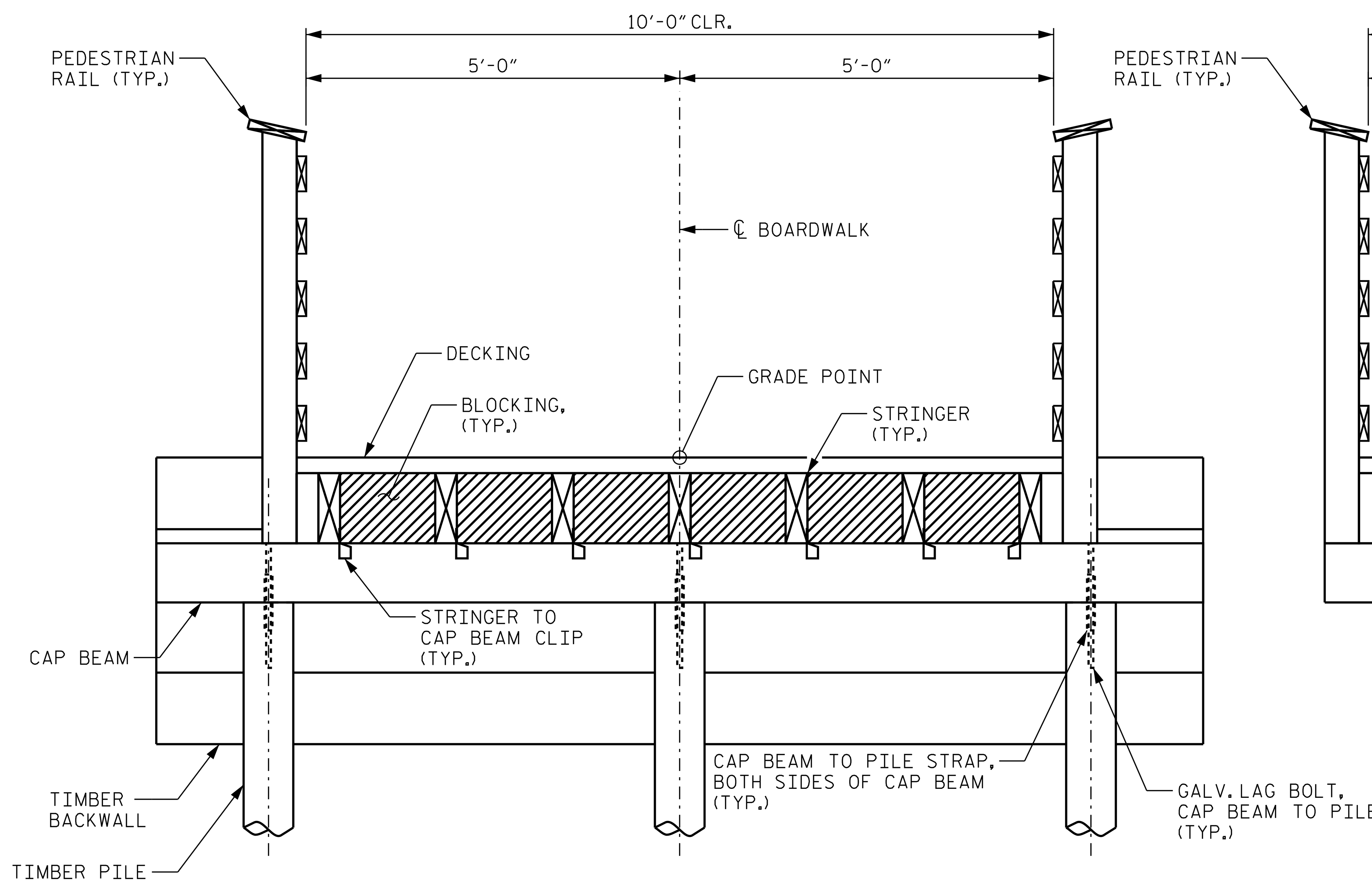


NOTE:
IF H EQUALS OR EXCEEDS 5 FT, CROSS FRAME DETAIL SHALL BE USED AT BENT.

CROSS FRAME DETAIL

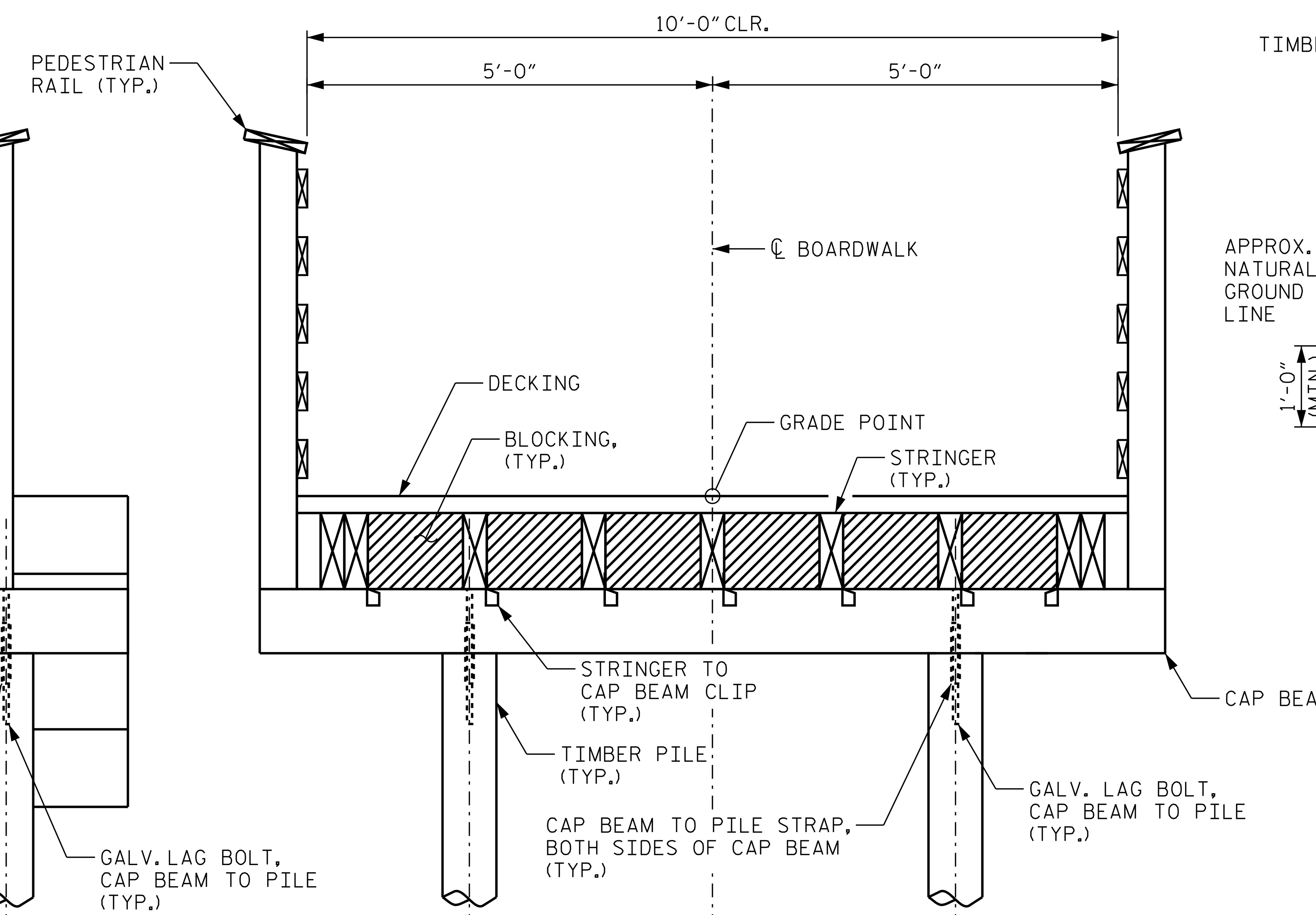


SECTION A-A

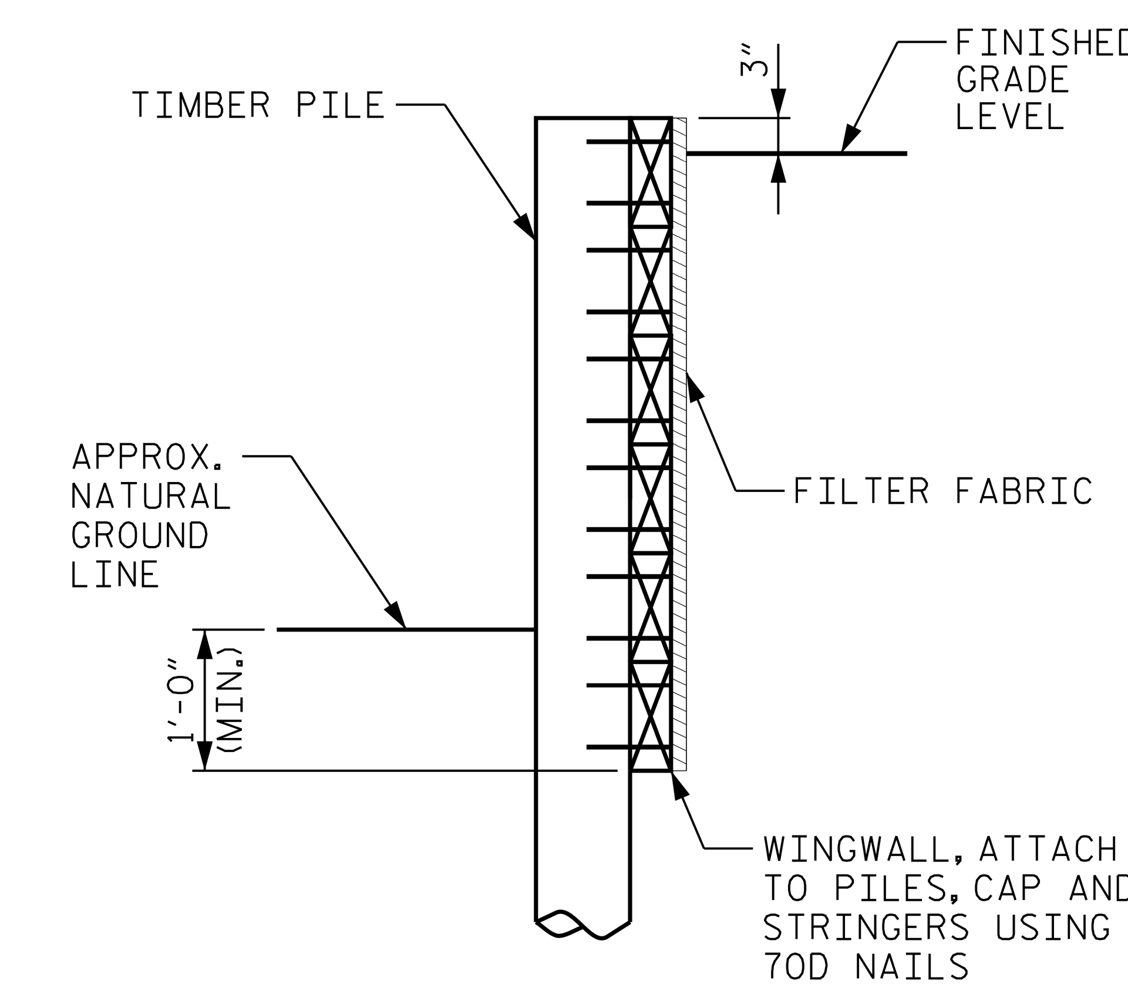


NOTE: WINGWALL NOT SHOWN FOR CLARITY

TIMBER BOARDWALK END BENT ELEVATION



TIMBER BOARDWALK BENT ELEVATION



SECTION B-B

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SEAL

NO.	DATE	REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina
TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092
ALSTON RIDGE GREENWAY

TITLE: BOARDWALK DETAILS

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

S-2

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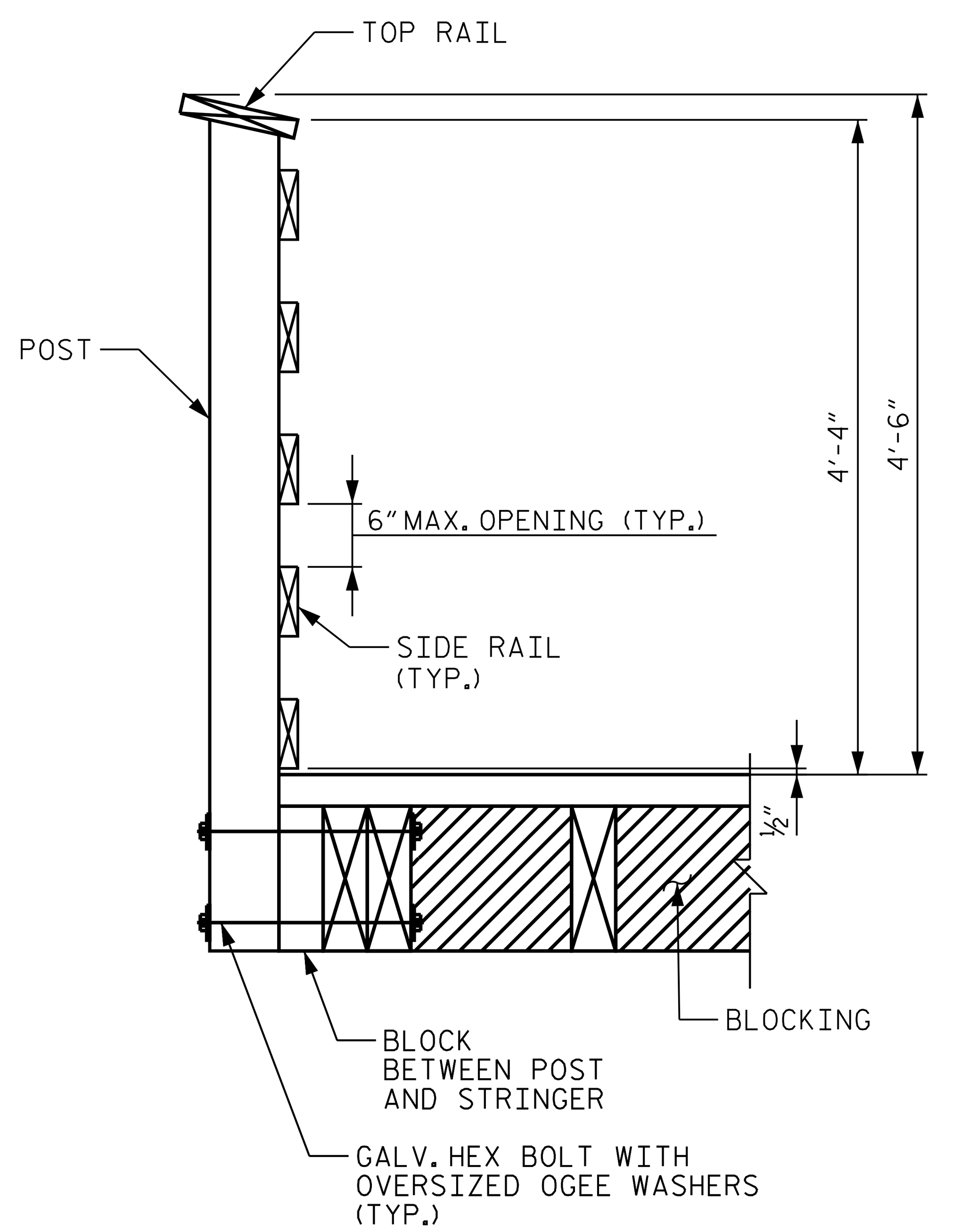
8/13/2024

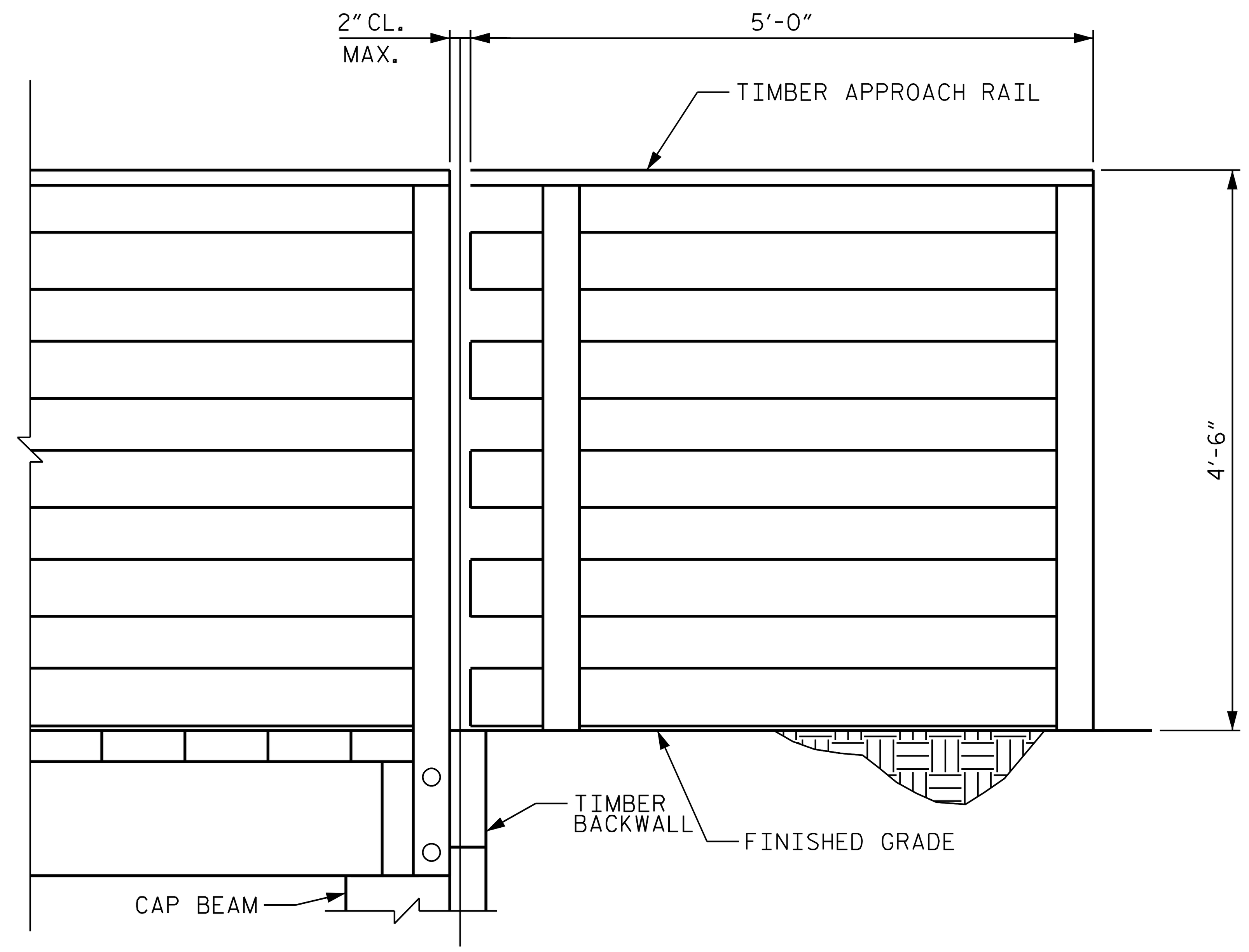
NOTES

ALL FENCE MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 1050 OF THE NCDOT STANDARD SPECIFICATIONS. GALVANIZE ALL STEEL PARTS AND HARDWARE IN ACCORDANCE WITH ARTICLE 1079 OF THE NCDOT STANDARD SPECIFICATIONS.

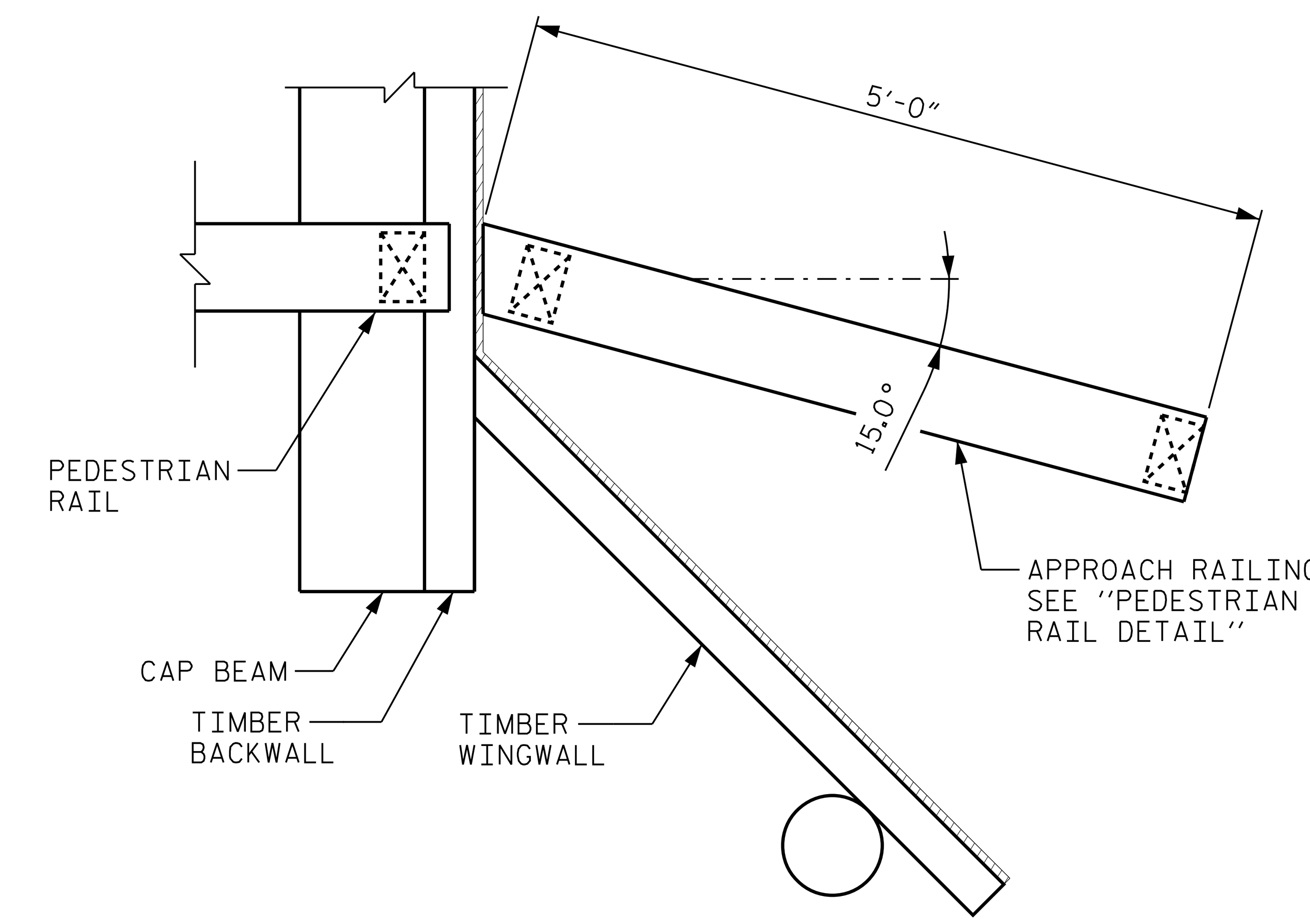
ALL CHAIN LINK FENCE FABRIC, POSTS, RAILS FITTING HARDWARE AND ACCESSORIES SHALL BE BLACK VINYL COATED IN ACCORDANCE WITH ARTICLE 1050 OF THE NCDOT STANDARD SPECIFICATIONS.



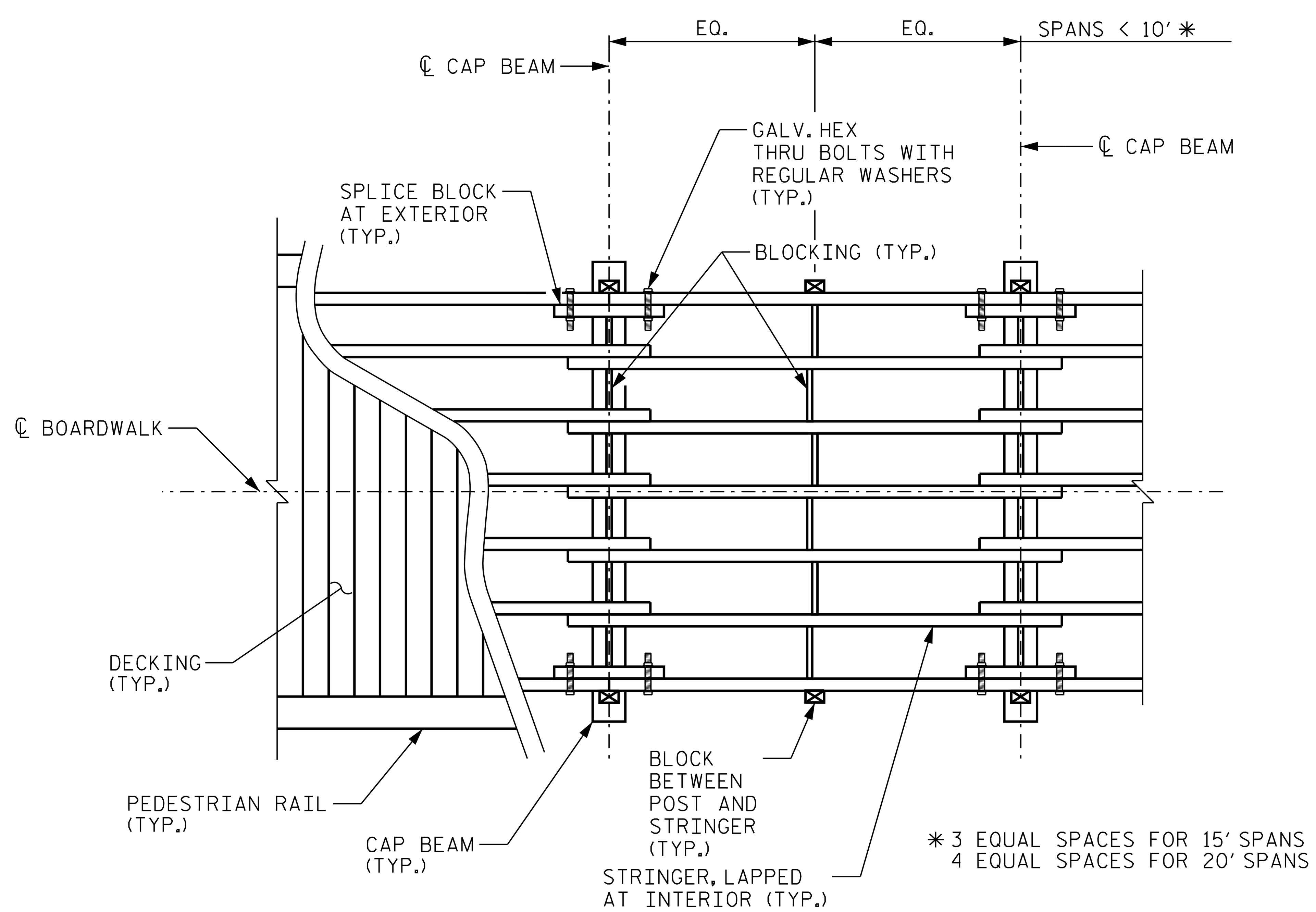
PEDESTRIAN RAIL DETAIL



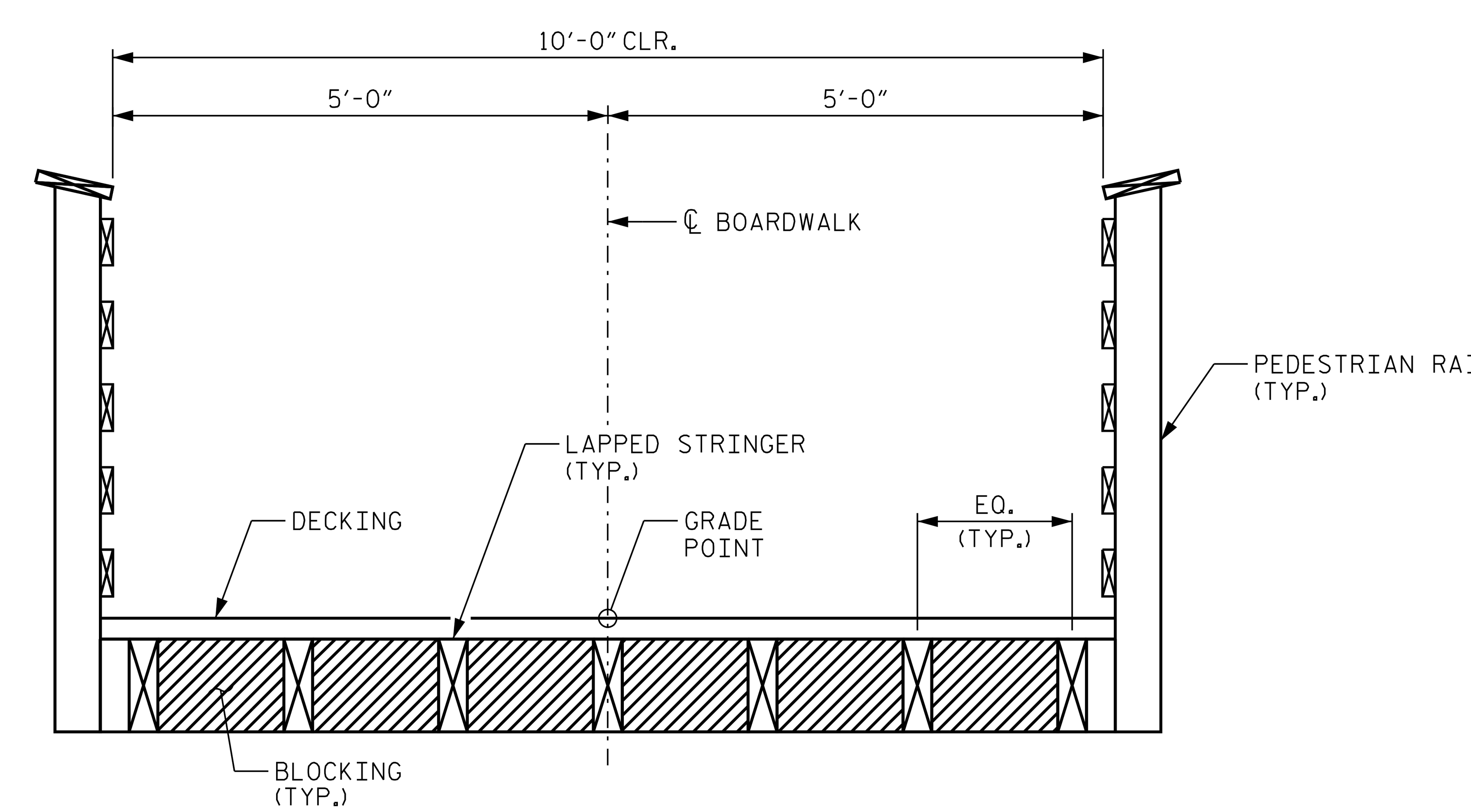
TYPICAL APPROACH RAIL ELEVATION



TYPICAL APPROACH RAIL PLAN



TIMBER BOARDWALK DECK FRAMING PLAN



TYPICAL SECTION THROUGH MIDSPAN

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8/13/2024

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REVISIONS

NO.	DATE	REVISIONS

PLANS PREPARED FOR: TOWN OF FUQUAY-VARINA

FUQUAY-VARINA north carolina

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: BOARDWALK DETAILS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

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STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS - - - - - - - - - - - - - - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD -	SEE PLANS
IMPACT ALLOWANCE - - - - - - - - - - - - - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 - -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W - -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50 - -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60 - - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION - - - - - - - - - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR - - - - - - - - - - - - - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS - - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER - - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH - - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95 EEM (c) RGW REV. 5-7-03 RWW (c) JTE REV. 10-1-11 MAA (c) GM
REV. 8-16-99 RWW (c) LES REV. 5-1-06 TLA (c) GM REV. 12-17 MAA (c) THC

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ALSTON RIDGE GREENWAY
CROSS SECTION INDEX

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8/13/2024

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NORTH CAROLINA PROFESSIONAL SEAL 042554 ENGINEER BRYAN T. VICKERY 8/13/2024

SEAL

NO. | DATE | REVISIONS

PLANS PREPARED FOR: FUQUAY-VARINA north carolina TOWN OF FUQUAY-VARINA

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

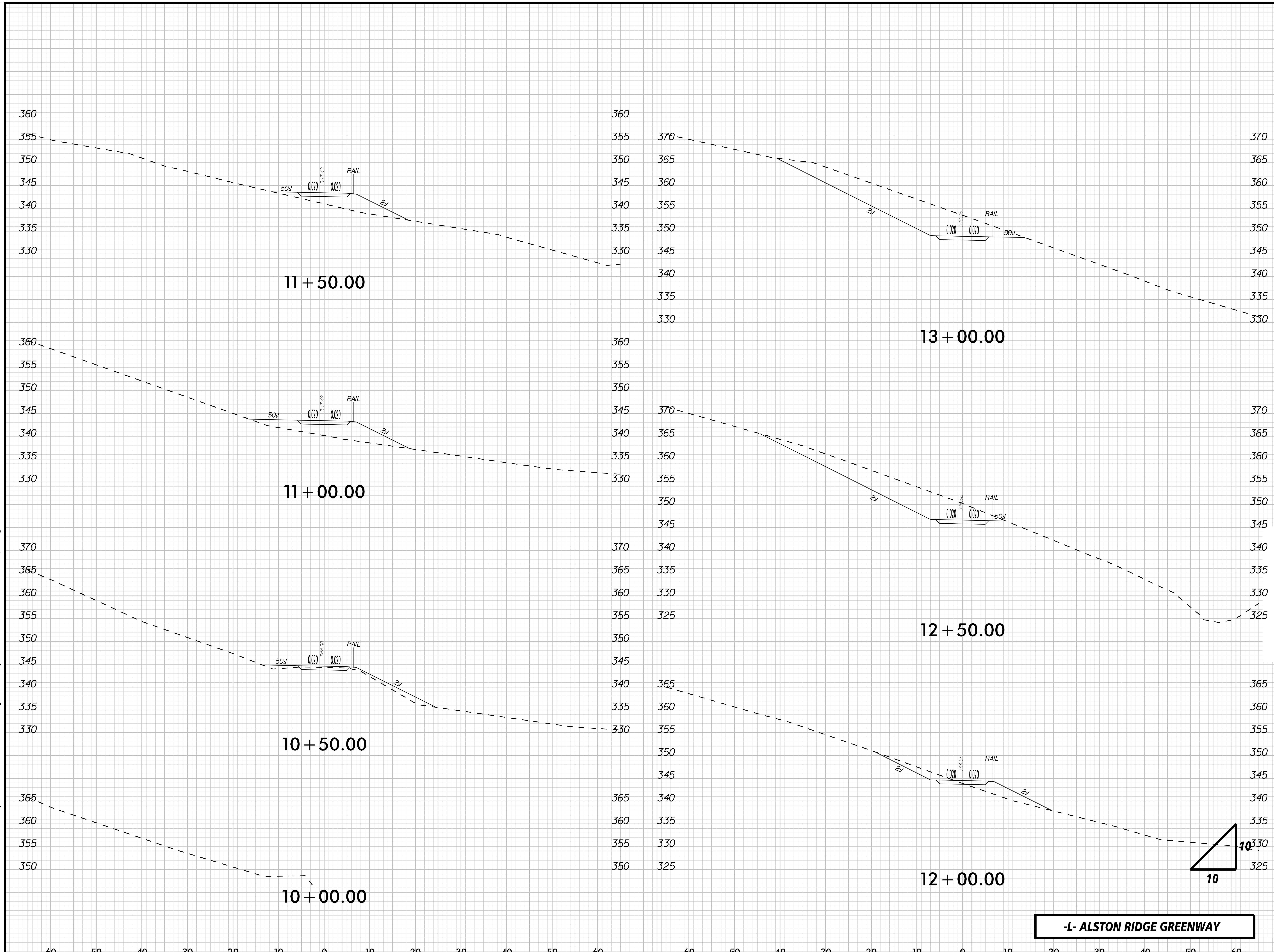
TITLE: CROSS SECTIONS INDEX OF SHEETS

KHA PROJECT: 012622018

DATE: 8/13/2024

FINAL PLANS

X-1



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8/13/2024

-L- ALSTON RIDGE GREENWAY

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TOWN OF FUQUAY-VARINA

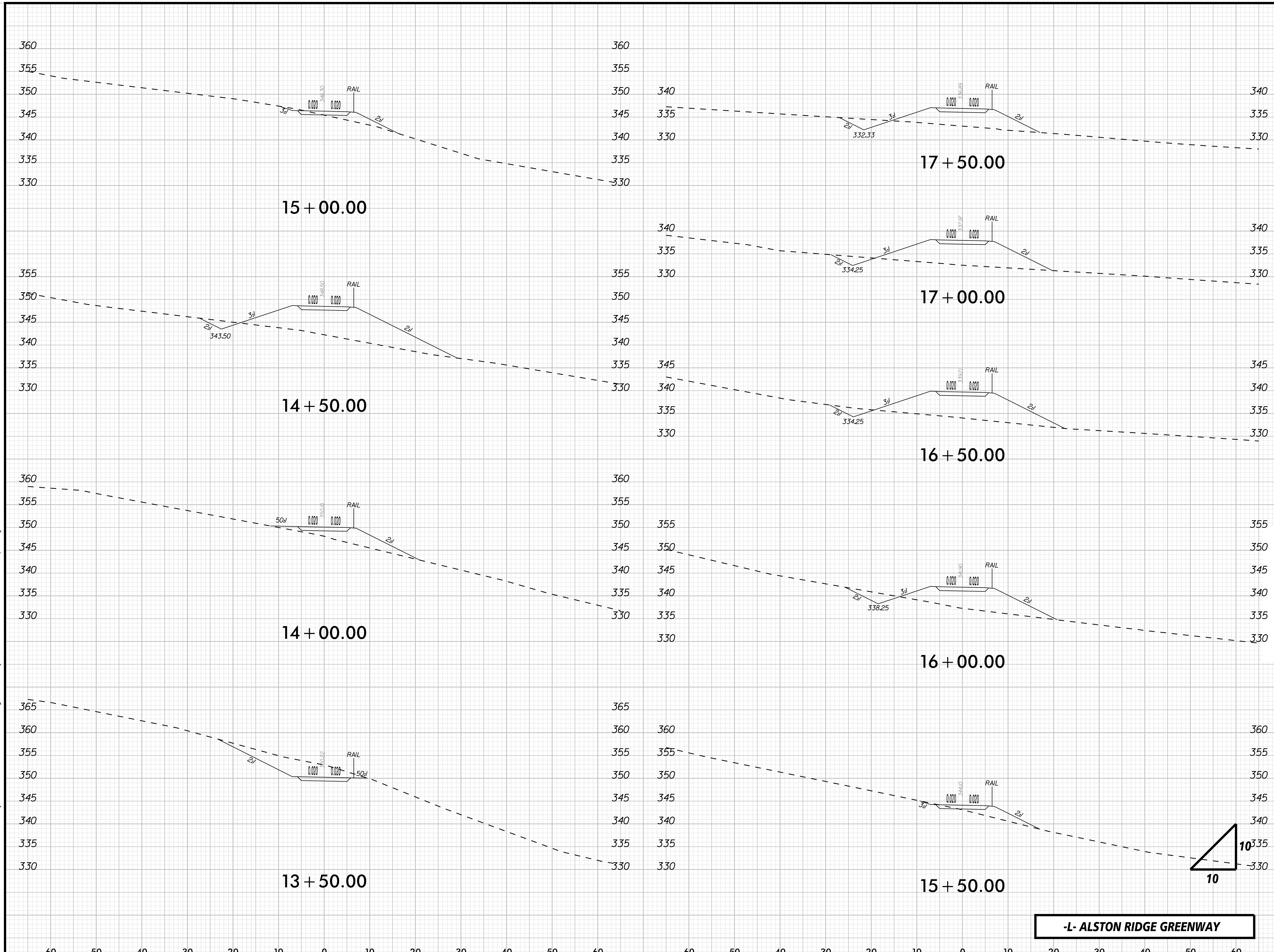
PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: CROSS SECTION SHEETS

KHA PROJECT: 012622018
DATE: 8/13/2024

FINAL PLANS

X-2



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PLANS PREPARED FOR: TOWN OF FUQUAY-VARINA

FUQUAY-VARINA north carolina

PROJECT: TIP: BL-00092 ALSTON RIDGE GREENWAY

TITLE: CROSS SECTION SHEETS

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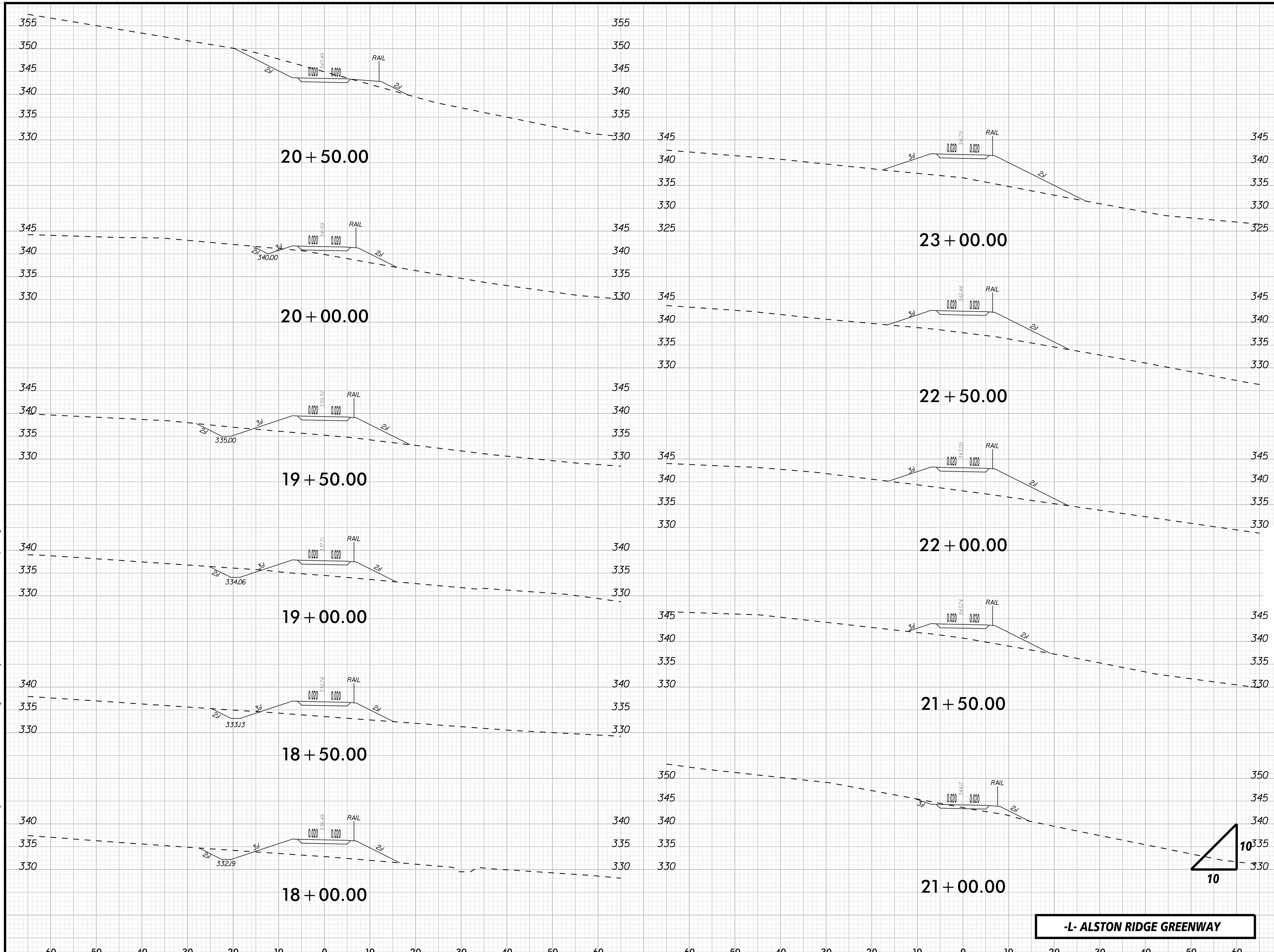
DATE: 8/13/2024

FINAL PLANS

X-3



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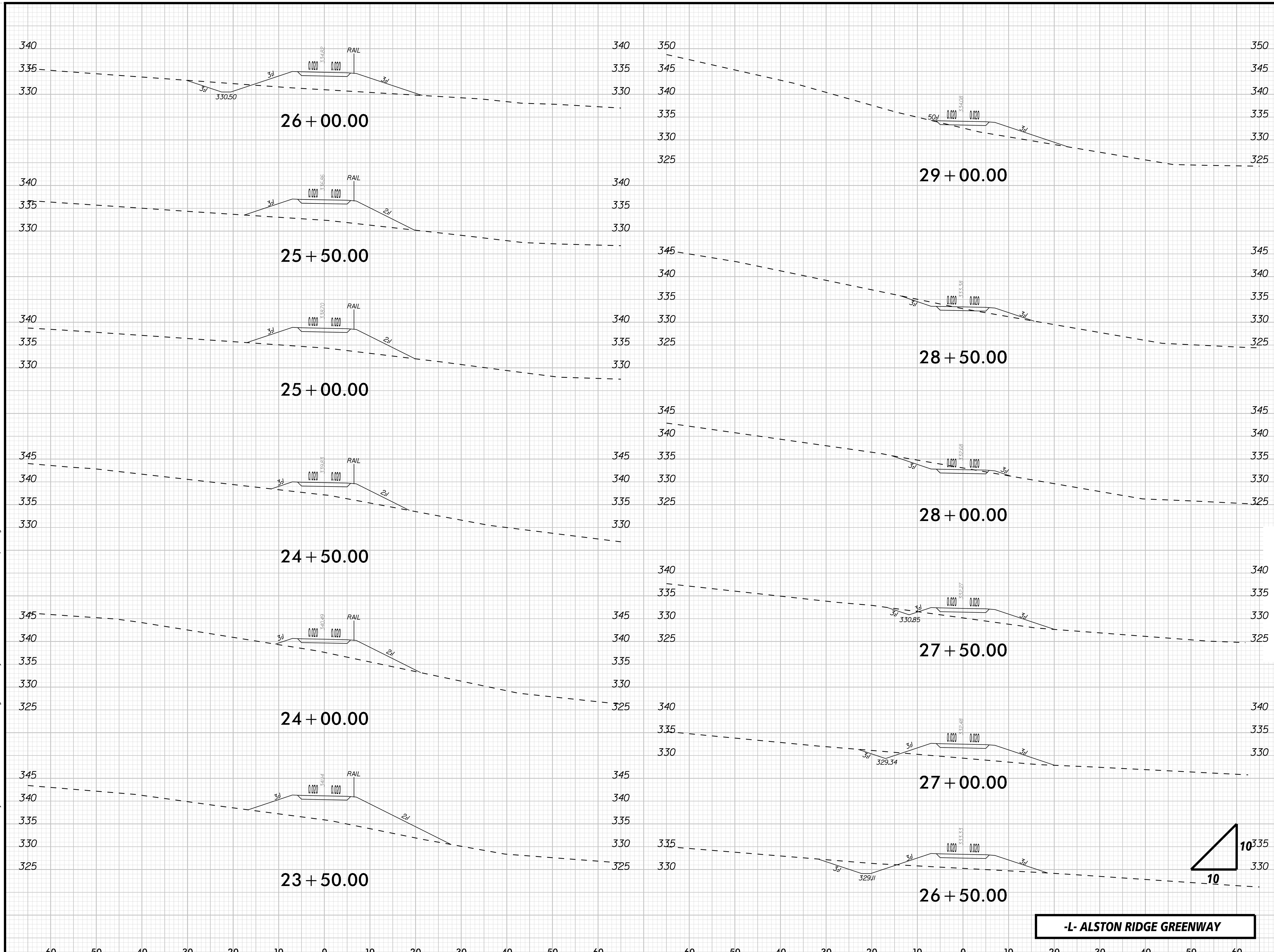
FINAL PLANS

X-4



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TOWN OF FUQUAY-VARINA

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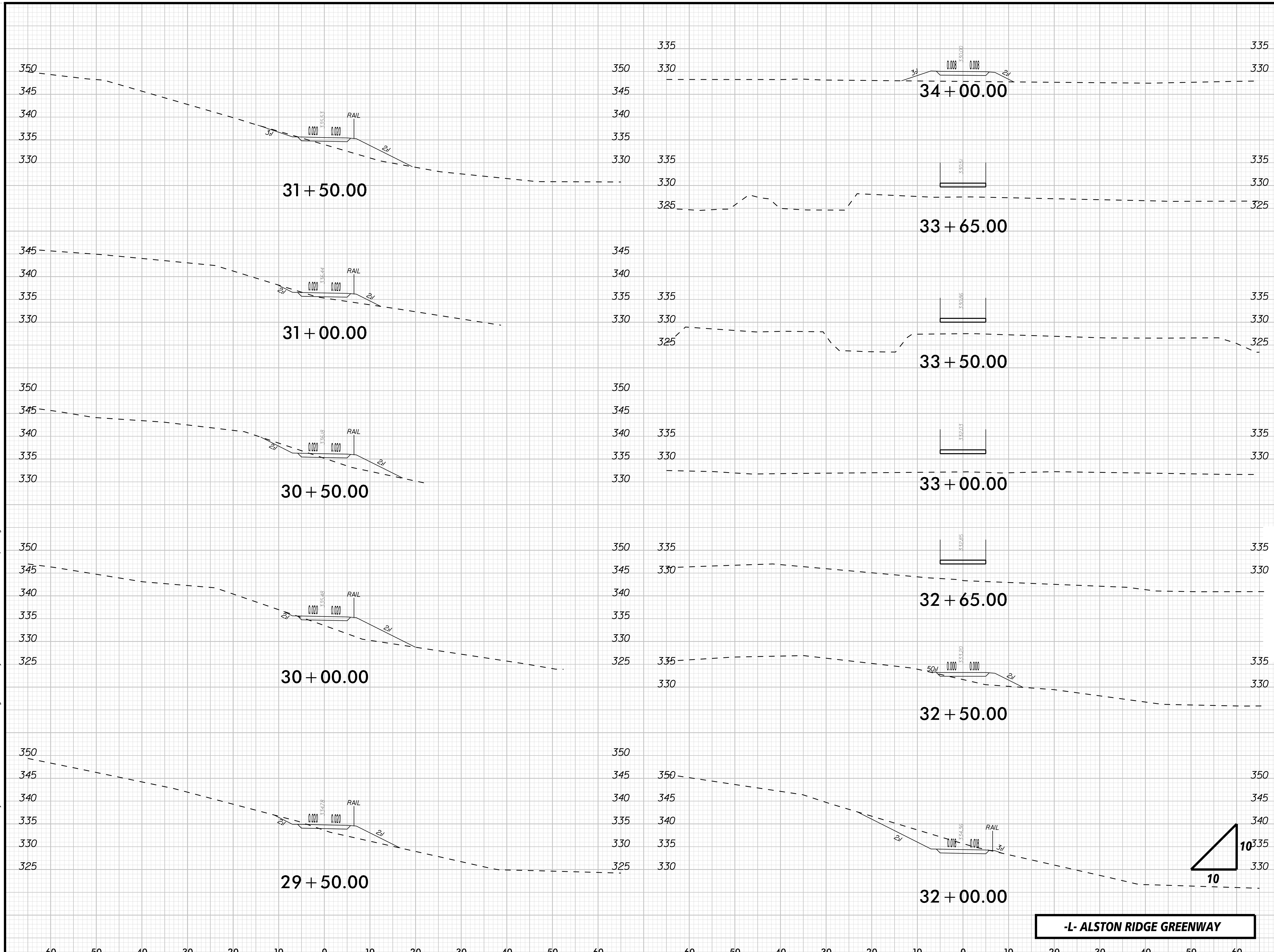
FINAL PLANS

X-5



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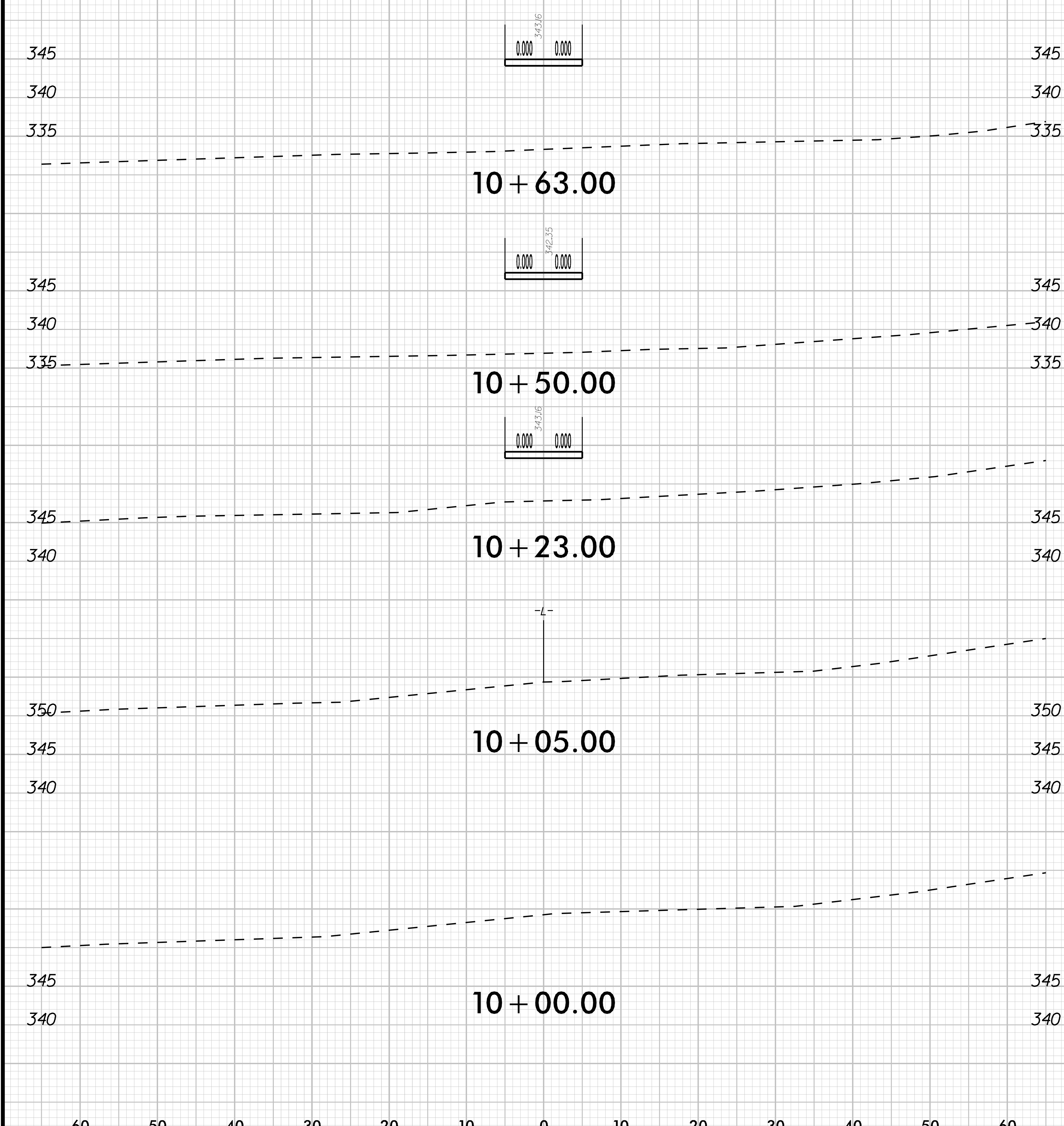

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-Y1- BOARDWALK OVERLOOK

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X-7