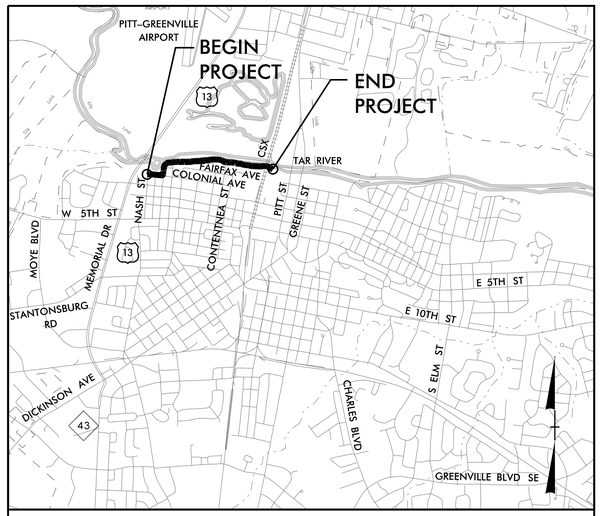
PROJECT REFERENCE NO.	SHEET NO.
EB-5539	1

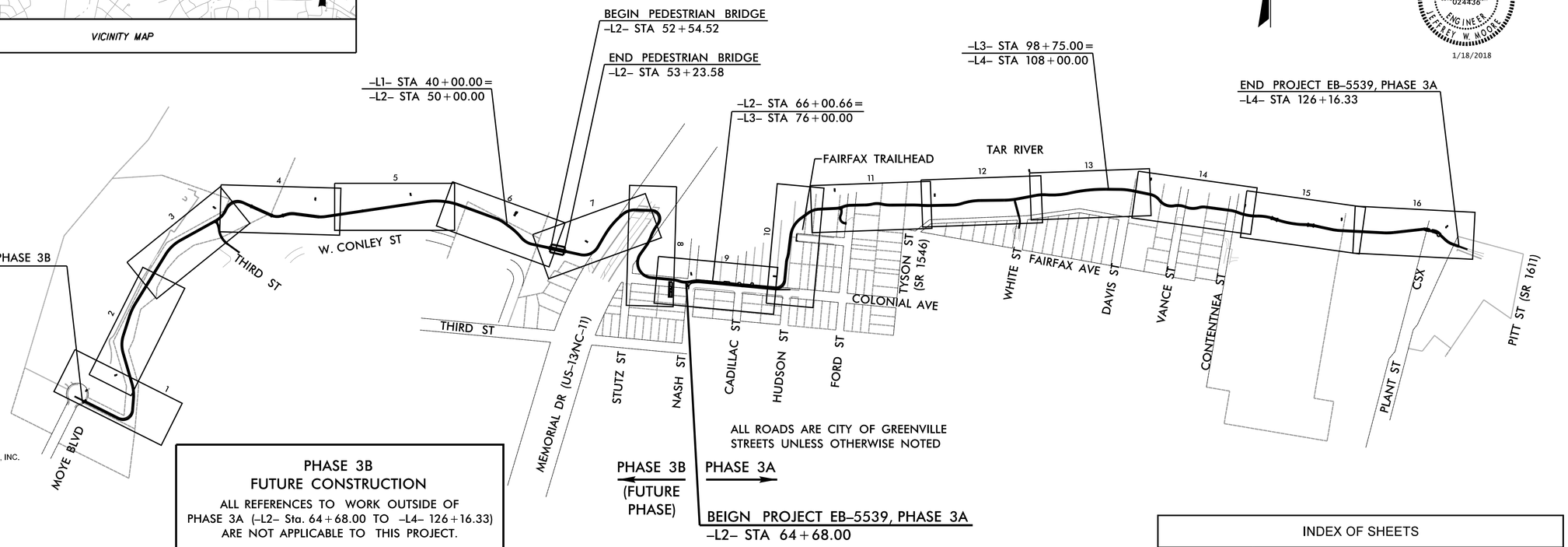
CITY OF GREENVILLE

SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

PHASE 3A – FROM NASH STREET TO THE WESTERN TERMINUS OF THE EXISTING SOUTH TAR RIVER GREENWAY NEAR PITT STREET
PHASE 3B – FROM MOYE BOULEVARD TO NASH STREET (FUTURE CONSTRUCTION)



VICINITY MAP



ALL ROADS ARE CITY OF GREENVILLE STREETS UNLESS OTHERWISE NOTED

PHASE 3B (FUTURE PHASE) ← | → PHASE 3A

BEIGN PROJECT EB-5539, PHASE 3A
–L2– STA 64+68.00

PHASE 3B
FUTURE CONSTRUCTION

ALL REFERENCES TO WORK OUTSIDE OF PHASE 3A (–L2– Sta. 64+68.00 TO –L4– 126+16.33) ARE NOT APPLICABLE TO THIS PROJECT.

NAD 83

GRAPHIC SCALE

10 0 20
PLANS
10 0 20
PROFILE (HORIZONTAL)
2 0 4
PROFILE (VERTICAL)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

OWNER:

CITY OF GREENVILLE
1500 BEATTY STREET
GREENVILLE, NC 27834
LYNN RAYNOR, P.E.
252.329.4467
lraynor@greenvillenc.gov

ENGINEER:

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3001 WESTON PARKWAY
CARY, NC 27513
JEFFREY W. MOORE, P.E.
919.677.2000
jeff.moore@kimley-horn.com

SURVEYOR:

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SUITE 400
RALEIGH, NC 27601
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GEOTECHNICAL:

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1210 TRINITY ROAD
SUITE 110
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CHRISTOPHER V. NORVILLE, P.E.
919.871.0800
cnorville@falconengineering.com

INDEX OF SHEETS

ANN E. WALL
CITY MANAGER

PREPARED IN THE OFFICE OF:
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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

Greenville NORTH CAROLINA
Find yourself in good company

ALLEN THOMAS
MAYOR

K:\RAL_Roadway\012654005 - EB-5539\Plan\Plan Sheets\eb5539_1sht.dgn
12/18/2017

PROJECT REFERENCE NO.	SHEET NO.
EB-5539	2

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — 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
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- 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
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

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

VEGETATION:

- Single Tree
- Single Shrub
- Hedge

- 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:

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
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

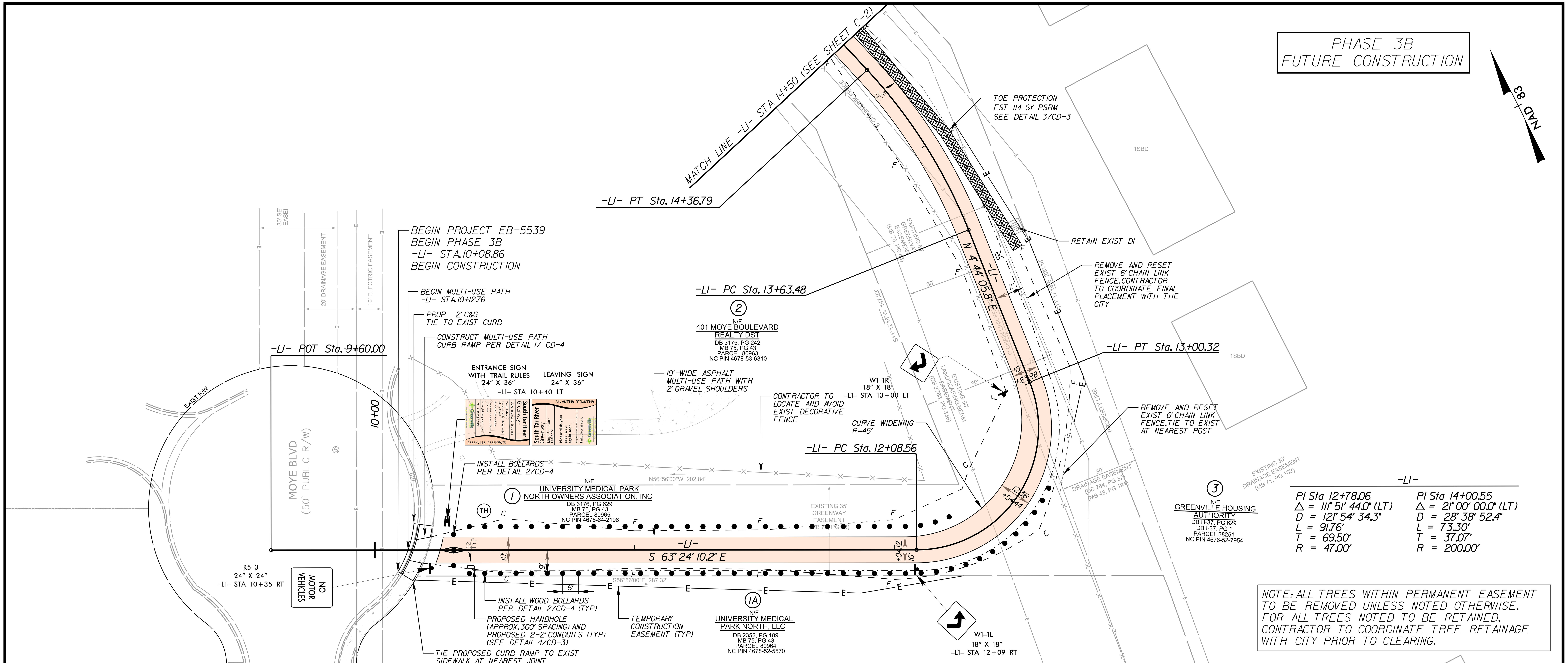
- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

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

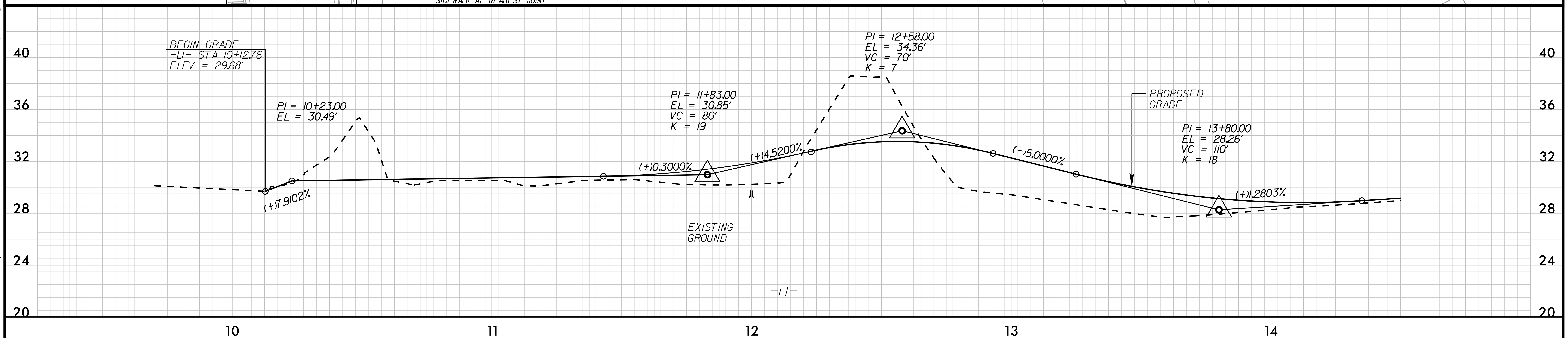
MISCELLANEOUS:

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


PHASE 3B
FUTURE CONSTRUCTION
NAD 83
MATCH LINE -L1- STA 14+50 (SEE SHEET C-2)
-L1- PT Sta. 14+36.79
TOE PROTECTION
EST 114 SY PSRM
SEE DETAIL 3/CD-3
RETAIN EXIST DI
REMOVE AND RESET EXIST 6' CHAIN LINK FENCE. CONTRACTOR TO COORDINATE FINAL PLACEMENT WITH THE CITY
BEGIN PROJECT EB-5539
BEGIN PHASE 3B
-L1- STA. 10+08.86
BEGIN CONSTRUCTION
BEGIN MULTI-USE PATH
-L1- STA. 10+12.76
PROP 2' C&G
TIE TO EXIST CURB
CONSTRUCT MULTI-USE PATH CURB RAMP PER DETAIL 1/ CD-4
-L1- POT Sta. 9+60.00
-L1- PC Sta. 13+63.48
N/F
401 MOYE BOULEVARD REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80963
NC PIN 4678-53-6310
-L1- PT Sta. 13+00.32
N 4° 44' 05.8" E
ENTRANCE SIGN WITH TRAIL RULES
24" X 36"
LEAVING SIGN
24" X 36"
-L1- STA 10+40 LT
10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS
W1-1R
18" X 18"
-L1- STA 13+00 LT
CONTRACTOR TO LOCATE AND AVOID EXIST DECORATIVE FENCE
CURVE WIDENING
R=45'
-L1- PC Sta. 12+08.56
REMOVE AND RESET EXIST 6' CHAIN LINK FENCE. TIE TO EXIST AT NEAREST POST
MOYE BLVD
(50' PUBLIC R/W)
10+00
INSTALL BOLLARDS PER DETAIL 2/CD-4
N/F
UNIVERSITY MEDICAL PARK NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198
N/F
GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-52-7954
-L1-
S 63° 24' 10.2" E
R5-3
24" X 24"
-L1- STA 10+35 RT
NO MOTOR VEHICLES
INSTALL WOOD BOLLARDS PER DETAIL 2/CD-4 (TYP)
PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)
TEMPORARY CONSTRUCTION EASEMENT (TYP)
N/F
UNIVERSITY MEDICAL PARK NORTH, LLC
DB 2352, PG 189
MB 75, PG 43
PARCEL 80964
NC PIN 4678-52-5570
W1-1L
18" X 18"
-L1- STA 12+09 RT
TIE PROPOSED CURB RAMP TO EXIST SIDEWALK AT NEAREST JOINT
NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

-L1-

PI Sta 12+78.06	PI Sta 14+00.55
Δ = 111° 51' 44.0" (LT)	Δ = 21° 00' 00.0" (LT)
D = 121° 54' 34.3"	D = 28° 38' 52.4"
L = 91.76'	L = 73.30'
T = 69.50'	T = 37.07'
R = 47.00'	R = 200.00'



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12/15/2017

REV. No.	REVISION	DATE	DRAWN BY	CHECKED BY

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-1

PHASE 3B FUTURE CONSTRUCTION

NAD 83

MATCH LINE -LI- STA 14+50 (SEE SHEET C-1)

MATCH LINE -LI- STA 20+00 (SEE SHEET C-3)

10' ELECTRIC EASEMENT

EXISTING 30' SANITARY SEWER EASEMENT

20' DRAINAGE EASEMENT MB 59, PG 98

S33°04'00"E 381.29'

S09°47'44"E 180.00'

S09°47'44"E 180.00'

15+00

-LI- N 16° 15' 54.2" W

-LI- N 17° 42' 44.9" E

-LI- N 31° 41' 09.5" E

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

EXISTING 50' GREENWAY EASEMENT (MB 75, PG 43)

30' LANDSCAPING/ BERM EASEMENT

6' CHAIN LINK FENCE

30' DRAINAGE EASEMENT (DB 764, PG 32) (MB 48, PG 194)

APPROXIMATE LOCATION OF PIPE

500 YR

100

RETAIN EXIST DI

500 YR

500-YR FLOODPLAIN (TYP)

TEMPORARY CONSTRUCTION EASEMENT (TYP)

REMOVE AND RESET EXIST CHAIN LINK FENCE. TIE TO EXIST AT NEAREST POST

GRADE TO DRAIN TO PROP DI

-LI- PC Sta. 15+96.93

-LI- PT Sta. 16+85.88

-LI- PC Sta. 17+84.65

-LI- PT Sta. 18+57.81

S19°42'16"W 157.00'

S27°42'16"W 58.00'

S27°42'16"W 100.00'

S11°17'16"W 46.00'

(0202)

(0202)

CONVERT EXISTING DI TO JB W/ MH COVER NCDOT STD 840.54
STA 15+90 -LI- 16.7' RT
TOP = 30.3'
INV IN (E) = 25.3'
INV OUT = FIELD VERIFY

PROPOSED DI NCDOT STD 840.16
STA 15+87 -LI- 23.0' RT
TOP = 27.7'
INV OUT = 25.4'

4 LF - 15" RCP-IV
S = 2.5%

REMOVE AND RESET EXIST CHAIN LINK FENCE. CONTRACTOR TO COORDINATE FINAL PLACEMENT WITH THE CITY

-LI-

PI Sta 16+42.75	PI Sta 18+21.41
Δ = 33° 58' 39.1" (RT)	Δ = 13° 58' 24.6" (RT)
D = 38° 11' 49.9"	D = 19° 05' 54.9"
L = 88.95'	L = 73.17'
T = 45.83'	T = 36.76'
R = 150.00'	R = 300.00'

1 N/F UNIVERSITY MEDICAL PARK NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198

2 N/F 401 MOYE BOULEVARD REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80963
NC PIN 4678-53-6310

2 N/F 401 MOYE BOULEVARD REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80963
NC PIN 4678-53-6310

3 N/F GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38249
NC PIN 4678-52-7954

1SBD

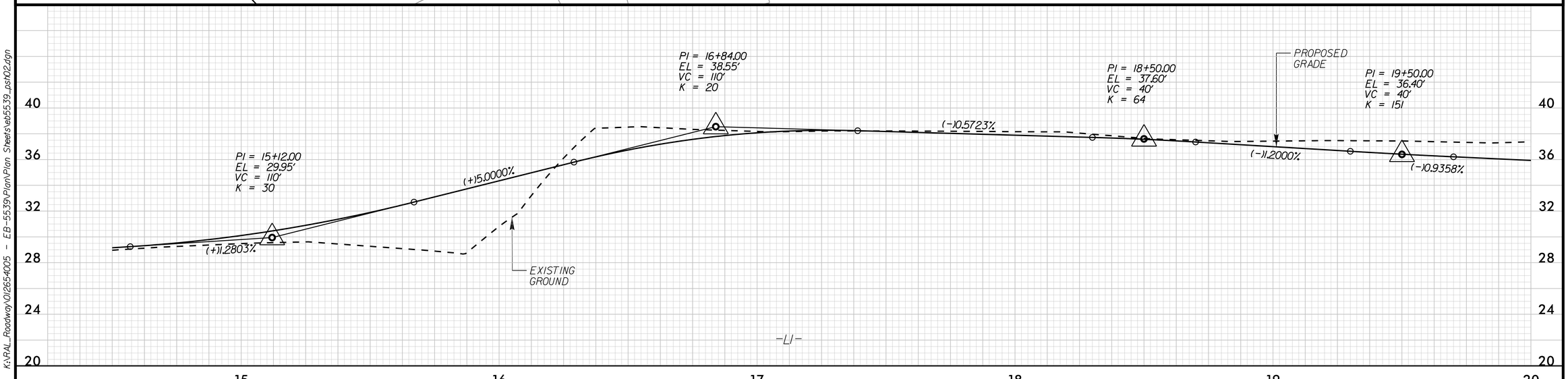
1SBD

1SBD

1SBD

2SBD

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.



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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20

VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: C-2

PHASE 3B FUTURE CONSTRUCTION

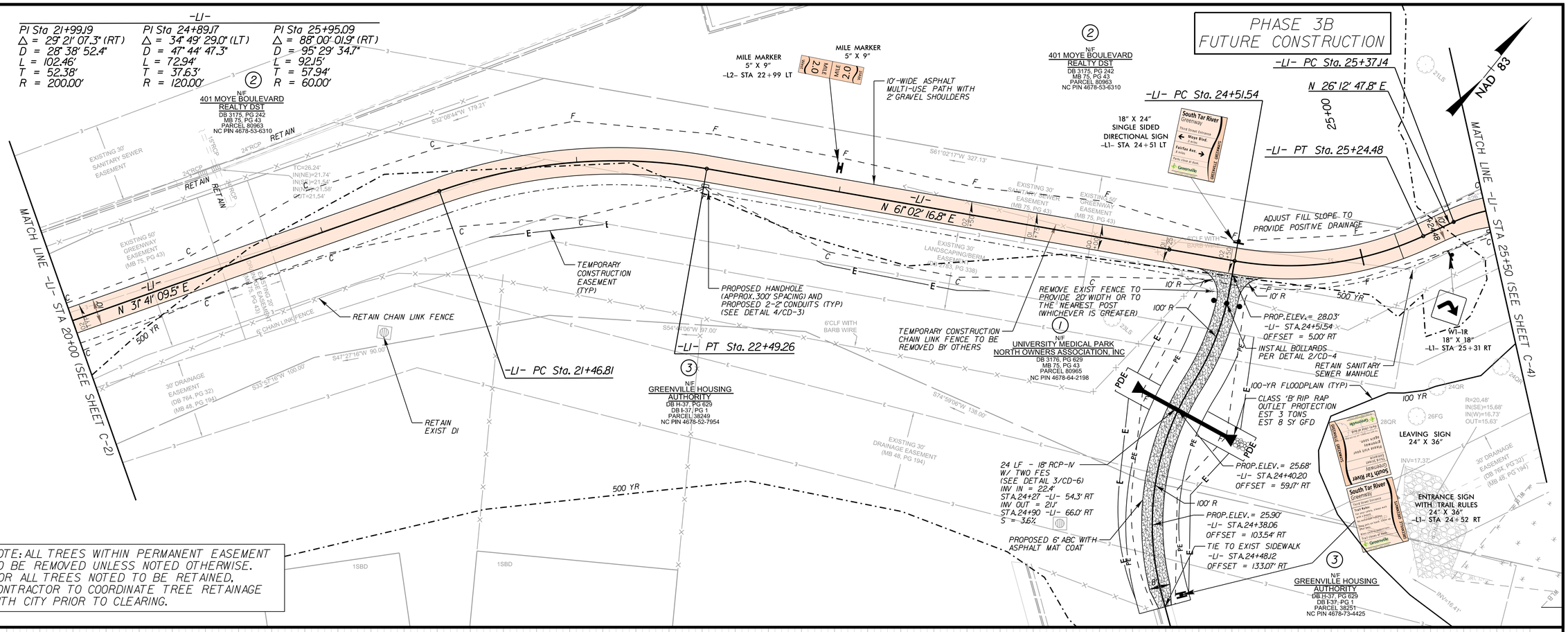
-LI-

PI Sta 21+99.19
Δ = 29° 21' 07.3" (RT)
D = 28° 38' 52.4"
L = 102.46'
T = 52.38'
R = 200.00'

PI Sta 24+89.17
Δ = 34° 49' 29.0" (LT)
D = 47° 44' 47.3"
L = 72.94'
T = 37.63'
R = 120.00'

PI Sta 25+95.09
Δ = 88° 00' 01.9" (RT)
D = 95° 29' 34.7"
L = 92.15'
T = 57.94'
R = 60.00'

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.



① N/F UNIVERSITY MEDICAL PARK NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198

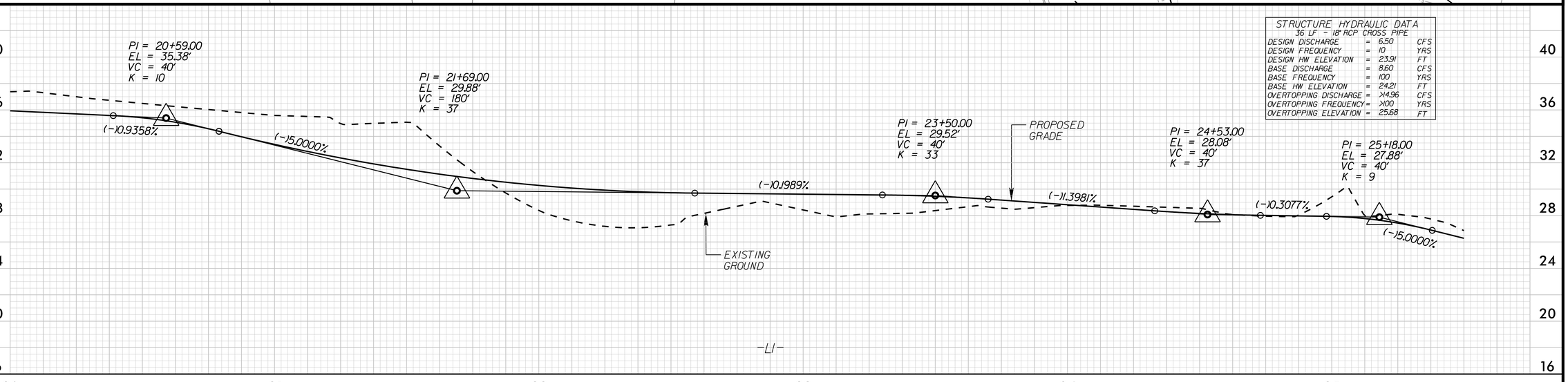
② N/F 401 MOYE BOULEVARD REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80963
NC PIN 4678-53-6310

③ N/F GREENVILLE HOUSING AUTHORITY
DB I-37, PG 629
DB I-37, PG 1
PARCEL 38249
NC PIN 4678-52-7954

③ N/F GREENVILLE HOUSING AUTHORITY
DB I-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-73-4425

STRUCTURE HYDRAULIC DATA
36 LF - 18" RCP CROSS PIPE

DESIGN DISCHARGE	= 6.50	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 23.91	FT
BASE DISCHARGE	= 8.60	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 24.21	FT
OVERTOPPING DISCHARGE	= >14.96	CFS
OVERTOPPING FREQUENCY	= >100	YRS
OVERTOPPING ELEVATION	= 25.68	FT



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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-3

PHASE 3B FUTURE CONSTRUCTION

NAD 83

-LI-
PI Sta 28+13.32
Δ = 40°12'52.3" (LT)
D = 76°23'39.7"
L = 52.64'
T = 27.46'
R = 75.00'

PI Sta 28+87.26
Δ = 23°19'25.6" (RT)
D = 57°17'44.8"
L = 40.71'
T = 20.64'
R = 100.00'

PI Sta 30+40.42
Δ = 15°46'26.0" (LT)
D = 40°44'41.7"
L = 38.71'
T = 19.48'
R = 140.62'

-LI- PC Sta. 27+85.87

-LI- PC Sta. 28+66.62

-LI- PT Sta. 26+29.30

-LI- PT Sta. 28+38.51

-LI- PC Sta. 30+20.94

-LI- PT Sta. 30+59.65

-LI- PT Sta. 29+07.32

MATCH LINE -LI- STA 25+50 (SEE SHEET C-3)

MATCH LINE -LI- STA 31+25 (SEE SHEET C-5)

EXIST 21" SANITARY SEWER TO BE ABANDONED IN PLACE (BY OTHERS)

PROP 15" SANITARY SEWER (BY OTHERS)

RETAIN SANITARY SEWER MANHOLE

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

N/F
401 MOVE BLVD REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80965
NC PIN 4678-53-4510

EXISTING GREENWAY EASEMENT (MB 75, PG 43)

EXISTING 30' SANITARY SEWER EASEMENT (MB 75, PG 43)

N/F
UNIVERSITY MEDICAL PARK NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198

REMOVE 33 LF OF EXIST FENCE TO PROVIDE 5' OFFSET FROM EDGE OF TRAIL OR TO THE NEAREST POST (WHICHEVER IS GREATER)

W1-1L
18" X 18"
-LI- STA 26+30 LT

BEGIN 10' WIDE BOARDWALK *1
-LI- STA 26+82.00
SEE STRUCTURE PLANS

INSTALL 8 LF 54" BRIDGE RAIL 15' FLARE (TYP)
SEE STRUCTURES PLANS

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP)
(SEE DETAIL 4/CD-3)

PROP 24" DIP FORCE MAIN (BY OTHERS)

DIRECTIONAL DRILL CONDUIT UNDER STREAM/WETLAND

EXISTING WETLAND BOUNDARY (TYP)

END 10' WIDE BOARDWALK *1
-LI- STA 27+85.87
SEE STRUCTURE PLANS

PROP SANITARY SEWER MANHOLE (BY OTHERS) TYP

SANITARY SEWER MANHOLE TO BE REMOVED (BY OTHERS)

10'-WIDE CONCRETE MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

BEGIN MSE WALL *1
-LI- STA 30+20.94 OFFSET 8' (LT)
BEGIN POST AND CABLE FENCE
-LI- STA 30+29.02 OFFSET 7' (LT)
SEE DET. AIL 6/CD-3

RETAIN EXISTING 10" FORCE MAIN

PROP 24" DIP FORCE MAIN (BY OTHERS)

W8-10p
12" X 9"

W8-10
18" X 18"
-LI- STA 26+73 RT

W8-10p
18" X 18" 12" X 9"
-LI- STA 30+31 LT

N/F
UNIVERSITY MEDICAL PARK NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198

N/F
GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-73-4425

TEMPORARY CONSTRUCTION EASEMENT (TYP)

AERIAL SECTION AND PILES OF SANITARY SEWER HAVE BEEN REMOVED BY GUC

20' PERMANENT GREENWAY EASEMENT

BEGIN 10' WIDE BOARDWALK *2
-LI- STA 28+50.94
SEE STRUCTURE PLANS

END 10' WIDE BOARDWALK *2
-LI- STA 30+20.94
SEE STRUCTURE PLANS

EXISTING LIFT STATION EASEMENT (DB B-43, PG 280)

REMOVE AND RESET 60 LF OF 6' CHAIN LINK FENCE TO USE FOR TEMPORARY CONSTRUCTION ACCESS. FENCE RESET MUST BE COMPLETED IN ONE DAY

REMOVE AND RESET DOUBLE 6' CHAIN LINK FENCE GATE. GATE RESET MUST BE COMPLETED IN ONE DAY

EXIST 8" RCP SANITARY SEWER TO REMAIN IN PLACE

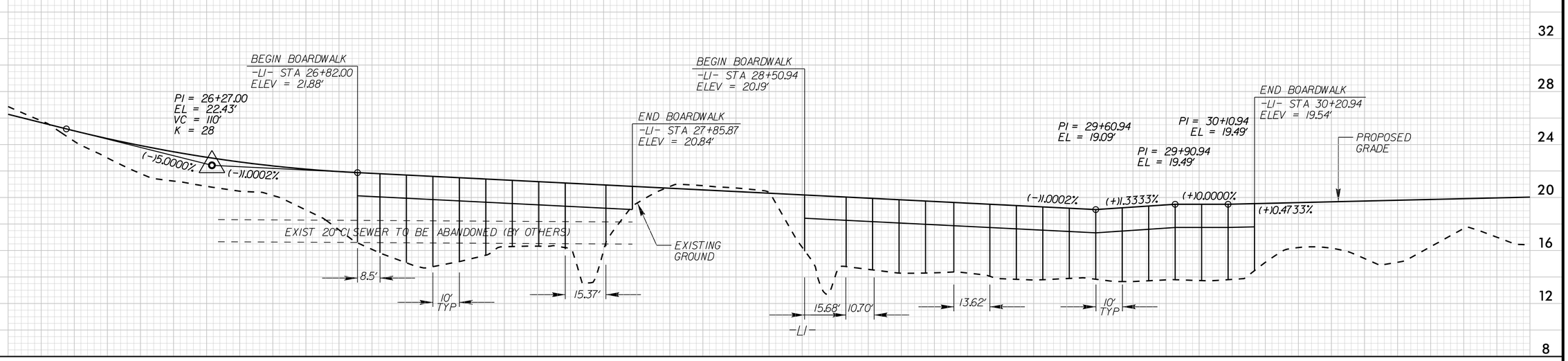
TEMPORARY CONSTRUCTION ACCESS (SEE SHEET C-4)

NOTE: SANITARY SEWER NOTES WERE OBTAINED FROM WESTSIDE INTERCEPTOR AND FORCE MAIN PLANS DATED NOV 2011. CONTRACTOR TO CONFIRM LOCATION OF SANITARY SEWER BEFORE DRIVING PILES.

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

100 YR

500 YR.



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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
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MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-4

PHASE 3B FUTURE CONSTRUCTION

NAD 83

FEMA FLOODWAY (TYP)

FLOODWAY

③ N/F GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-73-4425

PROPOSED 24" FORCE MAIN (BY OTHERS)

RETAIN EXISTING 10" FORCE MAIN

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

EXISTING 10' PERMANENT UTILITY EASEMENT (DB 2867, PG 187)

EXISTING 20' SANITARY SEWER EASEMENT (DB B-12, PG 1)

EXISTING WETLAND BOUNDARY

35+00

MATCH LINE -LI- STA 31+25 (SEE SHEET C-4)

MATCH LINE -LI- STA 37+00 (SEE SHEET C-6)

PROP POST AND CABLE FENCE OFFSET 7' (LT) SEE DETAIL 6/CD-3

-LI-
N 81° 32' 57" E

TRAV-6-NL
N:683659.338'
E:2470852.499'
EL=14.62'

TRAV-7-NL
N:683704.253'
E:2477175.196'
EL=10.53'

8'

10'

100 YR

500 YR

20' PERMANENT GREENWAY EASEMENT

RETAIN EXISTING WALL

TEMPORARY CONSTRUCTION EASEMENT (TYP)

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

RETAIN TREE

RETAIN TREE

-LI- PC Sta. 35+66.87

WOOD WALL

WOOD WALL

SATELLITE DISH

CLOTHES LINE

1SBD

1SBD

1SBD

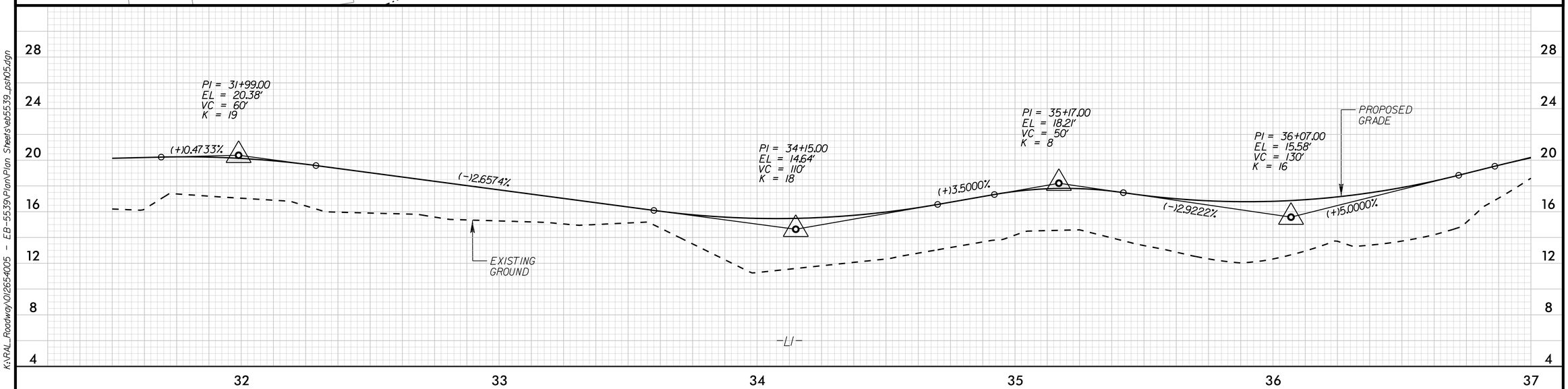
1SBD

③ N/F GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-73-4425

NOTE: SANITARY SEWER NOTES WERE OBTAINED FROM WESTSIDE INTERCEPTOR AND FORCE MAIN PLANS DATED NOV 2011

-LI-
PI Sta 36+55.77
Δ = 28° 30' 03.9" (RT)
D = 16° 22' 12.8"
L = 174.10'
T = 88.89'
R = 350.00'

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.



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MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-5

PHASE 3B
FUTURE CONSTRUCTION

NAD 83

MATCH LINE -L1- STA 37+00 (SEE SHEET C-5)

MATCH LINE -L2- STA 52+25 (SEE SHEET C-7)

END MSE WALL #1
-L1- STA 37+40.98 OFFSET 8' (LT)
END POST AND CABLE FENCE
-L1- STA 37+40.98 OFFSET 7' (LT)

RETAIN EXISTING 10" FORCE MAIN

EXISTING PERMANENT UTILITY EASEMENT (DB 2884, PG 187)

EXISTING 20' SANITARY SEWER EASEMENT (DB B-43, PG 276)

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

EXISTING WETLAND BOUNDARY

-L1- POT Sta. 40+00.00 =
-L2- POT Sta. 50+00.00

PROPOSED 24" FORCE MAIN (BY OTHERS)

PROPOSED 72" CHAIN LINK FENCE
-L2- STA 51+05 TO STA 51+83
OFFSET 11' (LT)
TIE TO EXISTING POST

-L2- PT Sta. 51+60.67

3 N/F GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-73-4425

-L1- PC Sta. 39+39.12

-L1-
S 69° 56' 59.0" E

S 53° 43' 19.6" E

RETAIN CHAIN LINK FENCE

20' PERMANENT GREENWAY EASEMENT

TEMPORARY CONSTRUCTION EASEMENT (TYP)

FLOODWAY

REMOVE AND RESET CHAIN LINK FENCE 3' FROM MULTI-USE PATH EDGE
-L1- STA 39+64 TO STA 51+84 (RT)
TIE TO EXISTING FENCE
CONSTRUCT CORNER BRACE

TIE TO EXISTING FENCE. CONSTRUCT CORNER BRACES

-L1- PT Sta. 37+40.98

-L1- PT Sta. 39+81.60

-L2- PC Sta. 50+19.68

-L2- PRC Sta. 50+93.86

W7-5
18" X 18"
-L2- STA 50+76 RT

SATELLITE DISH

EDGE OF WATER

MAPLEWOOD POND

100 YR

500 YR

TEMPORARY CONSTRUCTION ACCESS SEE EC-6

3 N/F GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38254
NC PIN 4678-73-4425

-L1-
PI Sta 39+60.51
Δ = 16° 13' 39.4" (RT)
D = 38° 11' 49.9"
L = 42.48'
T = 21.39'
R = 150.00'

-L2-
PI Sta 50+56.96
Δ = 14° 10' 04.8" (RT)
D = 19° 05' 54.9"
L = 74.18'
T = 37.28'
R = 300.00'

PI Sta 51+28.56
Δ = 38° 16' 32.1" (LT)
D = 57° 17' 44.8"
L = 66.80'
T = 34.70'
R = 100.00'

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

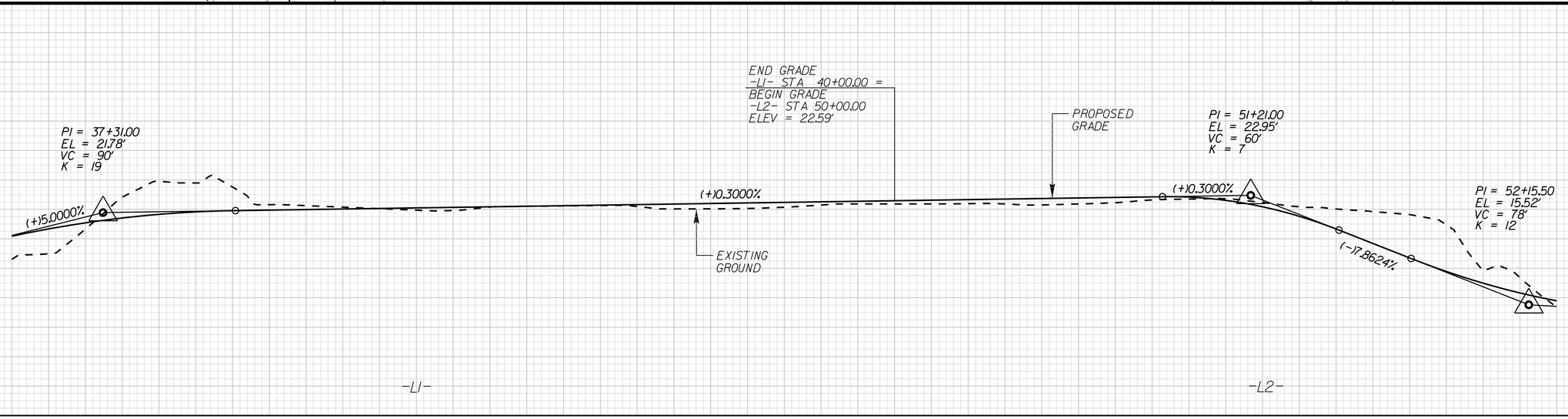
RETAIN EXISTING SYSTEM

TIE TO EXISTING FENCE AND CONSTRUCT CORNER BRACE (INCIDENTAL TO REMOVE AND RESET PAY ITEM)

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

4 N/F JOHN PAGE HEIRS
DB C-11, PG 84
PARCEL 17526
NC PIN 4678-73-8431

NOTE: SANITARY SEWER NOTES WERE OBTAINED FROM WESTSIDE INTERCEPTOR AND FORCE MAIN PLANS DATED NOV 2011



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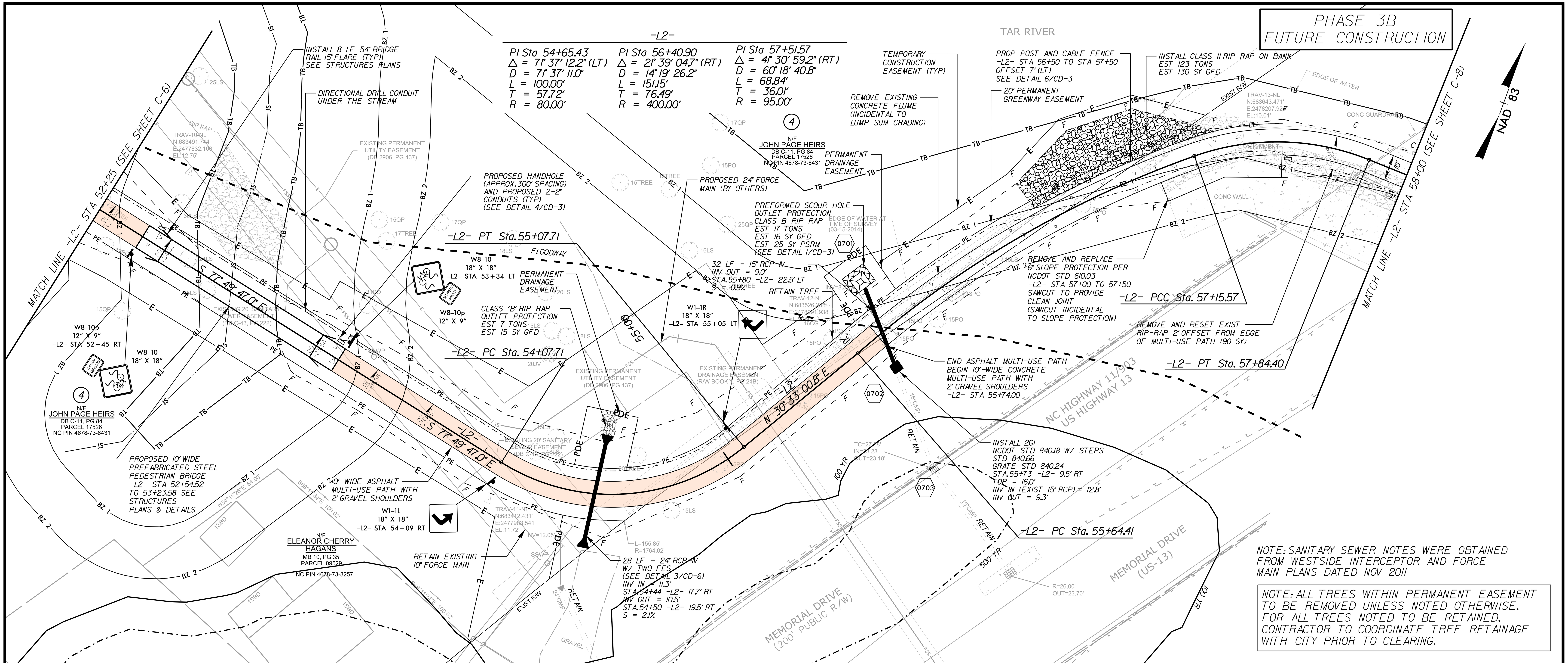
MULTI-USE PATH AND DRAINAGE PLAN

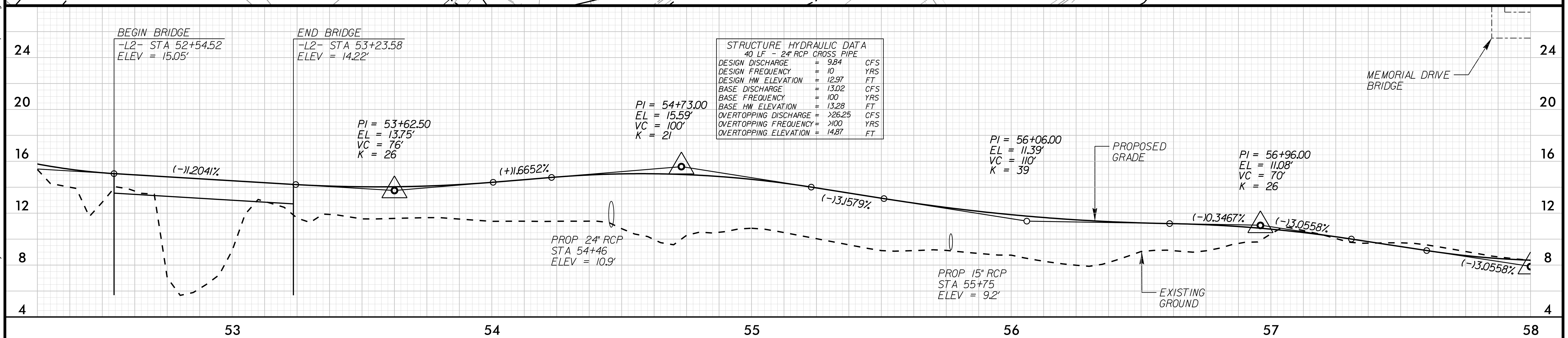
FOR INFORMATION ONLY

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-6


PHASE 3B
FUTURE CONSTRUCTION
TAR RIVER
NAD 83
-L2-
PI Sta 54+65.43
△ = 71° 37' 12.2" (LT)
D = 71° 37' 11.0"
L = 100.00'
T = 57.72'
R = 80.00'
PI Sta 56+40.90
△ = 21° 39' 04.7" (RT)
D = 14° 19' 26.2"
L = 151.15'
T = 76.49'
R = 400.00'
PI Sta 57+51.57
△ = 41° 30' 59.2" (RT)
D = 60° 18' 40.8"
L = 68.84'
T = 36.01'
R = 95.00'
MATCH LINE -L2- STA 52+25 (SEE SHEET C-6)
MATCH LINE -L2- STA 58+00 (SEE SHEET C-8)
INSTALL 8 LF 54" BRIDGE RAIL 15' FLARE (TYP) SEE STRUCTURES PLANS
DIRECTIONAL DRILL CONDUIT UNDER THE STREAM
PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)
-L2- PT Sta. 55+07.71
W8-10 18" X 18" -L2- STA 53+34 LT
W8-10p 12" X 9"
PERMANENT DRAINAGE EASEMENT
CLASS 'B' RIP RAP OUTLET PROTECTION EST 7 TONS EST 15 SY GFD
-L2- PC Sta. 54+07.71
W8-10p 12" X 9" -L2- STA 52+45 RT
W8-10 18" X 18"
JOHN PAGE HEIRS DB C-11, PG 84 PARCEL 17526 NC PIN 4678-73-8431
PROPOSED 10' WIDE PREFABRICATED STEEL PEDESTRIAN BRIDGE -L2- STA 52+54.52 TO 53+23.58 SEE STRUCTURES PLANS & DETAILS
10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS
W1-1L 18" X 18" -L2- STA 54+09 RT
ELEANOR CHERRY HAGANS MB 10, PG 35 PARCEL 09529 NC PIN 4678-73-8257
RETAIN EXISTING 10' FORCE MAIN
28 LF - 24" RCP IV W/ TWO FES (SEE DETAIL 3/CD-6) INV IN = 11.3' STA 54+44 -L2- 17.7' RT INV OUT = 10.5' STA 54+50 -L2- 19.5' RT S = 2.1%
S 77° 49' 47.0" E
N 30° 33' 00.8" E
FLOODWAY
PROPOSED 24" FORCE MAIN (BY OTHERS)
PREFORMED SCOUR HOLE OUTLET PROTECTION CLASS B RIP RAP EST 17 TONS EST 16 SY GFD EST 25 SY PSRM (SEE DETAIL 1/CD-3)
32 LF - 15" RCP-IV INV OUT = 9.0' STA 55+80 -L2- 22.5' LT S = 0.9%
RETAIN TREE
W1-1R 18" X 18" -L2- STA 55+05 LT
PERMANENT DRAINAGE EASEMENT
TEMPORARY CONSTRUCTION EASEMENT (TYP)
REMOVE EXISTING CONCRETE FLUME (INCIDENTAL TO LUMP SUM GRADING)
PROP POST AND CABLE FENCE -L2- STA 56+50 TO STA 57+50 OFFSET 7' (LT) SEE DETAIL 6/CD-3
20' PERMANENT GREENWAY EASEMENT
INSTALL CLASS II RIP RAP ON BANK EST 123 TONS EST 130 SY GFD
REMOVE AND REPLACE 6" SLOPE PROTECTION PER NCDOT STD 610.03 -L2- STA 57+00 TO 57+50 SAWCUT TO PROVIDE CLEAN JOINT (SAWCUT INCIDENTAL TO SLOPE PROTECTION)
-L2- PCC Sta. 57+15.57
REMOVE AND RESET EXIST RIP-RAP 2' OFFSET FROM EDGE OF MULTI-USE PATH (90 SY)
-L2- PT Sta. 57+84.40
END ASPHALT MULTI-USE PATH BEGIN 10'-WIDE CONCRETE MULTI-USE PATH WITH 2' GRAVEL SHOULDERS -L2- STA 55+74.00
INSTALL 2GI NCDOT STD 840.18 W/ STEPS STD 840.66 GRATE STD 840.24 STA 55+73 -L2- 9.5' RT TOP = 16.0' INV IN (EXIST 15" RCP) = 12.8' INV OUT = 9.3'
-L2- PC Sta. 55+64.41
NC HIGHWAY 11/903 US HIGHWAY 13
MEMORIAL DRIVE (US-13)
MEMORIAL DRIVE (200' PUBLIC R/W)
NOTE: SANITARY SEWER NOTES WERE OBTAINED FROM WESTSIDE INTERCEPTOR AND FORCE MAIN PLANS DATED NOV 2011
NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.


BEGIN BRIDGE
-L2- STA 52+54.52
ELEV = 15.05'
END BRIDGE
-L2- STA 53+23.58
ELEV = 14.22'
PI = 53+62.50
EL = 13.75'
VC = 76'
K = 26
PI = 54+73.00
EL = 15.59'
VC = 100'
K = 21
PI = 56+06.00
EL = 11.39'
VC = 110'
K = 39
PI = 56+96.00
EL = 11.08'
VC = 70'
K = 26
(-)1.2041%
(+)1.6652%
(-)3.1579%
(-)0.3467%
(-)3.0558%
PROPOSED GRADE
EXISTING GROUND
MEMORIAL DRIVE BRIDGE
PROP 24" RCP
STA 54+46
ELEV = 10.9'
PROP 15" RCP
STA 55+75
ELEV = 9.2'
24
20
16
12
8
4
53
54
55
56
57
58

STRUCTURE HYDRAULIC DATA
40 LF - 24" RCP CROSS PIPE

DESIGN DISCHARGE	=	9.84	CFS
DESIGN FREQUENCY	=	10	YRS
DESIGN HW ELEVATION	=	12.97	FT
BASE DISCHARGE	=	13.02	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	13.28	FT
OVERTOPPING DISCHARGE	=	>26.25	CFS
OVERTOPPING FREQUENCY	=	>100	YRS
OVERTOPPING ELEVATION	=	14.87	FT

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MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20

VERT 2 0 4

PROJECT: SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: C-7

PHASE 3B FUTURE CONSTRUCTION

NAD 83

-L2-

PI Sta 59+40.10
△ = 121° 47' 13.5" (RT)
D = 143° 14' 22.0"
L = 85.02'
T = 71.85'
R = 40.00'

PI Sta 62+64.30
△ = 120° 10' 54.0" (LT)
D = 76° 23' 39.7"
L = 157.32'
T = 130.38'
R = 75.00'

PI Sta 60+05.56
△ = 14° 15' 00.8" (LT)
D = 28° 38' 52.4"
L = 49.74'
T = 25.00'
R = 200.00'

PI Sta 60+58.33
△ = 15° 57' 17.5" (RT)
D = 28° 38' 52.4"
L = 55.69'
T = 28.03'
R = 200.00'

-L2- PT Sta. 59+53.27

S 33° 46' 53.9" W

-L2- PC Sta. 59+80.56

MILE MARKER 5" X 9" -L2- STA 59+39 LT

MILE MARKER 5" X 9"

TAR RIVER

CURVE WIDENING R=37'

10'-WIDE CONCRETE MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

CONC GUARDRAIL

CONC WALL

-L2- PC Sta. 58+68.25

REMOVE AND REPLACE 6' SLOPE PROTECTION PER NCDOT STD 610.03 -L2- STA 59+10 TO 59+66 SAWCUT TO PROVIDE CLEAN JOINT (SAWCUT INCIDENTAL TO SLOPE PROTECTION)

RETAIN

W1-1R 18" X 18" -L2- STA 58+65 RT

REMOVE AND RESET EXIST RIP-RAP 2' OFFSET FROM EDGE OF MULTI-USE PATH (90 SY)

MATCH LINE -L2- STA 58+00 (SEE SHEET C-7)

S 88° 00' 19.5" E

W1-3L 18" X 18" -L2- STA 59+74 LT

END CONCRETE MULTI-USE PATH BEGIN 10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS -L2- STA 60+22.00

FLOODWAY

-L2- PRC Sta. 60+30.30

PROPOSED 24" FORCE MAIN (BY OTHERS) CONTRACTOR TO VERIFY LOCATION

EXISTING WETLAND BOUNDARY

ADJUST AIR RELEASE VALVE STRUCTURE (APPROX. 4') CONTRACTOR TO VERIFY LOCATION

-L2- PT Sta. 60+86.00

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

S 35° 29' 10.6" W

W1-1L 18" X 18" -L2- STA 61+33 RT

18" RCP INV= 9.7' 24" FORCE MAIN TOP = 2.5' (APPROX.) F

42 LF - 18" RCP-IV W/ TWO FES (SEE DETAIL 3/CD-6) INV IN = 11.2' STA 61+88 -L2- 28.5' RT INV OUT = 8.7' STA 61+73 -L2- 24.2' LT S = 4.1%

100 YR

MEMORIAL DRIVE (US-13)

N/F CALVIN BECKETT HEIRS DB 2909, PG 474 MB 3, PG 188 PARCEL 01305 NC PIN 4676-83-3326

MATCH LINE -L2- STA 63+50 (SEE SHEET C-9)

PROP POST AND CABLE FENCE -L2- STA 60+22 TO STA 64+90 OFFSET 7' (LT) SEE DETAIL 6/CD-3

TEMPORARY CONSTRUCTION EASEMENT (TYP)

W1-1R 18" X 18" -L2- STA 62+93 LT

-L2- PT Sta. 62+91.24

-L2- PC Sta. 61+33.92

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY GFD PERMANENT DRAINAGE EASEMENT

EXISTING 30' PERMANENT UTILITY EASEMENT (DB 2909, PG 474)

S 84° 41' 43.4" E

COLUMBIA STREET (60' PUBLIC R/W)

RIVERDALE SUB-DIVISION BLOCK X MB 3, PG 188

FLARE PROP POST AND CABLE FENCE FROM -L2- STA 62+65 TO STA 62+85 FROM 7' TO 10' OFFSET (RT) SEE DETAIL 6/CD-3

PROP POST AND CABLE FENCE -L2- STA 61+75 TO STA 62+65 OFFSET 7' (RT) SEE DETAIL 6/CD-3

TEMPORARY CONSTRUCTION EASEMENT AREA

20' PERMANENT GREENWAY EASEMENT

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

STUTZ STREET (40' PUBLIC R/W)

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

NOTE: SANITARY SEWER NOTES WERE OBTAINED FROM WESTSIDE INTERCEPTOR AND FORCE MAIN PLANS DATED NOV 2011

MEMORIAL DRIVE BRIDGE

PI = 58+00.00
EL = 7.90'
VC = 80'
K = 17

PI = 59+04.00
EL = 9.70'
VC = 50'
K = 15

PI = 59+55.00
EL = 12.25'
VC = 40'
K = 6

PI = 60+37.00
EL = 10.61'
VC = 120'
K = 17

PI = 62+52.00
EL = 21.36'
VC = 290'
K = 142

(+)11.7308%

(+)5.0000%

(−)12.0000%

(+)5.0000%

(+)17.0369%

PROPOSED GRADE

EXISTING GROUND

PROP 18" RCP STA 61+82 ELEV = 9.9'

-L2-

STRUCTURE HYDRAULIC DATA
54 LF - 18" RCP CROSS PIPE

DESIGN DISCHARGE	= 111	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 11.76	FT
BASE DISCHARGE	= 146	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 11.85	FT
OVERTOPPING DISCHARGE	= >233.99	CFS
OVERTOPPING FREQUENCY	= >100	YRS
OVERTOPPING ELEVATION	= 18.04	FT

28 24 20 16 12 8 4

58 59 60 61 62 63

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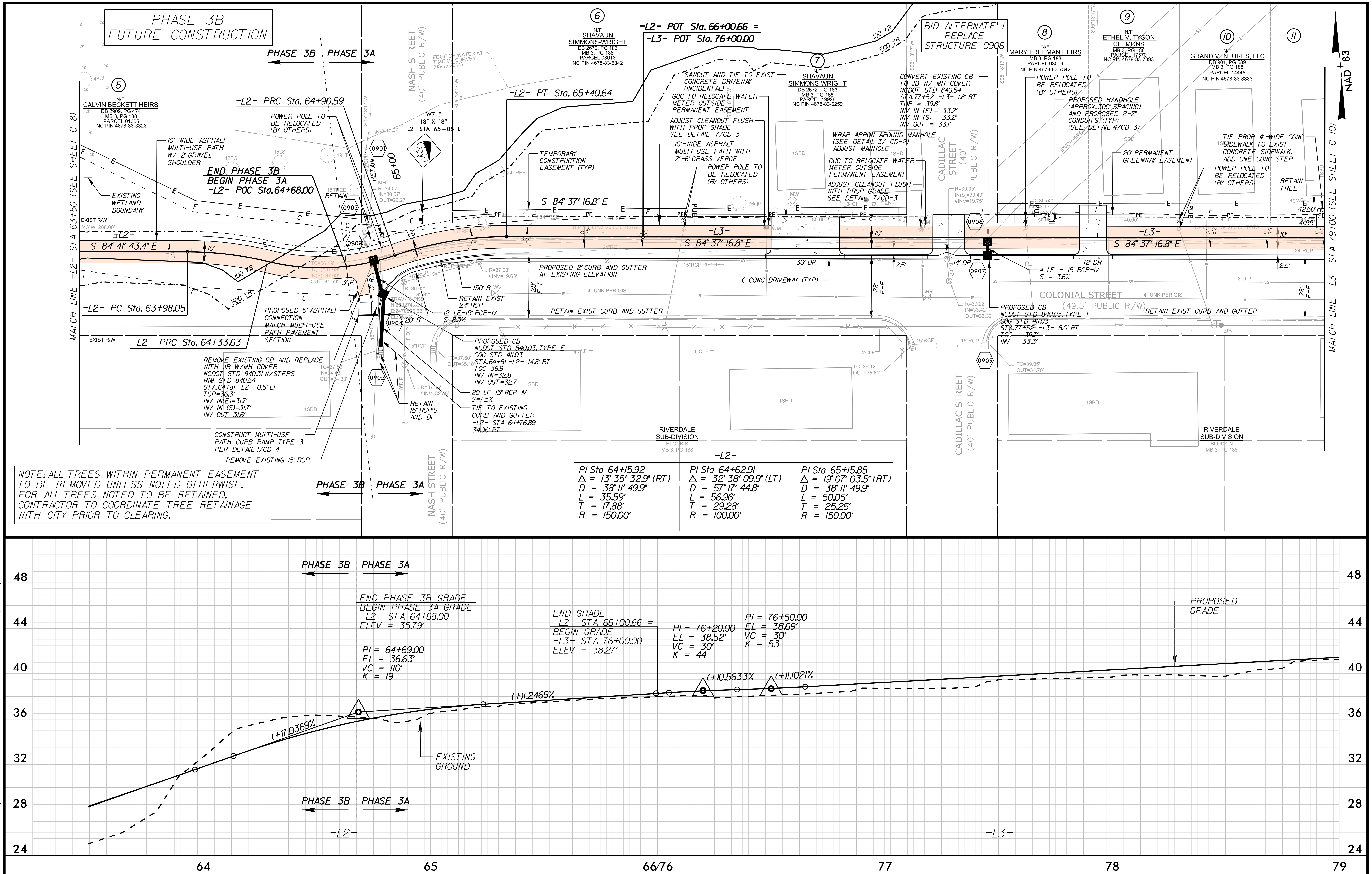
MULTI-USE PATH AND DRAINAGE PLAN

FOR INFORMATION ONLY

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-8



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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE

HORIZ 10 0 20

VERT 2 0 4

PROJECT:

SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: C-9

MATCH LINE -L3- STA 79+00 (SEE SHEET C-9)

-L3- PT Sta. 81+26.78

PI Sta 79+59.09
Δ = 90° 04' 26.6" (LT)
D = 143° 14' 22.0"
L = 62.88'
T = 40.05'
R = 40.00'

PI Sta 80+85.05
Δ = 13° 17' 18.1" (RT)
D = 57° 17' 44.8"
L = 23.19'
T = 11.65'
R = 100.00'

PI Sta 81+11.74
Δ = 11° 31' 47.1" (LT)
D = 38° 11' 49.9"
L = 30.18'
T = 15.14'
R = 150.00'

PI Sta 82+64.88
Δ = 46° 59' 23.4" (RT)
D = 45° 50' 11.8"
L = 102.52'
T = 54.34'
R = 125.00'

PI Sta 83+89.00
Δ = 33° 09' 51.5" (RT)
D = 57° 17' 44.8"
L = 57.88'
T = 29.78'
R = 100.00'

-L3- PC Sta. 79+19.04

-L3- PT Sta. 79+81.92

-L3- PC Sta. 82+10.54

-L3- PT Sta. 83+13.06

-L3- PC Sta. 83+59.23

-L3- PC Sta. 80+73.41

-L3- PRC Sta. 80+96.60

W1-1L
18" X 18"
-L3- STA 79+15 RT

W1-1R
18" X 18"
-L3- STA 79+82 LT

W7-5
18" X 18"
-L3- STA 79+82 RT

CURVE WIDENING
R=41'

TEMPORARY CONSTRUCTION EASEMENT

20' PERMANENT GREENWAY EASEMENT

RETAIN EXISTING 24" RCP

INSTALL WOOD BOLLARDS PER DETAIL 2/CD-4 (TYP.)

PROPOSED 2' CURB AND GUTTER AT EXISTING ELEVATION

RETAIN EXISTING SYSTEM

TIE TO EXISTING CURB & GUTTER -L3- STA 79+61.53 42.93' RT

PERMANENT DRAINAGE EASEMENT

REMOVE TREE

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2/ CD-3 EST 25 SY PSRM

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY. GFD

20 LF - 18" CMP W/ TWO END SECTIONS
INV IN = 31.4'
STA 81+50 -L3- 11.6' RT
INV OUT = 27.3'
STA 81+50 -L3- 19.4' LT
S = 13.2%

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 6 SY GFD

48 LF - 15" RCP-IV W/ FES (SEE DETAIL 3/CD-6)
INV OUT = 28.6'
STA 81+76 -L3- 20.1' LT
S = 2.7%

RETAIN EXISTING SANITARY SEWER MANHOLE

RETAIN EXIST SANITARY SEWER MANHOLE

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP.) (SEE DETAIL 4/CD-3)

PROP 2' CURB AND GUTTER

PROPOSED CB
NCDOT STD 840.03, TYPE E
COD STD-411.03
STA 82+20 -L3- 29.1' RT
TOC = 33.8'
INV = 30.3'
28 LF - 15" RCP-IV

CONTRACTOR TO REMOVE EXIST SEDIMENT FROM ROADBED (INCIDENTAL TO LS GRADING FOR PHASE 3A)
SEE NOTE 2

PROPOSED CB
NCDOT STD 840.01 & 840.03, TYPE E
STA 81+87 -L3- 33.8' RT
TOC = 34.0'
INV IN (N) = 30.0'
INV OUT (W) = 30.0'

15" RCP
INV = 30.2'
6" TERRA COTTA SEWER
TOP = 22.3' (APPROX.)

ENTRANCE SIGN WITH TRAIL RULES
24" X 36"
-L3- STA 83+60 RT

LEAVING SIGN
24" X 36"

BID ALTERNATE 2
FAIRFAX AVE TRAILHEAD

HUDSON STREET
(40' PUBLIC R/W)

FAIRFAX AVENUE
(40' PUBLIC R/W)

RIVERDALE SUB-DIVISION
BLOCK I
MB 3, PG 188

RIVERDALE SUB-DIVISION
BLOCK J
MB 3, PG 188

RIVERDALE SUB-DIVISION
BLOCK J
MB 3, PG 188

(11) N/F JESSIE GRIMES HARRIS
DB 176, PG 778
MB 3, PG 188
PARCEL 09249
NC PIN 4678-83-8373

(12) N/F THE EVANS COMPANY
DB K-48, PG 439
MB 3, PG 188
PARCEL 20420
NC PIN 4678-83-9303

(13) N/F LUCINDA MCMILLAN
DB 3033, PG 289
MB 3, PG 188
PARCEL 21493
NC PIN 4678-83-9384

(14) N/F LILLIAN WHITE FREEMAN EDWARDS
DB U-36, PG 377
MB 3, PG 188
PARCEL 06784
NC PIN 4678-93-0514

(15) N/F JOSIE MARIE HOPKINS
DB V-42, PG 113
MB 3, PG 188
PARCEL 01356
NC PIN 4678-93-0554

(16) N/F MARY FREEMAN HEIRS
DB U-36, PG 356
MB 3, PG 188
PARCEL 20463
NC PIN 4678-93-0593

N/F MILDRED ELLIOT
MB 3, PG 188
PARCEL 28156
NC PIN 4678-83-9283

NOTES:
1. ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

2. PORTION OF PROPERTY TO BE ACQUIRED FOR TRAIL HEAD AND CONSTRUCTION STAGING SEE SHEET L-1

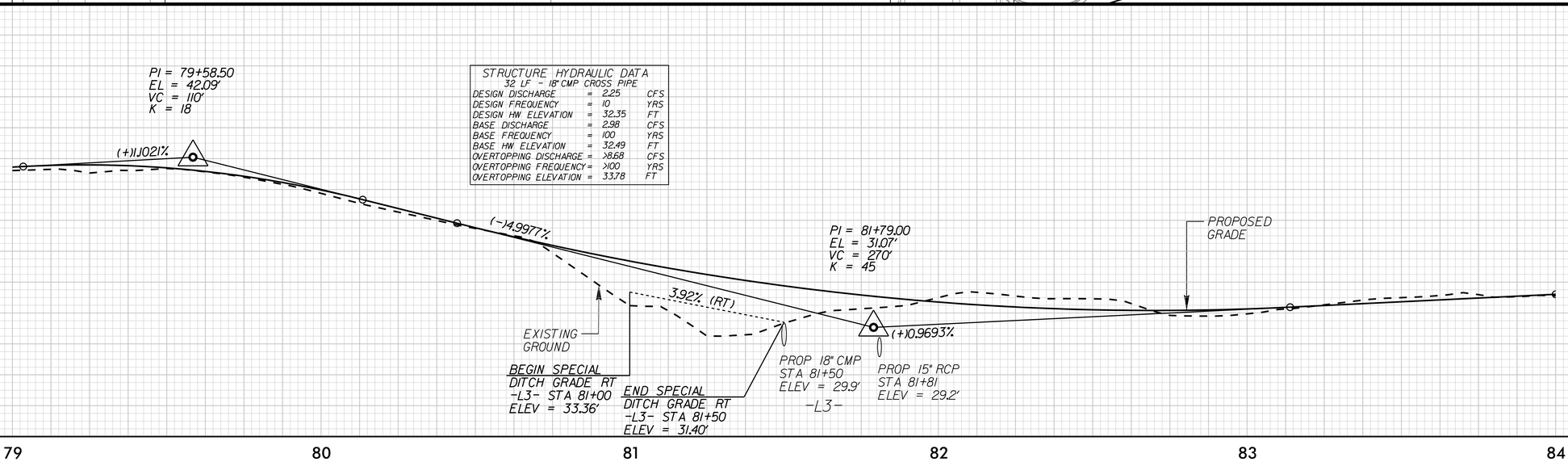
NAD 83

MATCH LINE -L3- STA 84+00 (SEE SHEET C-11)

FOR FAIRFAX AVENUE TRAILHEAD PLANS, SEE SHEETS L-1 THRU L-3

STRUCTURE HYDRAULIC DATA
32 LF - 18" CMP CROSS PIPE

DESIGN DISCHARGE	= 2.25	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 32.35	FT
BASE DISCHARGE	= 2.98	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 32.49	FT
OVERTOPPING DISCHARGE	= >8.68	CFS
OVERTOPPING FREQUENCY	= >100	YRS
OVERTOPPING ELEVATION	= 33.78	FT



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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 024438 ENGINEER JEFFREY W. MOORE
12/18/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-10

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

-L3- PRC Sta. 85+37.45

-L3- PC Sta. 85+02.97

-L3- PT Sta. 84+17.11

-L3- PRC Sta. 86+87.20

-L3- PC Sta. 86+46.98

-L3- PT Sta. 85+74.69

-L3- PT Sta. 87+79.25

-L3- PRC Sta. 87+32.25

-L3- PC Sta. 88+85.95

-L3- PRC Sta. 89+27.79

MATCH LINE -L3- STA 84+00 (SEE SHEET C-10)

MATCH LINE -L3- STA 89+50 (SEE SHEET C-12)

-L3- N 87° 13' 02.4" E

-L3- N 88° 48' 12.6" E

-L3- N 89° 37' 49.0" E

16 N/F MARY FREEMAN HEIRS DB U-36, PG 356 MB 3, PG 188 PARCEL 20463 NC PIN 4678-93-0593

17 N/F MARION AUGUSTA FREEMAN HEIRS MB 3, PG 188 PARCEL 08012 NC PIN 4678-93-1572

18 N/F INDY II, LLC DB 585, PG 720 MB 3, PG 188 PARCEL 20294 NC PIN 4678-93-2512

19 N/F LEONARD R. HIGNITE & VICTOR NG DB G-52, PG 595 MB 3, PG 188 PARCEL 18064 NC PIN 4678-93-3640

N/F EDWARD ALLEN TURNAGE DB 1194, PG 701 MB 3, PG 188 PARCEL 07073 NC PIN 4678-93-3428

N/F LEONARD R. HIGNITE & VICTOR NG DB G-52, PG 595 MB 3, PG 188 PARCEL 18063 NC PIN 4678-93-4576

20 N/F VIRGINIA CAROLINAS LAND CORPORATION DB H-13, PG 16 MB 15, PG 7 PARCEL 33857 NC PIN 4688-03-3648

N/F CITY OF GREENVILLE MB 3, PG 188 PARCEL 04356 NC PIN 4678-93-1523

18" X 24" SINGLE SIDED DIRECTIONAL SIGN -L3- STA 84+40 LT

W7-5 18" X 18" -L3- STA 84+48 RT

South Tar River Greenway — Fairfax Avenue Trailhead — Third St. 3 miles — White St. 2 miles — Parks close at dusk. — Greenville — GREENVILLE GREENWAYS

BID ALTERNATE 2 FAIRFAX AVE TRAILHEAD

FUTURE TRAIL CONNECTION (BY OTHERS)

FORD STREET (40' PUBLIC R/W)

RETAIN EXIST SANITARY SEWER MANHOLE (SUCTION MANHOLE)

CLASS 'B' RIP RAP OUTLET PROTECTION EST 7 TONS EST 15 SY GFD

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

TEMPORARY CONSTRUCTION EASEMENT (TYP)

20' PERMANENT GREENWAY EASEMENT

CLASS 'B' RIP RAP OUTLET PROTECTION EST 4 TONS EST 9 SY GFD

CLASS 'B' RIP RAP OUTLET PROTECTION EST 6 TONS EST 14 SY GFD

56 LF - 24" CMP W/ ENDWALL NCDOT STD 838.01 INV OUT = 5.2' STA 85+70 -L3- 42.6' LT S = 18.1%

PROP POST AND CABLE FENCE -L3- STA 85+50 TO STA 86+00 OFFSET 7' LT (SEE DETAIL 6/CD-3

REMOVE AND REPLACE 20 LF OF 15" VCP GRAVITY SEWER LINE WITH 16' CLASS 50 DIP (LINED WITH PROTECTO 401 INCIDENTAL TO BID ITEM) MATCH EXIST INVERTS. CONNECT TO EXIST SS WITH REINFORCED FLEXIBLE COUPLING (FERNCO MODEL 1093-1516SR OR APPROVED EQUAL) INSTALL PIPELINE CROSSING PER DETAIL 1/CD-5 BETWEEN STORM AND SEWER

24" CMP TOP = 14.9' 15" VCP (REPLACED WITH DIP) BOTTOM = 16.0' (APPROX.)

REMOVE 28 LF PIPE

PROPOSED MH W/ COVER NCDOT STD 840.31 W/ STEPS STA 85+88 -L3- 11.9' RT TOP = 25.3' INV IN (S) = 20.8' (EXIST 18") INV OUT (N) = 15.5'

CLASS 'B' RIP RAP EST 45 TONS EST 100 SY GFD

10' WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

EXISTING WETLAND BOUNDARY

PERMANENT DRAINAGE EASEMENT

32 LF - 24" RCP-IV W/ ENDWALL NCDOT STD 838.01 INV OUT = 11.2' STA 88+86 -L3- 21.0' LT S = 3.8%

28 LF - 2 @ 18" RCP-IV W/ ENDWALL NCDOT STD 838.01 INV OUT = 12.4' STA 89+35 -L3- 18.1' LT S = 2.1%

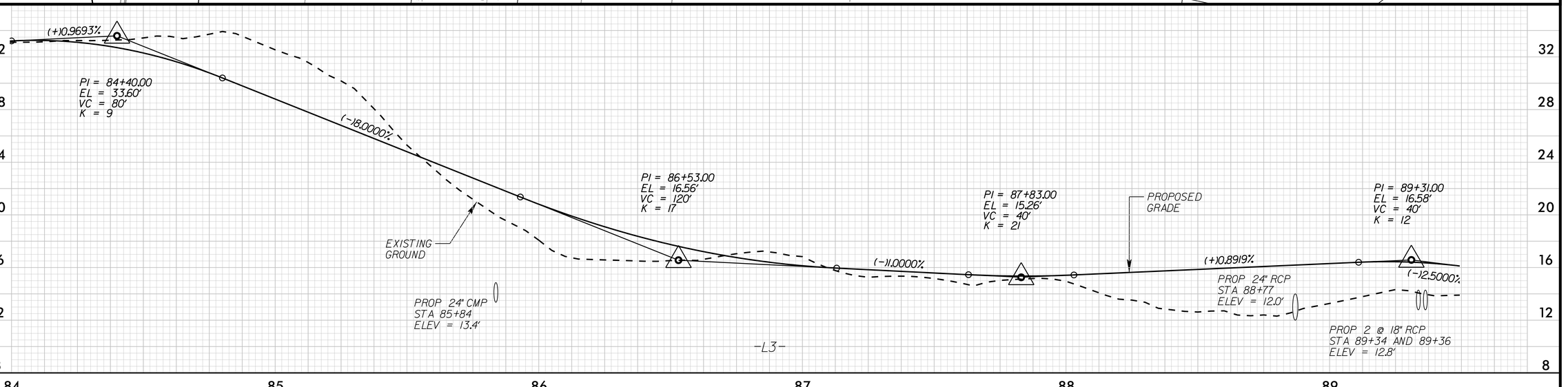
RETAIN EXISTING SANITARY SEWER MANHOLE (DISCHARGE MANHOLE)

RETAIN EXISTING SANITARY SEWER MANHOLE

PROPOSED OTCB W/ MH COVER NCDOT STD 840.04 STA 88+86 -L3- 12.1' RT TOP = 15.7' INV OUT = 12.4'

PROPOSED OTCB W/ MH COVER NCDOT STD 840.04 STA 89+35 -L3- 10.7' RT TOP = 16.2' INV OUT = 13.0'

PI Sta 85+20.38	PI Sta 85+56.29	PI Sta 86+67.16	PI Sta 87+10.12	PI Sta 87+55.86	PI Sta 89+06.88
Δ = 19° 45' 09.9" (LT)	Δ = 21° 20' 20.0" (RT)	Δ = 11° 31' 21.7" (LT)	Δ = 25° 48' 46.5" (RT)	Δ = 13° 27' 48.4" (LT)	Δ = 4° 47' 42.4" (RT)
D = 57° 17' 44.8"	D = 57° 17' 44.8"	D = 28° 38' 52.4"	D = 57° 17' 44.8"	D = 28° 38' 52.4"	D = 11° 27' 33.0"
L = 34.48'	L = 37.24'	L = 40.22'	L = 45.05'	L = 47.00'	L = 41.85'
T = 17.41'	T = 18.84'	T = 20.18'	T = 22.91'	T = 23.61'	T = 20.93'
R = 100.00'	R = 100.00'	R = 200.00'	R = 100.00'	R = 200.00'	R = 500.00'



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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE 1/18/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: C-11

12/15/2017

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-L3- PT Sta. 89+76.33

-L3- PC Sta. 90+85.72

-L3- PRC Sta. 91+38.25

-L3- PT Sta. 92+28.08

-L3- PC Sta. 93+49.30

-L3- PT Sta. 94+19.76

90+00

MATCH LINE -L3- STA 89+50 (SEE SHEET C-11)

MATCH LINE -L3- STA 95+00 (SEE SHEET C-13)

NAD 83

-L3-
N 88°51'47.3" E

-L3-
N 89°17'54.2" E

-L3-
N 79°12'17.6" E

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

RETAIN AND ROOT PRUNE TREE

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

EXISTING WETLAND BOUNDARY

TEMPORARY CONSTRUCTION EASEMENT (TYP)

20' PERMANENT GREENWAY EASEMENT

PERMANENT DRAINAGE EASEMENT

GRADE TO DRAIN

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY GFD

REMOVE 18" OF EXISTING 18" CMP AND 16' OF 18" DIP AND REPLACE W/ 22' - 18" RCP-IV AND FES (SEE DETAIL 3/CD-6) INV OUT = 7.5' STA 94+47 -L3- 18.2' LT S = 3.3%

18" X 24" SINGLE SIDED DIRECTIONAL SIGN -L3- STA 94+00 LT

EXISTING WETLAND BOUNDARY

PROP. ELEV. = 12.83' -L3- STA 94+00.84 OFFSET = 5.00' RT

PROP. ELEV. = 12.93' -L3- STA 94+01.45 OFFSET = 10.25' RT

PROP. ELEV. = 54.07' -L3- STA 94+08.72 OFFSET 85.03' RT

PROP CONCRETE STEPS WITH BUTTRESS WALL SEE DETAIL 5/CD-3

PROP METAL HAND RAIL ALONG BOTH SIDES OF STEPS SEE DETAIL 3/CD-4 MOUNT USING RAILING CONNECTION DETAIL SEE SHEET S-21

5' WIRE FENCE

5' X 5' LANDING WITH 2% MAX CROSS SLOPE 4" CONC PAD (TYP)

4" CONCRETE SIDEWALK

75' R

5'

WHITE STREET (50' PUBLIC R/W)

TIE TO GRAVEL DRIVE -L1- STA 94+02.98 OFFSET = 141.84' RT ELEV = 57.1'

18" x 24" SINGLE SIDED DIRECTIONAL SIGN -L3- STA 94+07 RT

RETAIN EXIST SANITARY SEWER MANHOLE

RETAIN EXIST SANITARY SEWER MANHOLE

RETAIN EXIST SANITARY SEWER MANHOLE (SUCTION MANHOLE)

RETAIN EXIST SANITARY SEWER MANHOLE (DISCHARGE MANHOLE)

PROPOSED MH W/ COVER NCDOT STD 840.51 W/STEPS STA 94+47 -L3- 11.7' RT TOP = 20.5' INV IN (S) = 16.5 +/- INV OUT = 8.5' TIE-IN EX 18" CMP

REMOVE AND REPLACE 20 LF OF 15" VCP GRAVITY SEWER LINE WITH 16' DIP CLASS 50 (LINED WITH PROTECTO 401, INCIDENTAL TO PIPE). MATCH EXIST INVERTS. CONNECT TO EXIST SS WITH REINFORCED FLEXIBLE COUPLING (FERNCO MODEL 1003-1516SR OR APPROVED EQUAL).

20
N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648

PI Sta 89+52.08
Δ = 5° 33' 44.1" (LT)
D = 11° 27' 33.0"
L = 48.54'
T = 24.29'
R = 500.00'

PI Sta 91+12.18
Δ = 16° 43' 11.9" (LT)
D = 31° 49' 51.6"
L = 52.53'
T = 26.45'
R = 180.00'

PI Sta 91+83.50
Δ = 17° 09' 18.8" (RT)
D = 19° 05' 54.9"
L = 89.82'
T = 45.25'
R = 300.00'

PI Sta 93+84.62
Δ = 10° 05' 36.5" (LT)
D = 14° 19' 26.2"
L = 70.47'
T = 35.32'
R = 400.00'

PARK AVENUE (CITY STREET)

N87°36'24"E 489.51'

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

BID ALTERNATE 3
WHITE STREET TRAIL CONNECTION

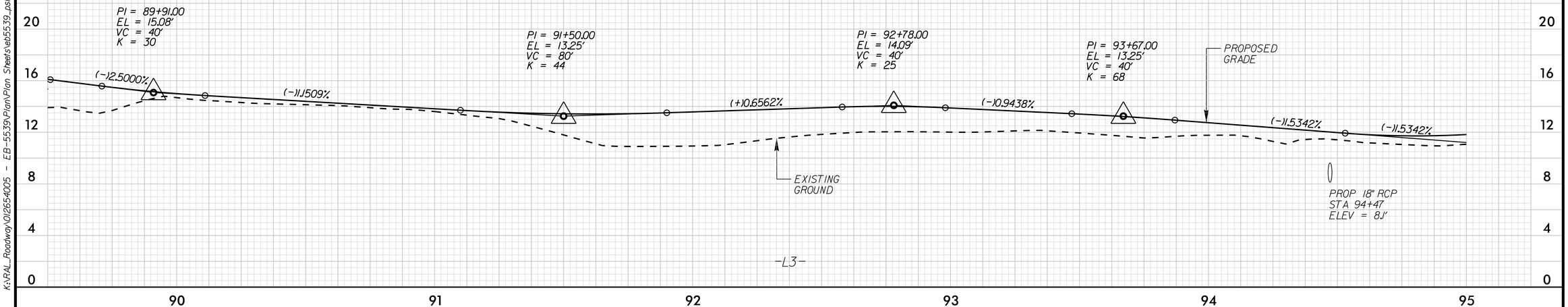
FLOODWAY

100 YR

500 YR

BZ 1

BZ 2



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12/15/2017

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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 024436 ENGINEER JEFFREY W. MOORE
1/18/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-12

-L3-

PI Sta 95+35.69
Δ = 15° 01' 04.4" (RT)
D = 28° 38' 52.4"
L = 52.42'
T = 26.36'
R = 200.00'

PI Sta 96+20.82
Δ = 16° 48' 05.1" (LT)
D = 14° 19' 26.2"
L = 117.30'
T = 59.07'
R = 400.00'

PI Sta 97+71.99
Δ = 13° 15' 16.7" (RT)
D = 7° 09' 43.1"
L = 185.07'
T = 92.95'
R = 800.00'

-L4-

PI Sta 108+89.18
Δ = 10° 56' 13.7" (RT)
D = 19° 05' 54.9"
L = 57.27'
T = 28.72'
R = 300.00'

NAD 83

-L3- PRC Sta. 96+79.04

20' PERMANENT GREENWAY EASEMENT

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

-L3- POT Sta. 98+75.00=
-L4- POT Sta. 108+00.00

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

FLOODWAY

MILE MARKER
5" X 9"
-L3- STA 95+78 LT

MILE MARKER
5" X 9"

W7-5
18" X 18"
-L3- STA 96+40 LT

TEMPORARY CONSTRUCTION EASEMENT (TYP)

MATCH LINE -L3- STA 95+00 (SEE SHEET C-12)

-L4-
S 89° 19' 26.3" E

-L4-
S 78° 23' 12.6" E

MATCH LINE -L4- STA 109+75 (SEE SHEET C-14)

REMOVE EXISTING CONCRETE WALL INCIDENTAL TO LS GRADING

RETAIN AND ROOT PRUNE TREE

RETAIN EXISTING SANITARY SEWER MANHOLE

100 YR

500 YR

-L3- PRC Sta. 95+61.75

-L3- PC Sta. 95+09.32

-L3- PT Sta. 98+64.11

-L4- PC Sta. 108+60.46

-L4- PT Sta. 109+17.73

RETAIN EXISTING SANITARY SEWER MANHOLE (SUCTION MANHOLE)

PARK AVENUE

PARK AVENUE

N82°20'23"E 264.59'

S79°59'36"E 251.05'

20
N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648

20
N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648

21
N/F
JESSE MANNING EBRON & VERNA FLEMMING
DB 225, PG 748
MB 1, PG 24
PARCEL 01922
NC PIN 4688-03-7538

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

PI = 95+28.00
EL = 10.78'
VC = 150'
K = 18

(+)6.8435%

EXISTING GROUND

PI = 96+43.00
EL = 18.65'
VC = 80'
K = 7

(−)4.3452%

PI = 97+27.00
EL = 15.00'
VC = 40'
K = 29

(−)12.9865%

PROPOSED GRADE

END GRADE
-L3- STA 98+75.00 =
BEGIN GRADE
-L4- STA 108+00.00
ELEV = 10.58'

PI = 108+50.00
EL = 9.09'
VC = 96'
K = 20

(−)12.9848%

(+)11.9204%

PI = 109+63.00
EL = 11.26'
VC = 40'
K = 18

(−)10.3614%

-L3-

-L4-

24 20 16 12 8 4 0

95 96 97 98 98+75/108 109

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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/16/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-13

-L4-

PI Sta 110+40.64	PI Sta 111+13.00	PI Sta 111+79.55	PI Sta 112+43.15	PI Sta 112+92.12	PI Sta 114+54.40
Δ = 41° 14' 20.1" (RT)	Δ = 63° 42' 26.2" (LT)	Δ = 33° 08' 34.3" (RT)	Δ = 39° 06' 06.3" (LT)	Δ = 24° 25' 26.7" (RT)	Δ = 14° 27' 15.9" (RT)
D = 76° 23' 39.7"	D = 76° 23' 39.7"	D = 57° 17' 44.8"	D = 57° 17' 44.8"	D = 76° 23' 39.7"	D = 38° 11' 49.9"
L = 53.98'	L = 83.39'	L = 57.85'	L = 68.25'	L = 31.97'	L = 37.84'
T = 28.22'	T = 46.60'	T = 29.76'	T = 35.51'	T = 16.23'	T = 19.02'
R = 75.00'	R = 75.00'	R = 100.00'	R = 100.00'	R = 75.00'	R = 150.00'

NAD 83

MATCH LINE -L4- STA 109+75 (SEE SHEET C-13)

MATCH LINE -L4- STA 115+25 (SEE SHEET C-15)

110+00

115+00

PERMANENT DRAINAGE EASEMENT

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY GFD

REMOVE AND REPLACE 60 LF OF 21" RCP GRAVITY SEWER LINE WITH 20' DIP CLASS 50 (LINED WITH PROTECTO 401, INCIDENTAL TO PIPE). MATCH EXIST. INVERTS. CONNECT TO EXIST. SS WITH REINFORCED FLEXIBLE COUPLING (FERNCO FABRICATED LDC10 SRX WITH STAINLESS STEEL SHEAR RING OR APPROVED EQUAL).

REMOVE EX 2 @ 15" PVC AND REPLACE W/ 28 LF -18" RCP-IV AND TWO F.E.S. (SEE DETAIL 3/CD-6)
INV IN = 10.0'
STA.110+53 -L4- 14.4' RT
INV OUT = 7.6'
STA.110+77 -L4- 19.6' LT
S = 6.0%

RETAIN TREE

22
N/F
DENISON D. GARRETT, JR.
DB 2838, PG 201
MB 1, PG 24
PARCEL 00133
NC PIN 4688-03-8545

-L4- PRC Sta. 112+75.88

INSTALL CONCRETE ENDWALL NCDOT STD 838.01 STA.111+89 -L4- 10.8' LT

28 LF - 2 @ 36" RCP-IV
INV IN = 14.9'
INV OUT = 14.5'
S = 1.1%

PROP POST AND CABLE FENCE -L4- STA 111+50 TO STA 112+05 OFFSET 7' (LT) SEE DETAIL 6/CD-3

INSTALL PIPELINE CROSSING PER DETAIL 1/CD-5 BETWEEN STORM AND SEWER

REMOVE AND RESET EXIST RIP RAP 2' FROM EDGE OF MULTI-USE PATH (70 SY)

36" RCP
INV = 14.6'
21" RCP
TOP = 13.3'
(APPROX.)

W7-5
18" X 18"
-L4- STA 112+07 LT

23
N/F
JIMMY L. JONES
DB H-37, PG 502
MB 3, PG 284
PARCEL 12429
NC PIN 4688-03-9585

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

EXISTING WETLAND BOUNDARY

FLOODWAY

TEMPORARY CONSTRUCTION EASEMENT (TYP)

W7-5
18" X 18"
-L4- STA 115+05 LT

25
N/F
DITHARD PROPERTIES, LLC
DB 3251, PG 373
PARCEL 28933
NC PIN 4688-12-3945

RETAIN TREES

RETAIN TREE

-L4- S 82° 23' 24" E

RETAIN TREE

RETAIN TREE

RETAIN TREE

RETAIN TREE

GRADE AREA AROUND PIPE ENTRANCE TO DRAIN

EXISTING WETLAND BOUNDARY

-L4- PC Sta. 110+12.42

-L4- PRC Sta. 110+66.40

-L4- PRC Sta. 111+49.79

-L4- PT Sta. 113+07.85

-L4- PC Sta. 114+35.38

-L4- PRC Sta. 114+73.22

100 YR
500 YR

RETAIN EXIST SANITARY SEWER MANHOLE (DISCHARGE MANHOLE)

21
N/F
JESSE MANNING EBRON & VERNA FLEMMING
DB 225, PG 748
MB 1, PG 24
PARCEL 01922
NC PIN 4688-03-7538

REMOVE 8 LF OF EXIST 36" CMP AND INSTALL OVERSIZED JB W/ MH COVER STA.111+87 -L4- 17.6' RT
TOP = 32.0'
INV IN (S) = 25.4'
INV OUT (N) = 14.9'
(SEE SPECIAL DETAIL ON SHEET CD-6)

END SOLDIER PILE WALL *2 -L4- STA 112+50 OFFSET 7' (RT)

20' PERMANENT GREENWAY EASEMENT

24
N/F
JIMMY L. JONES
DB R-53, PG 458
MB 3, PG 284
PARCEL 13554
NC PIN 4688-13-1507

24
N/F
JIMMY L. JONES
DB R-53, PG 458
MB 3, PG 284
PARCEL 13555
NC PIN 4688-13-0487

25
N/F
DITHARD PROPERTIES, LLC
DB 3251, PG 373
PARCEL 28933
NC PIN 4688-12-3945

CONTENTNEA STREET (40' PUBLIC R/W)

VANCE STREET (40' PUBLIC R/W)

R3-17aP
24" X 8"
-L4- STA 111+07 RT

W7-5
18" X 18"

BEGIN SOLDIER PILE WALL *2 -L4- STA 111+10 OFFSET 7' (RT)

-L4- PRC Sta. 112+07.64

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

STRUCTURE HYDRAULIC DATA 36 LF - 18" RCP CROSS PIPE		
DESIGN DISCHARGE	= 2.34	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 10.84	FT
BASE DISCHARGE	= 3.10	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 10.98	FT
OVERTOPPING DISCHARGE	= >10.45	CFS
OVERTOPPING FREQUENCY	= >100	YRS
OVERTOPPING ELEVATION	= 12.10	FT

PI = 110+46.00
EL = 10.96'
VC = 72'
K = 9

(-)10.3614%

(+)18.0000%

EXISTING GROUND

EXIST EXPOSED 21" SEWER PIPE

PROP 18" RCP
STA 110+64
ELEV = 9.0'

PI = 111+79.00
EL = 21.60'
VC = 50'
K = 3

PROP 2 @ 36" RCP
STA 111+87 AND 111+92
ELEV = 14.7'

(-)18.2870%

PI = 112+87.00
EL = 12.65'
VC = 110'
K = 11

PROPOSED GRADE

EXIST EXPOSED 21" SEWER PIPE

(+)11.6532%

PI = 114+11.00
EL = 14.70'
VC = 70'
K = 11

(+)18.0000%

PI = 114+80.00
EL = 20.22'
VC = 60'
K = 10

(+)11.9556%

-L4-

28 24 20 16 12 8 4

110 111 112 113 114 115

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-14

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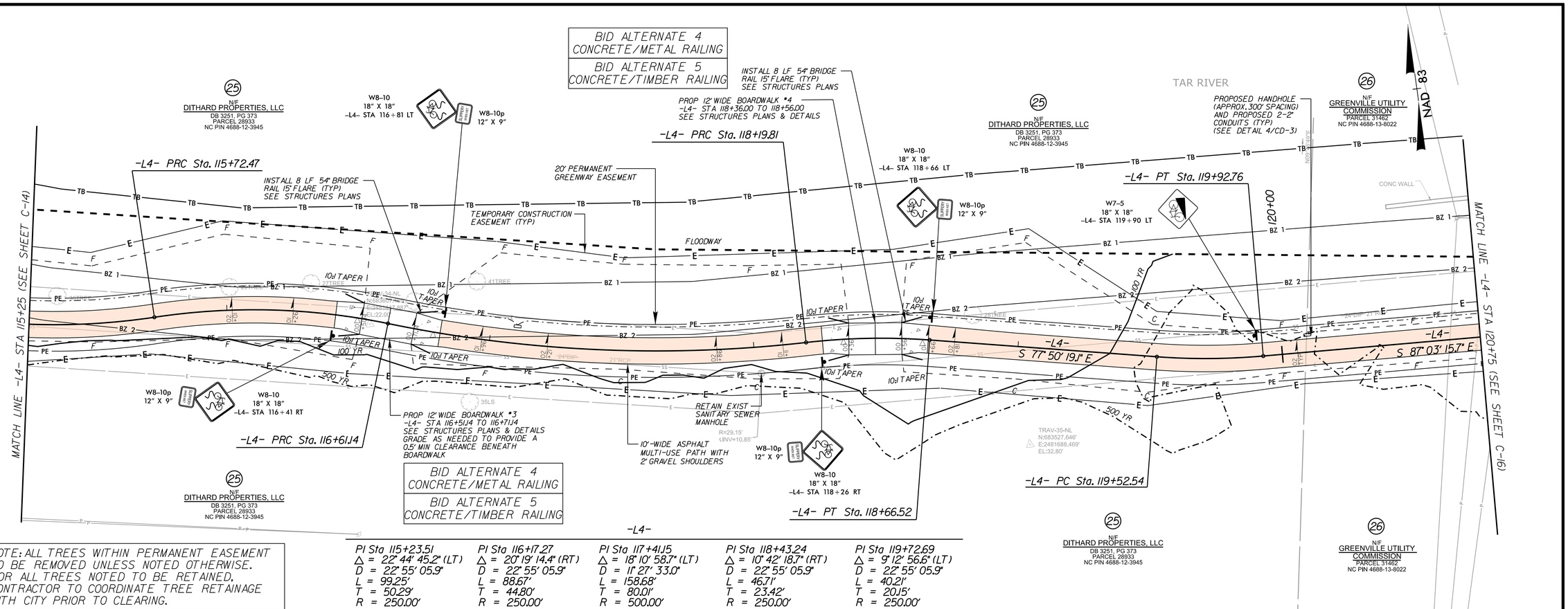
12/15/2017

BID ALTERNATE 4
CONCRETE/METAL RAILING

BID ALTERNATE 5
CONCRETE/TIMBER RAILING



BID ALTERNATE 4
CONCRETE/METAL RAILING

BID ALTERNATE 5
CONCRETE/TIMBER RAILING

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.

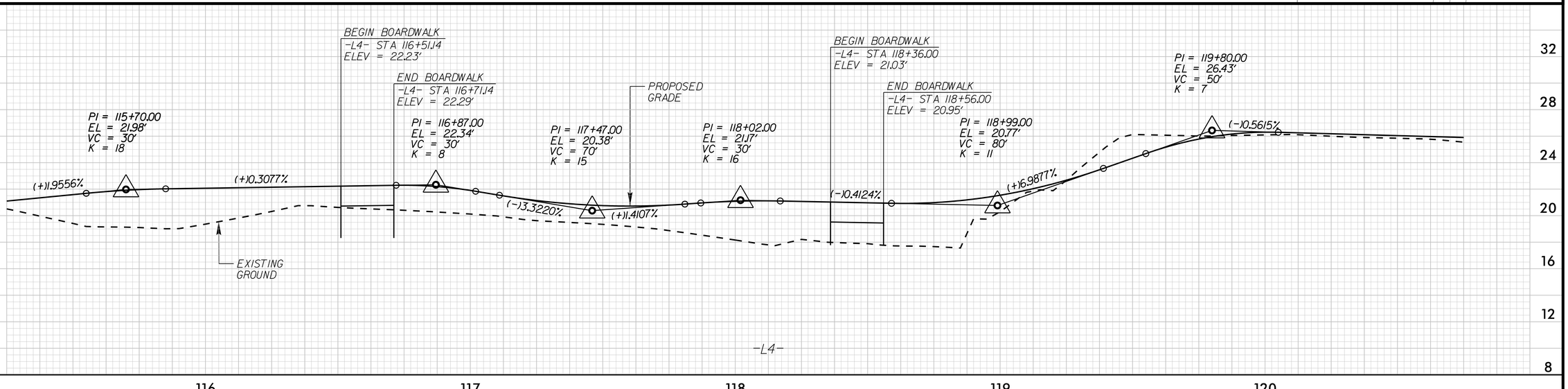
PI Sta 115+23.51
Δ = 22° 44' 45.2" (LT)
D = 22° 55' 05.9"
L = 99.25'
T = 50.29'
R = 250.00'

PI Sta 116+17.27
Δ = 20° 19' 14.4" (RT)
D = 22° 55' 05.9"
L = 88.67'
T = 44.80'
R = 250.00'

PI Sta 117+41.15
Δ = 18° 10' 58.7" (LT)
D = 11° 27' 33.0"
L = 158.68'
T = 80.01'
R = 500.00'

PI Sta 118+43.24
Δ = 10° 42' 18.7" (RT)
D = 22° 55' 05.9"
L = 46.71'
T = 23.42'
R = 250.00'

PI Sta 119+72.69
Δ = 9° 12' 56.6" (LT)
D = 22° 55' 05.9"
L = 40.21'
T = 20.15'
R = 250.00'



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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 024436 ENGINEER JEFFREY W. MOORE 1/18/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: C-15

-L4-

PI Sta 122+39.60	PI Sta 124+20.33	PI Sta 124+83.13	PI Sta 125+60.72
△ = 9° 21' 11.3" (LT)	△ = 19° 44' 17.9" (RT)	△ = 30° 01' 15.5" (RT)	△ = 23° 43' 30.1" (LT)
D = 19° 05' 54.9"	D = 95° 29' 34.7"	D = 114° 35' 29.6"	D = 57° 17' 44.8"
L = 48.97'	L = 20.67'	L = 26.20'	L = 41.41'
T = 24.54'	T = 10.44'	T = 13.41'	T = 21.00'
R = 300.00'	R = 60.00'	R = 50.00'	R = 100.00'

MATCH LINE -L4- STA 120+75 (SEE SHEET C-15)

-L4- PC Sta. 122+15.06

-L4- PT Sta. 122+64.03

-L4- PC Sta. 124+09.89

-L4- PT Sta. 124+30.56

-L4- PC Sta. 124+69.72

-L4- PT Sta. 125+81.12

-L4- PC Sta. 125+39.71

-L4- PT Sta. 124+95.92

-L4- S 76° 40' 09.2" E

-L4- S 46° 38' 53.6" E

-L4- S 70° 22' 23.7" E

-L4- N 83° 35' 32.9" E

-L4- POT Sta. 126+61.33

END PROJECT EB-5539
END PHASE 3A
-L4- STA.126+16.33
END CONSTRUCTION
TIE TO EXISTING

NAD 83

TAR RIVER

W12-2 30" X 30"
-L4- STA 124+30.76
(MOUNT SIGN TO CANOPY)

W12-2 30" X 30"
-L4- STA 124+71.28
(MOUNT SIGN TO CANOPY)

SPEED LIMIT 35

20' PERMANENT GREENWAY EASEMENT

TEMPORARY CONSTRUCTION EASEMENT (TYP)

10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS

RETAIN EXIST SANITARY SEWER MANHOLE

PROPOSED HANDHOLE (APPROX. 300' SPACING) AND PROPOSED 2-2" CONDUITS (TYP) (SEE DETAIL 4/CD-3)

(26) N/F GREENVILLE UTILITY COMMISSION PARCEL 31462 NC PIN 4688-13-8022

PROP 96" CHAIN LINK FENCE -L4- STA 123+00 TO STA 124+26 OFFSET 7' (RT)

PROP FENCE TO BE PLACED BEHIND PROP WALL TRANSITION FENCE HEIGHT TO PROVIDE MIN 96" BARRIER FROM TRAIL -L4- STA STA 124+19 TO 124+75 OFFSET 1.5' BEHIND PROP WALL

ADJUST MANHOLE TO BE FLUSH WITH MULTI-USE PATH

END ASPHALT MULTI-USE PATH BEGIN 10'-WIDE CONCRETE MULTI-USE PATH WITH 2' GRAVEL SHOULDERS -L4- STA 123+95.55

GRADE AREA TO DRAIN

CORE 4" DIA. DRAIN HOLES IN EXISTING WALL AT 10' ON CENTER FROM -L4- STA 124+02 TO 124+42 (INCIDENTAL TO PILE SUPPORTED SLAB)

END RAILROAD UNDERPASS CANOPY STRUCTURE *2 FLUSH WITH BRIDGE (SEE STRUCTURE PLANS) -L4- STA 124+44.06

RETAIN EXIST CONC WALL

END CONCRETE MULTI-USE PATH TIE TO PILE SUPPORT SLAB (SEE STRUCTURE PLANS) -L4- STA 124+30.56

TIE CONC MULTI-USE PATH TO EXIST CONC WALL -L4- 124+15.86 OFFSET 7' (LT)

CONC MULTI-USE PATH -L4- 124+15.86 OFFSET 6.5' (RT)

BEGIN RAILROAD UNDERPASS CANOPY STRUCTURE *1 -L4- STA 124+24.05 (SEE STRUCTURE PLANS)

RETAIN EXIST SANITARY SEWER MANHOLE

ADJUST EXISTING SANITARY SEWER MANHOLE FLUSH WITH PROP GRADE. INSTALL 4' GATE OVER MANHOLE.

BEGIN PILE SUPPORTED SLAB STEM -L4- STA.124+30.56 (5'RT) (SEE STRUCTURE PLANS)

RETAIN GABION WALL

RETAIN CONC WING WALL

RETAIN CONC END BENT

TEMPORARY CONSTRUCTION ACCESS (SEE SHEET EC-16)

TRAV-36-NL N:683443.068' E:2481999.646' EL:28.51'

TIE PILE SUPPORTED SLAB TO EXISTING CONCRETE SLAB (SEE STRUCTURE PLANS)

RETAIN RAILROAD CONCRETE SLAB

TIE PILE SUPPORTED SLAB TO EXISTING CONCRETE SLAB (SEE STRUCTURE PLANS)

INSTALL CLASS II RIP RAP ON BANK EST. 170 TONS EST. 180 SY GFD (STRUCTURES ITEMS)

PROP PILE SUPPORTED SLAB (SEE STRUCTURE PLANS)

SEE DETAIL 2/CD-5 FOR PROPOSED CONTOURS

PROP METAL HAND RAIL -L4- STA 124+55.55 TO STA 125+21.57 OFFSET AS SHOWN. SEE DETAIL 3/CD-4

END PILE SUPPORTED SLAB BEGIN 10'-WIDE ASPHALT MULTI-USE PATH WITH 2' GRAVEL SHOULDERS -L4- STA 125+05.06

LEAVING SIGN 24" X 36"

ENTRANCE SIGN WITH TRAIL RULES 24" X 36" -L4- STA 126+12 RT

R5-3 24" X 24" -L4- STA 126+12 LT

NO MOTOR VEHICLES

END RAILROAD UNDERPASS CANOPY STRUCTURE *4 -L4- STA 124+80.26 (SEE STRUCTURES PLANS)

PROP FENCE TO BE PLACED BEHIND PROP WALL TRANSITION FENCE HEIGHT TO PROVIDE MIN 96" BARRIER FROM TRAIL -L4- STA STA 124+19 TO 124+75 OFFSET 1.5' BEHIND PROP WALL

END PILE SUPPORTED SLAB STEM -L4- STA.124+75.00 (4.75' RT) (SEE STRUCTURES PLANS)

N/F CSX RAILROAD RIGHT-OF-WAY VARIABLE WIDTH

PROP VARIABLE CHAIN LINK FENCE BETWEEN CANOPY POSTS -L4- STA 124+26 TO STA 124+78 OFFSET 5.75' (RT) (INCIDENTAL TO CANOPY ASSEMBLY SEE STRUCTURE PLANS)

RETAIN CONC WING WALL

BEGIN RAILROAD UNDERPASS CANOPY STRUCTURE *3 -L4- STA 124+60.18 (SEE STRUCTURE PLANS)

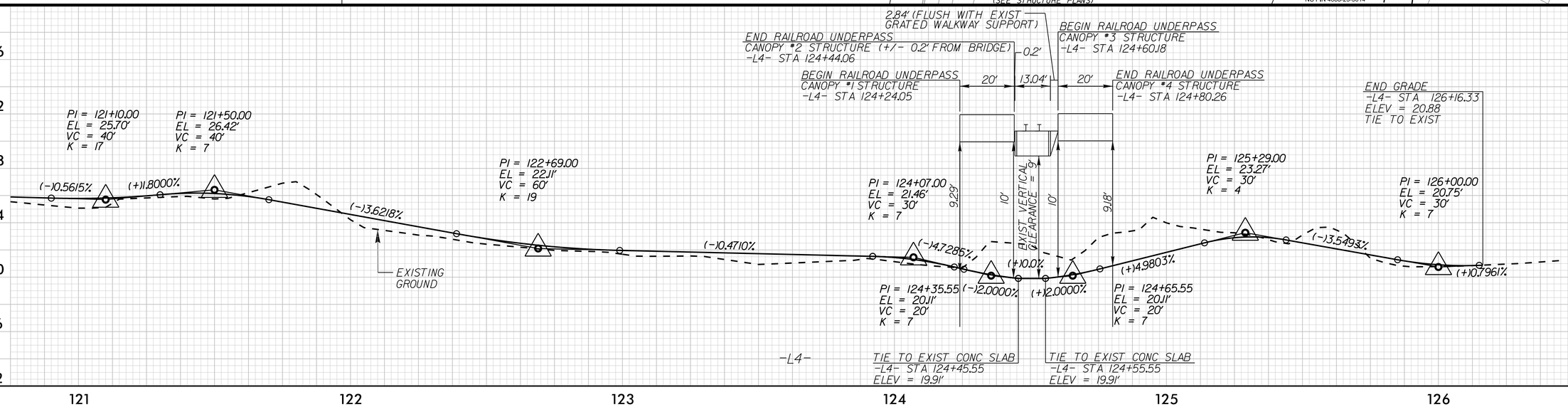
PROP 96" CHAIN LINK FENCE -L4- STA 124+78 TO STA 125+90.00 OFFSET 7' (RT) TIE TO EXISTING AND CONSTRUCT CORNER BRACE

(27) N/F GREENVILLE UTILITY COMMISSION DB A-19, PG 306 MB 70, PG 98 PARCEL 29030 NC PIN 4688-23-3014

EXISTING 100' GREENVILLE UTILITIES COMMISSION EASEMENT (DB V-47, PG 549, MB 70, PG 98)

N42°35'38"W 135.5' TIE LINE ONLY

NOTE: ALL TREES WITHIN PERMANENT EASEMENT TO BE REMOVED UNLESS NOTED OTHERWISE. FOR ALL TREES NOTED TO BE RETAINED, CONTRACTOR TO COORDINATE TREE RETAINAGE WITH CITY PRIOR TO CLEARING.



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12/15/2017

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PREPARED IN THE OFFICE OF:
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MULTI-USE PATH AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034436 JEFFREY W. MOORE
1/18/2018

HORIZ 10 0 20
VERT 2 0 4

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)
MP AA 148.94, Florence Division, Parmele Subdivision

JOB NUMBER: 012654005 SHEET NUMBER: C-16

LIST OF ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	DESCRIPTION
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
300.01	METHOD OF PIPE INSTALLATION
610.03	GUIDE FOR PAVING SHOULDERS UNDER BRIDGES - METHOD III
815.03	PIPE UNDERDRAIN AND BLIND DRAIN
838.01	CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.01	BRICK CATCH BASIN - 12" THRU 54" PIPE
840.02	CONCRETE CATCH BASIN - 12" THRU 54" PIPE
840.03	FRAME, GRATES AND HOOD - FOR USE ON STANDARD CATCH BASIN
840.04	CONCRETE OPEN THROAT CATCH BASIN - 12" THRU 48" PIPE
840.05	BRICK OPEN THROAT CATCH BASIN - 12" THRU 48" PIPE
840.14	CONCRETE DROP INLET
840.15	BRICK DROP INLET
840.16	DROP INLET FRAME AND GRATES
840.18	CONCRETE GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.24	FRAMES AND NARROW SLOT SAG GRATES
840.31	CONCRETE JUNCTION BOX - 12" THRU 36" PIPE
840.32	BRICK JUNCTION BOX - 12" THRU 66" PIPE
840.34	TRAFFIC BEARING JUNCTION BOX
840.45	PRECAST DRAINAGE STRUCTURE
840.51	BRICK MANHOLE - 12" THRU 36" PIPE
840.52	PRECAST MANHOLE - 4', 5' AND 6' DIAMETER
840.54	MANHOLE FRAME AND COVER
840.66	DRAINAGE STRUCTURE STEPS
846.01	CONCRETE CURB, GUTTER AND CURB AND GUTTER
848.01	CONCRETE SIDEWALK
848.02	DRIVEWAY TURNOUT - RADIUS TYPE
848.05	CURB RAMP (EXISTING CURB)
848.06	CURB RAMP (PROPOSED CURB)
866.01	CHAIN LINK FENCE - 4', 5' AND 6' HIGH FENCE
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
904.50	MOUNTING OF TYPE 'D', 'E', AND 'F' SIGNS ON 'U' CHANNEL POSTS
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1205.01	PAVEMENT MARKINGS - LNE TYPES AND OFFSETS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1180.01	SKINNY DRUM
1605.01	TEMPORARY SILT FENCE
1606.01	SPECIAL SEDIMENT CONTROL FENCE
1607.01	GRAVEL CONSTRUCTION ENTRANCE
1630.06	SPECIAL STILLING BASIN
1631.01	MATTING INSTALLATION
1632.03	ROCK INLET SEDIMENT TRAP TYPE 'C'
1633.01	TEMPORARY ROCK SILT CHECK TYPE 'A'

SITE NOTES

ALL RADII DIMENSIONS ARE MEASURED TO EDGE OF PAVEMENT, TO CENTERLINE, CENTER TO CENTER ON STRIPES, AND/OR TO FACE OF CURB, UNLESS OTHERWISE NOTED.

PROVIDE CONSTRUCTION JOINTS IN CONCRETE WALKWAYS EVERY 10' MAXIMUM WHEN WALKS ARE 10' WIDE. MATCH WIDTH UNDER 10'.

CONCRETE PADS AND WALKWAYS; UNLESS OTHERWISE NOTED, ARE 3000 PSI, OF 6" THICKNESS WITH NO. 4 BARS 12" O.C.

ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) AND NCDOT STANDARDS.

CONTRACTOR TO GRADE FILL SLOPES AROUND EXISTING MANHOLES TO AVOID PONDING.

ALL RC PIPES SHALL BE CLASS III OR CLASS IV AS SHOWN ON PLANS.

UTILITY NOTES

CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (TELEPHONE 1-800-632-4949) AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL."

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY, AGENCY, OR COMPANY.

ALL UTILITIES THAT ARE LOCATED WITHIN LIMITS OF DISTURBANCE SHALL BE SET SO THAT TOPS/RIMS ARE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED.

LOCATIONS AND SIZES OF EXISTING PUBLIC AND PRIVATE UTILITIES SHOWN ON THESE PLANS ARE FROM CITY AND UTILITY COMPANY RECORDS ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE CITY AND GREENVILLE UTILITIES COMMISSION FOR ANY ADDITIONAL INFORMATION ON EXISTING WATER AND SEWER UTILITIES.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.

GENERAL NOTES

2012 SPECIFICATIONS

STATEMENT OF CONSTRUCTION

THE PROJECT GENERALLY CONSISTS OF THE CONSTRUCTION OF A 10' WIDE MULTI-USE PATH, BRIDGE AND BOARDWALKS. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS, DATED 2012.

GRADE LINE:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE SURFACE AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

THE MULTI-USE PATH IS TO BE SUPERELEVATED AS SHOWN ON PLAN SHEETS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:
GREENVILLE UTILITIES COMMISSION (GUC)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS IN ACCORDANCE WITH NCDOT STD 848.05, 848.06 AND DETAILS SHOWN IN PLANS.

CONTRACTOR TO ADAPT STANDARD DETAIL TO CONSTRUCT 8' MIN. DROP CURB AT INTERSECTION WITH TRANSITION TO 10' WIDTH OF MULTI-USE PATH.

SAFETY:

PEDESTRIAN AND BICYCLE SAFETY MUST BE MAINTAINED AT ALL TIMES BY ADEQUATE PROJECT LIMITS, FENCING, AND SIGNAGE.

EROSION CONTROL:

THE FINAL SIZE AND LOCATION OF ALL EROSION CONTROL DEVISES MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO PLACING EROSION CONTROL MEASURES.

TRAFFIC CONTROL:

TRAFFIC CONTROL GENERAL NOTES, DETAILS, AND A LIST OF STANDARDS ARE INCLUDED IN THIS PLAN SET. ALL TRAFFIC CONTROL DEVICES AND OPERATIONS SHALL CONFORM TO NCDOT 2012 STANDARD DRAWINGS FOR TRAFFIC CONTROL.

EXISTING SURVEYS:

SURVEYS HAVE BEEN PROVIDED BY STEWART.

TREE PRESERVATION:

REFER TO CONTRACT SPECIAL PROVISIONS AND NOTES ON SHEET EC-1 FOR TREE PRESERVATION REQUIREMENTS. CONTRACTOR TO STAKE THE PATH ALIGNMENT AND PAVEMENT EDGES PRIOR TO TREE CLEARING TO PROVIDE CITY REPRESENTATIVES AN OPPORTUNITY TO REVIEW TREES TO BE CLEARED. CONTRACTOR AND CLEARING CONTRACTOR TO WALK THE STAKED ALIGNMENT WITH CITY REPRESENTATIVES PRIOR TO TREE CLEARING.

SHEET NOTES

EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE, ARE BASED ON A FIELD SURVEY PERFORMED BY STEWART AND THE BEST AVAILABLE RECORD DRAWINGS.

ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS SET FORTH AND APPROVED BY THE CITY OF GREENVILLE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS. ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING CONSTRUCTION.

TRAFFIC CONTROLS FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN COMPLIANCE WITH STANDARDS OF THE NCDOT STD. DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER AT REGULAR INTERVALS THROUGHOUT THE PROJECT FOR RECORD KEEPING.

THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS. IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE ACTUAL AND EXACT LOCATION, SIZE AND MATERIAL COMPOSITION OF ANY EXISTING WATER OR SEWER SERVICE PROPOSED FOR CONNECTION OR USE ON THIS PROJECT.

ALL SIGNS SHALL BE MOUNTED WITH SIGN EDGE AND TO BE LOCATED A MINIMUM OF 3 FEET FROM EDGE OF TRAIL OR AS DIRECTED BY THE ENGINEER.

DEMOLITION NOTES

THE CONTRACTOR SHALL NOTIFY THE CITY PRIOR TO STARTING WORK.

THE CONTRACTOR SHALL NOT MAKE ANY LANE CLOSURES OR CHANGES TO THE EXISTING TRAVEL PATTERNS ON ANY PUBLIC STREET WITHOUT PRIOR APPROVAL FROM THE CITY AND/OR NCDOT.

THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL REQUIREMENTS REGARDING REMOVAL AND DISPOSAL OF MATERIALS AND DEBRIS.

ALL DEMOLITION WORK WILL BE COORDINATED BY CONTRACTOR.

RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).

CLEANOUTS LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION THAT ARE TO REMAIN, SHALL BE PROTECTED FROM DAMAGE AND RAISED TO FLUSH WITH NEW GRADE.

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE UNLESS OTHERWISE NOTED ON THIS PLAN.

ALL TREES AND VEGETATION NOTED TO BE REMOVED SHALL BE GROUND INTO MULCH, AND STOCKPILED FOR FUTURE USE.

TREE PROTECTION MEASURES SHALL BE PROVIDED DURING CONSTRUCTION PER APPLICABLE PERMITS AND THE BID DOCUMENTS.

ALL PAVEMENT MARKINGS USED FOR PROJECT SHALL BE NCDOT STANDARD THERMOPLASTIC PAVEMENT MARKINGS.

ALL WORK MUST BE COMPLETED WITHIN EASEMENTS AND CONSTRUCTION LIMITS SHOWN.

REMOVE EXISTING CONCRETE (WHERE REQUIRED) TO FIRST COLD JOINT OR SAW CUT TO OBTAIN A CLEAN EDGE FOR NEW CONSTRUCTION. SAW CUT EXISTING ASPHALT DRIVE AT LIMITS OF NEW CURBING TO OBTAIN A CLEAN EDGE. CITY SHALL APPROVE ALL SAWCUT LIMITS PRIOR TO REMOVAL TO ENSURE THAT CITY STANDARDS ARE MET.

CONTRACTOR SHALL RESTORE THE LAY-DOWN AND STAGING AREA TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.

CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL COMPACTION OF THESE SOILS PERFORMED IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS.

ALL GRAVEL TO BE REMOVED (SURFACE OR SUBSURFACE) SHALL BE STOCKPILED AND REUSED ON SITE WHERE POSSIBLE IF IT CONFORMS TO SPECIFICATIONS AND DRAWINGS.

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY, INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED.

GUC UTILITY NOTES

MAINTAIN 36" MIN COVER OVER ALL EXISTING SANITARY SEWER LINES.

STANDARDS AND SPECIFICATIONS - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH GUC SANITARY SEWER REGULATIONS AND MANUAL FOR THE CONSTRUCTION OF WATER AND WASTEWATER SYSTEMS, LATEST VERSION.

PRECONSTRUCTION CONFERENCE - A PRECONSTRUCTION CONFERENCE WITH THE GUC IS REQUIRED BEFORE BEGINNING ANY WATER OR SEWER UTILITY CONSTRUCTION.

CONTACT THE NATIONAL "CALL BEFORE YOU DIG" 811 TO HAVE FACITILIES LOCATED BEFORE BEGINNING ANY EXCAVATION.

SEWER STATEMENT - SEWER LINES UNDER CONSTUCTION SHALL BE PLUGGED WITH A MECHANICAL PLUG AT THE FIRST MANHOLE UPSTREAM FROM THE POINT OF CONNECTION. PLUG SHALL BE PLACES IN THE OUTLET CONNECTION AND SECURED WITH STEEL CABLE. PLUG SHALL REMAIN IN PLACE UNTIL ACCEPTANCE OF LINES BY GUC. BEFORE ANY CONSTRUCTION IS TO BEGIN ON THE SITE, CONTRACTOR SHALL PROTECT ALL EXISTING SEWER MANHOLES WITH IRON FENCE POST AND ORANGE TREE PROTECTION FENCING. WATER, STONE, DIRT, OR ANY OTHER DEBRIS SHALL NOT BE ALLOWED TO ENTER THE SANITARY SEWER SYSTEM DURING FLUSHING OPERATION OR AT ANY OTHER TIME. CONSTRUCTION TAKING PLACE IN THE VICINITY OF ANY EXISTING OWASA SEWER LINES OR MANHOLES SHALL NOT CAUSE ANY INFLOW OF SURFACE WATER OR DEBRIS TO ENTER THE SANITARY SEWER SYSTERM. EXISTING MANHOLES LOCATED IN CONSTRUCTION SITES ARE TO BE KEPT CLEAR AND ACCESSIBLE TO GUC PERSONNEL AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES INCURRED TO THE SANITARY SEWER SYSTEM AND ANY FINES IMPOSED BY THE STATE OF NORTH CAROLINA DIVISION OF WATER QUALITY DUE TO SEWER SPILLS OR OVERFLOWS.

EXISTING WATER AND/OR SEWER LINES ENCOUNTERED DURING CONSTRUCTION MUST BE SUPPORTED IN A MANNER ACCEPTABLE TO GUC.

A BYPASS PUMPING PLAN SHALL BE PROVIDED TO THE ENGINEER AND GUC PERSONNEL FOR REVIEW AND APPROVIAL PRIOR TO ANY MODIFICATIONS TO THE EXISTING SANITARY SEWER. THE CONTRACTOR SHALL PROVIDE A BYPASS PUMPING MEETING THE REQUIREMENTS (INCLUDING FLOW AND REDUNDANCY) OF THE PLANS AND SPECIFICATIONS. PUMPS SHALL BE SIZED TO HANDLE THE FLOW REQUIREMENTS PER THE PLANS AND AS APPROVED BY GUC AND/OR ENGINEER.

BYPASS PUMPING NOTES

1. ALL PROPOSED BYPASS PUMPING OPERATIONS SHALL MEET THE CONDITIONS AND REQUIREMENTS OF THE GREENVILLE UTILITIES COMMISSION (GUC) SANITARY SEWER USE REGULATIONS AND MANUAL FOR THE CONSTRUCTION OF WATER AND WASTEWATER SYSTEM AND CONTRACT DOCUMENTS.
2. CONTRACTOR SHALL OPERATE AND MAINTAIN BYPASS PUMPING WITHOUT RELIANCE ON GUC. THE BYPASS SHALL ONLY BE IN OPPERATION DURING NORMAL WORKING HOURS (8 AM TO 5 PM).
3. THE BYPASS SHALL BE PERFORMED DURING DRY WEATHER CONDITIONS ONLY. DO NOT BEGIN BYPASS OPERATION IF RAIN IS FORECASTED WITHIN THE TIME PERIOD IN WHICH THE WORK IS EXPECTED TO BE COMPLETED.
4. CONTRACTOR SHALL PLAN WORK AS TO MINIMIZE BYPASS PUMPING DURATIONS.
5. ALL BYPASS PUMPING EQUIPMENT SHALL BE SOUND ATTENUATED AND SHALL BE DESIGNED TO HANDLE THE FLOWS SHOWN IN THE TABLE BELOW.
6. BYPASSES SHALL BE EQUIPPED WITH CELLULAR PHONE BASED TELEMETRY SYSTEMS PROVIDING REMOTE ALARM REPORTING TO CONTRACTOR AND BYPASS SUBCONTRACTOR.
7. ALL BYPASS SYSTEMS SHALL HAVE 100% REDUNDANCY WITH EQUIVALENT BACKUP PUMPS AND PIPING.
8. ALL BYPASS PIPING SHALL BE FUSIBLE PIPE. NO STRUCTURES OR PIPE SHALL BE LOCATED LESS THAN 12 INCHES ABOVE THE STREAM ORDINARY HIGH WATER LINE.
9. ALL BYPASS PUMPS AND PIPING SHALL BE INSPECTED BY THE CONTRACTOR A MINIMUM OF ONCE PER DAY FOR PROPER OPERATION.
10. CONTRACTOR SHALL PROVIDE A SEPARATE DETAILED BYPASS PUMPING PLAN. THE BYPASS PUMPING PLAN SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
    a. SKETCHES OF THE PROPOSED LAYOUT WITH PIPING SIZES
    b. PUMP CURVES AND DATA SHEETS FOR EACH PROPOSED PUMP
    c. TELEMETRY SYSTEM DATA SHEETS
    d. DETAILED SCHEDULE FOR BYPASS PUMPING
    e. WASTEWATER OPERATING AND CONTROL ELEVATIONS
    f. PUMP OPERATION SEQUENCE
    g. SOUND LEVELS FOR EACH PUMP AT 20 TO 25 FEET
    h. PUMP FAILURE RESPONSE PLAN
    i. SPILL RESPONSE PLAN
    j. AT LEAST FOUR (4) 24/7 EMERGENCY RESPONSE CONTACT NAMES AND PHONE NUMBERS.
    k. A LIST OF PERSONS/COMPANIES ON STANDBY TO HANDLE SPILLS
    l. RUNTIME FOR EACH PUMP AT FULL LOAD WITHOUT REFUELING
11. BYPASS PUMPING SHALL REMAIN ENTIRELY IN PLACE AND FULLY OPERATIONAL UNTIL ALL STORM AND SANITARY SEWER INSTALLATION IN THE BYPASSED SECTION HAVE BEEN COMPLETED AND THE WORK IS APPROVED BY THE ENGINEER AND/OR GUC.

PROPOSED SHEET C-11 ANTICIPATED BYPASS CONDITIONS	
SUCTION POINT	SUCTION MANHOLE ON SHEET C-11
DISCHARGE POINT	DISCHARGE MANHOLE ON SHEET C-11
SUCTION STATIC LIFT	18'
DISCHARGE STATIC LIFT	N/A
LENGTH OF BYPASS	APPROX. 275 LF
PEAK FLOW RATE	1550 GPM

PROPOSED SHEET C-12 ANTICIPATED BYPASS CONDITIONS	
SUCTION POINT	SUCTION MANHOLE ON SHEET C-12
DISCHARGE POINT	DISCHARGE MANHOLE ON SHEET C-12
SUCTION STATIC LIFT	10'
DISCHARGE STATIC LIFT	N/A
LENGTH OF BYPASS	APPROX. 175 LF
PEAK FLOW RATE	1550 GPM

PROPOSED SHEET C-14 ANTICIPATED BYPASS CONDITIONS	
SUCTION POINT	SUCTION MANHOLE ON SHEET C-13
DISCHARGE POINT	DISCHARGE MANHOLE ON SHEET C-14
SUCTION STATIC LIFT	16'
DISCHARGE STATIC LIFT	N/A
LENGTH OF BYPASS	APPROX. 475 LF
PEAK FLOW RATE	1550 GPM

NOTES: CONTRACTOR SHALL VERIFY FLOW CONDITIONS PRIOR TO PROPOSED BYPASS SETUP.

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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LIST OF ROADWAY STANDARD DRAWINGS AND GENERAL NOTES

NORTH CAROLINA PROFESSIONAL SEAL 024436 ENGINEER JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: CD-1

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12/15/2017

PAVEMENT SCHEDULE

A	PROPOSED 6" REINFORCED CONCRETE SIDEWALK (UNLESS NOTED OTHERWISE)
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
J1	PROPOSED 4" AGGREGATE BASE COURSE
J2	PROPOSED 6" AGGREGATE BASE COURSE
J3	PROPOSED AGGREGATE BASE COURSE (SHOULDER)
R	PROPOSED 2'-0" CONCRETE CURB AND GUTTER PER COG STD 411.01
T1	PROPOSED COMPACTED EARTH MATERIAL
T2	PROPOSED GRASS VERGE
U	EXISTING PAVEMENT

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.
5. SIDE SLOPES VARY. SEE CROSS SECTIONS.
6. SEE STRUCTURE PLANS FOR PEDESTRIAN BRIDGE, BOARDWALK, CONCRETE SLAB ON PILES, AND RETAINING WALLS
7. AT THE DIRECTION OF THE ENGINEER OR FIELD INSPECTOR, THE AGGREGATE BASE COURSE MAY BE INCREASED TO 10".
8. SEE STRUCTURES PLANS FOR RETAINING WALL TYPES AND DETAILS

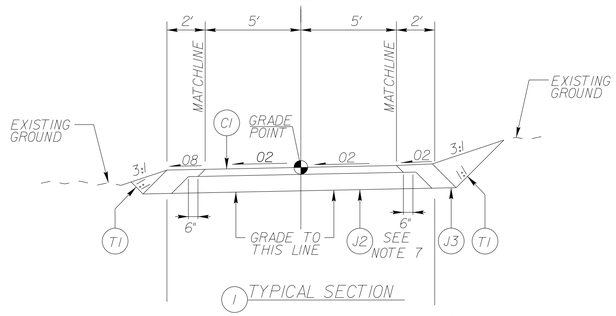
PAY ITEM NOTES (SIGNING):
A. REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POST.
B. ERECT EXISTING SIGN ON STEEL "U" CHANNEL POST.
C. REMOVE AND STOCKPILE EXISTING SIGN(S).

PAVEMENT MARKING LINES & SYMBOLS

TA - THERMOPLASTIC (2" WHITE, 90 MILS) WHITE EDGE LINE
TH - THERMOPLASTIC (4" YELLOW, 120 MILS) YELLOW SINGLE CENTER LINE
T2 - THERMOPLASTIC (24" WHITE, 120 MILS) WHITE STOP BAR
UC - THERMOPLASTIC STRAIGHT ARROW (90 MIL)

SIGNING AND PAVEMENT MARKING NOTES:
1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. CONTRACTOR SHALL TIE PROPOSED MARKINGS TO EXISTING MARKINGS.
3. CONTRACTOR SHALL MILL ANY EXISTING MARKINGS AND/OR SYMBOLS IN CONFLICT WITH PROPOSED.
4. DO NOT PLACE PAVEMENT MARKINGS WITHIN CROSSWALKS UNLESS NOTED.
5. CONTRACTOR TO STOCKPILE ANY REMOVED SIGNS AND PARKING SIGNS FOR CITY OF GREENVILLE TO USE AT THEIR DISCRETION.
6. RETAIN ALL OTHER EXISTING SIGNS NOT SHOWN ON SIGNING PLAN UNLESS OTHERWISE DIRECTED BY CITY.

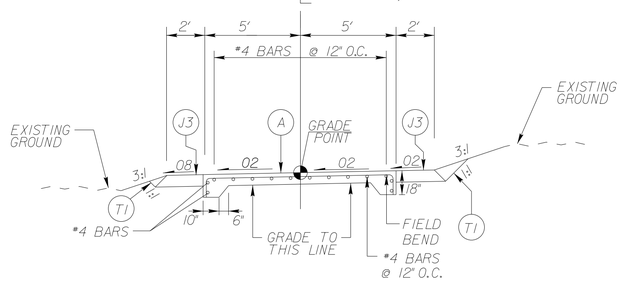
℄ -L1-, -L2-, -L3-, -L4-



1 TYPICAL SECTION

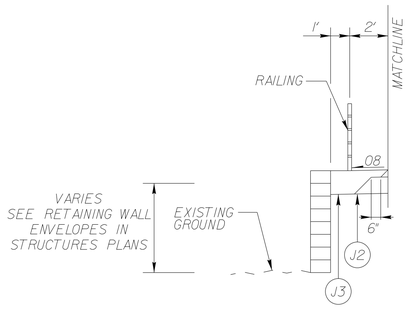
-L1- STA 10+25.83 TO STA 26+72.00
-L1- STA 30+30.94 TO -L2- STA 52+54.52
-L2- STA 53+23.58 TO STA 55+74.00
-L2- STA 60+22.00 TO STA 64+76.89
-L3- STA 79+61.53 TO -L4- STA 116+41.14
-L4- STA 116+81.14 TO STA 118+26.00
-L4- STA 118+66.00 TO STA 123+95.55
-L4- STA 125+05.06 TO STA 126+16.33

℄ -L2-, -L4-



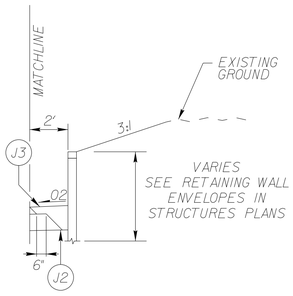
2 TYPICAL SECTION

-L1- STA 27+95.87 TO STA 28+40.94
-L2- STA 55+74.00 TO STA 60+22.00
-L4- STA 123+95.55 TO STA 124+15.86
-L4- STA 124+15.86 TO STA 124+30.56 (10" REINFORCED CONC)



1A TYPICAL SECTION

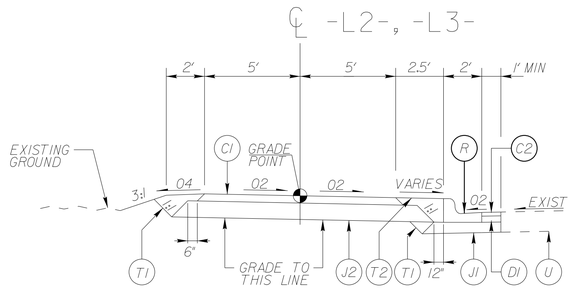
-L1- STA 30+20.94 TO STA 37+40.98 (LT)



1B TYPICAL SECTION

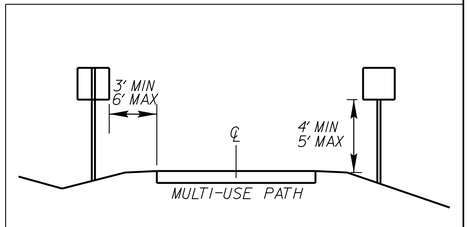
-L4- STA 111+10.00 TO STA 112+50.00 (RT)

℄ -L2-, -L3-

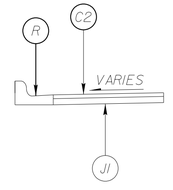


3 TYPICAL SECTION

-L2- STA 64+76.89 TO -L3- STA 79+61.53



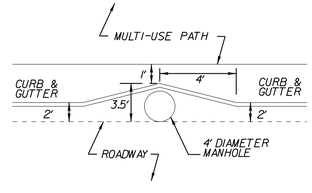
DETAIL 2 - SIGN PLACEMENT



TRAIL HEAD PARKING LOT PAVEMENT DETAIL 1

CURB TRANSITION DETAIL 3

WARP CURB AROUND MANHOLE WITHIN GUTTER LINE



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TYPICAL SECTIONS

NORTH CAROLINA PROFESSIONAL SEAL 024456 ENGINEER JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: CD-2

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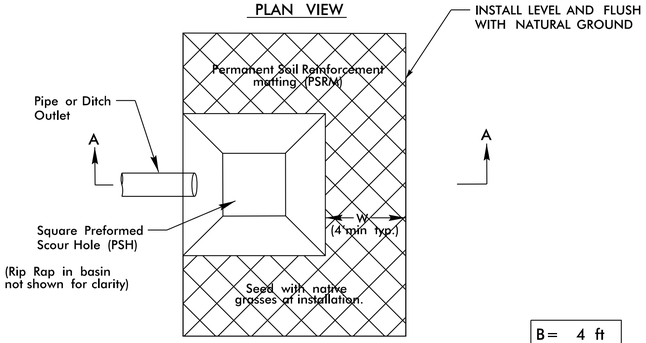
12/15/2017

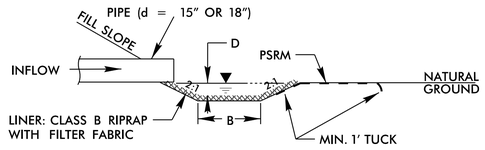
DETAIL 1
PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



B= 4 ft
D= 1.5 ft
W= 4 ft

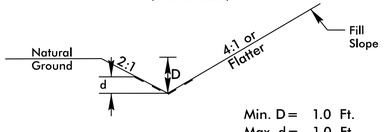
SECTION A–A



3/08

–L2– STA. 55+80 (LT)

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

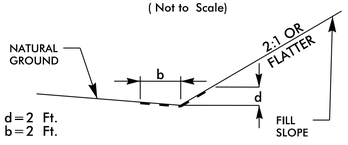


Min. D= 1.0 Ft.
Max. d= 1.0 Ft.

Type of Liner= PSRM

–L3– STA. 81+00 TO STA. 81+50 (RT)

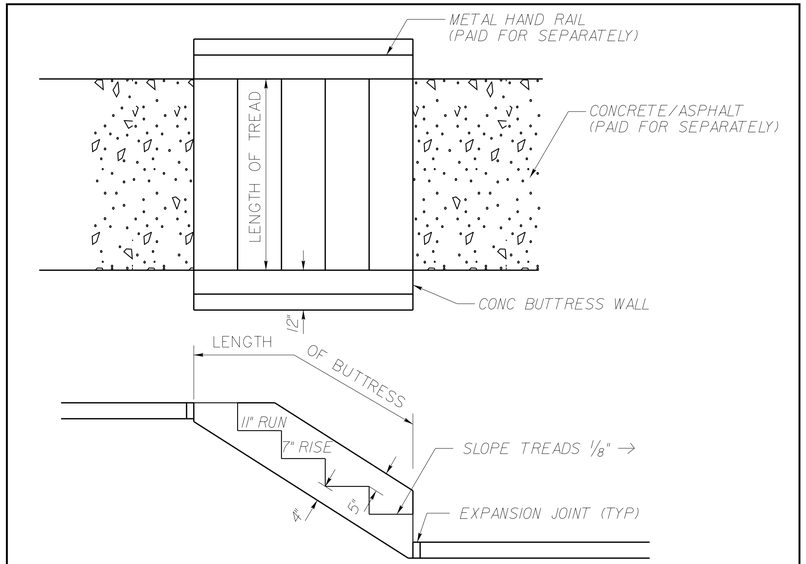
DETAIL 3
TOE PROTECTION
(Not to Scale)



d=2 Ft.
b=2 Ft.

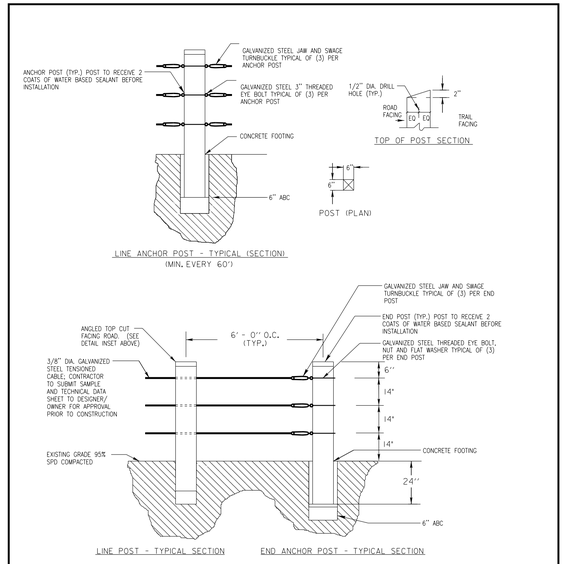
Type of Liner= PSRM

–L1– STA. 13+50 TO STA. 16+00 (RT)



NOTES:
1. TREADS AND RISER DIMENSIONS MAY VARY SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS
2. CONCRETE SHALL BE CLASS A, 3000 PSI AIR ENTRAINED.
3. ONE AND TWO RISER STEPS WILL NOT HAVE BUTTRESS WALL UNLESS DIRECTED BY THE ENGINEER
4. LANDING REQUIRED AT EVERY VERTICAL CHANGE OF 12' (MIN)

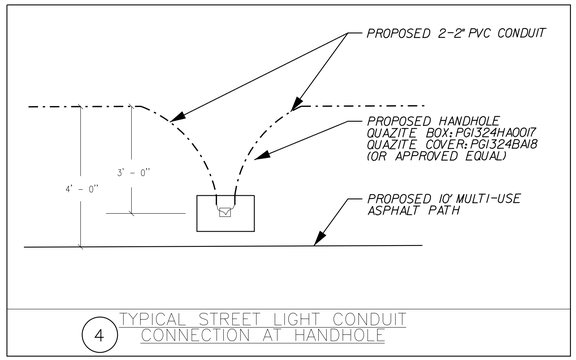
5 CONCRETE STEPS AND BUTTRESS WALL



NOTES:
1. ALL WOOD FOR FENCE TO BE PRESSURE TREATED YELLOW PINE TREATED WITH CHROMATED COPPER ARSENATE @ NET RETENTION OF 0.40 LBS/CF. WOOD SHALL BE DRIED AFTER TREATMENT.
2. ANCHOR POSTS (SEE DETAIL INSET ABOVE) SHALL OCCUR EVERY 6'-0" ALONG THE FENCE LINE (MAX.)
3. ABUT POSTS TO BACK FACE OF WALL WHERE APPLICABLE

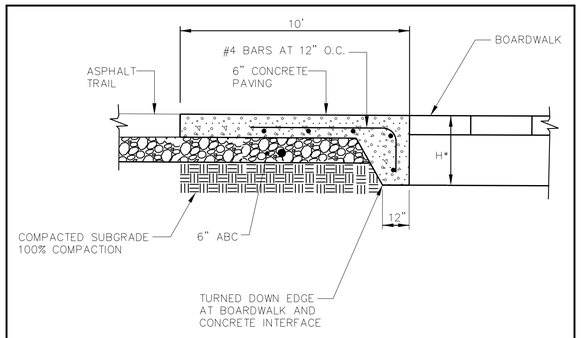
6 WOOD POST AND STRANDED CABLE FENCE

KIMLEY–HORN AND ASSOCIATES, INC.



4 TYPICAL STREET LIGHT CONDUIT CONNECTION AT HANDHOLE

KIMLEY–HORN AND ASSOCIATES, INC.



NOTES:
1. CROSS SLOPE DIRECTION VARIES. SEE ORIGINAL PLANS FOR DIRECTION OF SLOPE.
2. CONCRETE SHALL BE 3,000 P.S.I.

* H DEPENDS ON DEPTHS OF BOARDWALK TREADS AND BEAMS.

8 BOARDWALK APPROACH SECTION

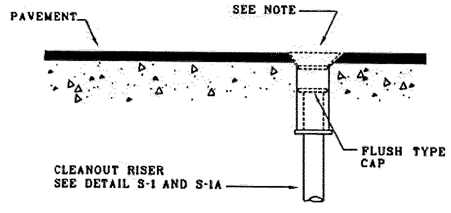
NOTE

FOR 4" SERVICE, BOX TO BE VULCAN MODEL #G8471 WITH #G8460 LID MARKED SEWER.

FOR 6" SERVICE, BOX TO BE EAST JORDAN #15742 W/LID MARKED SEWER.

7 CLEANOUT DETAIL FOR PAVED AREAS

GREENVILLE UTILITIES COMMISSION (GUC)



CLEANOUT DETAIL FOR PAVED AREAS			GREENVILLE UTILITIES COMMISSION GREENVILLE, N.C.		NO.	DATE	DESCRIPTION
SHEET 1 OF 1	DWG. NO. S-3	DWG N. WOOTEN	WATER RESOURCES ENGINEERING GREENVILLE, N.C.	Greenville Utilities			
	DATE 3-12-99	APP H. COREY					

KIMLEY–HORN AND ASSOCIATES, INC.

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

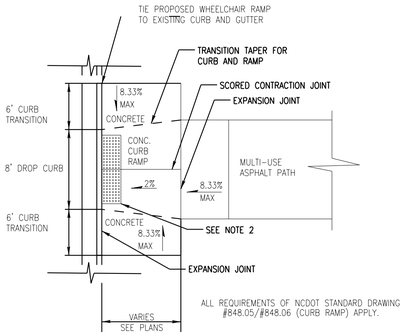
CONSTRUCTION DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

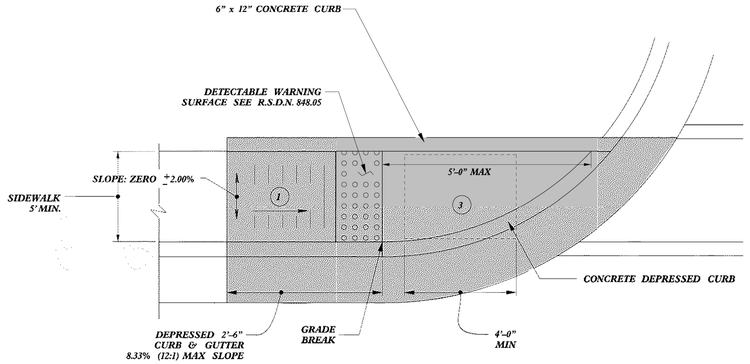
JOB NUMBER: 012654005
SHEET NUMBER: CD-3



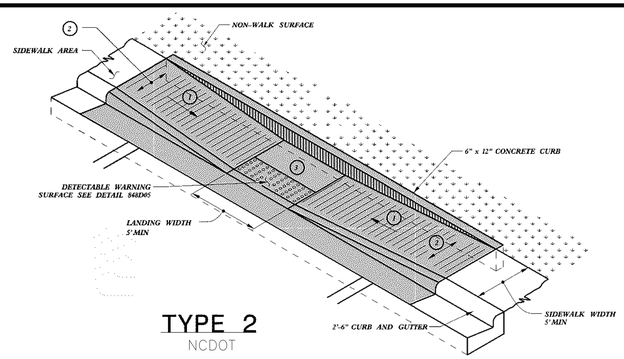
CONCRETE MULTI-USE PATH CURB RAMP

KIMLEY-HORN

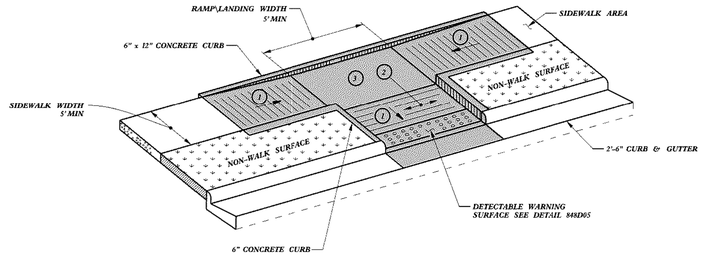
NOTES:
1. CONSTRUCT THE WALKING SURFACE OF THE DETECTABLE DOMES WITH SLIP RESISTANCE AND A TOX. CONTRASTING COLOR TO THE SIDEWALK.
2. DETECTABLE DOMES SHALL ONLY BE PROVIDED ON WHEEL CHAIR RAMPS AS SHOWN AND NOTED ON THE PLANS.
3. CONCRETE MULTI-USE PATH CURB RAMPS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, "CONCRETE MULTI-USE PATH CURB RAMP"



TYPE 1



TYPE 2
NCDOT

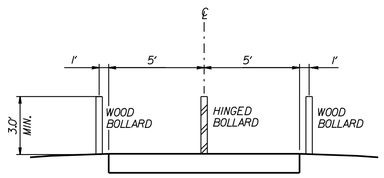


TYPE 3
NCDOT

PAY LIMITS FOR CURB RAMP

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

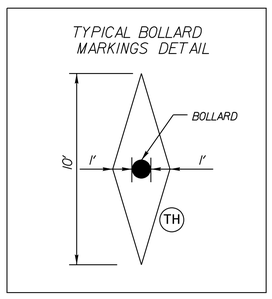
1 CURB RAMP DETAILS



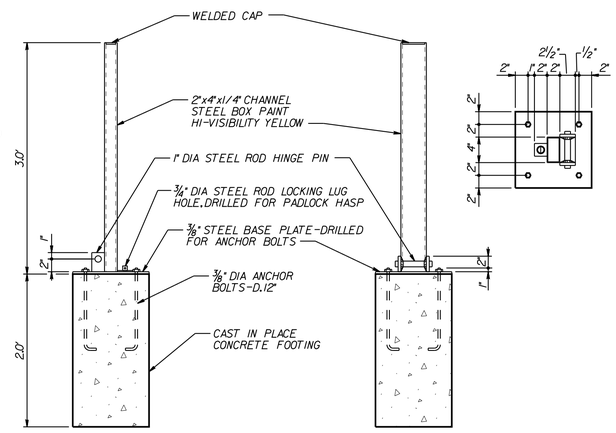
TYPICAL BOLLARD PLACEMENT AT ENTRANCE

NO SCALE

BOLLARD NOTES:
1. BOLLARD POSTS AT INTERSECTIONS TO BE REFLECTORIZED.
2. BOLLARD PLACEMENT OFFSET FROM INTERSECTIONS IS A MINIMUM OF 5 FEET.
3. BOLLARD AND SIGNS TO BE INSTALLED BY THE CONTRACTOR.
4. REFER TO PLANS FOR LOCATIONS OF WOOD BOLLARDS. WOOD BOLLARDS WILL NOT BE REQUIRED WHERE MOTOR VEHICLE ACCESS IS PREVENTED BY PEDESTRIAN RAILING OR FENCING.

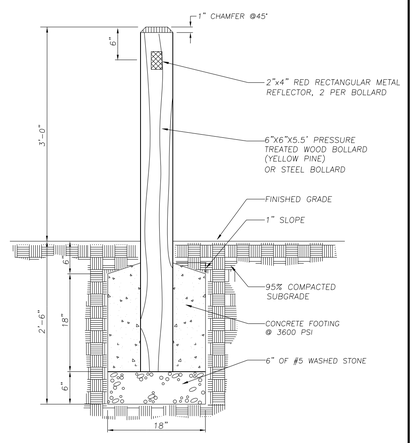


2 BOLLARD DETAILS



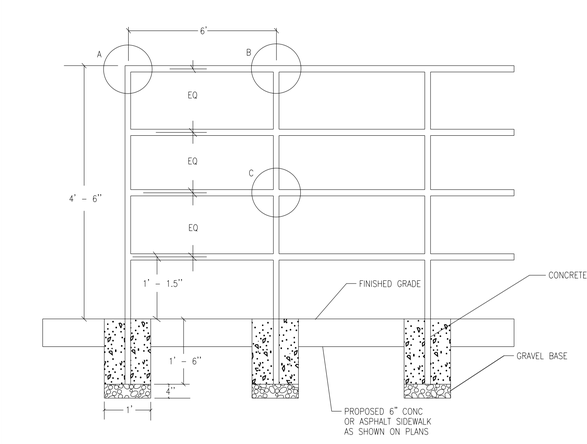
*HINGED BOLLARD

* CONTRACTOR MAY PROVIDE ALTERNATE BOLLARD DESIGN AS APPROVED BY THE CITY.



WOOD BOLLARD

NOTES
1. ALL WOOD SHALL BE PRESSURE TREATED WITH CHROMATED COPPER ARSENATE @ NET RETENTION OF 0.40 LBS/C.F. WOOD SHALL BE DRIED AFTER TREATMENT.



NOTES:
1. ALL CONCRETE TO BE 3500 P.S.I. COMPRESSIVE STRENGTH
2. TYPE OF PIPE TO BE USED IS 1-5/8" O.D. STEEL PIPE
3. INSTALL NO CLOSER THAN 1'-6" FROM THE EDGE OF THE TRAIL
4. ALL JOINTS TO HAVE A 1/2" FILLET WELD AT ALL JOINTS.
5. AFTER INSTALLATION PAINT ASSEMBLY WITH 1 COAT METAL PRIMER AND 2 COATS BROWN ALL WEATHER ENAMEL OR AS DIRECTED BY THE CITY.
6. ALL WELDS TO BE GROUND SMOOTH TO THE TOUCH PRIOR TO PAINTING
7. CONCRETE FOOTING TO BE 1' X 1' SQUARE
8. ON CONCRETE SECTIONS OF TRAIL, CONTINUE THE #4 BARS UP TO 1' X 1' SQUARE FOOTING

3 METAL HANDRAIL

KIMLEY-HORN AND ASSOCIATES, INC.

REVISIONS	GREENVILLE RECREATION PARK AND RECREATION	JOB NO.
DATE:		STD. NO. 10.05P
	PERMANENT WOOD BOLLARD DETAIL	SHEET 1
	DATE: MAY, 2009 SCALE: NTS	OF 1

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

CONSTRUCTION DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	CD-4

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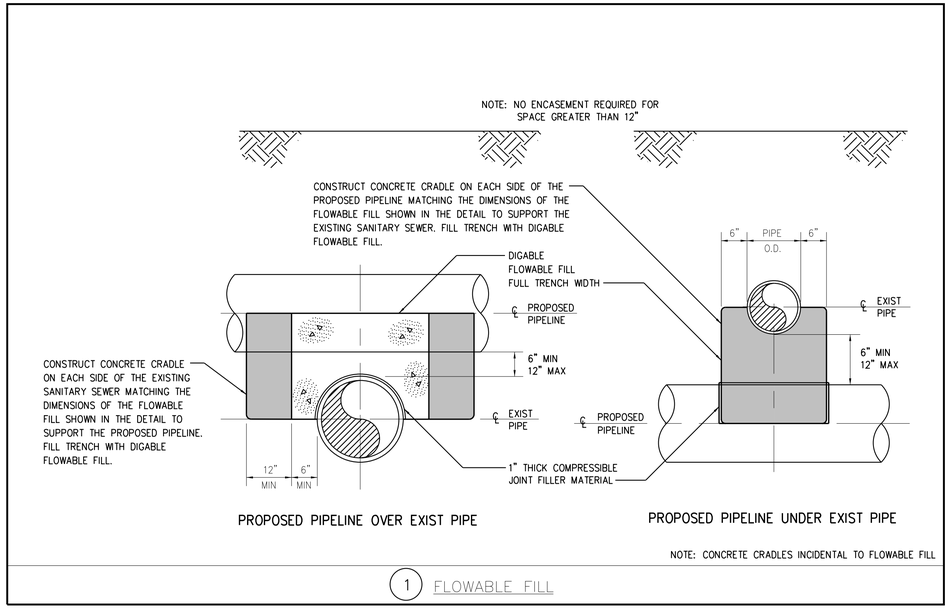
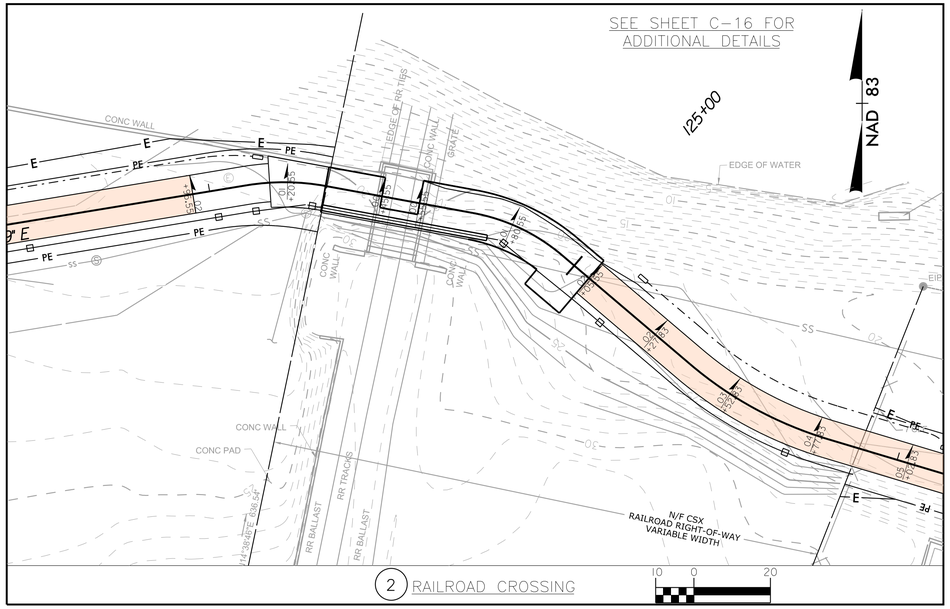
12/15/2017



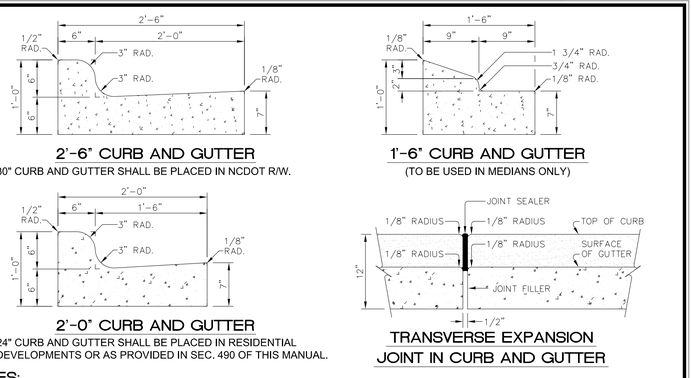
1 FLOWABLE FILL

KIMLEY-HORN AND ASSOCIATES, INC.



2 RAILROAD CROSSING

KIMLEY-HORN AND ASSOCIATES, INC.



NOTES:

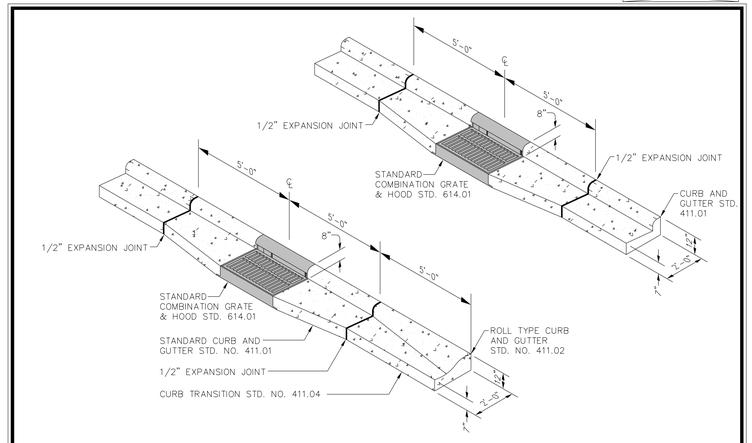
1. Contraction joints shall be placed at 10' intervals, except that 15' spacing may be used when a machine is used or when satisfactory support for the face form can be obtained without the use of templates at 10' intervals. Joint spacing may be altered by the engineer to prevent uncontrolled cracking.
2. Contraction joints may be installed by the use of templates or formed by other approved methods. Where such joints are not formed by templates, a minimum depth of 1 1/2" shall be obtained.
3. All contraction joints shall be filled with joint filler.
4. Expansion joints shall be spaced at 90' intervals, and adjacent to all rigid objects.
5. All curb and gutters are to be poured with class "A" concrete (3,000 PSI).
6. Flexible forms are to be used when radius is less than 200'.

PUBLIC WORKS DEPARTMENT 1500 Beatty Street Greenville, North Carolina 27834	CITY OF GREENVILLE, N.C. USE WITH THE CITY OF GREENVILLE, N.C. STANDARD SPECIFICATIONS ONLY	www.greenvillenc.gov

No.	Date	Description
1	9/16/11	APPROVAL

STANDARD CURB & GUTTER

Scale:	Sheet #:	Detail #
not to scale	1 of 1	411.01



PUBLIC WORKS DEPARTMENT 1500 Beatty Street Greenville, North Carolina 27834	CITY OF GREENVILLE, N.C. USE WITH THE CITY OF GREENVILLE, N.C. STANDARD SPECIFICATIONS ONLY	www.greenvillenc.gov

No.	Date	Description
1	9/16/11	APPROVAL

STANDARD CATCH BASIN FRAME 2'-0" IN CURB AND GUTTER

Scale:	Sheet #:	Detail #
not to scale	1 of 1	411.03

NOTE: DETAILS DEVELOPED BY THE CITY OF GREENVILLE AND APPLY TO THIS PROJECT

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

CONSTRUCTION DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	CD-5

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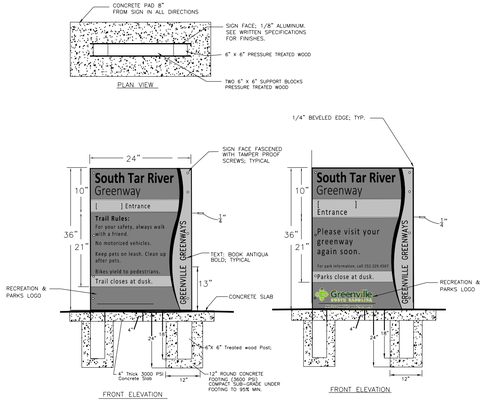
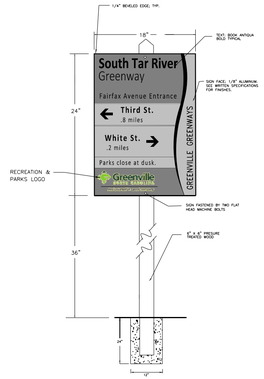
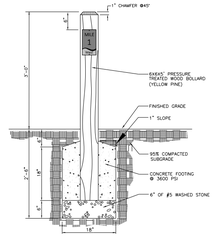
12/15/2017



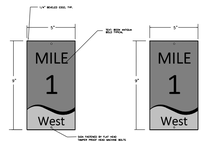
1 TYPICAL TRAIL ENTRANCE SIGN
NTS



2 SINGLE SIDED DIRECTIONAL SIGN
NTS



3 MILE MARKER ON POST DETAIL; TYPICAL
NTS



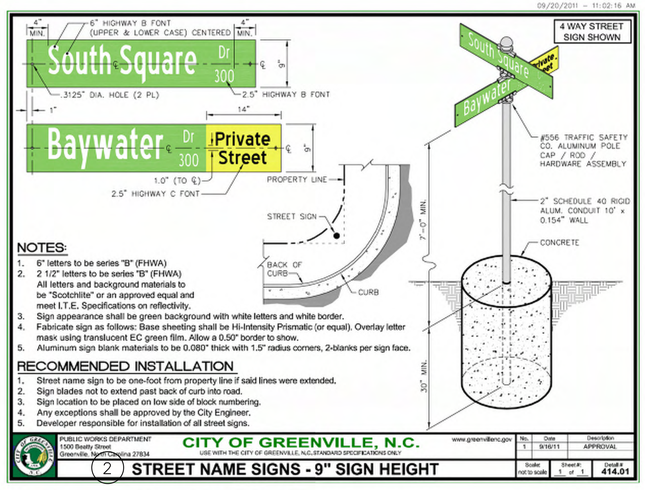
SIGN ENLARGEMENTS; TYP.

PANTONE
296C
314C
376C

COLOR CHART

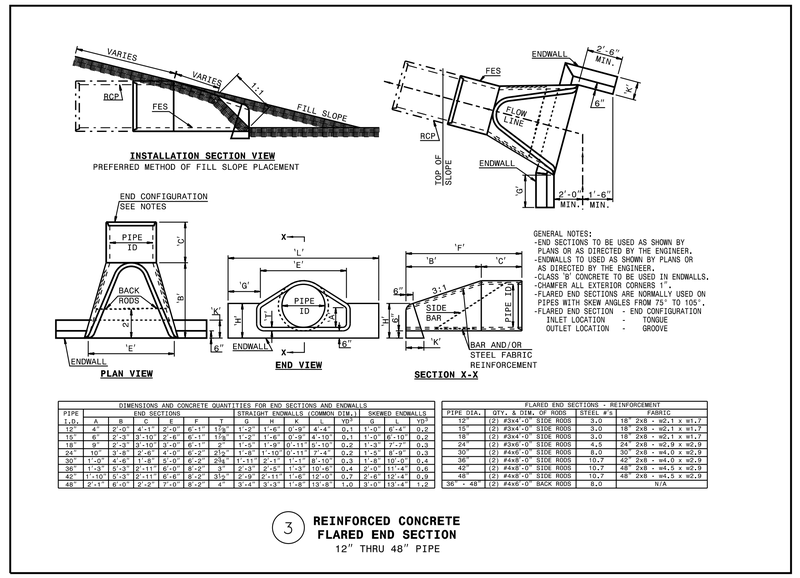
REVISIONS		JOB NO.
DATE:	GREENVILLE RECREATION PARK AND RECREATION	STD. NO.
	GREENWAY TRAIL SIGNS	SHEET 1 OF 2
	DATE: JUNE 2011 SCALE: NTS	

CITY OF GREENVILLE



CITY OF GREENVILLE

NOTE: DETAILS DEVELOPED BY THE CITY OF GREENVILLE AND APPLY TO THIS PROJECT



DIMENSIONS AND CONCRETE QUANTITIES FOR END SECTIONS AND ENDWALLS

PIPE I.D.	END SECTIONS A	B	C	E	F	T	STRAIGHT ENDWALLS (COMMON DIM.) G	H	K	L	YD³	SKEWED ENDWALLS G	L	YD³
12"	4"	2'-0"	4'-1"	2'-0"	6'-1"	1'0"	1'-2"	1'-6"	0'-9"	4'-4"	0.1	1'-0"	6'-4"	0.2
15"	6"	2'-3"	3'-10"	2'-6"	6'-1"	1'0"	1'-2"	1'-6"	0'-9"	4'-10"	0.1	1'-0"	6'-10"	0.2
18"	9"	2'-3"	3'-10"	3'-0"	6'-1"	2"	1'-5"	1'-9"	0'-11"	5'-10"	0.2	1'-3"	7'-7"	0.3
24"	10"	3'-8"	2'-6"	4'-0"	6'-2"	2'0"	1'-8"	1'-10"	0'-11"	7'-4"	0.2	1'-5"	8'-9"	0.3
30"	1'-0"	4'-6"	1'-8"	5'-0"	6'-2"	2'0"	1'-11"	2'-1"	1'-1"	8'-10"	0.3	1'-8"	10'-0"	0.4
36"	1'-3"	5'-3"	2'-11"	6'-0"	8'-2"	3"	2'-3"	2'-5"	1'-3"	10'-6"	0.4	2'-0"	11'-4"	0.6
42"	1'-10"	5'-3"	2'-11"	6'-6"	8'-2"	3'0"	2'-9"	2'-11"	1'-6"	12'-0"	0.7	2'-6"	12'-4"	0.9
48"	2'-1"	6'-0"	2'-2"	7'-0"	8'-2"	4"	3'-4"	3'-3"	1'-8"	13'-8"	1.0	3'-0"	13'-4"	1.2

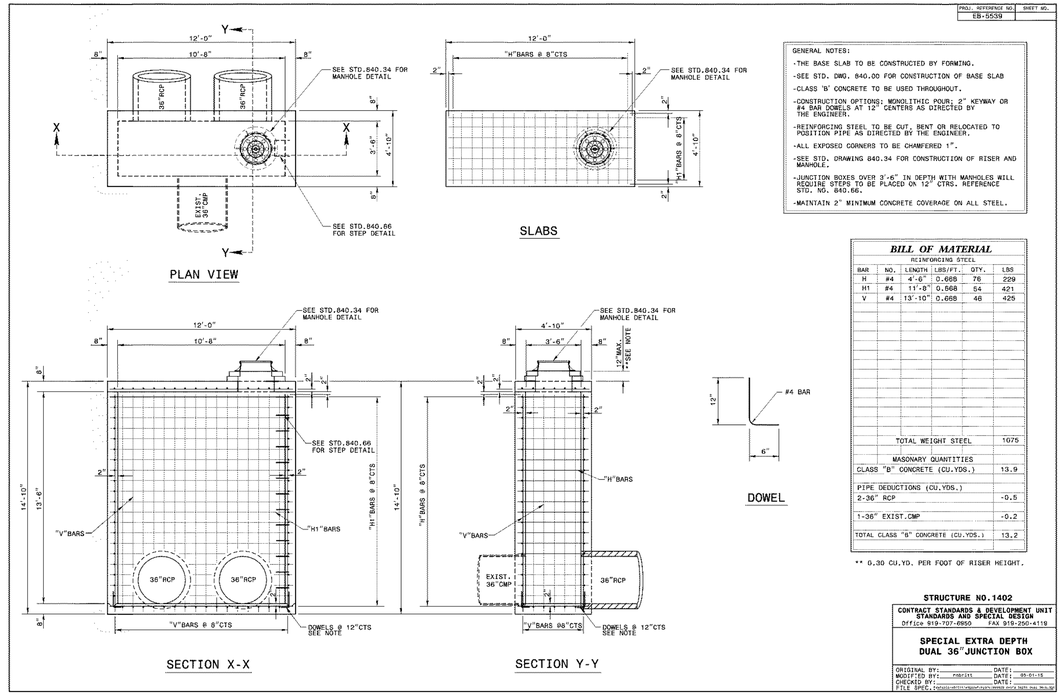
FLARED END SECTIONS - REINFORCEMENT

PIPE DIA.	QTY. & DIM. OF RODS	STEEL #'s	FABRIC
12"	(2) #3x4'-0" SIDE RODS	3.0	18" 2x8 - W2.1 x W1.7
15"	(2) #3x4'-0" SIDE RODS	3.0	18" 2x8 - W2.1 x W1.7
18"	(2) #3x4'-0" SIDE RODS	3.0	18" 2x8 - W2.1 x W1.7
24"	(2) #3x6'-0" SIDE RODS	4.5	24" 2x8 - W2.9 x W2.9
30"	(2) #4x6'-0" SIDE RODS	8.0	30" 2x8 - W4.0 x W2.9
36"	(2) #4x8'-0" SIDE RODS	10.7	42" 2x8 - W4.0 x W2.9
42"	(2) #4x8'-0" SIDE RODS	10.7	48" 2x8 - W4.5 x W2.9
48"	(2) #4x8'-0" SIDE RODS	10.7	48" 2x8 - W4.5 x W2.9
36" - 48"	(2) #4x6'-0" BACK RODS	8.0	N/A

3 REINFORCED CONCRETE FLARED END SECTION
12" THRU 48" PIPE

KIMLEY-HORN AND ASSOCIATES, INC.

NCDOT



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12/15/2017

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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

CONSTRUCTION DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024438 JEFFREY W. MOORE 1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: CD-6

SITE PLAN LEGEND

- PROPOSED CONCRETE FLATWORK (SEE DETAIL 1, L-3)
- PROPOSED ASPHALT PAVING (SEE SHEET CD-2 FOR PAVEMENT DESIGN)
- PROPOSED CURB & GUTTER (SEE ROADWAY PLANS)
- PROPOSED STOP / DO NOT ENTER SIGN (SEE ROADWAY PLANS)
- PROPOSED PRECAST CONCRETE WHEEL STOP (SEE DETAIL 5, L-3)
- EXISTING POWER POLE
- PROPOSED CONTROL JOINT (SEE DETAIL 2, L-3)
- PROPOSED EXPANSION JOINT (SEE DETAIL 3, L-3)
- PROPOSED GREENWAY STOP SIGN (RI-1)
- PROPOSED STEEP SLOPE SIGN (WT-5, 18"x18")

SEE SHEETS C-10 & C-11 FOR PROPOSED MULTI-USE PATH

PROPOSED STEEP SLOPE SIGN (WT-5, 18"x18")

PROPOSED GREENWAY STOP SIGN (RI-1)

3 CD-4 HANDRAIL - BOTH SIDES

3 CD-4 HANDRAIL - BOTH SIDES

1 L-3 CONCRETE SIDEWALK

PROPOSED THERMOPLASTIC PAVEMENT MARKINGS, SEE NOTES ON SHEET CD-2 (TYP.) TA

PRECAST CONCRETE WHEEL STOP (TYP.)

RIBBON CURB ONLY IN THIS LOCATION TO ALLOW SHEET FLOW FROM PARKING AREA

1 CD-4 CURB RAMP TYPE 2

FLUME FOR DRAINAGE

CONCRETE RIBBON CURB 6 L-3

WHEEL STOP 5 L-3

1 CD-4 CURB RAMP TYPE 1

PROPOSED THERMOPLASTIC PAVEMENT MARKINGS, SEE NOTES ON SHEET CD-2 (TYP.) TA

UC PROPOSED THERMOPLASTIC ARROWS, SEE NOTES ON SHEET CD-2 (TYP.)

PROPOSED THERMOPLASTIC ARROWS, SEE NOTES ON SHEET CD-2 (TYP.) UC

T2 PROPOSED THERMOPLASTIC PAVEMENT STOP BAR MARKING, SEE NOTES ON SHEET CD-2 (TYP.)

7 L-3 CONCRETE VALLEY GUTTER

EXISTING POWER POLE (TYP.)

STOP PROPOSED STOP SIGN (RI-1, 24"x24") ON U CHANNEL POST- SEE NOTE B/CD-2

EXISTING ASPHALT

DO NOT ENTER PROPOSED DO NOT ENTER SIGN (R5-1, 24"x24") ON U CHANNEL POST - SEE NOTE B/CD-2

EXISTING POWER POLE WITH GUY WIRE - GUY WIRE TO BE REMOVED AND REPLACED WITH GUY POLE - BY OTHERS

FLUME FOR DRAINAGE

7 L-3 CONCRETE VALLEY GUTTER

CURB & GUTTER TRANSITION 4 L-3

2' PROPOSED CONCRETE CURB & GUTTER - TIE TO EXISTING

EXISTING CONCRETE CURB & GUTTER

4" UNK PER GIS

6" TERRA COTTA PER GIS

8"DIP

FAIRFAX AVENUE

EXIST R/W

EXIST R/W

North Carolina 811 www.nc811.org

SURVEY NOTE:

ALL EXISTING SITE AND TOPOGRAPHIC INFORMATION SHOWN BASED ON AN ALTA/ACSM LAND TITLE SURVEY DATED OCTOBER 2014. PROVIDED BY JOHN A. EDWARDS & COMPANY.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF GREENVILLE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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P.O. BOX 33068 – RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

FAIRFAX AVENUE TRAILHEAD
SITE PLAN

1625 04.28.16

NORTH
5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: L-1

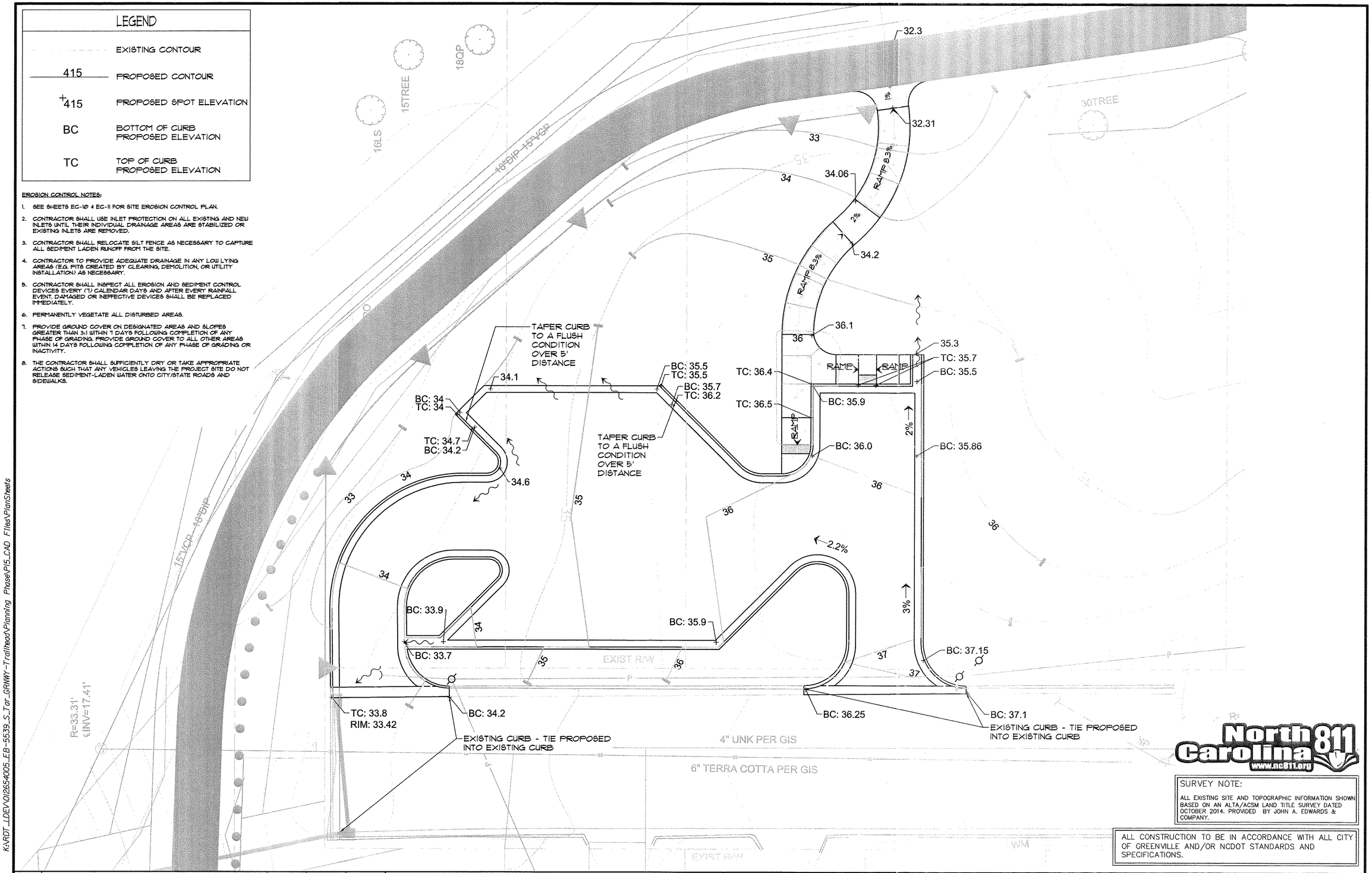
04/28/2016 K:\RDT_LDEV\012654005_EB-5539_S_Tar_GRNWY-Trailhead\Planning Phase\PI5_CAD Files\Plan Sheets

LEGEND

.....	EXISTING CONTOUR
415	PROPOSED CONTOUR
+415	PROPOSED SPOT ELEVATION
BC	BOTTOM OF CURB PROPOSED ELEVATION
TC	TOP OF CURB PROPOSED ELEVATION

EROSION CONTROL NOTES:

1. SEE SHEETS EC-10 & EC-11 FOR SITE EROSION CONTROL PLAN.
2. CONTRACTOR SHALL USE INLET PROTECTION ON ALL EXISTING AND NEW INLETS UNTIL THEIR INDIVIDUAL DRAINAGE AREAS ARE STABILIZED OR EXISTING INLETS ARE REMOVED.
3. CONTRACTOR SHALL RELOCATE SILT FENCE AS NECESSARY TO CAPTURE ALL SEDIMENT LADEN RUNOFF FROM THE SITE.
4. CONTRACTOR TO PROVIDE ADEQUATE DRAINAGE IN ANY LOW LYING AREAS (E.G. PITS CREATED BY CLEARING, DEMOLITION, OR UTILITY INSTALLATION) AS NECESSARY.
5. CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES EVERY (7) CALENDAR DAYS AND AFTER EVERY RAINFALL EVENT. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPLACED IMMEDIATELY.
6. PERMANENTLY VEGETATE ALL DISTURBED AREAS.
7. PROVIDE GROUND COVER ON DESIGNATED AREAS AND SLOPES GREATER THAN 3:1 WITHIN 7 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. PROVIDE GROUND COVER TO ALL OTHER AREAS WITHIN 14 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING OR INACTIVITY.
8. THE CONTRACTOR SHALL SUFFICIENTLY DRY OR TAKE APPROPRIATE ACTIONS SUCH THAT ANY VEHICLES LEAVING THE PROJECT SITE DO NOT RELEASE SEDIMENT-LADEN WATER ONTO CITY/STATE ROADS AND SIDEWALKS.



SURVEY NOTE:

ALL EXISTING SITE AND TOPOGRAPHIC INFORMATION SHOWN BASED ON AN ALTA/ACSM LAND TITLE SURVEY DATED OCTOBER 2014. PROVIDED BY JOHN A. EDWARDS & COMPANY.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF GREENVILLE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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FAIRFAX AVENUE TRAILHEAD
GRADING PLAN

NORTH CAROLINA LANDSCAPE ARCHITECTURE REGISTRATION BOARD BRANDON PHILLIP WHITE 1625 04.28.16

NORTH
5 0 10

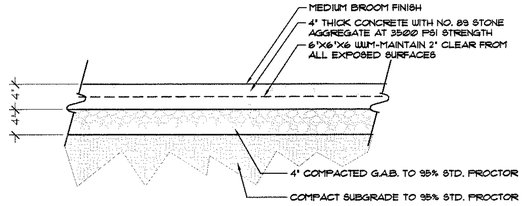
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: L-2

04/28/2016 K:\RDT_LDEV\012654005_EB-5539_S_Tar_GRNWY-Trailhead\Planning Phase\PI5_CAD Files\Plan Sheets

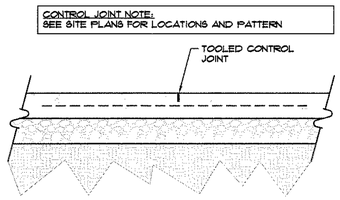
NOTES:

1. BROOM FINISH SHALL BE ORIENTED PERPENDICULAR TO DIRECTION OF TRAVEL.
2. SUBMIT 8' X 8' MOCK-UP OF CONCRETE FINISH FOR REVIEW AND APPROVAL BY PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.



1 / L-3 CONCRETE FLATWORK
SCALE: 1"=1'-0"

CONTROL JOINT NOTE:
SEE SITE PLANS FOR LOCATIONS AND PATTERN

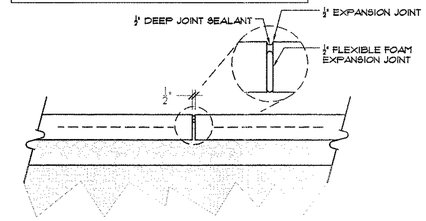


2 / L-3 CONCRETE CONTROL JOINT
SCALE: 1"=1'-0"

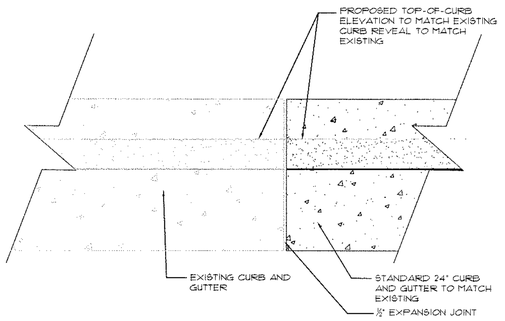
EXPANSION JOINT NOTE:
SEE SITE PLANS FOR LOCATIONS AND PATTERN

EXPANSION JOINT MATERIAL NOTE:
MANUFACTURER: W.R. MEADOWS
PRODUCT: CERAMAR

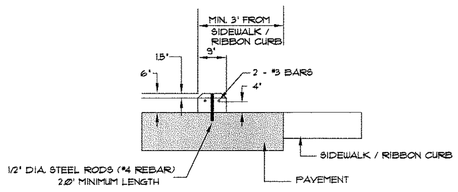
EXPANSION JOINT SEALANT NOTE:
MANUFACTURER: SIKA
PRODUCT: SIKAFLEX-1C SL
COLOR: "LIMESTONE" (STANDARD)



3 / L-3 CONCRETE EXPANSION JOINT
SCALE: 1"=1'-0"

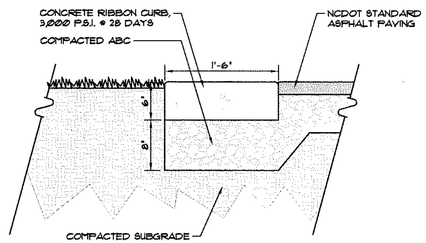


4 / L-3 CURB & GUTTER TRANSITION
SCALE: 1"=1'-0"

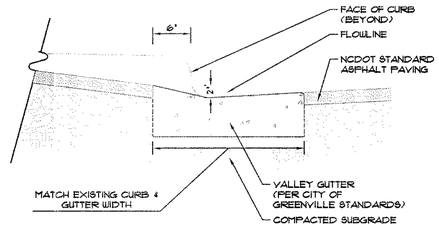


NOTE:
1. ANCHOR RODS TO BE SLEEVED OR GREASED THRU CONCRETE CURBS TO PERMIT RELOCATION OF CURBS.
2. SEE SITE PLAN FOR CURB STOP LOCATIONS. TYPICALLY PLACED 2.5' OFF OF BACK OF CURB

5 / L-3 WHEEL STOP
SCALE: NOT TO SCALE



6 / L-3 CONCRETE RIBBON CURB
SCALE: 1"=1'-0"



7 / L-3 CONCRETE VALLEY GUTTER
SCALE: 1"=1'-0"

SURVEY NOTE:

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FAIRFAX AVENUE TRAILHEAD
SITE DETAILS

NORTH CAROLINA LANDSCAPE ARCHITECT 1625 BRANDON PHILLIP WHITE 04.28.16

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: L-3

04/28/2016
K:\ROT_LDEV\012654005_EB-5539_S_Tar_GRNWY-Trailhead\Planning Phase\PI5_CAD Files\PlanSheets

Total Disturbed Area (shaded) = 8.15 acres

NAD 83

PHASE 3B (FUTURE PHASE) | PHASE 3A

PROJECT EB–5539, PHASE 3B
–L1– STA 10+08.86

END PROJECT EB–5539, PHASE 3A
–L4– STA 126+16.33

1.27 AC
0.08 AC
0.01 AC
0.95 AC
5.84 AC
8.23

EC–1
EC–2
EC–3
EC–4
EC–5
EC–6
EC–7
EC–9
EC–10
EC–11
EC–12
EC–13
EC–14
EC–15
EC–16

PHASE 3B (FUTURE PHASE) | PHASE 3A

BEIGN PROJECT EB–5539, PHASE 3A
–L2– STA 64+68.00

PROJECT DENUDED AREAS

IMPERVIOUS AND PERVIOUS SURFACES IN SOUTH TAR RIVER GREENWAY, PHASE III DISTURBED AREAS

PROPOSED IMPERVIOUS SURFACE = 2.18 AC
PROPOSED PERVIOUS SURFACE = 5.97 AC

PHASE 3B
FUTURE CONSTRUCTION

ALL REFERENCES TO WORK OUTSIDE OF PHASE 3A (–L2– Sta. 64+68.00 TO –L4– 126+16.33) ARE NOT APPLICABLE TO THIS PROJECT.

NARRATIVE

Project Description

The South Tar River Greenway, Phase 3 is a part of a multi-use trail system for bicycle and pedestrian use. It is being constructed by the City of Greenville to connect and access numerous recreational, cultural, and residential destinations in Greenville. Approximately 8.15 acres will be disturbed during the construction of this project. Also, approximately 5.97 acres will be vegetatively stabilized with grass and permanent plantings.
South Tar River Greenway, Phase 3 is located in Pitt County, Greenville, NC. The project site begins on Moye Boulevard. The trail then goes along the sanitary sewer easement and under Memorial Drive and along Colonial Avenue before going under the CSX railroad.

Site Description

The site is generally rolling and contains a couple drainage ways that are bordered by moderate slopes. Land use along the project is undeveloped as well as fully developed. Drainage from the project site sheet flows or makes its way through a series of existing ditches and storm drain systems and eventually flows into the Tar River 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. South Tar River is protected by the Tar-Pamlico Riparian Buffer and contains a 50-foot Riparian Buffer protection area. 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 loams (WaC, WaB, LnA, OcB, & Bb).

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12/15/2017

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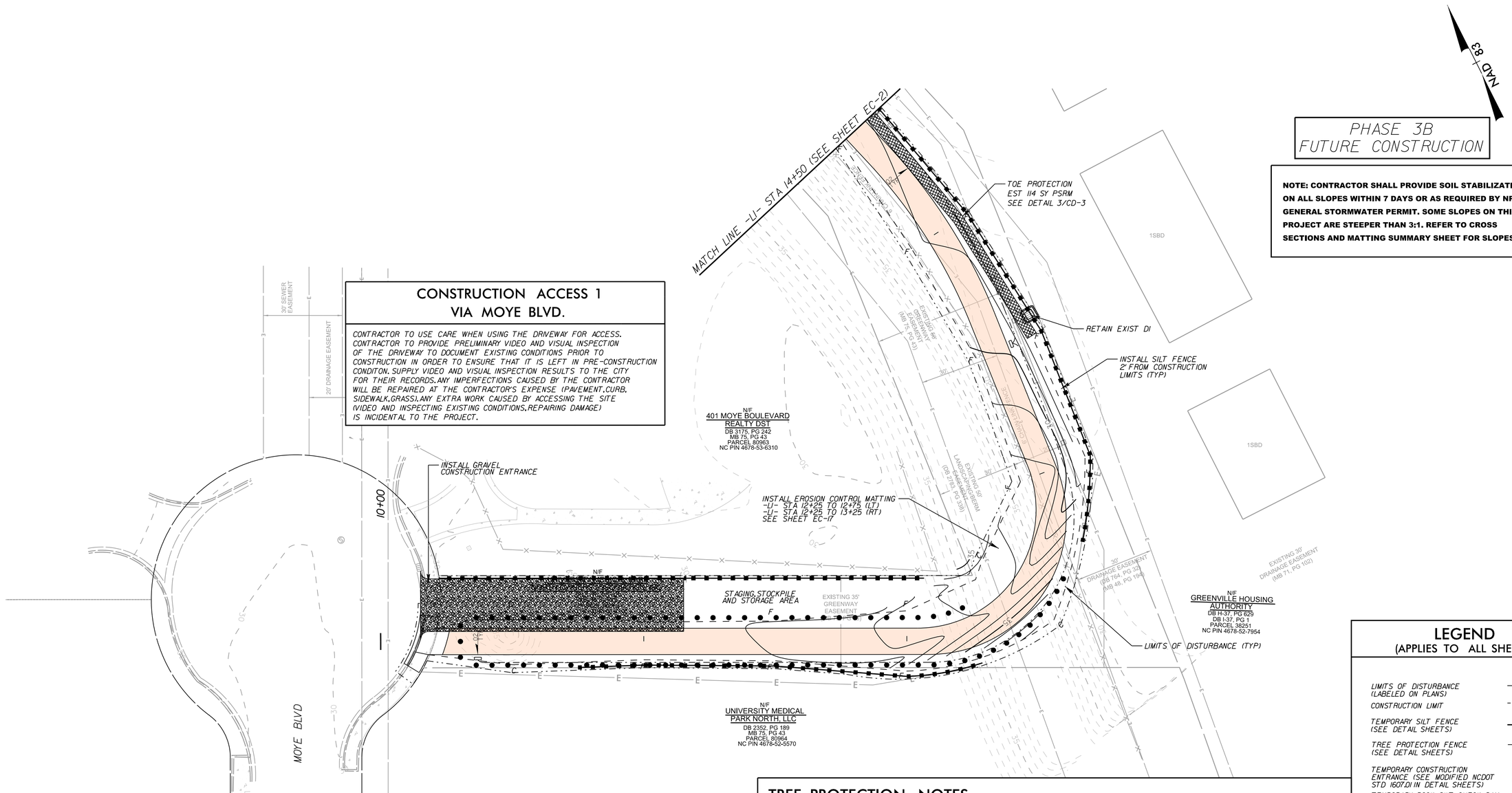
DENUDED AREAS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

150 0 300

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-1A



LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (LABELED ON PLANS)
- CONSTRUCTION LIMIT (C F)
- TEMPORARY SILT FENCE (SEE DETAIL SHEETS)
- TREE PROTECTION FENCE (TPF) (SEE DETAIL SHEETS)
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD 1607.01 IN DETAIL SHEETS)
- TEMPORARY ROCK SILT CHECK DAM, TYPE A (SEE NCDOT STD 1633.01 IN DETAIL SHEETS)
- SPECIAL STILLING BASIN (SEE NCDOT STD 1630.06 IN DETAIL SHEETS)
- WATTLE CHECK (SEE DETAIL SHEETS)
- STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)
- SPECIAL SEDIMENT CONTROL FENCE/ SILT FENCE OUTLET (SEE DETAIL SHEETS)
- EXISTING CONTOUR (47)
- PROPOSED CONTOUR (45)

GENERAL NOTE

CONTRACTOR TO ENSURE THAT ALL ROADWAYS AND CURB LINES ADJACENT TO THIS PROJECT ARE FREE OF DEBRIS, DIRT, AND EQUIPMENT DURING THE PROJECT DURATION UNLESS DIRECTED BY CITY ENGINEER. ANY DAMAGE TO EXISTING CURB AND GUTTER AT OR NEAER CONSTRUCTION ENTRANCES MUST BE REPAIRED AT THE CONTRACTORS EXPENSE.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

TREE PROTECTION NOTES

TREE PRESERVATION CONSTRUCTION SPECIFICATIONS:

1. BEFORE BEGINNING WORK, THE CONTRACTOR IS REQUIRED TO MEET WITH THE CITY OR AUTHORIZED AGENT AT THE SITE TO REVIEW ALL WORK PROCEDURES, ACCESS ROUTES, STORAGE AREAS, AND TREE PROTECTION MEASURES.
2. TEMPORARY FENCES SHOULD BE ERECTED TO PROTECT TREES TO BE PRESERVED. FENCES DEFINE A SPECIFIC PROTECTION ZONE FOR EACH TREE OR GROUP OF TREES. FENCES ARE TO REMAIN UNTIL ALL SITE WORK HAS BEEN COMPLETED. FENCES MAY NOT BE RELOCATED OR REMOVED WITHOUT THE WRITTEN PERMISSION OF THE CITY OR AUTHORIZED AGENT.
3. CONSTRUCTION TRAILERS AND TRAFFIC AND STORAGE AREAS MUST REMAIN OUTSIDE THE TREE PROTECTION ZONE AT ALL TIMES.
4. ALL UNDERGROUND UTILITIES AND DRAIN LINES SHALL BE ROUTED OUTSIDE OF THE TREE PROTECTION ZONE. IF LINES MUST TRAVERSE THE PROTECTION AREA, THEY SHALL BE TUNNELED OR BORED UNDER THE TREE.
5. NO MATERIALS, EQUIPMENT, SPOIL OR WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN THE TREE PROTECTION ZONE.
6. COORDINATE WITH CITY PRIOR TO PERFORMING ADDITIONAL TREE PRUNING REQUIRED FOR CLEARANCE DURING CONSTRUCTION MUST BE PERFORMED BY A QUALIFIED ARBORIST AND NOT BY CONSTRUCTION PERSONNEL.
7. ANY HERBICIDES PLACED UNDER PAVING MATERIALS MUST BE SAFE FOR USE AROUND TREES AND LABELED FOR THAT USE. ANY PESTICIDES USED ON SITE MUST BE TREE-SAFE AND NOT EASILY TRANSPORTED BY WATER.
8. IF INJURY SHOULD OCCUR TO ANY TREE DURING CONSTRUCTION, IT SHOULD BE EVALUATED AS SOON AS POSSIBLE BY THE CITY OR AUTHORIZED AGENT SO THAT APPROPRIATE TREATMENTS CAN BE APPLIED.
9. ANY GRADING, CONSTRUCTION, DEMOLITION OR OTHER WORK THAT IS EXPECTED TO ENCOUNTER TREE ROOTS MUST BE MONITORED BY THE CONSULTING ARBORIST.
10. ANY ROOTS DAMAGED DURING GRADING OR CONSTRUCTION SHALL BE EXPOSED TO SOUND TISSUE AND CUT CLEANLY WITH A SAW.
11. IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE ROOT AREA OF TREES TO BE RETAINED, A ROAD BED OF 6 INCHES OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A 6-INCH DEPTH.

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.

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EROSION CONTROL PLAN

FOR INFORMATION ONLY

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 | SHEET NUMBER: EC-1

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12/15/2017

NAD 83

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

PHASE 3B
FUTURE CONSTRUCTION

MATCH LINE -LI- STA 20+00 (SEE SHEET EC-3)

MATCH LINE -LI- STA 14+50 (SEE SHEET EC-1)

LIMITS OF DISTURBANCE (TYP)

INSTALL EROSION CONTROL MATTING
-LI- STA 15+70 TO 16+10 (RT)
SEE SHEET EC-17

GRADE TO DRAIN
TO PROP DI

CONVERT EXISTING DI
TO JB W/ MH COVER
NCDOT STD 840.54
STA 15+90 -LI- 16.7' RT
TOP = 30.3'
INV IN (E) = 25.3'
INV OUT = FIELD VERIFY

PROPOSED DI
NCDOT STD 840.16
STA 15+87 -LI- 23.0' RT
TOP = 27.7'
INV OUT = 25.4'

4 LF - 15" RCP-IV
S = 2.5%

INSTALL SILT FENCE
2' FROM CONSTRUCTION
LIMITS (TYP)

RETAIN EXIST DI

500 YR

APPROXIMATE LOCATION OF PIPE

S33°04'00"E 381.29'

S39°47'44"E 180.05'

S31°32'16"W 58.00'

S19°42'16"W 157.00'

S87°32'16"W 180.00'

S11°27'16"W 46.00'

N/F
401 MOYE BOULEVARD
REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80963
NC PIN 4678-53-6310

N/F
UNIVERSITY MEDICAL PARK
NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198

N/F
GREENVILLE HOUSING
AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38249
NC PIN 4678-52-7954

EXISTING 30' SANITARY SEWER EASEMENT

10' ELECTRIC EASEMENT

20' DRAINAGE EASEMENT MB 59 PG 98

EXISTING 50' GREENWAY EASEMENT (MB 75, PG 43)

30' LANDSCAPING BERM EASEMENT

30' DRAINAGE EASEMENT (DB 764, PG 32) (MB 46, PG 194)

6' CHAIN LINK FENCE

LANDSCAPING BERM EASEMENT (DB 3175, PG 242)

1SBD

2SBD

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EROSION CONTROL PLAN

FOR INFORMATION ONLY

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY,
PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: EC-2

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

NAD 83

PHASE 3B
FUTURE CONSTRUCTION

401 MOYE BOULEVARD SITE CONSTRUCTION EMBANKMENT WILL BE REMOVED BY OTHERS PROPOSED PROJECT WILL TIE TO EXISTING GROUND AND BE GRADED TO DRAIN

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

N/F
401 MOYE BOULEVARD
REALTY DST
DB 3175, PG 242
MB 75, PG 43
PARCEL 80963
NC PIN 4678-53-6310

N/F
GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38249
NC PIN 4678-52-7954

N/F
UNIVERSITY MEDICAL PARK NORTH OWNERS ASSOCIATION, INC
DB 3176, PG 629
MB 75, PG 43
PARCEL 80965
NC PIN 4678-64-2198

N/F
GREENVILLE HOUSING AUTHORITY
DB H-37, PG 629
DB I-37, PG 1
PARCEL 38251
NC PIN 4678-73-4425

INSTALL TREE PROTECTION FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

LIMITS OF DISTURBANCE (TYP)

24 LF - 18" RCP-N W/ TWO FES (SEE DETAIL 3/CD-6)
INV IN = 22.4'
STA 24+27 -LI- 54.3' RT
INV OUT = 21.1'
STA 24+90 -LI- 66.0' RT
S = 3.6%

PROPOSED 3:1 SIDE SLOPES

CLASS 'B' RIP RAP OUTLET PROTECTION
EST 3 TONS
EST 8 SY GFD

INSTALL ROCK SILT CHECK, TYPE A AT ALL DRAINAGE OUTLETS DURING CLEARING AND GRUBBING. INSTALL SILT FENCE AROUND TOP OF CULVERTS AFTER PIPE IS INSTALLED (TYP)

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

RETAIN EXIST DI

MATCH LINE -LI- STA 20+00 (SEE SHEET EC-2)

MATCH LINE -LI- STA 25+50 (SEE SHEET EC-4)

THIRD ST

CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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EROSION CONTROL PLAN

FOR INFORMATION ONLY

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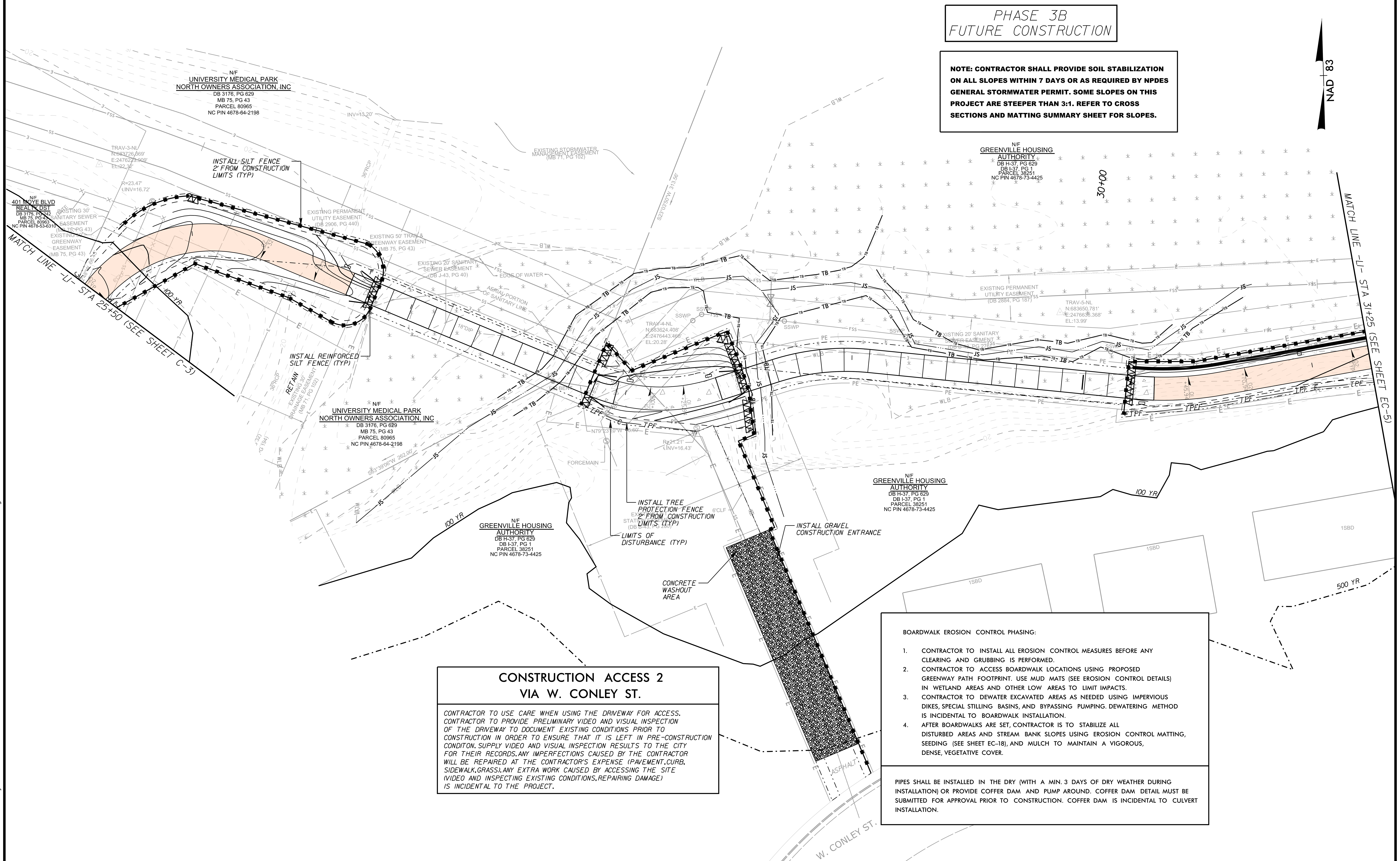
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: EC-3



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

CONSTRUCTION ACCESS 2 VIA W. CONLEY ST.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, SIDEWALK, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

BOARDWALK EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS BOARDWALK 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 IS INCIDENTAL TO BOARDWALK INSTALLATION.
4. AFTER BOARDWALKS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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12/15/2017

REV. No.	REVISION	DATE	DRAWN BY	CHECKED BY

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P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

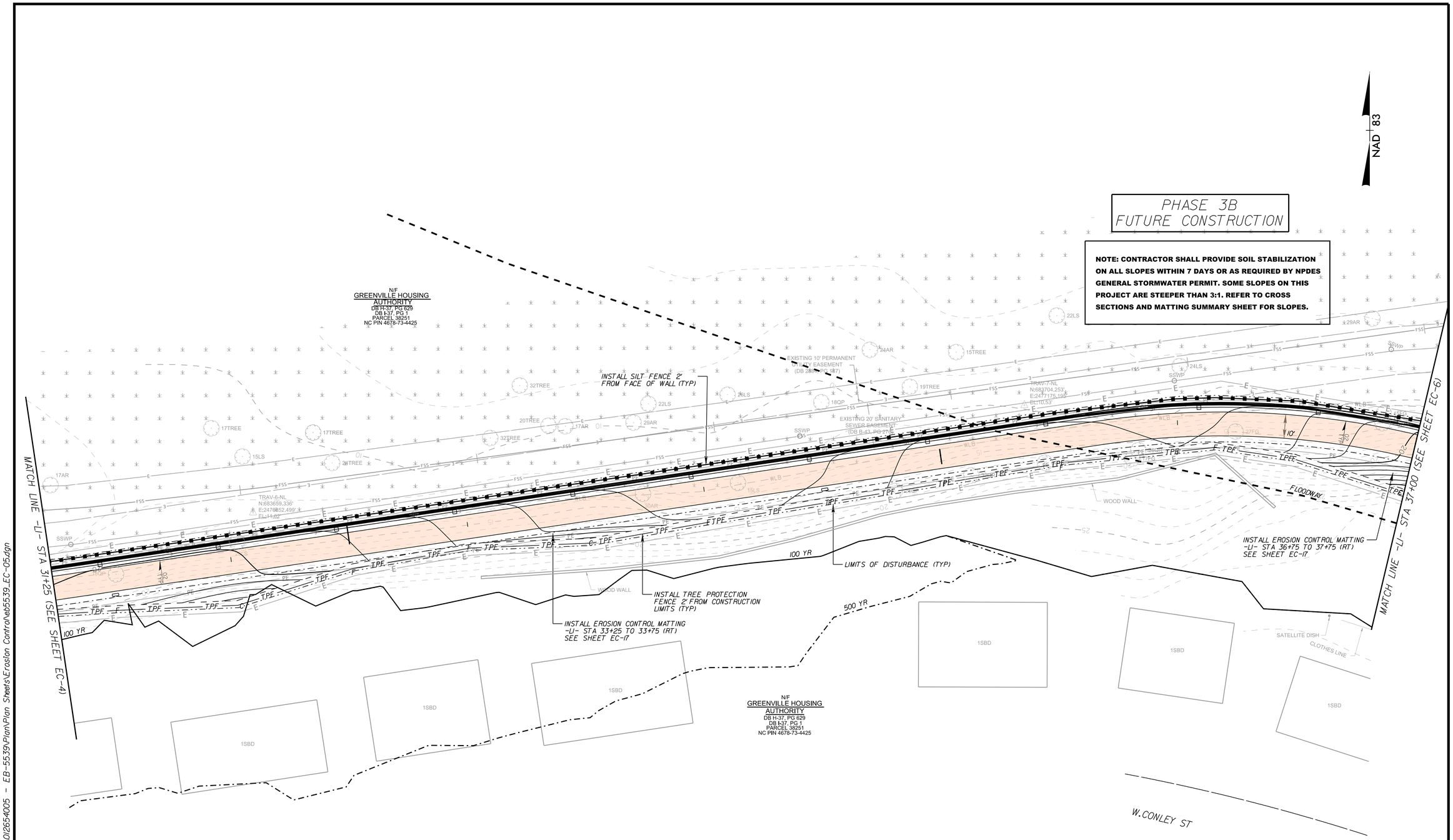
EROSION CONTROL PLAN

FOR INFORMATION ONLY

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-4



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EROSION CONTROL PLAN

FOR INFORMATION ONLY

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PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-5

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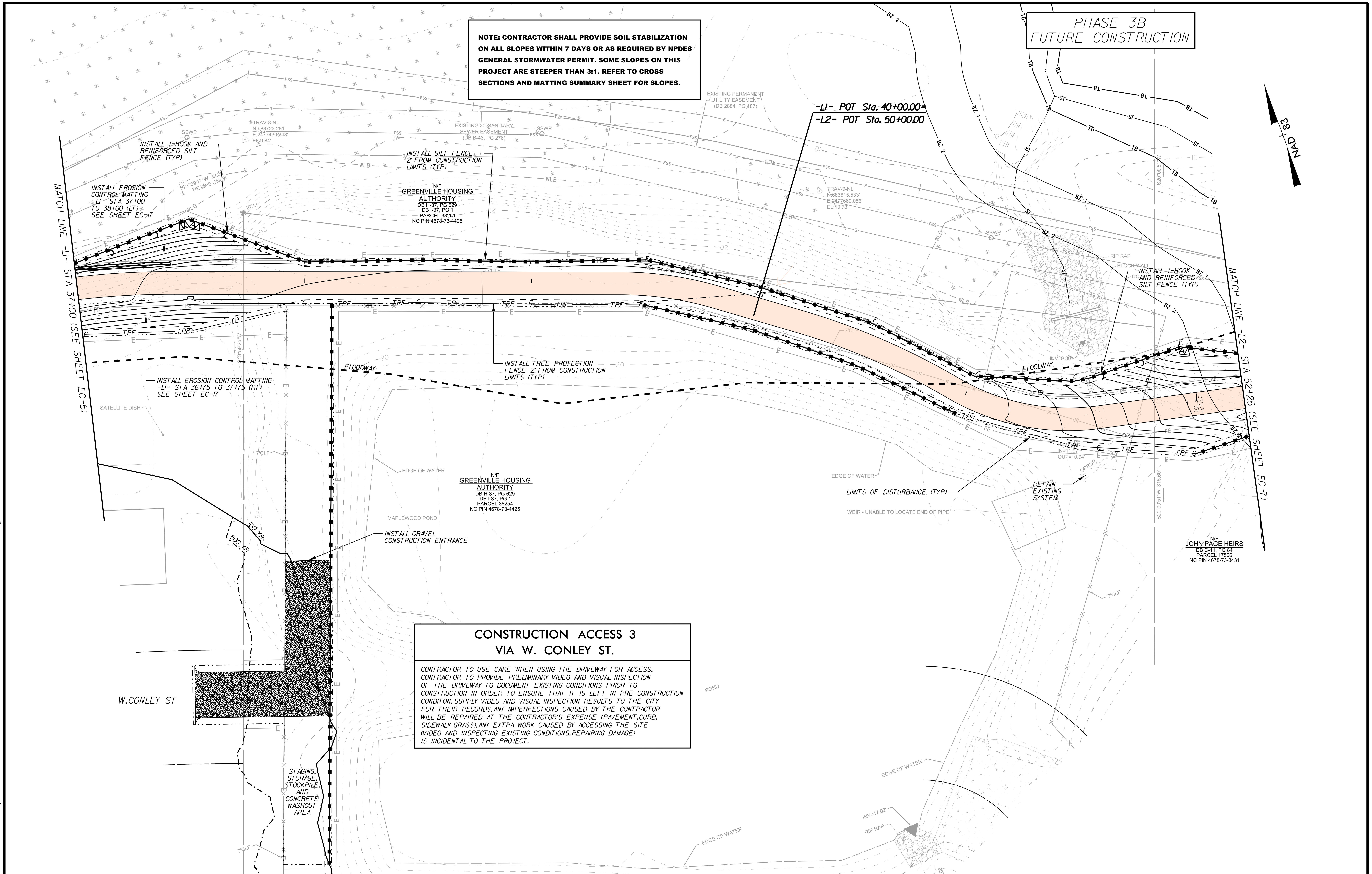

NOTE: CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. SOME SLOPES ON THIS PROJECT ARE STEEPER THAN 3:1. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET FOR SLOPES.
PHASE 3B FUTURE CONSTRUCTION
-L1- POT Sta. 40+00.00=
-L2- POT Sta. 50+00.00
NAD 83
MATCH LINE -L1- STA 37+00 (SEE SHEET EC-5)
MATCH LINE -L2- STA 52+25 (SEE SHEET EC-7)
INSTALL J-HOOK AND REINFORCED SILT FENCE (TYP)
INSTALL EROSION CONTROL MATTING -L1- STA 37+00 TO 38+00 (LT) SEE SHEET EC-17
INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)
N/F GREENVILLE HOUSING AUTHORITY DB H-37, PG 629 DB I-37, PG 1 PARCEL 38251 NC PIN 4678-73-4425
EXISTING 20' SANITARY SEWER EASEMENT (DB B-43, PG 276)
EXISTING PERMANENT UTILITY EASEMENT (DB 2884, PG 187)
INSTALL EROSION CONTROL MATTING -L1- STA 36+75 TO 37+75 (RT) SEE SHEET EC-17
INSTALL TREE PROTECTION FENCE 2' FROM CONSTRUCTION LIMITS (TYP)
FLOODWAY
INSTALL J-HOOK AND REINFORCED SILT FENCE (TYP)
RIP RAP
BLOCK WALL
SATELLITE DISH
EDGE OF WATER
N/F GREENVILLE HOUSING AUTHORITY DB H-37, PG 629 DB I-37, PG 1 PARCEL 38254 NC PIN 4678-73-4425
MAPLEWOOD POND
LIMITS OF DISTURBANCE (TYP)
RETAIN EXISTING SYSTEM
WEIR - UNABLE TO LOCATE END OF PIPE
N/F JOHN PAGE HEIRS DB C-11, PG 84 PARCEL 17526 NC PIN 4678-73-8431
INSTALL GRAVEL CONSTRUCTION ENTRANCE
100 YR
500 YR
W.CONLEY ST
STAGING, STORAGE, STOCKPILE, AND CONCRETE WASHOUT AREA
POND

CONSTRUCTION ACCESS 3 VIA W. CONLEY ST.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, SIDEWALK, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

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EROSION CONTROL PLAN

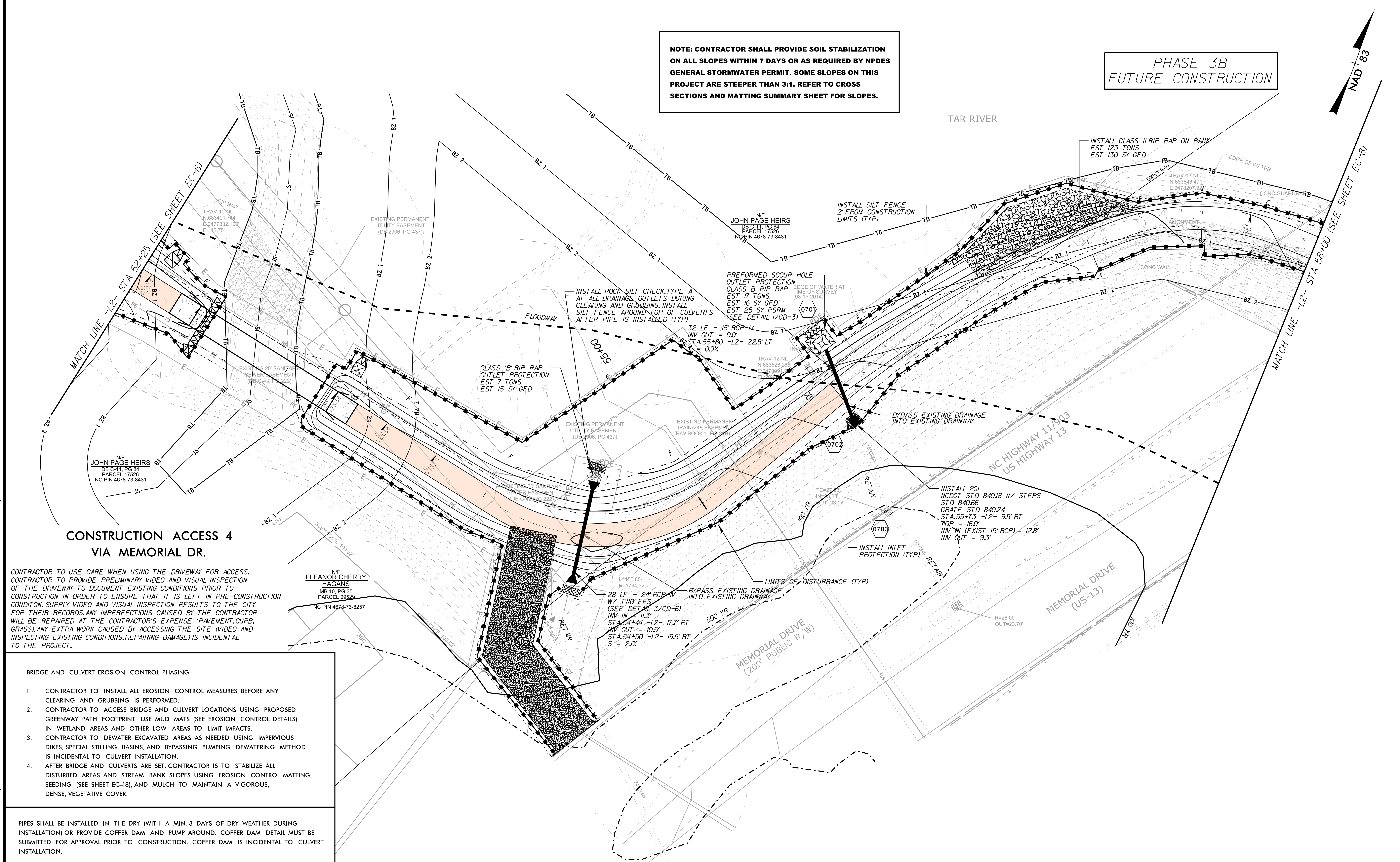
FOR INFORMATION ONLY

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-6

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



CONSTRUCTION ACCESS 4
VIA MEMORIAL DR.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITION. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

BRIDGE AND CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS BRIDGE 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER BRIDGE AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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12/15/2017

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EROSION CONTROL PLAN

FOR INFORMATION ONLY

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-7

NAD 83

PHASE 3B
FUTURE CONSTRUCTION

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

TAR RIVER

N/F
CALVIN BECKETT HEIRS
DB 2909, PG 474
MB 3, PG 188
PARCEL 01305
NC PIN 4678-83-3326

MATCH LINE -L2- STA 63+50 (SEE SHEET EC-9)

MATCH LINE -L2- STA 58+00 (SEE SHEET EC-7)

LIMITS OF DISTURBANCE (TYP)

INSTALL EROSION CONTROL MATTING -L2- STA 60+25 TO 64+25 (LT) SEE SHEET EC-17

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

INSTALL REINFORCED SILT FENCE (TYP)

INSTALL ROCK SILT CHECK,TYPE A AT ALL DRAINAGE OUTLETS DURING CLEARING AND GRUBBING. INSTALL SILT FENCE AROUND TOP OF CULVERTS AFTER PIPE IS INSTALLED (TYP)

CLASS 'B' RIP RAP OUTLET PROTECTION
EST 3 TONS
EST 8 SY GFD

EXISTING 30' PERMANENT UTILITY EASEMENT (DB 2909, PG 474)

INSTALL EROSION CONTROL MATTING -L2- STA 62+85 TO 63+20 (RT) SEE SHEET EC-17

INSTALL J-HOOK AND REINFORCED SILT FENCE AS NEEDED TO DIFFUSE FLOW ALONG SILT FENCE (TYP)

18" RCP
INV= 9.7'
24" FORCE MAIN
TOP = 2.5'(APPROX.)
42 LF - 18" RCP-IV
W/ TWO FES
(SEE DETAIL 3/CD-6)
INV IN = 11.2'
STA.61+88 -L2- 28.5' RT
INV OUT = 8.7'
STA.61+73 -L2- 24.2' LT
S = 4.1%

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

100 YR

500 YR

RIVERDALE SUB-DIVISION
BLOCK X
MB 3, PG 188

STUTZ STREET
(40' PUBLIC R/W)

MEMORIAL DRIVE (US-13)

CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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12/15/2017

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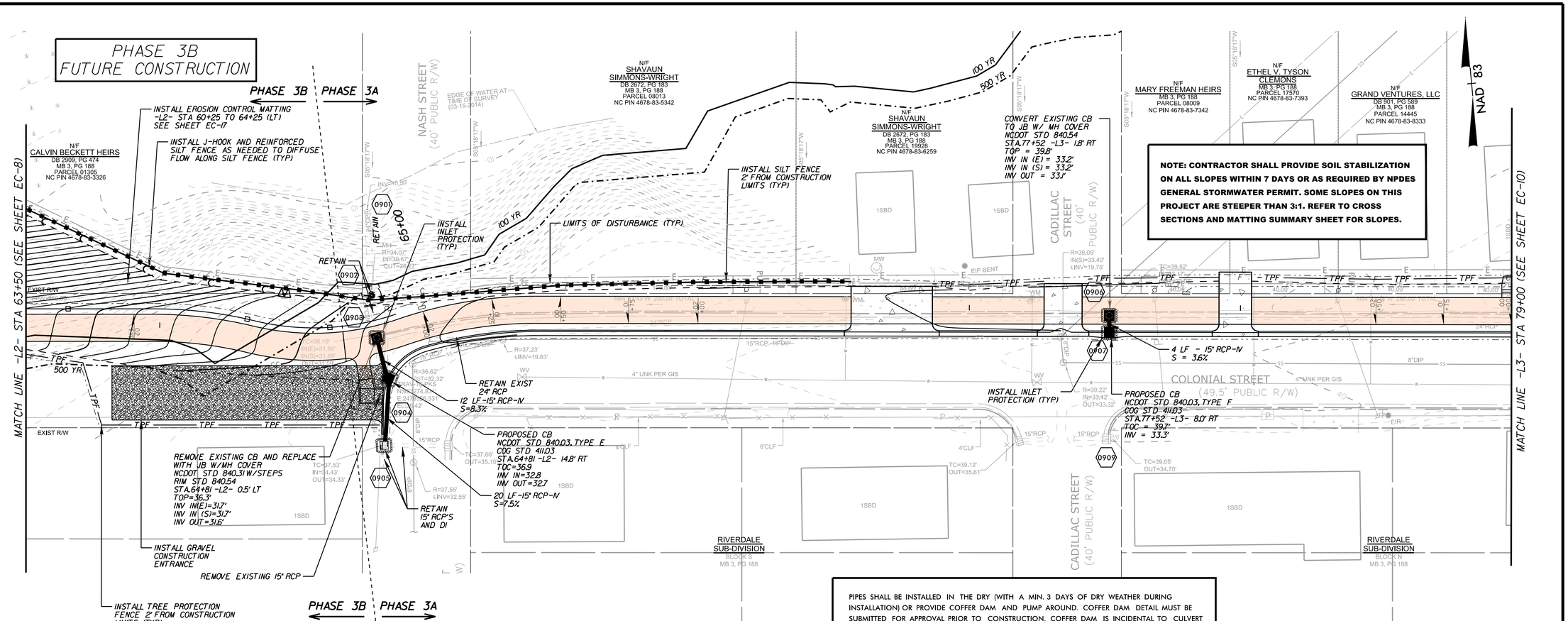
EROSION CONTROL PLAN

FOR INFORMATION ONLY

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-8



CONSTRUCTION ACCESS 5 VIA NASH ST.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, SIDEWALK, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

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 HOW ZONES.

GENERAL NOTE

CONTRACTOR TO ENSURE THAT ALL ROADWAYS AND CURB LINES ADJACENT TO THIS PROJECT ARE FREE OF DEBRIS, DIRT, AND EQUIPMENT DURING THE PROJECT DURATION UNLESS DIRECTED BY CITY ENGINEER. ANY DAMAGE TO EXISTING CURB AND GUTTER AT OR NEAER CONSTRUCTION ENTRANCES MUST BE REPAIRED AT THE CONTRACTORS EXPENSE.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

TREE PROTECTION NOTES

TREE PRESERVATION CONSTRUCTION SPECIFICATIONS:

1. BEFORE BEGINNING WORK, THE CONTRACTOR IS REQUIRED TO MEET WITH THE CITY OR AUTHORIZED AGENT AT THE SITE TO REVIEW ALL WORK PROCEDURES, ACCESS ROUTES, STORAGE AREAS, AND TREE PROTECTION MEASURES.
2. TEMPORARY FENCES SHOULD BE ERECTED TO PROTECT TREES TO BE PRESERVED. FENCES DEFINE A SPECIFIC PROTECTION ZONE FOR EACH TREE OR GROUP OF TREES. FENCES ARE TO REMAIN UNTIL ALL SITE WORK HAS BEEN COMPLETED. FENCES MAY NOT BE RELOCATED OR REMOVED WITHOUT THE WRITTEN PERMISSION OF THE CITY OR AUTHORIZED AGENT.
3. CONSTRUCTION TRAILERS AND TRAFFIC AND STORAGE AREAS MUST REMAIN OUTSIDE THE TREE PROTECTION ZONE AT ALL TIMES.
4. ALL UNDERGROUND UTILITIES AND DRAIN LINES SHALL BE ROUTED OUTSIDE OF THE TREE PROTECTION ZONE. IF LINES MUST TRAVERSE THE PROTECTION AREA, THEY SHALL BE TUNNELED OR BORED UNDER THE TREE.
5. NO MATERIALS, EQUIPMENT, SPOIL OR WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN THE TREE PROTECTION ZONE.
6. COORDINATE WITH CITY PRIOR TO PERFORMING ADDITIONAL TREE PRUNING REQUIRED FOR CLEARANCE DURING CONSTRUCTION MUST BE PERFORMED BY A QUALIFIED ARBORIST AND NOT BY CONSTRUCTION PERSONNEL.
7. ANY HERBICIDES PLACED UNDER PAVING MATERIALS MUST BE SAFE FOR USE AROUND TREES AND LABELED FOR THAT USE. ANY PESTICIDES USED ON SITE MUST BE TREE-SAFE AND NOT EASILY TRANSPORTED BY WATER.
8. IF INJURY SHOULD OCCUR TO ANY TREE DURING CONSTRUCTION, IT SHOULD BE EVALUATED AS SOON AS POSSIBLE BY THE CITY OR AUTHORIZED AGENT SO THAT APPROPRIATE TREATMENTS CAN BE APPLIED.
9. ANY GRADING, CONSTRUCTION, DEMOLITION OR OTHER WORK THAT IS EXPECTED TO ENCOUNTER TREE ROOTS MUST BE MONITORED BY THE CONSULTING ARBORIST.
10. ANY ROOTS DAMAGED DURING GRADING OR CONSTRUCTION SHALL BE EXPOSED TO SOUND TISSUE AND CUT CLEANLY WITH A SAW.
11. IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE ROOT AREA OF TREES TO BE RETAINED, A ROAD BED OF 6 INCHES OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A 6-INCH DEPTH.

LEGEND (APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (LABELED ON PLANS)
- CONSTRUCTION LIMIT (C F)
- TEMPORARY SILT FENCE (SEE DETAIL SHEETS)
- TREE PROTECTION FENCE (SEE DETAIL SHEETS) — TPF
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD 160T.01 IN DETAIL SHEETS)
- TEMPORARY ROCK SILT CHECK DAM, TYPE A (SEE NCDOT STD 1633.01 IN DETAIL SHEETS)
- SPECIAL STILLING BASIN (SEE NCDOT STD 1630.06 IN DETAIL SHEETS)
- WATTLE CHECK (SEE DETAIL SHEETS)
- STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)
- SPECIAL SEDIMENT CONTROL FENCE/ SILT FENCE OUTLET (SEE DETAIL SHEETS)
- EXISTING CONTOUR — 47 —
- PROPOSED CONTOUR — 45 —

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EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024435 JEFFREY W. MOORE 1/18/17

10 0 20

PROJECT: SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: EC-9

12/15/2017 K:\RAL_Roadway\012654005 - EB-5539\Plan Sheets\Erosion Control\eb5539_EC-09.dgn

CONSTRUCTION ACCESS 6
VIA COLONIAL AVE.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, SIDEWALK, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

NAD 83

MATCH LINE -L3- STA 79+00 (SEE SHEET EC-9)

N/F
JESSIE GRIMES HARRIS
DB 176, PG 778
MB 3, PG 188
PARCEL 09249
NC PIN 4678-83-8373

INSTALL ROCK SILT CHECK, TYPE A AT ALL DRAINAGE OUTLETS DURING CLEARING AND GRUBBING. INSTALL SILT FENCE AROUND TOP OF CULVERTS AFTER PIPE IS INSTALLED (TYP)

INSTALL EROSION CONTROL MATTING -L3- STA 81+25 TO 81+70 (LT) SEE SHEET EC-17

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY GFD
20 LF - 18" CMP W/ TWO END SECTIONS
INV IN = 31.4'
STA 81+50 -L3- 116' RT
INV OUT = 27.3'
STA 81+50 -L3- 19.4' LT
S = 13.2%

INSTALL J-HOOK AND REINFORCED SILT FENCE (TYP)

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 6 SY GFD
48 LF - 15" RCP-IV W/ FES (SEE DETAIL 3/CD-6)
INV OUT = 28.6'
STA 81+76 -L3- 20.1' LT
S = 27%

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

N/F
THE EVANS COMPANY
DB K-48, PG 439
MB 3, PG 188
PARCEL 20420
NC PIN 4678-83-9303

LIMITS OF DISTURBANCE (TYP)

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

HUDSON STREET
(40' PUBLIC R/W)

RETAIN EXISTING 24" RCP
TRAV-19-RKS
N:683255.759'
E:2478989.518'
EL=41.26'

RETAIN EXISTING SYSTEM

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

INSTALL GRAVEL CONSTRUCTION ENTRANCE

N/F
MILDRED ELLIOT
MB 3, PG 188
PARCEL 28156
NC PIN 4678-83-9283

INSTALL ROCK SILT CHECK, TYPE A

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2/ CD-3 EST 25 SY PSRM

INSTALL WATTLES AS NEEDED TO STABILIZE SWALE

N/F
LUCINDA MCMILLAN
DB 3033, PG 269
MB 3, PG 188
PARCEL 21493
NC PIN 4678-83-9384

PROPOSED CB
NCDOT STD 840.01 & 840.03, TYPE E
STA 81+87 -L3- 33.8' RT
TOC = 34.0'
INV IN (N) = 30.0'
INV OUT (W) = 30.0'

15" RCP
INV = 30.2'
6" TERRA COTTA SEWER
TOP = 22.3' (APPROX.)

INSTALL INLET PROTECTION (TYP)

PROPOSED CB
NCDOT STD 840.03, TYPE E
COG STD 411.03
STA 82+20 -L3- 29.1' RT
TOC = 33.8'
INV = 30.3'

28 LF - 15" RCP-IV

CONTRACTOR TO REMOVE EXIST SEDIMENT FROM ROADBED (INCIDENTAL TO LS GRADING FOR PHASE 3A)

STAGING, STORAGE, STOCKPILE, AND CONCRETE WASHOUT AREA

INSTALL GRAVEL CONSTRUCTION ENTRANCE AT PROPOSED DRIVEWAY FOR TRAILHEAD PARKING LOT

N/F
LILLIAN WHITE FREEMAN EDWARDS
DB U-36, PG 377
MB 3, PG 188
PARCEL 06784
NC PIN 4678-93-0514

N/F
JOSIE MARIE HOPKINS
DB V-42, PG 113
MB 3, PG 188
PARCEL 01356
NC PIN 4678-93-0554

N/F
MARY FREEMAN HEIRS
DB D-36, PG 356
MB 3, PG 188
PARCEL 20463
NC PIN 4678-93-0993

MATCH LINE -L3- STA 84+00 (SEE SHEET EC-11)

RIVERDALE SUB-DIVISION
BLOCK I
MB 3, PG 188

RIVERDALE SUB-DIVISION
BLOCK J
MB 3, PG 188

FAIRFAX AVENUE
(40' PUBLIC R/W)

CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

CONSTRUCTION ACCESS 7
VIA FAIRFAX AVE.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, SIDEWALK, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-10

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

NAD 83

MATCH LINE -L3- STA 84+00 (SEE SHEET EC-10)

MATCH LINE -L3- STA 89+50 (SEE SHEET EC-12)

85+00

N/F
MARY FREEMAN HEIRS
DB U-36, PG 356
MB 3, PG 188
PARCEL 20463
NC PIN 4678-93-0593

INSTALL EROSION CONTROL MATTING -L3- STA 85+50 TO 86+25 (LT) SEE SHEET EC-17

INSTALL J-HOOK AND REINFORCED SILT FENCE (TYP)

CLASS 'B' RIP RAP OUTLET PROTECTION EST 7 TONS EST 15 SY GFD

56 LF - 24" CMP W/ ENDWALL NCDOT STD 838.01 INV OUT = 5.2' STA.85+70 -L3- 42.6' LT S = 18.1%

EDGE OF WATER

FLOODWAY

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

24" CMP TOP = 14.9' 15" RCP (REPLACED WITH DIP) BOTTOM = 16.0 (APPROX)

REMOVE 28 LF PIPE

PROPOSED MH W/ COVER NCDOT STD 840.31 W/ STEPS STA.85+88 -L3- 11.9' RT TOP = 25.3' INV IN (S) = 20.8' (EXIST 18") INV OUT (N) = 15.5'

CLASS 'B' RIP RAP EST 45 TONS EST 100 SY GFD

INSTALL INLET PROTECTION (TYP)

INSTALL ROCK SILT CHECK, TYPE A AT ALL DRAINAGE OUTLETS DURING CLEARING AND GRUBBING. INSTALL SILT FENCE AROUND TOP OF CULVERTS AFTER PIPE IS INSTALLED (TYP)

CLASS 'B' RIP RAP OUTLET PROTECTION EST 4 TONS EST 9 SY GFD

CLASS 'B' RIP RAP OUTLET PROTECTION EST 6 TONS EST 14 SY GFD

INSTALL EROSION CONTROL MATTING -L3- STA 87+20 TO 88+70 (LT) SEE SHEET EC-17

LIMITS OF DISTURBANCE (TYP)

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

32 LF - 24" RCP-IV W/ ENDWALL NCDOT STD 838.01 INV OUT = 11.2' STA.88+86 -L3- 21.0' LT S = 3.8%

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

28 LF - 2 @ 18" RCP-IV W/ ENDWALL NCDOT STD 838.01 INV OUT = 12.4' STA.89+35 -L3- 18.1' LT S = 2.1%

INSTALL EROSION CONTROL MATTING -L3- STA 87+25 TO 88+25 (RT) SEE SHEET EC-17

INSTALL TREE PROTECTION FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

PROPOSED OTCB W/ MH COVER NCDOT STD 840.04 STA.88+86 -L3- 12.1' RT TOP = 15.7' INV OUT = 12.4'

PROPOSED OTCB W/ MH COVER NCDOT STD 840.04 STA.89+35 -L3- 10.7' RT TOP = 16.2' INV OUT = 13.0'

N/F
LEONARD R. HIGNITE & VICTOR NG
DB G-52, PG 555
MB 3, PG 188
PARCEL 18064
NC PIN 4678-93-3640

N/F
LEONARD R. HIGNITE & VICTOR NG
DB G-52, PG 555
MB 3, PG 188
PARCEL 18063
NC PIN 4678-93-4576

N/F
EDWARD ALLEN TURNAGE
DB 1194, PG 701
MB 3, PG 188
PARCEL 07073
NC PIN 4678-93-3428

N/F
MARION AUGUSTA FREEMAN HEIRS
MB 3, PG 188
PARCEL 08012
NC PIN 4678-93-1572

N/F
CITY OF GREENVILLE
MB 3, PG 188
PARCEL 04356
NC PIN 4678-93-1523

N/F
INDY II, LLC
DB 585, PG 720
MB 3, PG 188
PARCEL 20294
NC PIN 4678-93-2512

N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648

N/F
ISAAC A. ARTIS, JR.
DB 466, PG 801
MB 3, PG 188
PARCEL 00627
NC PIN 4678-93-4453

FORD STREET (40' PUBLIC R/W)

TYSON STREET (40' PUBLIC R/W)

FAIR (50' P

STAGING, STORAGE, STOCKPILE, AND CONCRETE WASHOUT AREA

INSTALL GRAVEL CONSTRUCTION ENTRANCE AT PROPOSED DRIVEWAY FOR TRAILHEAD PARKING LOT

FUTURE TRAIL CONNECTION (BY OTHERS)

CONSTRUCTION ACCESS 7 VIA FAIRFAX AVE.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITION. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (PAVEMENT, CURB, SIDEWALK, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-11

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

NAD 83

MATCH LINE -L3- STA 89+50 (SEE SHEET EC-11)

MATCH LINE -L3- STA 95+00 (SEE SHEET EC-13)

90+00

INSTALL EROSION CONTROL MATTING -L3- STA 89+75 TO 94+25 (LT) SEE SHEET EC-17

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

EDGE OF WATER

FLOODWAY

INSTALL ROCK SILT CHECK,TYPE A AT ALL DRAINAGE OUTLETS DURING CLEARING AND GRUBBING. INSTALL SILT FENCE AROUND TOP OF CULVERTS AFTER PIPE IS INSTALLED (TYP)

GRADE TO DRAIN

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY GFD

REMOVE 18" OF EXISTING 18" CMP AND 16' OF 18" DIP AND REPLACE W/ 22' - 18" RCP-IV AND FES (SEE DETAIL 3/CD-6) INV OUT = 7.5' STA 94+47 -L3- 18.2' LT S = 3.3%

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

(201)

INSTALL INLET PROTECTION (TYP)

(202)

PROPOSED MH W/ COVER NCDOT STD 840.51 W/STEPS STA 94+47 -L3- 11.7' RT TOP = 20.5' INV IN (S) = 16.5 +/- INV OUT = 8.5' TIE-IN EX 18" CMP

(203)

RETAIN

100 YR

500 YR

LIMITS OF DISTURBANCE (TYP)

INSTALL TREE PROTECTION FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

INSTALL EROSION CONTROL MATTING ALONG EXISTING SLOPES WITHIN PROJECT LIMITS -L3- STA 89+75 TO 91+25 (RT) SEE SHEET EC-17

INSTALL EROSION CONTROL MATTING ALONG EXISTING SLOPES WITHIN PROJECT LIMITS -L3- STA 93+94 TO 94+10 (RT) SEE SHEET EC-17

N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648

N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648

N87°36'24"E 489.51'

PARK AVENUE
(CITY STREET)

WHITE STREET
(50' PUBLIC R/W)

RE-ARRANGEMENT OF PROPERTY
W.G. DUNN & GODFREY P. OAKLEY
LOTS 1-2-3-4 IN BLK 9 GREENVILLE HEIGHTS SUB-DIV
MB 3, PG 324

TSBD

TSBD

CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024438 JEFFREY W. MOORE
1/18/2018

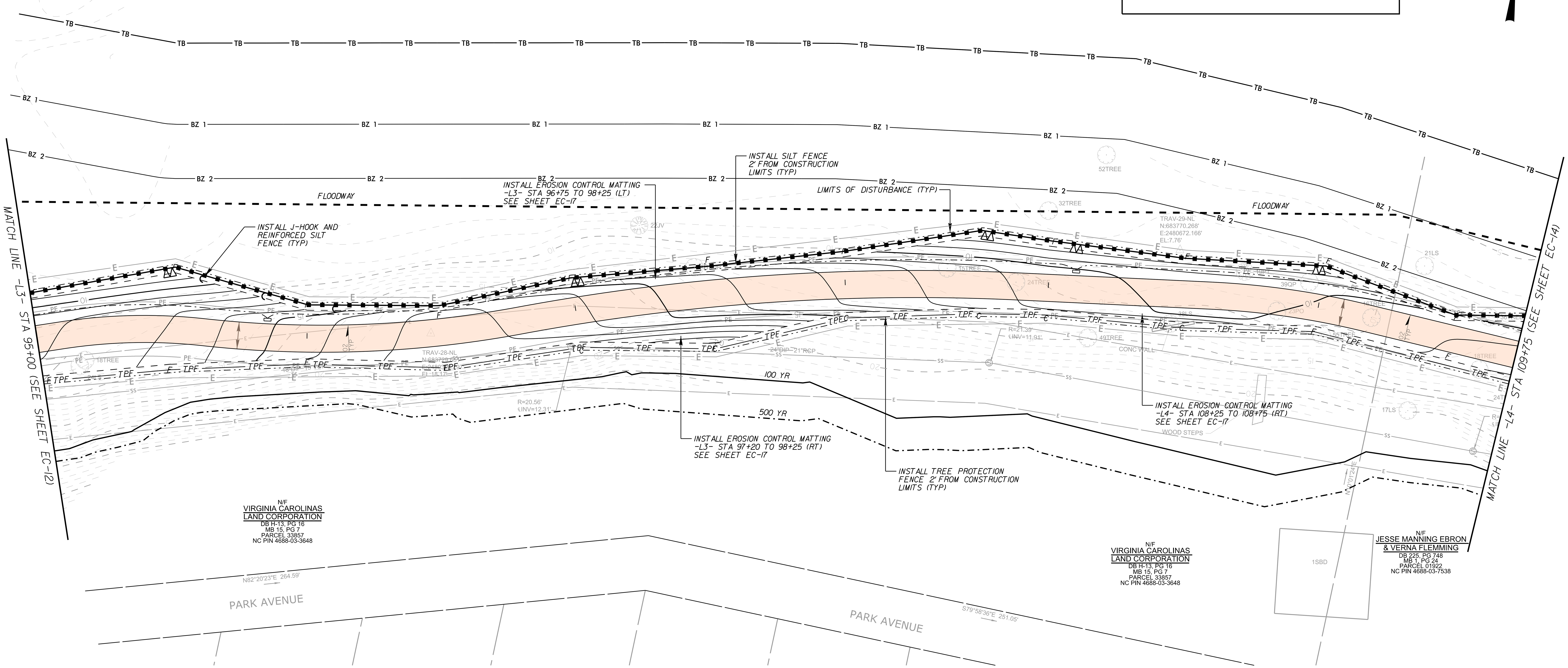
10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	EC-12

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

NAD 83



TB
BZ 1
BZ 2
FLOODWAY
MATCH LINE -L3- STA 95+00 (SEE SHEET EC-12)
MATCH LINE -L4- STA 109+75 (SEE SHEET EC-14)
INSTALL J-HOOK AND REINFORCED SILT FENCE (TYP)
INSTALL EROSION CONTROL MATTING -L3- STA 96+75 TO 98+25 (LT) SEE SHEET EC-17
INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)
LIMITS OF DISTURBANCE (TYP)
INSTALL EROSION CONTROL MATTING -L3- STA 97+20 TO 98+25 (RT) SEE SHEET EC-17
INSTALL TREE PROTECTION FENCE 2' FROM CONSTRUCTION LIMITS (TYP)
INSTALL EROSION CONTROL MATTING -L4- STA 108+25 TO 108+75 (RT) SEE SHEET EC-17
100 YR
500 YR
TRAV-29-NL
N:683770.268'
E:2480672.166'
EL:7.76'
TRAV-28-NL
R=20.56'
INV=12.31'
CONC WALL
WOOD STEPS
52TREE
32TREE
22JV
21LS
17LS
1SBD
N/F
VIRGINIA CAROLINAS LAND CORPORATION
DB H-13, PG 16
MB 15, PG 7
PARCEL 33857
NC PIN 4688-03-3648
N/F
JESSE MANNING EBRON & VERNA FLEMMING
DB 225, PG 748
MB 1, PG 24
PARCEL 01922
NC PIN 4688-03-7538
PARK AVENUE
N82°20'23"E 264.59'
S79°58'36"E 251.05'

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12/15/2017

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EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-13

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

NAD 83

MATCH LINE -L4- STA 109+75 (SEE SHEET EC-13)

MATCH LINE -L4- STA 115+25 (SEE SHEET EC-15)

110+00

115+00

CLASS 'B' RIP RAP OUTLET PROTECTION EST 3 TONS EST 8 SY GFD

REMOVE EX 2 @ 15" PVC AND REPLACE W/ 28 LF -18" RCP-IV AND TWO FES (SEE DETAIL 3/CD-6) INV IN = 10.0' STA.110+53 -L4- 14.4' RT INV OUT = 7.6' STA.110+47 -L4- 19.5' LT S = 6.0%

INSTALL SPECIAL SEDIMENT CONTROL FENCE AT PIPE OUTLET (WITHIN WETLAND)

INSTALL ROCK SILT CHECK,TYPE A AT ALL DRAINAGE OUTLETS DURING CLEARING AND GRUBBING. INSTALL SILT FENCE AROUND TOP OF CULVERTS AFTER PIPE IS INSTALLED (TYP)

INSTALL CONCRETE ENDWALL NCDOT STD 838.01 STA.111+89 -L4- 10.8' LT

28 LF - 2 @ 36" RCP-IV INV IN = 14.9' INV OUT = 14.5' S = 1.1%

INSTALL J-HOOK AND REINFORCED SILT FENCE (TYP)

INSTALL EROSION CONTROL MATTING -L4- STA 111+25 TO 112+10 (LT) SEE SHEET EC-17

REMOVE AND RESET EXIST RIP RAP 2' FROM EDGE OF MULTI-USE PATH (TO ST)

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

INSTALL EROSION CONTROL MATTING -L4- STA 110+59 TO 110+85 (LT) SEE SHEET EC-17

36" RCP INV = 14.6' 21" RCP TOP = 13.3' (APPROX.)

INSTALL EROSION CONTROL MATTING -L4- STA 112+35 TO 116+25 (LT) SEE SHEET EC-17

LIMITS OF DISTURBANCE (TYP)

PROTECT PIPE WITH WATTLE (WITHIN WETLAND)

GRADE AREA AROUND PIPE ENTRANCE TO DRAIN

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

100 YR

500 YR

INSTALL EROSION CONTROL MATTING -L4- STA 111+30 TO 113+75 (RT) SEE SHEET EC-17

INSTALL EROSION CONTROL MATTING -L4- STA 114+75 TO 115+10 (RT) SEE SHEET EC-17

REMOVE 8 LF OF EXIST 36" CMP AND INSTALL OVERSIZED JB W/ WH COVER STA.111+87 -L4- 17.6' RT TOP = 32.0' INV IN (S) = 25.4' INV OUT (N) = 14.9' (SEE SPECIAL DETAIL ON SHEET CD-6)

BYPASS EXISTING DRAINAGE INTO EXISTING DRAINWAY

INSTALL INLET PROTECTION (TYP)

CONTENTNEA CREEK (40' PUBLIC R/W)

VANCE STREET (40' PUBLIC R/W)

N/F
DENISON D. GARRETT, JR.
DB 2838, PG 201
MB 1, PG 24
PARCEL 00133
NC PIN 4688-03-8545

N/F
JIMMY L. JONES
DB H-37, PG 502
MB 3, PG 284
PARCEL 12429
NC PIN 4688-03-9585

N/F
DITHARD PROPERTIES, LLC
DB 3251, PG 373
PARCEL 28933
NC PIN 4688-12-3945

N/F
JESSE MANNING EBRON & VERNA FLEMMING
DB 225, PG 748
MB 1, PG 24
PARCEL 01922
NC PIN 4688-03-7538

N/F
JIMMY L. JONES
DB R-53, PG 458
MB 3, PG 284
PARCEL 13554
NC PIN 4688-13-1507

N/F
JIMMY L. JONES
DB R-53, PG 458
MB 3, PG 284
PARCEL 13555
NC PIN 4688-13-0487

N/F
JIMMY L. JONES
DB R-53, PG 458
MB 3, PG 284
PARCEL 13556
NC PIN 4688-13-0487

N/F
JIMMY L. JONES
DB P-45, PG 384
MB 3, PG 352
PARCEL 12403
NC PIN 4688-03-9463

N/F
MAGGIE MAE STATON
DB H-46, PG 155
MB 1, PG 24
PARCEL 18431
NC PIN 4688-03-6398

N/F
ELIZABETH ATKINSON HOPKINS
DB H-46, PG 155
MB 1, PG 24
PARCEL 11322
NC PIN 4688-03-8319

CULVERT EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO CULVERT INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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EROSION CONTROL PLAN

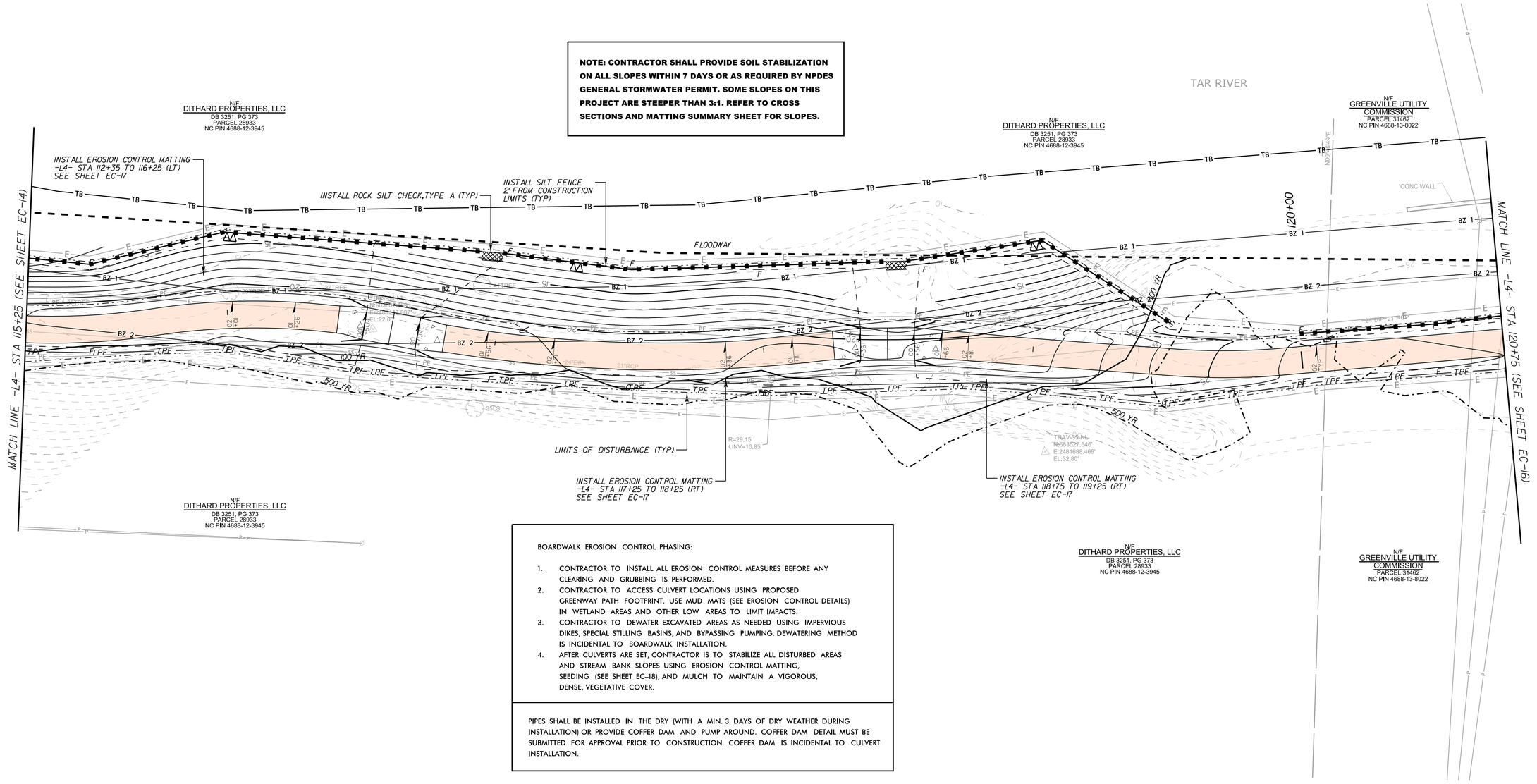
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024434 JEFFREY W. MOORE 1/18/2018

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	EC-14

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



BOARDWALK EROSION CONTROL PHASING:

1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. CONTRACTOR TO ACCESS 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 IS INCIDENTAL TO BOARDWALK INSTALLATION.
4. AFTER CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING (SEE SHEET EC-18), 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) OR PROVIDE COFFER DAM AND PUMP AROUND. COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. COFFER DAM IS INCIDENTAL TO CULVERT INSTALLATION.

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024438 JEFFREY W. MOORE
1/18/2018

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-15

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12/15/2017

MATCH LINE -L4- STA 120+75 (SEE SHEET EC-15)

INSTALL SILT FENCE 2' FROM CONSTRUCTION LIMITS (TYP)

GRADE AREA TO DRAIN

INSTALL CLASS II RIP RAP ON BANK
EST 170 TONS
EST 180 SY GFD
(STRUCTURES ITEMS)

INSTALL REINFORCED SILT FENCE (TYP)

125+00

NAD 83

N/F
GREENVILLE UTILITY COMMISSION
PARCEL 31462
NC PIN 4688-13-8022

CONC WALL IN DISREPAIR

LIMITS OF DISTURBANCE (TYP)

100 YR

500 YR

STAGING, STORAGE, STOCKPILE, AND CONCRETE WASHOUT AREA

INSTALL EROSION CONTROL MATTING -L4- STA 124+25 TO 125+75 (RT) SEE SHEET EC-17

N/F CSX RAILROAD RIGHT-OF-WAY VARIABLE WIDTH

N/F
GREENVILLE UTILITY COMMISSION
DB A-19, PG 306
MB 70, PG 98
PARCEL 29030
NC PIN 4688-23-3014

EXISTING 100' GREENVILLE UTILITIES COMMISSION EASEMENT (DB V-47, PG 549, MB 70, PG 98)

N42°35'38"W 135.8'
TIE LINE ONLY

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

MATCH LINE (SEE INSET - THIS SHEET)

CONSTRUCTION ACCESS 8
VIA PLANT ST.

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (RAILROAD TRACKS, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

CONSTRUCTION ACCESS 9
VIA AT-GRADE CSXT CROSSING

CONTRACTOR TO USE CARE WHEN USING THE DRIVEWAY FOR ACCESS. CONTRACTOR TO PROVIDE PRELIMINARY VIDEO AND VISUAL INSPECTION OF THE DRIVEWAY TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION IN ORDER TO ENSURE THAT IT IS LEFT IN PRE-CONSTRUCTION CONDITON. SUPPLY VIDEO AND VISUAL INSPECTION RESULTS TO THE CITY FOR THEIR RECORDS. ANY IMPERFECTIONS CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE (RAILROAD TRACKS, GRASS). ANY EXTRA WORK CAUSED BY ACCESSING THE SITE (VIDEO AND INSPECTING EXISTING CONDITIONS, REPAIRING DAMAGE) IS INCIDENTAL TO THE PROJECT.

PLANT ST

INSTALL GRAVEL CONSTRUCTION ENTRANCE

EXIST AT-GRADE CSXT CROSSING

RAILROAD

LIMITS OF DISTURBANCE (TYP)

INSTALL GRAVEL CONSTRUCTION ENTRANCE

MATCH LINE (THIS SHEET)

NAD 83

INSET

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

EROSION CONTROL PLAN

NORTH CAROLINA PROFESSIONAL SEAL 024436 ENGINEER JEFFREY W. MOORE
1/18/2018

10 0 20

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: EC-16

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
EC-1	-L1-	12+25	12+75	LT	65
EC-1	-L1-	12+25	13+25	RT	115
EC-2	-L1-	15+70	16+10	RT	60
EC-5/EC-6	-L1-	33+25	33+75	RT	30
EC-6	-L1-	36+75	37+75	RT	135
EC-6	-L1-	37+00	38+00	LT	170
EC-8/EC-9	-L2-	60+25	64+25	LT	835
EC-8	-L2-	62+85	63+20	RT	45
EC-10	-L3-	81+25	81+70	LT	60
EC-11	-L3-	85+50	86+25	LT	70
EC-11	-L3-	87+20	88+70	LT	240
EC-11	-L3-	87+25	88+25	RT	95
EC-12	-L3-	89+75	94+25	LT	600
EC-12	-L3-	89+75	91+25	RT	300
EC-13	-L3-	93+94	94+10	RT	80
EC-13	-L3-	96+75	98+25	LT	50
EC-13	-L3-	97+20	98+25	RT	85
EC-13	-L4-	108+25	108+75	RT	20
EC-14	-L4-	110+59	110+85	LT	25
EC-14	-L4-	111+25	112+10	LT	130
EC-14	-L4-	111+30	113+75	RT	150
EC-14/EC-15	-L4-	112+35	116+25	LT	485
EC-14	-L4-	114+75	115+10	RT	10
EC-15	-L4-	117+25	118+25	RT	45
EC-15	-L4-	118+75	119+25	RT	45
EC-16	-L4-	124+25	125+75	RT	160
			SUBTOTAL		4105
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					675
				TOTAL	4780
				SAY	4800

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12/15/2017

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EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024136 JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: EC-17

CONSTRUCTION SEQUENCE

CONSTRUCTION SPECIFICATIONS

1. Hold preconstruction conference at least one week prior to starting construction and invite NCDEMLR LQS contact number is (919) 707-9200.

2. Flag the work limits for protection.

3. Prior to any land disturbing (including demolition) activities, install silt/tree protection fence, construction entrance, temporary stream crossings, and all other erosion control devices.

4. In accordance with the erosion control plans, grade trail, install crosspipes, and place reinforced silt fence as shown. Place additional erosion control matting and stabilize cut slopes as indicated. Modify silt fence placement around trail and outlets as necessary, place silt fence around all temporary crossings and culverts as needed.

5. Complete final grading for trail.

6. Finish grading of slopes, topsoil critical areas and permanently vegetate, seed and mulch.

7. All graded areas will be seeded, fertilized and mulched according to NCDOT specifications to maintain a vigorous, dense, vegetative cover within 7 to 14 days or sooner of completion of any phase of grading. Refer to the latest NPDES Rules dated August 2011 for more information on ground stabilization requirements. In summary, perimeter dikes, swales, ditches, slopes steeper than 3:1, and high quality (HQW) zones should be stabilized within 7 days. All other areas and slopes shall be stabilized within 14 days. If work on the project ceases for more than the above mentioned length of time, all disturbed areas shall have temporary vegetative ground cover established and erosion control devices maintained.

8. All erosion and sediment control practices will be inspected weekly and after rainfall events. Needed repairs will be made immediately.

9. Estimated time before final stabilization is 12 months.

10. Site includes approximately 5.97 acres of permanent vegetation area.

11. AFTER SITE IS STABILIZED, construction entrances, and 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.
Contractor must receive permission by project inspector before any measures are removed.

MAINTENANCE

Follow the construction sequence throughout project development. Adequate erosion and sediment control measures must be installed, maintained and adjusted as needed during the demolition or clearing and grubbing phases as well as throughout the life of and until permanent vegetation on the project is established. 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. To simplify documentation of Self-Inspection Reports and NPDES Self-Monitoring Reports, a combined form is now available. The new form was developed to satisfy the requirements of the Sedimentation Pollution Control Act and the NPDES Stormwater Permit for Construction Activities, NCG 010000. Beginning August 1, 2013, the Division of Energy, Mineral, and Land Resources is responsible for administering both the SPCA and the NPDES Stormwater Permit for Construction Activities, NCG 010000. The combined form should make it easier to comply with self-inspection requirements.

The Combined Self-Monitoring form is available as a PDF and Word document from the Land Quality web site, http://portal.ncdenr.org/web/lr/erosion

If you have questions, please contact the Land Quality Section at a DENR Regional Office at 919-707-9200.

If the same person conducts the land-disturbing activity & any related borrow or waste activity, the related borrow or waste activity shall constitute part of the land-disturbing activity unless the borrow or waste activity is regulated under the Mining Act of 1971, or is a landfill regulated by the Division of Waste Management. If the land-disturbing activity and any related borrow or waste activity are not conducted by the same person, they shall be considered separate land-disturbing activities and must be permitted either through the Sedimentation Pollution Control Act as a one-use borrow site or through the Mining Act.

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 erosion control devices when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pools 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 Contractor shall provide ground cover on exposed slopes or other areas within 7 to 14 days or sooner of completion of any phase of grading. Refer to the latest NPDES Rules dated August 2011 for more information on ground stabilization requirements. Permanent ground cover is to be provided for all disturbed areas within 7 to 14 days or sooner following completion of construction or development.

6. The City of Greenville contact is Lynn Raynor. (252) 329-4620

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 objectionable 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 it 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 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.

GRASS-LINED CHANNELS (6.30)

CONSTRUCTION SPECIFICATIONS

1. Remove all trees, brush, stumps, and other objectionable material from the foundation area and dispose of properly.

2. Excavate the channel and shape it to neat lines and dimensions shown on the plans plus a 0.2-ft overcut around the channel perimeter to allow for bulking during seedbed preparations and sod buildup.

3. Remove and properly dispose of all excess soil so that surface water may enter the channel freely.

4. The procedure used to establish grass in the channel will depend upon the severity of the conditions and selection of species. Protect the channel with mulch or a temporary liner sufficient to withstand anticipated velocities during the establishment period.

MAINTENANCE

During the establishment period, check grass-lined channels after every rainfall. After grass is established, periodically check the channel; check it after every heavy rainfall event. Immediately make repairs. It is particularly important to check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes. Remove all significant sediment accumulations to maintain the designed carrying capacity. Keep the grass in a healthy, vigorous condition at all times, since it is the primary erosion protection for the channel.

VEGETATIVE PLAN (NCDENR 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 & Abruzzi Rye	250 lbs./acre 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 & Browntop Millet *** or Sorghum-Sudan Hybrids ***	250 lbs./acre 35 lbs./acre 30 lbs./acre
	Slopes (3:1 to 2:1)	
Mar.1-Jun.1 (Mar.1-Apr.15) (Mar.1-Jun.30) (Mar.1-Jun.30)	Serlcea Lespedeza (scarified) and Add Tall Fescue or Add Weeping Lovegrass or Add Hulled Common Bermudagrass	50 lbs./acre 250 lbs./acre 5 lbs./acre 8 lbs./acre
Jun.1-Sep.1	Tall Fescue *** & Browntop Millet *** or Sorghum-Sudan Hybrids ***	250 lbs./acre 35 lbs./acre 30 lbs./acre
Sep.1-Mar.1 (Nov.1-Mar.1)	Serlcea Lespedeza (unhulled-unscarified) & Tall Fescue Add Abruzzi Rye	70 lbs./acre 250 lbs./acre 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.
90 lbs. limestone/1000 sq.ft. (2 tons/acre)
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 450 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.

TOPSOILING (6.04)

CONSTRUCTION SPECIFICATIONS

MATERIALS

Determine whether the quality and quantity of available topsoil justifies selective handling. Quality topsoil has the following characteristics:

Texture - loam, sandy loam, and silt loam are best; sandy clay loam, silty clay loam, clay loam, and loamy sand are fair. Do not use heavy clay and organic soils such as peat or muck as topsoil.

Organic matter content - (sometimes referred to as "humic matter") should be greater than 1.5% by weight.

Acidity - pH should be greater than 3.6 before liming, and liming is required if it is less than 6.0.

Soluble salts - should be less than 500 ppm.

Sodium - sodium adsorption ratio should be less than 12.

The depth of material meeting the above qualifications should be at least 2 inches. Soil factors such as rock fragments, slope, depth to water table, and layer thickness affect the ease of excavation and spreading of topsoil.

Generally, the upper part of the soil, which is richest in organic matter, is most desirable, however, material excavated from deeper layers may be worth storing if it meets the other criteria listed above.

Organic soils such as mucks and peats do not make good topsoil. They can be identified by their extremely light weight when dry.

STRIPPING

Strip topsoil only from those areas that will be disturbed by excavation, filling, roadbuilding, or compaction by equipment. A 4 to 6-inch stripping depth is common, but depth varies depending on the site. Determine depth of stripping by taking soil cores at several locations within each area to be stripped. Topsoil depth generally varies along a gradient from hilltop to toe of the slope. Put sediment basins, diversions, and other controls into place before stripping.

STOCKPILING

Select stockpile location to avoid slopes and natural drainageways, avoiding traffic routes. On large sites, respreading is easier and more economical when topsoil is stockpiled in small piles located near areas where they will be used. All stockpile areas used shall be stabilized with silt fence and seeded.

Sediment barriers - Use sediment fences or other barriers where necessary to retain sediment.

Temporary seeding - Protect topsoil stockpiles by temporarily seeding as soon as possible, no more than 30 working days or 120 calendar days after the formation of the stockpile.

Permanent vegetation - If stockpiles will not be used within 12 months they must be stabilized with permanent vegetation to control erosion and weed growth.

SITE PREPARATION

Before spreading topsoil, establish erosion and sedimentation control practices such as diversions, berms, dikes, waterways, and sediment basins.

Grading - Maintain grades on the areas to be topsoiled according to the approved plan and do not alter them by adding topsoil.

Liming of subsoil - Where the pH of the existing subsoil is 6.0 or less, or the soil is composed of heavy clays, incorporate agricultural limestone in amounts recommended by soil tests or specified for the seeding mixture to be used. Incorporate lime to a depth of at least 2 inches by disking.

Roughening - Immediately prior to spreading the topsoil, loosen the subgrade by disking or scarifying to a depth of at least 4 inches, to ensure bonding of the topsoil and subsoil. If no amendments have been incorporated, loosen the soil to a depth of at least 6 inches before spreading topsoil.

SPREADING TOPSOIL

Do not spread topsoil while it is frozen or muddy or when subgrade is wet or frozen. Correct any irregularities in the surface that result from topsoiling or other operations to prevent the formation of depressions or water pockets.

Compact the topsoil enough to ensure good contact with the underlying soil, but avoid excessive compaction, as it increases runoff and inhibits seed germination. Light packing with a roller is recommended where high-maintenance turf is to be established.

On slopes and areas that will not be mowed, the surface may be left rough after spreading topsoil. A disk may be used to promote bonding at the interface between topsoil and subsoil.

After topsoil application, follow procedure for seedbed preparation, taking care to avoid excessive mixing of topsoil into the subsoil.

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PREPARED IN THE OFFICE OF:
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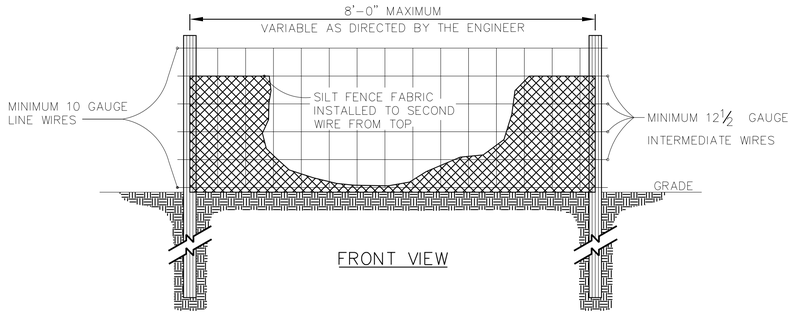
EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

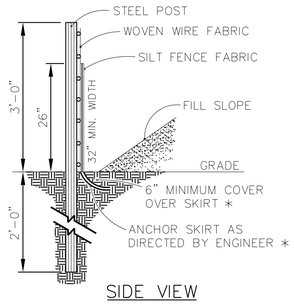
NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	EC-18



FRONT VIEW



SIDE VIEW

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

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

STANDARD TEMPORARY SILT FENCE

HARDWARE CLOTH AND GRAVEL INLET PROTECTION DETAIL (6.51)

CONSTRUCTION SPECIFICATIONS

1. As synthetic fabric,use a previous sheet of nylon,polyester,or ethylene yarn - extra strength (50 lb/linch 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.

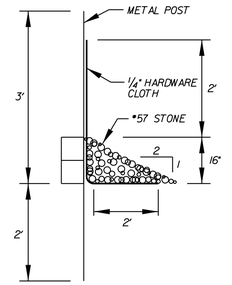
7. The top of the frame and fabric must be well below the ground elevation downslope from the drop inlet to keep runoff from bypassing the inlet. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow. Material from within the sediment pool may be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

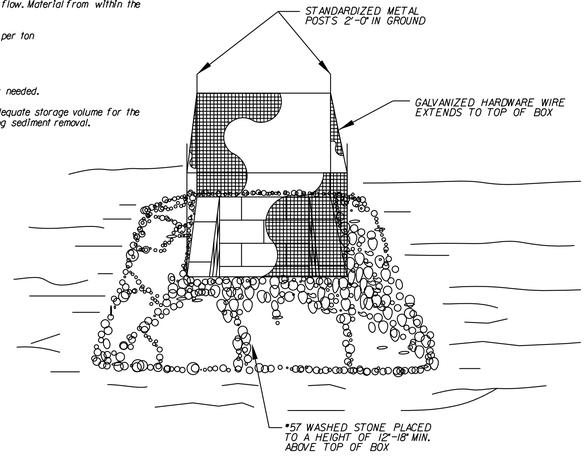
8. "57 washed stone shall be paid for at the contract unit price per ton "Sediment Control Stone."

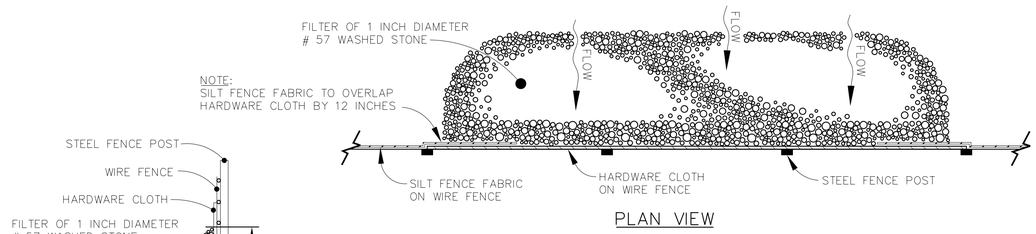
MAINTENANCE

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.

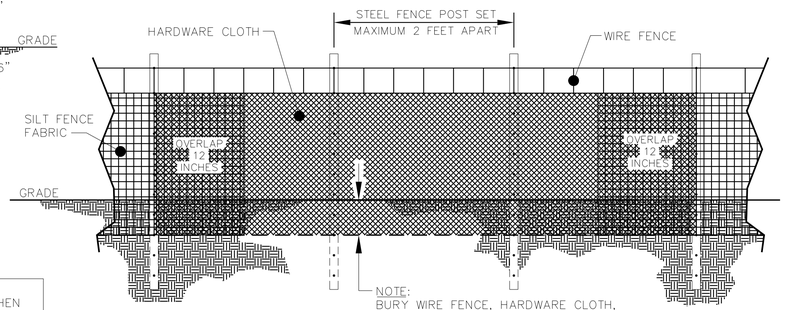






PLAN VIEW

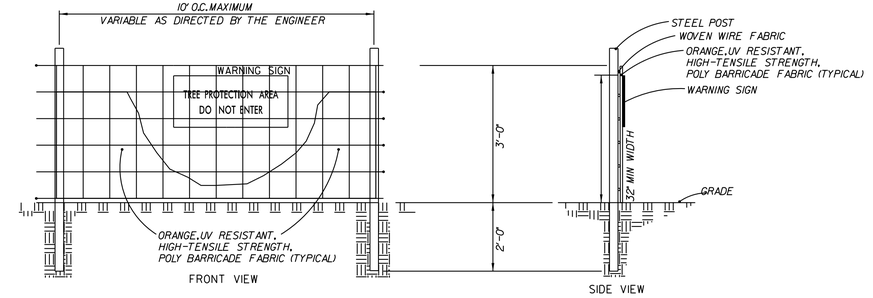
SIDE VIEW



FRONT VIEW

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.

STANDARD SILT FENCE OUTLET



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 THE CITY OR NCDENR.
BASED ON ACTUAL FIELD CONDITIONS.
SIGNS SHALL BE INCIDENTAL TO THE FENCE.

TREE PROTECTION DETAIL

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2019

NOT TO SCALE

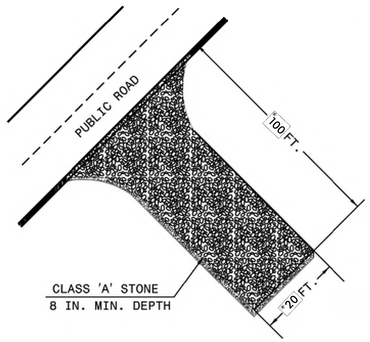
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	EC-19

K:\RAL_Raadway\012654005 - EB-5539\Plan\Plan Sheets\Erosion Control\eb5539_EC-dtl.dgn
12/15/2017

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

ENGLISH STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE



NOTES

1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE FILTRATION GEOTEXTILE BENEATH STONE

*REVISED TO MEET NCDENR REQUIREMENTS

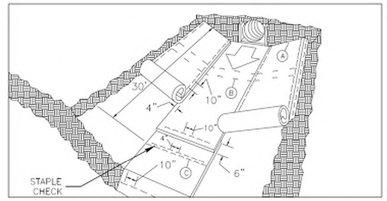
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

ENGLISH STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

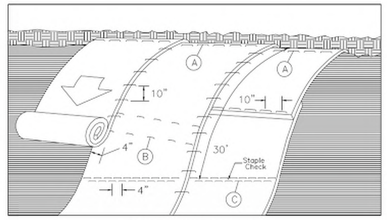
SHEET 1 OF 1
1607.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

ENGLISH STANDARD DRAWING FOR
MATTING INSTALLATION



MATTING IN DITCHES



MATTING ON SLOPES

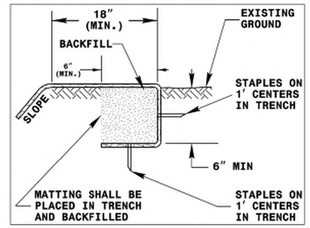


DIAGRAM (A)

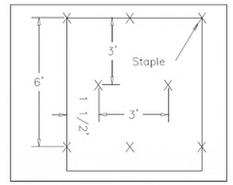


DIAGRAM (B)

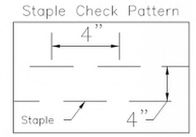


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

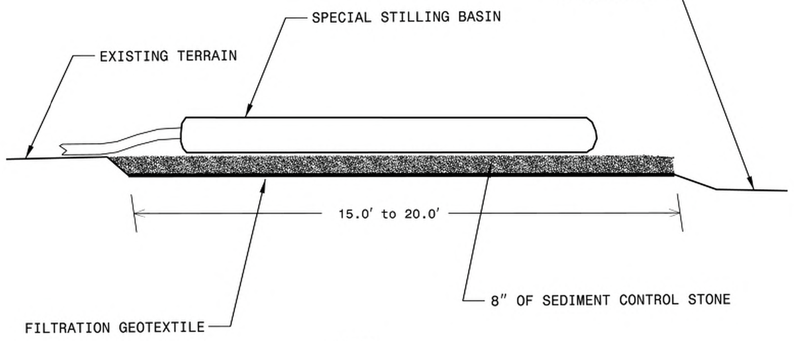
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

ENGLISH STANDARD DRAWING FOR
MATTING INSTALLATION

SHEET 1 OF 1
1631.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

ENGLISH STANDARD DRAWING FOR
SPECIAL STILLING BASIN



NOTES

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

PROVIDE STABILIZED OUTLET TO STREAM BANK.

WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE SPECIAL STILLING BASIN ABOVE NATURAL GROUND.

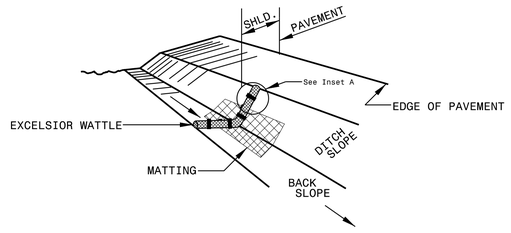
NOT TO SCALE

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-12

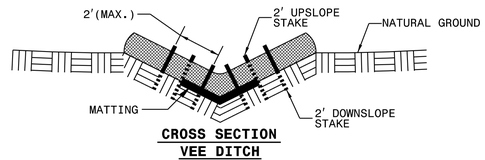
ENGLISH STANDARD DRAWING FOR
SPECIAL STILLING BASIN

SHEET 1 OF 1
1630.06

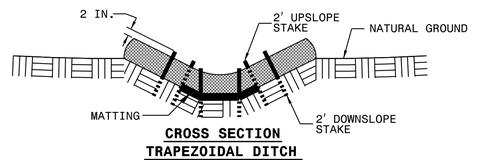
WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 18 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

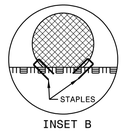
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 18" IN LENGTH.

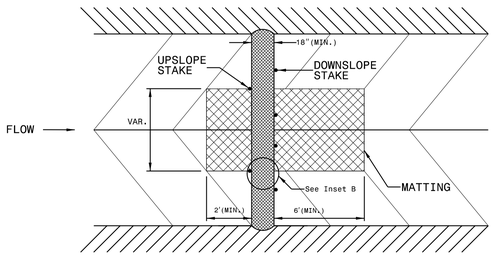
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

INSET A



INSET B



TOP VIEW

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-20

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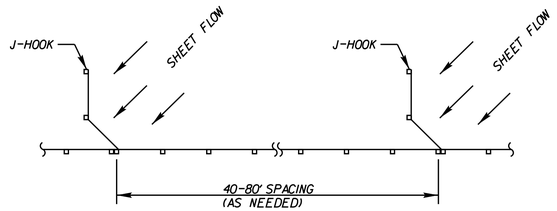
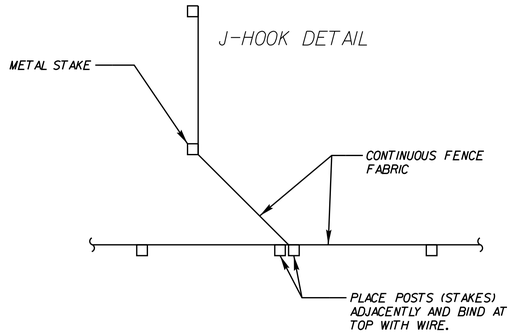
12/15/2017

SILT FENCE J-HOOK PLACEMENT

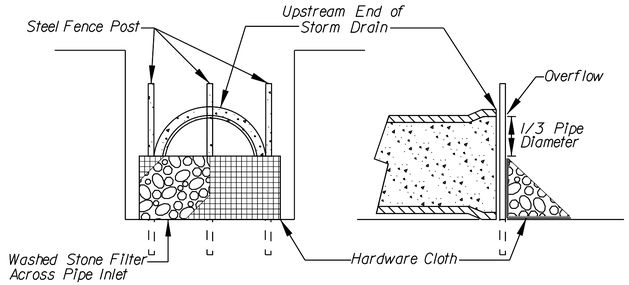


J-HOOK DETAIL



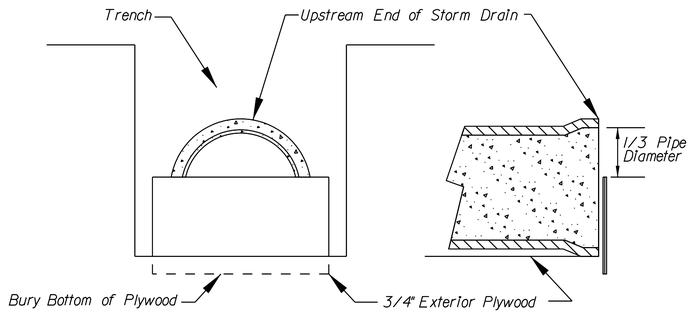
NOTE: USE SILT FENCE J-HOOK PLACEMENT AS NEEDED TO DIRECT RUN-OFF TO SILT FENCE OUTLETS AND PREVENT ACCUMULATION AND UNDERMINING OF SILT FENCE.

STONE FILTER INLET PROTECTION FOR STORM DRAIN UNDER CONSTRUCTION



STONE FILTER INLET PROTECTION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT OF PIPE CULVERT INSTALLATION.

PLYWOOD INLET PROTECTION FOR STORM DRAIN UNDER CONSTRUCTION

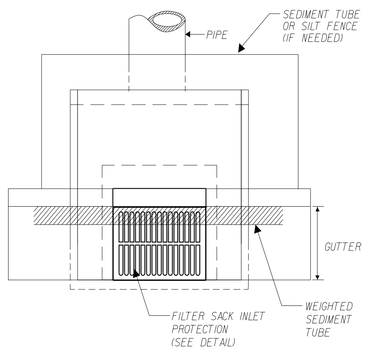


PLYWOOD INLET PROTECTION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT OF PIPE CULVERT INSTALLATION.

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.

NOTE: USE INLET TUBES AS NEEDED TO PREVENT SILT AND DEBRIS FROM ENTERING INLETS DURING CONSTRUCTION.



Inlet Tubes

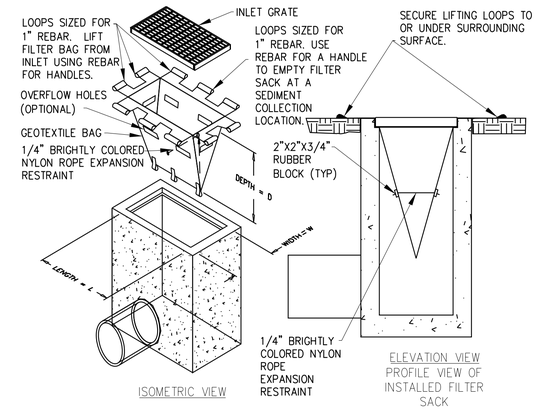
Materials

Use inlet tubes that exhibit the following properties:
Produced by a Manufacturer experienced in sediment tube manufacturing.
Composed of compacted geotextiles, curled excelsior wood, natural coconut fibers or hardwood mulch or a mix of these materials enclosed by a flexible netting material. Do not use straw, straw fiber, straw bales, pine needles or leaf mulch under this specification. Utilize an outer netting that consists of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable materials.

Installation:
Install inlet tubes lying flat on the ground, with no gaps between the underlying surface and the inlet tube.

Inspection and Maintenance:
Inlet tubes may be temporarily moved during construction as needed. Replace inlet tubes damaged during installation as directed by the Inspector or Manufacturer's Representative at the contractor's expense.

INLET TUBES "SILT SOCK"
NOT TO SCALE



ISOMETRIC VIEW

ELEVATION VIEW
PROFILE VIEW OF INSTALLED FILTER SACK

1. EMPTY FILTER SACK WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE WILL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. AN OIL ADSORBENT PAD OR PILLOW CAN BE PURCHASED WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK WILL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK WILL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK WILL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

FILTER SACK INLET PROTECTION
NOT TO SCALE

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

NOT TO SCALE

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-21

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

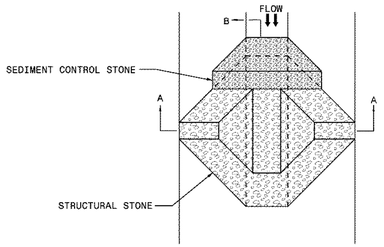
1-12

ENGLISH STANDARD DRAWING FOR

TEMPORARY ROCK SILT CHECK TYPE A

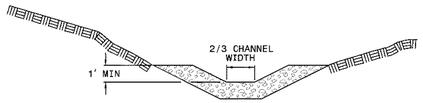
SHEET 1 OF 1

1633.01

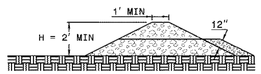


PLAN

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



SECTION A-A



SECTION B-B

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

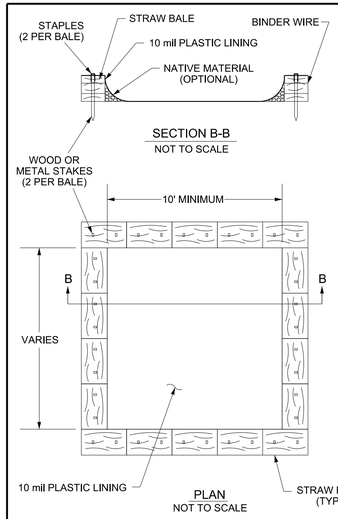
1-12

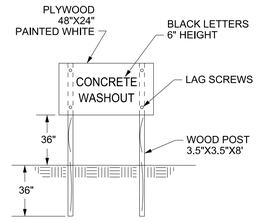
ENGLISH STANDARD DRAWING FOR

TEMPORARY ROCK SILT CHECK TYPE A

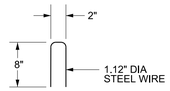
SHEET 1 OF 1

1633.01



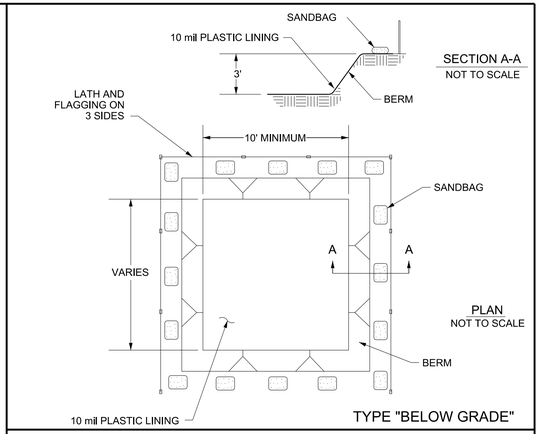


CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)

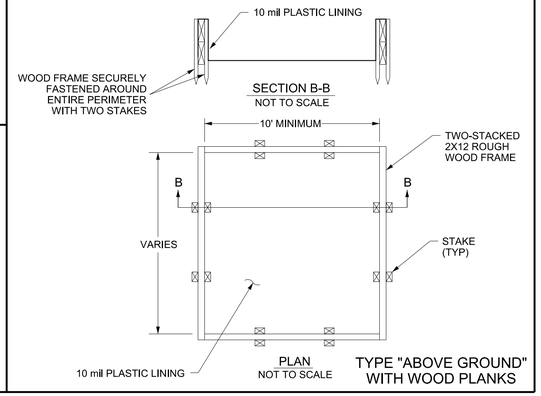


STAPLE DETAIL

TYPE "ABOVE GRADE" WITH STRAW BALES



TYPE "BELOW GRADE"



TYPE "ABOVE GROUND" WITH WOOD PLANKS

CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT

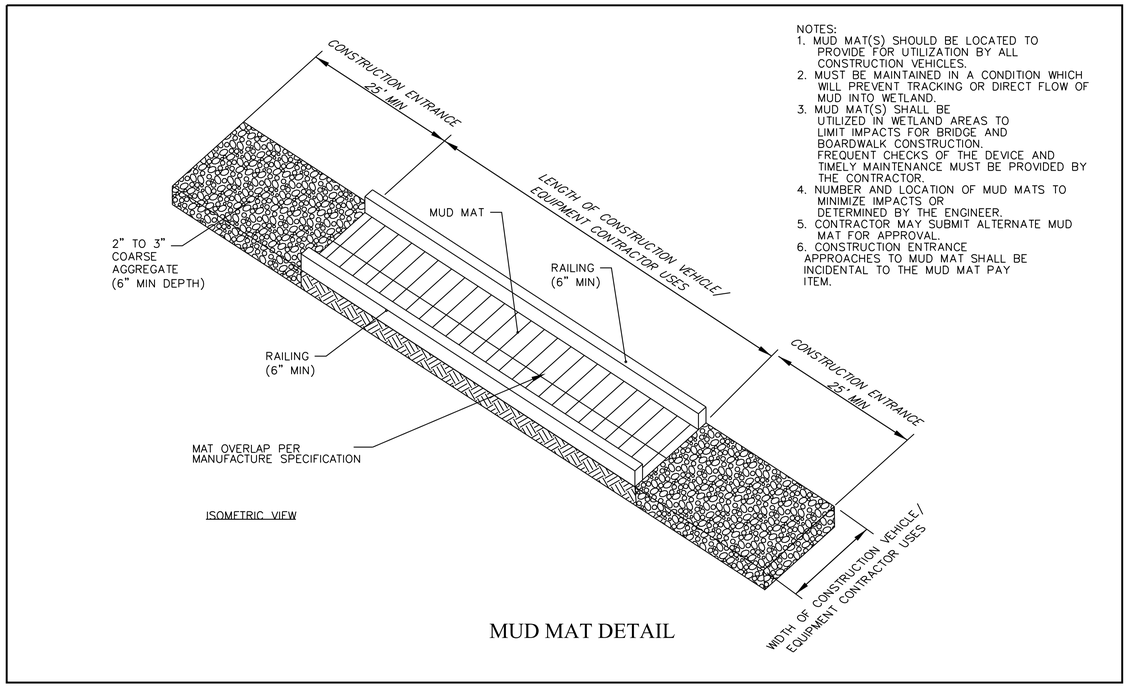
REVISIONS DATE: 10/22/2012 DRAWN BY: WDP

SW-20.25

CONCRETE WASHOUT

NOTES

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.



ISOMETRIC VIEW

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.

MUD MAT DETAIL

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024436 JEFFREY W. MOORE
1/18/2018

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005
SHEET NUMBER: EC-22

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 FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
3. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
4. FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
5. FOR PREFABRICATED PEDESTRIAN BRIDGE, SEE SPECIAL PROVISIONS.
6. FOR TIMBER BOARDWALK, SEE SPECIAL PROVISIONS.
7. FOR RETAINING WALLS, SEE SPECIAL PROVISIONS.
8. FOR TIMBER CANOPIES, SEE SPECIAL PROVISIONS.
9. FOR PRECAST CONCRETE BOARDWALK, SEE SPECIAL PROVISIONS.
10. FOR PILE SUPPORTED SLAB, SEE SPECIAL PROVISIONS.
11. FOR PRECAST CONCRETE BOARDWALK, 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, 2012 EDITION, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS.

BOARDWALK AND PEDESTRIAN BRIDGE DESIGN DATA

1. UNIFORM PEDESTRIAN LIVE LOAD_____90 PSF
2. VEHICULAR LIVE LOAD_____AASHTO H-5-44 (BRIDGE, BW #1, & BW #2)
   AASHTO H-10-44 (BW #3 & BW #4)
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 FALCON ENGINEERING GEOTECHNICAL REPORT DATED MAY 12, 2015 AND REVISIONS DATED NOVEMBER 18, 2015 AND JUNE 7, 2016.
2. TIMBER BOARDWALKS
   A. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
   B. TIMBER PILES AT BOARDWALK #1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 8 TONS PER PILE.
   C. DRIVE TIMBER PILES AT BOARDWALK #1 TO A REQUIRED DRIVING RESISTANCE OF 16 TONS PER PILE.
   D. TIMBER PILES AT BOARDWALK #2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 8 TONS PER PILE.
   E. DRIVE TIMBER PILES AT BOARDWALK #2 TO A REQUIRED DRIVING RESISTANCE OF 16 TONS PER PILE.
   F. TIMBER PILES AT BOARDWALK #3 ARE DESIGNED FOR A FACTORED RESISTANCE OF 8 TONS PER PILE.
   G. DRIVE TIMBER PILES AT BOARDWALK #3 TO A REQUIRED DRIVING RESISTANCE OF 16 TONS PER PILE.
   H. TIMBER PILES AT BOARDWALK #4 ARE DESIGNED FOR A FACTORED RESISTANCE OF 8 TONS PER PILE.
   I. DRIVE TIMBER PILES AT BOARDWALK #4 TO A REQUIRED DRIVING RESISTANCE OF 16 TONS PER PILE.
   J. INSTALL TIMBER PILES AT ALL BENTS TO A TIP ELEVATION NO HIGHER THAN 2 FEET.
   K. THE DESIGN SCOUR ELEVATION AT ALL BOARDWALK BENTS IS APPROXIMATELY 12 FEET.
3. CONCRETE BOARDWALKS
   A. FOUNDATION RECOMMENDATION FOR TIMBER BOARDWALK (SECTION 2) ARE FOR TIMBER BOARDWALK ONLY. RECOMMENDATIONS HAVE NOT BEEN DEVELOPED FOR PRECAST CONCRETE BOARDWALKS. CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL GEOTECHNICAL INFORMATION AND RECOMMENDATIONS FOR TIMBER PILES IF THE PRECAST CONCRETE BOARDWALKS BID ALTERNATE IS CHOSEN.
4. PREFABRICATED PEDESTRIAN BRIDGE
   A. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
   B. HP12x53 STEEL PILES AT END BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 30 TONS PER PILE.
   C. DRIVE HP12x53 STEEL PILES AT END BENT 1 TO A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.
   D. HP12x53 STEEL PILES AT END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 30 TONS PER PILE.
   E. DRIVE HP12x53 STEEL PILES AT END BENT 2 TO A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.
5. PILE SUPPORTED SLAB
   A. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
   B. STEEL H-PILE POINTS ARE REQUIRED FOR STEEL H-PILES 1 THROUGH 14. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
   C. IF NECESSARY, PREDRILL PILE LOCATIONS 1 THROUGH 14 TO ELEVATION 5 FT. WITH EQUIPMENT THAT WILL RESULT IN A MAXIMUM PREDRILLING DIAMETER OF 12". FOR PREDRILLING FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
   D. HP12x53 PILES 1 THROUGH 8 ARE DESIGNED FOR A FACTORED RESISTANCE OF 37 TONS PER PILE.
   E. DRIVE HP12x53 STEEL PILES 1 THROUGH 8 TO A REQUIRED DRIVING RESISTANCE OF 55 TONS PER PILE.
   F. HP12x53 STEEL PILES 9 THROUGH 14 ARE DESIGNED FOR A FACTORED RESISTANCE OF 22 TONS PER PILE.
   G. DRIVE HP12x53 STEEL PILES 9 THROUGH 14 TO A REQUIRED DRIVING RESISTANCE OF 35 TONS PER PILE.

TIMBER BOARDWALKS

1. TIMBER BOARDWALKS 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.

BOARDWALK STRUCTURAL TIMBER AND LUMBER

1. ALL TIMBER PILING, 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. MINIMUM GRADE SHALL BE NO. 1 DENSE FOR LUMBER 2" AND 4" THICK. LUMBER 5" AND THICKER SHALL BE MINIMUM GRADE DENSE STRUCTURAL 65.
2. 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
3. EACH DECKING MEMBER SHALL BE INSTALLED BARK SIDE UP TO PREVENT CUPPING.
4. MAXIMUM SPACING OF DECKING MEMBERS SHALL BE 1/8".
5. ALL VERTICAL MEMBERS SHALL BE PLUMB.
6. ALL SAW CUTS, BOLT HOLES, AND OTHER HOLES SHALL BE TREATED WITH APPROPRIATE PRESERVATION SOLUTION PRIOR TO INSTALLING BOLTS.
7. UNLESS NOTED OTHERWISE, MECHANICAL WOOD CONNECTIONS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS, WITH ALL FASTENER HOLES FULLY POPULATED.
8. ALL CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
9. ALL FASTENERS, CONNECTORS AND BOLTS SHALL BE HOT-DIP GALVANIZED AND CONFORM TO ASTM A325, WITH NUTS CONFORMING TO ASTM A563 AND WASHERS CONFORMING TO ASTM F436, UNLESS NOTED OTHERWISE.

PRECAST CONCRETE BOARDWALK

1. PRECAST CONCRETE BOARDWALK SUPERSTRUCTURE, SUBSTRUCTURE, CONNECTIONS, ANCHOR BOLTS, AND BEARING PADS SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER BASED UPON THE SPECIFIED DESIGN CRITERIA. THE PRECAST CONCRETE 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. THE PRECAST CONCRETE BOARDWALK PLANS CALCULATIONS SHALL INCLUDE A SUMMARY OF PILE REACTIONS. PRECAST CONCRETE BOARDWALK FABRICATION SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.
2. THE BOARDWALK CLEAR PATH WIDTH SHALL BE 10'-0" AND SHALL BE MEASURED BETWEEN THE INSIDE FACES OF RAILING ELEMENTS.
3. PEDESTRIAN RAILING SHALL BE A MINIMUM OF 4'-6" ABOVE THE TOP OF BOARDWALK DECK.
4. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4,000 PSI MEASURED AT 28-DAYS.
5. CONNECTIONS FOR THE PRECAST CONCRETE BOARDWALK SHALL BE DESIGNED FOR THE APPROPRIATE LATERAL AND UPLIFT FORCES AS DETERMINED FOLLOWING THE SPECIFIED DESIGN CRITERIA.
6. ALL FASTENERS, CONNECTORS AND BOLTS SHALL BE HOT-DIP GALVANIZED AND CONFORM TO ASTM A325, WITH NUTS CONFORMING TO ASTM A563 AND WASHERS CONFORMING TO ASTM F436, UNLESS NOTED OTHERWISE.

CABLE STRANDS FOR PEDESTRIAN RAILS

1. CABLE STRANDS SHALL BE 1/8" DIAMETER 1x19 GALVANIZED STEEL.
2. END ANCHORAGES SHALL BE AS SHOWN ON THE PLANS.
3. CABLES SHALL BE TENSIONED USING TURNBUCKLE ASSEMBLY. TENSION CABLES TO RESIST RAILING LOADS AS SPECIFIED IN SECTION 13 OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
4. BARRIER CABLES THAT PASS THROUGH A HOLE IN THEIR ANCHORAGE SHALL HAVE THE HOLE SEALED TO PREVENT WATER FROM FOLLOWING THE PATH OF THE BARRIER CABLE TO THE ANCHORAGE.

PHASE 3B
FUTURE CONSTRUCTION
ALL REFERENCES TO WORK OUTSIDE OF PHASE 3A (–L2– Sta. 64+68.00 TO –L4– 126+16.33) ARE NOT APPLICABLE TO THIS PROJECT.

PROJECT NO. EB-5539
PITT COUNTY
STATION: N/A

SHEET 1 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416... 1/19/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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CITY OF GREENVILLE

SOUTH TAR RIVER GREENWAY, PHASE 3

GENERAL NOTES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S01.dgn

GENERAL NOTES

PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE

1. PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE, ANCHOR BOLTS, AND BEARING PADS SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER BASED UPON THE SPECIFIED DESIGN CRITERIA. THE PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE 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. THE PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE CALCULATIONS SHALL INCLUDE A SUMMARY OF REACTIONS FOR BENTS. THE PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE FABRICATION SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.
2. PREFABRICATED PEDESTRIAN BRIDGE SHALL BE A STEEL PRATT TRUSS.
3. THE BRIDGE CLEAR PATH WIDTH SHALL BE 10'-0", AND SHALL BE MEASURED BETWEEN THE INSIDE FACES OF SAFETY RAILING ELEMENTS.
4. SAFETY RAILING SYSTEM SHALL BE A MINIMUM OF 4'-6" ABOVE THE TOP OF BRIDGE DECK.
5. ALL STRUCTURAL STEEL FOR PREFABRICATED PEDESTRIAN BRIDGE SHALL BE WEATHERING STEEL AND SHALL CONFORM TO NCDOT STANDARD SPECIFICATIONS AND PREFABRICATED PEDESTRIAN BRIDGE SPECIAL PROVISION.
6. ALL STRUCTURAL STEEL WELDS SHALL CONFORM TO THE LATEST PROVISIONS OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1. ALL WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH THE ABOVE AWS CODE.
7. SPLICES, IF REQUIRED FOR THE PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE, SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS, AND NECESSARY CALCULATIONS PROVIDED.
8. WEEP HOLES SHALL BE PROVIDED FOR DRAINAGE OF BRIDGE TUBULAR MEMBERS, AND SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS.
9. THE BRIDGE DECK SHALL BE CONCRETE.

PREFABRICATED PEDESTRIAN BRIDGE SUBSTRUCTURE

1. THE CAST-IN-PLACE CONCRETE PREFABRICATED PEDESTRIAN BRIDGE SUBSTRUCTURE SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER BASED UPON THE SPECIFIED DESIGN CRITERIA. THE PREFABRICATED PEDESTRIAN BRIDGE SUBSTRUCTURE 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 PEDESTRIAN BRIDGE END BENTS SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.
2. PEDESTRIAN BRIDGE END BENT DETAILS SHALL BE COORDINATED WITH THE PREFABRICATED PEDESTRIAN BRIDGE PLANS, TO BE PROVIDED BY THE PREFABRICATED PEDESTRIAN BRIDGE MANUFACTURER. CONSTRUCTION OF THE END BENTS SHALL NOT BEGIN UNTIL SUPERSTRUCTURE SHOP DRAWINGS ARE APPROVED AND ALL CONFLICTS RESOLVED.
3. THE TOP SURFACE OF THE END BENT CAPS, EXCEPT AT BRIDGE SEAT BUILD-UPS AND BOARDWALK SEAT, SHALL BE SLOPED TRANSVERSELY AT A MINIMUM RATE OF 2%.
4. THE TOP SURFACE OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS, EXCEPT THAT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.
5. BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
6. PAYMENT FOR THE EPOXY PROTECTIVE COATING SHALL BE INCIDENTAL TO THE COST OF THE PREFABRICATED PEDESTRIAN BRIDGE.

CAST-IN-PLACE CONCRETE

1. ALL CONCRETE SHALL BE CLASS A, UNLESS NOTED OTHERWISE.
2. CONCRETE WORK SHALL FOLLOW THE PROVISIONS OF SECTION 420 OF THE STANDARD SPECIFICATIONS.
3. CHAMFER ALL EXPOSED EDGES ¾" UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

APPROACH RAILINGS

1. TIMBER APPROACH RAILINGS SHALL BE PROVIDED AT EACH CORNER OF THE BOARDWALKS AND BRIDGE AS SHOWN ON THE PLANS. APPROACH RAILINGS SHALL BE FLARED AT 15 DEGREES, UNLESS SHOWN OTHERWISE.

RETAINING WALLS

1. RETAINING WALLS #1 & #2 SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER BASED UPON THE SPECIFIED DESIGN CRITERIA. RETAINING WALL 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 RETAINING WALLS SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.
2. FOR RETAINING WALL #1 DESIGN PARAMETERS AND NOTES, SEE "RETAINING WALL #1 DETAILS" SHEET 2 OF 2 (SHEET S-15).
3. FOR RETAINING WALL #2 DESIGN PARAMETERS AND NOTES, SEE "RETAINING WALL #2 DETAILS" SHEET (SHEET S-17).
4. FOR ADDITIONAL DESIGN INFORMATION, REFER TO THE FALCON ENGINEERING GEOTECHNICAL REPORT DATED MAY 12, 2015.

PILE SUPPORTED SLAB

1. PILE SUPPORTED SLAB DESIGN AND DETAILS ARE BASED ON DIRECTION FROM CSX THAT RIP RAP BENEATH RAILROAD BRIDGE AND IN FRONT OF ABUTMENT CAN BE REMOVED, EXPOSING FACE OF ABUTMENT, WITHOUT TEMPORARY SHORING OR IMPACTING RAILROAD BRIDGE STABILITY. FIELD MEETING OCCURRED ON MAY 12, 2014.
2. EXISTING GABION BASKET BETWEEN PILE LINES C & D SHALL BE REMOVED. CONTRACTOR SHOULD BE AWARE THAT LEAN CONCRETE IS PRESENT ON TOP OF RIP RAP NEAR THE PROPOSED SOUTHEAST WALL STEM.
3. FOR PROFILE GRADE AND SUPERELEVATION (AND SUPERELEVATION TRANSITIONS), SEE ROADWAY PLANS. FOR TOP OF SLAB ELEVATIONS AT EDGES OF SLAB ALONG PILE LINES, SEE "PILE SUPPORTED SLAB DETAILS" SHEET 1 OF 2 (SHEET S-20).
4. TEMPORARY SHORING ON SOUTHEAST SIDE OF RAILROAD SHALL BE A SOLDIER PILE WALL DESIGNED BY THE CONTRACTOR'S ENGINEER. PLANS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN NORTH CAROLINA. SHORING SHALL BE SUBMITTED TO AND APPROVED BY CSXT PRIOR TO INSTALLATION.
5. THE FIRST PILE FOR THE TEMPORARY SHORING ON SOUTHEAST SIDE OF BRIDGE WALL SHALL BE DRIVEN AT A MINIMUM OF 12'-6" FROM THE CENTERLINE OF THE RAILROAD.
6. SHORING UNDER THE EXISTING BRIDGE IS REQUIRED FOR PROTECTION OF THE EXISTING ABUTMENT DURING CONSTRUCTION. SHORING SHALL BE DESIGNED BY CONTRACTOR'S ENGINEER. PLANS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA. SHORING SHALL BE SUBMITTED TO AND APPROVED BY CSXT PRIOR TO INSTALLATION.
7. TO AVOID DAMAGE TO EXISTING ABUTMENT DURING REMOVAL OF SHORING UNDER BRIDGE, IT IS RECOMMENDED THAT THIS SHORING REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETED.
8. THE TEMPORARY SHORING AT SOUTHEAST SIDE AND THE PERMANENT SHORING UNDER THE BRIDGE WILL BE PAID FOR IN THE LUMP SUM PAY ITEM FOR PILE SUPPORTED SLAB. NO SEPARATE PAYMENT WILL BE MADE.
9. FACE OF VERTICAL STEM SHALL BE TREATED WITH ANTI -GRAFFITI COATING AS SPECIFIED IN THE APPLICATION OF ANTI -GRAFFITI COATING SPECIAL PROVISION. PAYMENT WILL BE MADE UNDER THE LUMP SUM PAY ITEM FOR THE PILE SUPPORTED SLAB. NO SEPARATE PAYMENT SHALL BE MADE.
10. DETAILING REBAR SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE NCDOT STRUCTURE DESIGN MANUAL. ALL SHOP DRAWINGS PERTAINING TO REBAR DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

CONSTRUCTION

1. CONSTRUCTION OF THE BOARDWALK AND PEDESTRIAN BRIDGE SHALL BE PERFORMED SO AS TO NOT ALLOW DEBRIS TO FALL INTO THE WATER.
2. DURING CONSTRUCTION OF THE PILE SUPPORTED SLAB, THE INTEGRITY OF THE EXISTING RAILROAD BRIDGE SHALL BE VISUALLY MONITORED BY THE CONTRACTOR AND CSX. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF DAMAGE IS OBSERVED.
3. A CSX REPRESENTATIVE WILL BE REQUIRED AS AN ON-SITE MONITOR DURING ALL CONSTRUCTION ACTIVITIES LOCATED ADJACENT TO THE EXISTING BRIDGE. CONTRACTOR SHALL COORDINATE DIRECTLY WITH CSX.
4. NO CONSTRUCTION EQUIPMENT OR STAGING OF MATERIALS SHALL BE PERMITTED ON THE EXISTING SLAB.

PHASE 3B
FUTURE CONSTRUCTION
ALL REFERENCES TO WORK OUTSIDE OF PHASE 3A (–L2– Sta. 64+68.00 TO –L4– 126+16.33) ARE NOT APPLICABLE TO THIS PROJECT.

5. PROPOSED CONSTRUCTION SEQUENCE FOR PILE SUPPORTED SLAB:
   A. INSTALL TEMPORARY SHORING ON SOUTHEAST SIDE OF THE RAILROAD TRACK.
      1. A TEMPORARY SOLDIER PILE RETAINING WALL SHALL BE INSTALLED ON THE SOUTHEAST OF THE RAILROAD. THE FIRST TEMPORARY SHORING PILE SHALL BE INSTALLED 12'-6" FROM THE CENTERLINE OF THE EXISTING RAILROAD BRIDGE AND APPROXIMATELY 2'-6" FROM THE EDGE OF THE EXISTING BRIDGE WALKWAY. THE TEMPORARY WALL WILL NOT EXTEND UNDER THE BRIDGE.
      2. THE EXISTING GABION BASKETS SOUTHWEST OF THE RAILROAD WILL SERVE AS THE TEMPORARY SHORING.
   B. ONCE THE TEMPORARY SHORING WALL AND PERMANENT SHORING BENEATH BRIDGE HAS BEEN COMPLETED AND THE EXISTING SOILS REMOVED TO BOTTOM OF SLAB ELEVATION, DRIVE THE STEEL PILES AS INDICATED IN PLANS AND SPECIFICATIONS.
   C. CONSTRUCT THE SLAB AND TURN DOWN WALL ACCORDING TO THE PLANS AND SPECIFICATIONS.
   D. CONSTRUCT THE STEM ACCORDING TO THE PLANS AND SPECIFICATIONS.
   E. FILL THE VOID BEHIND THE STEM AND TEMPORARY SHORING/EXISTING ABUTMENT WITH #57 STONE.
   F. INSTALL TIMBER CANOPIES AS INDICATED ON THE PLANS.
6. CONTRACTOR MUST PLAN AND PERFORM THE WORK IN A MANNER SUCH THAT THE CSXT TRACKS AT THE PROJECT LOCATION REMAIN FULLY CAPABLE OF CARRYING RAIL TRAFFIC THROUGHOUT THE WORK PERIOD AND RAIL TRAFFIC IS NOT DELAYED OR OTHERWISE IMPACTED DUE TO THE WORK BEING PERFORMED. THERE WILL BE NO TEMPORARY AT-GRADE CROSSINGS ALLOWED.

PILE DRIVING PLAN

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING A PILE DRIVING PLAN FOR THE PILE SUPPORTED SLAB AT THE EXISTING RAILROAD TRACK.
2. PILE DRIVING PLAN MUST BE SUBMITTED TO AND APPROVED BY CSX TRANSPORTATION PRIOR TO THE INSTALLATION OF ANY PILES. AN APPROVED COPY OF THE PILE DRIVING PLAN SHALL BE SUBMITTED TO THE ENGINEER.
3. PILE DRIVING PLAN SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.
4. AT A MINIMUM THE PILE DRIVING PLANS SHALL INCLUDE THE FOLLOWING FOR EACH PILE INSTALLED:
   A. CRANE SIZE AND PILE DRIVING HAMMER USED DURING PILE INSTALLATION.
   B. LOCATION OF PROPOSED PILES IN RELATION TO THE CENTERLINE OF EXISTING RAILROAD TRACK AND RIGHT OF WAY.
   C. LOCATION OF PILE INSTALLATION EQUIPMENT (CRANE, ETC.) IN RELATION TO THE CENTERLINE OF EXISTING RAILROAD TRACK.
   D. CRANE PICK RADIUS IN RELATION TO THE CENTERLINE OF EXISTING RAILROAD TRACK.
   E. TOTAL WEIGHT OF ALL PICKS NECESSARY TO INSTALL THE PILES.
5. RAILROAD FLAGGERS WILL BE REQUIRED FOR CONSTRUCTION ACTIVITIES AROUND RAILROAD. CONTRACTOR SHALL COORDINATE WITH RAILROAD AND FLAGGERS SHALL BE PROVIDED BY CSX AT NO ADDITIONAL COST TO THE CITY.
6. PILE DRIVING PLAN SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM FOR THE PILE SUPPORTED SLAB AND NO SEPARATE PAYMENT WILL BE MADE.
7. FOR PILE DRIVING PLAN, SEE PILE SUPPORTED SLAB SPECIAL PROVISION.

PROJECT NO. EB-5539
PITT COUNTY
STATION: N/A
SHEET 2 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON
DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416...
1/19/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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CITY OF GREENVILLE

SOUTH TAR RIVER GREENWAY, PHASE 3

GENERAL NOTES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

12/18/2017
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TIMBER CANOPY NOTES

GENERAL NOTES

1. FOR TIMBER CANOPY, SEE SPECIAL PROVISIONS.

2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. ALL APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED STRICTLY.

3. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS.

4. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK.

5. DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST FROM THE ENGINEER NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.

6. IF ANY BIDDER IS IN DOUBT AS TO THE INTENT OF THE PLANS OR SPECIFICATIONS, THEY SHALL REQUEST AN INTERPRETATION FROM THE ENGINEER IN WRITING AT LEAST TEN (10) DAYS PRIOR TO THE SCHEDULED BID DATE.

7. WHERE A CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS OCCUR THE MORE-STRINGENT REQUIREMENT SHALL APPLY.

8. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.

DESIGN CRITERIA

1. APPLICABLE CODES
   - A. 2012 NORTH CAROLINA STATE BUILDING CODE (2009 INTERNATIONAL BUILDING CODE WITH REVISIONS)
   - B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-05)
   - C. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS 2010)

2. LIVE LOAD:
   ROOF.....20 PSF

3. SNOW LOAD:
   GROUND SNOW LOAD...10 PSF

4. WIND LOAD:
   BASIC DESIGN WIND VELOCITY....110 MPH
   OCCUPANCY CLASSIFICATION.....CATEGORY II
   EXPOSURE CATEGORY.....C
   WIND IMPORTANCE FACTOR Iw....1.0
   DESIGNED AS OPEN ROOF SYSTEM
   COMPONENTS AND CLADDING:
   ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY. IMPORTANCE FACTOR AND EXPOSURE LISTED ABOVE.

5. FUTURE LOADS: UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.

LUMBER

1. ALL LUMBER AND ITS FASTENINGS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, LATEST EDITION, BY THE AMERICAN FOREST AND PAPER ASSOCIATION.

2. ALL LUMBER SHALL BE PRESSURE TREATED SOUTHERN PINE GRADE NO. 1 DENSE.

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. TIMBER CANOPY LUMBER: UC3B

4. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, DUCTWORK, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED.

5. HOLES FOR BOLTS SHALL BE BORED 1/32" TO 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.

6. ALL BOLTS SHALL BE RE-TIGHTENED PRIOR TO APPLICATION TO PLYWOOD, ETC.

7. ALL BOLTS BEARING ON WOOD SHALL HAVE WASHERS UNDER HEAD AND/OR NUT.

8. 2x SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS, ENDS OF CANTILEVERS, AND HALFWAY BETWEEN SUPPORTS. CROSS BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0" O.C. MAXIMUM.

9. ALL SAW CUTS, BOLT HOLES, AND OTHER HOLES SHALL BE TREATED WITH APPROPRIATE PRESERVATION SOLUTION PRIOR TO INSTALLING BOLTS.

10. UNLESS NOTED OTHERWISE, MECHANICAL WOOD CONNECTIONS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS, WITH ALL FASTENER HOLES FULLY POPULATED.

11. ALL CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

12. ALL NAILS SHALL BE GALVANIZED UNLESS NOTED OTHERWISE.

13. STANDARD WOOD CONNECTORS MUST BE PROVIDED BY THE GENERAL CONTRACTOR FOR WOOD FRAMED MEMBERS. INTERIOR FRAMING CONNECTORS MUST BE G90 GALVANIZED ZINC CONNECTORS-EXTERIOR FRAMING CONNECTORS MUST BE 0155 GALVANIZED ZINC COATING, MINIMUM.

14. ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITIONS OF SERVICE.

PRE-FABRICATED WOOD TRUSSES

1. ALL LUMBER AND FASTENERS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, LATEST EDITION, BY THE AMERICAN FOREST AND PAPER ASSOCIATION. CONFORM TO APPLICABLE PROVISIONS OF TPI DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES (LATEST EDITION).

2. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING MINIMUM LOADS:
   TOP CHORD:
   LL=20 PSF AT ROOF
   DL=10 PSF AT ROOF
   BOTTOM CHORD:
   DL=10 PSF

3. TRUSS SUPPLIER SHALL CALCULATE UPLIFT LOADS BASED ON THE WIND LOAD CRITERIA LISTED IN THESE GENERAL NOTES. AT A MINIMUM THE NET WIND UPLFIT LOAD SHALL BE 25 PSF.

4. TRUSS CHORDS AND WEBS SHALL BE SOUTHERN PINE, PS 20, GRADED TO NFPA RULES:
   MAXIMUM MOISTURE CONTENT - 19%
   MINIMUM GRADE OF CHORD - NO. 2
   MINIMUM GRADE OF WEB MEMBERS - NO. 2

5. ALL TRUSSES SHALL BE DESIGNED FOR THE ACTUAL DEAD LOAD PLUS LIVE LOAD (SPECIFIED ABOVE). MAXIMUM DEFLECTION DUE TO LIVE LOAD ONLY SHALL NOT EXCEED L/360. MAXIMUM DEFLECTION DUE TO TOTAL LOAD SHALL NOT EXCEED L/240. ROOF SLOPE SHALL BE 1/4" (PER FOOT OR GREATER AFTER LONG TERM DEFLECTION OCCURS.

6. SUBMIT SHOP DRAWINGS FOR ALL TRUSSES. SHOP DRAWINGS SHALL INDICATE PLACING OF ALL FRAMING MEMBERS SHOWING TYPE, SIZE, NUMBER, LOCATION AND SPACING. THEY SHALL ALSO INDICATE SUPPLEMENTAL BRACING, SPLICES, BRIDGING, ACCESSORIES AND DETAILS REQUIRED FOR PROPER INSTALLATION. SHOP DRAWINGS' SUBMITTAL MUST BE PREPARED UNDER THE SUPERVISION OF AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.

7. ALL TRUSSES AND CONNECTIONS SHALL BE DESIGNED BY THE SUPPLIER'S ENGINEER. SUBMIT CALCULATIONS FOR ALL TRUSSES AND THEIR CONNECTIONS THAT ARE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.

8. CONSTRUCTION OF THE TIMBER CANOPIES SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.

9. TEMPORARY BRACING, WHERE REQUIRED, SHALL BE PROVIDED UNTIL THE ERECTION IS COMPLETE.

PLYWOOD

1. ALL PLYWOOD SHEATHING AND DIAPHRAGMS SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1-95 WITH EXTERIOR GLUE.

2. PLYWOOD SHEETS SHALL BE LAID WITH LONG DIMENSION PERPENDICULAR TO THE SUPPORTING FRAMING.

3. PLYWOOD ROOF SHEATHING SHALL BE 3/4" CDX (INDEX 40/24) AND SHALL BE FASTENED WITH #6 SCREWS SPACED @ 12" O.C. AT ALL EDGES AND 10d NAILS @ 12" O.C. IN PANEL FIELD. PROVIDE 2x4 BLOCKING OR CLIPS AT MIDSPAN AND AT ALL PANEL EDGES.

PROJECT NO. EB-5539

PITT COUNTY

STATION: N/A

SHEET 3 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC0416...

1/19/2018

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CITY OF GREENVILLE

SOUTH TAR RIVER GREENWAY, PHASE 3

GENERAL NOTES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE	DATE:	12/17
CHECKED BY: J. J. PICCIRILLI	DATE:	12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON	DATE:	12/17

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc.012654005_S03.dgn

TOTAL BILL OF MATERIALS

	TIMBER BOARDWALK [1]	PREFABRICATED PEDESTRIAN BRIDGE [2]	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	MSE RETAINING WALL [3]	SOLDIER PILE RETAINING WALL [3]	PILE SUPPORTED SLAB [4]	TIMBER CANOPIES [5]	BID ALTERNATE PRECAST CONCRETE BOARDWALK WITH METAL RAILING [6]	BID ALTERNATE PRECAST CONCRETE BOARDWALK WITH TIMBER RAILING [7]
	LUMP SUM	LUMP SUM	TONS	S.Y.	S.F.	S.F.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
✳ BOARDWALK #1 - 26+82.00 -L1-	LUMP SUM								LUMP SUM	LUMP SUM
✳ BOARDWALK #2 - 28+50.94 -L1-	LUMP SUM								LUMP SUM	LUMP SUM
✳ PEDESTRIAN BRIDGE - 52+89.00 -L2-		LUMP SUM	65	70						
BOARDWALK #3 - 116+51.14 -L4-	LUMP SUM								LUMP SUM	LUMP SUM
BOARDWALK #4 - 118+36.00 -L4-	LUMP SUM								LUMP SUM	LUMP SUM
✳ RETAINING WALL #1 - 30+20.94 -L1-					4,290					
RETAINING WALL #2 - 111+10.00 -L4-						900				
PILE SUPPORTED SLAB - 124+25.28 -L4-							LUMP SUM			
TIMBER CANOPIES								LUMP SUM		
TOTAL (PHASE 3A)	LUMP SUM					900	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
✳ TOTAL (PHASE 3B)	LUMP SUM	LUMP SUM	65	70	4,290				LUMP SUM	LUMP SUM

1 LUMP SUM PAY ITEMS FOR TIMBER BOARDWALK SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY AND OTHER INCIDENTALS NECESSARY FOR THE TIMBER BOARDWALK, APPROACH RAILINGS, APPROACH SLABS, APPROACH FILL, DEWATERING, ETC.

2 LUMP SUM PAY ITEMS FOR PREFABRICATED PEDESTRIAN BRIDGE SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY, AND OTHER INCIDENTALS NECESSARY FOR THE PREFABRICATED STEEL PRATT TRUSS PEDESTRIAN BRIDGE, CAST-IN-PLACE CONCRETE SUBSTRUCTURE, PILES, BEARING PADS, ANCHOR BOLTS, EPOXY PROTECTIVE COATING, APPROACH RAILINGS, APPROACH SLABS, APPROACH FILL, DEWATERING, ETC.

3 LUMP SUM PAY ITEM FOR RETAINING WALLS SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY, AND OTHER INCIDENTALS NECESSARY FOR MSE AND SOLDIER PILE RETAINING WALLS. LUMP SUM PAYMENT FOR THIS ITEM SHALL INCLUDE APPLICATION OF BRIDGE (ANTI-GRAFFITI) COATING.

4 LUMP SUM PAY ITEM FOR PILE SUPPORTED SLAB SHALL INCLUDE SUBMITTALS, LABOR, MATERIALS, EQUIPMENT, DELIVERY AND OTHER INCIDENTALS NECESSARY FOR THE PILE SUPPORTED SLAB, TEMPORARY AND PERMANENT SHORING WALLS, RIP RAP ON RIVER BANK, GEOTEXTIAL FABRIC ON RIVER BAND, #57 STONE, ANTI-GRAFFITI COATING, DEWATERING, UTILITY LOCATION, STRUCTURAL MONITORING, WATERPROOF SEALANT, BOND BREAKER, JOINT MATERIAL, ETC.

5 LUMP SUM PAY ITEM FOR TIMBER CANOPIES SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, DELIVERY, AND OTHER INCIDENTALS NECESSARY FOR (4) TIMBER CANOPIES INCLUDING CHAIN LINK FENCE MOUNTED TO RETAINING WALL SYSTEM.

6 BID ALTERNATE SHALL BE FOR THE SUBSTITUTION OF TIMBER BOARDWALK WITH PRECAST CONCRETE BOARDWALK WITH METAL RAILING FOR THE REFERENCED STRUCTURES. LUMP SUM PAY ITEMS FOR PRECAST CONCRETE BOARDWALK WITH METAL RAILINGS SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY AND OTHER INCIDENTALS NECESSARY FOR THE PRECAST CONCRETE BOARD, METAL AND CABLE RAILING SYSTEM, BEARING PADS, ANCHOR BOLTS, APPROACH RAILINGS, APPROACH SLABS, APPROACH FILL, ETC.

7 BID ALTERNATE SHALL BE FOR THE SUBSTITUTION OF TIMBER BOARDWALK WITH PRECAST CONCRETE BOARDWALK WITH TIMBER RAILING FOR THE REFERENCED STRUCTURES. LUMP SUM PAY ITEMS FOR PRECAST CONCRETE BOARDWALK WITH TIMBER RAILINGS SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY AND OTHER INCIDENTALS NECESSARY FOR THE PRECAST CONCRETE BOARD, TIMBER AND CABLE RAILING SYSTEM, BEARING PADS, ANCHOR BOLTS, APPROACH RAILINGS, APPROACH SLABS, APPROACH FILL, ETC.

PHASE 3B
FUTURE CONSTRUCTION
ALL REFERENCES TO WORK OUTSIDE OF PHASE 3A (–L2– Sta. 64+68.00 TO –L4– 126+16.33) ARE NOT APPLICABLE TO THIS PROJECT.

PROJECT NO. EB-5539
PITT COUNTY
STATION: N/A
SHEET 4 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON
DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416...
1/19/2018

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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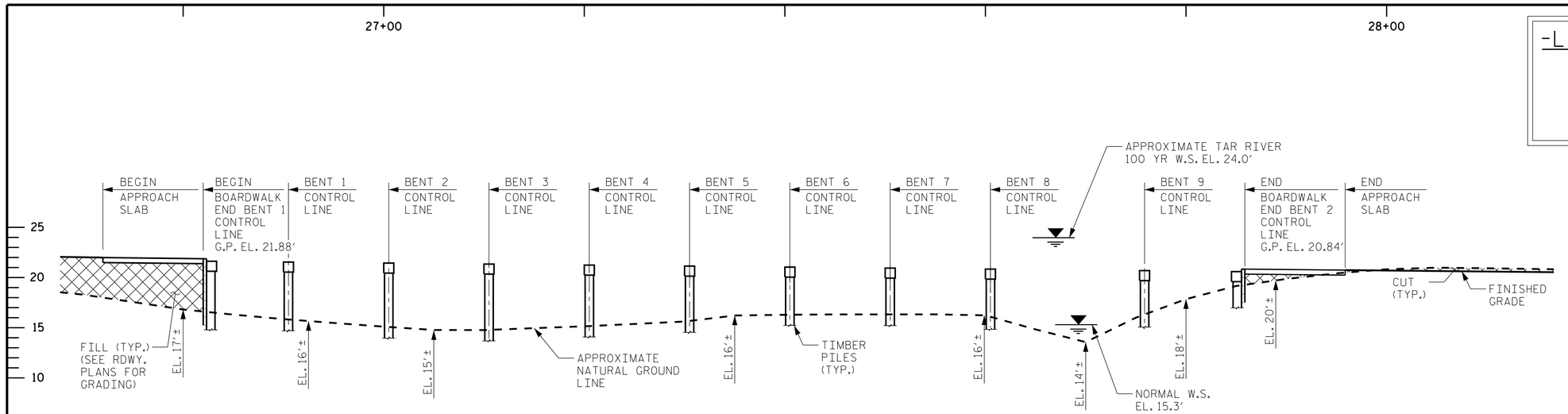
CITY OF GREENVILLE

SOUTH TAR RIVER GREENWAY, PHASE 3

GENERAL NOTES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			24

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S04.dgn



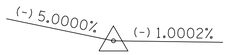
SECTION ALONG -L1-

-L1- HORIZONTAL CURVE DATA

PI STA. 28+13.32 -L1-
△ = 40°-12'-52.3" (LT)
D = 76°-23'-39.7"
L = 52.64'
T = 27.46'
R = 75.00'

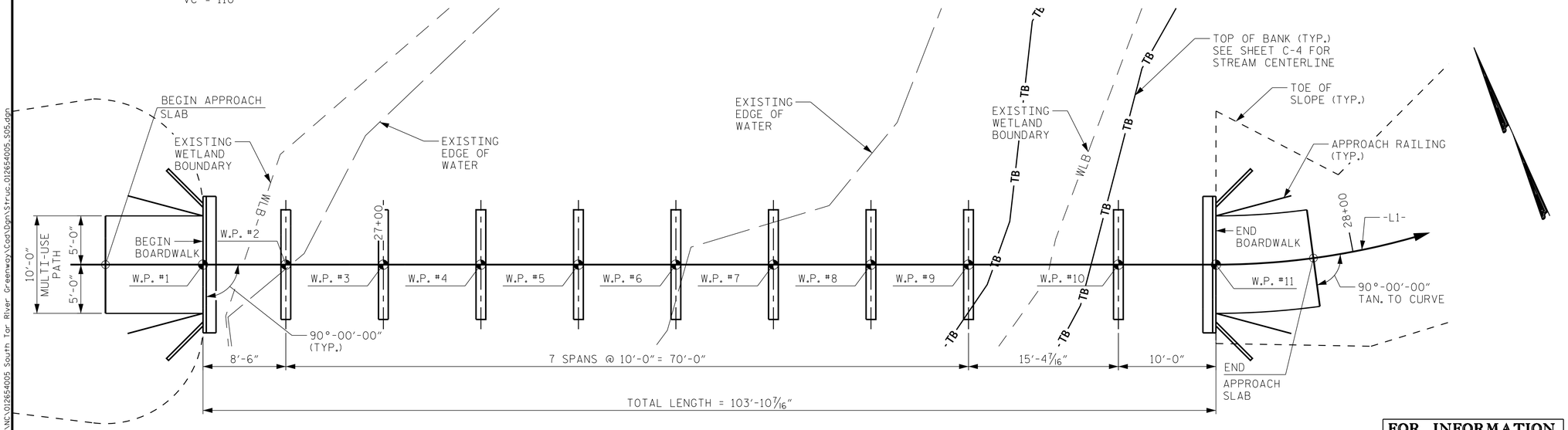
BENT CONTROL LINE LOCATIONS

BENT NO.	-L1- STA.
BEGIN A.S.	26+72.00
END BENT 1	26+82.00
1	26+90.50
2	27+00.50
3	27+10.50
4	27+20.50
5	27+30.50
6	27+40.50
7	27+50.50
8	27+60.50
9	27+75.87
END BENT 2	27+85.87
END A.S.	27+95.87



GRADE DATA

PVI STA. = 26+27.00 -L1-
EL. = 22.43'
VC = 110'



PLAN
(PILES NOT SHOWN IN PLAN VIEW)

PROJECT NO. EB-5539
PITT COUNTY
STATION: 26+82.00 -L1-

FOR INFORMATION ONLY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CITY OF GREENVILLE

GENERAL DRAWING

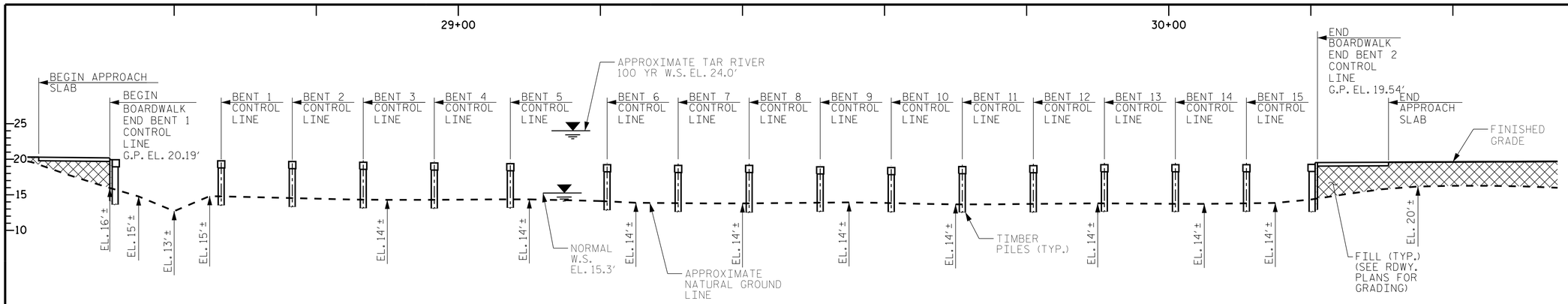
FOR BOARDWALK #1

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S05.dgn

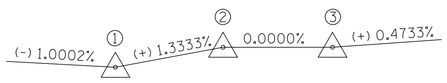


SECTION ALONG -L1-

(SECTIONS @ BENTS AND END BENTS ARE @ RIGHT ANGLES)

BENT CONTROL LINE LOCATIONS

BENT NO.	-L1- STA.
BEGIN A.S.	28+40.94
END BENT 1	28+50.94
1	28+66.62
2	28+77.32
3	28+87.32
4	28+97.32
5	29+07.32
6	29+20.94
7	29+30.94
8	29+40.94
9	29+50.94
10	29+60.94
11	29+70.94
12	29+80.94
13	29+90.94
14	30+00.94
15	30+10.94
END BENT 2	30+20.94
END A.S.	30+30.94



GRADE DATA

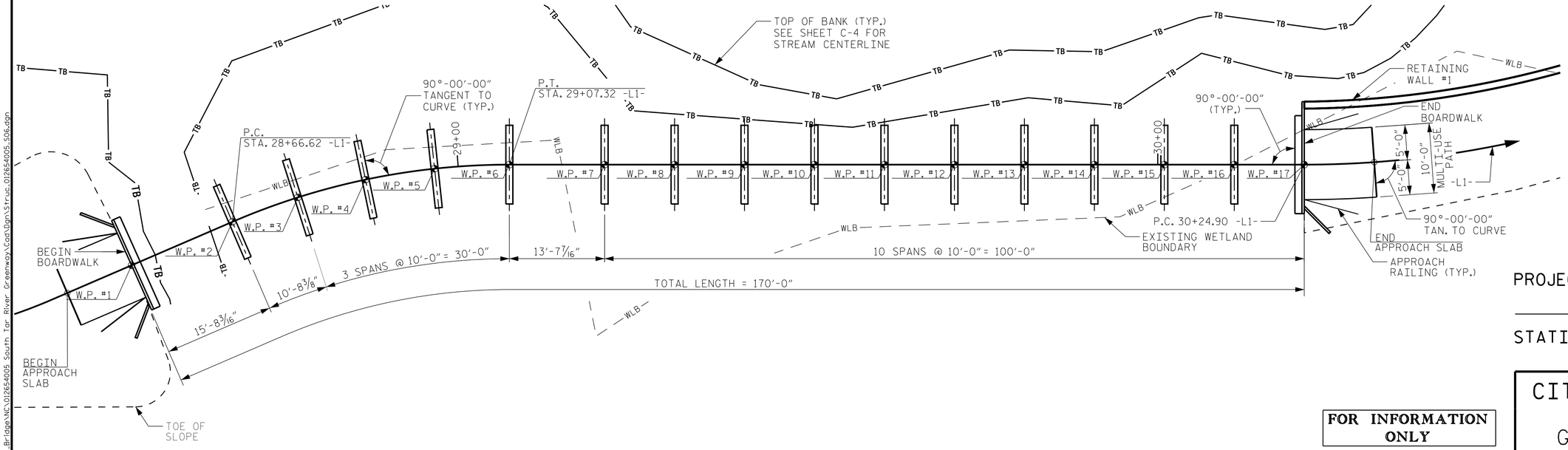
① PVI STA. = 29+60.94 -L1-
EL. = 19.09'

② PVI STA. = 29+90.94 -L1-
EL. = 19.49'

③ PVI STA. = 30+10.94 -L1-
EL. = 19.49'

-L1- HORIZONTAL CURVE DATA

PI STA. 28+87.26 -L1-
△ = 23°-19'-25.6"(RT)
D = 57°-11'-44.8"
L = 40.71'
T = 20.64'
R = 100.00'



PLAN

(PILES NOT SHOWN IN PLAN VIEW)

PROJECT NO. EB-5539

PITT COUNTY

STATION: 28+50.94 -L1-

FOR INFORMATION ONLY

CITY OF GREENVILLE

GENERAL DRAWING

FOR BOARDWALK #2

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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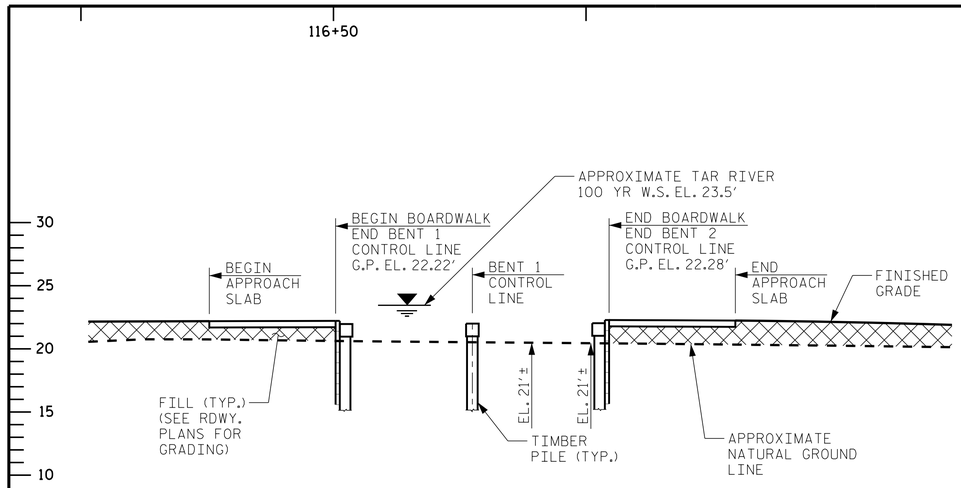
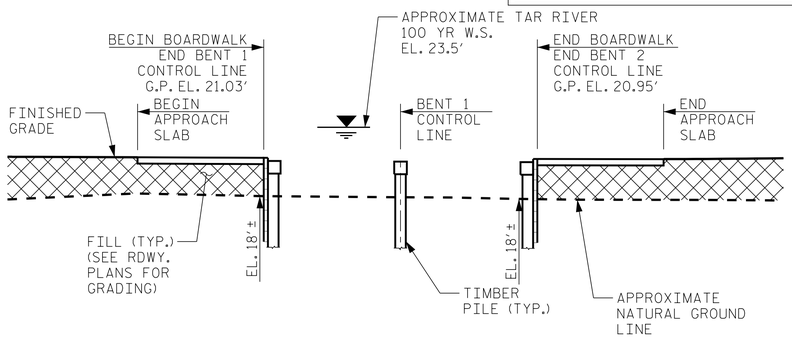
NC LICENSE # F-0102

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			24



SECTION ALONG -L4- (BOARDWALK #3)

(SECTIONS @ BENTS AND END BENTS ARE @ RIGHT ANGLES)



SECTION ALONG -L4- (BOARDWALK #4)

(SECTIONS @ BENTS AND END BENTS ARE @ RIGHT ANGLES)

-L4- HORIZONTAL CURVE DATA

PI STA. 116+17.27 -L4-	PI STA. 117+41.15 -L4-	PI STA. 118+43.24 -L4-
△ = 20°-19'-14.4"(RT)	△ = 18°-10'-58.7"(LT)	△ = 10°-42'-18.7"(RT)
D = 22°-55'-05.9"	D = 11°-27'-33.0"	D = 22°-55'-05.9"
L = 88.67'	L = 158.68'	L = 46.71'
T = 44.80'	T = 80.01'	T = 23.42'
R = 250.00'	R = 500.00'	R = 250.00'

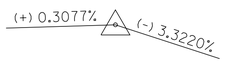
BENT CONTROL LINE LOCATIONS

BOARDWALK #3	
BENT NO.	-L4- STA.
BEGIN A.S.	116+41.14
END BENT 1	116+51.14
1	116+61.14
END BENT 2	116+71.14
END A.S.	116+81.14
BOARDWALK #4	
BENT NO.	-L4- STA.
BEGIN A.S.	118+26.00
END BENT 1	118+36.00
1	118+46.00
END BENT 2	118+56.00
END A.S.	118+66.00

NOTES:

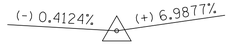
NO NORMAL WATER SURFACE OBSERVED IN FIELD FOR BOARDWALKS #3 & #4.

BOARDWALKS #3 & #4 ARE IN A LOW AREA THAT NEEDS TO DRAIN BUT NOT A STREAM. NO HYDRAULIC DATA TO REPORT.



GRADE DATA

PVI STA. = 116+87.00 -L4-
EL. = 22.34'
VC = 30'



GRADE DATA

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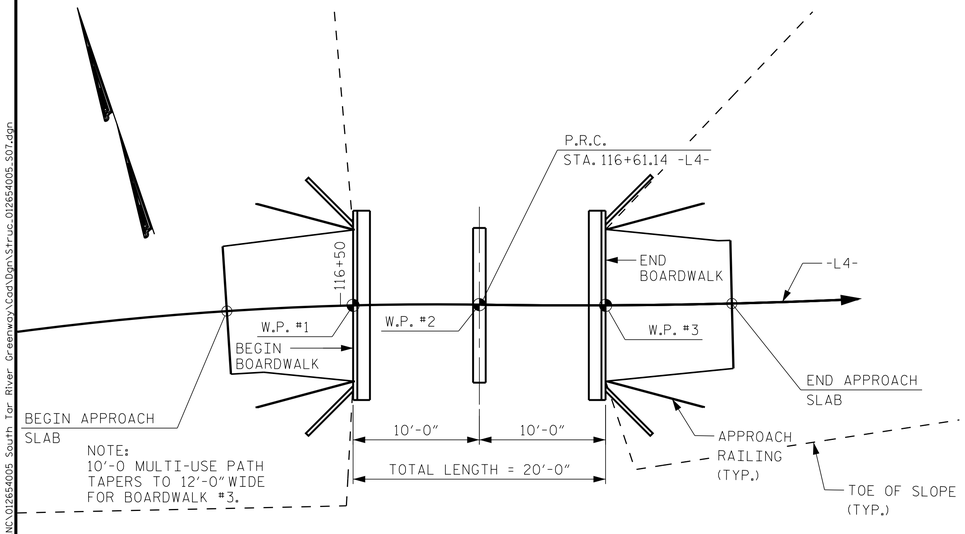
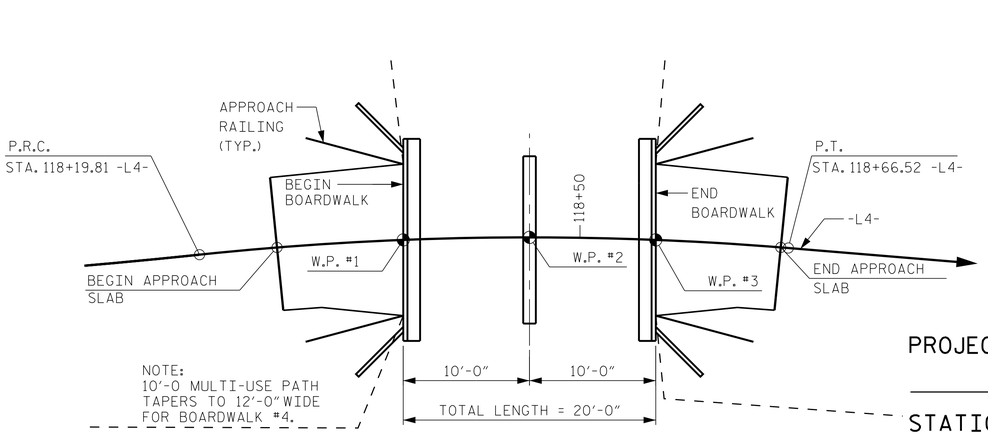
EL. = 20.77'
VC = 80'



PLAN (BOARDWALK #3)

(PILES NOT SHOWN IN PLAN VIEW)



PLAN (BOARDWALK #4)

(PILES NOT SHOWN IN PLAN VIEW)

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416...

1/19/2018

PROJECT NO. EB-5539

PITT COUNTY

STATION: 116+51.14 -L4-
118+36.00 -L4-

CITY OF GREENVILLE

GENERAL DRAWING

FOR BOARDWALK
#3 AND #4

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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Kimley»Horn
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Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

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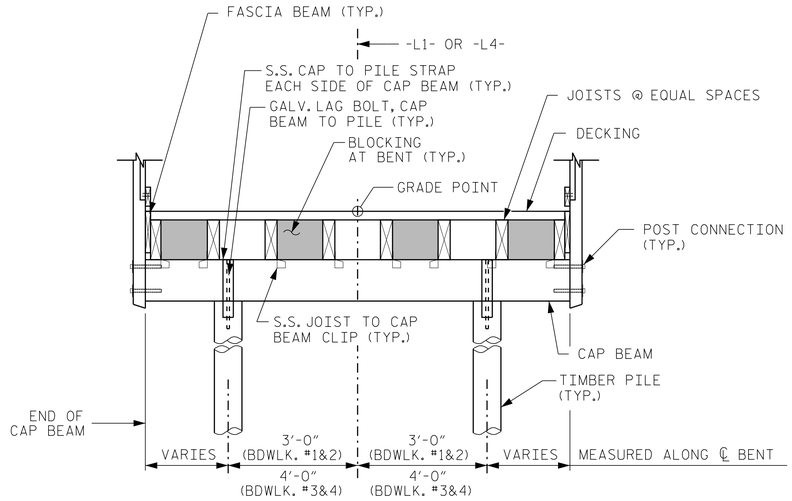
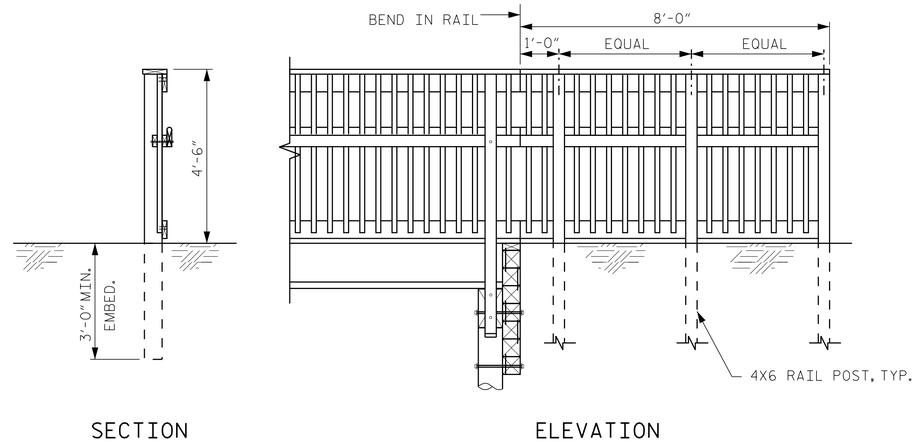
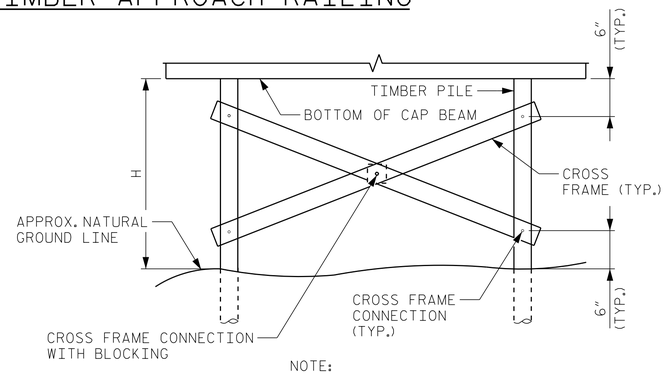


SECTION THROUGH BENT



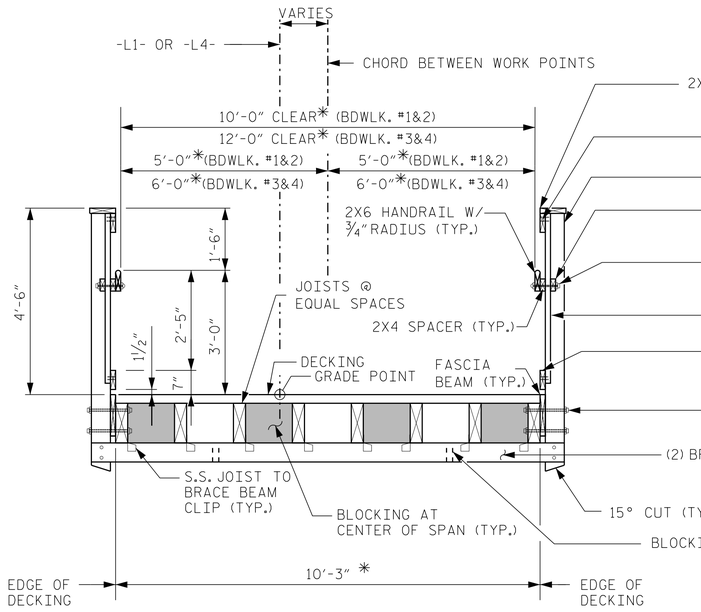
SECTION ELEVATION

FLARED TIMBER APPROACH RAILING

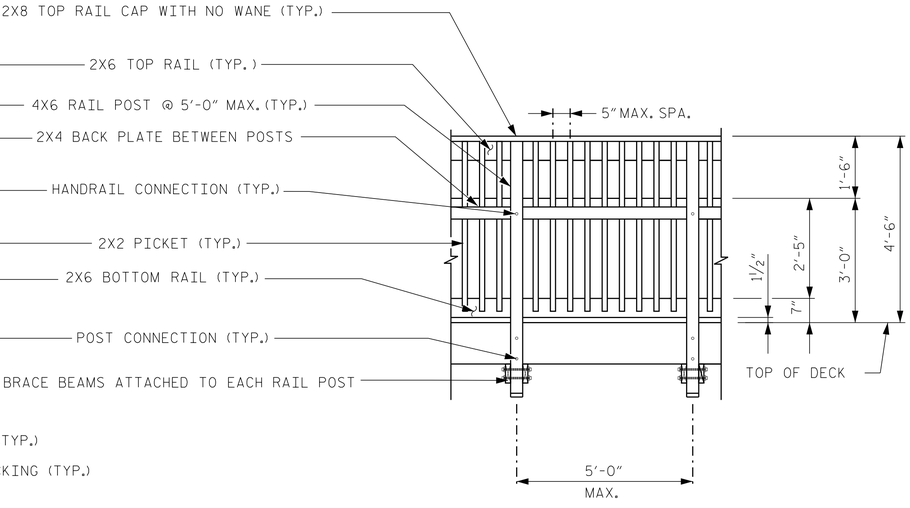


NOTE:
IF H EQUALS OR EXCEEDS 5 FT, CROSS FRAME DETAIL SHALL BE USED AT BENT.

CROSS FRAME DETAIL



SECTION THROUGH BOARDWALK



* MEASURED NORMAL TO CHORD BETWEEN WORK POINTS

PARTIAL BOARDWALK ELEVATION

PROJECT NO. EB-5539
PITT COUNTY
STATION: N/A

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416...
1/19/2018

CITY OF GREENVILLE

TIMBER BOARDWALK DETAILS

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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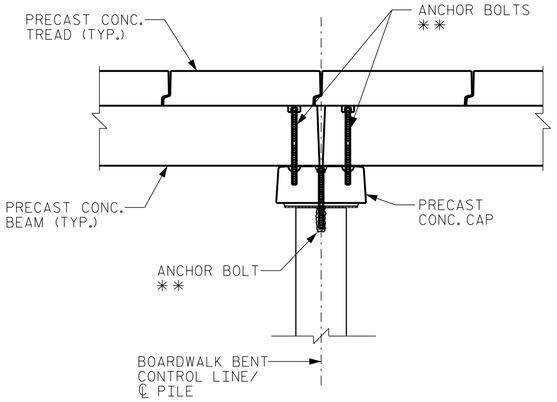
Phone (919) 677-2000
NC LICENSE # F-0102

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			24

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S08.dgn

NOTES

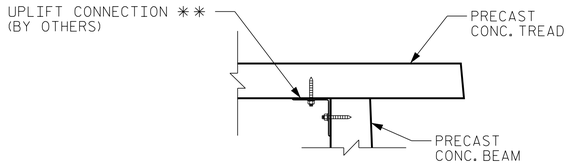
** REFER TO PRECAST CONCRETE BOARDWALK SYSTEM PLANS (BY OTHERS) FOR ANCHOR BOLT PLACEMENT AND DETAILS, AND FOR DIMENSIONS NOT SHOWN.



NOTES:

RAILING NOT SHOWN FOR CLARITY.

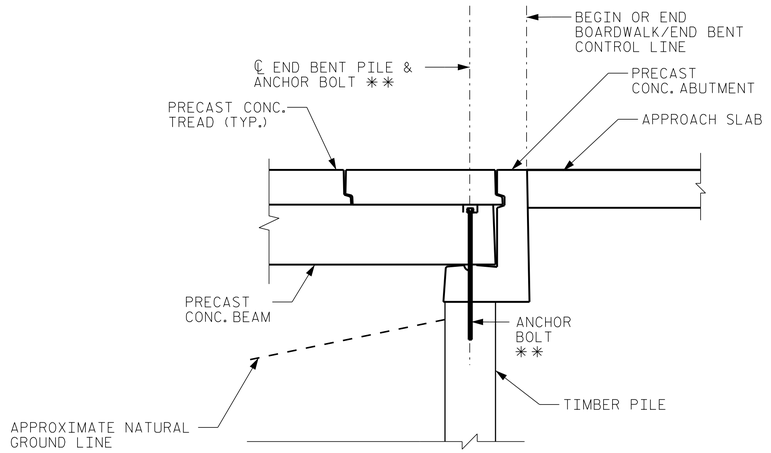
BEAM TO PILE CONNECTION



NOTES:

RAILING NOT SHOWN FOR CLARITY.

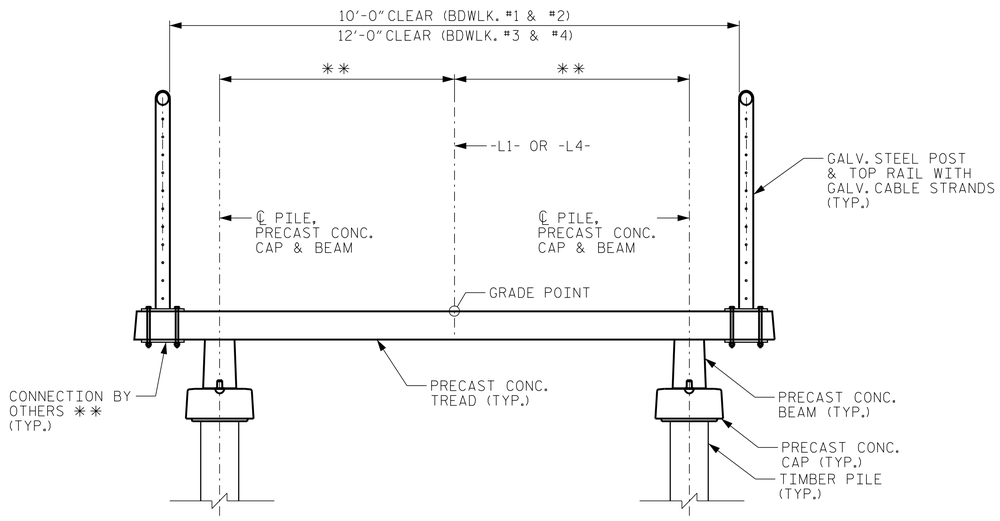
TYPICAL TREAD TO BEAM CONNECTION



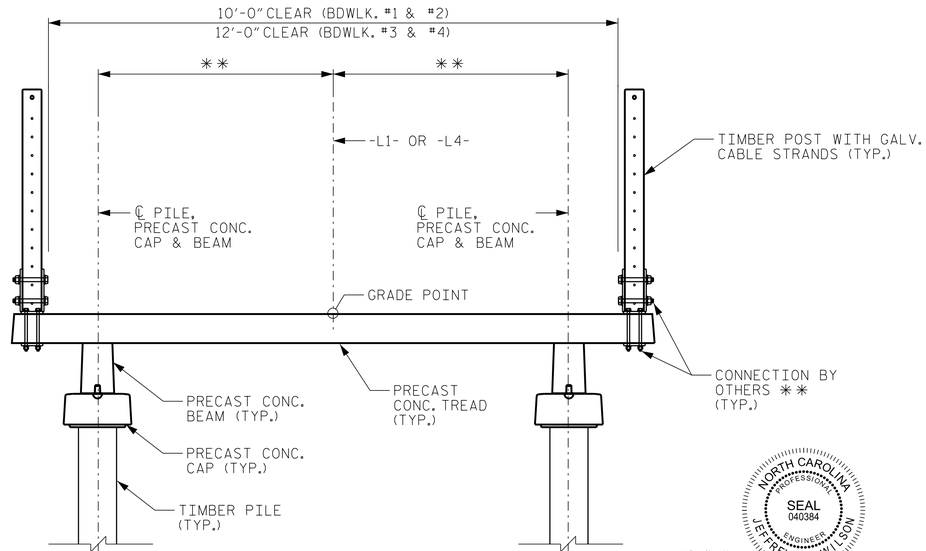
NOTES:

RAILING NOT SHOWN FOR CLARITY.

ABUTMENT TO PILE CONNECTION



PRECAST CONCRETE BOARDWALK BENT ELEVATION WITH GALVANIZED POST



PRECAST CONCRETE BOARDWALK BENT ELEVATION WITH TIMBER POST

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC0416...

1/19/2018

PROJECT NO. EB-5539

PITT COUNTY

STATION: N/A

CITY OF GREENVILLE

PRECAST CONCRETE BOARDWALK DETAILS

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Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

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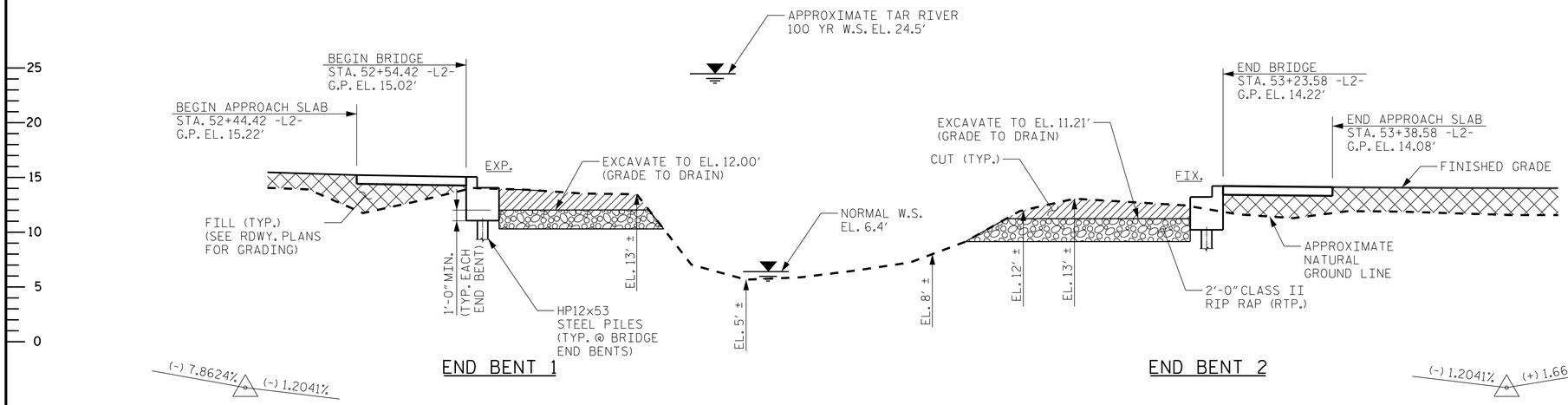
DRAWN BY:	J. I. KIMBLE	DATE:	12/17
CHECKED BY:	J. J. PICCIRILLI	DATE:	12/17
DESIGN ENGINEER OF RECORD:	J. C. WILSON	DATE:	12/17

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			24

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S09.dgn

53+00



(-) 7.8624% (-) 1.2041%

GRADE DATA

PVI STA. = 52+15.50 -L2-
EL. = 15.52'
VC = 78'

(-) 1.2041% (+) 1.6652%

GRADE DATA

PVI STA. = 53+62.50 -L2-
EL. = 13.75'
VC = 76'

SECTION ALONG -L2-

NOTES

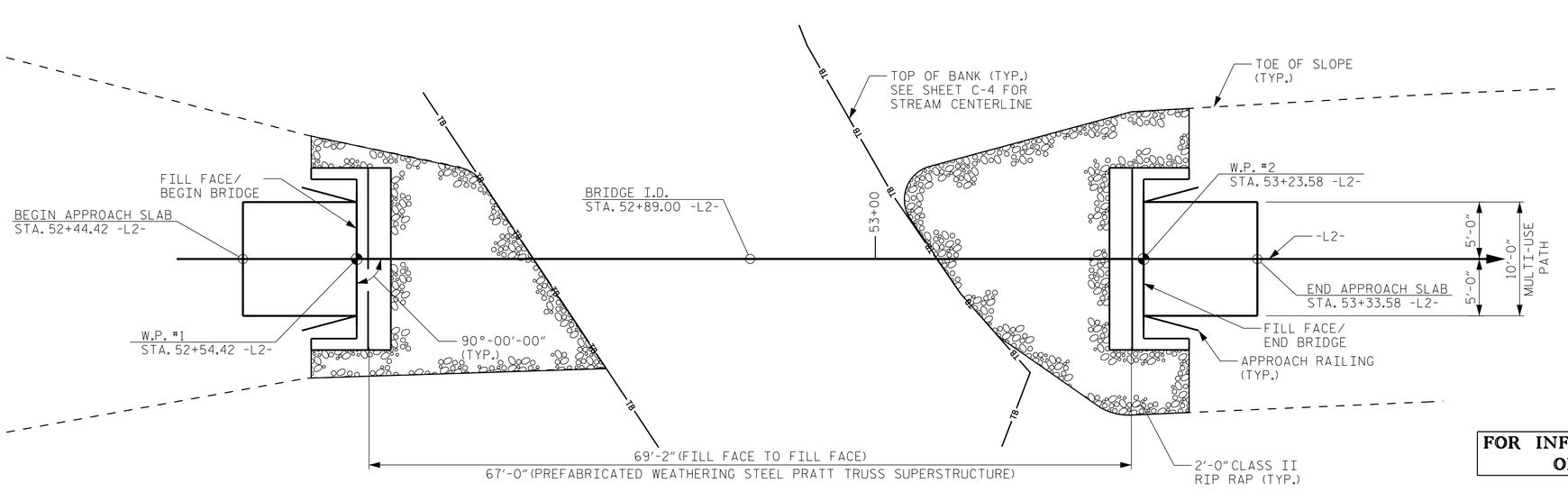
APPROACH RAILS SHALL MATCH TIMBER RAILS AT BOARDWALKS. SEE "BOARDWALK DETAILS" SHEET FOR DETAILS.

HYDRAULIC DATA

DESIGN DISCHARGE ----------110 CFS
FREQUENCY OF DESIGN FLOOD -------10-YR.
DESIGN HIGH WATER ELEVATION-----8.4 FT.
DRAINAGE AREA ----------39 AC.
BASIC DISCHARGE (Q100)----------270 CFS
BASIC HIGH WATER ELEVATION------9.8 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE ----------1250 CFS
FREQUENCY OF OVERTOPPING FLOOD --->500-YR.
OVERTOPPING FLOOD ELEVATION ------14.2 FT.



PLAN

(PILES NOT SHOWN IN PLAN VIEW)

FOR INFORMATION ONLY

PROJECT NO. EB-5539
PITT COUNTY
STATION: 52+89.00 -L2-

CITY OF GREENVILLE

GENERAL DRAWING

FOR PREFABRICATED
PEDESTRIAN BRIDGE

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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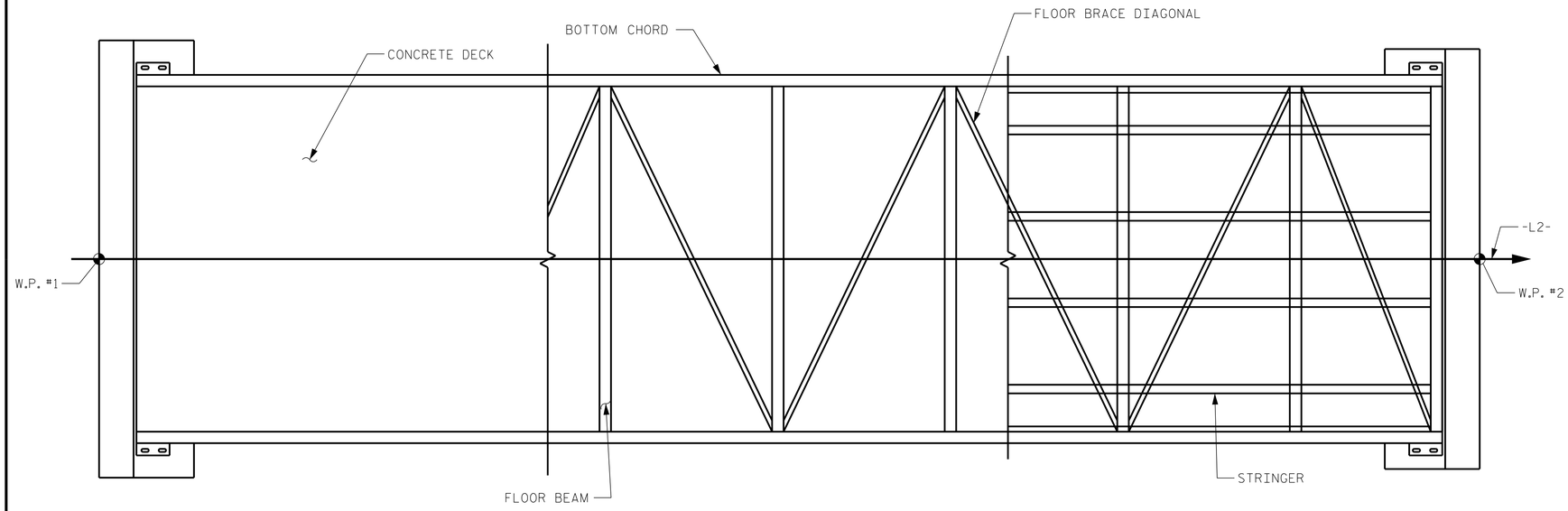
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			24

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S10.dgn



DECK BRACING FRAMING

PREFABRICATED PEDESTRIAN BRIDGE PLAN

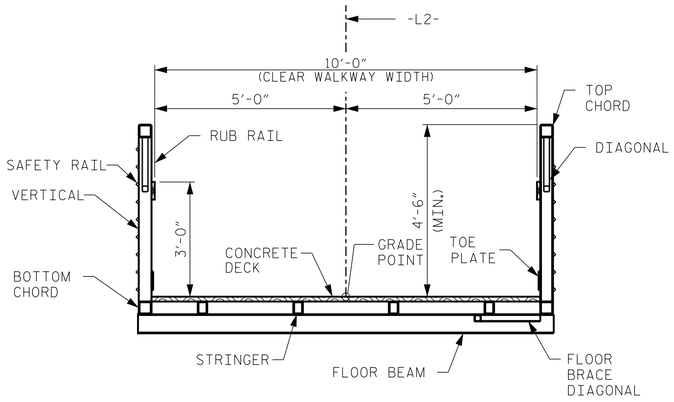
NOTES

PREFABRICATED PEDESTRIAN BRIDGE DETAILS SHOWN FOR AESTHETIC REQUIREMENT ONLY AND MINIMUM LAYOUT REQUIREMENTS. CONTRACTOR'S ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF THE SUPERSTRUCTURE AND SUBSTRUCTURE.

PREFABRICATED PEDESTRIAN BRIDGE ELEVATION

(PRATT TRUSS)

NOTE: TIMBER APPROACH RAILS, CONCRETE DECK, SAFETY RAIL, TOE PLATE, RUB RAIL AND ANCHOR BOLTS NOT SHOWN FOR CLARITY.



SECTION A-A

PROJECT NO. EB-5539

PITT COUNTY

STATION: N/A

FOR INFORMATION ONLY

CITY OF GREENVILLE

PREFABRICATED PEDESTRIAN BRIDGE DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			24

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DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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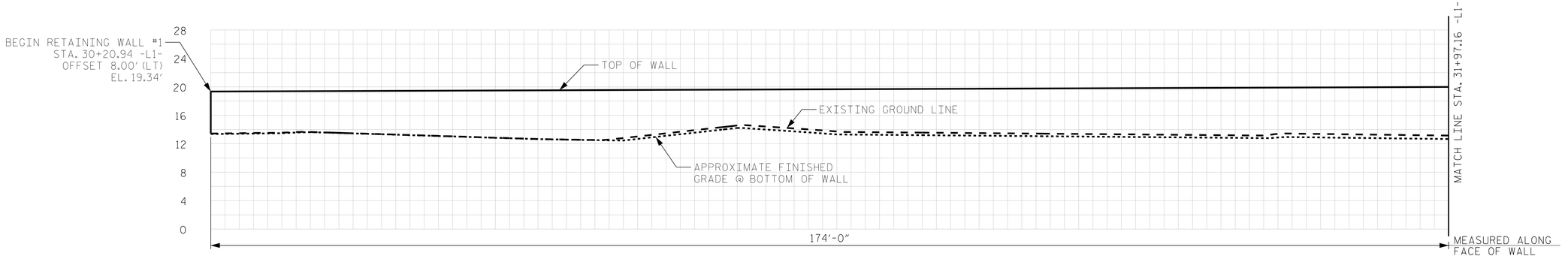
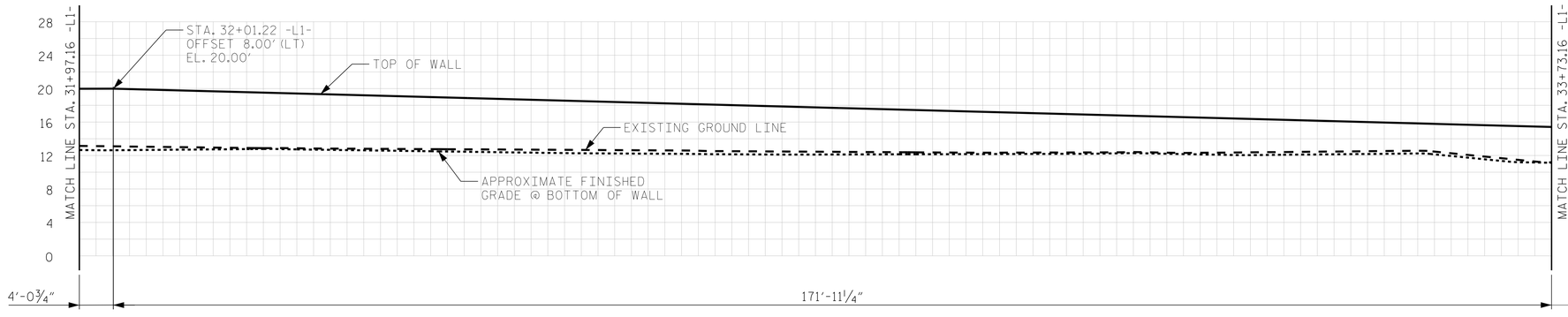
NOTES

FOR PLAN VIEW OF RETAINING WALL, SEE ROADWAY PLANS.

FOR RETAINING WALL TYPICAL SECTION AND NOTES, SEE "RETAINING WALL #1 DETAILS" SHEET.



RETAINING WALL #1 ENVELOPE



RETAINING WALL #1 ENVELOPE

PROJECT NO. EB-5539

PITT COUNTY

STATION: 30+20.94 -L1-

FOR INFORMATION ONLY

CITY OF GREENVILLE

RETAINING WALL #1 ENVELOPE

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NC LICENSE # F-0102

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17

CHECKED BY: J. J. PICCIRILLI DATE: 12/17

DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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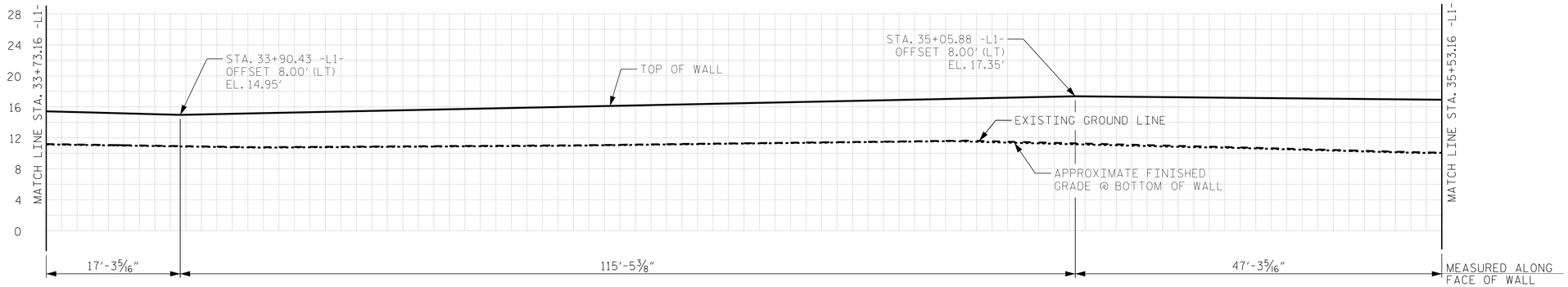
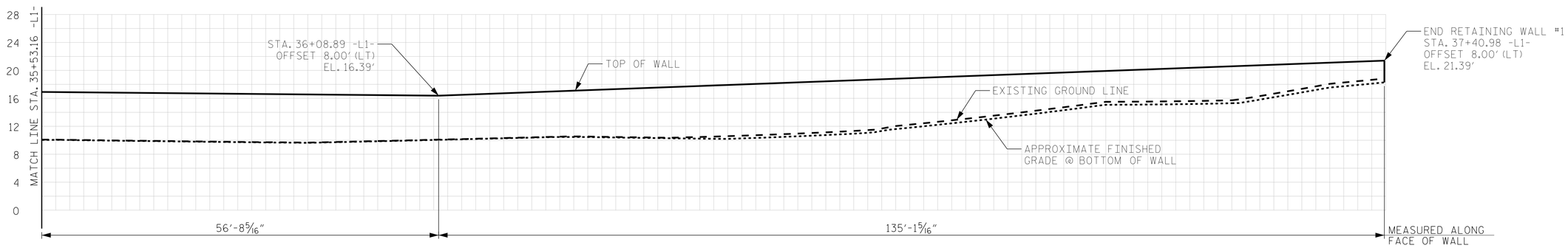
NOTES

SEE SHEET 1 OF 2 FOR NOTES.



RETAINING WALL #1 ENVELOPE



RETAINING WALL #1 ENVELOPE

PROJECT NO. EB-5539

PITT COUNTY

STATION: 30+20.94 -L1-

SHEET 2 OF 2

FOR INFORMATION ONLY

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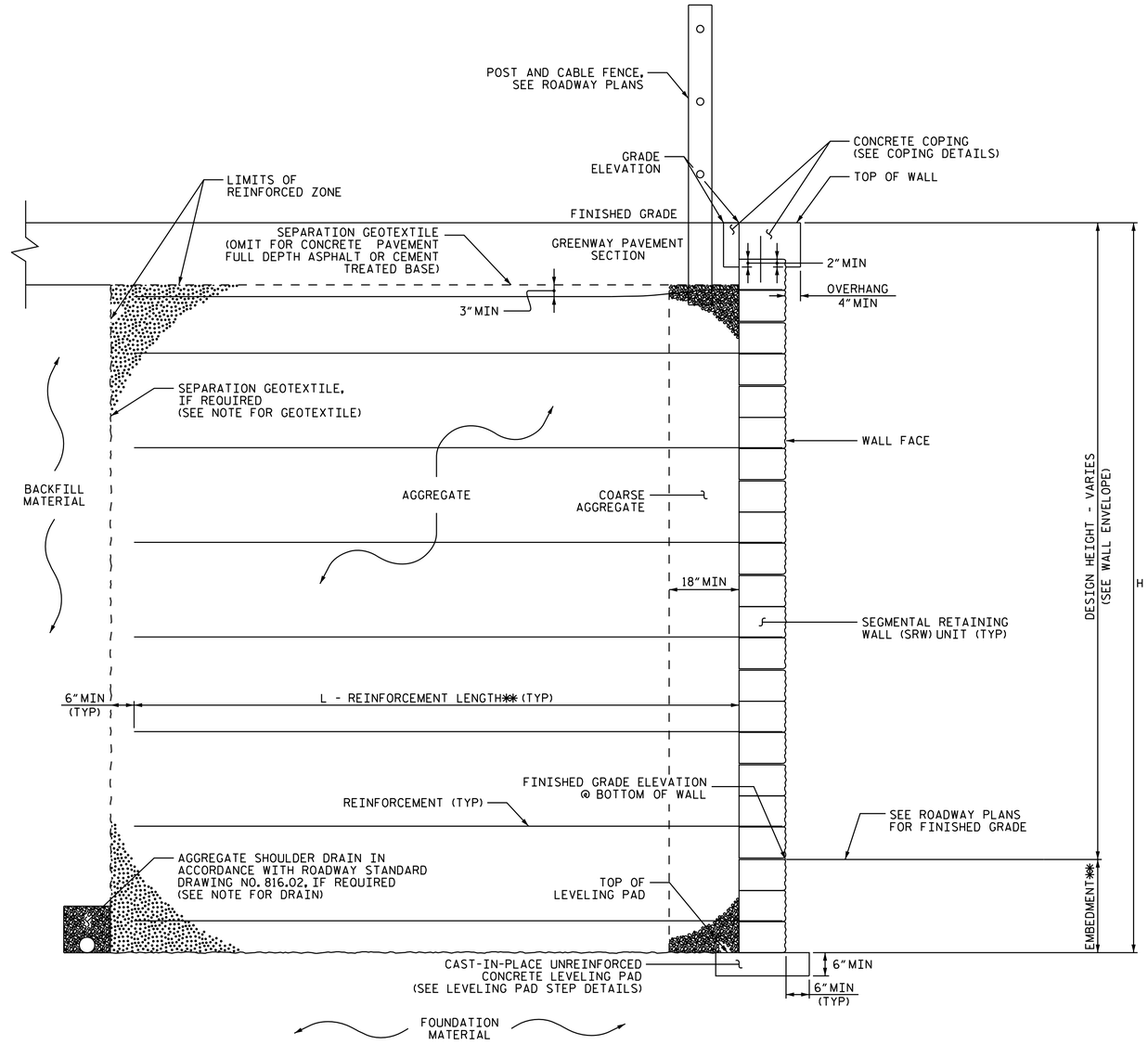
CITY OF GREENVILLE

RETAINING WALL #1 ENVELOPE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			24

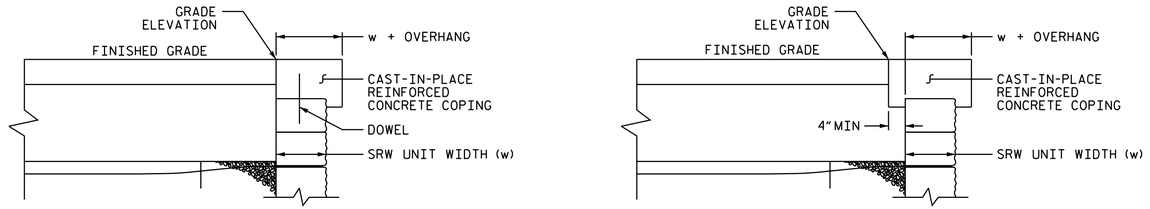
DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S13.dgn



MSE WALL WITH SRW UNITS - TYPICAL SECTION

** SEE MSE RETAINING WALLS PROVISION AND MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO SRW UNITS WITH DOWELS OR EXTEND COPING DOWN BACK OF SRW UNITS.

PROJECT NO. EB-5539

PITT COUNTY

STATION: 30+20.94 -L1-

SHEET 1 OF 2

FOR INFORMATION ONLY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CITY OF GREENVILLE

RETAINING WALL #1 DETAILS

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Phone (919) 677-2000
NC LICENSE # P-0102

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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STD CELL Wall_MSE_SRWUnits_Guardrail

NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL UNITS (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 1.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1.

A SEPARATION GEOTEXTILE IS NOT REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 1.

A DRAIN IS REQUIRED FOR RETAINING WALL NO. 1.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 1, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 1 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 75 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 2,000 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = .7H OR 6 FT, WHICHEVER IS LONGER
5) MINIMUM REINFORCEMENT LENGTH (L) = 14 FT FOR FINAL LAYER OF REINFORCEMENT
6) MINIMUM EMBEDMENT ELEVATION = 10 FT OR DEPTH = 2 FT (WHICHEVER IS DEEPER)
7) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (∅) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0
* SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

8) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (∅) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	110	28	0

DESIGN RETAINING WALL NO. 1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1.

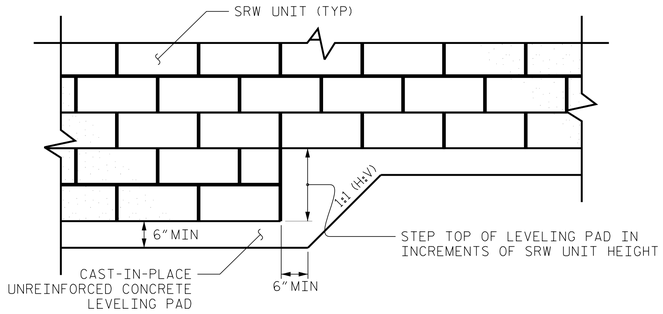
FOUNDATIONS FOR BOARDWALK SECTION 2 BENT 16 LOCATED AT STATION 30+20.94 MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 1 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

FACE OF RETAINING WALL SHALL BE TREATED WITH ANTI-GRAFFITI COATING AS SPECIFIED IN THE APPLICATION OF BRIDGE COATING SPECIAL PROVISION. PAYMENT WILL BE MADE UNDER THE RETAINING WALL #1 PAY ITEM AND NO SEPARATE PAYMENT WILL BE MADE.

FOR UNDERCUT AND DESIGN REQUIREMENTS, REFER TO THE FALCON ENGINEERING GEOTECHNICAL REPORT DATED MAY 12, 2015.

UNDERCUT WILL BE REQUIRED AT RETAINING WALL #1 AND WILL BE PAIED FOR AS "UNDERCUT EXCAVATION".



SEGMENTAL RETAINING WALL (SRW) UNITS

LEVELING PAD STEP DETAILS

PROJECT NO. EB-5539

PITT COUNTY

STATION: 30+20.94 -L1-

SHEET 2 OF 2

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Kimley»Horn
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Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

CITY OF GREENVILLE

RETAINING WALL #1 DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17
CHECKED BY: J. J. PICCIRILLI DATE: 12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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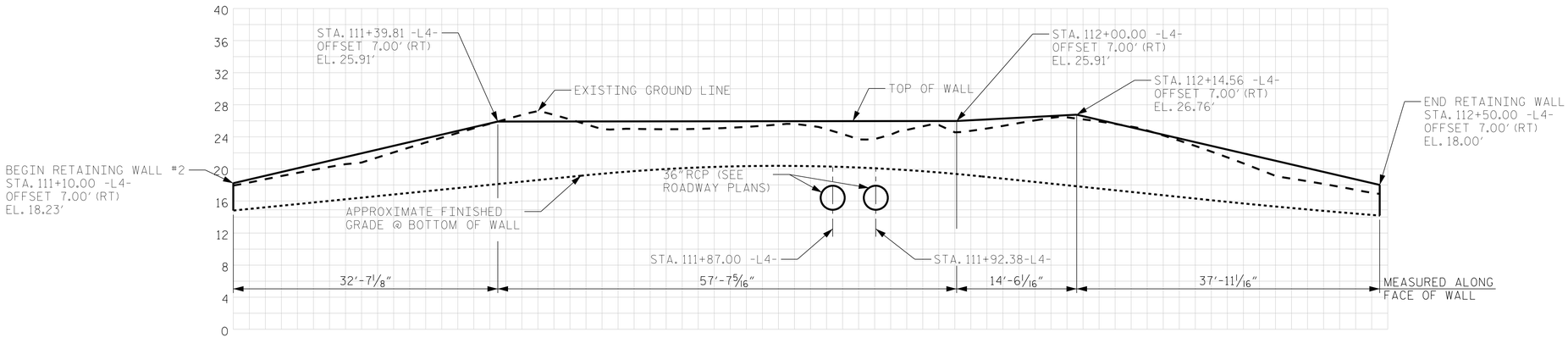
STD CELL Wall_MSE_Notes_Leveling Pad

NOTES

FOR PLAN VIEW OF RETAINING WALL, SEE ROADWAY PLANS.

FOR RETAINING WALL TYPICAL SECTION AND NOTES, SEE "RETAINING WALL #2 DETAILS" SHEET.



RETAINING WALL #2 ENVELOPE

PROJECT NO. EB-5539

PITT COUNTY

STATION: 111+10.00 -L4-

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416... 1/19/2018

CITY OF GREENVILLE

RETAINING WALL #2 ENVELOPE

Kimley»Horn
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Phone (919) 677-2000
NC LICENSE # F-0102

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			24

DRAWN BY: J. I. KIMBLE DATE: 12/17

CHECKED BY: J. J. PICCIRILLI DATE: 12/17

DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 12/17

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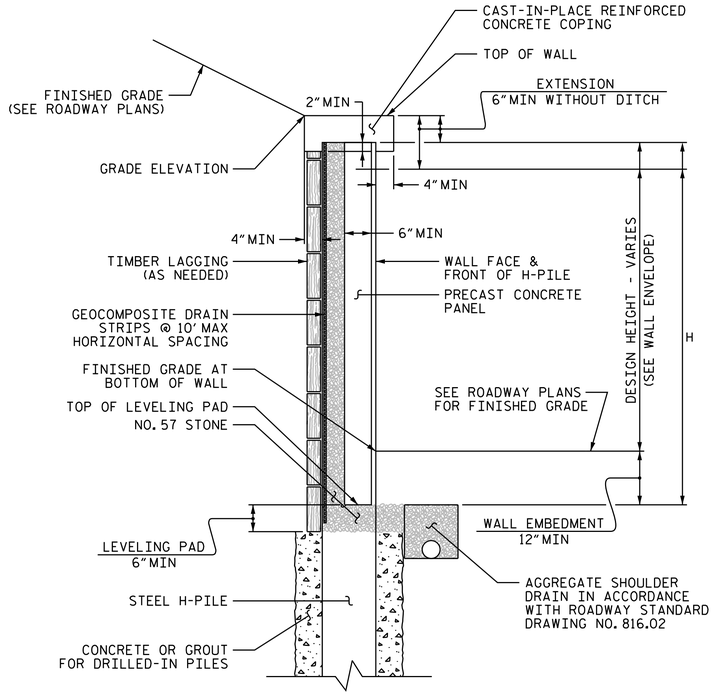

SOLDIER PILE WALL WITH PRECAST PANEL - TYPICAL SECTIONS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS AND PILES.

NOTES:

FOR SOLDIER PILE RETAINING WALLS, SEE SOLDIER PILE RETAINING WALLS PROVISION.

DRILLED-IN H-PILES ARE REQUIRED FOR RETAINING WALL NO. 2.

BEFORE BEGINNING SOLDIER PILE WALL DESIGN FOR RETAINING WALL NO. 2, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 2 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 75 YEARS
3) MINIMUM WALL EMBEDMENT DEPTH = 1 FT
4) IN-SITU ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 10 FT:
   UNIT WEIGHT, γ = 105 LB/CF
   FRICTION ANGLE, ϕ = 28 DEGREES
   COHESION, c = 0 LB/SF
5) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 10 FT:
   UNIT WEIGHT, γ = 115 LB/CF
   FRICTION ANGLE, ϕ = 30 DEGREES
   COHESION, c = 0 LB/SF
6) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 3 FT:
   UNIT WEIGHT, γ = 125 LB/CF
   FRICTION ANGLE, ϕ = 34 DEGREES
   COHESION, c = 0 LB/SF

DESIGN RETAINING WALL NO. 2 FOR A PIPE EXTENDING UNDER OR THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING SOLDIER PILE WALL DESIGN OR CONSTRUCTION.

FACE OF RETAINING WALL SHALL BE TREATED WITH ANTI-GRAFFITI COATING AS SPECIFIED IN THE APPLICATION OF BRIDGE COATING SPECIAL PROVISION. PAYMENT WILL BE MADE UNDER THE RETAINING WALL #2 PAY ITEM AND NO SEPARATE PAYMENT WILL BE MADE.

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RETAINING WALL #2 DETAILS

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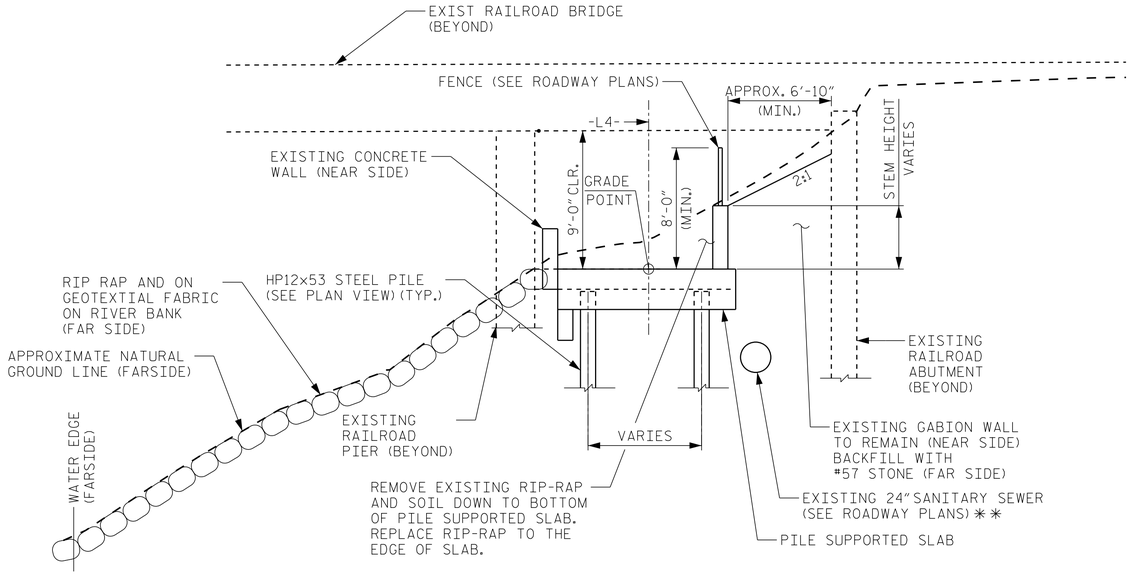
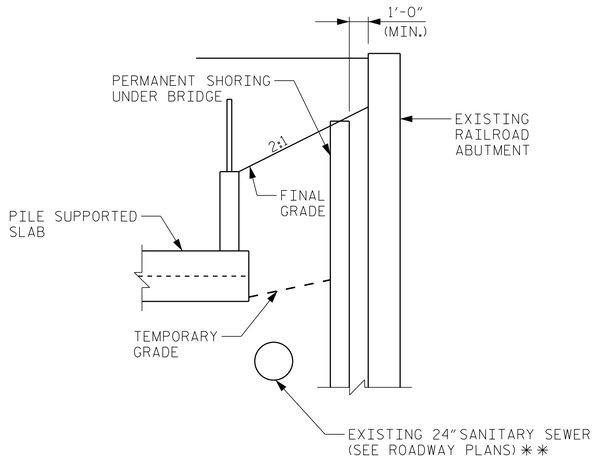
STD CELL Wall_SoldierPile



SECTION A-A



PERMANENT SHORING UNDER BRIDGE DETAIL

NOTES

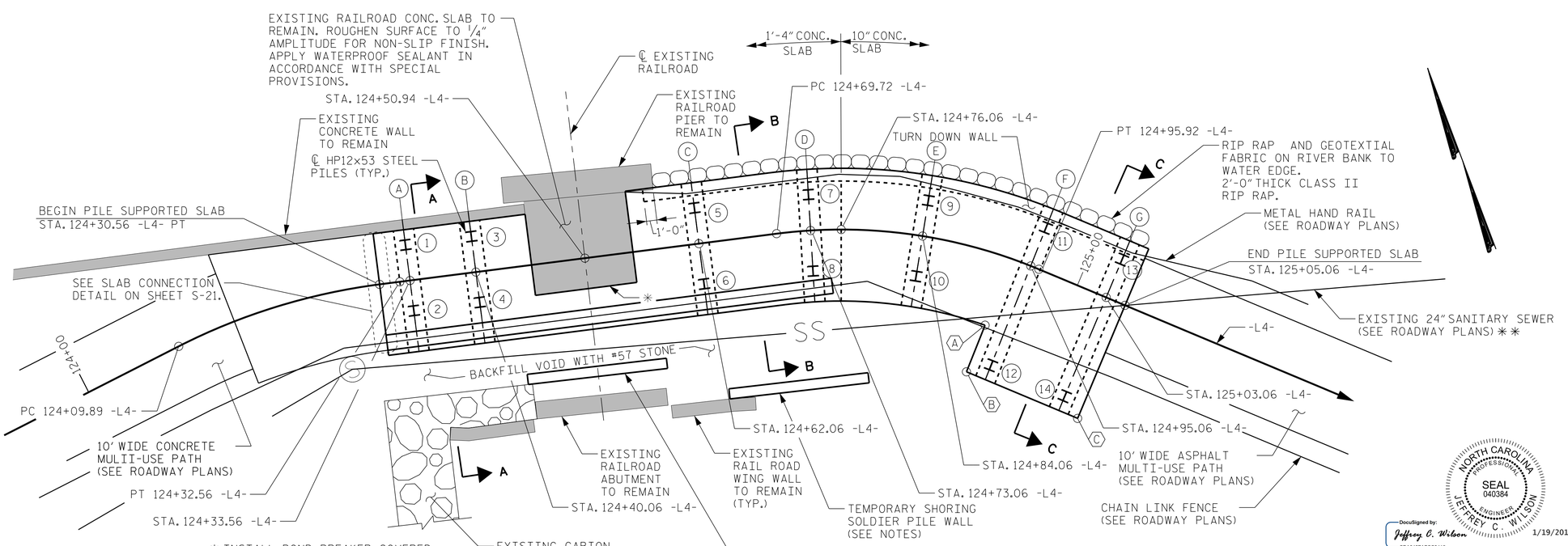
FOR SECTIONS B-B AND C-C SEE "PILE SUPPORTED SLAB DETAILS" SHEET 1 OF 2.

FOR PILE SUPPORED SLAB NOTES, SEE "GENERAL NOTES" SHEETS.

NOTIFY THE ENGINEER IMMEDIATELY IF THE EXCAVATION FOR THE PILE SUPPORTED SLAB UNDERCUTS THE EXISTING GABION WALL ON THE SOUTHWEST SIDE OF THE RAILROAD BRIDGE.

** FIELD VERIFY THE LOCATION OF THE EXISTING 24" SANITARY SEWER LINE BEFORE ANY PILES ARE DRIVEN. NOTIFY THE ENGINEER IMMEDIATELY IF SANITARY SEWER LINE IS FOUND TO VARY FROM PLANS.

EXISTING BRIDGE PLANS ATTACHED TO THIS PLAN SET ARE FOR INFORMATION ONLY.



PLAN

TIMBER CANOPIES NOT SHOWN FOR CLARITY

SLAB EDGE OFFSETS

POINT	STATION	OFFSET
A	124+92.73	7.00'
B	124+92.43	11.91'
C	125+05.06	12.00'

TOP OF PILE ELEVATIONS

PILE	OFFSET	ELEVATION
1	3'-6"(LT)	18.81'
2	3'-0"(RT)	18.85'
3	3'-6"(LT)	18.62'
4	3'-0"(RT)	18.63'
5	3'-6"(LT)	18.65'
6	4'-0"(RT)	18.67'
7	3'-6"(LT)	19.05'
8	4'-0"(RT)	19.10'
9	3'-6"(LT)	20.08'
10	4'-0"(RT)	20.16'
11	4'-0"(LT)	20.60'
12	10'-6"(RT)	20.83'
13	4'-0"(LT)	20.99'
14	10'-6"(RT)	21.26'

PROJECT NO. EB-5539

PITT COUNTY

STATION: 124+30.56 -L4-

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

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CITY OF GREENVILLE

PILE SUPPORTED SLAB

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NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
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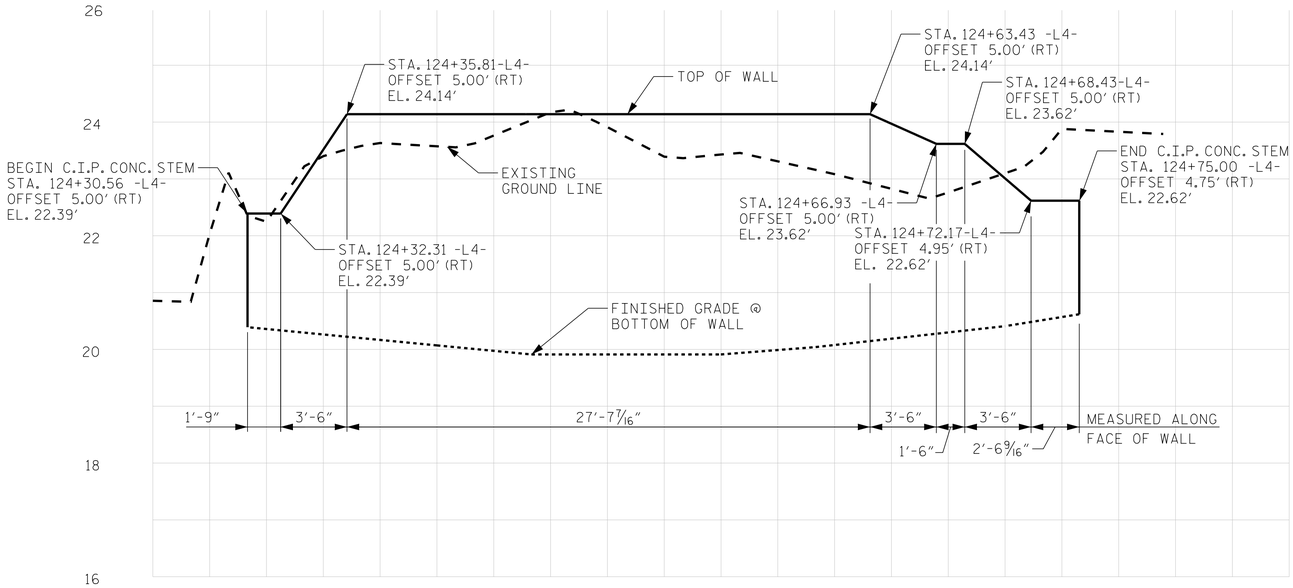
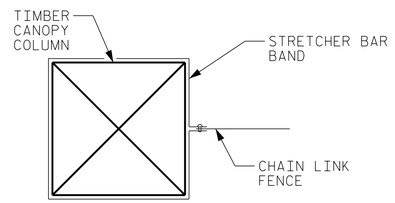
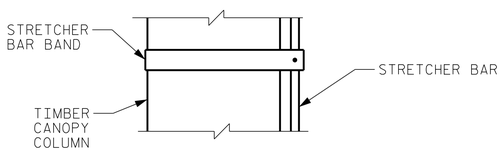
NOTE:
CHAIN LINK FENCE MOUNTED ON TOP OF REMAINING WALL AND SHALL HAVE A MINIMUM HEIGHT OF 8'-0" ABOVE GREENWAY, SEE ROADWAY PLANS. CHAIN LINK FENCE NOT SHOWN FOR CLARITY.



PILE SUPPORTED SLAB STEM

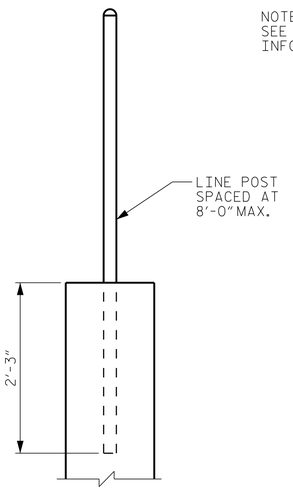


PLAN



ELEVATION

CHAIN LINK FENCE ATTACHMENT DETAIL



NOTE:
SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION ON CHAIN LINK FENCE.

LINE POST CONNECTION DETAIL

PROJECT NO. EB-5539
PITT COUNTY
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CITY OF GREENVILLE

PILE SUPPORTED SLAB STEM ENVELOPE AND FENCE ATTACHEMENT DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

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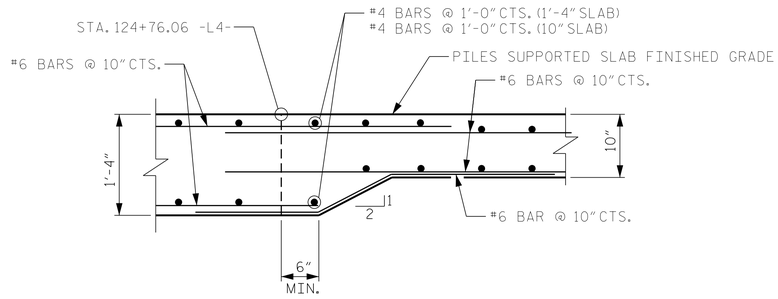
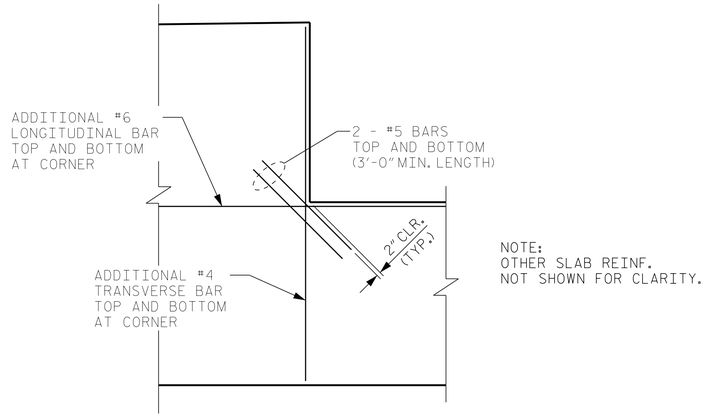
TOP OF SLAB ELEVATIONS[1]

PILE LINE	A	B
A	20.22′	20.28′
B	20.03′	20.06′
C	20.06′	20.09′
D	20.45′	20.54′
E	20.96′	21.11′
F	21.48′	21.77′
G	21.86′	22.21′

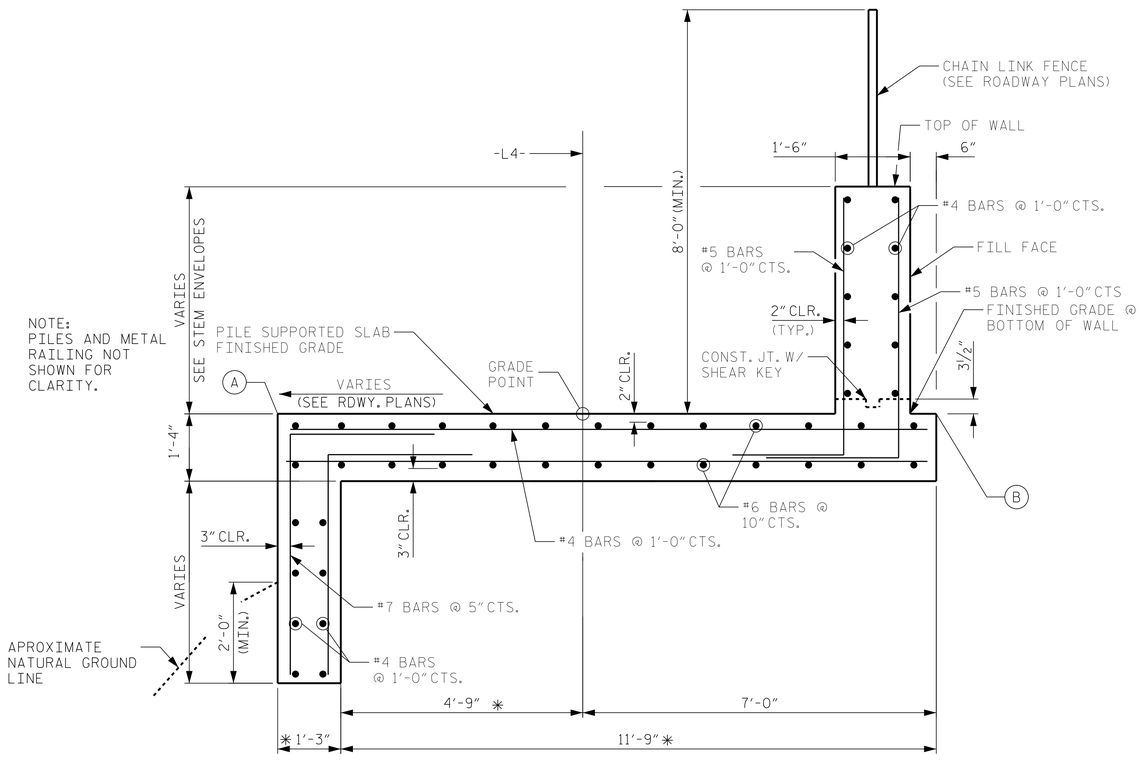
1 CALCULATED AT EDGE OF SLAB ALONG CENTERLINE OF PILES, RADIAL TO -L4-.



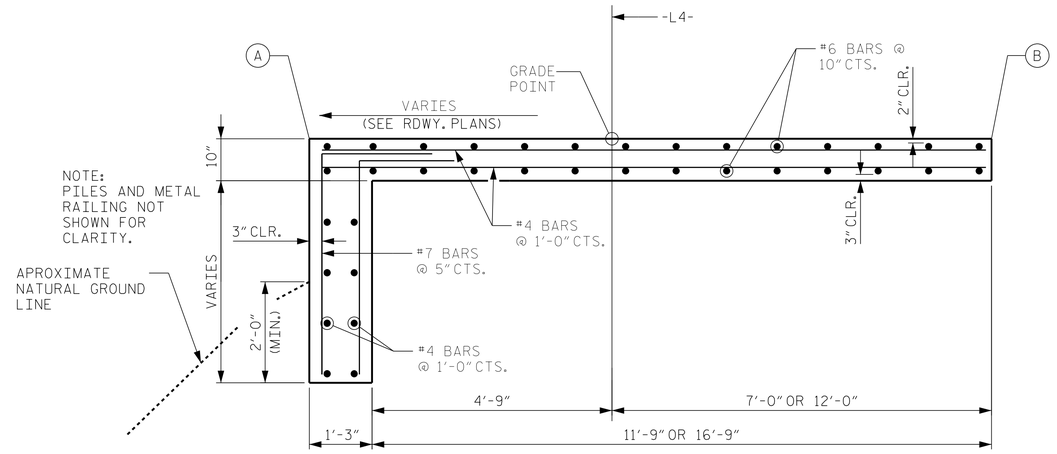
SLAB TRANSITION DETAIL



SLAB CORNER DETAIL



SECTION B-B



SECTION C-C

✳ DIMENSIONS SHOWN ARE FOR PILE SUPPORTED SLAB WITH RETAINING WALL ON EAST SIDE OF EXISTING RR BRIDGE. ON THE WEST SIDE OF THE EXISTING BRIDGE THERE IS NO TURN DOWN WALL AND THE EDGE OF SLAB OFFSET FROM -L4- IS 5′-0″.

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SHEET 1 OF 2

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PILE SUPPORTED SLAB DETAILS

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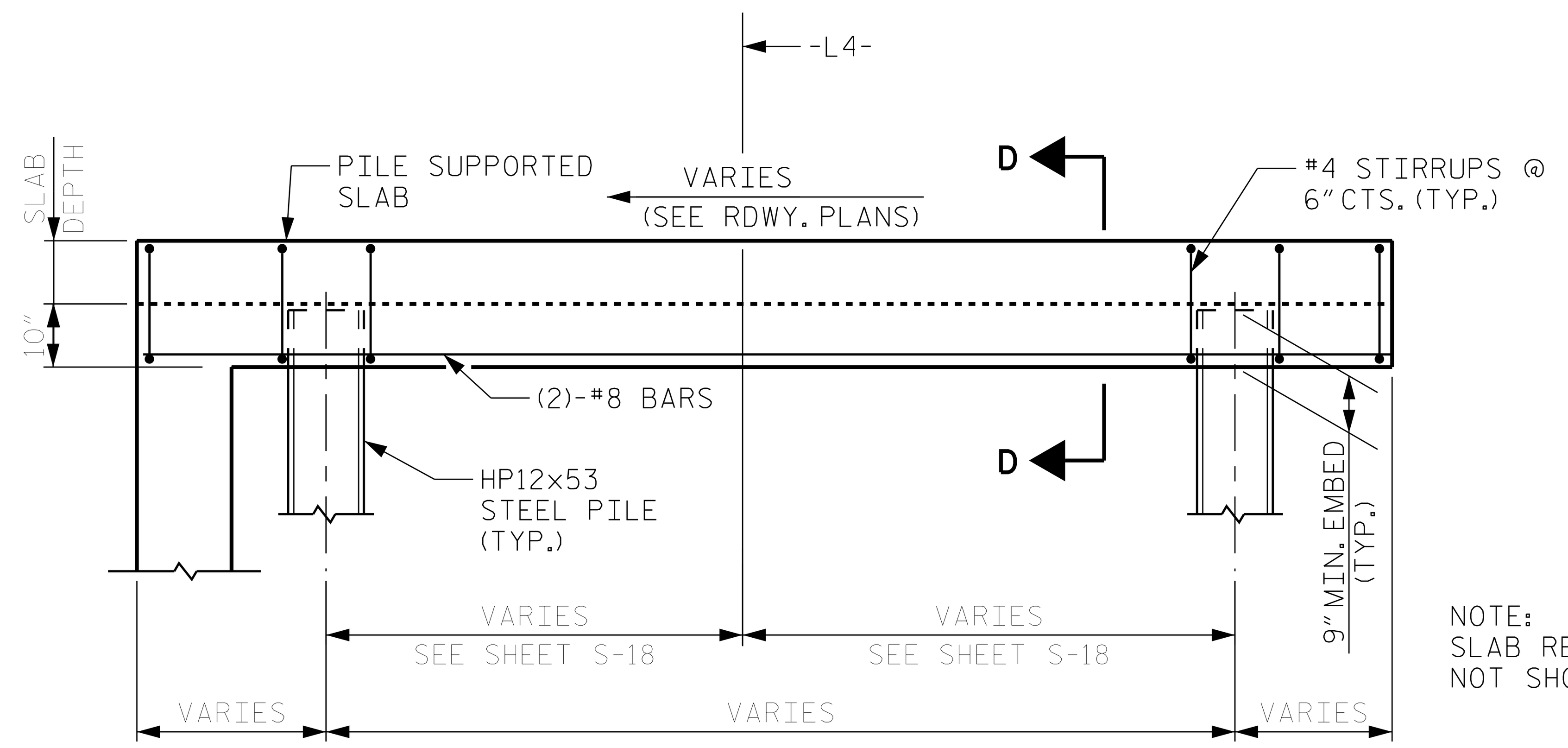
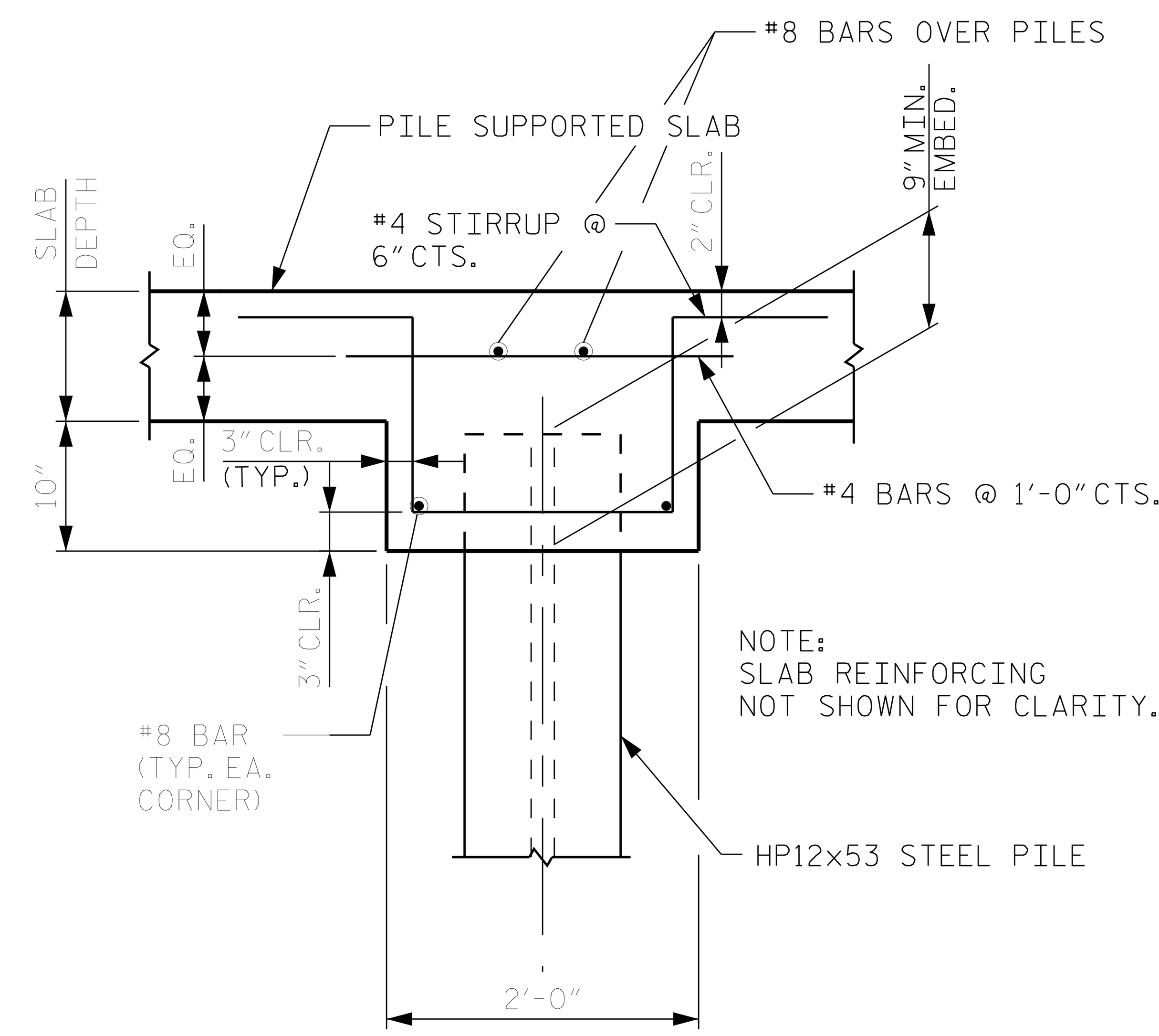
NOTES

POST-INSTALLED ADHESIVE ANCHORS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.

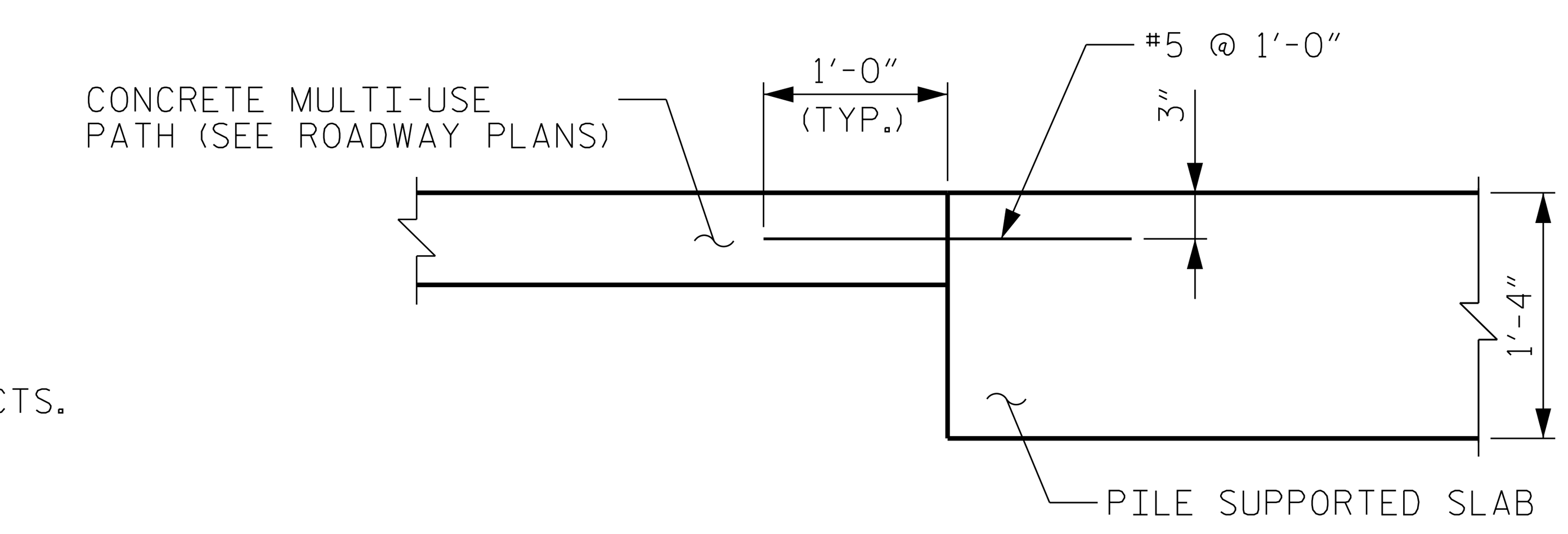
REDUCE MAXIMUM INSTALLATION TORQUE PER MANUFACTURER INSTALLATION REQUIREMENTS AT ANCHORS WITH EDGE DISTANCES GREATER THAN 1.75" AND LESS THAT 5×DIAMETER OF THE ANCHOR.



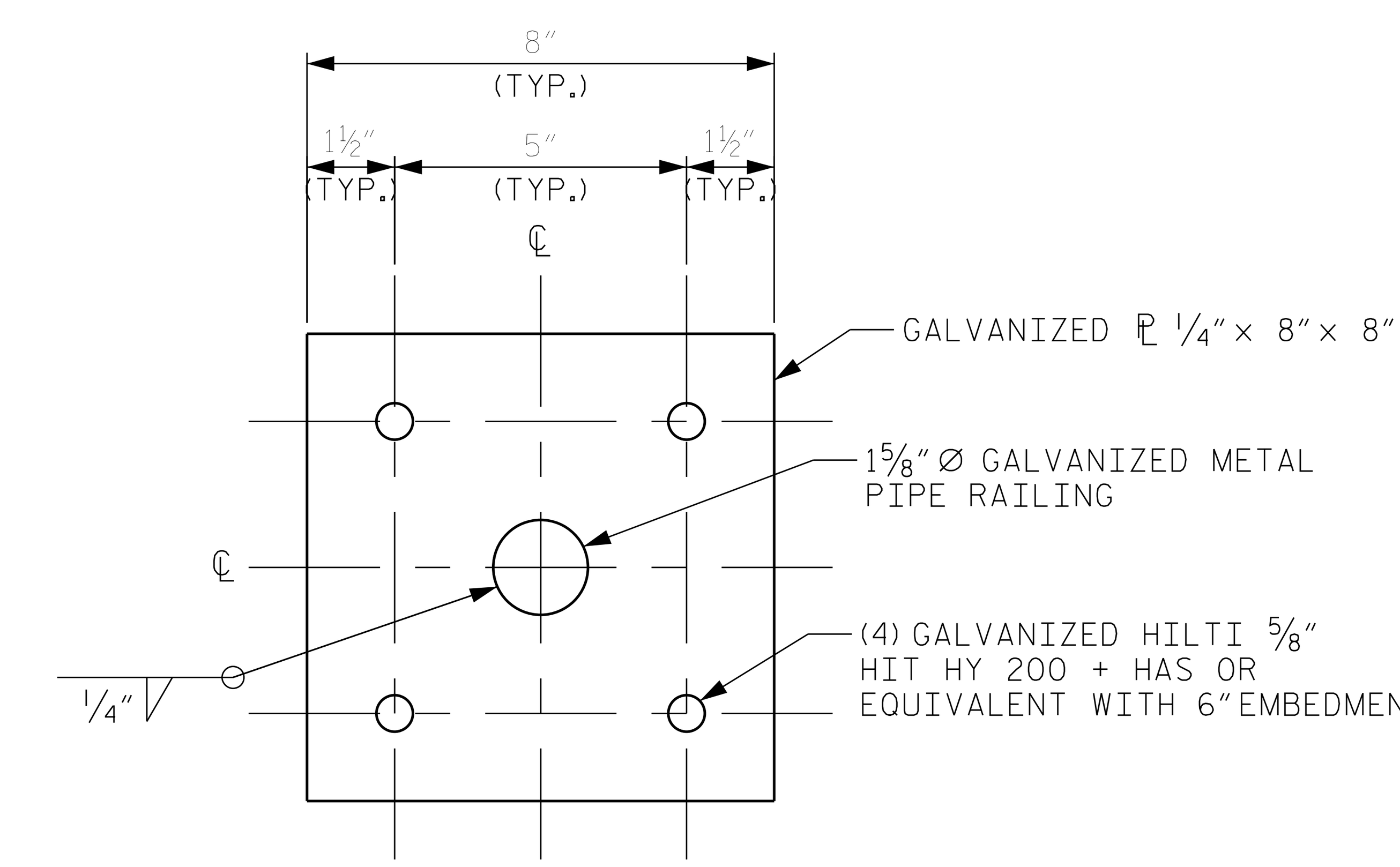
GRADE BEAM DETAIL



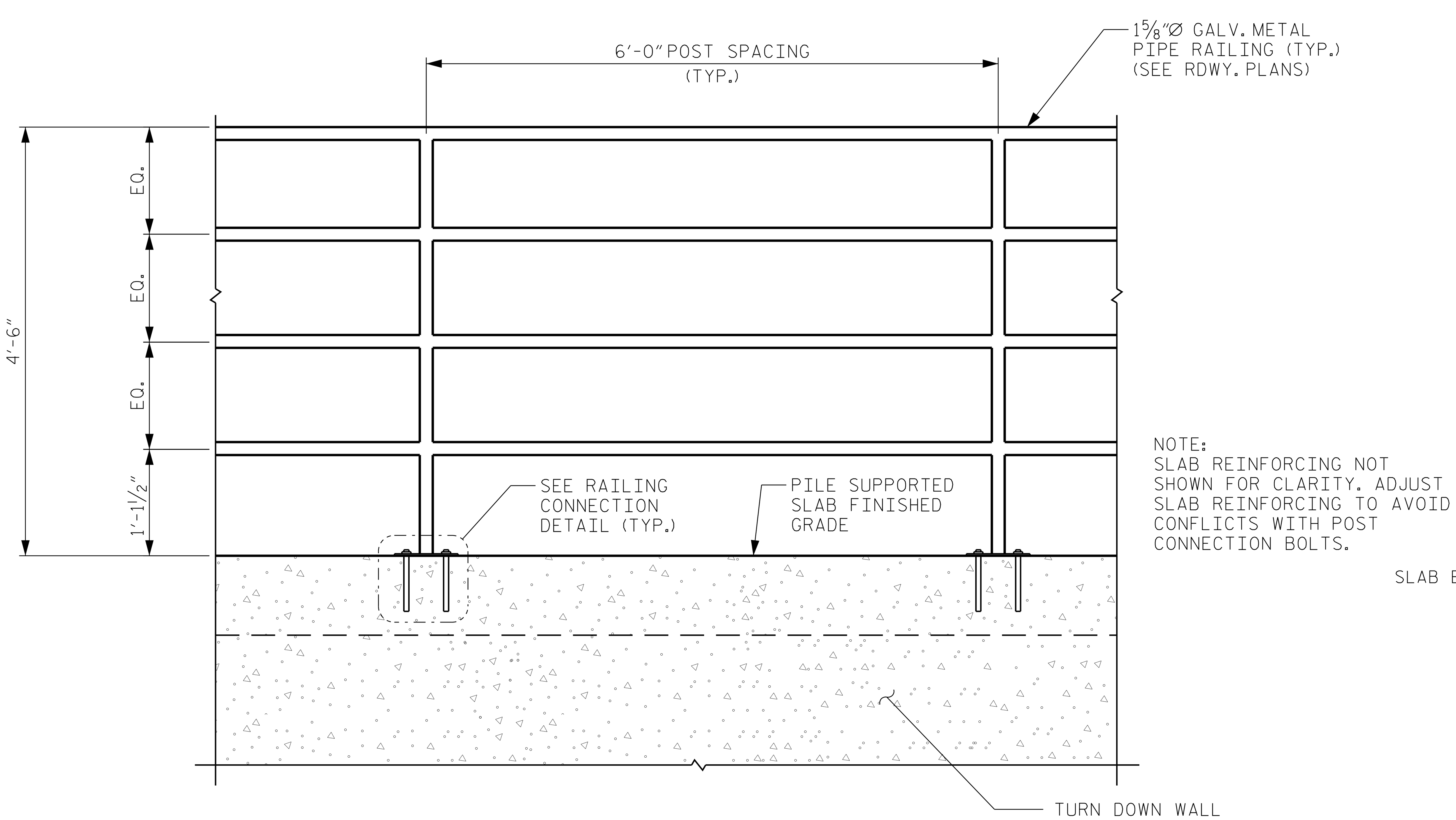
SECTION D-D



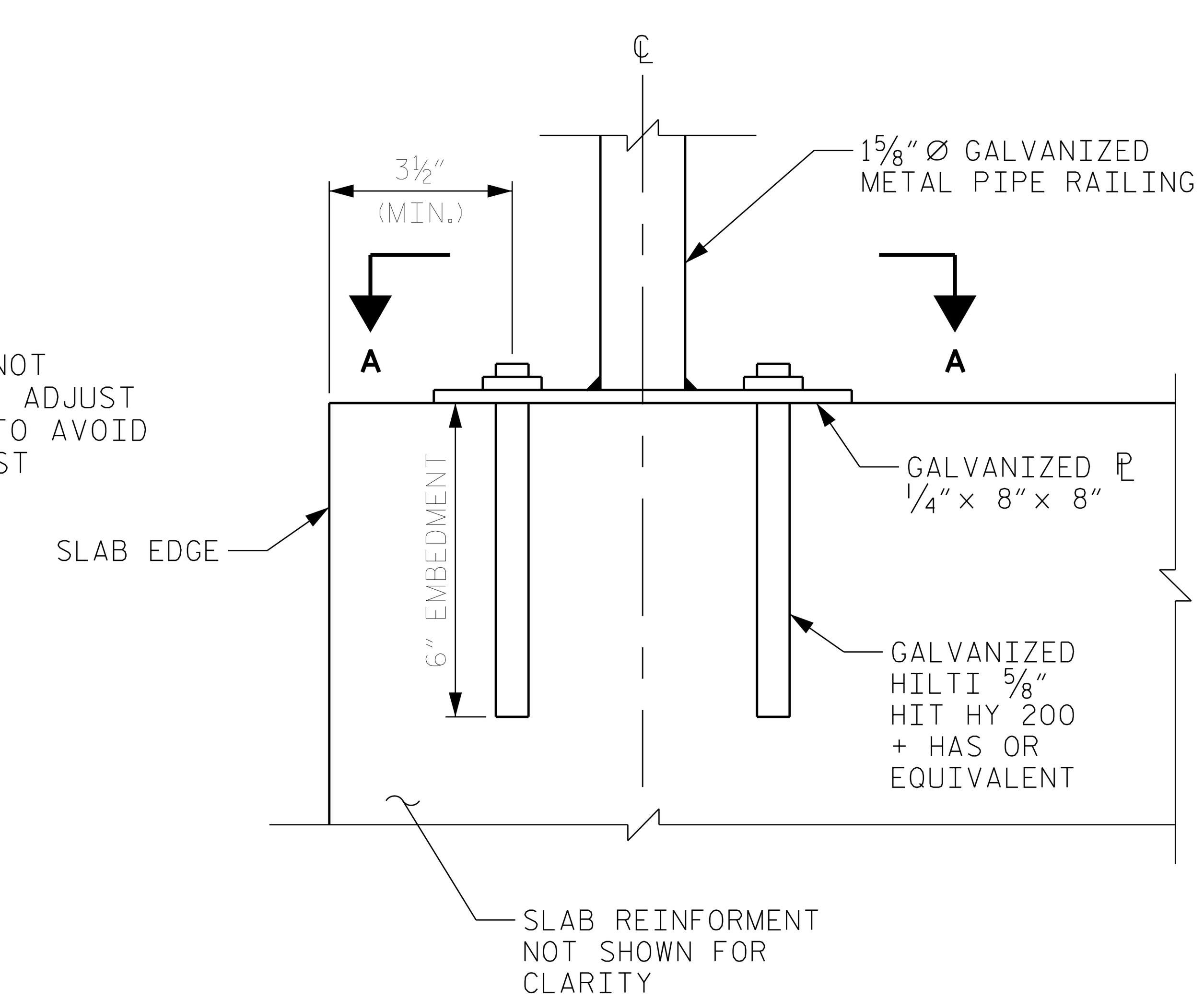
SLAB CONNECTION DETAIL



SECTION A-A



TYPICAL METAL HAND RAIL DETAIL



RAILING CONNECTION DETAIL

PROJECT NO. EB-5539

PITT COUNTY

STATION: 124+30.56 -L4-

SHEET 2 OF 2

CITY OF GREENVILLE

PILE SUPPORTED SLAB DETAILS

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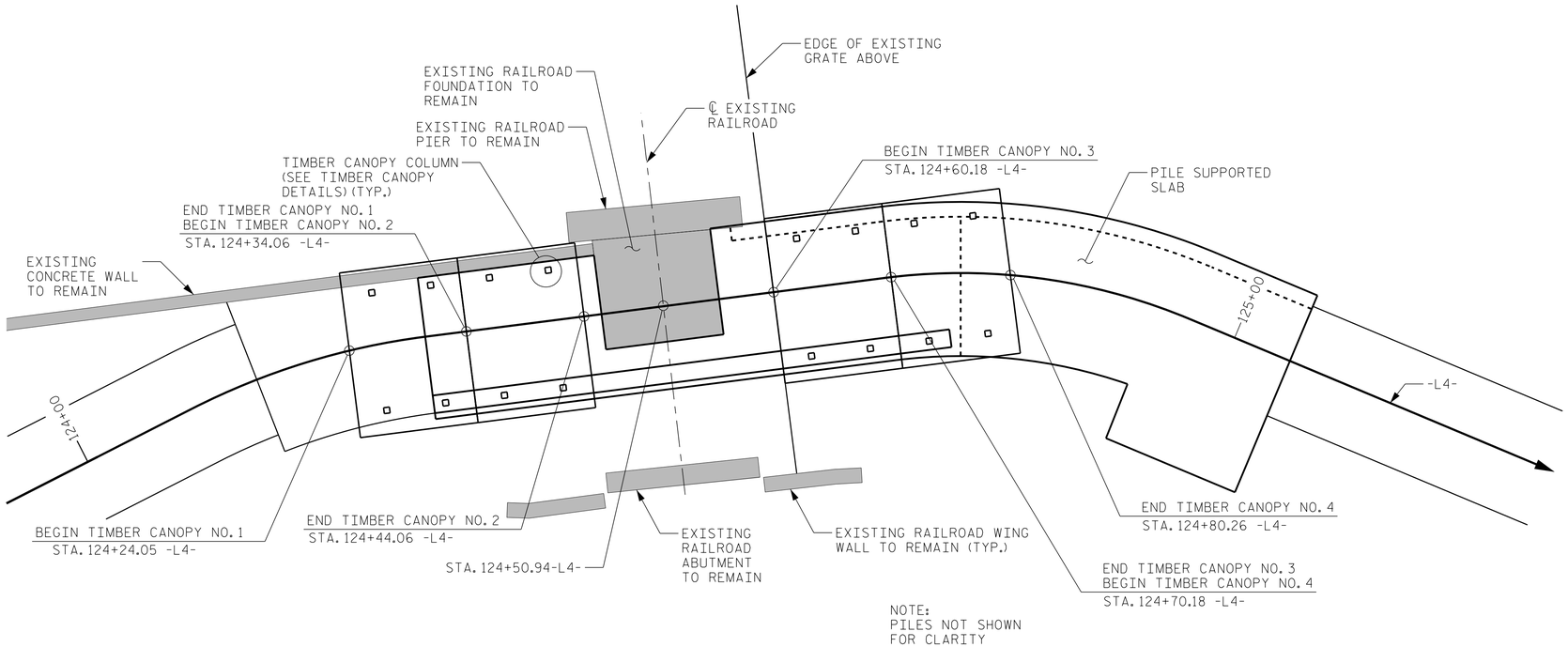
NOTES

FOR NOTES, SEE "GENERAL NOTES" SHEETS.



TIMBER CANOPY PLAN

PROJECT NO. EB-5539

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TIMBER CANOPIES PLAN

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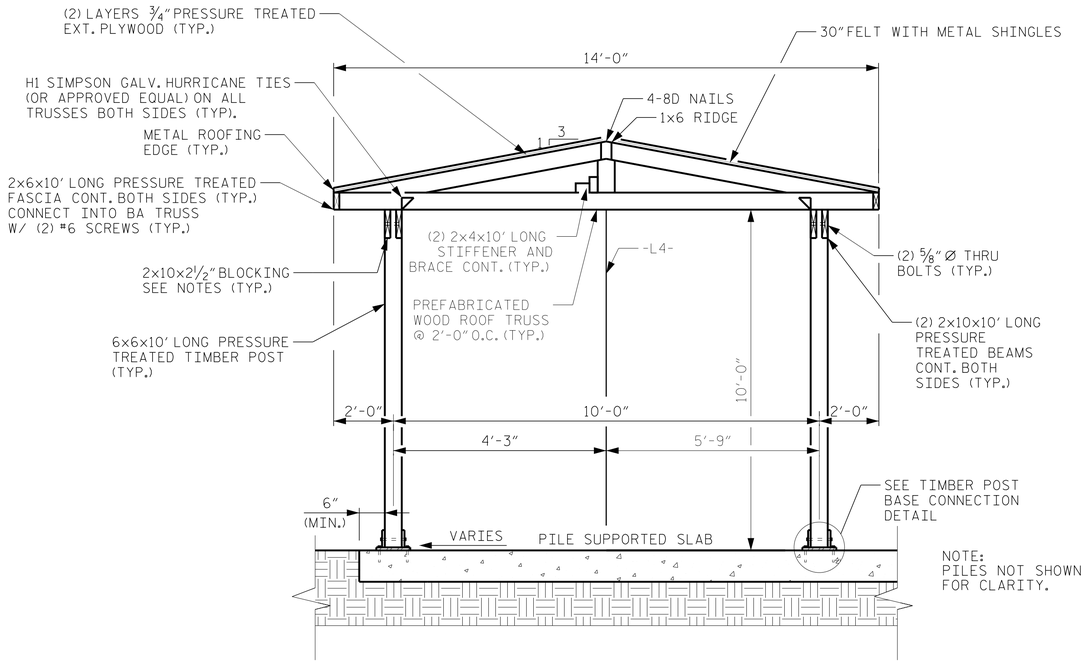
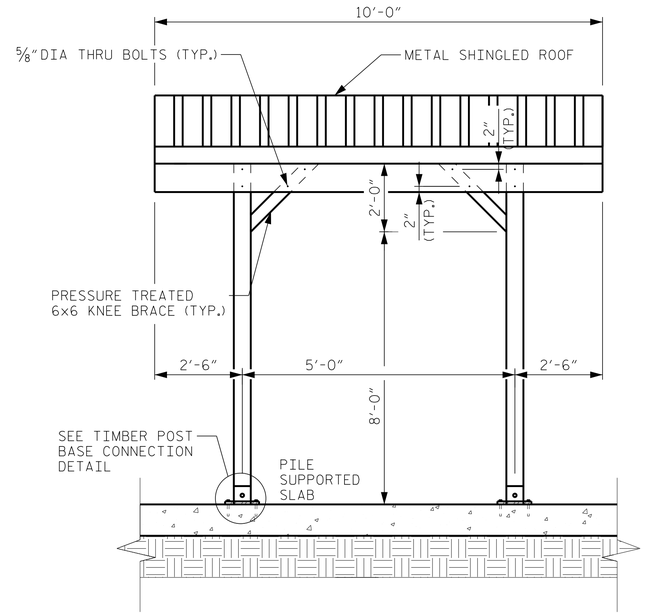
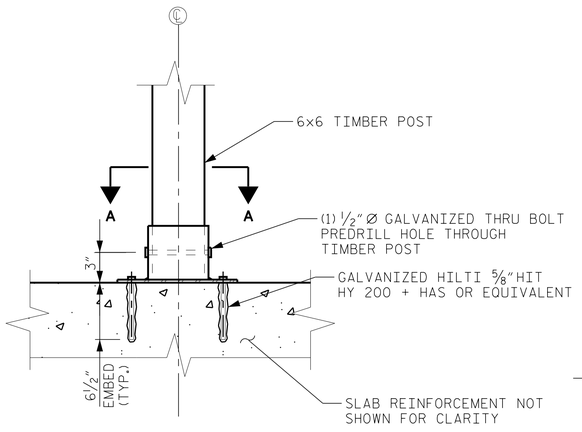


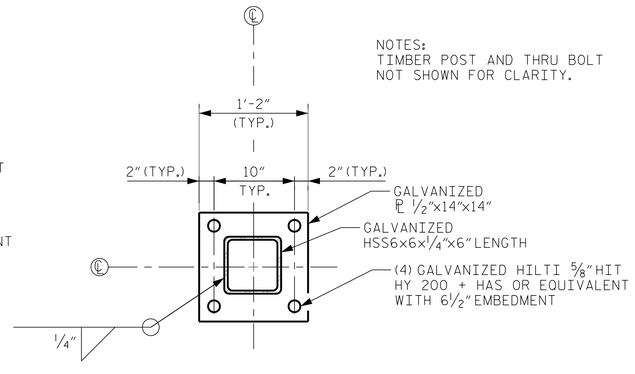
FRONT ELEVATION
(TIMBER CANOPY 1, 2, AND 4)



SIDE ELEVATION
(TIMBER CANOPY 1, 2, AND 4)



SECTION
SHIM BASE PLATE TO BE LEVEL



PLAN

TIMBER POST BASE CONNECTION
(CONNECTION TO SLAB SHOWN, SEE NOTES FOR CONNECTION TO WALL.)

NOTES

POST-INSTALLED ADHESIVE ANCHORS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS. PREPARATION, AND MATERIAL HANDLING.

REDUCE MAXIMUM INSTALLATION TORQUE PER MANUFACTURER INSTALLATION REQUIREMENTS AT ANCHORS WITH EDGE DISTANCES GREATER THAN 1.75" AND LESS THAN 5xDIAMETER OF THE ANCHOR.

TIMBER POST BASE CONNECTION ON RETAINING WALL STEM WILL BE THE SAME CONNECTION SHOWN ON THIS SHEET. THE CENTERLINE OF THE CONNECTION SHALL BE ALONG THE CENTERLINE OF THE RETAINING WALL STEM. THE TIMBER POST MOUNTED TO THE RETAINING WALL SHALL BE SHORTER THAN 10' SUCH THAT THE PREFABRICATED WOOD ROOF TRUSS IS LEVEL AND 10'-0" CLEARANCE IS MAINTAINED ALONG THE GREENWAY.

SEE SHEET 24 FOR ADDITIONAL INFORMATION ON TIMBER CANOPY NO. 3.

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SHEET 1 OF 2

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TIMBER CANOPY DETAILS

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NOTES

METAL DECKING TO BE FIELD CUT AROUND EXISTING BRIDGE KICKERS SUPPORTING EXISTING GRATING AS REQUIRED.

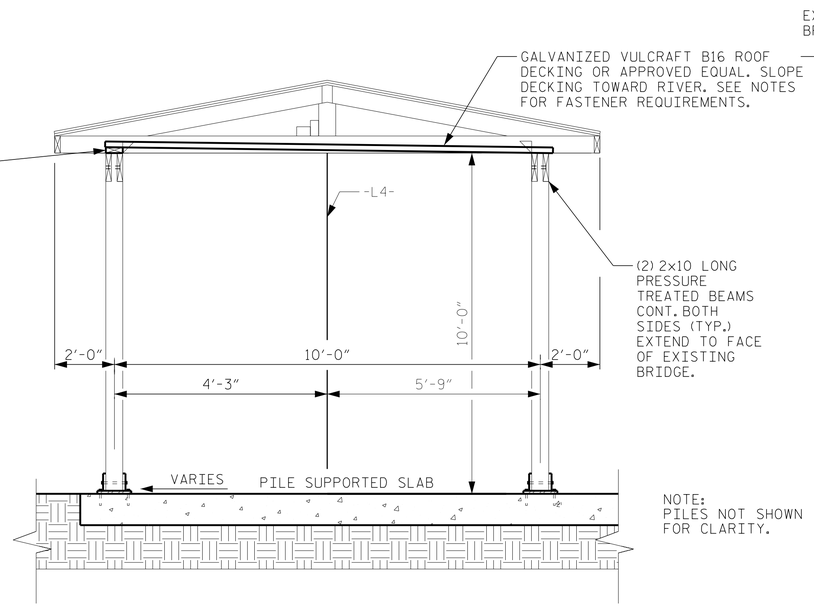
METAL DECKING SHALL BE GALVANIZED VULCRAFT B16 ROOF DECKING OR APPROVED EQUAL.

FASTENERS FOR METAL DECKING SHALL BE #10x1½" ROUND HEAD GALVANIZED WOOD SCREWS SPACED AT 6" ALONG CANTILEVERED BEAMS.

PROVIDE A RUBBER WASHER AT EACH FASTENER LOCATION.

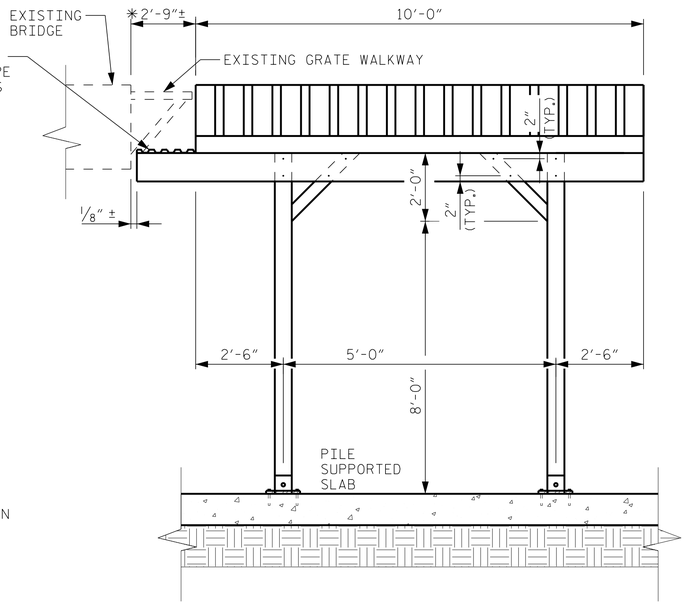
METAL DECKING ONLY REQUIRED FOR TIMBER CANOPY NO. 3

FOR MEMBERS AND DIMENSIONS NOT LISTED SEE SHEET 23.



FRONT ELEVATION
(TIMBER CANOPY 3 ONLY)

* FIELD VERIFY. NOTIFY ENGINEER IMMEDIATELY IF DISTANCE FROM EDGE OF ROOF TO EDGE OF EXISTING BRIDGE IS GREATER THAN 3'-0"



SIDE ELEVATION
(TIMBER CANOPY 3 ONLY)

PROJECT NO. EB-5539
PITT COUNTY
STATION: 124+30.56 -L4-

SHEET 2 OF 2

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson CDA045FAFCC9416... 1/19/2018

CITY OF GREENVILLE

TIMBER CANOPY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			24

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY: J. I. KIMBLE	DATE:	12/17
CHECKED BY: J. J. PICCIRILLI	DATE:	12/17
DESIGN ENGINEER OF RECORD: J. C. WILSON	DATE:	12/17

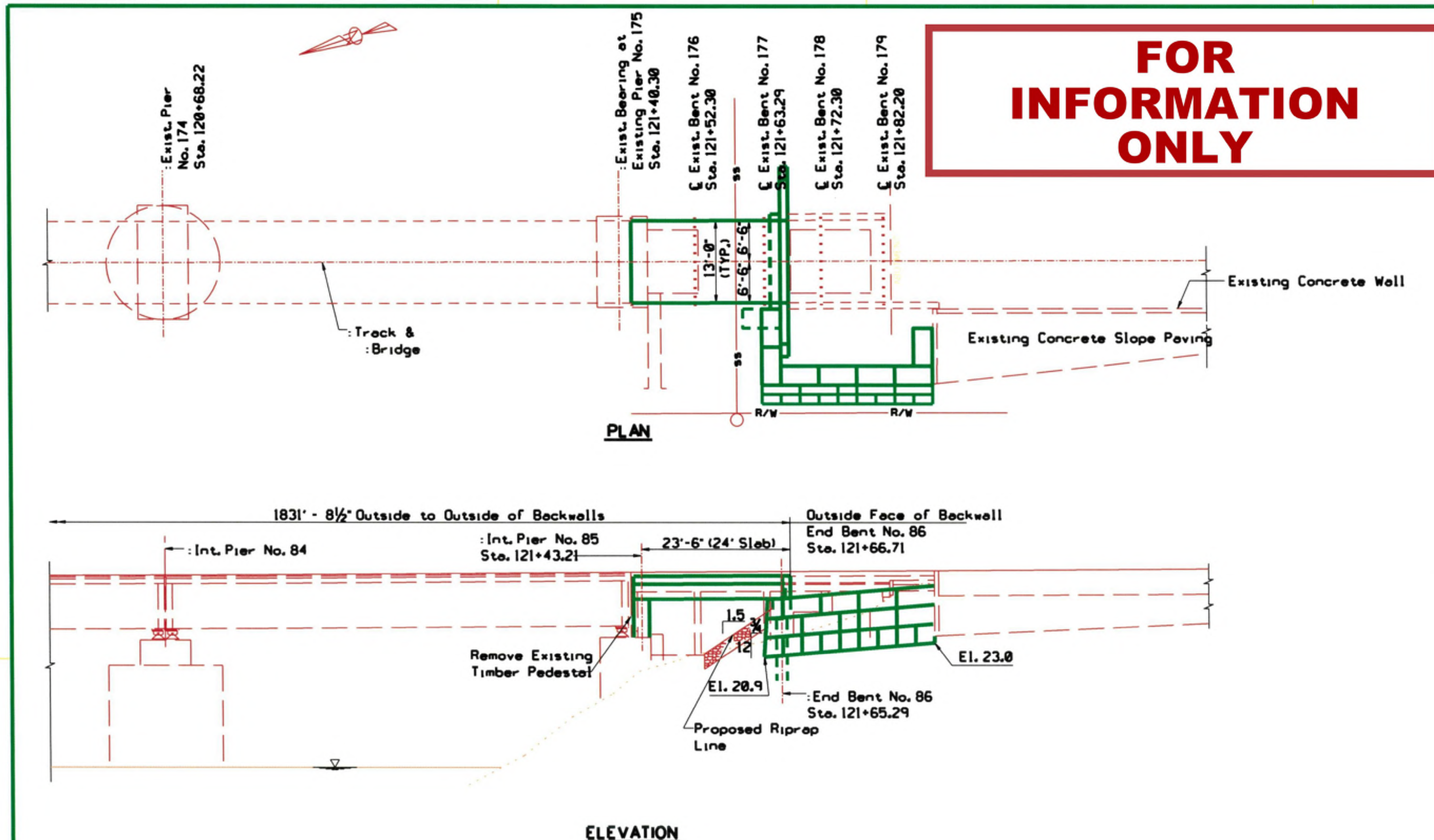
12/18/2017 K:\RDT_Structures_Bridge\NC\012654005 South Tar River Greenway\Cad\Dgn\Struc_012654005_S24.dgn

scaled up by 4.5

Pier Detail scaled up by 2.5

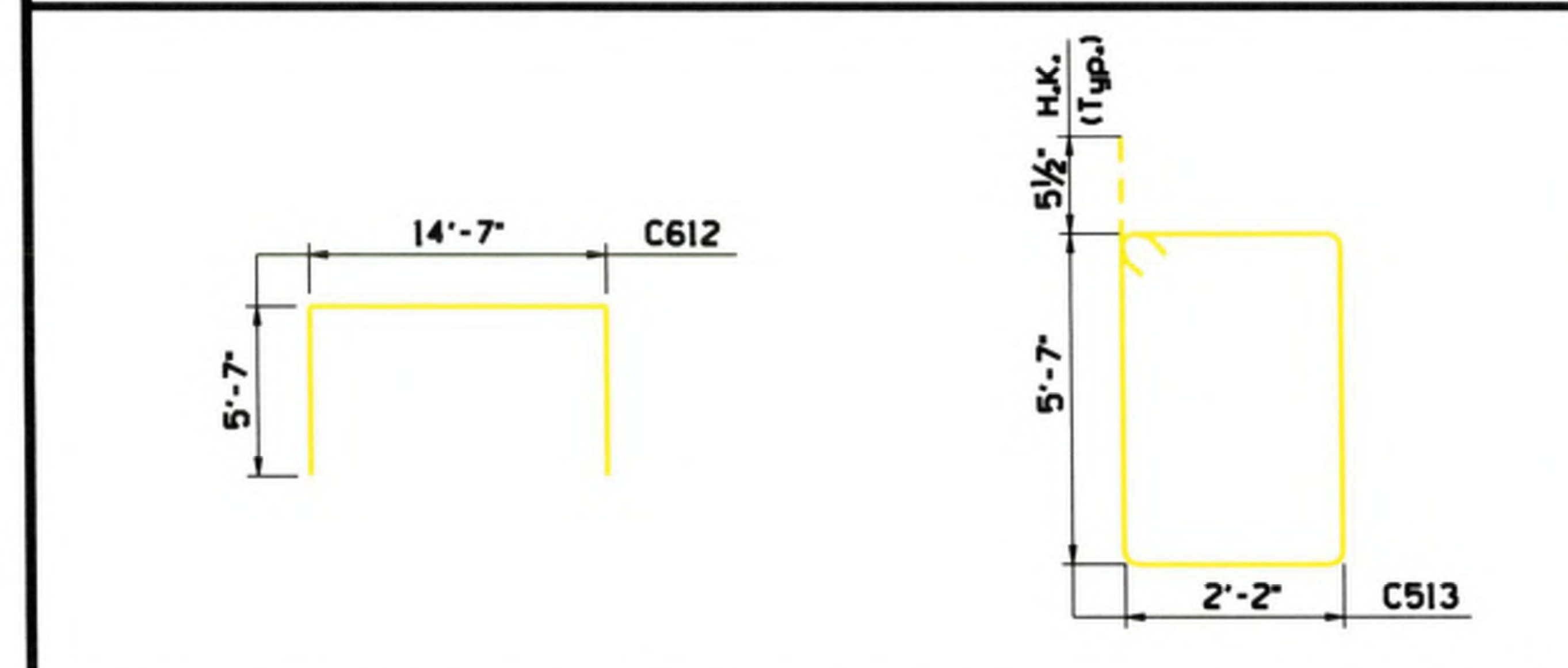
SCALE 1=10

FOR INFORMATION ONLY

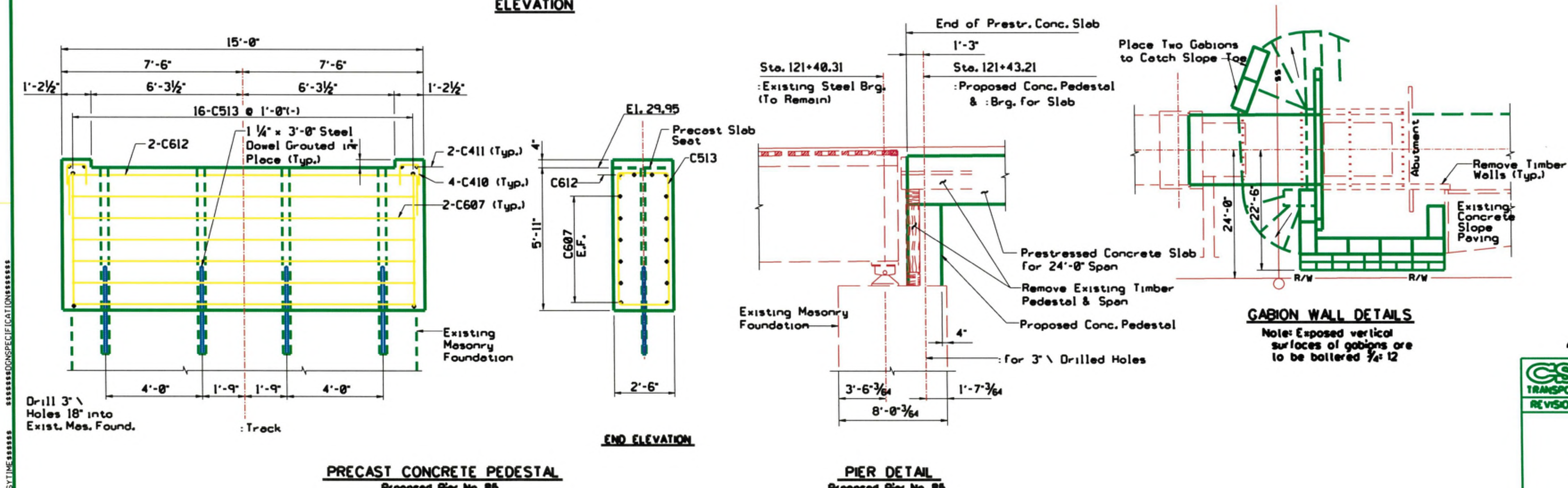


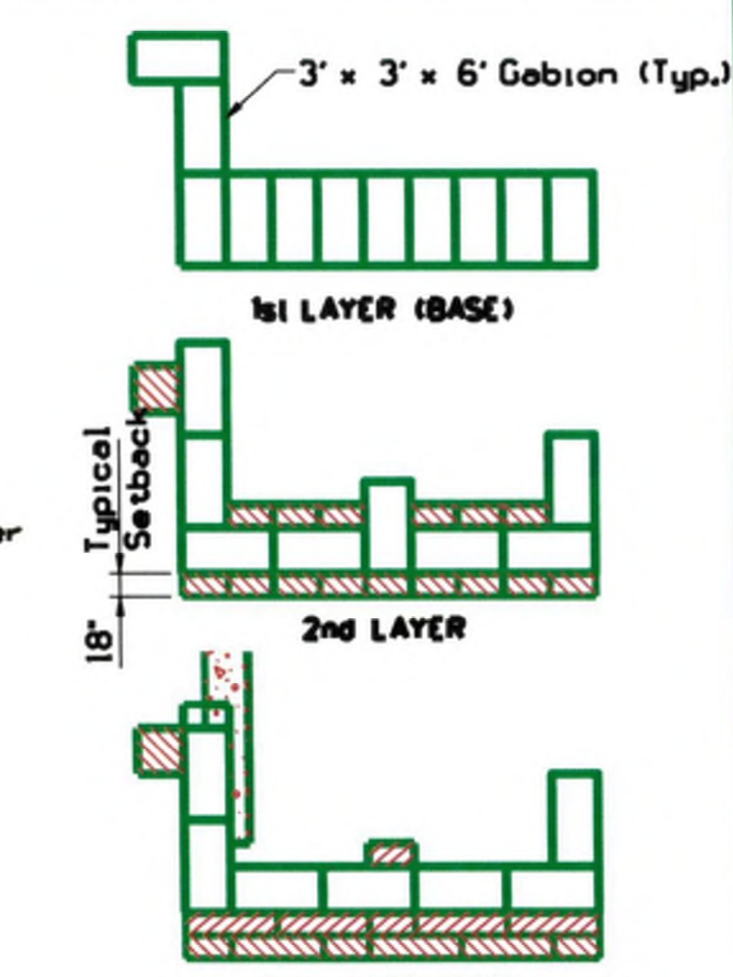
REINFORCING STEEL SCHEDULE						
MARK	BAR NO.	NO. REQ'D	LENGTH	TYPE	LOCATION	WEIGHT (LBS.)
C607	6	12	14'-7"	Str	Slab Seat - Longit.	263
C410	4	8	2'-10"		Shoulder - Vert.	15
C411	4	4	2'-1"	Str	Shoulder - Transv.	6
C612	6	4	25'-9"		Slab Seat - Longit.	155
C513	5	16	16'-5"		Slab Seat - Stirrup	274
					Total	713

BENDING DIAGRAM



ESTIMATED QUANTITIES		
QUANTITY	UNIT	DESCRIPTION
713	LBS	Reinforcing Steel - Grade 60
8.3	CY	Concrete - Class 'A' or 'A'(AE)
2	EA	Neoprene Bearing Pads - 6 X ½X 6'-2" Long
1	GAL	Concrete Curing Compound
50	LBS	Structural Steel - Dowels & Bracing
28	EA	Gabions (3' X 3' X 6')
84	Tons	Stone for Gabions





AFE A19941 & A21560

CSX TRANSPORTATION — ENGINEERING DEPARTMENT

REVISIONS

BRIDGE @ MP AA 148.5
OVER TAR RIVER
GENERAL PLAN

SCALE: 1"=10' | VAL. SEC. V.5 NC 19 | DRAWING NO. AA148.5-19

CADD FILE: | FILE:

DRAWING FILE NO.

The following notes are on level 3:
Note: "DRAWING FILE NO." is on level 2.
Delete this for non-B&O jobs.
Note: Red snap points are on level 3.

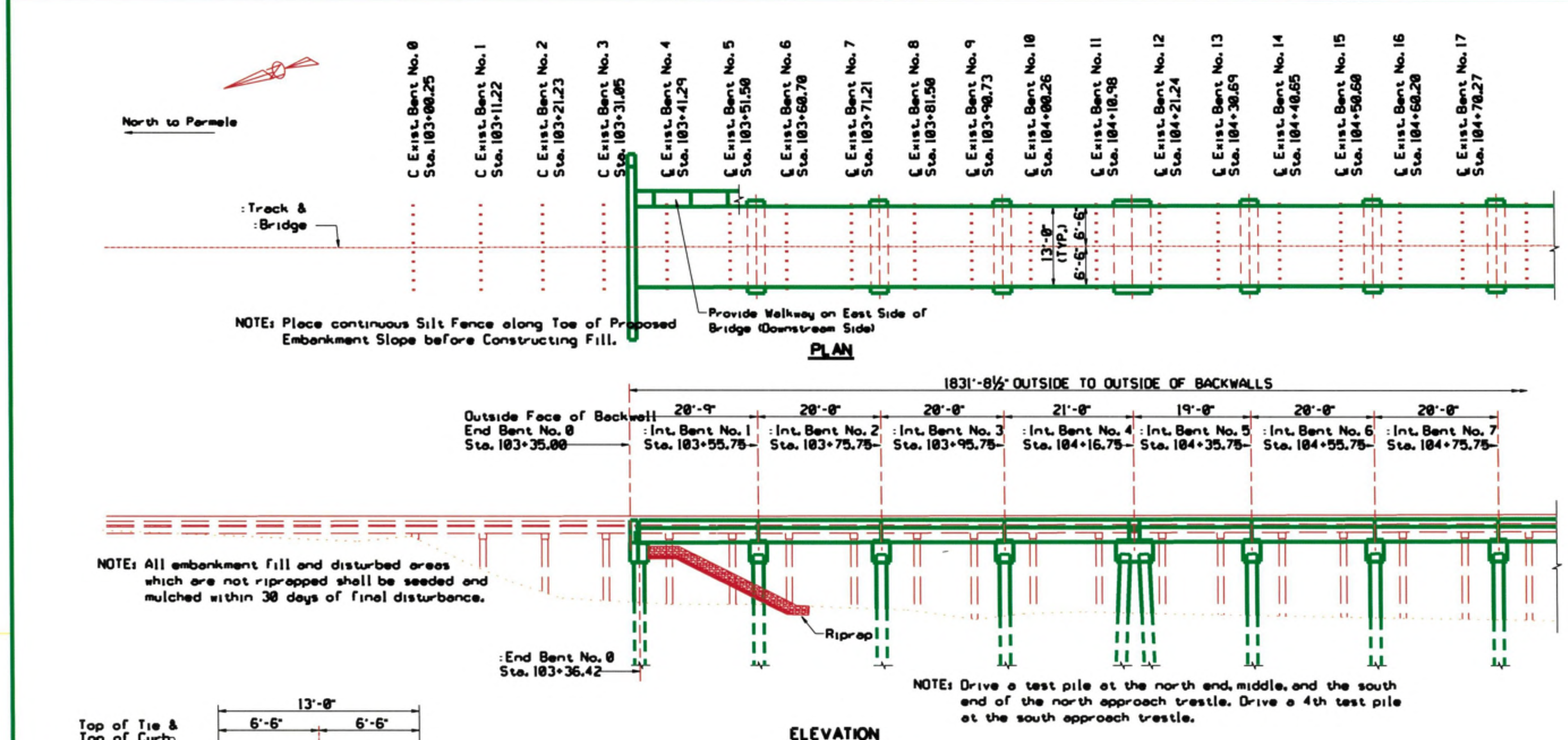
$$$$$$$$DGNSPECIFICATION$$$$$$$$

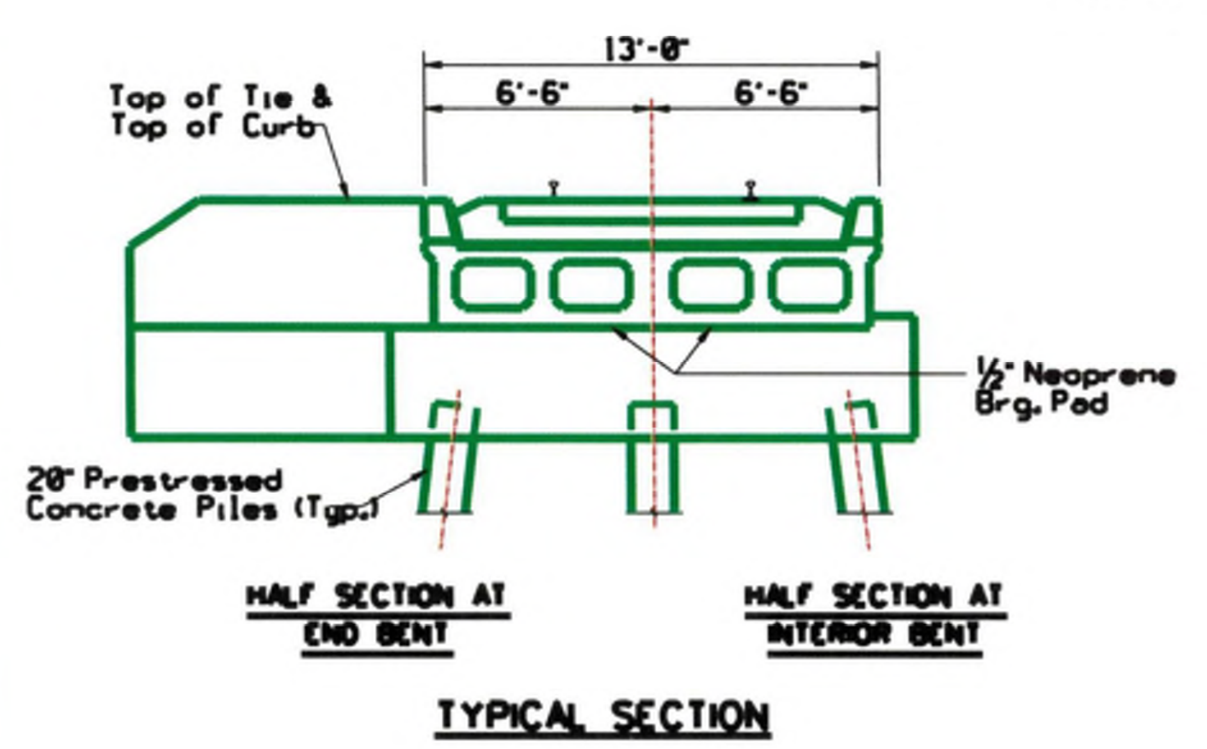
$$$$$$SYTIME$$$$$$

'YPICAL SECTION IS SCALED UP BY 2.5

SCALE 1=10

FOR INFORMATION ONLY





SUMMARY OF QUANTITIES

	QUANTITY	UNIT	DESCRIPTION
R.R.	42	Each	Standard 18'-0" Prestressed Concrete Slabs
R.R.	118	Each	Standard 20'-0" Prestressed Concrete Slabs
R.R.	6	Each	Standard 24'-0" Prestressed Concrete Slabs
	273+4	Each	20" Concrete Piles X 50'-0" •
	8	Each	HP 14 X 73 Steel Piles X 80'-0" •
	592.5	C.Y.	Concrete Class A(AE)
	74614	Lbs.	Reinforcing Steel
R.R.	332	Each	Neoprene Bearing Pads 6" x ½" x 6'-2"
R.R.	83	Each	Galvanized Drainage Grating
	564	L.F.	Expansion Joint Material - 4" x ½"
	20	L.F.	Expansion Joint Material - 16" x ½"
	1570	L.F.	Expansion Joint Material - 8" x 1"
	240	L.F.	Expansion Joint Material - 28" x ¼"
	170	Gal.	Asphalt Joint Compound
	173	Gal.	Concrete Curing Compound
	91	Tons	Bedding Stone
	308	Tons	Riprap Stone
	3750	Lbs.	Structural Steel (Stiffeners & Bracing)
R.R.	848	Lbs.	Structural Steel (Bearings)
R.R.	48128	Lbs.	Walkway Brackets
R.R.	44294	Lbs.	Walkway Grating
R.R.	3296	L.F.	⅜" Messenger Cable (For Walkway Handrail)
	28	EA.	Gabions (3' x 3' x 6')
	84	Tons	Stone for Gabions
	200	L.F.	Silt Fence

RR = Railroad Furnished
• = Estimated Length

NOTES:

1. Design Live Load: Cooper E80.
2. Specification: A.R.E.A. Manual for Railroad Engineering, dated 1996, Chapter 8 - Concrete Structures.
3. All Material Workmanship shall conform to CSXT Standards Specifications Part VII - Concrete for Bridges.
4. Lifting loops for Slabs and Piles shall be cut off flush with the concrete surface and coated with asphalt mastic.
5. Benchmark: A Temporary Benchmark was established on a RR Spike Driven into the Base of a 20" Pine Tree approx. 63 feet north of the North backwall and 18' west of the Track Centerline (Elev. 22.49). USCGS Monument "084" 1935 is located 293 feet South of the South Backwall and 25' West of the Track Centerline (Elev. 36.51)

LIST OF DRAWINGS

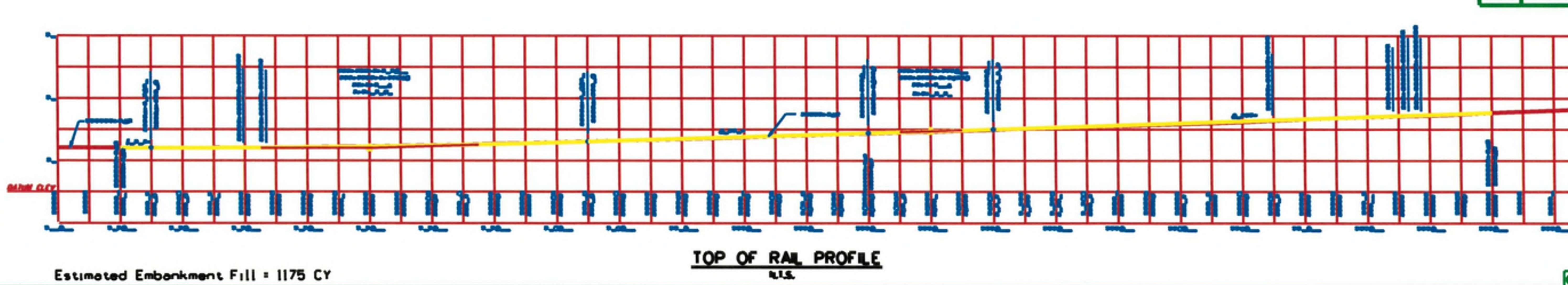
SHEET	DESCRIPTION	SHEET	DESCRIPTION
AA148.5-15	General Plan	3505	Prestressed Concrete Slab for 24'-0"
AA148.5-16	General Plan	3506	General Details
AA148.5-17	General Plan	3507	Intermediate Bent
AA148.5-18	General Plan	3508	Double Bent
AA148.5-19	General Plan	3509	Collar Details
AA148.5-20	Pile Layout & Elevations	3510	Single Track End Bent
AA148.5-21	Bent No. 82 Details	3513	20"\ Concrete pile
AA148.5-22	Steel	3514	20"\ Concrete Pile-Extension & Build up Details
3501	Prestressed Concrete Slab Details	3515	Walkway Brackets & Grating Details
3502	End Ballast Retaining Curb Details	3516	Walkway Brackets & Grating Details
3503	Prestressed Concrete Slab for 18'-0"	3517	Riprap Details
3504	Prestressed Concrete Slab for 20'-0"		

WATER WAY INFORMATION TABLE

DRAINAGE AREA = 2500 SQUARE MILES TOP OF TIE EL. @ LOW END = 23.52

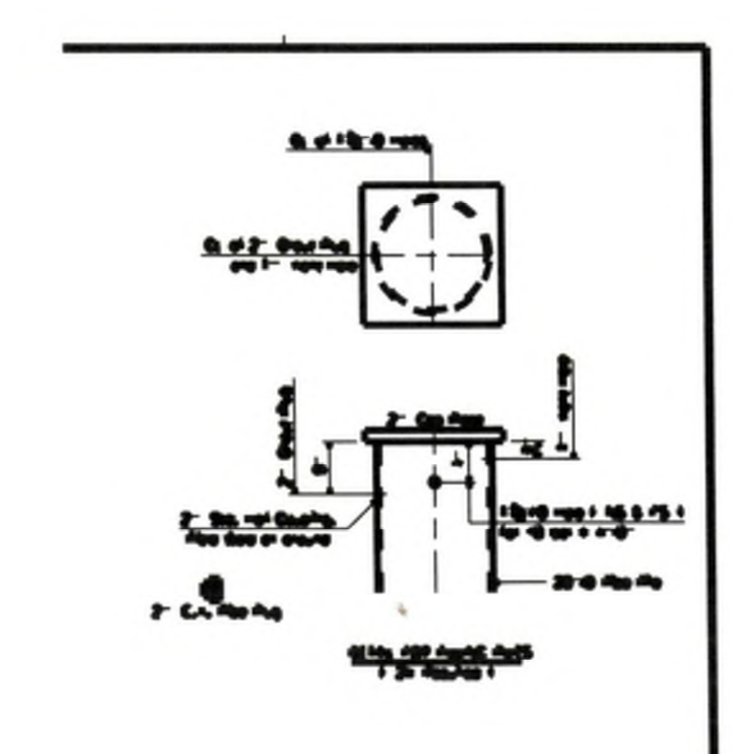
Flood Type	Frequency	Q (ft3/sec)	Opening (ft) Exist.•	Opening (ft) Prop.•	Natural High Water Elev. (feet)	Head-Feet Exist.	Head-Feet Prop.	Head Water El. Exist.	Head Water El. Prop.
Base	100	53,000	31,195	29,827	23.5	0.1	0.1	23.6	23.6

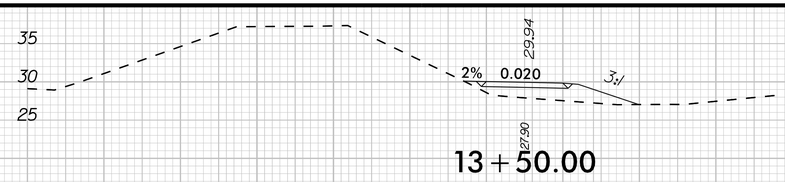
• Flow Area below High-Water Elevation
Upstream Structure: US 13/NC 11 about 3600' Upstream
Downstream Structure: North Green St. about 1000' Downstream
AFE A19941 & A21560



Estimated Embankment Fill = 1175 CY

CSX TRANSPORTATION
ENGINEERING DEPARTMENT
REVISIONS
BRIDGE @ MP AA 148.5
OVER TAR RIVER
GENERAL PLAN
VAL. SEC. V.5 NC 15
DRAWING NO. AA148.5-15
CADD FILE:
FILE:
DRAWING FILE NO.





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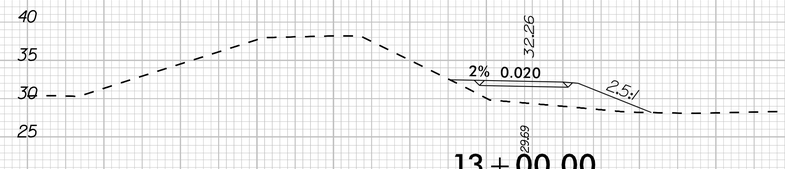

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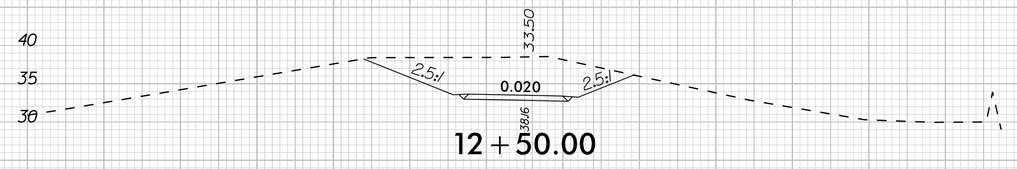

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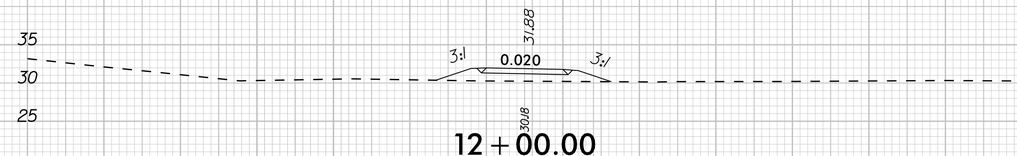

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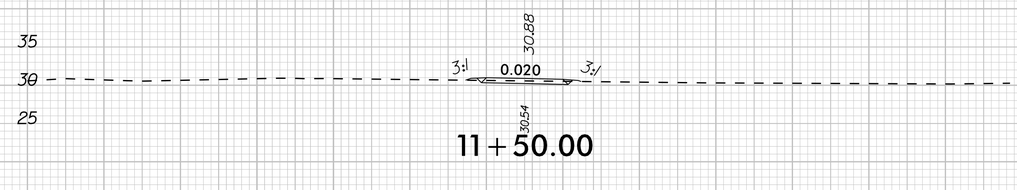

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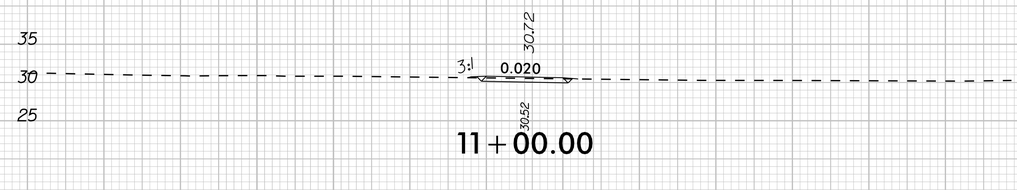

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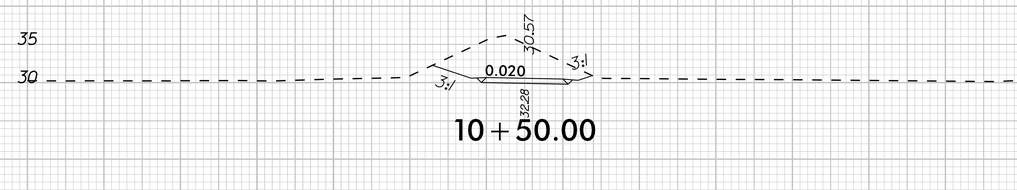

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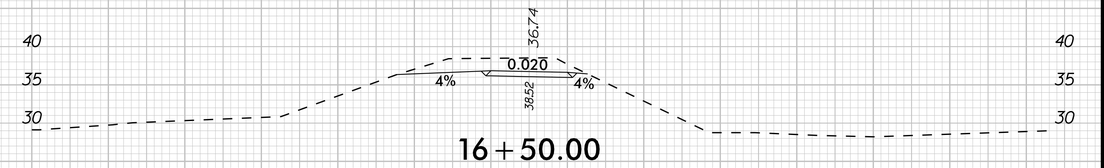

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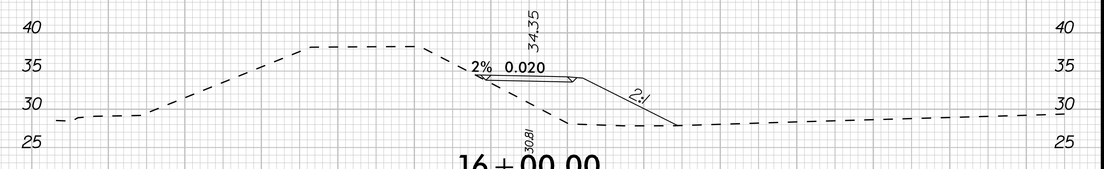

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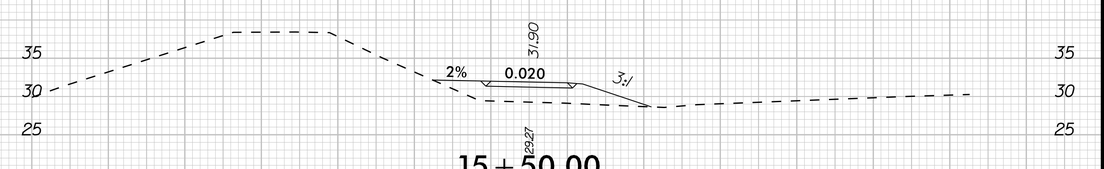

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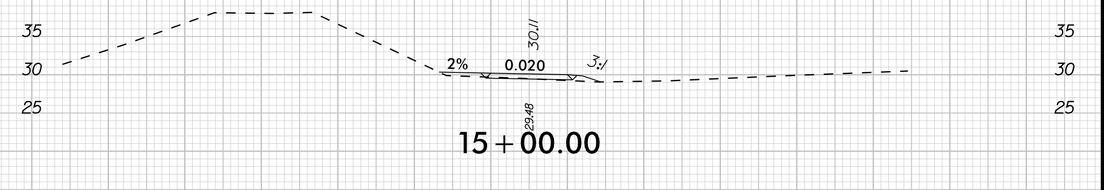

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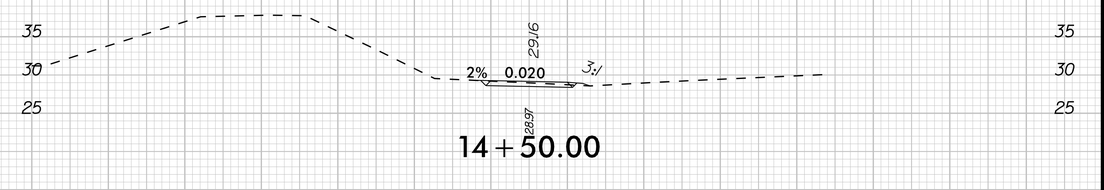

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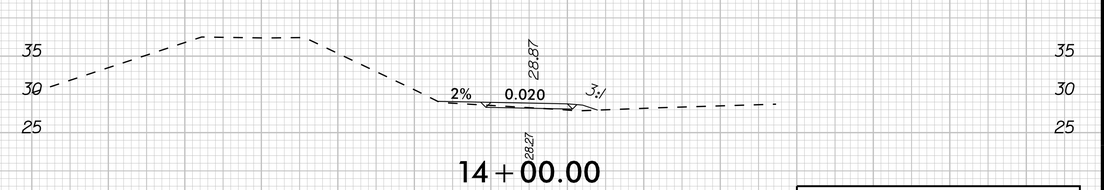

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PHASE 3B
FUTURE CONSTRUCTION

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND
ROADWAY CROSS SECTIONS

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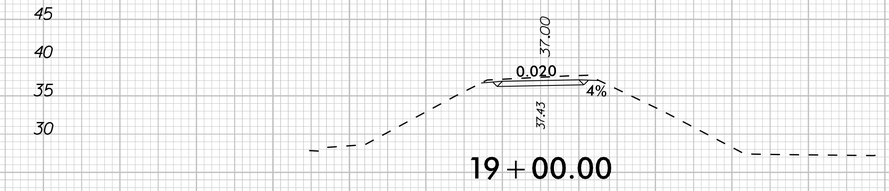
PROJECT:
SOUTH TAR RIVER GREENWAY,
PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-1



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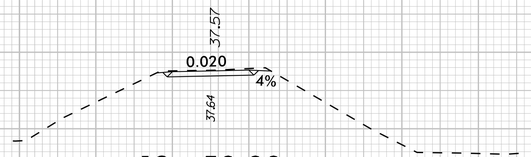

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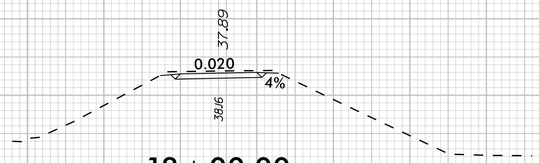

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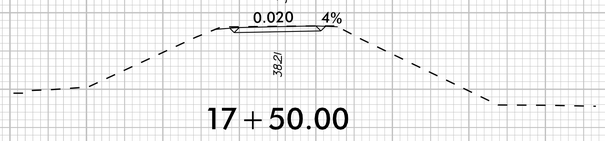

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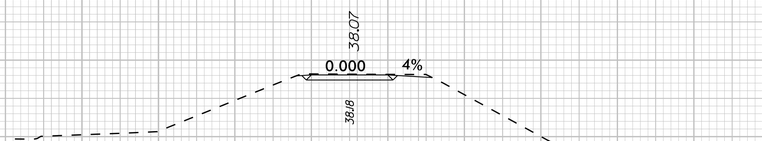

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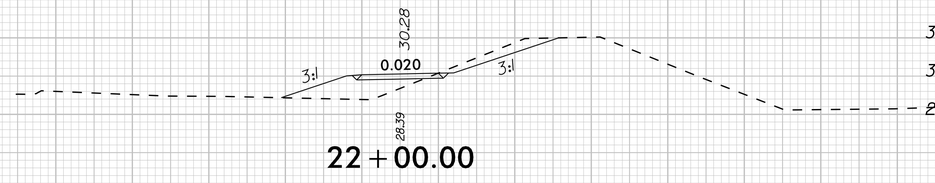

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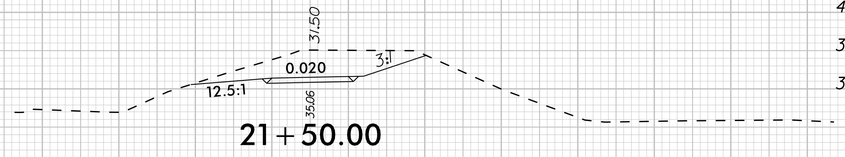

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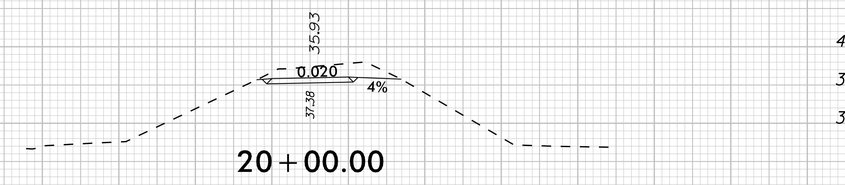

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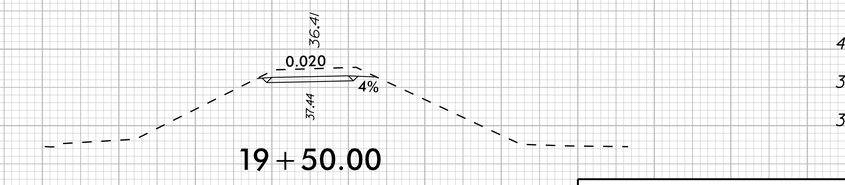

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PHASE 3B
FUTURE CONSTRUCTION

-L/-

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND ROADWAY CROSS SECTIONS

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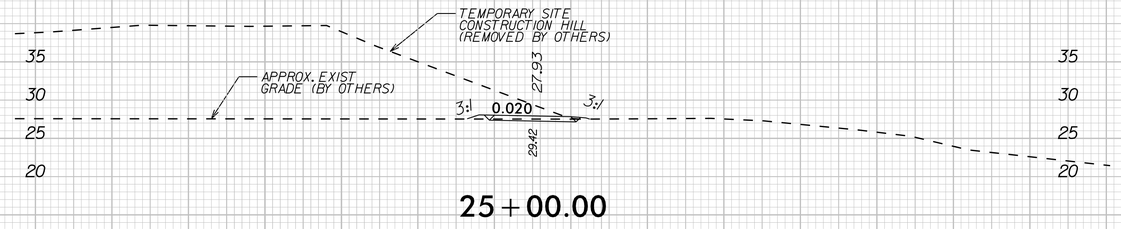
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-2



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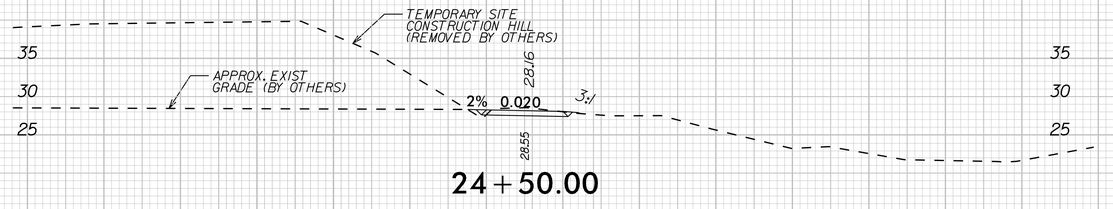

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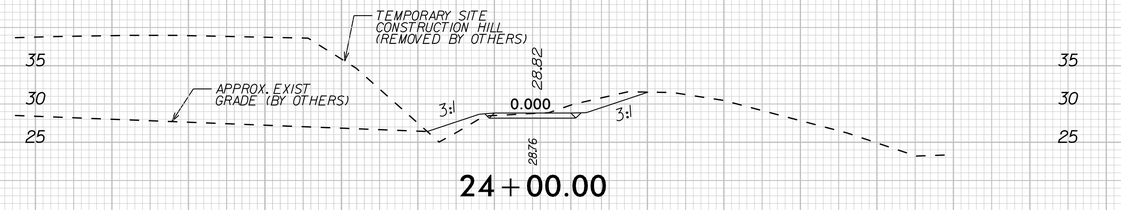

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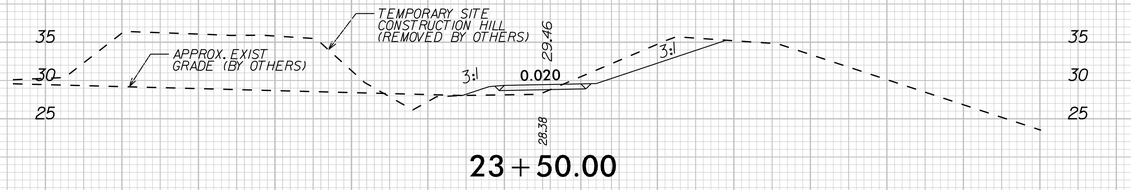

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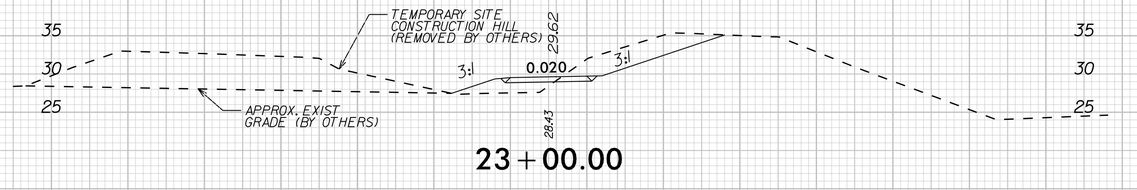

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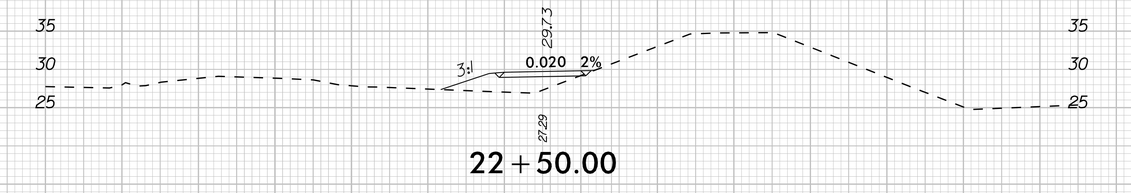

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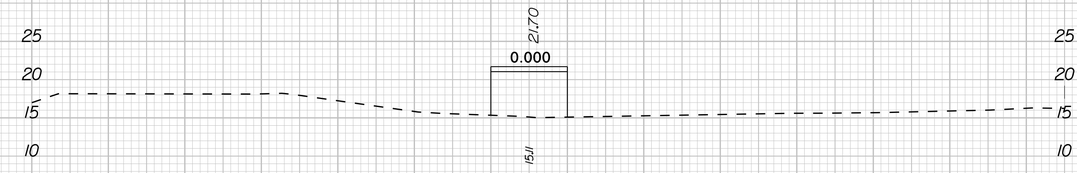

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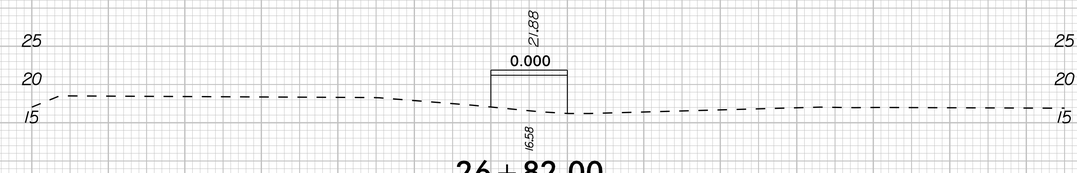

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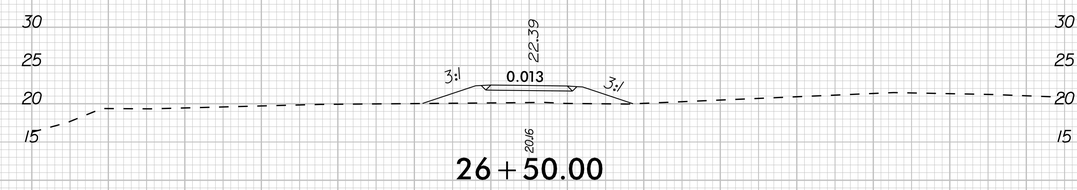

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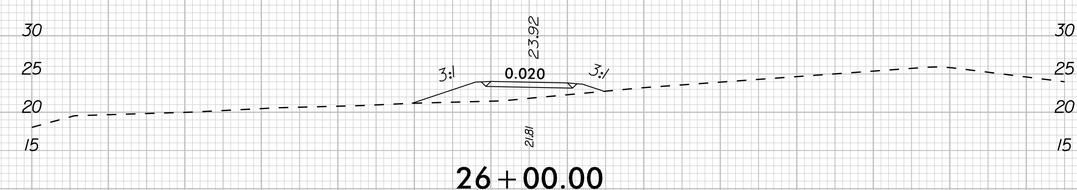
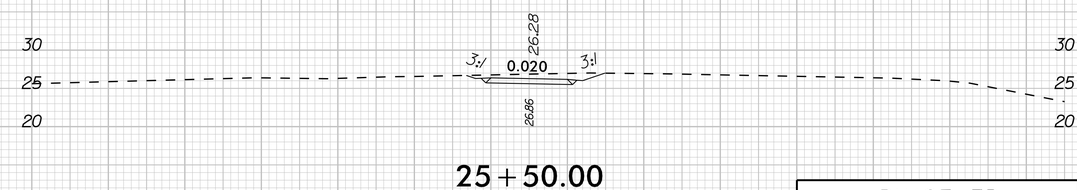


26 + 00.00



25 + 50.00

PHASE 3B
FUTURE CONSTRUCTION

—L/—

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_LI.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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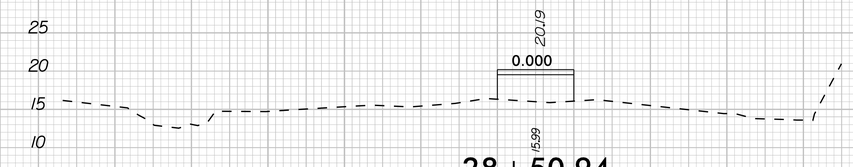
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	X-3



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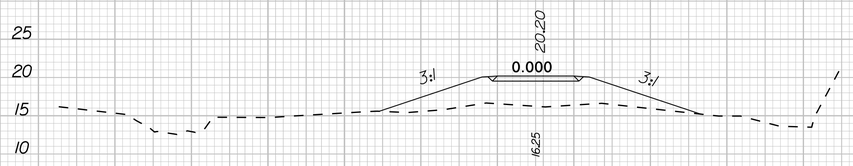

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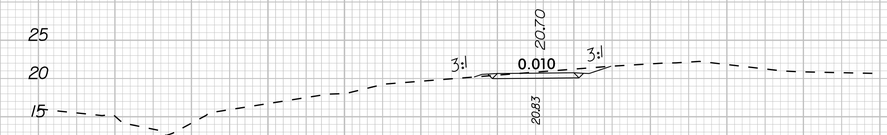

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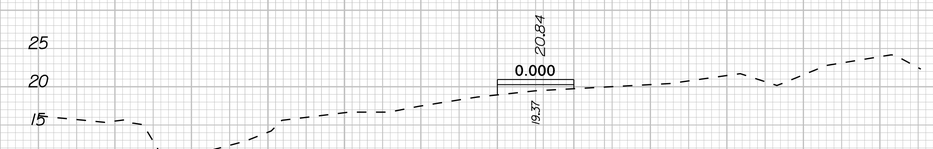

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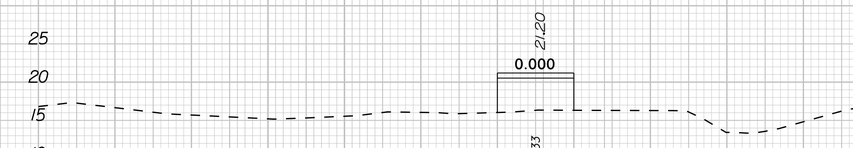

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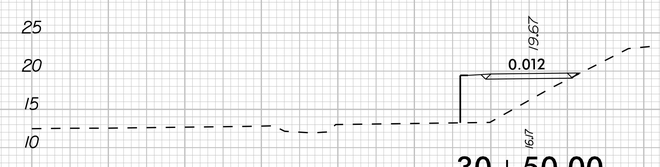

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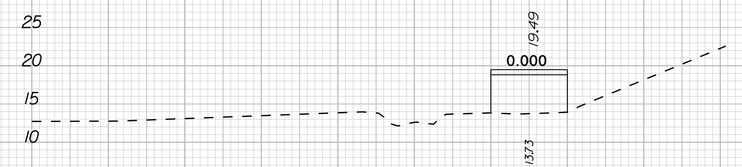
30 + 20.94



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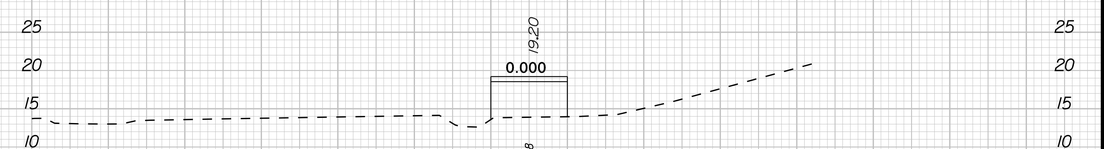

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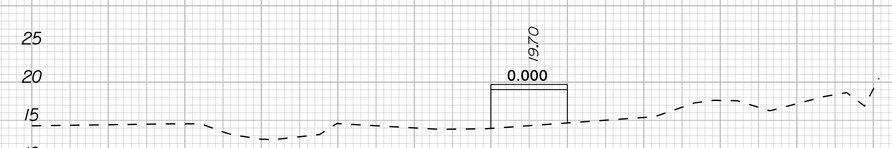

29 + 00.00

PHASE 3B
FUTURE CONSTRUCTION

-L/-

60 50 40 30 20 10 0 10 20 30 40 50 60 70

K:\RAL_Roadway\012654005 - EB-5539\PlanCross-Sections\EB5539_xpl_LI.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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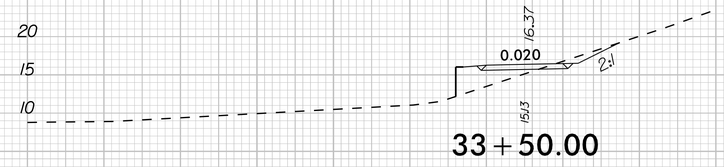
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

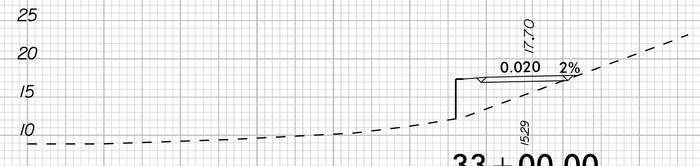
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-4



33 + 50.00



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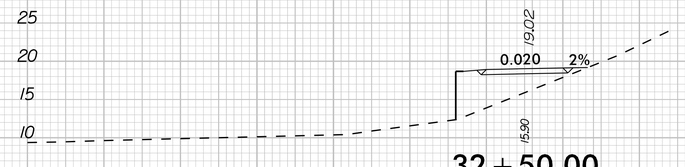

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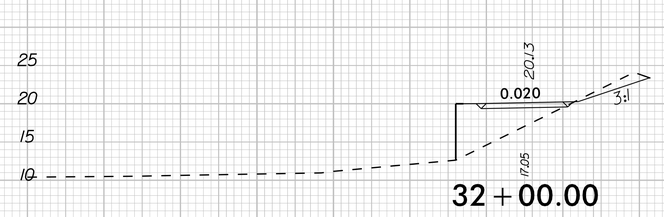

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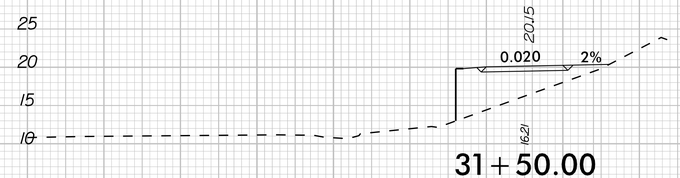

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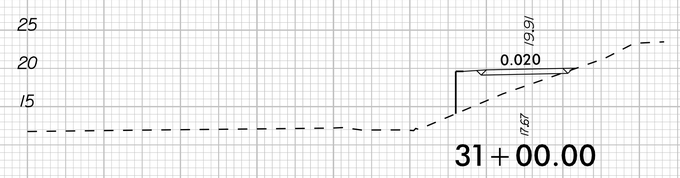
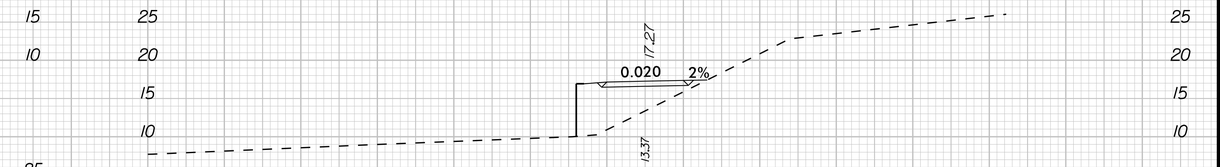


31 + 00.00

36 + 00.00



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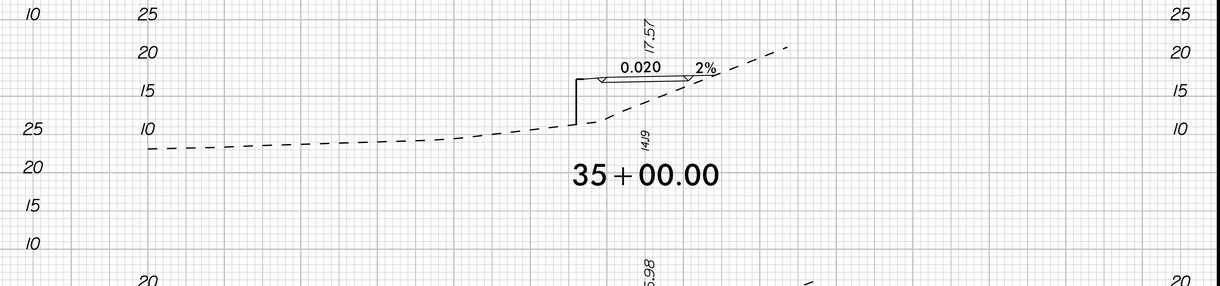

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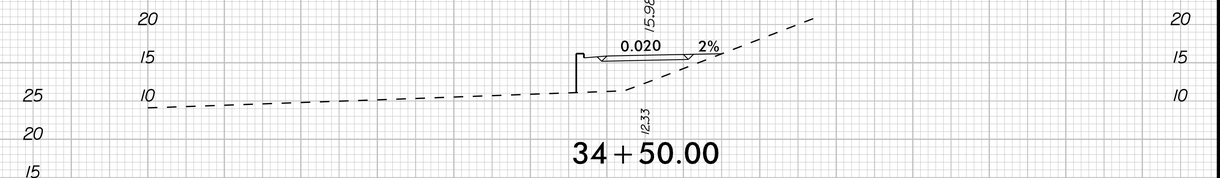
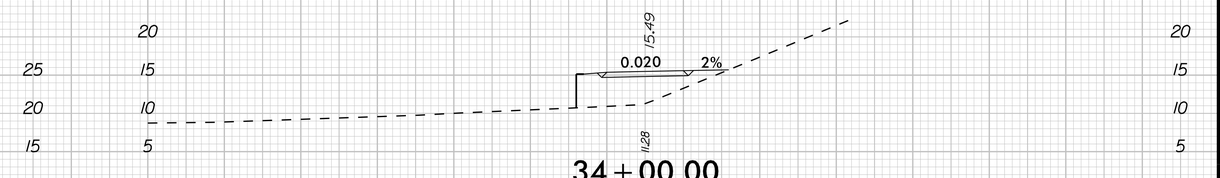


34 + 50.00



34 + 00.00

PHASE 3B
FUTURE CONSTRUCTION

-L/-

60 50 40 30 20 10 0 10 20 30 40 50 60 70

60 50 40 30 20 10 0 10 20 30 40 50 60 70

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_LI.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

PREPARED IN THE OFFICE OF:
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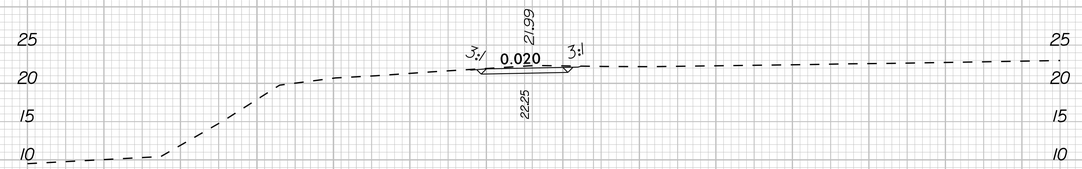
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

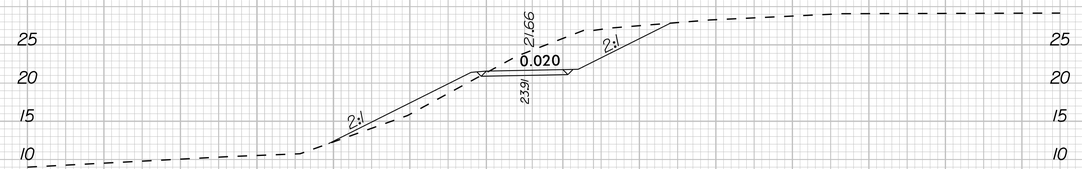
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-5



38+00.00



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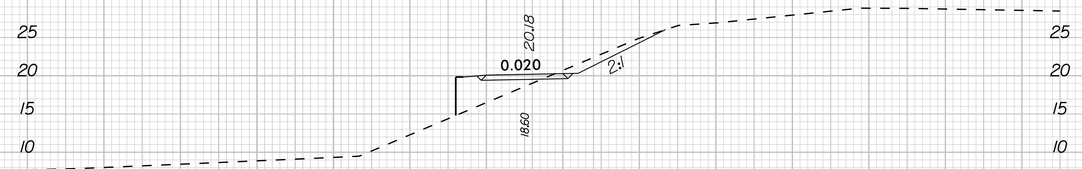

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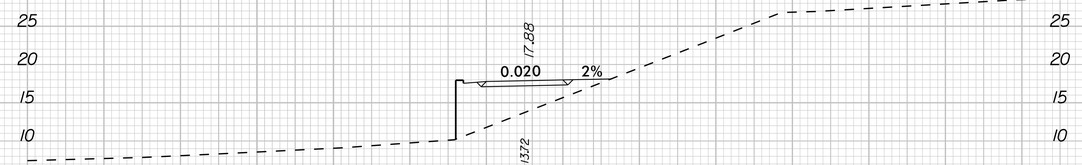

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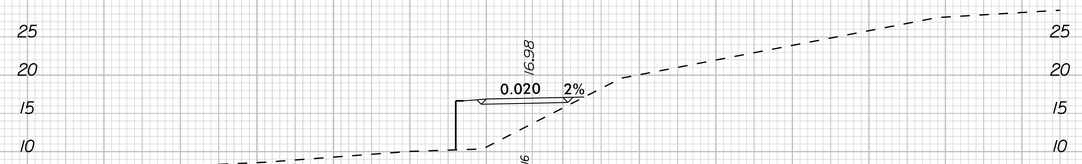

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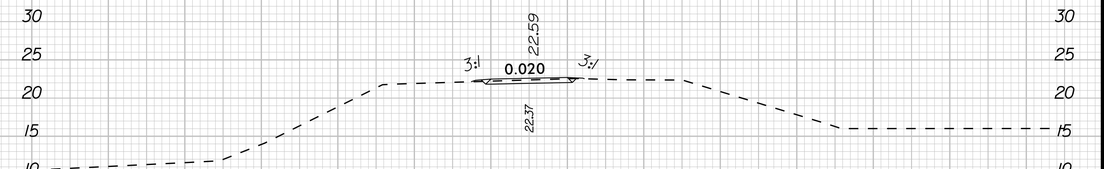

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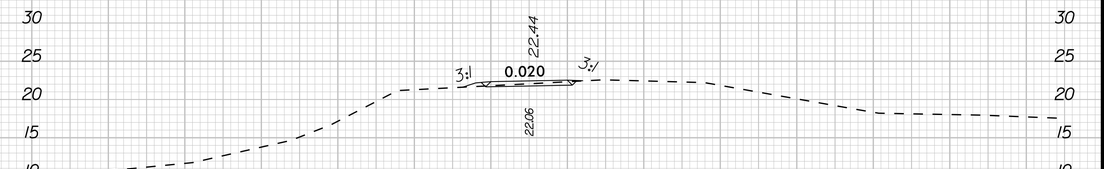

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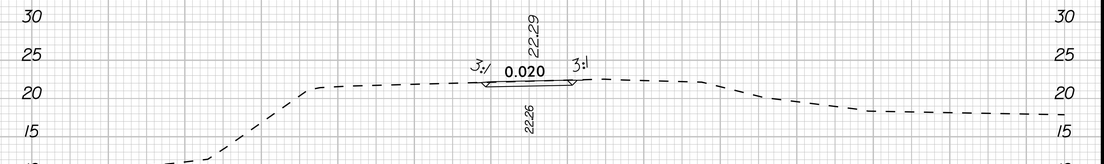
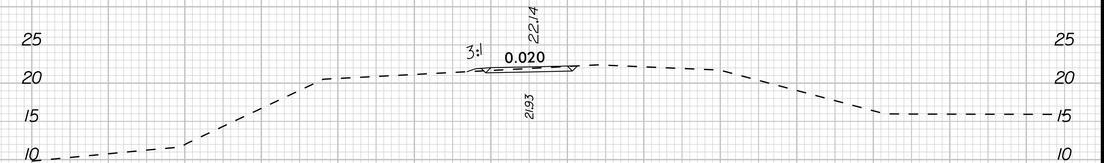


39+00.00



38+50.00

PHASE 3B
FUTURE CONSTRUCTION

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_LI.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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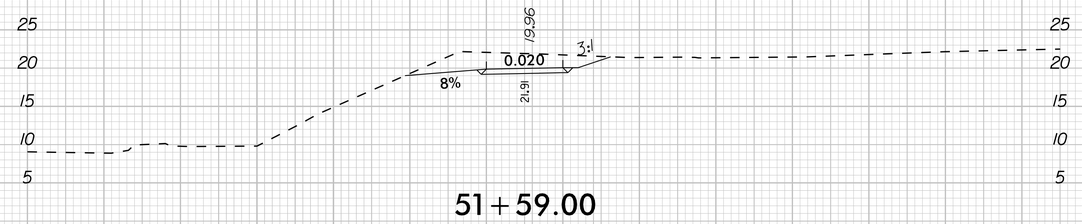
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-6



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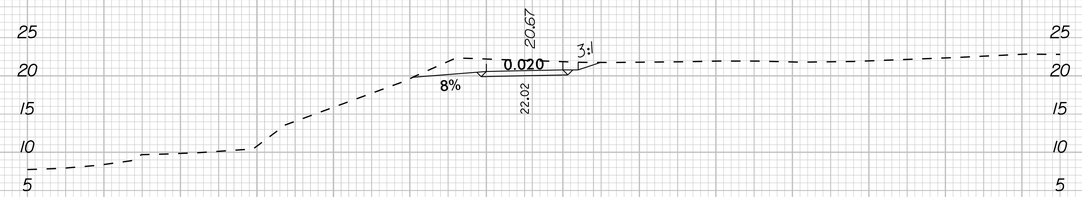

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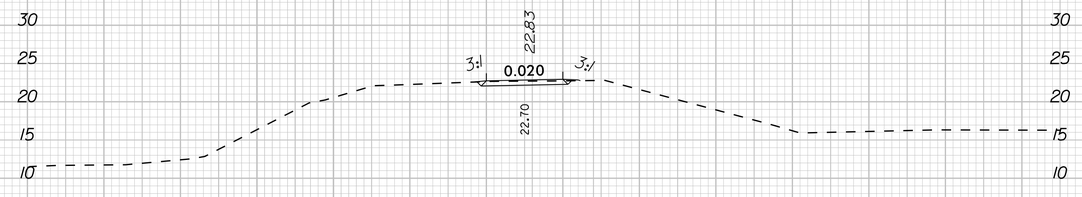
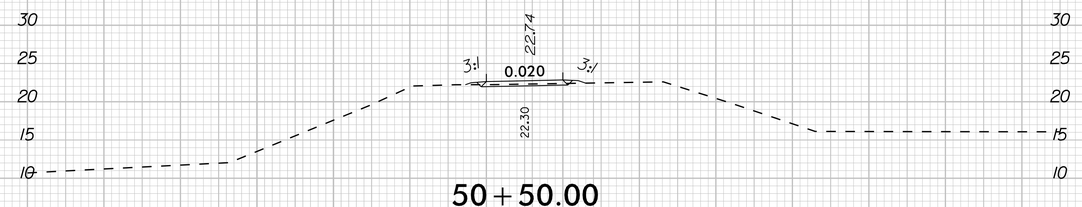


51+00.00



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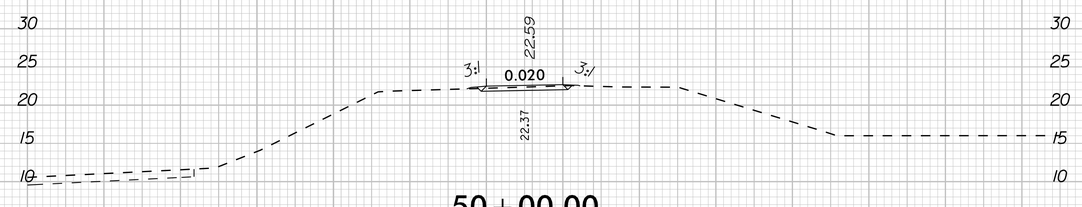

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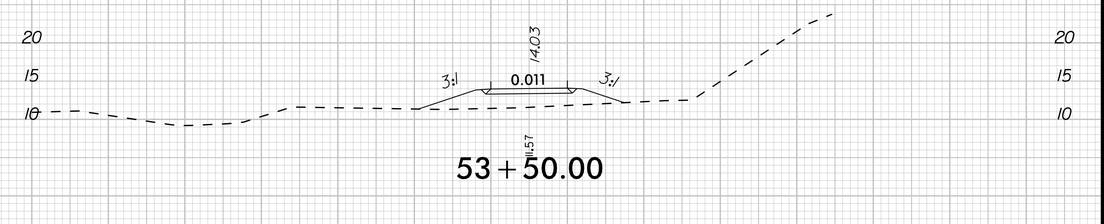

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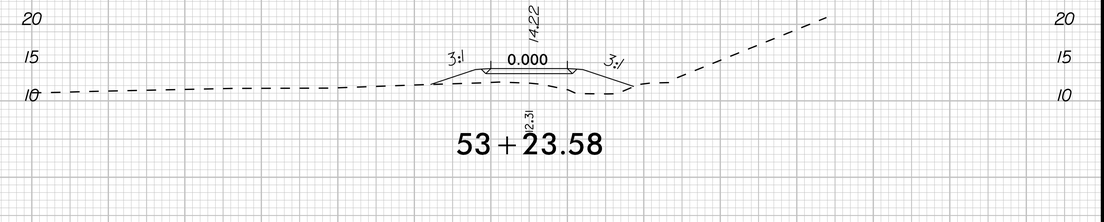

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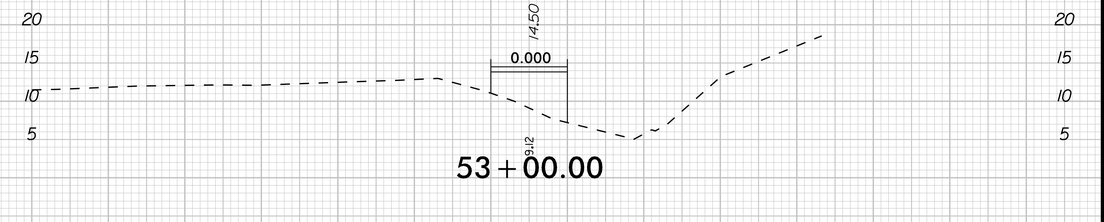

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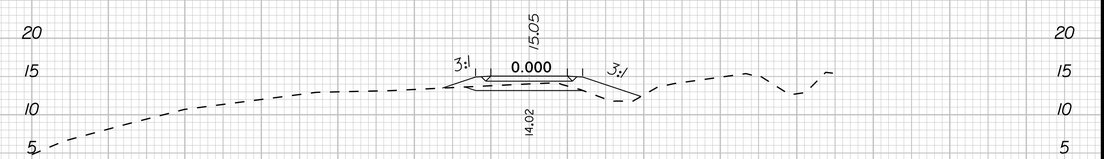

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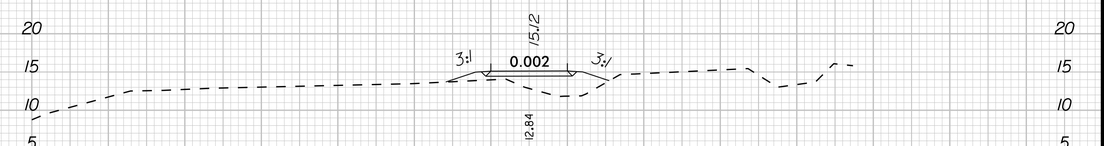

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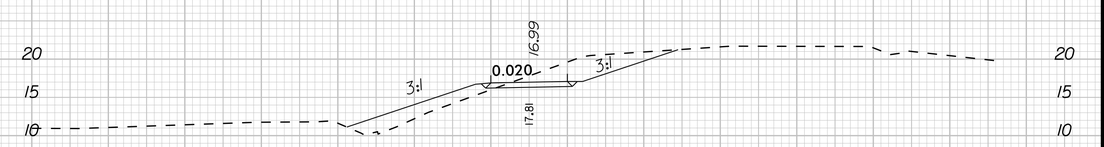

52+00.00

PHASE 3B
FUTURE CONSTRUCTION

-L2-

60 50 40 30 20 10 0 10 20 30 40 50 60 70

K:\RAL_Roadway\012654005 - EB-5539\PlanCross-Sections\EB5539_xpl_L2.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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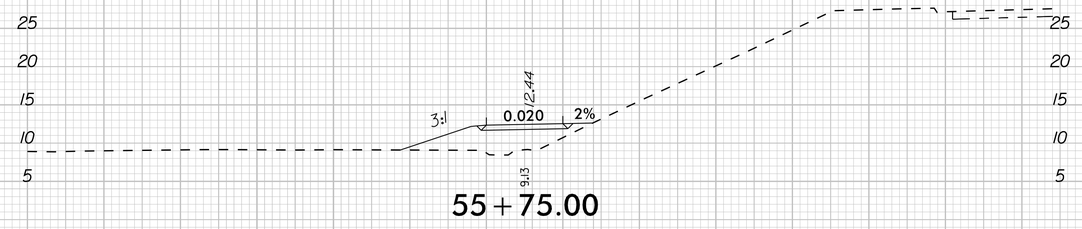
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005 SHEET NUMBER: X-7



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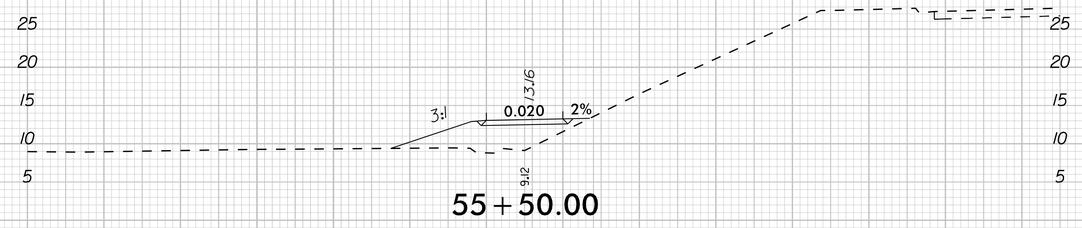

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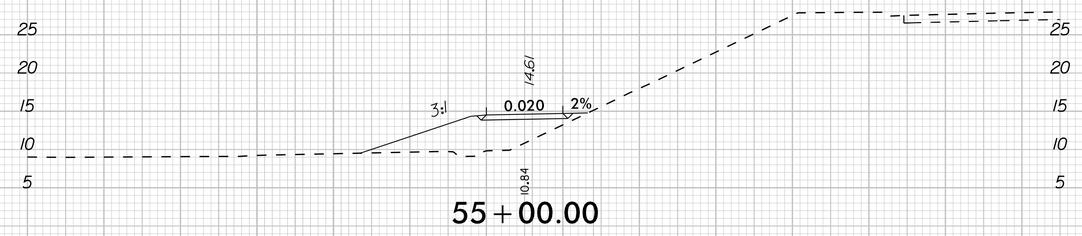
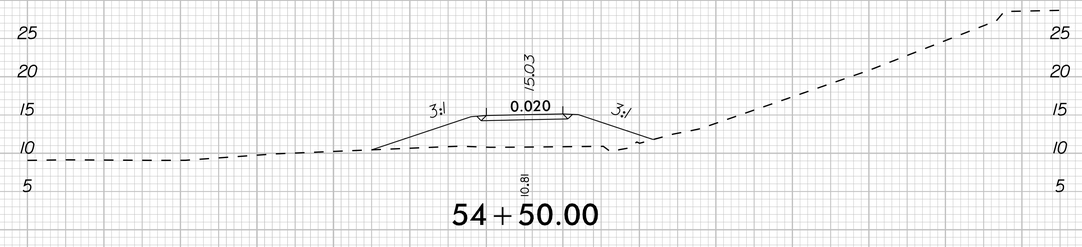
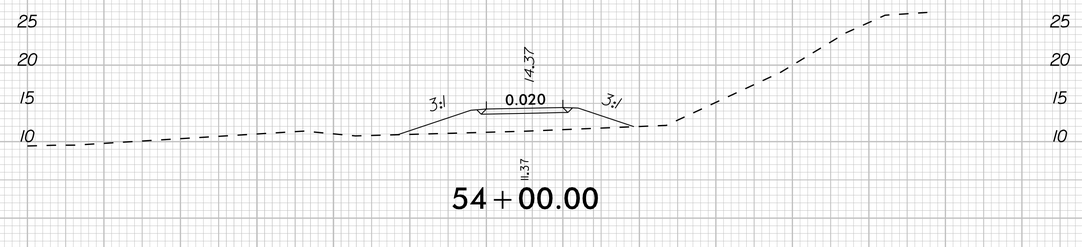


55 + 00.00



54 + 50.00



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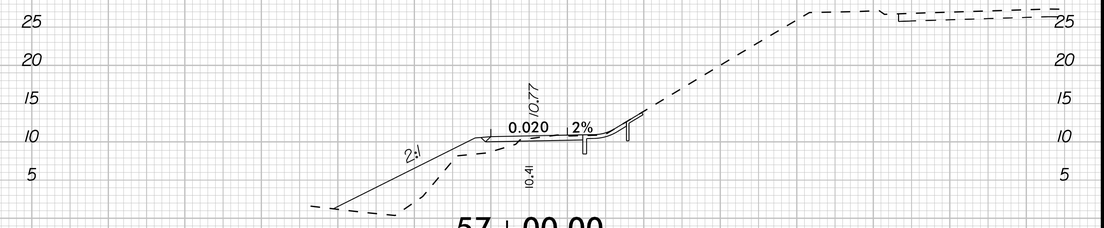
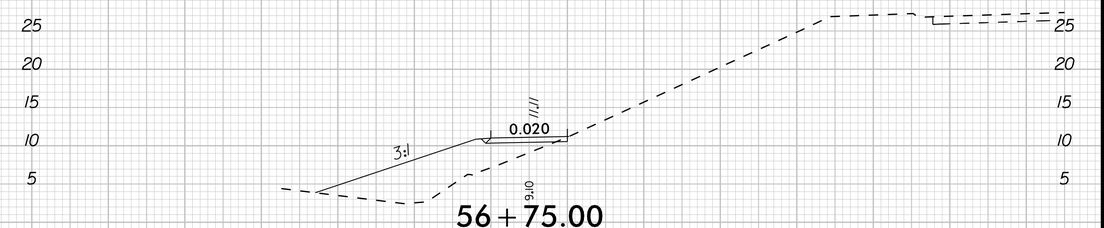
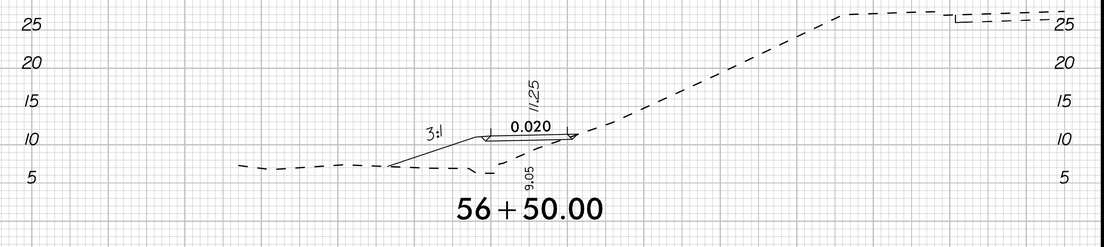


57 + 00.00



56 + 75.00



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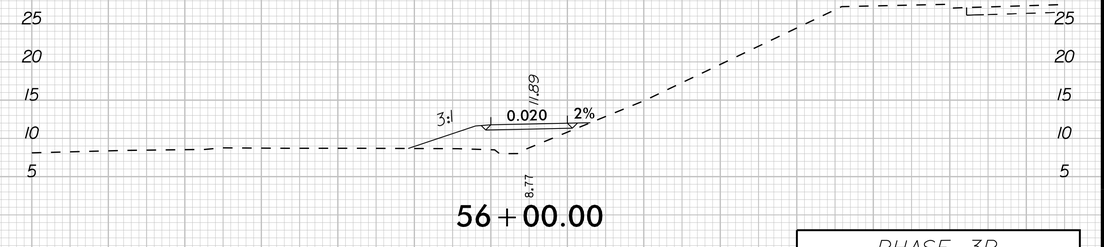

56 + 00.00

PHASE 3B
FUTURE CONSTRUCTION

-L2-

60 50 40 30 20 10 0 10 20 30 40 50 60 70

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_L2.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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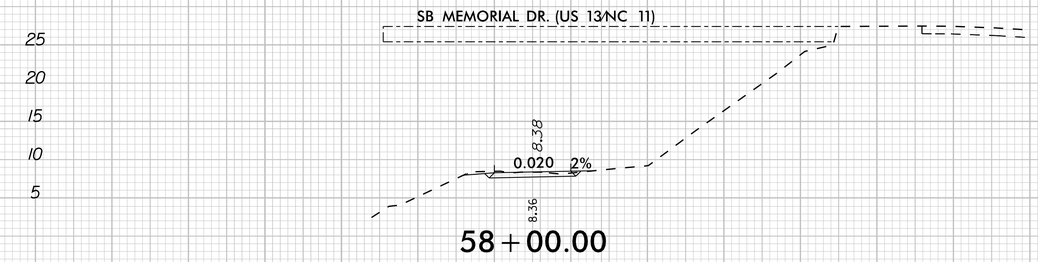
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-8



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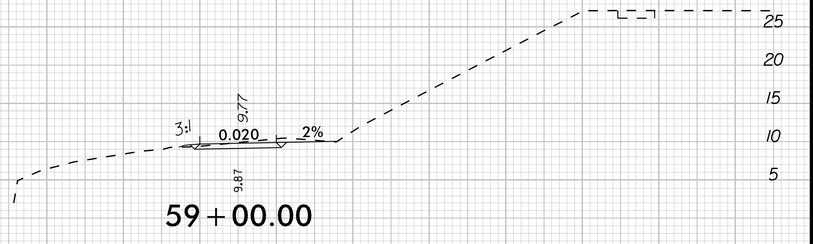

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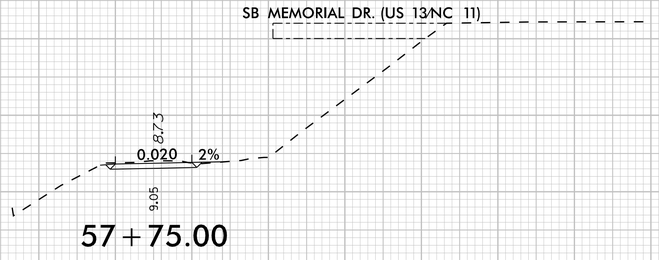

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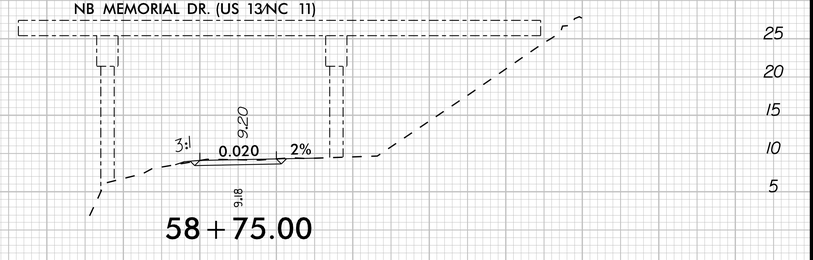

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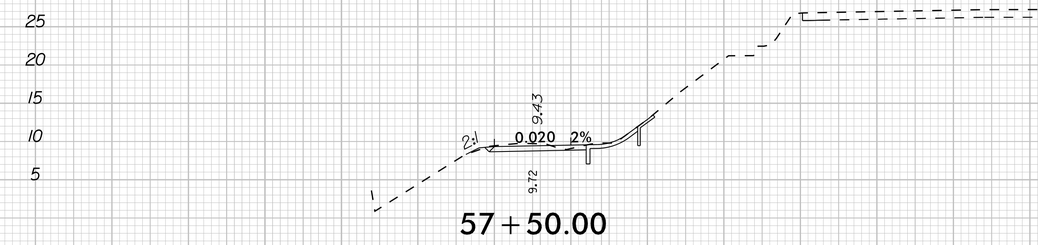

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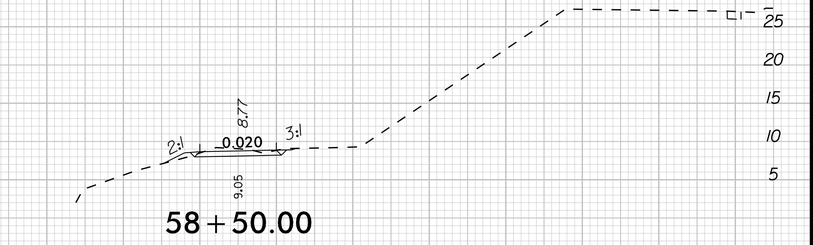

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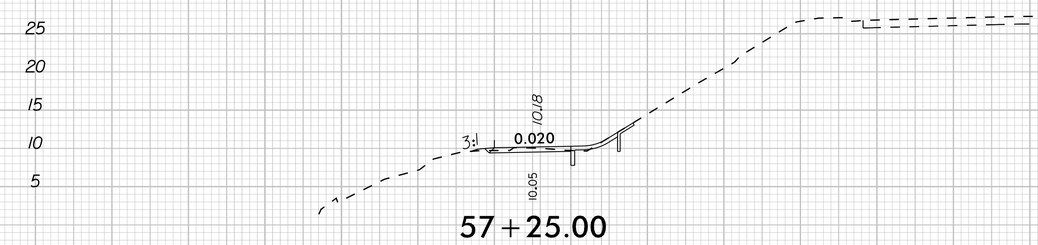

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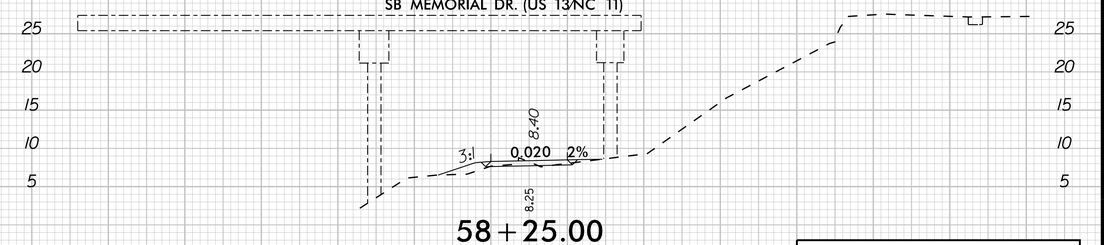

58+25.00

PHASE 3B
FUTURE CONSTRUCTION

-L2-

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_L2.dgn

12/15/2017

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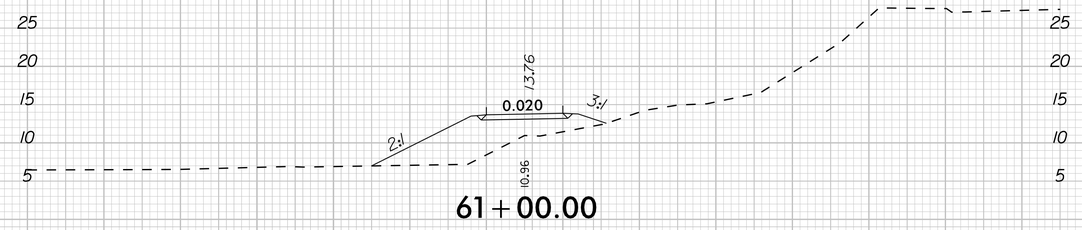
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	X-9



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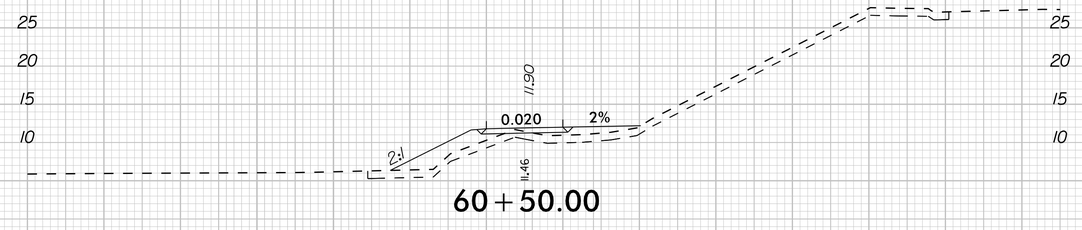

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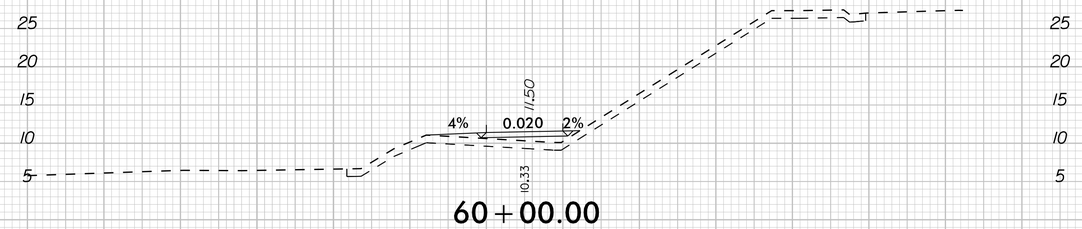

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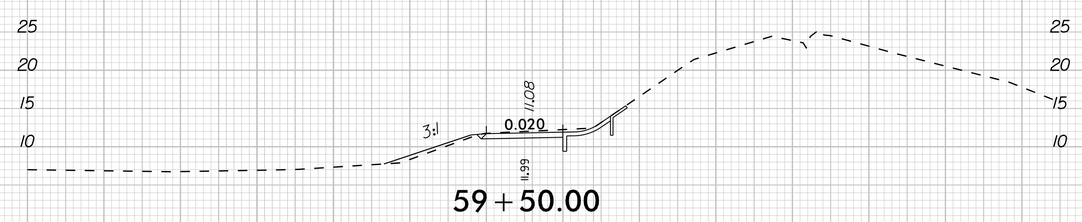

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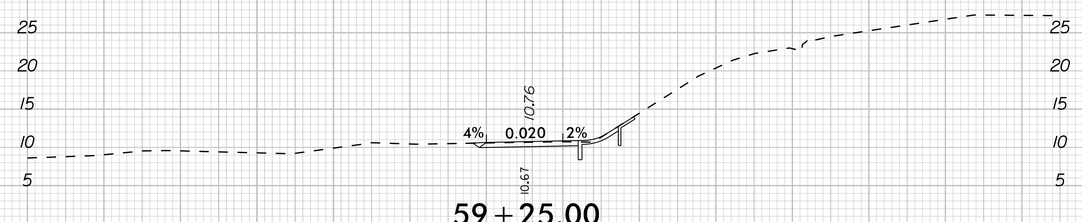

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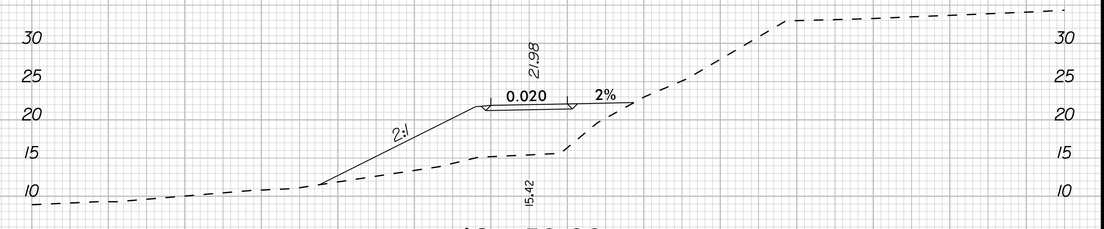

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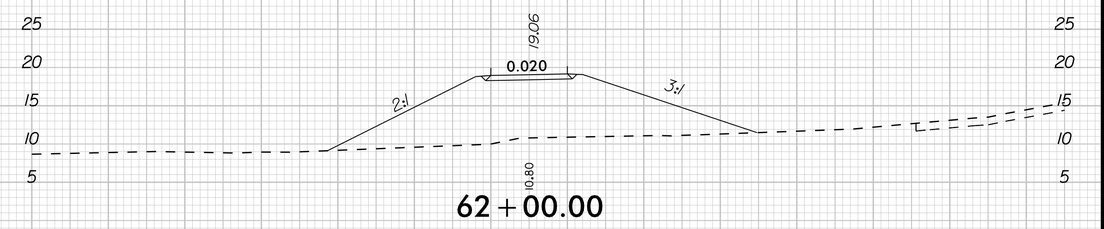

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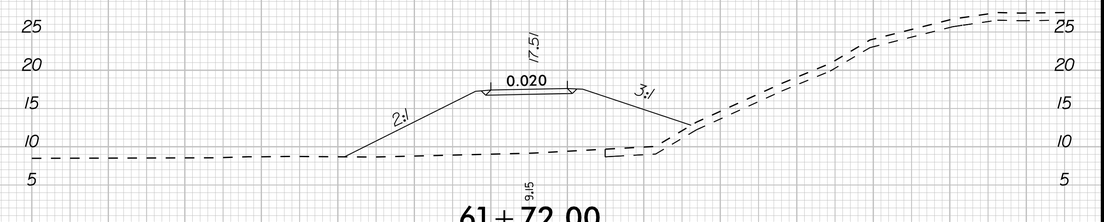

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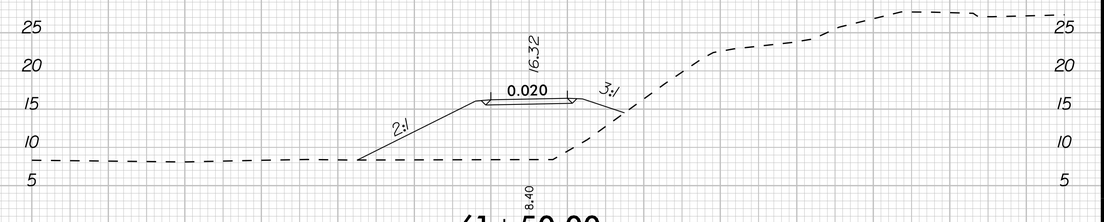

61 + 50.00

PHASE 3B
FUTURE CONSTRUCTION

-L2-

60 50 40 30 20 10 0 10 20 30 40 50 60 70

60 50 40 30 20 10 0 10 20 30 40 50 60 70

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_L2.dgn

12/15/2017

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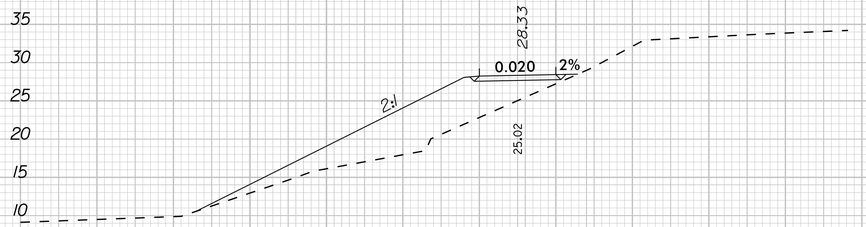
MULTI-USE PATH AND
ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY,
PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-10



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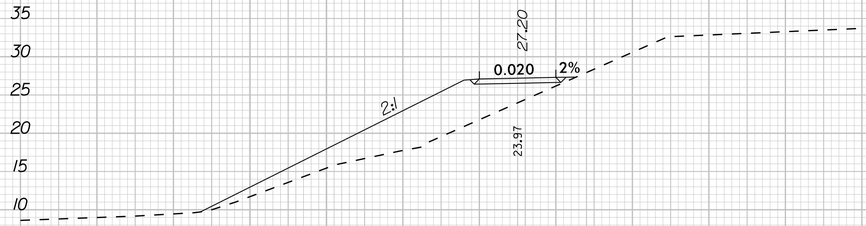
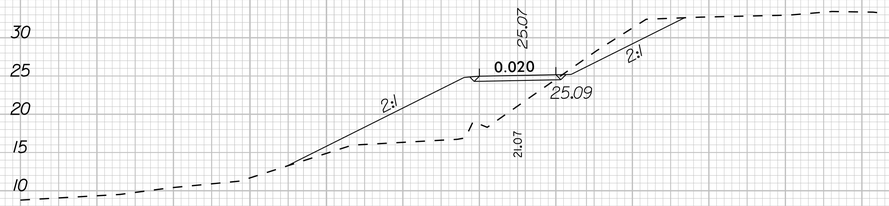


63 + 34.00



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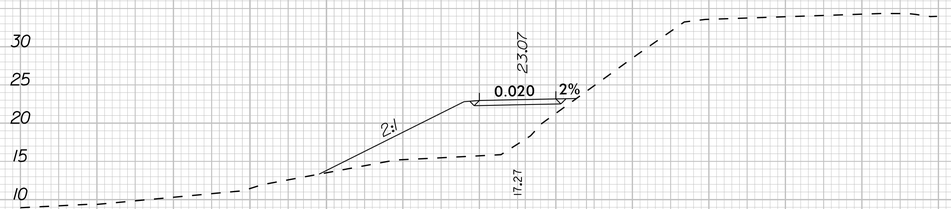

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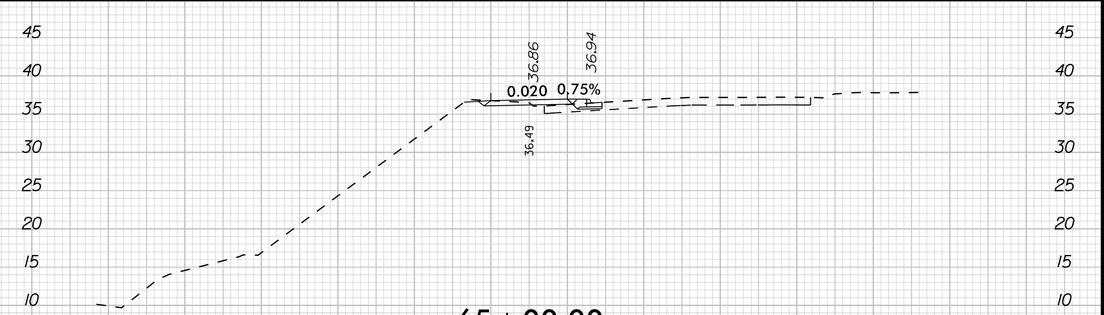

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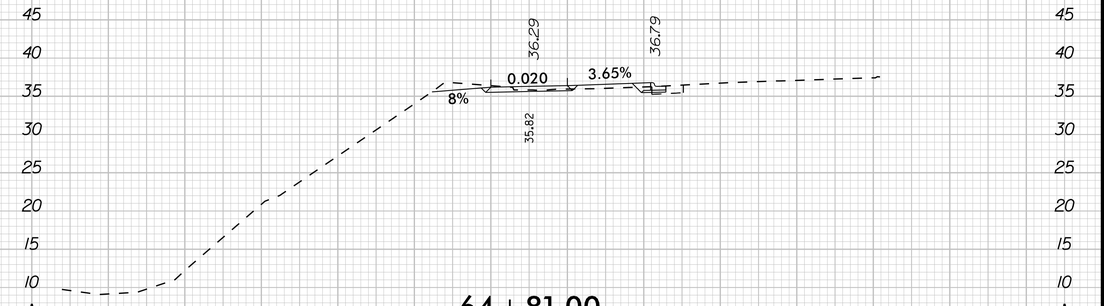
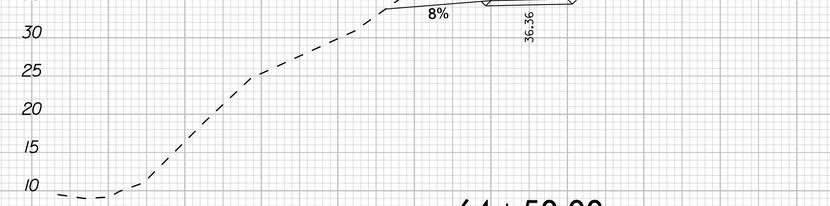


64 + 81.00

PHASE 3A
PHASE 3B

PHASE 3A
PHASE 3B



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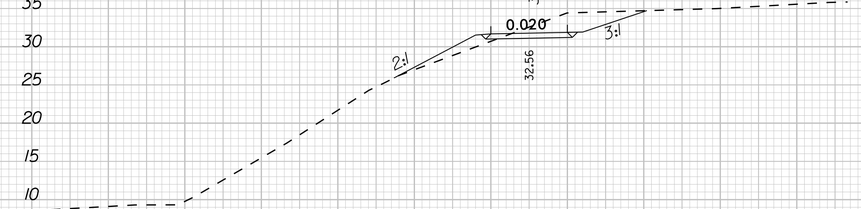

64 + 00.00

PHASE 3B
FUTURE CONSTRUCTION

-L2-

60 50 40 30 20 10 0 10 20 30 40 50 60 70

K:\RAL_Roadway\012654005 - EB-5539\PlanCross-Sections\EB5539_xpl_L2.dgn

12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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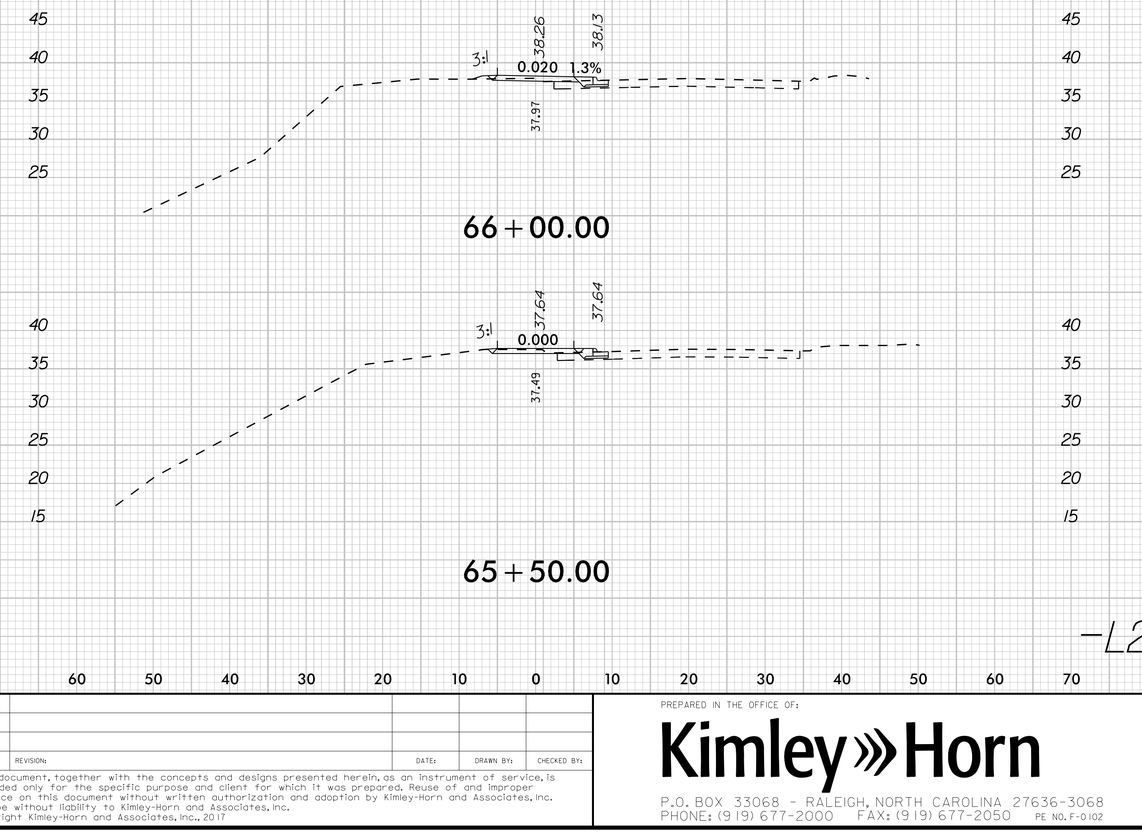
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-11



-L2-

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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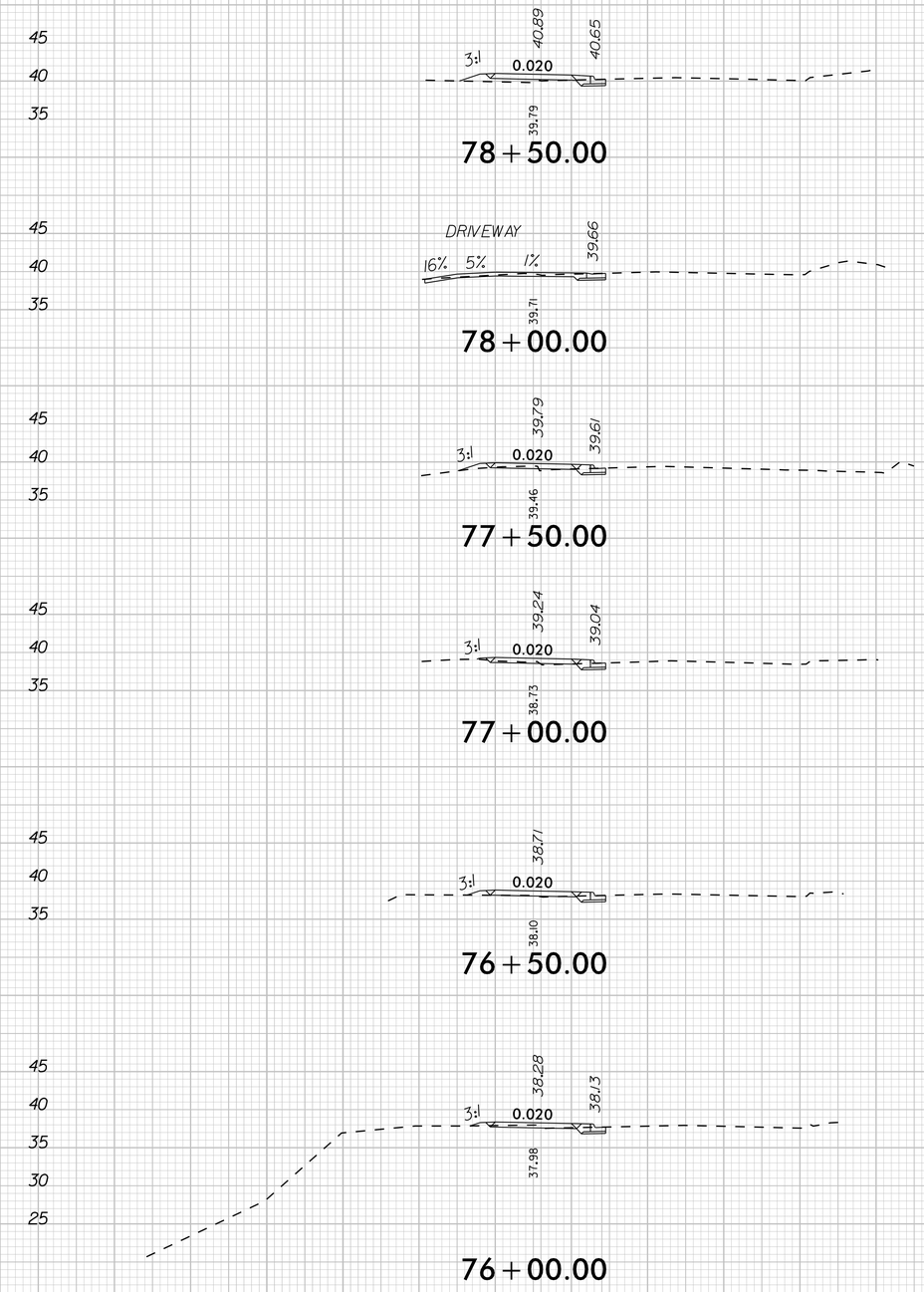
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

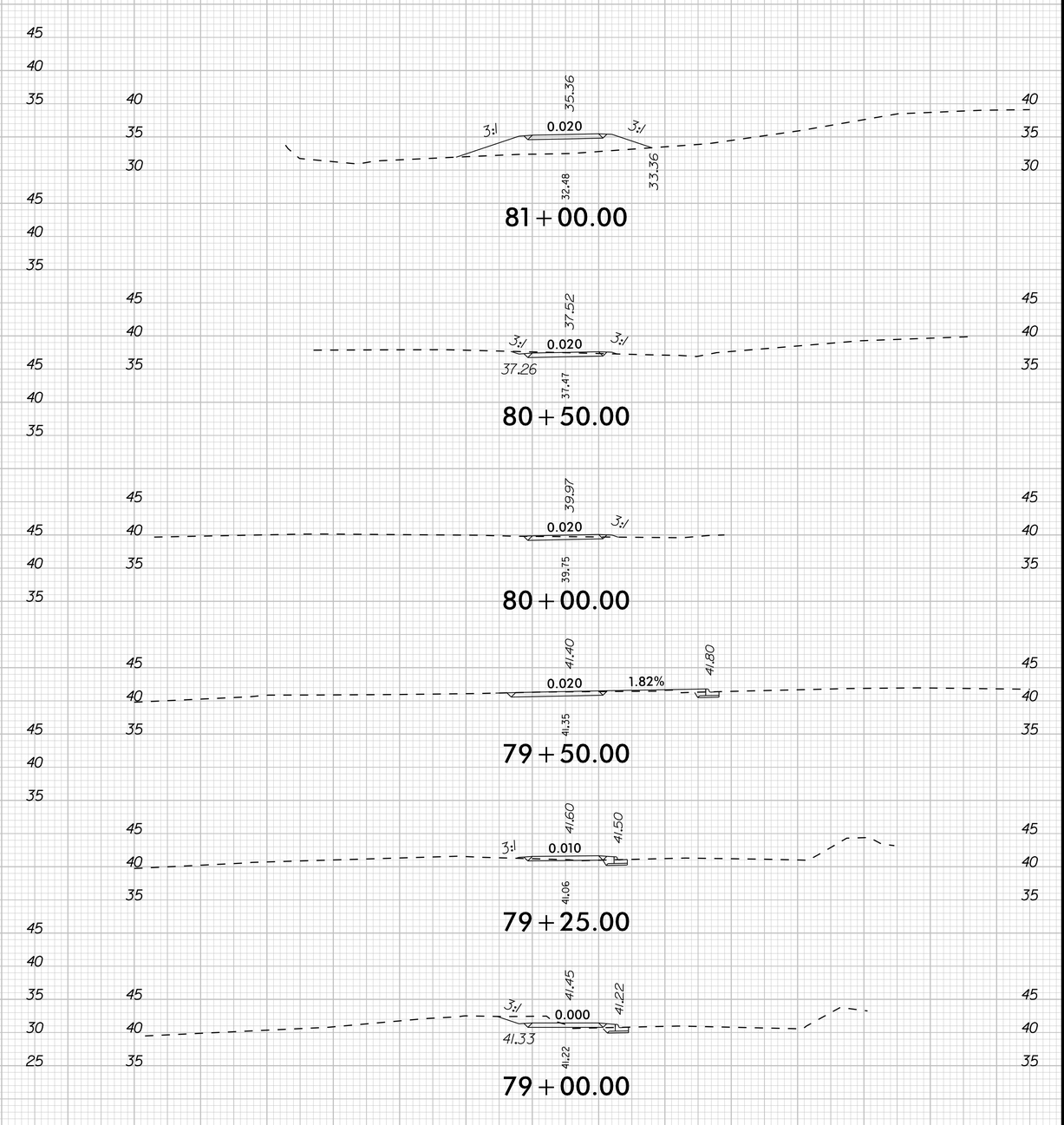
5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-12





-L3-

K:\RAL_Roadway\012654005 - EB-5539\PlanCross-Sections\EB5539_xpl_L3.dgn

12/15/2017

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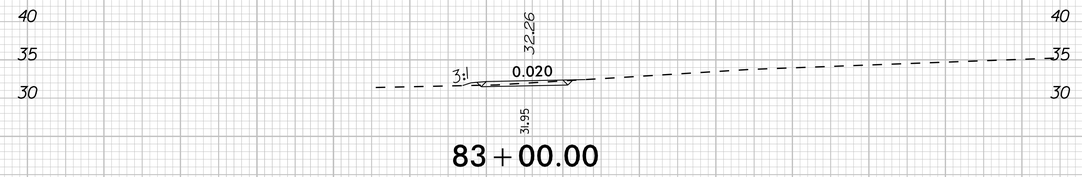
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-13



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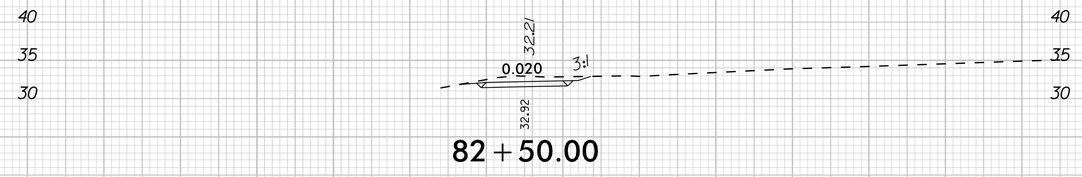

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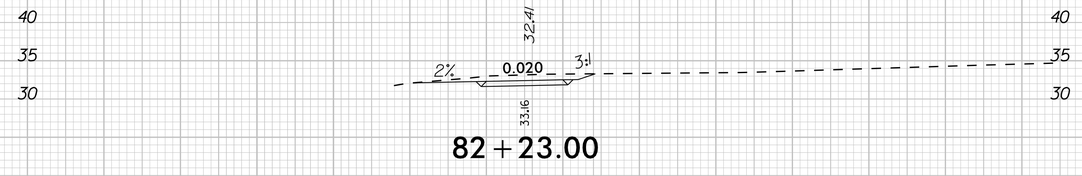

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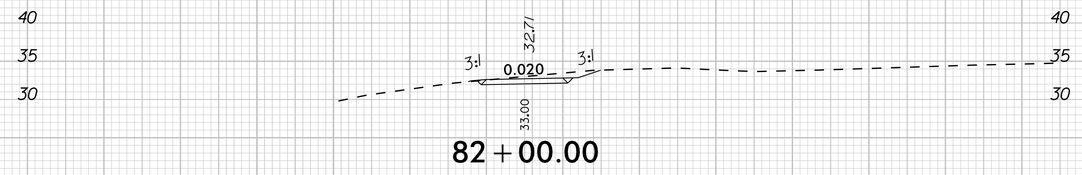

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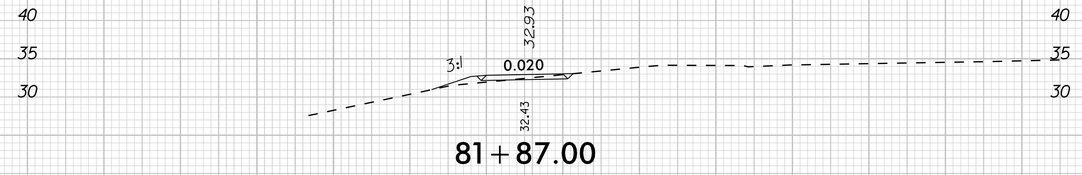

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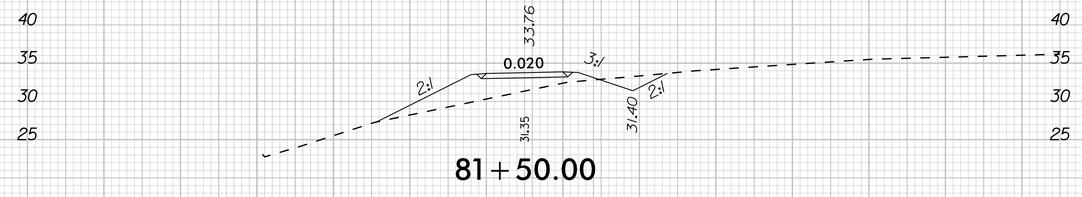

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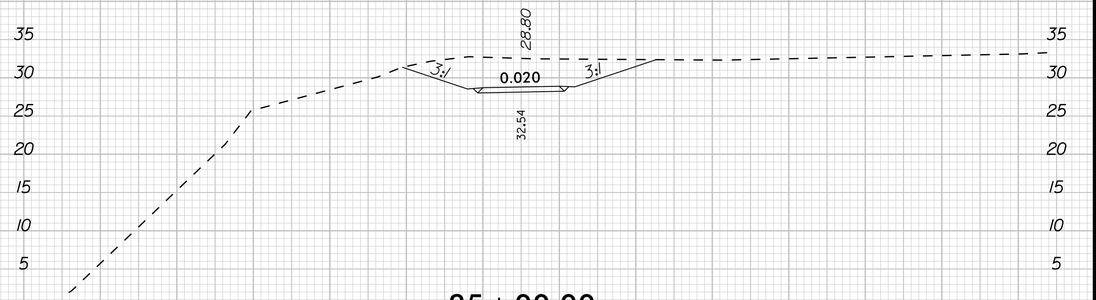

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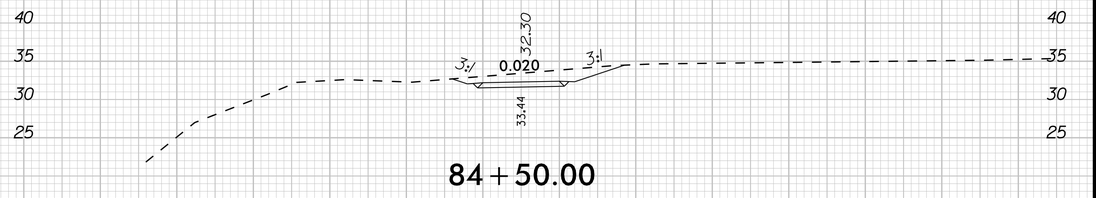

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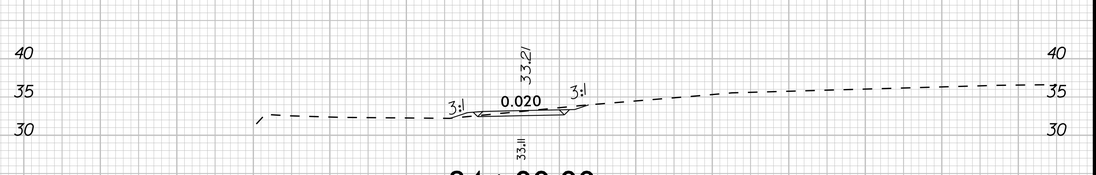

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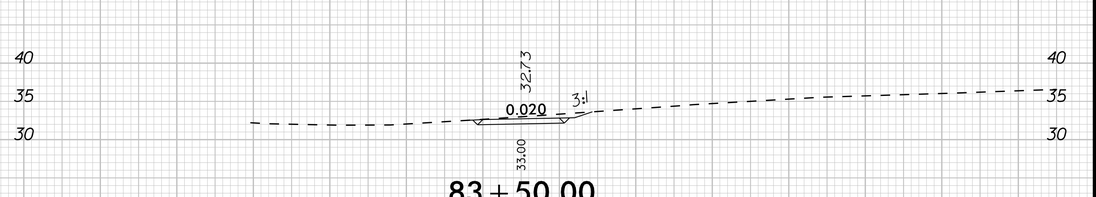

83+50.00

-L3-

K:\RAL_Roadway\012654005 - EB-5539\Plan\Cross-Sections\EB5539_xpl_L3.dgn

12/15/2017

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PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

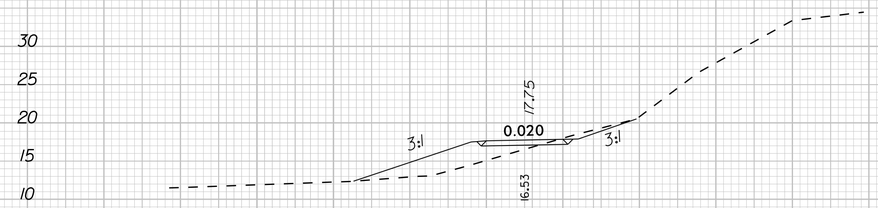
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

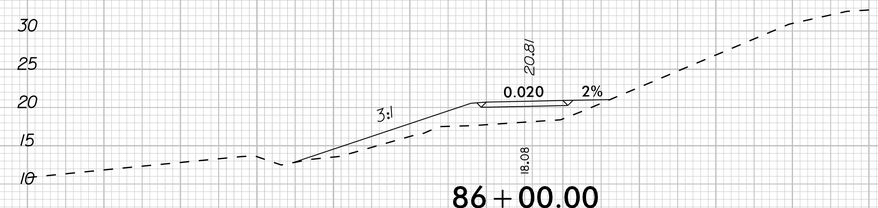
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-14



86 + 50.00



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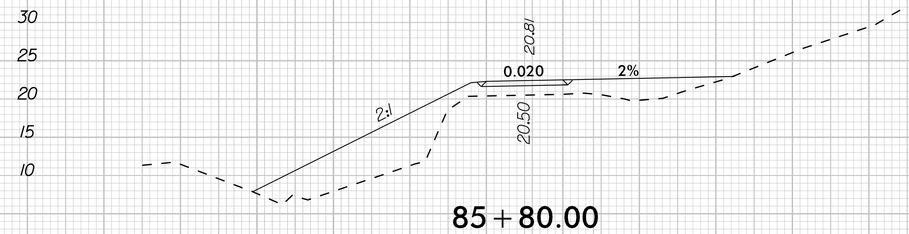

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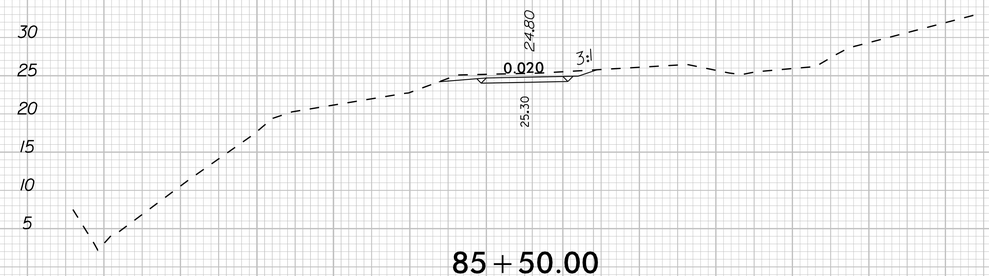

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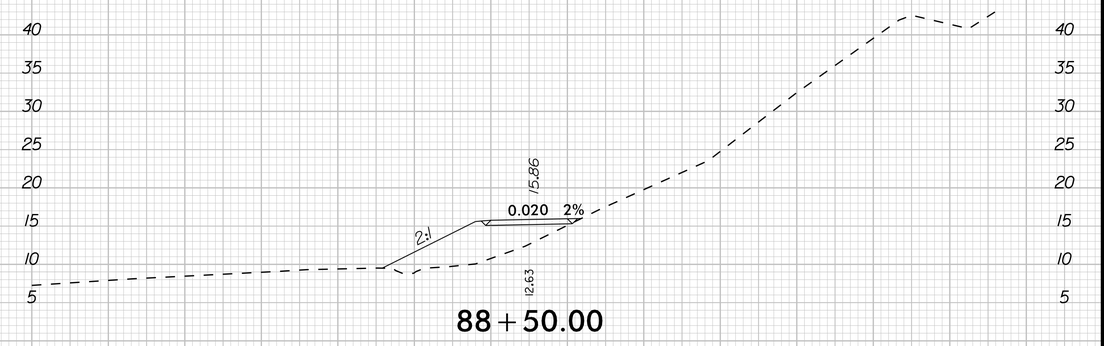
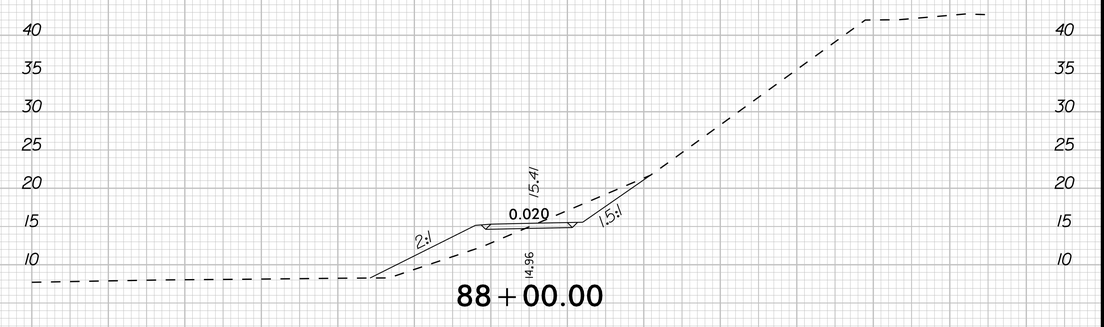


88 + 50.00



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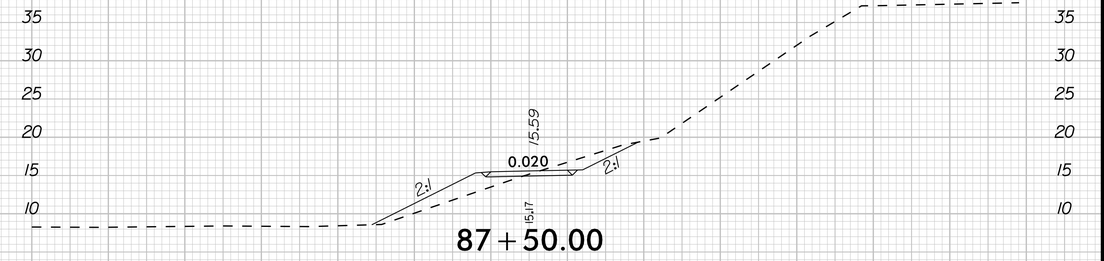
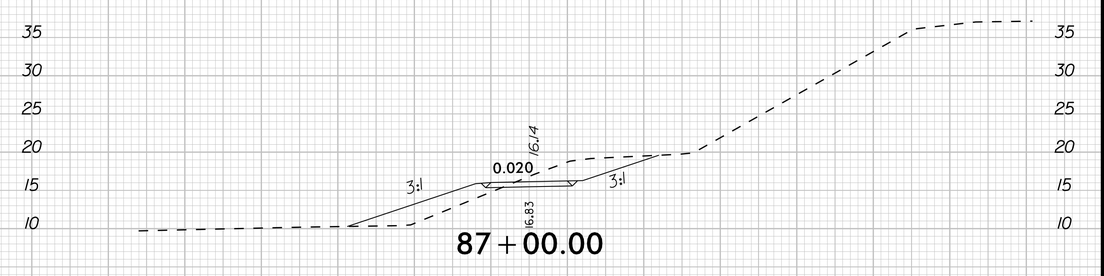


87 + 50.00



87 + 00.00

-L3-

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

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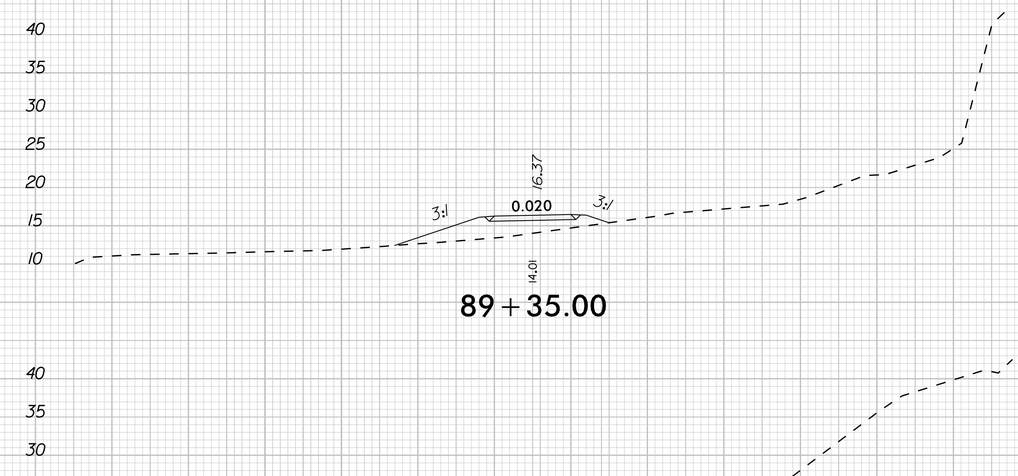
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

SHEET NUMBER: X-15



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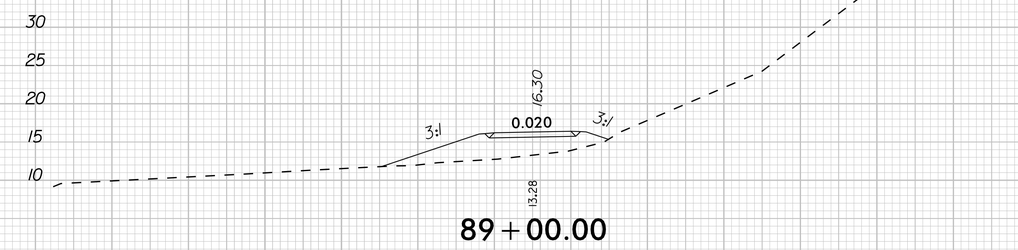

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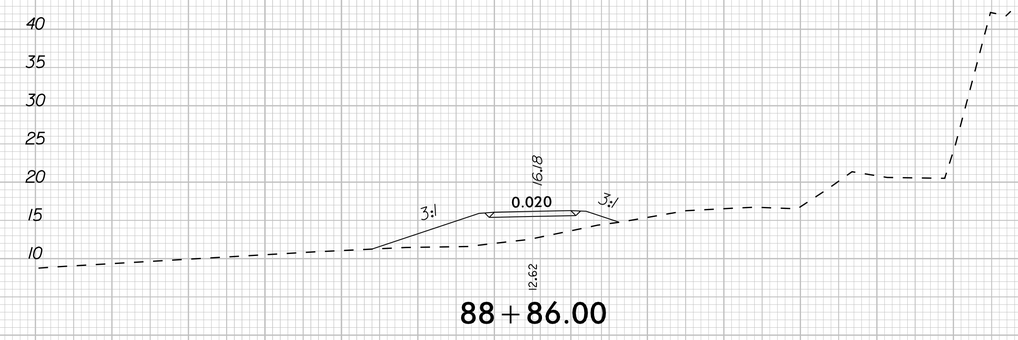

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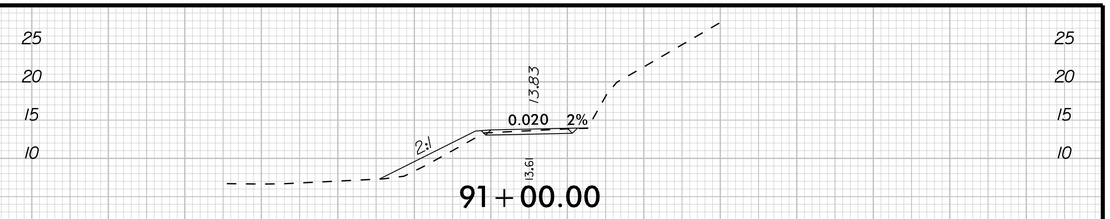
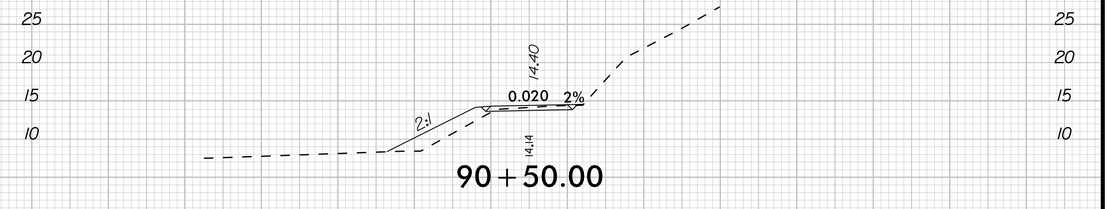


91+00.00



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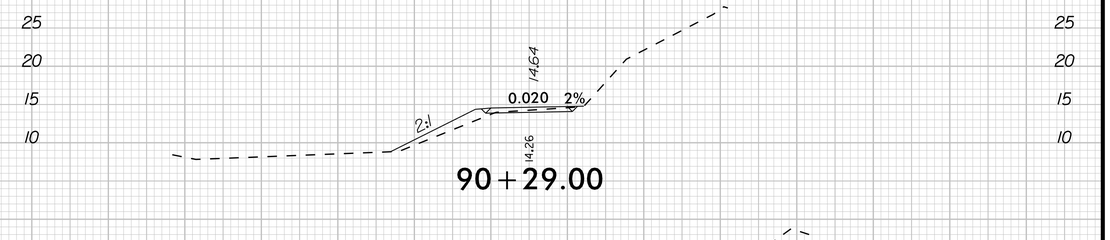

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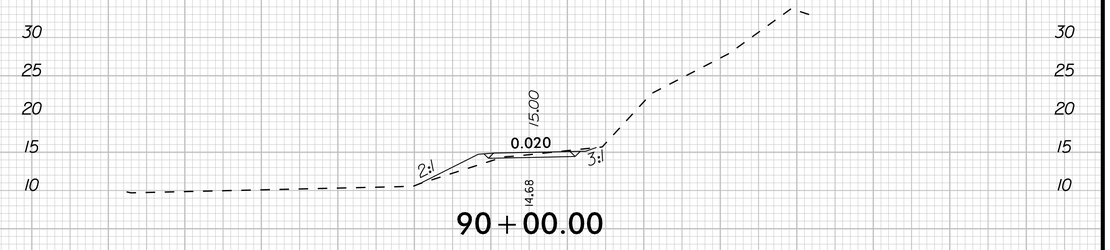

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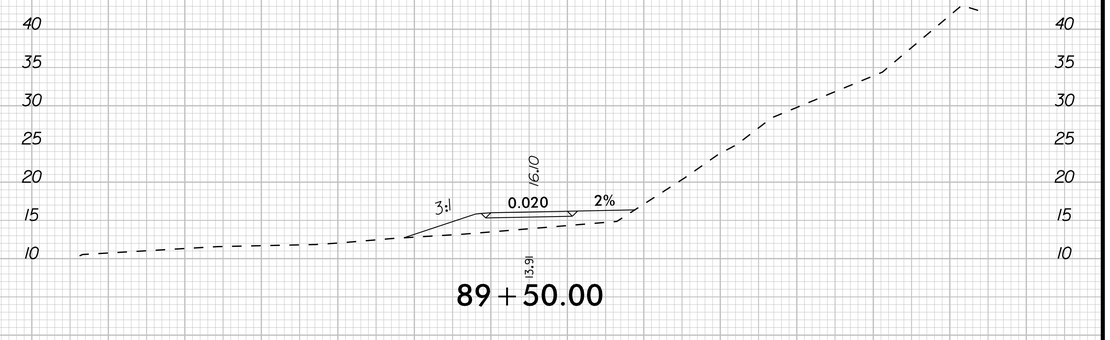

89+50.00

-L3-

K:\RAL_Roadway\012654005 - EB-5539\PlanCross-Sections\EB5539_xpl_L3.dgn

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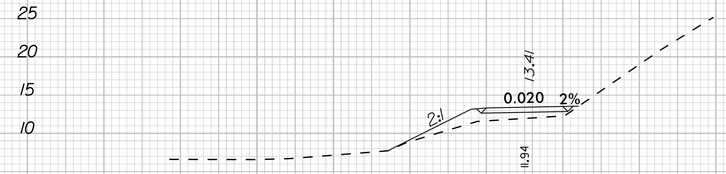
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

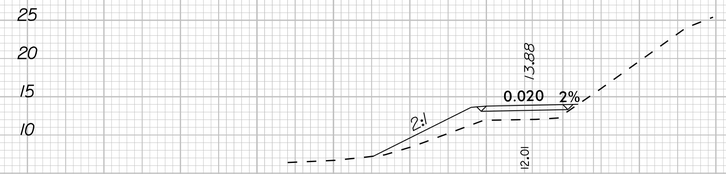
5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

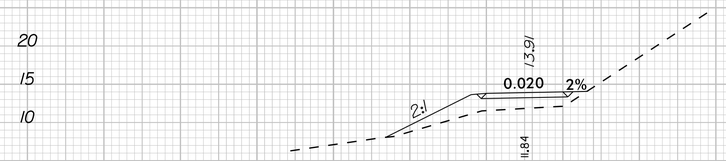
JOB NUMBER:	SHEET NUMBER:
012654005	X-16



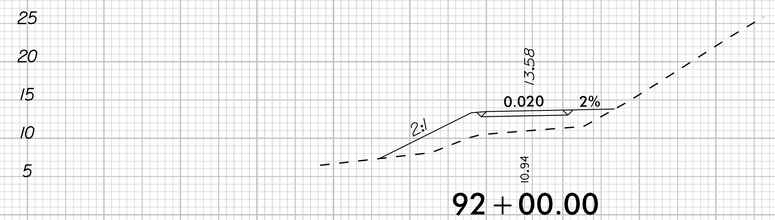
93 + 50.00



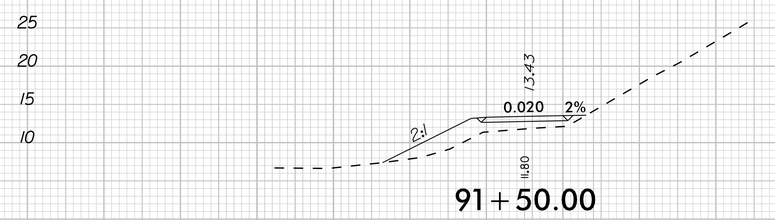
93 + 00.00



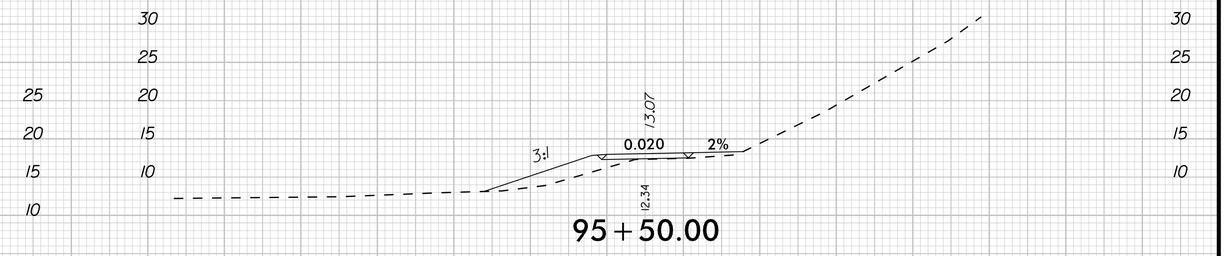
92 + 50.00



92 + 00.00



91 + 50.00



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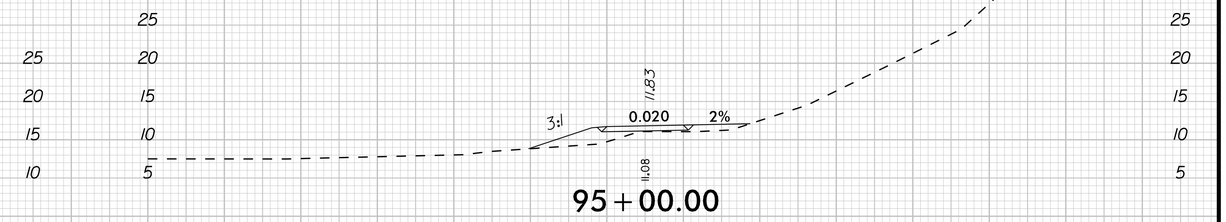

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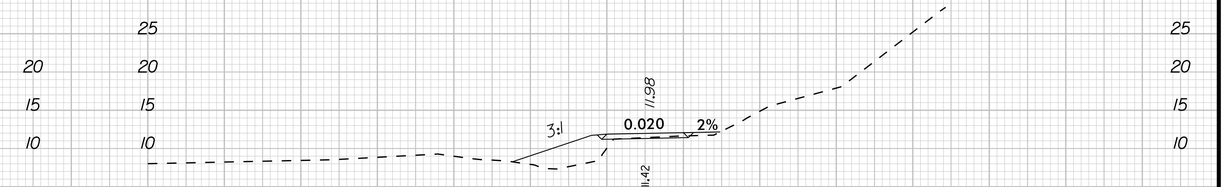
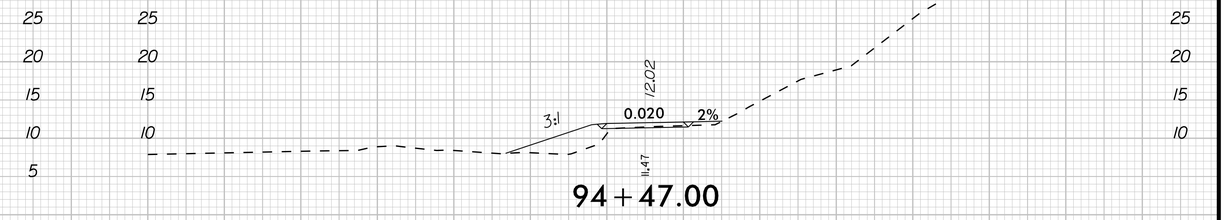


94 + 50.00



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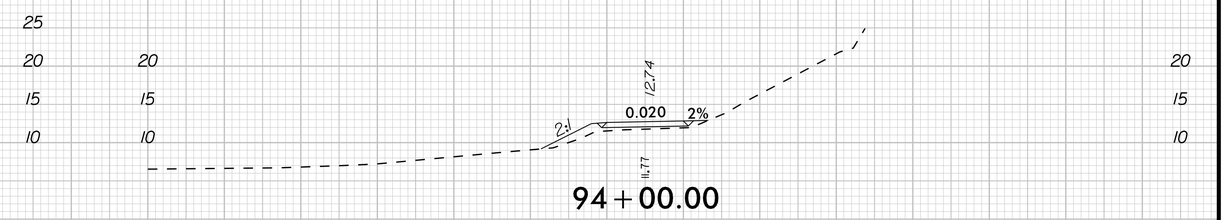

94 + 00.00

-L3-

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12/15/2017

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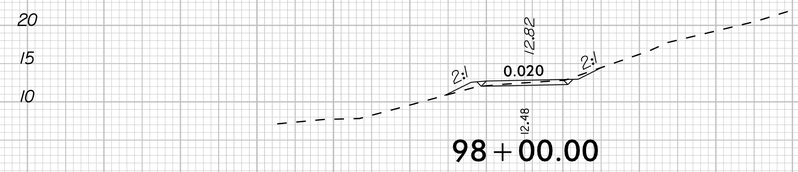
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

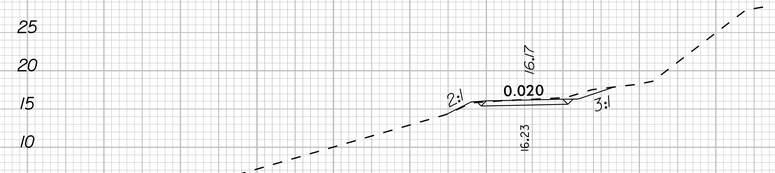
JOB NUMBER: 012654005

SHEET NUMBER: X-17



98+00.00

97+50.00



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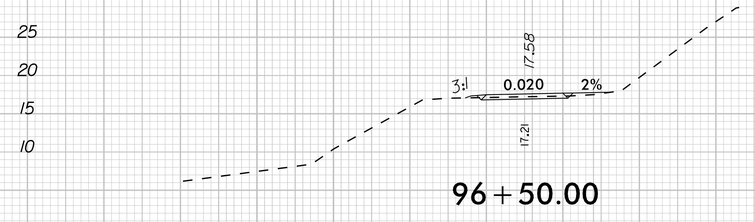

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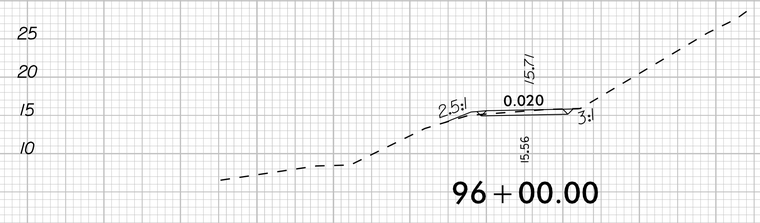

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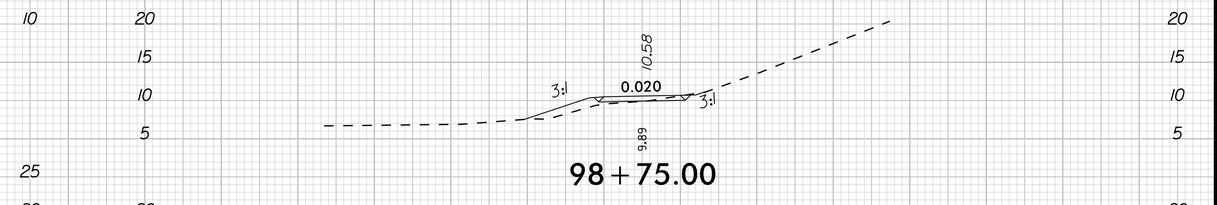

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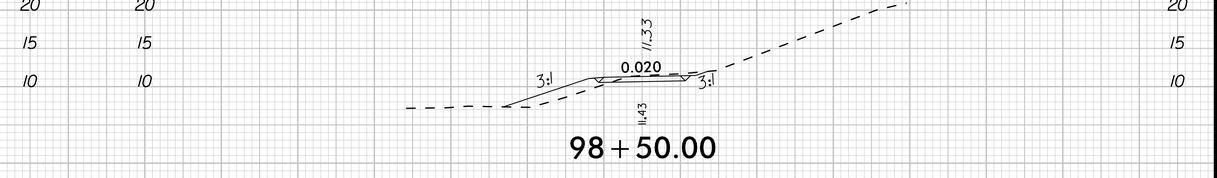

98+50.00

-L3-

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12/15/2017

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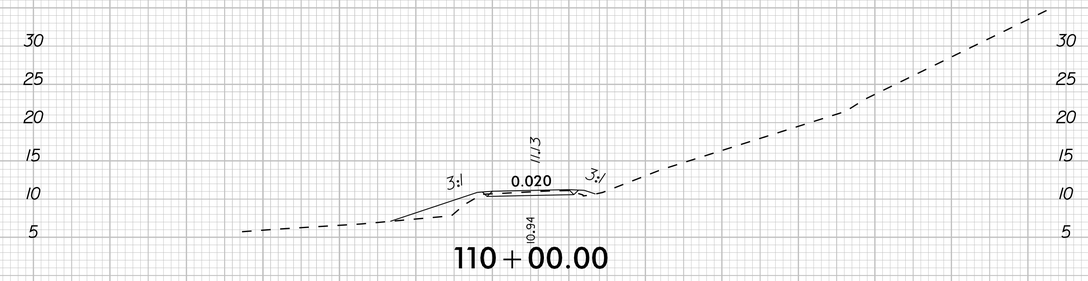
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

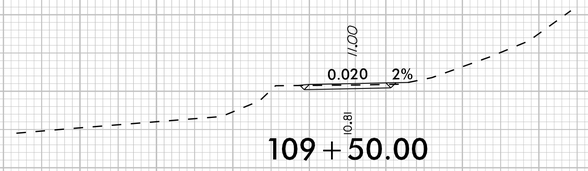
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

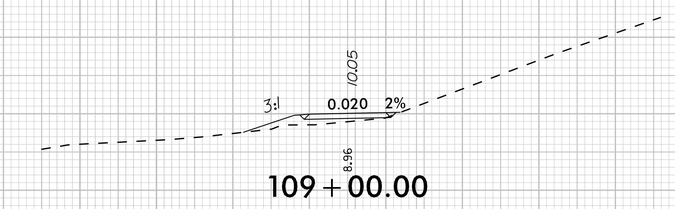
SHEET NUMBER: X-18



110 + 00.00



109 + 50.00



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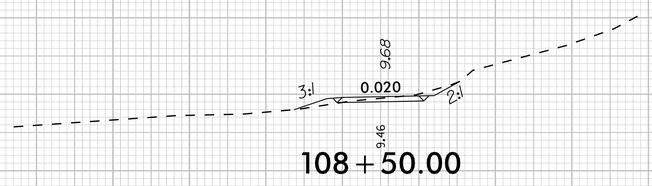
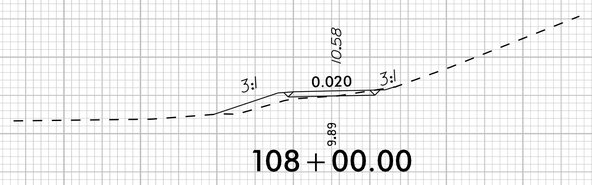


108 + 50.00



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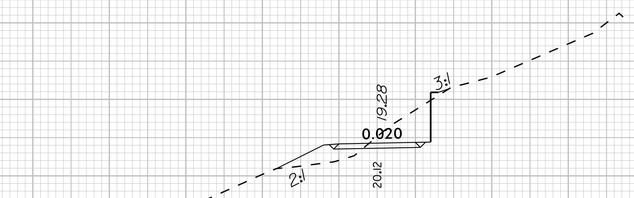

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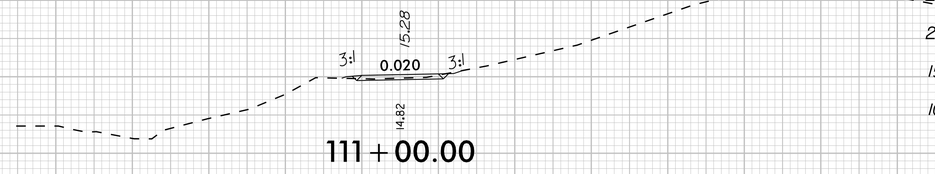
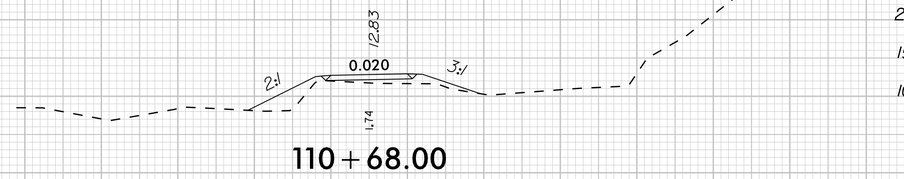


111 + 00.00



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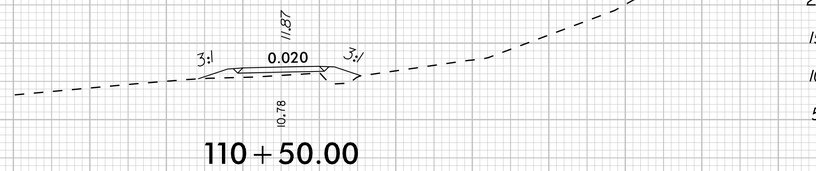

110 + 50.00

-L4-

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12/15/2017

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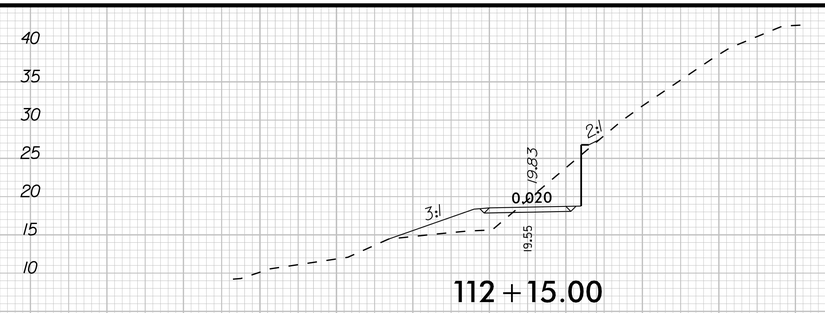
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

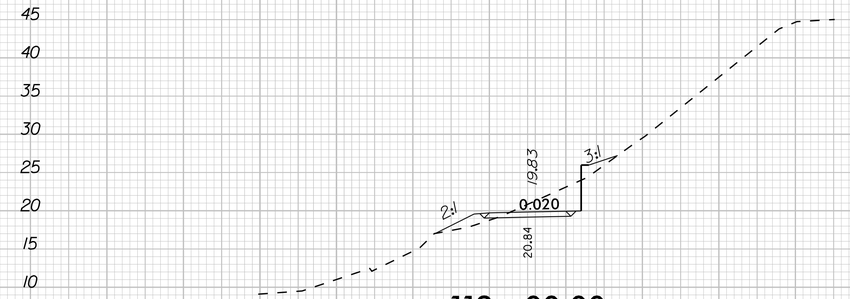
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

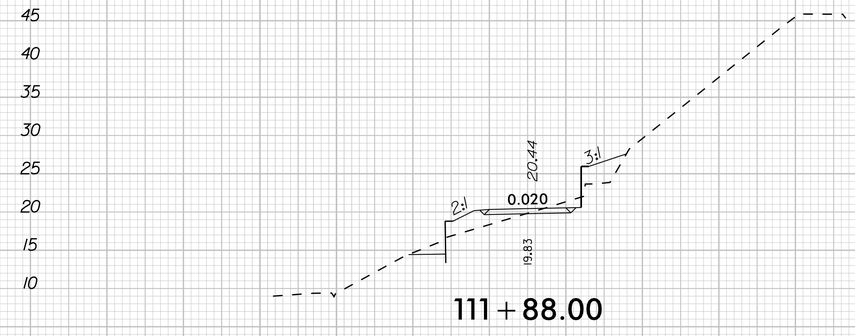
SHEET NUMBER: X-19



112 + 15.00



112 + 00.00



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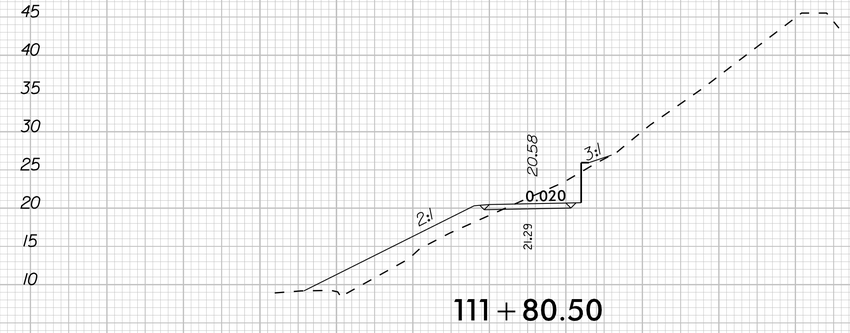

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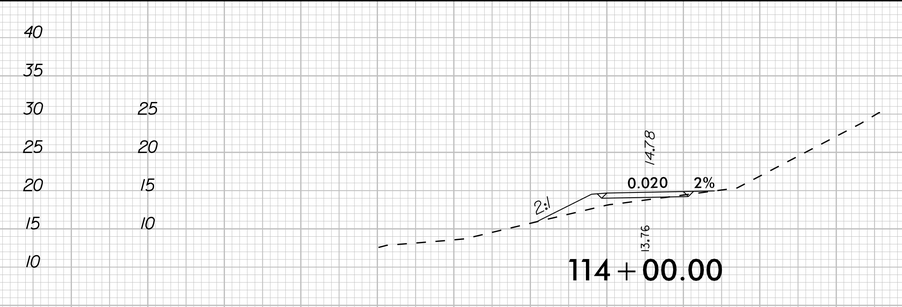
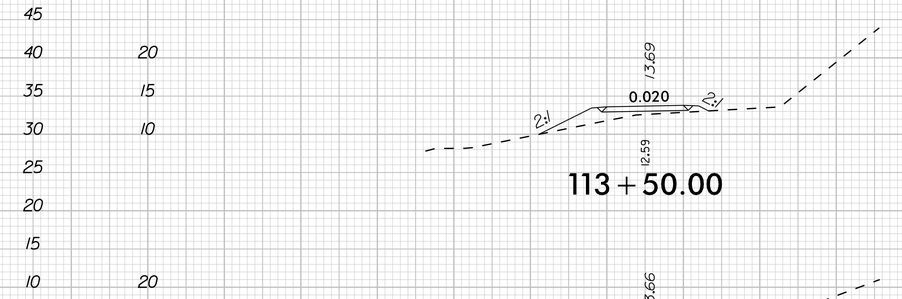
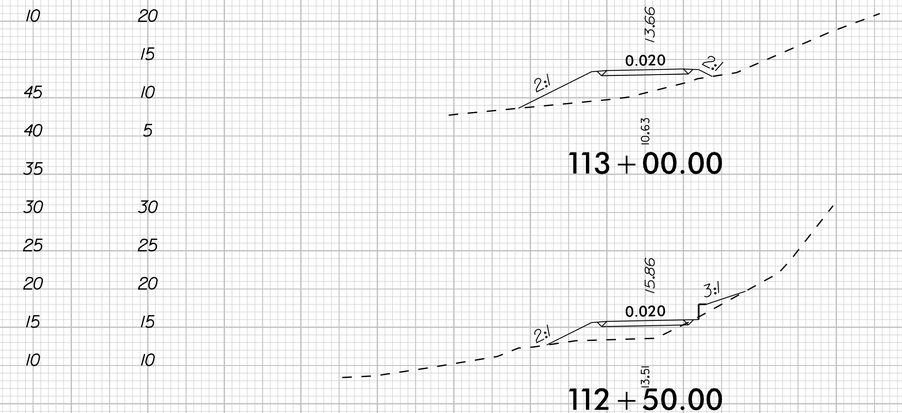


114 + 00.00

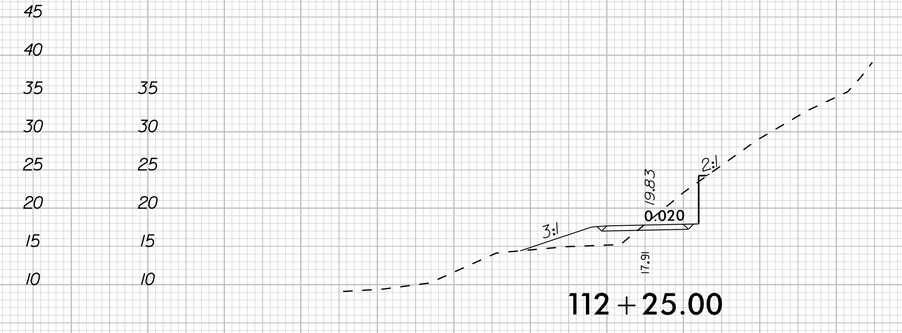


113 + 50.00



113 + 00.00

112 + 50.00



112 + 25.00

-L4-

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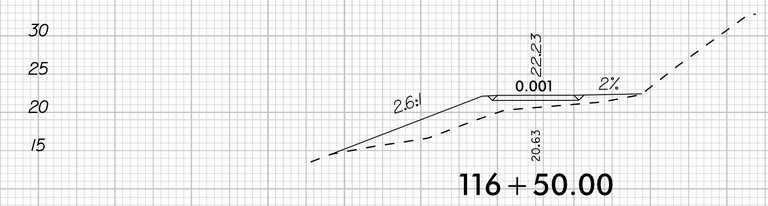
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND ROADWAY CROSS SECTIONS

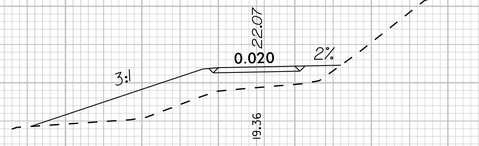
5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

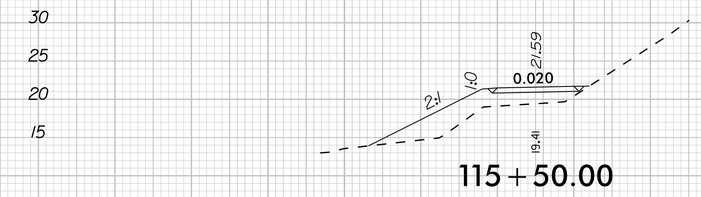
JOB NUMBER:	SHEET NUMBER:
012654005	X-20



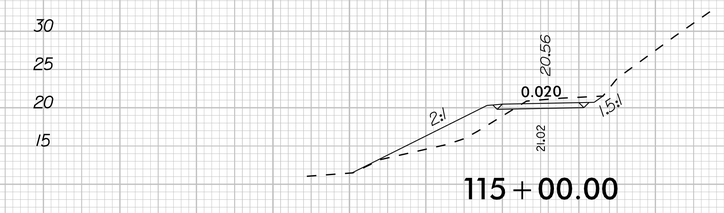
116 + 50.00



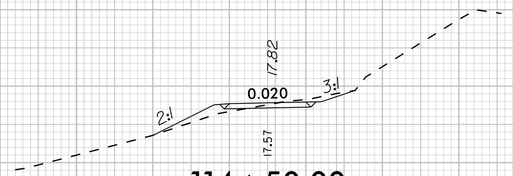
116 + 00.00



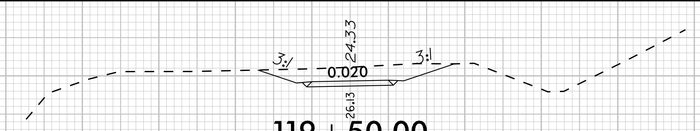
115 + 50.00



115 + 00.00



114 + 50.00



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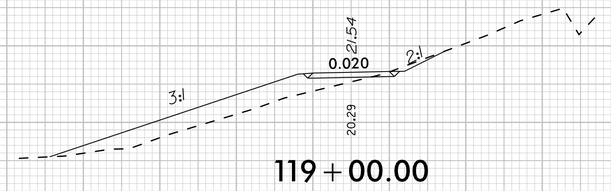
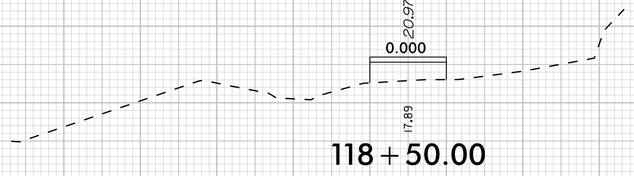


119 + 00.00



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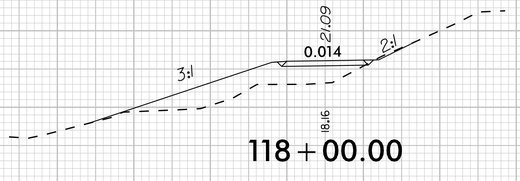

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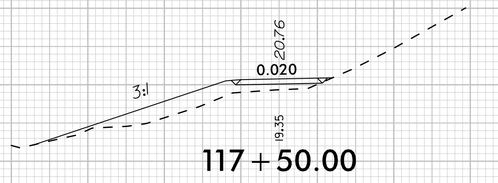

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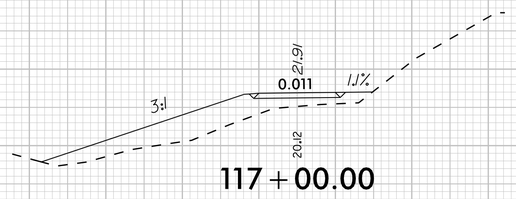

117 + 00.00

-L4-

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12/15/2017

REV. No.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:

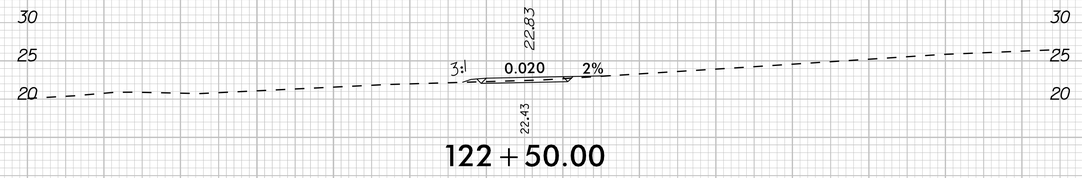
PREPARED IN THE OFFICE OF:
Kimley»Horn
P.O. BOX 33068 - RALEIGH, NORTH CAROLINA 27636-3068
PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. F-0102

MULTI-USE PATH AND ROADWAY CROSS SECTIONS

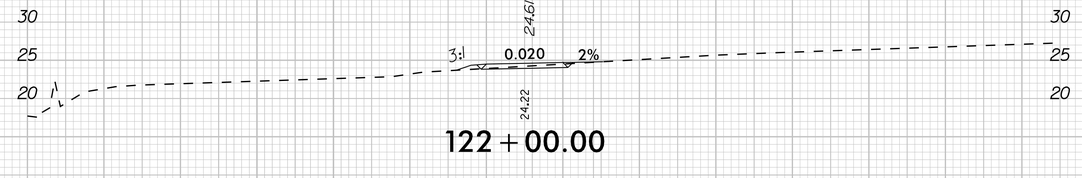
5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	X-21



122 + 50.00



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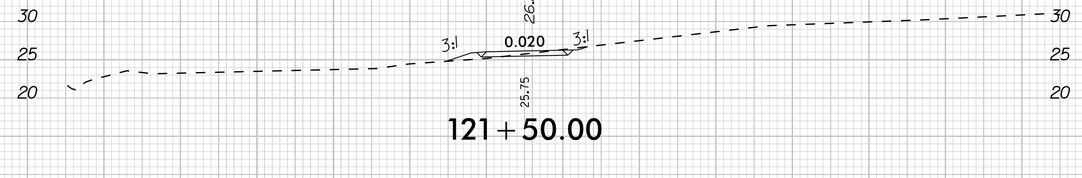
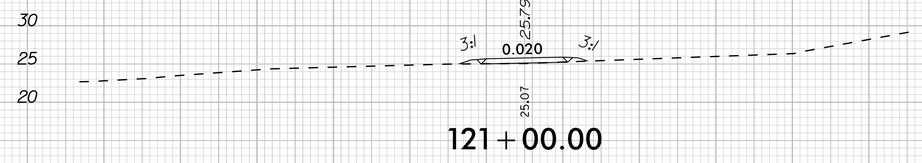


121 + 50.00



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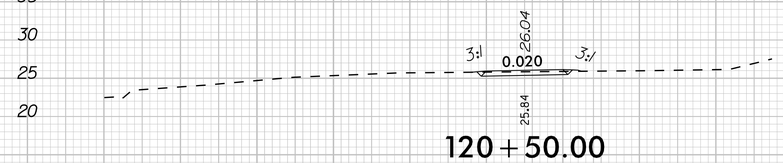
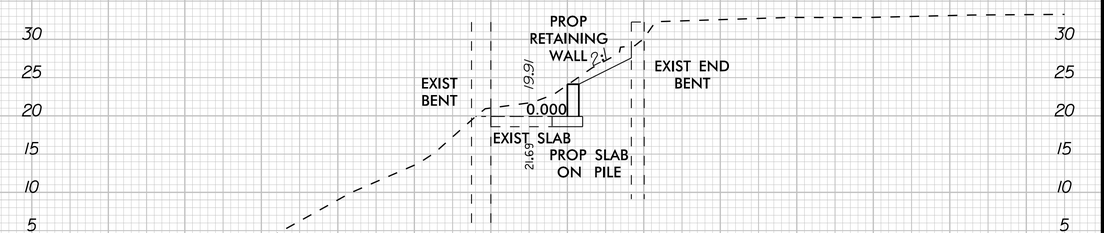
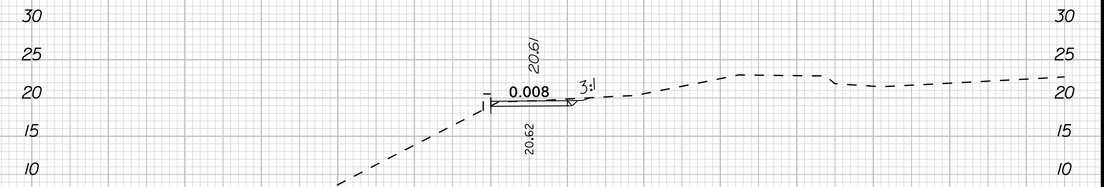


120 + 50.00

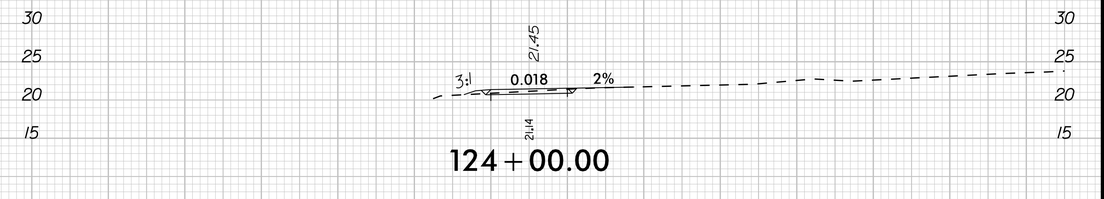
120 + 00.00



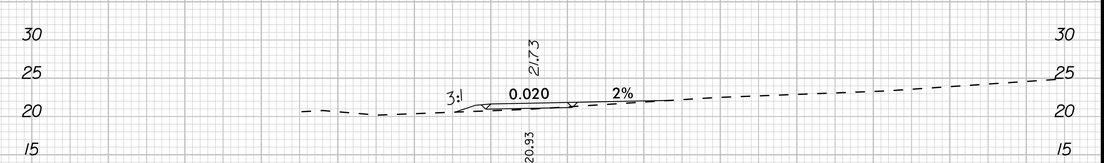
124 + 45.55



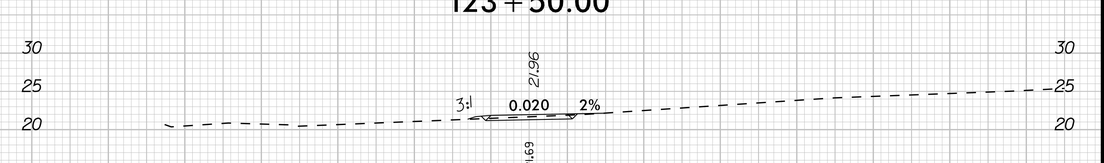
124 + 25.00



124 + 00.00



123 + 50.00



123 + 00.00

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12/15/2017

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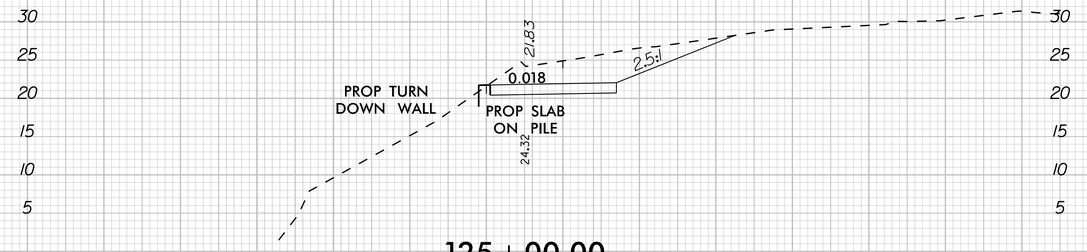
MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

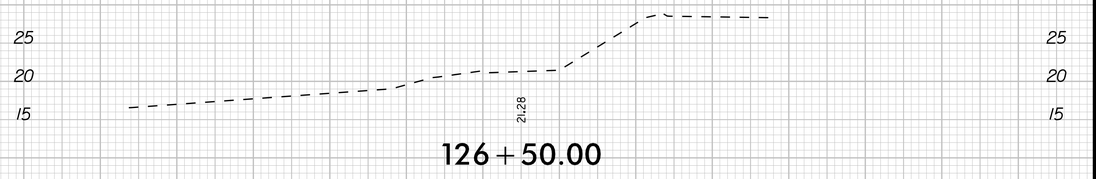
PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER: 012654005

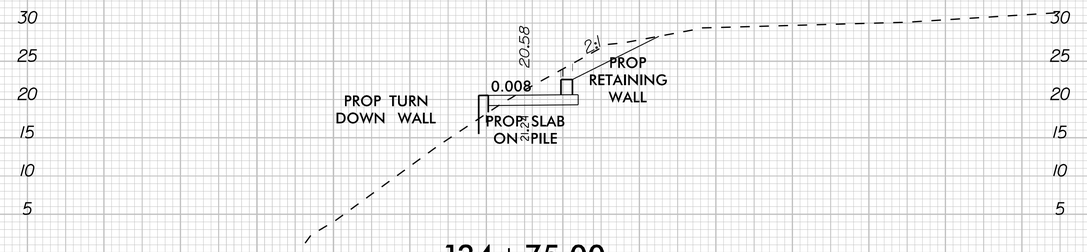
SHEET NUMBER: X-22



125+00.00



126+50.00



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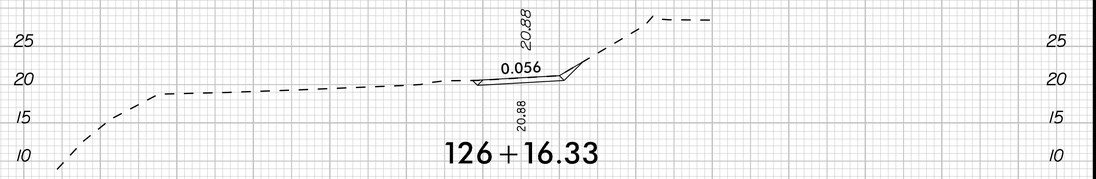

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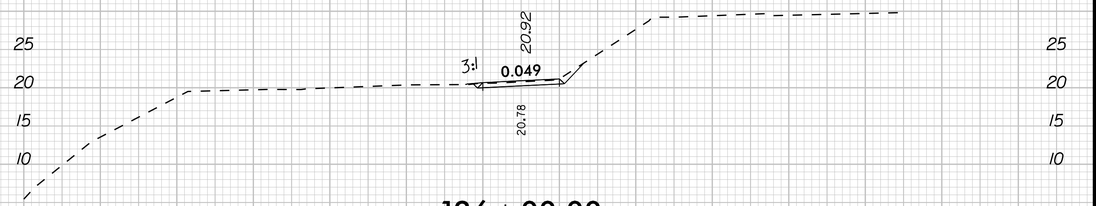

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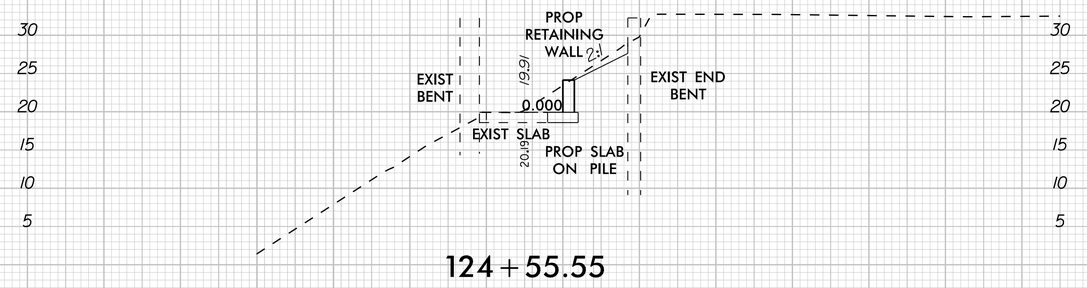

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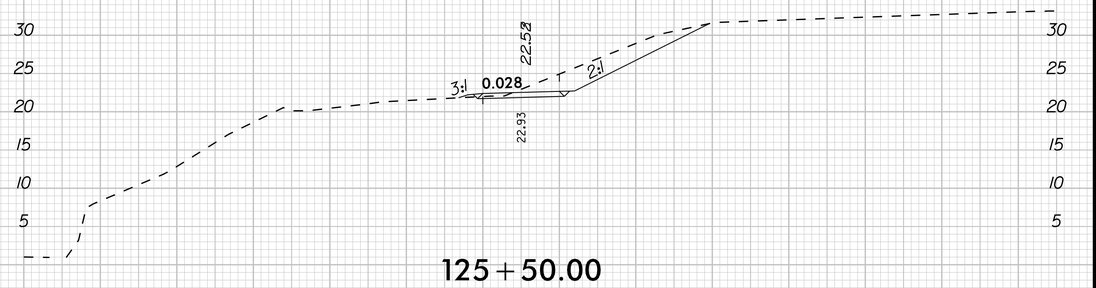

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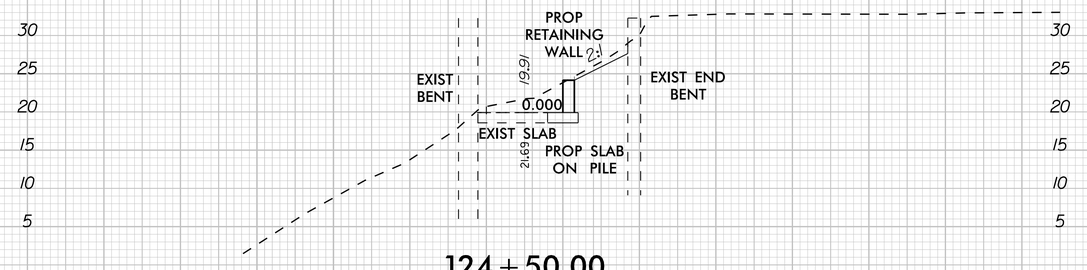

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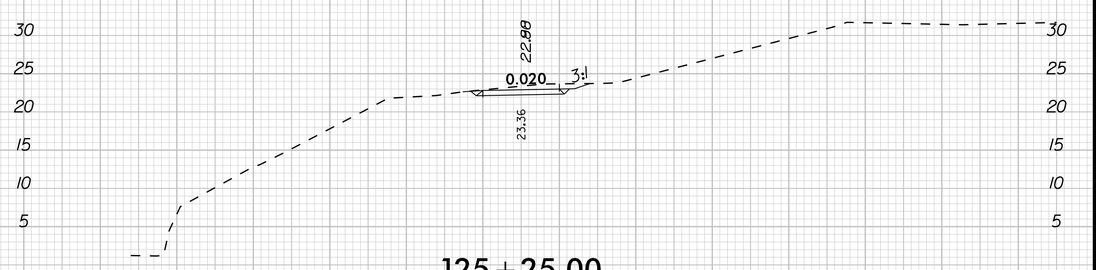

125+25.00

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MULTI-USE PATH AND ROADWAY CROSS SECTIONS

5 0 10

PROJECT:
SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539)

JOB NUMBER:	SHEET NUMBER:
012654005	X-23