

NORTH CAROLINA
WAKE COUNTY

DATE: SEPTEMBER 8, 2022

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION

LICENSE AGREEMENT FOR
RAILROAD RIGHT OF WAY
ENCROACHMENT

AND

D&SC RAIL CORRIDOR,
Milepost DD-16.00

TOWN OF APEX

THIS LICENSE AGREEMENT (hereinafter ‘Agreement’) is made and entered on the last date executed below, by and between the NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, an agency of the State of North Carolina (hereinafter “Department” and/or “Licensor”), and the TOWN OF APEX, a local government entity (hereinafter “Municipality” and/or “Licensee”); and each are hereinafter referred to individually as “Party” and collectively as “Parties.”

WITNESSETH:

WHEREAS, the Licensor is the owner of the Rail Corridor right-of-way as described on the Exhibit A (“Premises”) in Wake County as attached hereto and incorporated by reference and known as the D&SC Rail Corridor; and

WHEREAS, the Licensee desires to encroach on the Premises located in Wake County, North Carolina with the construction, maintenance, and use of a trail connector to the American Tobacco Trail (ATT) on the D&SC Railroad Corridor, as shown on Exhibit A. The trail will consist of a ten-foot (10’) wide asphalt greenway connecting at a ninety-degree (90°) angle to the ATT. Removable bollards at thirty-nine-inch (39”) maximum spacing shall also be installed at the ATT connection. Attached are construction plans showing the greenway connection to the American Tobacco Trail; and

WHEREAS, the Licensor is willing to grant the Licensee the privilege of making such encroachment upon the Premises subject to and in accordance with this Agreement (such privilege, the “License”).

NOW, THEREFORE, IT IS AGREED that Licensor hereby grants to Licensee the privilege to make this encroachment as shown on the attached plan sheet(s), specifications, and special provisions which are incorporated by reference upon the following conditions:

1. **SCOPE OF WORK:**

This Agreement is for the construction, maintenance, and use of a trail connector to the American Tobacco Trail (ATT) on the D&SC Railroad Corridor, as shown on Exhibit A. The trail will consist of a ten-foot (10') wide asphalt greenway connecting at a ninety-degree (90°) angle to the ATT. Removable bollards at thirty-nine-inch (39") maximum spacing shall also be installed at the ATT connection (drawing attached as Exhibit C). Attached as Exhibit A is the construction plans showing the greenway connection to the American Tobacco Trail and the project plans.

Prior to beginning work, Licensee is to contact Matthew Simmons with NCDOT Rail Division (E-mail: mbsimmons@ncdot.gov)

2. **FEES/BILLING**

In consideration of Licensor's granting of this privilege to encroach upon Licensor's Premises, Licensee agrees to make payment in the amount of \$0.00 to the Licensor. The Licensee shall submit said payment to the Licensor upon execution and submittal of this License Agreement to the Licensor.

3. **LICENSE LIMITATIONS**

The License is granted solely and exclusively for the installation, improvement, maintenance, and use of the encroachment for the purposes expressly set forth herein. This grant shall not be construed to convey to or otherwise vest in the Licensee any other greater interest to, right to enter upon, or estate in the Premises.

4. **TRANSFER OF RESPONSIBILITIES**

It is agreed between Licensor and Licensee that this license is personal to Licensee and shall not inure to the successors or assigns of Licensee, except that Licensee may, with the written consent of the Licensor and Licensee which shall not be unreasonably withheld, assign its rights and obligations hereunder to any successor developer of the real property benefitted by the encroachment upon written notice to Licensor and Licensee and as expressly provided herein. The parties understand and agree that any right or claim of Licensor created by this License Agreement shall inure to the benefit of, and be enforceable by, any successor or assignee of Licensor.

5. **CONDITION OF PREMISES**

Licensor makes no warranties or representations regarding the condition of the Premises, and this Agreement shall not be construed to make or imply any warranty. The Licensee accepts the use of the Premises "AS IS" and expressly waives any and all claims against Licensor relating to or arising from the condition of the Premises and the property surrounding the Premises, including, without limitation, any claims and costs related to environmental contamination (such as, without limitation, those claims which might arise under CERCLA, RCRA, and the North Carolina Oil Pollution and Hazardous Substances Act).

6. COMPLIANCE WITH STANDARDS

The installation, operation, and maintenance of the encroachment will comply with the North Carolina Department of Transportation's latest RAIL CORRIDOR PRESERVATION POLICY, POLICIES AND PROCEDURES FOR ACCOMMODATING UTILITIES ON HIGHWAY RIGHTS-OF-WAY and THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION MANUAL, and such revisions and amendments thereto as may be in effect at the date of this agreement, all of which are hereby incorporated as terms and conditions of this agreement and may not be waived except by written agreement of all parties. Information as to these policies and procedures may be obtained from the North Carolina Department of Transportation.

7. SIGNAGE

The Licensee agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagger, and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and amendments or supplements thereto.

8. IMPROVEMENT/MAINTENANCE COSTS

The Licensee shall improve and/or maintain the encroachment at Licensee's own cost and expense. The Licensor shall be exempt from any costs, charges, or assessments of any kind or character on account of or incident to the location and improvement of the encroachment within the limits of the right of way, or on account of any action or omission by the Licensee in connection therewith.

9. MAINTENANCE OF FACILITIES

The Licensee agrees to install and/or maintain the encroaching facilities in such safe and proper condition that they will not interfere with or endanger existing or future uses by the Licensor of said right-of-way for railroad, trail, or other transportation purposes, nor obstruct nor interfere with the proper operation and maintenance of said right-of-way or any tracks, structures, or appurtenances thereon.

10. REIMBURSEMENT BY LICENSEE

The Licensee will reimburse the Licensor for any costs incurred including, but not limited to costs for repairs or maintenance to the Licensor's corridor, roadways, and structures resulting from the installation and existence of Licensee's encroachment.

11. DRAINAGE

The Licensee agrees to install and maintain the encroachment in such a manner as not to interfere with the proper drainage of the roadbed and right of way. The Licensee will not allow or permit the diversion of any additional drainage into existing drainage facilities or upon the right of way, and, moreover, the Licensee will arrange its drainage system so as to prevent the ponding of water upon the right of way.

12. PROPERTY OBSTRUCTIONS

In the event Licensee deems it necessary to remove and relocate any structures or property of third persons or corporations, including, but not limited to, wire lines and poles or other supports, now located and constructed upon or near Licensor's right-of-way, the Licensee will remove and relocate or arrange for the removal or relocation of same without cost or expense to the Licensor, and in all respects in accordance with the requirements of the Licensor. Any utility changes must conform to specifications promulgated by the American Railroad Engineering and Maintenance of Way Association and the North Carolina Department of Transportation.

13. INDEMNIFICATION

To the extent permissible by law, Licensee shall indemnify and save harmless Licensor for any claims for payment, damages, and/or liabilities arising as a result of Licensee's actions under the terms of this Agreement.

14. CONDITION OF PROPERTY

The Licensee agrees to restore all areas disturbed during installation or maintenance of the encroachment to the Licensor's reasonable satisfaction. The Licensee agrees to exercise every reasonable precaution during construction or maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces, or other property; or pollution of the air. When any installation or maintenance operation disturbs the ground surface and existing ground cover, Licensee agrees to remove and replace the sod or otherwise reestablish the grass cover to the reasonable satisfaction of the Licensor.

15. ENVIRONMENTAL REGULATIONS

Licensee shall comply with applicable rules and regulations of the North Carolina Department of Environment and Natural Resources, and ordinances and regulations of various counties, municipalities, and other official agencies relating to pollution prevention and control. Licensee agrees to comply with all federal, State, and local environmental laws, rules, and regulations while subject to the terms of this agreement. None of the terms of this paragraph, or of this agreement elsewhere shall be construed as a waiver of any environmental regulations. If hazardous or any other unauthorized material is discovered, and it is determined that such material is present as a result of action by Licensee, Licensee shall be solely responsible and hold the Department harmless for all costs associated with the removal of the material and any damages caused by the existence of said material.

16. PERIOD OF PERFORMANCE/TERMINATION OF AGREEMENT

It is agreed by all parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within eighteen (18) months from the date of authorization by the Licensor, unless written waiver is secured from the Licensor.

17. NOTICES

All notices, requests, or other communications permitted or required to be given by one Party to the other and all questions about the contract from one Party to the other shall be addressed and delivered to the other Party’s Contract Administrator. The name, post office address, street address, telephone number, fax number, and email address of the Parties’ respective initial Contract Administrators are set out below. Either Party may change the name, post office address, street address, telephone number, fax number, or email address of its Contract Administrator by giving timely written notice to the other Party.

For the Department/Licensors:

If Delivered by US Postal Service:	If Delivered by Any Other Means:
Matthew Simmons Deputy Director NCDOT Rail Division 1553 Mail Service Center Raleigh, NC 27699-1553 Telephone: 919-707-4728 Email: mbsimmons@ncdot.gov	Matthew Simmons Deputy Director NCDOT Rail Division 1 S Wilmington Street, Room 549 Raleigh, NC 27601

For/Licensee:

If Delivered by US Postal Service:	If Delivered by Any Other Means:
Town of Apex Angela Reincke Parks Planning Project Manager PO Box 250 Apex, NC 27502 Telephone: 919-372-7468 Email: angela.reincke@apexnc.org	Town of Apex Angela Reincke Parks Planning Project Manager PO Box 250 Apex, NC 27502

18. NONCOMPLIANCE

In the case of noncompliance with any of the terms of this agreement by Licensee, Licensors will give Licensee written notice of such noncompliance. If Licensee fails to comply to the reasonable satisfaction of the Licensors within sixty (60) days after receiving such written notice, unless written waiver is secured from the Licensors, the Licensors reserves the right to discontinue the use of the encroachment until it has been brought into compliance; or, alternatively, at no cost to the Licensors, Licensors may remove the encroachment from the right of way and require the Licensee to reimburse the Licensors for all expenses for said removal, or the Licensors, in its sole discretion, may require the Licensee to remove the encroachment within ninety (90) days of written notice from the Licensors, to the Licensors’s satisfaction.

19. NOTICE OF COMPLETION

The Licensee agrees to give written notice to the Licensor within thirty (30) days of completion of all work contained herein.

20. CHANGES TO ENCROACHMENT

The Licensee shall make all necessary changes to the reasonable satisfaction of the Licensor, at Licensee's own cost and expense, within sixty (60) days after written notice from the Licensor, to address the safety concerns of the Licensor or to accommodate the Licensor's use of the right-of-way for railroad, trail, or other transportation purposes, unless written waiver is secured from the Licensor. Such changes include, but are not limited to, the construction of a grade-separated facility for railroad, trail, or other transportation purposes; the installation, maintenance, and upgrading of any safety devices, signs, or other facilities necessary for the Licensor's use of the corridor; and any changes of location, height, depth, or design of the encroachment, or consolidation of at-grade crossings.

21. REMOVAL OF THE ENCROACHMENT FROM LICENSOR PROPERTY

In the event the Licensor requires the removal of the encroachment from the right-of-way, then the Licensor shall have the right to demand such removal, and the Licensee, at its own cost and expense, within sixty (60) days after written notice from the Licensor, unless written waiver is secured from Licensor, shall discontinue the use of the same, remove the encroachment from the right-of-way, and restore the same to the condition existing prior to the location of the encroachment upon the right of way.

22. UTILITY ENCROACHMENT

In the case of a utility encroachment, Licensee agrees to periodically monitor and verify the depth or height of the utility in relation to the Licensor's tracks and facilities, and to relocate the utility at Licensee's own cost and expense should such relocation or change be necessary to comply with the minimum clearance requirements of this agreement or any public authority.

23. ENCROACHMENT INTERFERENCE

If the operation, existence, or maintenance of the encroachment causes interference, physical, magnetic, or otherwise, with train control systems or facilities, or interference in any manner with the operation, maintenance, or use of the right-of-way, tracks, structures, pole lines, devices, other property, or any appurtenances thereto for railroad, trail, or other purposes, then in either event, Licensee, within sixty (60) days after written notice from the Licensor, at Licensee's own cost and expense, shall promptly make such changes in its encroachment as may be required in the reasonable judgment of the Licensor to eliminate all such interference, unless written waiver is secured from the Licensor.

24. CHANGE ORDERS

If the Licensee undertakes to revise, renew, relocate, or change in any manner whatsoever all or any part of the encroachment plans, such plans shall be submitted to the Licensor for approval before any such change is made. After approval, the terms and conditions of this agreement shall apply thereto.

25. **EXHIBITS**

See drawings and forms attached as Exhibit A (Construction Plans), Exhibit B (Railroad Encroachment Application Form), and Exhibit C (Hinged Bollard) incorporated herein as reference.

26. **GOVERNING LAWS**

This Agreement shall at all times be governed by the provisions of the law of North Carolina.

27. **RELATIONSHIP BETWEEN PARTIES**

This Agreement shall not be construed to create any relationship of agency or employment between the parties hereto.

28. **ETHICS PROVISION**

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By signing this Agreement, the Licensee attests that the Licensee is not aware that any gift in violation of N.C.G.S. § 133-32 and Executive Order 24 has been offered, accepted, or promised by the Licensee (including the Licensee's employees, agents, and representatives).

29. **E-VERIFY**

E-Verify is the federal program operated by the United States Department of Homeland Security and other Federal agencies, or any successor or equivalent program, used to verify the work authorization of newly hired employees pursuant to federal law. The Parties warrant that they and any subcontractor performing work under this Agreement: (i) uses E-Verify if required to do so by North Carolina law; and (ii) otherwise complies with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. A breach of this warranty by any Party will be considered a breach of this Agreement, which entitles the other Parties to terminate this Agreement, without penalty, upon notice to the breaching Party.

IN WITNESS WHEREOF, this License Agreement has been executed the day and year heretofore set out below, on the part of the Department and the Municipality by authority duly given.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this Agreement, you attest, for your entire organization and its employees or agents, that you are not aware that any gift in violation of N.C.G.S. § 133-32 and Executive Order 24 has been offered, accepted, or promised by any employees of your organization.

WITNESS

TOWN OF APEX

BY: _____

BY: _____

NAME: _____

NAME: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

Approved by the Town of Apex governing board as attested to by the signature of

MUNICIPAL SEAL

Clerk of the Town Council _____
(Date)

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

Municipal Finance Officer

FEDERAL TAX IDENTIFICATION NUMBER

Town of Apex

MAILING ADDRESS

Town of Apex
PO Box 250
Apex, NC 27502
Attn: Angela Reincke
Parks Planning Project Manager
Angela.reincke@apexnc.org

IN WITNESS WHEREOF, this License Agreement has been executed the last day and year set out below, on the part of the Department and the Municipality by authority duly given.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this Agreement, you attest, for your entire organization and its employees or agents, that you are not aware that any gift in violation of N.C.G.S. § 133-32 and Executive Order 24 has been offered, accepted, or promised by any employees of your organization.

ATTEST

NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION

BY: _____

BY: _____

NAME: _____

NAME: Julie White

TITLE: Processing Agent

TITLE: Deputy Secretary of Multi Modal
Transportation

DATE: _____

DATE: _____

MAILING ADDRESS

North Carolina Department of Transportation
Rail Division, Operations & Facilities Branch
1553 Mail Service Center
Raleigh, NC 27699-1553
ATTN: Matthew Simmons
Deputy Director
mbsimmons@ncdot.gov

EXHIBIT A

PROJECT DATA

Name, Address, and Level ID:	Name: Apex West Greenway Address: 205 Olive Chapel Rd. Apex, NC 27502
	Parcel ID: 071-08-0221 071-08-1988 071-08-1915 071-08-4882
Project Location:	Latitude: 36.138307 Longitude: -78.880861
Preparer:	Company Name: Wetherill Engineering Contact Name: Jonathan Heffner Address: 122 Sikes Farm Ln. Rd. Raleigh, NC 27606 Phone: 919-851-8077 Email: Jonathan.Heffner@wetherill.com
Owner:	Town of Apex
Contract Authority:	Name: Town of Apex Parks & Recreation Contact Name: Andrew Havens Address: 71 Harbor St. Apex, NC 27502 Phone: 919-249-3488 Email: andrew.havens@apexnc.gov
Assessment Number:	N/A
Zoning:	N/A
Current Zoned Use:	Protected Open Space
Area of Impact:	Taxlots
Regulatory/Permitting:	N/A
Watershed Protection Overlay District:	Priority
FIRM:	Outside 100 yr floodplain for steady state
Gross Area of Wetlands:	N/A
Gross Floor Area:	N/A
Building Height:	N/A
Minimum Number of Parking Spaces Required:	N/A
Maximum Number of Parking Spaces Per Acre:	N/A
Parking Spaces Provided:	N/A
Number of Municipal Systems:	N/A
Percentage of Parking on Side and Rear:	N/A
Amount and Percentage of Built Up Area Allowed:	N/A
Amount and Percentage of Built Up Area Proposed:	N/A
Gross Area and Percent of RCA Required:	N/A
Gross Area and Percent of RCA Provided:	N/A
Historic Landmarks:	No
Tree Community Assessment:	N/A
Type of Grading:	N/A
Natural Drainage Patterns Preserved:	50%

CONSTRUCTION PLANS FOR: TOWN OF APEX NORTH CAROLINA

APEX WEST GREENWAY

LOCATION:
FROM OLIVE CHAPEL RD. TO AMERICAN TOBACCO TRAIL

TYPE OF WORK:
GRADING, PAVING, STRUCTURE, DRAINAGE, & EROSION CONTROL

INDEX OF SHEETS

1	COVER SHEET
2	SYMBOLSHEET
3	NOTES
4	EXISTING CONDITIONS
5	PLAN, PROFILE, AND TYPICAL SECTIONS
6	CONSTRUCTION DETAILS
7	CONSTRUCTION DETAILS
EC-1	NC081 GROUND STABILIZATION
EC-2	NC081 GROUND STABILIZATION
EC-3	EROSION CONTROL NOTES
EC-4	EROSION CONTROL DETAILS
EC-5	EROSION CONTROL, CLEANING AND GRUBBING
EC-6	EROSION CONTROL FINAL
X-1	CROSS SECTIONS
X-2	CROSS SECTIONS
X-3	CROSS SECTIONS

VICINITY MAP

PUBLIC NOTIFICATION TABLE

WATER LINES	0 LF
SEWER LINES	0 LF
CURB & GUTTER	0 LF
STORM DRAIN	0 LF
GRASSWAY	682 LF
BIOWALK	0 LF
NEW STREETS	0 LF

@ \$1,250/LF ■ \$604/20

		<h2>APEX WEST GREENWAY</h2> <p>CONNECTION FROM OLIVE CHAPEL ROAD TO AMERICAN TOBACCO TRAIL</p>
		<p>DATE PREPARED BY: [Redacted]</p> <p>DATE: 02/28/2018</p>
	<p>PROJECT CONTACT: APRIL HENSCH PHONE AND ADDRESS: 919-851-8077 122 SIKES FARM LN. RD. RALEIGH, NC 27606</p>	<p>TOWN OF APEX 71 HARBOR ST. APEX, NC 27502</p>

DATE: 02/28/2018

PROJECT NO.: 20326,01

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CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	⊙
Computed Property Corner	_____
Property Monument	_____
Parcel/Sequence Number	①
Existing Fence Line	_____
Proposed Woven Wire Fence	_____
Proposed Chain Link Fence	_____
Proposed Barbed Wire Fence	_____
Existing Wetland Boundary	_____
Proposed Wetland Boundary	_____
Existing Endangered Animal Boundary	_____
Existing Endangered Plant Boundary	_____
Existing Historic Property Boundary	_____
Known Contamination Area: Soil	_____
Potential Contamination Area: Soil	_____
Known Contamination Area: Water	_____
Potential Contamination Area: Water	_____
Contaminated Site: Known or Potential	_____

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap	⊙
Sign	⊙
Well	⊙
Small Mine	⊙
Foundation	_____
Area Outline	_____
Cemetery	_____
Building	_____
School	_____
Church	_____
Dam	_____

HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	_____
Jurisdictional Stream	_____
Buffer Zone 1	_____
Buffer Zone 2	_____
Flow Arrow	_____
Disappearing Stream	_____
Spring	_____
Wetland	_____
Proposed Lateral Tail Head Ditch	_____
Flood Sump	_____

RAILROADS:

Standard Gauge	_____
RR Signal Mastpost	_____
Switch	_____
RR Abandoned	_____
RR Dismantled	_____

RIGHT OF WAY & PROJECT CONTROL:

Secondary Mark and Vent Control Point	_____
Primary Mark Control Point	_____
Primary Mark and Vent Control Point	_____
Exit Permanent Easement Pin and Cap	_____
New Permanent Easement Pin and Cap	_____
Vertical Benchmark	_____
Existing Right of Way Marker	_____
Existing Right of Way Line	_____
New Right of Way Line	_____
New Right of Way Line with Pin and Cap	_____
New Right of Way Line with Concrete or Granite RW Marker	_____
New Control of Access Line with Concrete CA Marker	_____
Existing Control of Access	_____
New Control of Access	_____
Existing Easement Line	_____
New Temporary Construction Easement	_____
New Temporary Drainage Easement	_____
New Permanent Drainage Easement	_____
New Permanent Drainage / Utility Easement	_____
New Permanent Utility Easement	_____
New Temporary Utility Easement	_____
New Aerial Utility Easement	_____

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	_____
Proposed Slope Stakes Fill	_____
Proposed Curb Ramp	_____
Existing Metal Guardrail	_____
Proposed Guardrail	_____
Existing Cable Guardrail	_____
Proposed Cable Guardrail	_____
Equality Symbol	_____
Pavement Removal	_____

VEGETATION:

Single Tree	⊙
Single Shrub	⊙

Hedge	_____
Woods Line	_____
Orchard	_____
Vineyard	_____

EXISTING STRUCTURES:

MAJOR: Bridge, Tunnel or Box Culvert	_____
Bridge Wing Wall, Head Wall and End Wall	_____
MINOR: Head and End Wall	_____
Pipe Culvert	_____
Footbridge	_____
Drainage Box: Catch Basin, DI or JB	_____
Paved Ditch Gutter	_____
Storm Sewer Manhole	⊙
Storm Sewer	_____

UTILITIES:

POWER: Existing Power Pole	⊙
Proposed Power Pole	⊙
Existing Joint Use Pole	⊙
Proposed Joint Use Pole	⊙
Power Manhole	⊙
Power Line Tower	⊙
Power Transformer	⊙
UG Power Cable Hand Hole	_____
Halfway Pole	_____
UG Power Line LOS B (S.U.E.)	_____
UG Power Line LOS C (S.U.E.)	_____
UG Power Line LOS D (S.U.E.)	_____

TELEPHONE:

Existing Telephone Pole	⊙
Proposed Telephone Pole	⊙
Telephone Manhole	⊙
Telephone Pedestal	⊙
Telephone Cell Tower	⊙
UG Telephone Cable Hand Hole	_____
UG Telephone Cable LOS B (S.U.E.)	_____
UG Telephone Cable LOS C (S.U.E.)	_____
UG Telephone Cable LOS D (S.U.E.)	_____
UG Telephone Conduit LOS B (S.U.E.)	_____
UG Telephone Conduit LOS C (S.U.E.)	_____
UG Telephone Conduit LOS D (S.U.E.)	_____
UG Fiber Optic Cable LOS B (S.U.E.)	_____
UG Fiber Optic Cable LOS C (S.U.E.)	_____
UG Fiber Optic Cable LOS D (S.U.E.)	_____

WATER:

Water Manhole	⊙
Water Meter	⊙
Water Valve	⊙
Water Hydrant	⊙
UG Water Line LOS B (S.U.E.)	_____
UG Water Line LOS C (S.U.E.)	_____
UG Water Line LOS D (S.U.E.)	_____
Above Ground Water Line	_____

TV:

TV Pedestal	⊙
TV Tower	⊙
UG TV Cable Hand Hole	_____
UG TV Cable LOS B (S.U.E.)	_____
UG TV Cable LOS C (S.U.E.)	_____
UG TV Cable LOS D (S.U.E.)	_____
UG Fiber Optic Cable LOS B (S.U.E.)	_____
UG Fiber Optic Cable LOS C (S.U.E.)	_____
UG Fiber Optic Cable LOS D (S.U.E.)	_____

GAS:

Gas Valve	⊙
Gas Meter	⊙
UG Gas Line LOS B (S.U.E.)	_____
UG Gas Line LOS C (S.U.E.)	_____
UG Gas Line LOS D (S.U.E.)	_____
Above Ground Gas Line	_____

SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
UG Sanitary Sewer Line	_____
Above Ground Sanitary Sewer	_____
SS Forced Main Line LOS B (S.U.E.)	_____
SS Forced Main Line LOS C (S.U.E.)	_____
SS Forced Main Line LOS D (S.U.E.)	_____

MISCELLANEOUS:

Utility Pole	⊙
Utility Pole with Base	⊙
Utility Located Object	⊙
Utility Traffic Signal Box	⊙
Utility Unknown UG Line LOS B (S.U.E.)	_____
UG Tank: Water, Gas, Oil	_____
Underground Storage Tank, Approx. Loc.	_____
AO Tank: Water, Gas, Oil	_____
Geoenvironmental Boring	_____
UG Test Hole LOS A (S.U.E.)	_____
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

The symbols shown herein certify that this sheet has been reviewed and approved under the authority granted to the user hereof by the state of North Carolina.

DATE	DATE	DATE	DATE
DATE	DATE	DATE	DATE
DATE	DATE	DATE	DATE
DATE	DATE	DATE	DATE

NO.	DATE	DESCRIPTION

PLANNED BY: APEX WEST GREENWAY

PROJECT CONTACT: APEX WEST GREENWAY

DATE OF WORK: 10/2024

SCALE: AS SHOWN

APEX WEST GREENWAY

CONNECTION FROM OLIVE CHAPEL ROAD TO AMERICAN TOBACCO TRAIL

PLANNED BY: WETHERILL ENGINEERING

DATE OF WORK: 10/2024

SCALE: AS SHOWN

DATE OF WORK: 10/2024

SCALE: AS SHOWN

PROJECT NO. 2023-01

DATE OF WORK: 10/2024

SCALE: AS SHOWN

PROJECT NO. 2023-01

CONVENTIONAL SYMBOLS

2

Required Site Plan Notes:

- 1) No site development activity including, but not limited to, testing, clearing, installation of S&E measures, or grading shall occur until required tree protection fencing has been installed and inspected. A Tree Protection Fencing Installation Permit may be obtained at the Planning Department or online at <http://www.apexnc.org/215/Applications-Schedules>.
- 2) Tree protection fencing must be placed:
 - a. One foot away from any saved tree for each inch of diameter at breast height.
 - b. Along the outside line of the 100-year floodplain and the outside edge of any riparian buffer, and
 - c. At least 10 feet away from any other designated RCA such as, but not limited to, historic buildings and structures, wetlands, and ponds.
- 3) Additional tree protection fencing may be required in other locations close to construction activity where it is deemed necessary by the zoning enforcement officer, such areas may include, but are not limited to, common property lines or near public areas (sidewalks, etc.).
- 4) If buildings are to be demolished, a copy of the Demolition Notification from the NC Health Hazard Control Unit and an asbestos inspection report from a NC accredited asbestos inspector must accompany the application for the demolition permit which must be obtained prior to start of the demolition.
- 5) All grading and support structures associated with any retaining structure shall not encroach into any required buffer or protected area (e.g. RCA, the critical root zones of trees, public utility easements and rights-of-way), and shall be contained entirely on site.
- 6) Site elements required to satisfy recreational requirements such as, but not limited to, play fields, greenway trails and items typically associated with them (benches, trash containers, signs, etc.) must meet any applicable standards found in the Town of Apex Standard Specifications and Standard Details and the requirements of the Town of Apex Parks and Recreation Department.
- 7) The screening of loading docks, roll-out trash containers, dumpsters, outdoor storage, mechanical and HVAC equipment, and similar facilities on the roof, ground, or building shall meet the requirements of UDO Sec. 8.2.8. Specifically, screening must be done so that:
 - a. It is incorporated into the overall design theme of the building and landscape.
 - b. Screening materials are not different from or inferior to the principal materials of the building or landscape, and are similar in materials and color.
 - c. Screened items are out of view from adjacent properties and public streets, and a totally opaque screen is achieved.
 - d. Any ground-mounted HVAC or other mechanical or utility equipment six (6) feet tall or higher must be fenced and landscaped.
 - e. Dumpster enclosures must meet the above requirements plus be eight (8) feet tall or the height of the dumpster, whichever is greater, and be built of masonry material with opaque gates. Where practicable, shrubs or other plants must be planted outside the enclosure to visually soften the appearance.
- 8) All required site elements shown within a particular phase must be installed before a final Certificate of Occupancy may be issued for any building within that phase.
- 9) Prior to scheduling a final site inspection, all site items (e.g. lighting, landscaping, mulching, screening for dumpsters, mechanical equipment, HVAC, etc., seeding & site stabilization, and parking and pavement marking) must be completed.
- 10) Individual signs are not approved as part of the site plan approval process. A separate sign permit must be obtained prior to installation of the sign. Multiple use lots, non-residential subdivisions and multiple tenant lots must submit a Master Sign Plan for approval.
- 11) Retaining systems providing a cumulative vertical relief greater than five feet in height within a horizontal elevation of 30 feet or less, including retaining walls or mechanically stabilized earth walls, shall be designed and constructed under the responsible charge of a registered professional engineer and comply in all aspects with the NC Building Code Sec. 1610. Retaining systems meeting these criteria will require a separate building permit prior to the start of work. All retaining walls and other retention structures must be integrally formed or stained a medium or dark brown or rust color or be covered with a masonry veneer that is a medium or dark brown or rust color.
- 12) A Grading Permit, when applicable, may only be issued by the Building Inspections Division after the installation and approval of tree protection fencing and S&E measures and a Certificate of Compliance has been issued by the Water Resources Department.
- 13) Prior to approval of a Final Plat or issuance of a Certificate of Occupancy for any development where a Stormwater Control Measure (SCM) is required, contact the Environmental Programs Manager at 919-249-3453 to demonstrate that the required structure is in place, is operational, and complies with all relevant portions of UDO Sec. 6.1.12 Engineered Stormwater Controls. If the SCM is used as part of a temporary erosion control measure, the inspection will occur during the appropriate phase of construction.
- 14) All water and sewer lines shall be installed with a minimum of three (3) feet of cover.
- 15) Maintain a minimum of 18 inches of vertical separation between utilities.
- 16) Verify all illustrated utility crossings prior to construction and notify the engineer if conflicts are encountered.
- 17) Contractor shall coordinate utility relocation or abandonment with local utility companies as required.
- 18) All interconnections to Town potable water shall have a Town-approved backflow prevention assembly installed.
- 19) Water and sewer shall be at least 30 feet laterally from existing or proposed sewers. Where local conditions prevent a separation of at least 10 feet, the water main may be laid closer, provided that the elevation of the bottom of the water main is at least 18 inches above the top of the sewer with a horizontal separation of at least three (3) feet.
- 20) All new public water and sewer lines contained within a Town of Apex Public Utility Easement will require a Water Distribution Extension Permit and/or a Gravity Sewer Extension Permit to the release of construction drawings. All Water Distribution Extension Permit Applications shall be accompanied by a Sealed Engineer's Report per the Town of Apex Spec Book. Please contact the Engineering Division at 919-249-3366 to obtain these permit applications.
- 21) A plumbing permit issued by the Building Inspection Division is required for all plumbing systems, including storm drainage systems, installed outside the Public Right-of-Way or a Public Utility Easement. These systems shall be inspected and approved by the plumbing inspector prior to covering. Contact the Building Inspections Director at 919-249-3380 for information including the utilization of a third-party inspection agency.
- 22) It is the responsibility of the owner or his representative(s) to locate and identify all existing and proposed utilities and to clearly identify them on the approved plans.
- 23) No private utility easements shall be allowed to be counted in the calculations for buffers, RCA, or required landscape areas.
- 24) All landscaping is required to be installed prior to a Certificate of Occupancy for the project, or in the case of phased development, for the phase of the project. If the applicant chooses to delay the installation of landscaping from April 3 through September 1, then the applicant shall provide a cash bond equal to 150% of the cost of materials and installation, based on the highest estimate received, to ensure installation of the required landscaping. Additional exceptions may be granted by the Planning Director in accordance with UDO Sec. 8.2.2.1.
- 25) Required buffers must meet the minimum opacity requirements for the particular type of buffer as described in UDO Sec. 8.2.6.
- 26) Any vegetation that is dead, substandard, unhealthy, of poor structural quality, or missing shall be replaced in conformance with Town standards.
- 27) All plant material shall be allowed to reach their mature size and maintained at their mature size. Plants shall not be cut or severely pruned so that their natural form is impaired.
- 28) All slopes equal to 2:1 shall be stabilized with permanent slope retention or a suitable combination of plantings and retention devices.
- 29) Slopes steeper than 3:1 but less than 2:1 shall be stabilized with permanent groundcover, not with turf grass.
- 30) All outdoor light fixtures shall be located a minimum of 10 feet from a property or right-of-way line, and at least two feet away from any required perimeter or streetscape buffer and tree save areas.
- 31) Lamps for non-cut-off light fixtures shall not exceed 100 watts.
- 32) Wall pack light fixtures must be fully shielded, true cut-off type fixtures with a concealed lamp/light source. The lighting must be directed downward and the wattage must not exceed 100 watts.
- 33) Floodlights or other types of lighting are prohibited unless approval is given through the development review process and reflected on the approved site plan.
- 34) Awnings and canopies used for accents over doors and windows shall not be internally lit.

- 35) Before certificates of occupancy are released, the owner/builder must supply the Town with a final letter of certification from the lighting engineer and/or lighting manufacturer verifying that all site lighting is installed according to Town standards, the approved plans, and any applicable conditions.
- 36) Architectural construction plans must adhere to the approved site plans. Any proposed changes must be submitted to the Planning Department for approval.

Town of Apex Construction Sequence

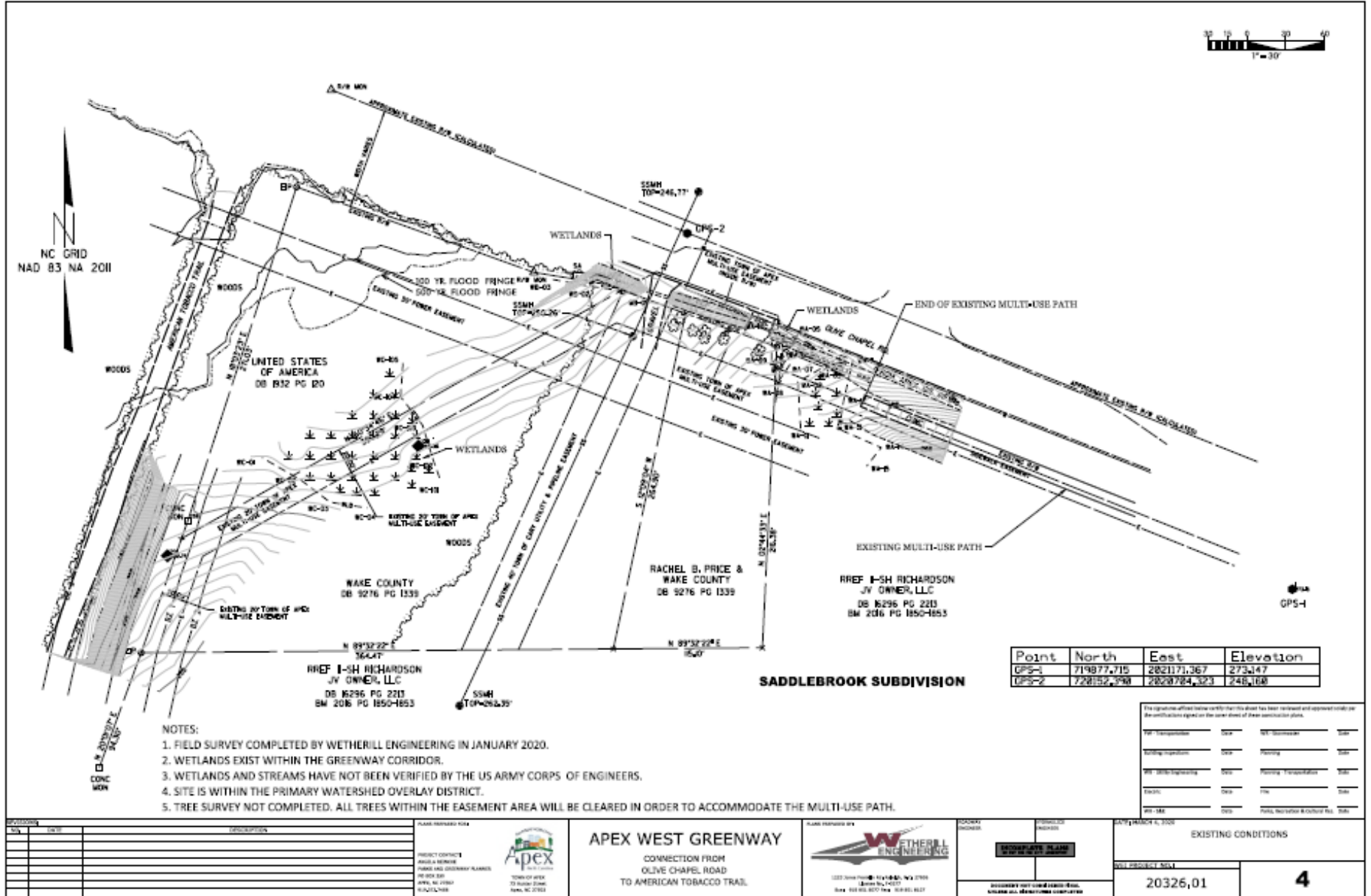
The following begins only after Construction Plans are approved, signed by Town staff and copies are received.

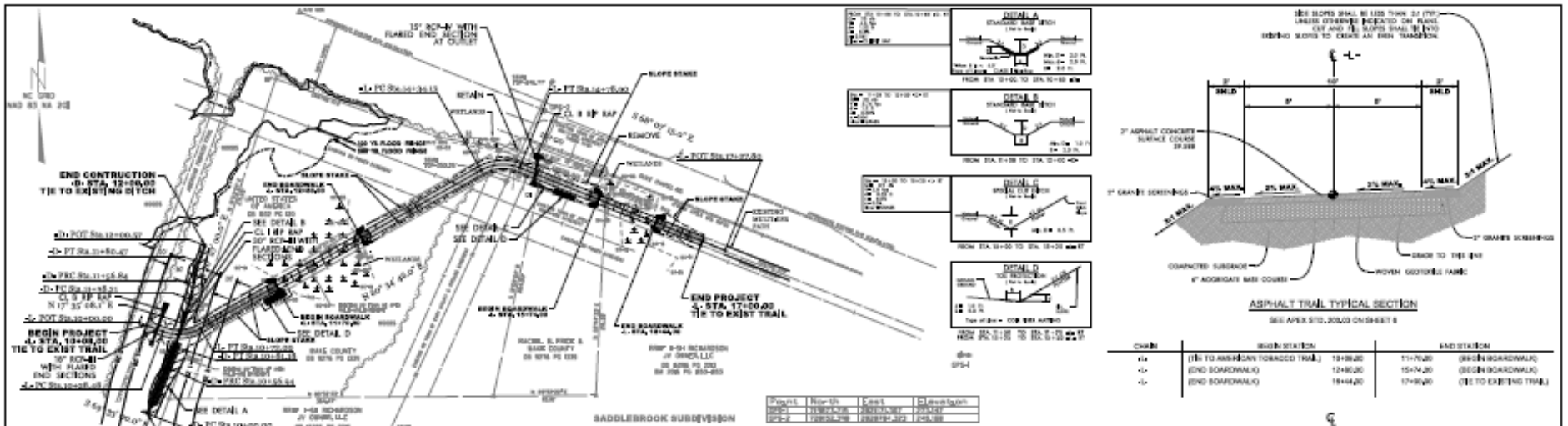
1. Through the Infrastructure Inspections Manager at (919) 249-3386, schedule a pre-construction meeting with inspectors and other Town staff.
2. Fill out Tree/Protection Fencing Installation Permit Application (obtain from Planning Department).
3. Have a surveyor flag property lines, easements, buffers, tree protection areas, and flag the protection limits.
4. Contact an Apex Planning Department Zoning Compliance Officer at (919)249-3426 to request approval for tree protection fencing locations.
5. Install approved tree protection fencing, signs, and/or any other protection measures that may be required. Call Planning at 249-3426 for a final inspection of protection measures. Planning will forward approval to Water Resources, Erosion Control field staff.
6. Submit the applicable S&E performance guarantee to the Development Services Supervisor at 249-3394 in Development Services. An invoice can be requested from Water Resources at (919) 362-8166. The erosion control letter of Plan Approval will not be issued until the guarantee has been submitted.
7. Request a Letter of Plan Approval for sedimentation and erosion control measures from Water Resources staff at (919) 362-8166.
8. Complete and submit an electronic Notice of Intent (e-NOI) form with MCDERM requesting a Certificate of Coverage (COC) under the MCOG Construction Stormwater General Permit. Visit the following website: <https://ec.nc.gov/about/division/energy-mineral-land-resources/energy-mineral-land-permits/stormwater-permits/construction-sw>. The COC must be submitted to the Town prior to the commencement of any land disturbing activity.
9. Install gravel construction entrance, temporary diversions, silt fencing, sediment basins, bypass channels, and/or other measures as shown on the approved plans. Clear only as necessary to install these devices.
10. When completed, call Water Resources staff at (919) 362-8166 for an on-site inspection and to request a Certificate of Compliance. Water Resources will also forward a copy to the Building Inspections & Permitting Department.
11. Complete a Grading Permit Application, if required, from the Building Inspections & Permitting Department.
12. Once a Grading Permit is reviewed and issued by the Building Inspections & Permitting Department, arrange a pre-construction meeting with Study Baker at 249-3381 prior to any grading activities. This meeting is separate from any other pre-construction meetings required in the Construction Sequence.
13. Post Grading Permit prominently on site at all times.
14. Begin clearing, grubbing, and rough grade of the site in accordance with the approved grading plan.
15. Stockpile a sufficient amount of topsoil to cover 3 inches over landscaped areas at the end of the project.
16. Install storm sewer, if applicable, and protect inlets with inlet protection devices, sediment devices, and/or other approved measures as shown on plans. Maintain S&E measures as needed.
17. After completion of any phase of grading or when land-disturbing activities have temporarily ceased, establish groundcover on swales and ditches and graded slopes steeper than 3:1 within 7 calendar days; slopes that are 3:1 or flatter must establish groundcover within 14 calendar days.
18. Stabilize site as areas are brought up to finished grade with vegetation or paving.
19. Prior to plat approval, all disturbed areas both public and private, must be properly stabilized. All temporary erosion control measures must be installed, be functioning properly and be maintained for the entire area contained within the plat.
20. Flush and clean all stormwater system pipes. Clean and remove sediment from temporary sediment holding devices. Follow the SCM Construction Sequence found on the Grading and/or SCM Detail sheet on the Construction Plan set.
21. Remove all temporary diversions, silt fencing, sediment basins, etc. and provide adequate cover or pave any resulting bare areas. All permanent erosion control devices should be installed at this point.
22. When vegetation has been established, call Water Resources staff at (919) 362-8166 for a final site inspection and to request a Certificate of Completion. The S&E performance guarantee will be released with the issuance of the Certificate of Completion. Visit the State website listed above and submit an electronic Notice of Termination (e-NOT) to end coverage under the MCOG permit.
23. The Property Owner/Home Owners Association will be responsible for permanent erosion control maintenance of the site.

The signatures affixed below certify that this plan has been reviewed and approved only as the construction agent on the cover sheet of these construction plans.

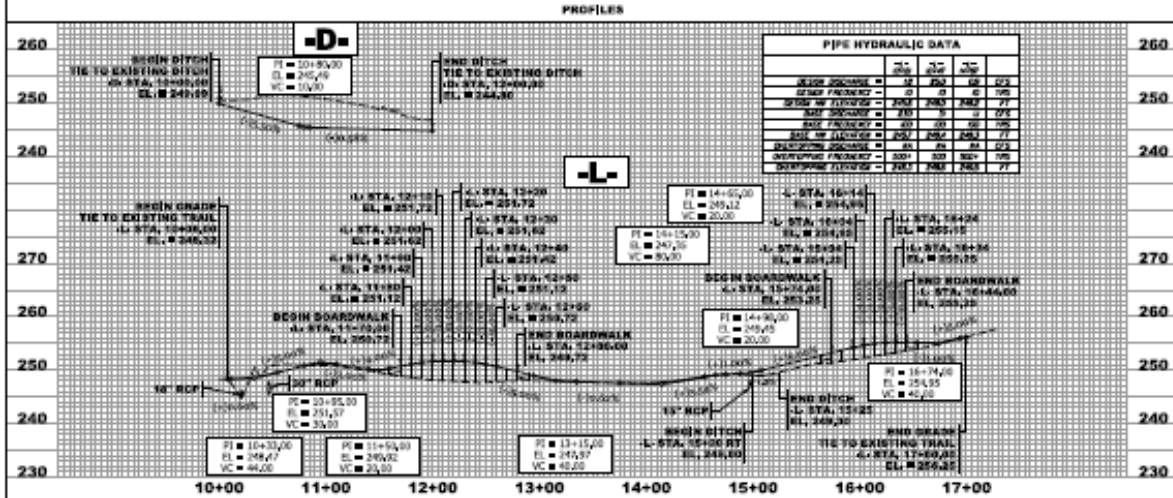
For Construction	Date	By: Construction	Title
Building Inspector	Date	Planning	Title
SE/SEB/Engineering	Date	Planning/Construction	Title
Utility	Date	Utility	Title
Water S&E	Date	Water Resources/Stormwater	Title

APEX WEST GREENWAY CONNECTION FROM OLIVE CHAPEL ROAD TO AMERICAN TOBACCO TRAIL		PROJECT OWNER: APEX WEST GREENWAY PLANNING 10000 ECHU APRIL 26, 2020 919-249-3380	PLANNING DIVISION PROJECT NUMBER: 20326,01	DATE: MARCH 6, 2020 SHEET PROJECT NO. 1 20326,01 3
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+ CURVE DATA		+ CURVE DATA		+ CURVE DATA	
PI Sta 10+88.00	Δ 4° 04' 40.1" (RT)	PI Sta 12+69.00	Δ 8° 55' 34.0" (LT)	PI Sta 14+77.00	Δ 10° 02' 26.8" (LT)
Δ 4° 04' 40.1" (RT)	Δ 4° 04' 40.1" (RT)	Δ 8° 55' 34.0" (LT)	Δ 8° 55' 34.0" (LT)	Δ 10° 02' 26.8" (LT)	Δ 10° 02' 26.8" (LT)
L = 75.0	L = 75.0	L = 110.0	L = 110.0	L = 110.0	L = 110.0
T = 24.45	T = 24.45	T = 33.0	T = 33.0	T = 33.0	T = 33.0
E = 800.00'	E = 800.00'	E = 100.00'	E = 100.00'	E = 100.00'	E = 100.00'



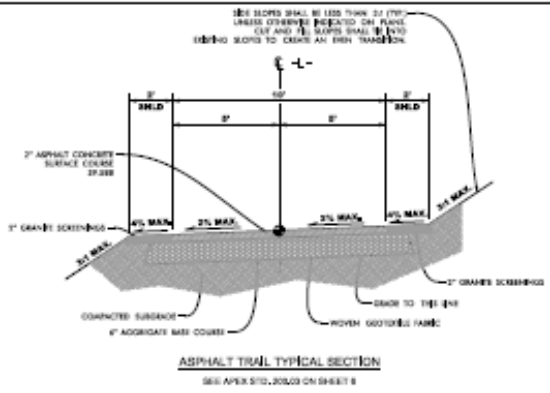
NO.	DATE	DESCRIPTION

PLANS PREPARED BY
PROJECT OFFICE
AREA 1 SERVICE
PLANS AND CONSTRUCTION PLANS
PO BOX 230
APEX, NC 27502
KAL/LSH

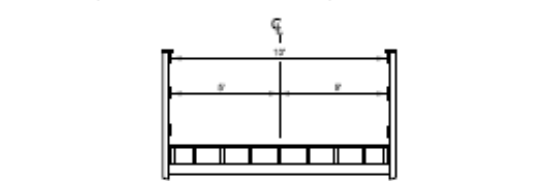
APEX WEST GREENWAY
CONNECTION FROM
OLIVE CHAPEL ROAD
TO AMERICAN TOBACCO TRAIL

PLANS PREPARED BY
WETHERILL ENGINEERING
1000 STATE ROAD 101-100, BOX 2700
APEX, NC 27502
Box 600 919.837.7000 FAX 919.837.6027

DATE: 08/14/2020
PROJECT NO.: 20326.01
SHEET NO.: 5



CHAIN	BEFORE EXISTION	END STATION	END STATION
1+0	(TIE TO AMERICAN TOBACCO TRAIL)	12+80.00	11+70.00
1+1	(END BOARDWALK)	12+80.00	15+74.00
1+2	(END BOARDWALK)	15+74.00	17+00.00

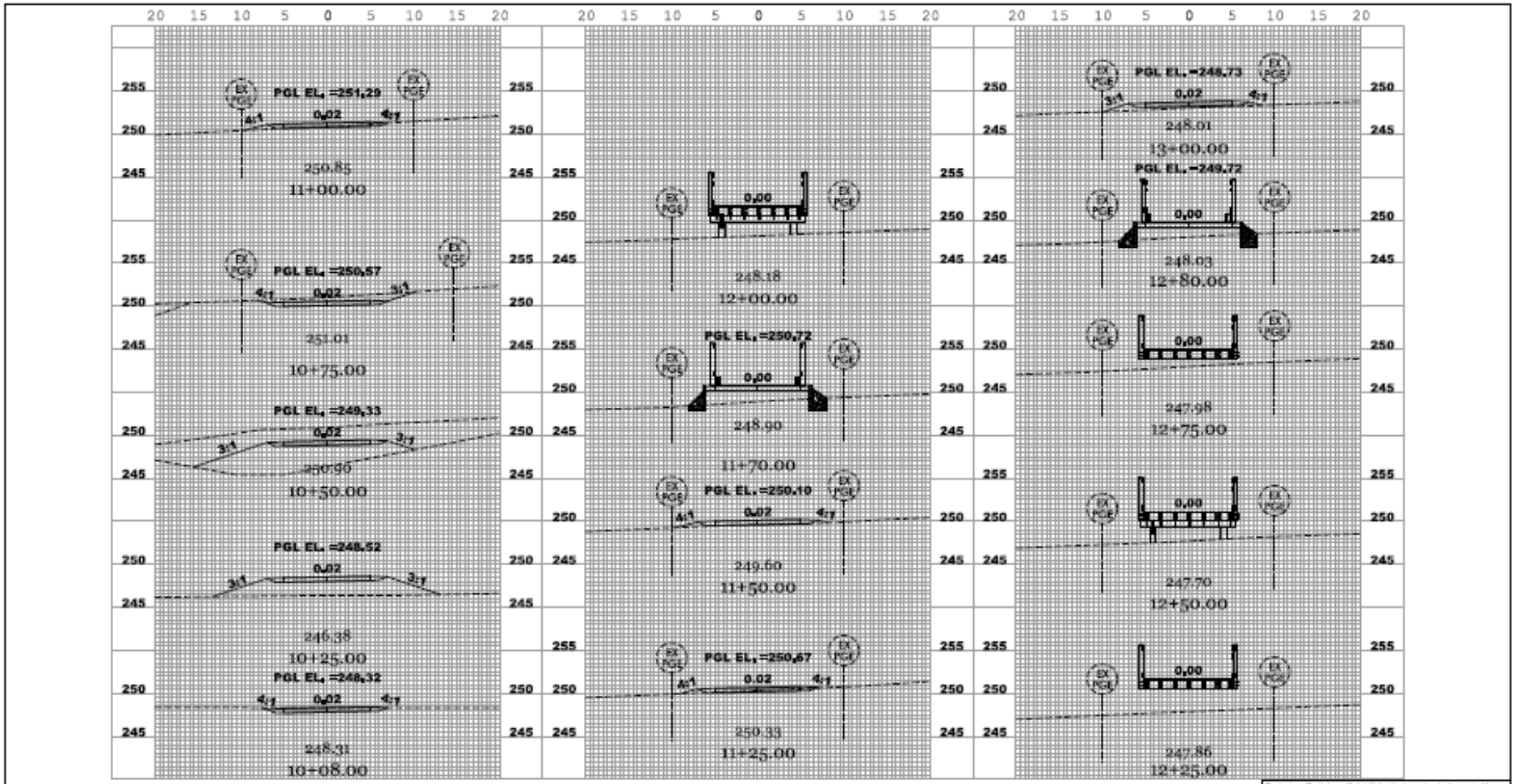


BOARDWALK NO.	CHAIN	BEGIN STATION	END STATION
1	1+0	11+70.00	12+80.00
2	1+1	15+74.00	17+00.00



NO SIGNIFICANT DIFFERENCES OR DISCREPANCIES HAVE BEEN IDENTIFIED AND APPROVED FOR THE INFORMATION SHOWN ON THE DRAWINGS OF THESE CONSTRUCTION PLANS.

DATE	DATE	DATE



The quantities shown herein are for information only and do not constitute a contract. The contractor shall be responsible for verifying the accuracy of the data and for obtaining all necessary permits.

Preparation	Yes	Not Started	Yes
Field Inspection	Yes	Not Started	Yes
Site Investigation	Yes	Not Started	Yes
Design	Yes	Not Started	Yes
Construction	Yes	Not Started	Yes

NO.	DATE	DESCRIPTION

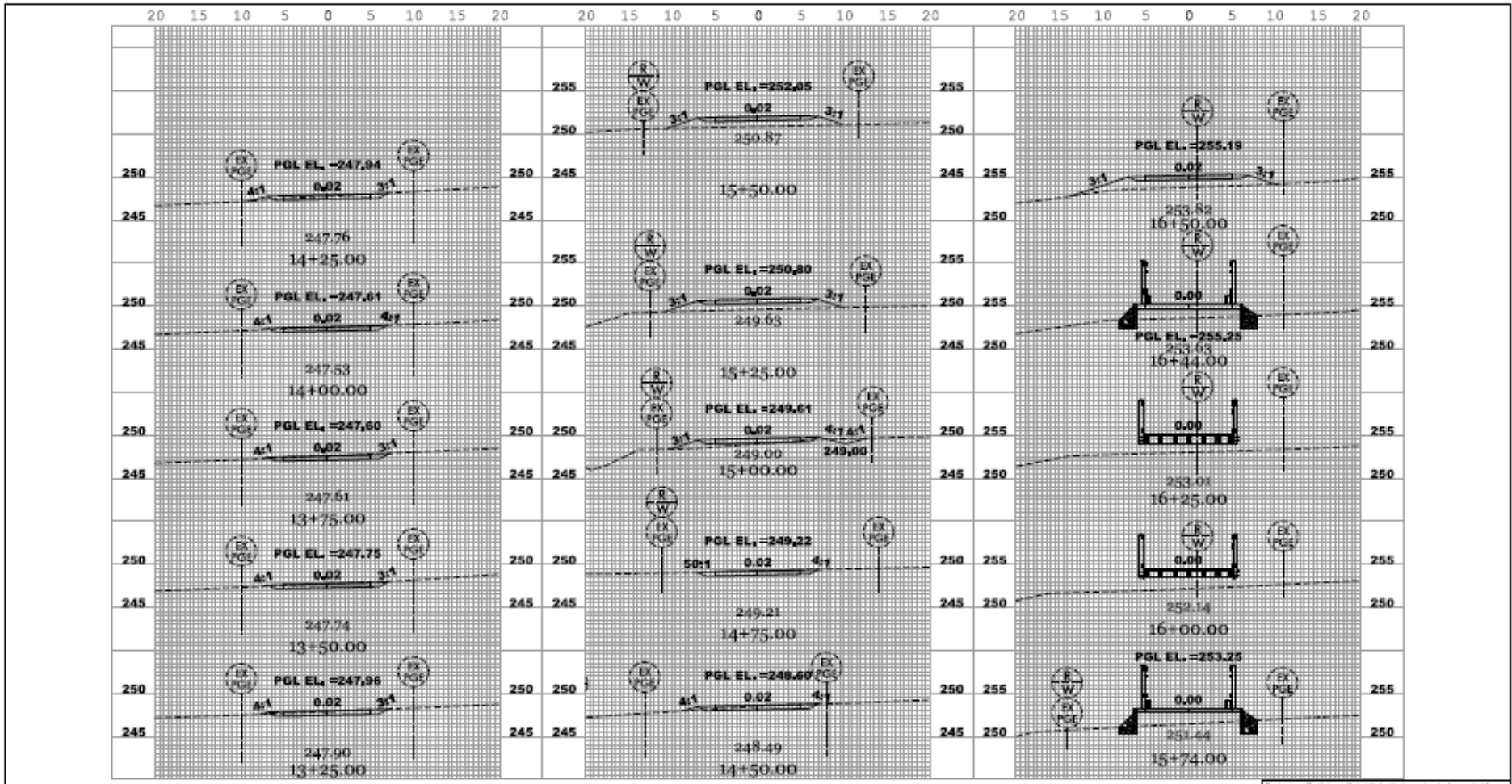
PROJECT CONTACT:
 NAME AND ADDRESS:
 PHONE NO. (XXX) XXX-XXXX
 FAX NO. (XXX) XXX-XXXX
 E-MAIL: XXX@XXX.COM

APEX WEST GREENWAY
 CONNECTION FROM
 OLIVE CHAPEL ROAD
 TO AMERICAN TOBACCO TRAIL

WEATHERILL ENGINEERING
 10000 W. 10th Ave., Suite 1000
 Denver, CO 80202
 Phone: (303) 750-1000 Fax: (303) 750-1001

CONTRACT NO.
PROJECT NAME
DATE

CROSS SECTIONS
PROJECT NO.
20326,01
X-1



The quantities shown herein are for information only and do not constitute a contract. The quantities shown herein are for information only and do not constitute a contract. The quantities shown herein are for information only and do not constitute a contract.

Preparation	Yes	Not Done	Yes
Field Inspection	Yes	Not Done	Yes
Site Investigation	Yes	Not Done	Yes
Test	Yes	Not Done	Yes
Other	Yes	Not Done	Yes

NO.	DATE	DESCRIPTION

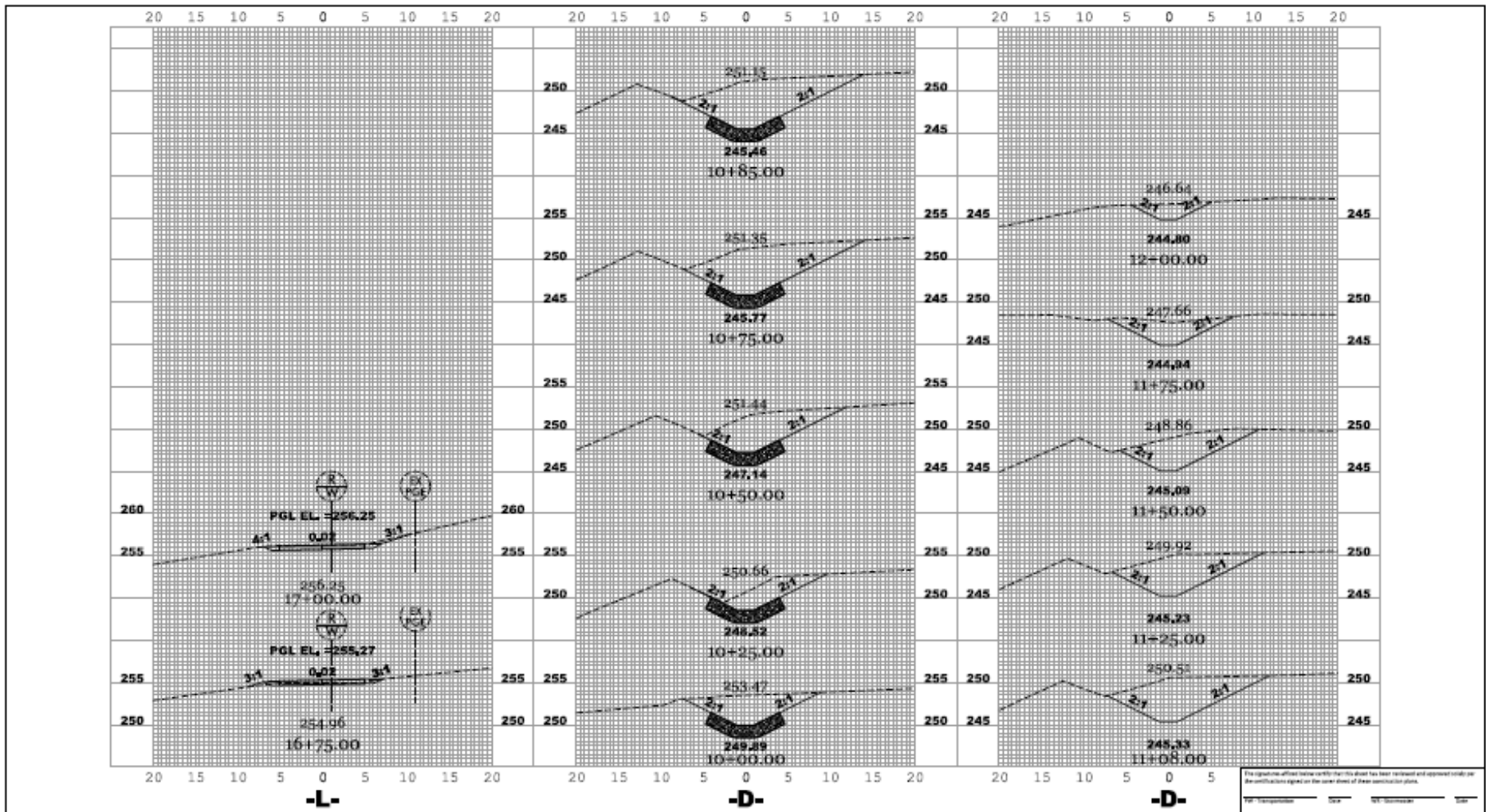
PROJECT CONTACT:
 NAME AND ADDRESS:
 PHONE AND E-MAIL ADDRESS:
 TITLE OF OFFICE:
 DATE:

APEX WEST GREENWAY
 CONNECTION FROM
 OLIVE CHAPEL ROAD
 TO AMERICAN TOBACCO TRAIL

PROJECT NUMBER:
 PROJECT ADDRESS:
 PROJECT TITLE:
 PROJECT DATE:

PROJECT TITLE:
 PROJECT NUMBER:

PROJECT TITLE:
 PROJECT NUMBER:



The information shown herein is for the project and has been reviewed and approved under the professional seal of the engineer shown on the cover sheet of these construction plans.

DESIGNED BY	DATE	REVISED BY	DATE
DRAWN BY	DATE	REVISION	DATE
BY	DATE	REVISION	DATE
BY	DATE	REVISION	DATE
BY	DATE	REVISION	DATE

NO.	DATE	DESCRIPTION

PLANS PREPARED BY

 PROJECT OFFICE
 1000 S. BIRCH
 FARMERS AND GARDENERS PLAZA
 4000A 5TH
 APT. 100
 RALEIGH, NC 27606

APEX WEST GREENWAY
 CONNECTION FROM
 OLIVE CHAPEL ROAD
 TO AMERICAN TOBACCO TRAIL

PLANS PREPARED BY

 10000A 10TH
 RALEIGH, NC 27615
 919.876.8000

DESIGN NUMBER
20326.01
 PROJECT NAME
APEX WEST GREENWAY

DATE: MARCH 11, 2022
 CROSS SECTIONS
 SHEET PROJECT NO. 1
20326.01
X-3

PROPOSED

PIPE DATA SHEET

Date: 2/25/2020 Revised: _____ By: WHE
 Project Desc. Apex Greenway Olive Chapel Road

I.D. No.: Apex Greenway Sheet 1 of 3
 County: Wake Designed By: WHE Checked By: _____

Station: <u>10+21 -L-</u>	Shoulder Elev.: <u>248.30 ft</u>	GRADE PT. EL.: <u>248.40 ft</u>	OT Elev.= <u>248.30 ft.</u>		Plan Summary Data Drainage Area: <u>0.43</u> Ac Design Freq.: <u>10</u> yr Design Disch.: <u>1.8</u> cfs Design H.W. Elev.: <u>245.58</u> ft Q100 Discharge: <u>2.2</u> cfs Q100 Elev.: <u>245.66</u> ft Overtopping Freq.: <u>500 yr+</u> yr + Overtopping Disch.: <u>15</u> cfs Overtopping Elev.: <u>248.30</u> ft
Skew: <u>90</u>	Stream Bed El @ inlet	H.W. <u>LS₀</u>	H		
Size/Type Pipe: <u>18" RCP</u>	El @ inlet	So= <u>1.67%</u>	T.W		
Type Entrance: <u>Groove End Projecting</u>		L= <u>24.0</u> ft	Outlet Inv. Elev. <u>244.50</u> ft		
Direction of Flow: <u>Rt to Lt</u>	Inlet Invert Elev.:				
Hydrological Method: <u>Rational</u>					
H.W. Control Elevation: <u>246.7</u>					

PIPE CULVERT ANALYSIS (English) rcp= .012, cmp=0.024 n= 0.012
 Outlet channel: Slope: 0.003 Lt. Side Slope 3
 Base= 0 n= 0.04 Rt. Side Slope 3

Size & Type			TW	Q	Nat.	Allow.	Inlet Control		Outlet Control							HW	HW/D	Remarks
SIZE	# pipes	FREQ	ft	ft ³ /s	H.W.	H.W.	HW/D	HW (ft)	Ke	d ₀	(d ₀ +D)/2	h ₀	H	L'S ₀	HW	ELEV.	HW/D	
18	1	10	0.8	1.80			0.45	0.68	0.2	0.49	1.00	1.00	0.025	0.40	0.62	245.58	0.45	INLET CONTROL
18	1	25	0.8	2.00			0.48	0.72	0.2	0.52	1.01	1.01	0.031	0.40	0.64	245.62	0.48	INLET CONTROL
18	1	50	0.8	2.10			0.49	0.74	0.2	0.53	1.02	1.02	0.034	0.40	0.65	245.64	0.49	INLET CONTROL
18	1	100	0.8	2.20			0.51	0.76	0.2	0.54	1.02	1.02	0.038	0.40	0.66	245.66	0.51	INLET CONTROL
18	1	Overtopping		15.0			2.27	3.40	0.2	1.50	1.50	1.50	1.756	0.40	2.86	248.30	2.27	INLET CONTROL
18	1	200	0.8	2.30			0.52	0.78	0.2	0.56	1.03	1.03	0.041	0.40	0.67	245.68	0.52	INLET CONTROL
18	1	500	0.8	2.40			0.53	0.80	0.2	0.57	1.03	1.03	0.045	0.40	0.68	245.70	0.53	INLET CONTROL

Notes:

3

HW Control is HW/D=1.2 ft. = 246.7 ft.
 Overtopping occurs at Sta. 10+00 -L- Elev. = 248.30 ft. which is existing elevation of the American Tobacco centerline

Recommendation:

Use 18" RCP HW Control = $1.2 \times 1.5 = 1.8 \times 244.9 = 246.7$
V(10) partial= 5.7 fps T@=10 min I(10)= 5.9 "/hr C=0.7

CREATE DATE: 3/30/2020

INLET COMPUTATION SHEET

REV. DATE: _____

I.D. NO.: _____

PROJ. NO.: _____ COUNTY: Wake

DESIGNED BY: WHE

DESCRIPTION: Olive Chapel Road Apex Greenway

REVD BY: _____

LOCATION							ROADWAY		RUNOFF							INLET				REMARKS
SYSTEM	STRUCTURE NUMBER	ALIGNMENT	STATION	OFFSET	DESCRIPTION	ELEVATION (ft)	GRADE (ft/ft)	CROSS SLOPE (ft/ft)	DRAINAGE AREA (acres)	RUNOFF COEFF.	TIME OF CONC. (min)	RAINFALL INT. (in/hr)	DISCHARGE FROM D.A. (cfs)	DISCHARGE CARRYOVR (cfs)	TOTAL DISCHARGE (cfs)	SPREAD (ft)	INTERCEPT (MAX) (cfs)	BYPASS (cfs)	BYPASS TO INLET	
									D.A.	C	T _c	I	Q _{D.A.}	Q _C	Q _T = Q _{D.A.} + Q _C		Q _{I(max)}	Q _B		
403	0402	L	15+00	10 Rt	DI	249.00	SAG	0.250	0.30	0.50	5.0	4.0	0.6	0.0	0.6	1.1	N/A	N/A		

EXHIBIT B

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION – RAIL DIVISION



Railroad Encroachment Application Form

Operations & Facilities Branch, 1553 Mail Service Center, Raleigh, NC 27699-1553

Instructions: Complete all applicable information below and return this form with two sets of preliminary plans, sketches, specifications, calculations, etc. to **NCDOT, Rail Division, Operations & Facilities Branch, 1553 Mail Service Center, Raleigh, NC 27699-1553**. Sketches and drawings should include north arrow, scale, vicinity map, landmarks and reference points. **If you need additional information, please contact Andy Miller, Facilities & Properties Manager, by phone at (919) 707-4721 or by email at samiller@ncdot.gov.**

Owner's (or Company's) Name: Town of Apex

Mailing address: PO Box 250

City: Apex State: NC Zip: 27502

Phone: 919.372.7468 Fax: 919.249.3368 e-mail: angela.reincke@apexnc.org

Contact Name (e.g.-Engineer in charge, if different from above): Jonathan Hefner

Company Name: Wetherill Engineering

Mailing address: 1223 Jones Franklin Rd.

City: Raleigh State: NC Zip: 27606

Phone: 984.242.0576 Fax: 919.851.8107 e-mail: jhefner@wetherilleng.com

Specific Information needed for Application:

County: Wake Rail Corridor: D&SC(ATT) Nearest Railroad Milepost (if known): DD16.00 +/-

Location description (attach map /sketch): See plans

Permanent or Temporary installation? (check one) Permanent Temporary

Type of encroachment:

a) Driveway, Drain Pipe, etc.: 10' wide asphalt multi-use path connection to American Tobacco Trail.

b) If underground–Type: (fiber optic, electric, water, gas, etc.) _____

Dimension(s)/Size(s): _____

c) If aerial–Type: (overhead utility, conveyor belt, etc) _____

Clearance above track: _____

d) Other: _____ Dimensions: _____

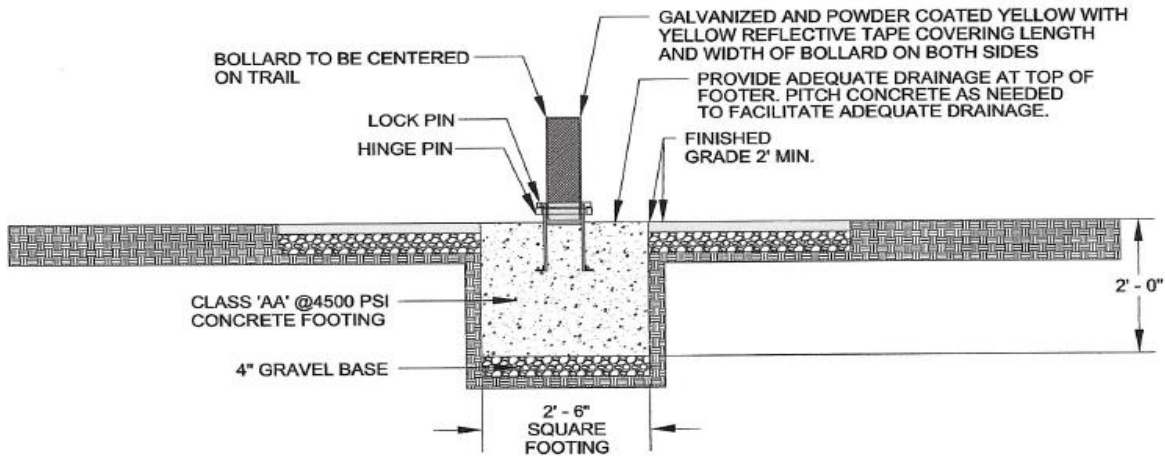
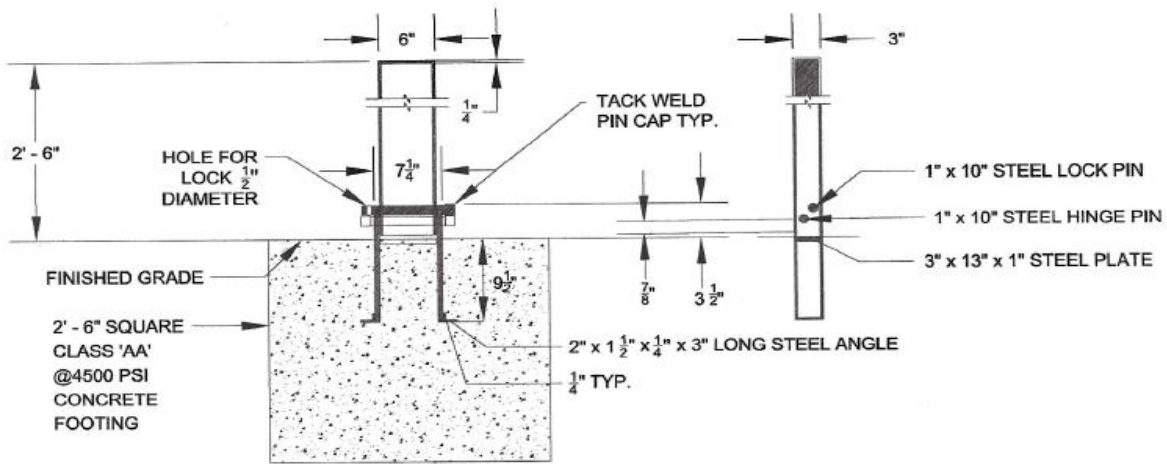
Note: From information furnished on application, NCDOT will complete a more detailed specification sheet which will specify how the installation is to be made. AREMA and NCDOT Standard Specifications will be part of the encroachment agreement, and NCDOT will require signature of applicant, agreeing to the terms set forth in the specifications.

Other Information:

1. An applicable annual fee may be included in the encroachment agreement executed with NCDOT.
2. Where appropriate, additional engineered plans (or other information) may be required of applicant.

Rev. June 2016

EXHIBIT C



HINGED BOLLARD

NOTES:

1. A HINGED BOLLARD IS TYPICALLY USED IN THE CENTER OF TRAILS TO PREVENT UNAUTHORIZED MOTOR VEHICLE ENTRY. HINGED BOLLARDS MAY BE USED IN COMBINATION WITH PERMANENT BOLLARDS AND BOULDERS. SEE DETAIL GW-10.08 FOR THE VARIOUS BOLLARD AND BOULDER COMBINATIONS. HINGED BOLLARDS SHOULD BE UTILIZED AT ALL MAJOR ACCESS POINTS AND TRAIL HEADS. "NO MOTOR VEHICLES" SIGNAGE (MUTCD R5-3) MAY BE USED TO REINFORCE ACCESS RULES.
2. BOLLARDS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES.
3. STRIPING AN ENVELOPE AROUND THE POST IS RECOMMENDED IF THE BOLLARD IS LOCATED WITHIN THE PAVED LIMITS OF THE TRAIL.
4. LOCKABLE, REMOVABLE BOLLARDS ALLOW ENTRANCE BY AUTHORIZED VEHICLES. WHERE USED, THE TOP OF THE MOUNT POINT SHOULD BE FLUSH WITH THE PATH SURFACE.
5. SEE MIDDLE BOLLARD WITH TRAIL SIDE BOLLARDS DETAIL, GW-10.08, FOR TYPICAL BOLLARD PLACEMENT.

STANDARD DETAIL		
REVISIONS	DATE: 4/2021	NOT TO SCALE
	HINGED BOLLARD	