



No Practical Alternatives Authorization Certificate

July 24, 2024

Robert Mitchell
8366 Six Forks Rd
Raleigh, NC 27615

AUTHORIZATION of Chatham County Watershed Protection Buffer Rules Section 304(J) Authorization Certificate

Project Name: Summit Terrace
Project Number: WP-24-119

Dear Applicant,

You have our authorization, in accordance with the Chatham County Watershed Protection Ordinance and any conditions listed below, to permanently impact 9, 918 square feet and temporarily impact 3, 351 square feet of the protected riparian buffers associated with one unnamed tributary of Ward Creek. The proposed impacts are associated with a roadway crossing and includes coincident dry and wet utility line installation, within the Riparian Buffer Impact Exhibit that was completed by Sage Ecological Services. Review and approval of the proposed activities were required under Section 304(J) of the Chatham County Watershed Protection Ordinance.

Per your application this review, and authorization is only valid for those impacts stated above.

In addition, you should obtain or otherwise comply with any other required federal, state or local permits before you proceed with your project including (but not limited to) Erosion and Sediment Control and Non-discharge regulations.

This authorization certification is for the purpose and design that you described in your application. If you change your project, you must notify us, and you may be required to send us a new application. **If the property is sold, the new owner must be given a copy of this authorization letter and is thereby responsible for complying with all conditions.** This authorization requires you to follow the conditions listed below.



The Additional Conditions of the Certification are:

1. Impacts Approved

The following impacts are hereby approved as long as all of the other specific and general conditions of this Certification are met. No other impacts are approved including incidental impacts:

A. Permanent Impacts

Total Impacts			
(Utility, Road Crossing & Pavement Slope Fill Impacts)			
Zone 1 – B1, Non-Electric Underground Utility, Intermittent	334 (square ft.)	Project Summary	Impacts Inventory
Zone 2 – B2, Non-Electric Underground Utility, Intermittent	228 (square ft.)	Project Summary	Impacts Inventory
Zone 2 Outer – B3, Non- Electric Underground Utility, Perennial	275 (square ft.)	Project Summary	Impacts Inventory
Zone 1 – B4, Road Crossing, Intermittent	1469 (square ft.)	Project Summary	Impacts Inventory
Zone 2 – B5, Road Crossing, Intermittent	983 (square ft.)	Project Summary	Impacts Inventory
Zone 2 Outer – B6, Road Crossing, Perennial	12 (square ft.)	Project Summary	Impacts Inventory
Zone 1 – B7, Electric Underground Utility, Intermittent	1374 (square ft.)	Project Summary	Impacts Inventory
Zone 2 – B8, Electric Underground Utility, Intermittent	927 (square ft.)	Project Summary	Impacts Inventory
Zone 2 Outer – B9, Electric Underground Utility, Perennial	220 (square ft.)	Project Summary	Impacts Inventory
Zone 1 – B12, Pavement Slope Fill, Intermittent and Perennial	2410 (square ft.)	Project Summary	Impacts Inventory
Zone 2 – B13, Pavement Slope Fill, Intermittent and Perennial	1297 (square ft.)	Project Summary	Impacts Inventory
Zone 2 Outer – B14, Pavement Slope Fill, Perennial	389 (square ft.)	Project Summary	Impacts Inventory

B. Temporary Impacts

Total Impacts			
(Channel Bypass Impacts)			
Zone 1 – B10, Channel Bypass, Intermittent	2829 (square ft.)	Project Impacts Summary	Inventory
Zone 2 – B11, Channel Bypass, Intermittent	522 (square ft.)	Project Impacts Summary	Inventory

2. Temporary Impacts

Such impacts are typically associated with construction corridors, temporary access roads, the installation and operation of temporary sediment and erosion control measures and devices, and vegetation management, including monitoring and maintenance, on restoration or enhancement projects. Approved temporary impacts must remain temporary in nature, minimize impacts to the riparian buffer, meet or exceed required Best Management Practices (BMP), perform and be maintained so that no violations of county riparian buffer or state water quality standards, statutes, or rules occur, and must be returned to the uses that were existing at the time of authorization.

3. No Waste, Spoil, Solids, or Fill of Any Kind

No waste, spoil, solids, or fill of any kind shall occur in riparian areas beyond the footprint of the impacts depicted in the Pre-Construction Notification. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices, shall be performed so that no violations of county riparian buffer or state water quality standards, statutes, or rules occur.

4. Diffuse Flow

An additional condition is that all stormwater shall be directed as diffuse flow at non-erosive velocities through the protected stream buffers and will not re-concentrate before discharging into the stream as identified within Section 304(J)2 of the Watershed Protection Ordinance.

5. Protective Fencing

The outside buffer boundary and along the construction corridor within these boundaries approved under this authorization shall be clearly marked with orange warning fencing (or similar high visibility material) for the areas that have been approved to infringe within the buffer, stream channel or water prior to any land disturbing activities to ensure compliance with the Watershed Protection Ordinance.

Any disputes over determinations regarding this Authorization of Approvable Impacts (associated with the approved buffer impacts) shall be referred in writing to the Director of Watershed Protection, c/o the Chatham County Watershed Protection Department. The Director’s decision is subject to review as provided in Section 304(I)(5).

The mailing address for the Watershed Protection Department is:

Ms. Rachael Thorn
Watershed Protection Director
Chatham County Watershed Protection Department
12 East Street, P.O. Box 1809
Pittsboro, NC 27312
Telephone: 919-54-8343, Facsimile: 919-545-2698

This Authorization shall expire five (5) years from the date of this letter.

This letter completes the review of the “No Practical Alternatives” determination under Section 304(I). If you have any questions or would like a copy of the buffer rules, please call Taylor A. Burton at (984) 214-1456. This letter does not authorize any impacts to either Waters of the United States or Waters of the State. Please contact the US Army Corps of Engineers (USACE) or NC Division of Water Quality (DWQ) if any impacts are proposed to either of these waters.

Sincerely,



Rachael Thorn
Chatham County Watershed Administrator

cc: Nicole Duprey, Sage Ecological Services
Robert Mitchell, Contentnea Creek Development Company
Taylor A. Burton, Senior Watershed Specialist, Chatham County Watershed Protection Department
Justin Hasenfus, Erosion Control Program Manager, Chatham County Watershed Protection Department
Drew Blake, Assistant Director, Chatham County Watershed Protection Department
Jason Sullivan, Director, Chatham County Planning Department
Kimberly Tyson, Subdivision Administrator, Chatham County Planning Department


Enclosures: Riparian Buffer Authorization Application – March 7, 2024
Riparian Buffer Authorization Review Letter – April 1, 2024
Approved Riparian Buffer Impact Map Set with Narrative – June 24, 2024
Project Impacts Inventory Summary – Sage Ecological Services – July 22, 2024

Riparian Buffer (Authorization) No Practical Alternatives

Applicant

Primary Location

WP-24-119

 Nicole Thomson
 919-754-7806
 nthomson@sageecological.com

2626 Mt Gilead Church Rd
Pittsboro, North Carolina 27312

Submitted On: Mar 7, 2024

Project Information

Are you the Property Owner or their Agent?

Agent

Is the project within the Jordan Lake Watershed

Yes

Is a change in lot configuration proposed?

Yes

Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If yes, attach the acceptance letter from mitigation bank or in-lieu fee program.

No

Does the project require Corps of Engineers (USACE) approval?

Yes

Does the project require NC Division of Water Quality (NC DWQ) approval?

Yes

Name of Project

Summit Terrace

Nearest Road Insection

Mt. Gilead Church Rd & Hudson Woods Rd

Subdivision Name

Summit Terrace

Owner Information

Name

Contentnea Creek Development Company

Deed Book & Page Number

DB 1143/ DP 0643

Responsible Party (if different from names on deed)

Robert Mitchell

Mailing Address

8366 Six Forks Rd

City, State, Zip Code

Raleigh, NC 27615

Phone Number

(919)618-9285

Email

robertm@contentneacreek.com

Are you an Agent or Consultant applying on behalf of the landowner?

Yes

Applicants Information

Name

Nicole Thomson

Primary Phone

(919)754-7806

Company Name

Sage Ecological Services, Inc

Email

nthomson@SageEcological.com

Mailing Address

3707 Swift Drive

City, State, Zip Code

Raleigh, NC 27606

Project Information and Prior Project History

Parcel Number (s)

19355

Coordinates (Lat/Long)

Property Size (acres)

35.7730/-79.0912

56.15

Nearest Surface Waters

Project Description

Ward Branch

Describe the existing conditions on the site and the general land uses in the vicinity of the project at the time of application

The majority of the Site is undeveloped, forested land. The canopy is mixed with pines and hardwood trees. An agricultural field is located in the southwest corner of the Site along Mt.Gilead Church Road. Two homes were present on the Site per historic aerial imagery but appear to have been removed between 2010 and 2013. A large utility easement runs along the northern property boundary. Land use in the vicinity is comprised of rural residential, agricultural fields, and undeveloped land.

Explain the purpose of the proposed project

The purpose of the Project is to construct a residential subdivision with associated attendant features (roads, utilities, and other infrastructure).

Describe the overall project in detail, including the type of equipment to be used

The proposed Project is a residential development with associated roads, utilities, and infrastructure. Impacts to jurisdictional streams will result from road crossing to access upland portions of the Site for development. No impacts to jurisdictional features are proposed for lot fill. Access to the Site is provided by a road connection to existing Mt. Gilead Church Road to the west. The Project proposes to tie into existing water adjacent to the Site.

Stormwater detention ponds are proposed to treat stormwater on the Site. These stormwater devices will not impact jurisdictional features. Typical equipment used in residential construction and utility projects (i.e., backhoes, excavators, dump trucks) will be utilized.

Impacts to jurisdictional Waters of the US will result from a proposed roadway crossing to reach upland portions of the Site for development. The proposed roadway results in temporary stream impacts totaling 71 LF, permanent stream impacts for a culvert totaling 89 LF (296 SF/0.007 ac), and permanent-no loss impacts for a riprap dissipator pad totaling 32 LF (StreamA). The riprap dissipator pad will be embedded so that the top of the riprap pad will not exceed the preexisting streambed elevation and will match the preexisting contours of the stream channel. No wetland impacts are proposed.

Impacts to Jordan Lake and Chatham County buffers result from the proposed roadway crossing which includes coincident dry and wet utility line installation. The existing stream completely bisects the property from north to south. The northern property boundary is encumbered by an existing gas utility line which prevents access to useable upland portions of the Site from the north. There is no existing access to the east and the applicant doesn't own the adjacent parcels which would also necessitate the crossing of a perennial stream. The applicant does not own the properties to the south which are already developed lots and preclude the ability to add a secondary entrance to the property. Therefore, the only way to access the useable, upland portions of the property on the eastern side of the parcel is by the proposed road crossing.

The project proposes 2,689 square feet of permanent buffer impact for the roadway, 2,793 square feet of temporary buffer impact for dewatering during roadway construction, 3,506 square feet of permanent buffer impact for electric underground utilities, and 3,792 square feet of permanent buffer impact for non-electric underground utilities.

Total estimated acreage of all wetlands on the property
0.46 ac

Total estimated acreage of all FEMA floodplains on the property (SFHA)
0

Total linear feet of perennial streams on the property
1,800 LF

Total linear feet of intermittent streams on the property
977 LF

Total linear feet of ephemeral streams on the property
0

Jurisdictional Determinations

Has the USACE completed a jurisdictional determination for the property

Yes

Date USACE Determination was completed
05/05/2022

USACE Action ID#
SAW-2022-00935

Has the NC DEQ-DWR completed a jurisdictional determination for the property

No

Who delineated the jurisdictional areas (name)
Steven Ball

Agency/Consulting Company/Other
Consultant

Company Name

S&EC

Staff Name
Steven Ball

Project History

Have permits or certifications been requested or obtained for this projects (including all prior phases) in the past

No

Future Project Plans

Is this a phased project?

No

Project Impacts Inventory

Please upload a copy of the Project Impacts Inventory found here:
<https://www.chathamcountync.gov/home/showpublisheddocument/59971/637850115410270000>

Projects Inventory Map Upload

145238

Avoidance and Minimization

Specifically describe measures taken to avoid or minimize the proposed impacts in designing the project

A wetland, stream, and riparian buffer delineation were performed to identify environmentally sensitive areas on the Site prior to site design. The Project was designed to avoid & minimize impacts to jurisdictional features while meeting the goals of the residential development plan. Roads were positioned to avoid and minimize impacts to wetlands and streams. No impacts to jurisdictional wetlands are proposed. The construction of the stormwater control measures avoids impacts to jurisdictional features.

Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

General techniques include the use of construction fencing to define the construction corridor and prevent any accidental additional impacts. Equipment will be parked and cleaned in uplands away from jurisdictional areas. Work within jurisdictional areas will be conducted during periods when dry weather is predicted, and large bare areas of soil will be reseeded and protected as soon as practicable. Silt fencing and sediment basins will also be used to prevent sediment runoff into the stream and wetland areas.

Construction sequencing of the road and utility crossing is included in the impact map set. This includes appropriate sediment and erosion control measures along with details on performing work in the dry when no expected rain events are forecasted. Other site work and grading will be conducted in stages so as not to have large, unprotected areas of bare soil. Areas of bare soil will be seeded as

soon as practicable with an approved mix of native grasses. Equipment will be parked and cleaned in uplands away from jurisdictional areas. Silt fencing and sediment basins will also be used to prevent sediment runoff into the stream and wetland areas.

Please upload last sheet of paper application found here:

<https://www.chathamcountync.gov/home/showpublisheddocument/61490>

Include Buffer Mitigation, Diffuse Flow Plan, Violations, and Cumulative Impacts Section

Final Sheet of Paper Application

145248

Statement of Understanding

I have read and understand the regulations of the Watershed Protection Ordinance, Section 304, and I agree to adhere to these associated policies and guidelines.

Name

Nicole J Thomson

New Field

03/05/2024

Signature of Applicant

true



NO PRACTICAL ALTERNATIVES REVIEW LETTER

April 1, 2024

Nicole Thomson
3707 Swift Drive
Raleigh, NC 27606

Project Name: Summit Terrace
Project Number: WP-24-119

The Chatham County Watershed Protection Department reviewed your Riparian Buffer (Authorization) No Practical Alternatives Application dated March 7, 2024, and made the following comments:

Riparian Buffer (Authorization) No Practical Alternatives Application

1. Explain the purpose of the proposed project.
 - a. Provide the correct square footage for all buffer impacts. The tables on the buffer impact map set, the narrative and the project impact inventory summary impacts do not match. Update all tables and narrative to show impact values. The provided surface water features in narrative must match what is provided on impact map set and project impact summary table. Surface water features impacted must match what feature is listed within the riparian buffer review dated May 26, 2022.
2. Project Impact Summary Table
 - a. Update project impact inventory summary table to the **attached** example. Also, ensure all applicable sections are filled, this project only has one impact, therefore, Impact Area 1, will only be filled out on table.
 - b. All buffer impacts must match narrative and tables on buffer impact map set.
 - c. All streams must match on table, narrative and buffer impact map set.
 - d. Keep naming consistent for open water diversion/bypass channel. Use one label and update table, narrative and buffer impact map set accordingly.

Buffer Impact Map

3. Provide a clear limits of disturbance line and label, LOD/limits of disturbance. Both sandbags are outside of the LOD, update and include them within the LOD, update impacts accordingly.
4. It appears the perennial/intermittent transition point is labeled on IE – 1.0, that can remain, but intermittent and perennial stream segments impacted must be called out on each sheet of the buffer impact map set. Ensure stream is labeled and matches the riparian buffer review dated May, 26, 2022. These features are labeled as SF1(perennial) and SF2(Intermittent) on riparian buffer review.
5. Sheet IE -1.0 is labeled as overall impact, is this the final impact? If so, please update title to read – Final Impact Overall Exhibit. If not, update impact to show the temporary open water diversion/bypass channel that is on construction drawing impact map sets.

6. Open water diversion/bypass channel must be clearly shown along with all associated grading. The hatching is difficult to read and the color for the open water diversion/channel bypass should be on the impact legend.
7. Buffer impact hatching on IE – 3.0 is difficult to read. Buffer limits should be a colored line, or colored hatching. If colored hatching is chosen, ensure open water diversion/channel bypass with associated grading is still easy to read.
8. All zones for perennial stream buffer should be labeled as follows: Zone 1 - 30ft and Zone 2 (inner) – 20ft and (outer) 50 ft. All zones for intermittent stream buffers should be labeled as follows: Zone 1 – 30ft and Zone 2 – 20ft. This should also be reflected on cross sections and any tables on impact map set.
9. Does the 20-ft waterline easement labeled include the waterline and maintenance corridor for the waterline or is the easement solely the maintenance corridor?
10. Supporting documents to show road profile must be included.
11. Proposed headwalls and dissipater pad must be called out on each impact map set. Additionally, any impact outside of the stream should be calculated in buffer impacts.
12. Provide a call out at plunge pool with dimensions that match the erosion control plan. If dimensions change with next erosion control submittal the buffer impact map set will have to be changed as well.
13. Provide dimension lines/measurements on road crossing and open water diversion/channel bypass face widths to justify the 100ft and 180ft face widths provided in tables.
14. Provide documentation to support how utilities will be installed. Each type of utility must be called out on each impact map set, if applicable, and how they will be installed. (bored, open cut, etc.) Additionally, underground electric isn't noted on IE – 4.0, update accordingly.
15. A maintenance corridor must be shown for all utilities on each impact map set. (water line and UE)
16. IE – 4.0, Stream Crossing Step 2, does not appear correct. The pipe is 48” within a 14” trench that is only 8” deep. If these values are correct, please justify, if not update accordingly.
17. IE – 4.0, Stream Crossing Step 3 – Utility 1(UG Telecommunication, 20ft), has conflicting values for the maintenance corridor. Step 3 table, buffer impact map set and pipe cross section must match.

This completes the review of the Riparian Buffer Authorization Application. Additional comments may follow based on the response to the above comments.

If you have any questions, please do not hesitate to contact me directly.

Sincerely,



Taylor A. Burton
Senior Watershed Specialist
Chatham County Watershed Protection Department

CC: Nicole Thomson, Sage Ecological Services, Inc.
Drew Blake, Assistant Director Chatham County Watershed Protection Dept.
Rachael Thorn, Director, Chatham County Watershed Protection Department

June 24, 2024

Chatham County Government
Watershed Protection Department
Attn: Ms. Taylor A. Burton
80 East Street
Pittsboro, NC 27312



Re: **Summit Terrace**
Jordan Buffers No Practical Alternatives Analysis Request
Chatham County, NC
Project No. WP-24-119
SAW-2022-00935
Sage Project #2023.024

On behalf of Contentnea Creek Development Company (c/o Robert Mitchell) (owner & applicant), please find attached responses to the April 1, 2024, Request For More Information letter for the activities associated with the proposed development of the Summit Terrace Subdivision (Project) to proceed under the Jordan Lake Watershed Buffer Rules.

Riparian Buffer (Authorization) No Practical Alternatives Application

1. *Explain the purpose of the proposed project.*
 - a. *Provide the correct square footage for all buffer impacts. The tables on the buffer impact map set, the narrative and the project impact inventory summary impacts do not match. Update all tables and narrative to show impact values. The provided surface water features in narrative must match what is provided on impact map set and project impact summary table. Surface water features impacted must match what feature is listed within the riparian buffer review dated May 26, 2022.*

The impact maps and details have been updated to align with the features as identified in the riparian buffer review. The proposed project totals have also been updated.

Impacts to Jordan Lake and Chatham County buffers result from the proposed roadway crossing which includes coincident dry and wet utility line installation. The existing stream completely bisects the property from north to south. The northern property boundary is encumbered by an existing gas utility line which prevents access to usable upland portions of the Site from the north. There is no existing access to the east and the applicant doesn't own the adjacent parcels which would also necessitate the crossing of a perennial stream. The applicant does not own the properties to the south which are already developed lots and preclude the ability to add a secondary entrance to the property. Therefore, the only way to access the useable, upland portions of the property on the eastern side of the parcel is by the proposed road crossing.

The project proposes 6,708 square feet of permanent Zone 1 buffer impact, 2,802 square feet of permanent Zone 2 buffer impact, and 220 square feet of permanent Zone 2 Outer for the roadway. Of the permanent roadway impacts, there are 2,829 square feet of temporary Zone 1 buffer impact and 522 square feet of temporary Zone 2 for dewatering during roadway construction, 1,374 square feet of permanent Zone 1 buffer impact, 927 square feet of permanent Zone 2 buffer impact and 220 square feet of permanent Zone 2 Outer for electric underground utilities, and 334 square feet of permanent Zone 1 buffer impact, 228 square feet of permanent Zone 2 buffer impact and 275 square feet of permanent Zone 2 Outer buffer impact for non-electric underground utilities.

2. *Project Impact Summary Table*
 - a. *Update project impact inventory summary table to the **attached** example. Also, ensure all applicable sections are filled, this project only has one impact, therefore, Impact Area 1, will only be filled out on table.*
 - b. *All buffer impacts must match narrative and tables on buffer impact map set.*

- c. *All streams must match on table, narrative and buffer impact map set.*
- d. *Keep naming consistent for open water diversion/bypass channel. Use one label and update table, narrative and buffer impact map set accordingly.*

These changes are noted and have been included on the revised maps, which are attached.

Buffer Impact Map

3. *Provide a clear limits of disturbance line and label, LOD/limits of disturbance. Both sandbags are outside of the LOD, update and include them within the LOD, update impacts accordingly.*

The maps have been updated to reflect the adjusted LOD line. The sandbags appeared outside the line, but that was mostly due to line style and the size of the symbology for the sand bag. They have been made smaller to fit within the LOD.

4. *It appears the perennial/intermittent transition point is labeled on IE – 1.0, that can remain, but intermittent and perennial stream segments impacted must be called out on each sheet of the buffer impact map set. Ensure stream is labeled and matches the riparian buffer review dated May, 26, 2022. These features are labeled as SF1(perennial) and SF2(Intermittent) on riparian buffer review.*

The perennial start point has been more clearly labeled on the revised, attached maps.

5. *Sheet IE -1.0 is labeled as overall impact, is this the final impact? If so, please update title to read – Final Impact Overall Exhibit. If not, update impact to show the temporary open water diversion/bypass channel that is on construction drawing impact map sets.*

The map has been updated and is attached.

6. *Open water diversion/bypass channel must be clearly shown along with all associated grading. The hatching is difficult to read and the color for the open water diversion/channel bypass should be on the impact legend.*

The map has been updated with the diversion channel depiction and symbology more clearly defined.

7. *Buffer impact hatching on IE – 3.0 is difficult to read. Buffer limits should be a colored line, or colored hatching. If colored hatching is chosen, ensure open water diversion/channel bypass with associated grading is still easy to read.*

The map has been updated with different symbology to depict the impact areas more clearly.

8. *All zones for perennial stream buffer should be labeled as follows: Zone 1 - 30ft and Zone 2 (inner) – 20ft and (outer) 50 ft. All zones for intermittent stream buffers should be labeled as follows: Zone 1 – 30ft and Zone 2 – 20ft. This should also be reflected on cross sections and any tables on impact map set.*

The maps have been updated accordingly.

9. *Does the 20-ft waterline easement labeled include the waterline and maintenance corridor for the waterline or is the easement solely the maintenance corridor?*

The easements for all the utilities are depicted in the plan sheets includes the permanent maintenance corridor.

10. *Supporting documents to show road profile must be included.*

These have been included and are attached.

11. *Proposed headwalls and dissipater pad must be called out on each impact map set. Additionally, any impact outside of the stream should be calculated in buffer impacts.*

The maps have been updated as required.

12. Provide a call out at plunge pool with dimensions that match the erosion control plan. If dimensions change with next erosion control submittal the buffer impact map set will have to be changed as well.

The maps have been updated as required.

13. Provide dimension lines/measurements on road crossing and open water diversion/channel bypass face widths to justify the 100ft and 180ft face widths provided in tables.

The dimensions have been added to the impact maps.

14. Provide documentation to support how utilities will be installed. Each type of utility must be called out on each impact map set, if applicable, and how they will be installed. (bored, open cut, etc.) Additionally, underground electric isn't noted on IE – 4.0, update accordingly.

A note has been added to the Overall Impact Exhibit (IE-CVR) which explains how the utilities will be installed. Additionally, sheet IE-4.0 shows all the utilities as proposed and includes their respective symbology and description in the legend.

15. A maintenance corridor must be shown for all utilities on each impact map set. (water line and UE)

The full maintenance corridor is shown and includes the area depicted as impact on the plan sheets.

16. IE – 4.0, Stream Crossing Step 2, does not appear correct. The pipe is 48" within a 14" trench that is only 8" deep. If these values are correct, please justify, if not update accordingly.

The excavation pit detail width was mistakenly listed as 14-inches. This has been corrected to 14-feet.

17. IE – 4.0, Stream Crossing Step 3 – Utility 1(UG Telecommunication, 20ft), has conflicting values for the maintenance corridor. Step 3 table, buffer impact map set and pipe cross section must match.

The Step 3 table has been corrected and is reflected in the updated impact maps which are attached.


Looks like schematic 100-ft and is 78.62' a is 88'

Corridors at least 1

Thank you for your time and consideration. If you have any questions, please call me at (919) 754-7806.

Respectfully submitted:

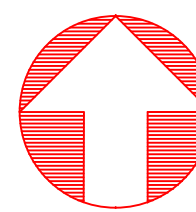

Nicole Thomson, PWS
Sage Ecological Services, Inc.


Sean Clark, PWS
Sage Ecological Services, Inc.

IMPACT SET FOR SUMMIT TERRACE SITUATED AT MT GILEAD CHURCH RD, PITTSBORO CHATHAM COUNTY, NORTH CAROLINA



VICINITY MAP
1"=2000'



Buffer impacts must match everywhere.

PROPERTY OWNER:	CONTENTNEA CREEK DEVELOPMENT CO CONTACT: ROBERT MITCHELL 8366 SIX FORKS RD STE 201 RALEIGH, NC 27615 919-618-9285
PROFESSIONAL ENGINEER:	AMERICAN ENGINEERING ASSOCIATES-SOUTHEAST, PA CONTACT: BRAD HAERTLING 4020 WESTCHASE BLVD. SUITE 450 RALEIGH, NC 27607 919-469-1101
DEVELOPER:	CONTENTNEA CREEK DEVELOPMENT CO CONTACT: ROBERT MITCHELL 8366 SIX FORKS RD STE 201 RALEIGH, NC 27615 919-618-9285
SURVEYOR:	WITHERSRAVENEL 115 MACKENAN DRIVE CARY NC 27511
SOIL SURVEYOR:	CENTRAL CAROLINA SOIL CONSULTING 1900 SOUTH MAIN ST SUITE 110 WAKE FOREST NC 27587
WETLAND SKETCH:	S&EC CONSULTANTS, PA 8412 FALLS OF NEUSE RD SUITE 104 RALEIGH NC 27615

SHEET INDEX	
IE-CVR	IMPACT COVER
IE-1.0	IMPACT OVERALL
IE-2.0	STREAM IMPACT EXHIBIT
IE-3.0	BUFFER IMPACT EXHIBIT
IE-4.0	IMPACT SUMMARY TABLE

STREAM	
IMPACT NUMBER	IMPACT SPECIFICATION
S1	TEMPORARY 45 LF (105.92 SF)
S2	PERMANENT 89 LF (295.86 SF)
S2	PERMANENT NO FUNCTIONAL LOSS 32 LF (128.11 SF)
S3	TEMPORARY 26 LF (99 SF)

ZONE BUFFER CHART	
IMPACT NUMBER	IMPACT SPECIFICATION
B1	ZONE 1 TEMPORARY-2,083 SF
B1	ZONE 1 PERMANENT-6,316 SF
B1	ZONE 2 TEMPORARY-497 SF
B1	ZONE 2 PERMANENT- 3,470 SF
B1	ZONE 2 (OUTER)PERMANENT- 903 SF

NOTE: ALL WATERLINE CONSTRUCTION WILL BE DONE WITH THE CONSTRUCTION OF THE ROADWAY. DRY UTILITIES WILL BE CONSTRUCTED AFTER THE ROADWAY HAS BEEN CONSTRUCTED BY TRENCHING WITHIN THE ROAD SHOULDER

OVERALL SITE DATA	
OWNER	CONTENTNEA CREEK DEVELOPMENT CO
OWNER ADDRESS	8366 SIX FORKS RD STE 201 RALEIGH, NC 27615
DEVELOPER	CONTENTNEA CREEK DEVELOPMENT CO
DEVELOPER CONTACT INFORMATION	8366 SIX FORKS RD STE 201 RALEIGH, NC 27615
PIN	9773 00 36 0075
DEED BOOK AND PAGE #	1143.0643
TOTAL TRACT ACREAGE INCLUDES R/W DEDICATION AND POSSIBLE OVERLAP AREA	56.15 AC
NUMBER OF LOTS APPLIED	26
NUMBER OF LOTS SHOWN	26
ZONING	R-1
WATERSHED	WS-IV PA
TOWNSHIP	WILLIAMS
RIVER BASIN	HAW/CAPE FEAR
EXISTING USAGE	AGRICULTURE
PROPOSED USAGE	SINGLE FAMILY
STREAM CLASS	WS.IV.WSW
OPEN SPACE REQUIRED	4.49 AC. (20% OF THE 40%)
OPEN SPACE PROVIDED	19.13 AC.
MINIMUM BUILDING SETBACKS	
FRONT SETBACKS	40'
SIDE SETBACK	25'
REAR SETBACK	25'
CORNER SIDE	25'
MINIMUM LOT WIDTH	100'-0"
AVERAGE LOT SIZE	49,055 SQ.FT
MINIMUM LOT SIZE	40,014 SQ.FT
MAXIMUM IMPERVIOUS PER LOT	5,500 SF
TOTAL PRE IMPERVIOUS	0 SF
TOTAL POST IMPERVIOUS	225,160 SF
LIMITS OF DISTURBANCE	11.30 AC
WETLAND AREA	0.46 AC
APPROX STREAM LINEAR FEET BASED ON S&EC REPORT	2,777 LF
BUA	34.54 AC

SUMMIT TERRACE-STORM PIPING SUMMARY												
REV		1/4/2024										
Upstream Structure	Downstream Structure	Drainage Area to Inlet (Ac.)	Pipe Size (in)	Length (ft)	Slope (%)	Upstream Invert (ft)	Downstream Invert (ft)	Upstream Rim Elev (ft)	Downstream Rim Elev (ft)	Inlet Q(25) (cfs)	Pipe Q(25) (cfs)	Downstream Velocity (fps)
OTCB 3B	FES 3B	1.14	15	55.77	1.52	437.85	437.00	441.85	N/A	3.76	3.76	6.41
OTCB 101A	FES 100	1.33	42	62.03	0.55	432.84	432.50	436.50	N/A	3.35	33.14	7.52
OTCB 101	OTCB 101A	0.64	30	209.63	0.50	434.09	433.04	438.75	436.50	1.31	25.92	6.05
OTCB 102A	OTCB 101	0.14	30	76.11	1.00	435.05	434.29	442.76	439.89	0.20	16.63	4.75
OTCB 102A	OTCB 101	1.53	24	72.81	0.51	435.66	435.29	441.00	439.89	5.05	8.51	2.06
OTCB 103	OTCB 102	1.33	30	45.03	1.00	435.72	435.27	442.76	442.76	3.15	16.34	4.18
JB 104	OTCB 103	0.09	30	321.23	1.50	440.74	435.92	450.00	442.76	0.02	14.99	4.56
OTCB 105	JB 104	3.76	24	137.41	0.50	441.93	441.24	445.13	450.00	12.28	14.97	5.75
OTCB 109	OTCB 105	2.33	24	44.54	0.52	442.36	442.13	445.36	445.13	7.68	2.16	1.24
HW 105	FES 104	55.10	48	78.62	1.92	422.76	421.25	428.54	N/A	134.00	134*	11.00
OS 1	OS 1 FES	N/A*	18	61.92	0.55	430.00	429.66	436.00	N/A	14.10	14.1*	8.00
OS 2	OS 2 FES	N/A*	18	55.00	0.51	429.92	429.64	433.50	N/A	2.50	2.5*	2.00
OS 3	OS 3 FES	N/A*	15	55.39	0.51	434.78	434.50	439.50	N/A	2.70	2.7*	4.00
OS 4	OS 4 FES	N/A*	15	48.00	0.50	415.74	415.50	422.00	N/A	1.00	1.0*	2.00
OTCB 107	FES 106	0.44	18	48.19	0.50	434.24	434.00	438.39	N/A	2.71	9.09	6.16
OTCB 108	OTCB 107	1.26	18	46.00	6.11	437.30	434.49	440.40	438.39	6.38	6.38	4.12
OTCB 111	FES 110	1.68	18	43.70	0.50	420.22	420.00	422.72	N/A	9.54	9.54	6.33
OTCB 3A	FES 3A	0.66	15	55.00	1.50	437.83	437.00	447.94	N/A	2.70	2.70	6.14
OTCB 3B	FES 3B	1.14	15	55.77	1.52	437.85	437.00	441.85	N/A	3.76	3.76	6.41
FES INLET 202	FES 201	0.67	18	71.95	1.00	442.25	441.53	N/A	N/A	4.43	4.43	3.80

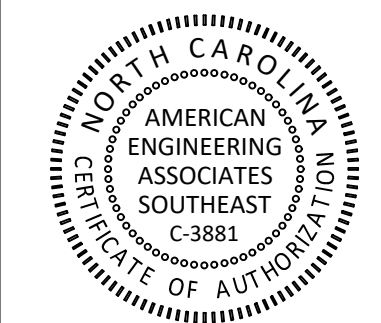
*Q(25) / V(25) from HydroFlow Clacs---Considering Effects of Attenuation of Peak Runoff

File: Piping Summary-Summit Terrace-Tripp Tract JRH Version 010424d4sx

RIP-RAP PADS (TEMPORARY & PERMANENT)											
Date:	2/15/24 JRH										
Using NYSDOT Method; V(10) for Stone Class											
OUTLET NO.	PIPE DIA. (IN.)	Q (25) / Q(10) * (CFS)	Outlet V(25) or V(10), (FPS)	Plunge	Pool?	d50 STONE SIZE, inches	STONE CLASS	WIDTH*** (FT.)	LENGTH** (FT.)	DEPTH (IN.)	
FES 100 (Into SCM #1)	30	33.1/30.2	8.0	No	No	+/- 8"	B	10	15	18	
FES 104 (Stream Crossing Outlet)	48	134.0/90.9 *	10.0	No	No	+/- 10"	1	10	30	24	
OS 1 FES (SCM #1 Outlet)	18	14.9/5.0 *	3.4*	Yes	Yes	+/- 8"	B	8	12	18	
OS 2 FES (SCM #2 Outlet)	18	3.1/0.6 *	2.0*	Yes	Yes	+/- 8"	B	8	12	18	
OS 3 FES (SCM #3 Outlet)	15	4.0/1.0 *	<1.2*	Yes	Yes	+/- 8"	B	7	10	18	
OS 4 FES (SCM #4 Outlet)	15	<1.0/1.0 *	<1.2*	Yes	Yes	+/- 8"	B	7	10	18	
FES 106 (Into SCM #2)	18	9.1/6.7 *	6.2	No	No	+/- 8"	B	6	9	18	
FES 110 (Into SCM #4)	18	9.5	6.3	No	No	+/- 8"	B	6	9	18	
FES 201 (Road Entrance Culvert)	18	4.4	3.8	None	None	Required					
FES 3A (From OTCB 3A to SCM 3))	15	2.7	6.1	No	No	+/- 8"	B	6	9	18	
FES 3B (From OTCB 3B to SCM 3))	15	3.8	6.4	No	No	+/- 8"	B	6	9	18	

*Q(25) / Q(10) from HydroFlow Clacs---Considering Effects of Attenuation of Peak Runoff

Length-To Prevent Scour Hole *Width = At Pad or Plunge Pool Release; Refer to Plunge Pool Detail



FOR CONSTRUCTION

NO.	DATE	REVISION:

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SUMMIT TERRACE
 OVERALL IMPACT EXHIBIT
 2624 MT GILEAD CHURCH RD
 PITTSBORO NC 27312

JOB NUMBER: 20-113

CHECKED BY: EDS

DRAWN BY:

DATE: AUGUST 2022

SHEET TITLE:

**OVERALL
IMPACT EXHIBIT**

SHEET NO.:

IE-CVR



*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-432-9949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

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FOR CONSTRUCTION

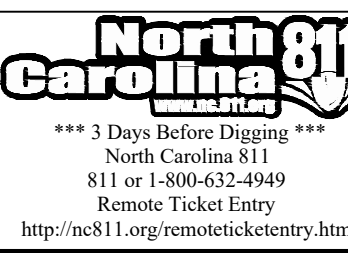
NO.	DATE	REVISION

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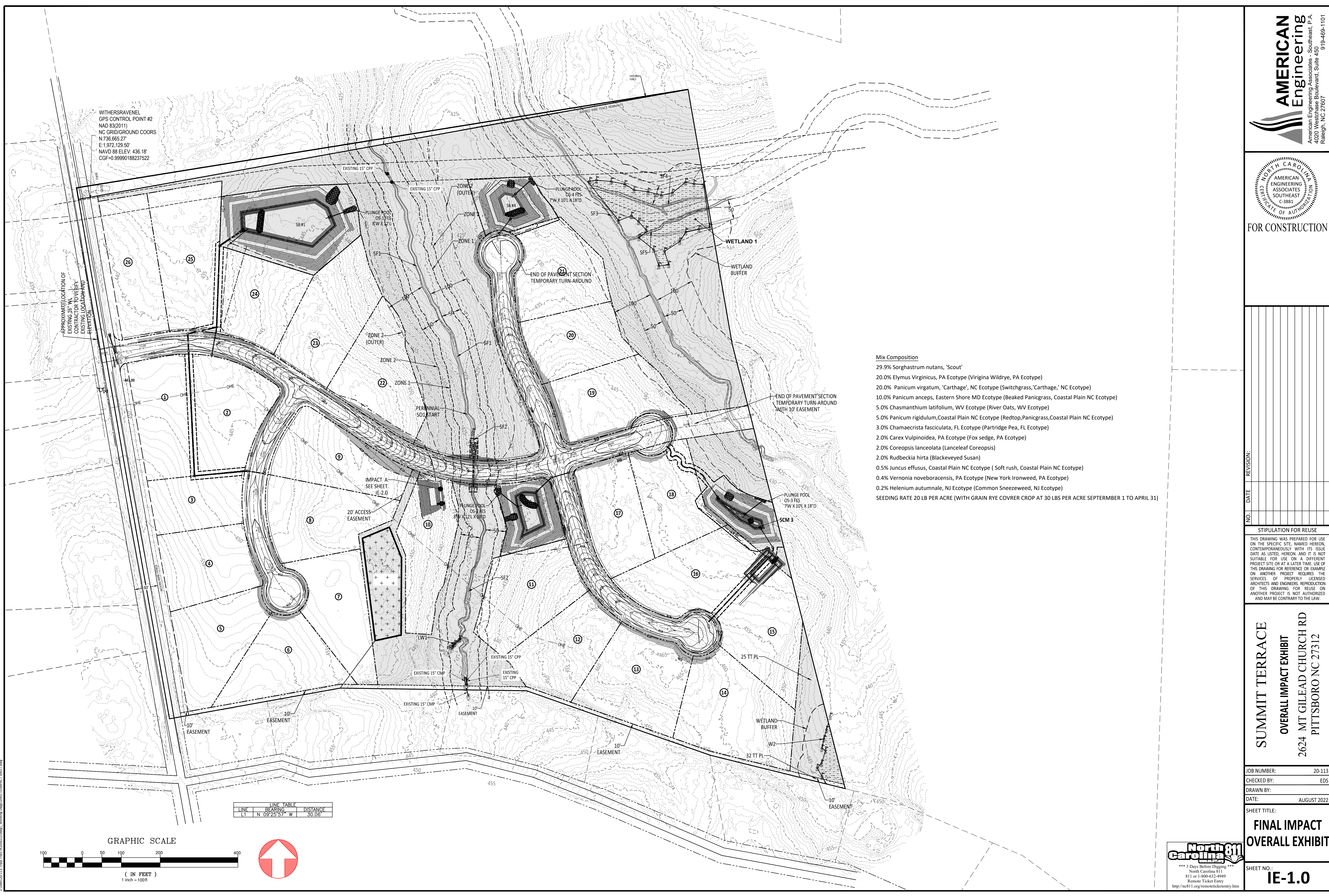
SUMMIT TERRACE
OVERALL IMPACT EXHIBIT
2624 MT GILEAD CHURCH RD
PITTSBORO NC 27312

JOB NUMBER:	20-113
CHECKED BY:	EDS
DRAWN BY:	
DATE:	AUGUST 2022

SHEET TITLE:
FINAL IMPACT OVERALL EXHIBIT
SHEET NO.:
IE-1.0



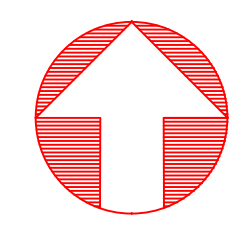
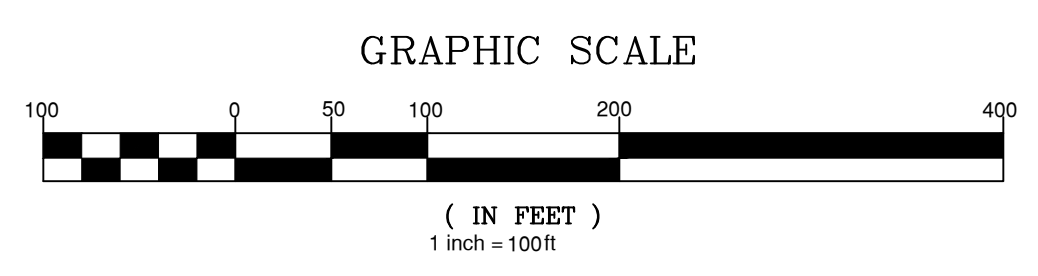
Mix Composition
29.9% Sorghastrum nutans, 'Scout'
20.0% Elymus Virginicus, PA Ecotype (Virigina Wildrye, PA Ecotype)
20.0% Panicum virgatum, 'Carthage', NC Ecotype (Switchgrass, 'Carthage', NC Ecotype)
10.0% Panicum anceps, Eastern Shore MD Ecotype (Beaked Panicgrass, Coastal Plain NC Ecotype)
5.0% Chasmanthium latifolium, WV Ecotype (River Oats, WV Ecotype)
5.0% Panicum rigidulum, Coastal Plain NC Ecotype (Redtop, Panicgrass, Coastal Plain NC Ecotype)
3.0% Chamaecrista fasciculata, FL Ecotype (Partridge Pea, FL Ecotype)
2.0% Carex Vulpinoidea, PA Ecotype (Fox sedge, PA Ecotype)
2.0% Coreopsis lanceolata (Lanceleaf Coreopsis)
2.0% Rudbeckia hirta (Blackeyed Susan)
0.5% Juncus effusus, Coastal Plain NC Ecotype (Soft rush, Coastal Plain NC Ecotype)
0.4% Vernonia noveboracensis, PA Ecotype (New York Ironweed, PA Ecotype)
0.2% Helenium autumnale, NJ Ecotype (Common Sneezeweed, NJ Ecotype)
SEEDING RATE 20 LB PER ACRE (WITH GRAIN RYE COVER CROP AT 30 LBS PER ACRE SEPTEMBER 1 TO APRIL 31)



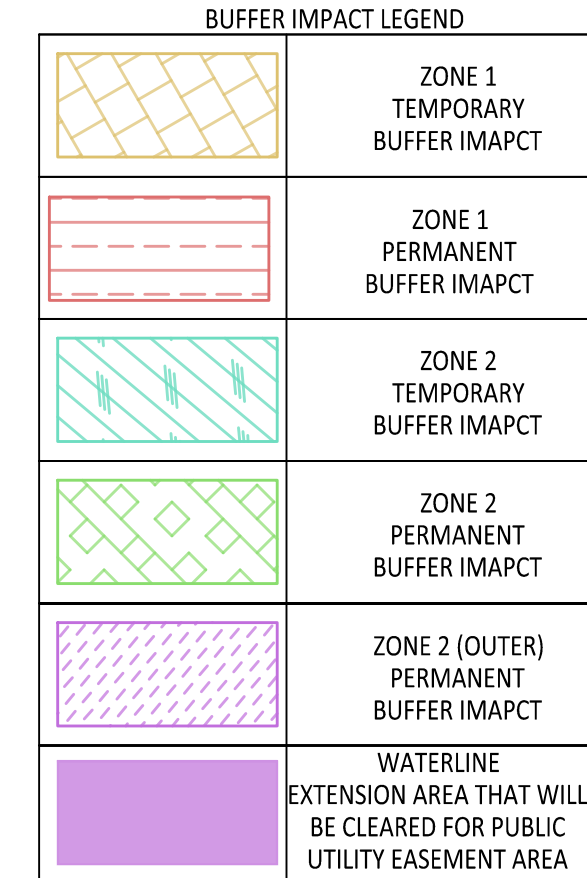
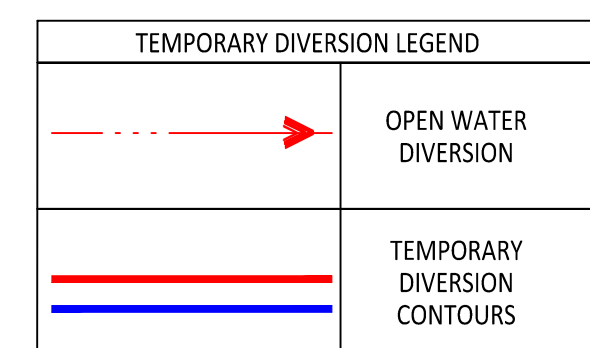
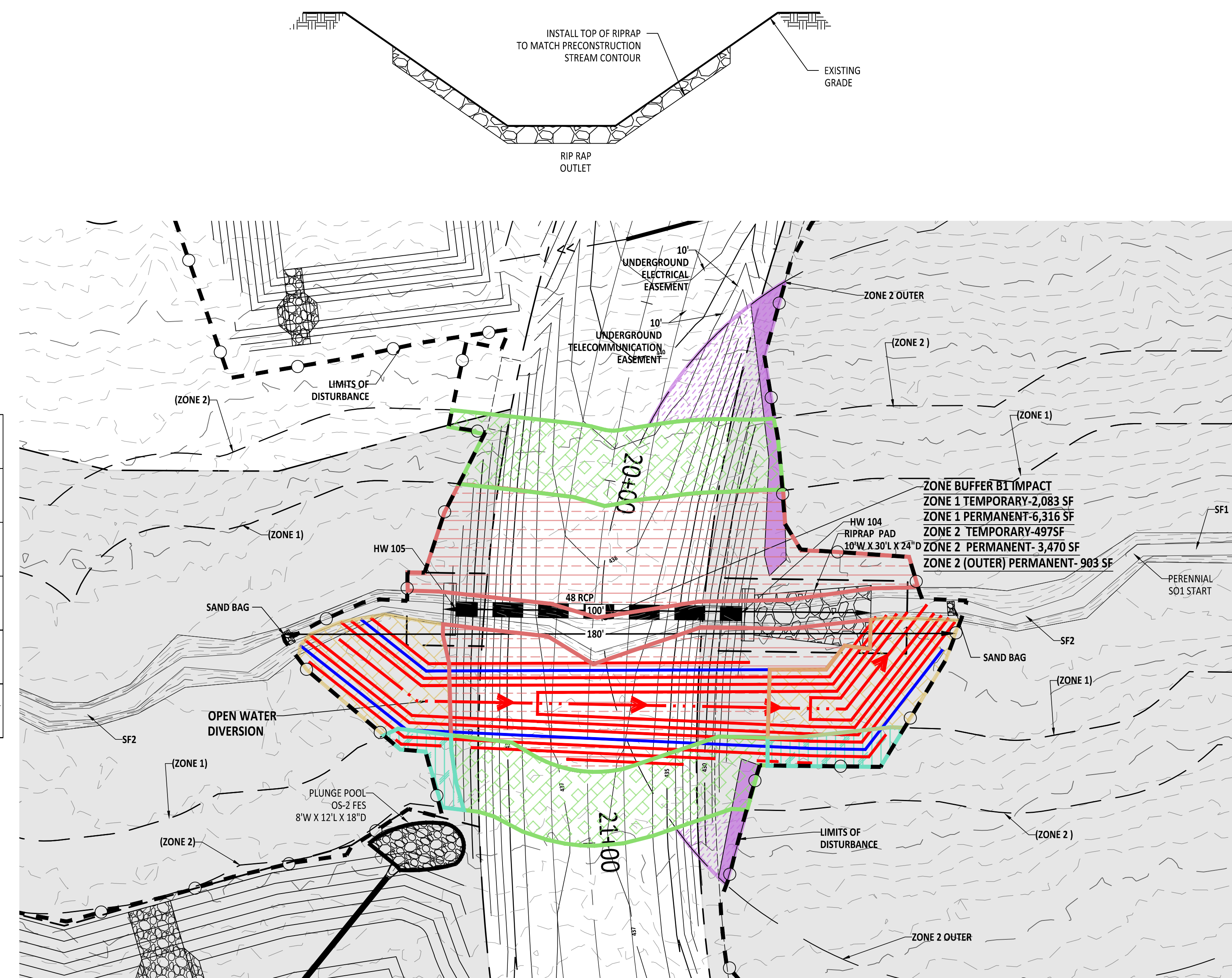
WITHERSRAVENEL
GPS CONTROL POINT #2
NAD 83(2011)
NC GRID/GROUND COORS
N 736,665.27'
E 1,972,129.50'
NAVD 88 ELEV. 436.18'
CGF=0.99990188237522

APPROXIMATE LOCATION OF EXISTING 16" W/L UTILITY EXISTING LOCATION AND ELEVATION

LINE	BEARING	DISTANCE
L1	N 09°25'57" W	30.06'

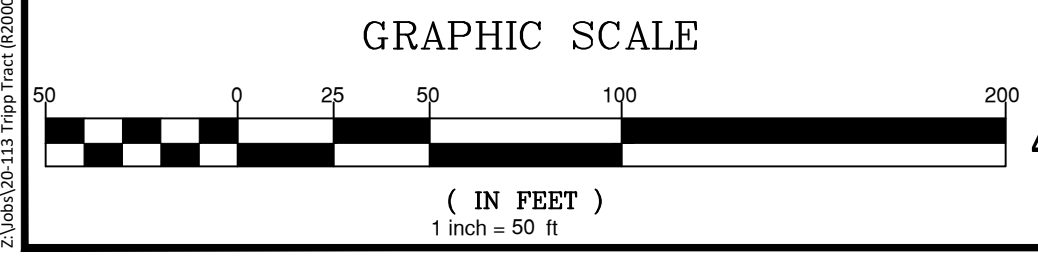
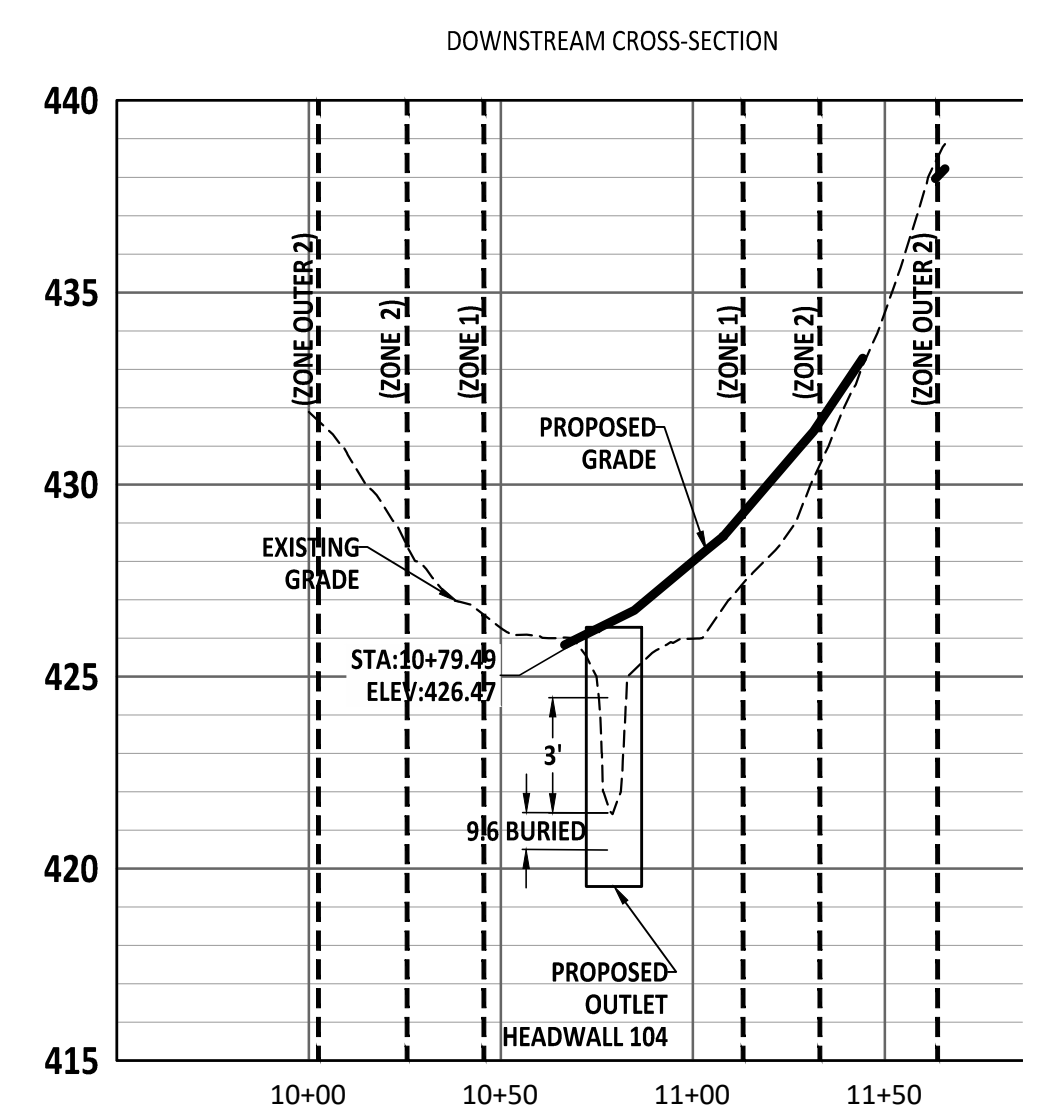
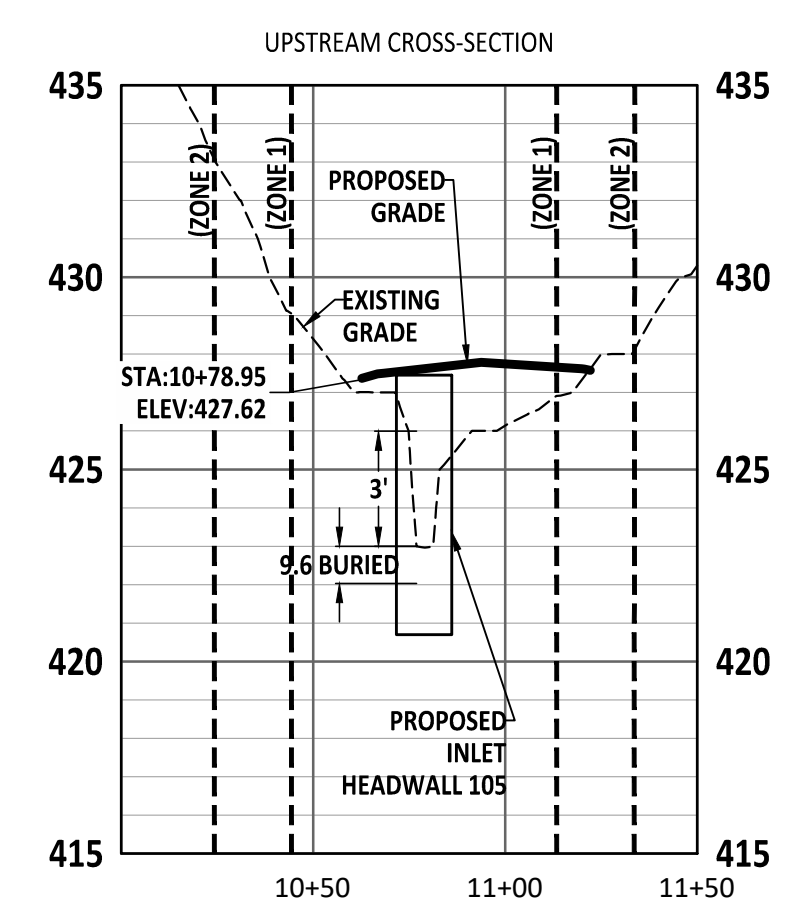
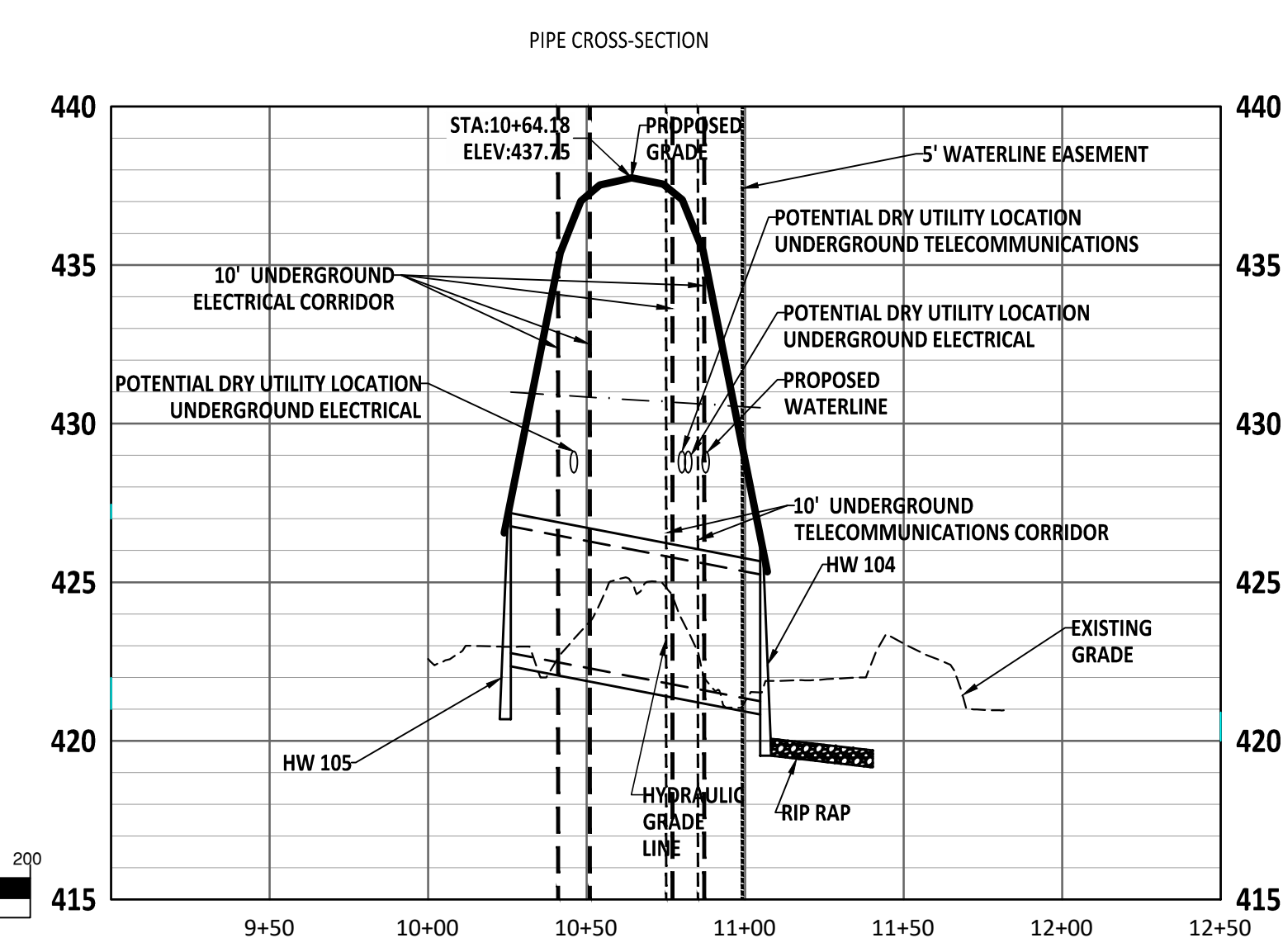
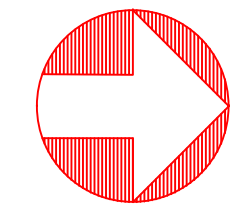
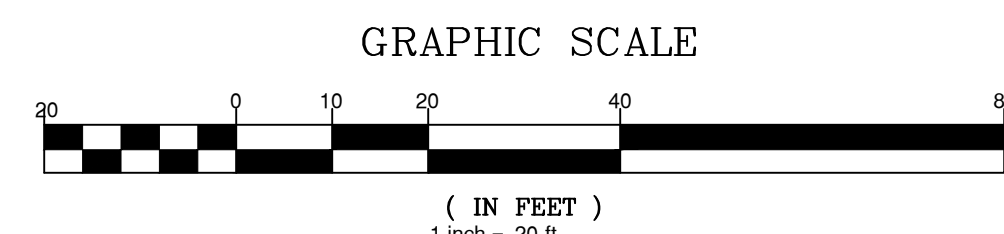
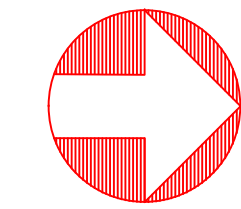
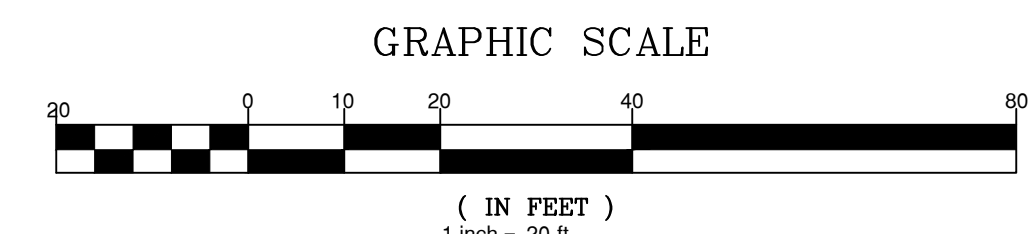


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ZONE BUFFER CHART

IMPACT NUMBER	IMPACT SPECIFICATION
B1	ZONE 1 TEMPORARY-2,083 SF
B1	ZONE 1 PERMANENT-6,316 SF
B1	ZONE 2 TEMPORARY-497 SF
B1	ZONE 2 PERMANENT-3,470 SF
B1	ZONE 2 (OUTER) PERMANENT-903 SF



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 2624 MT GILEAD CHURCH RD
 PITTSBORO NC 27312

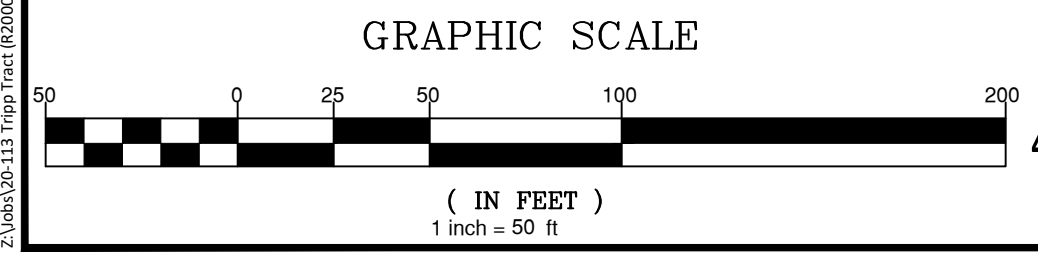
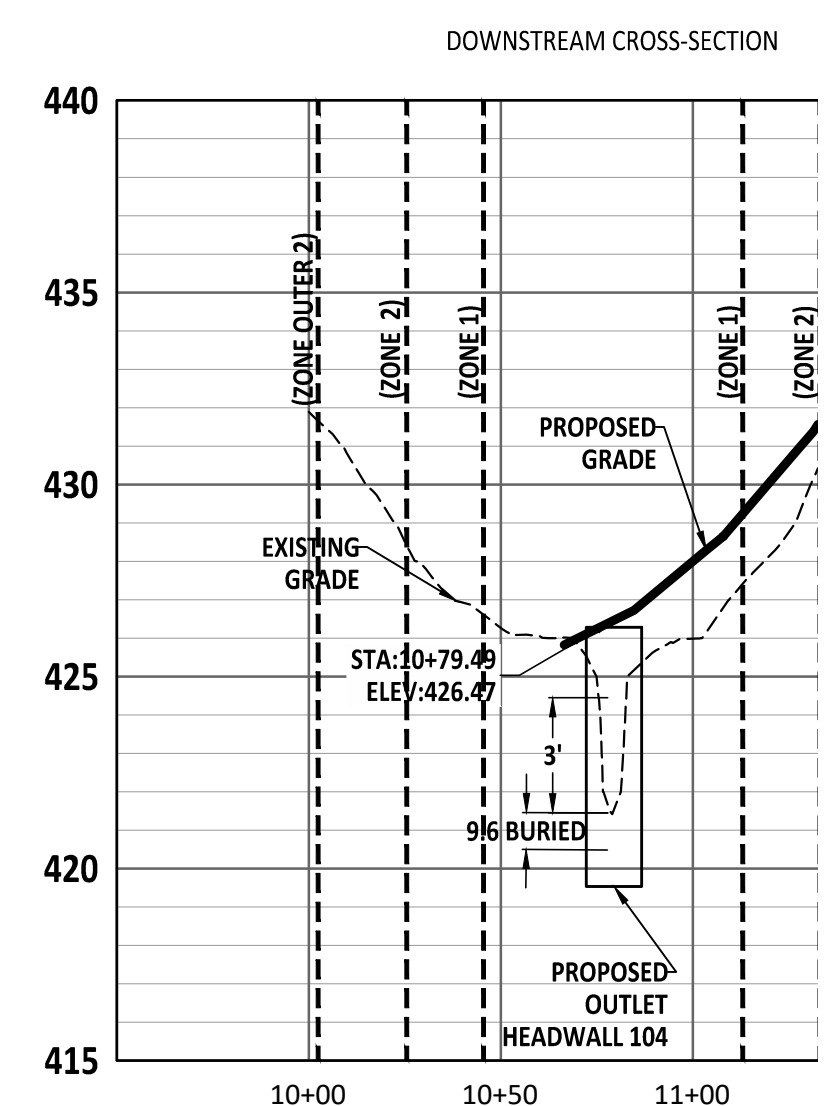
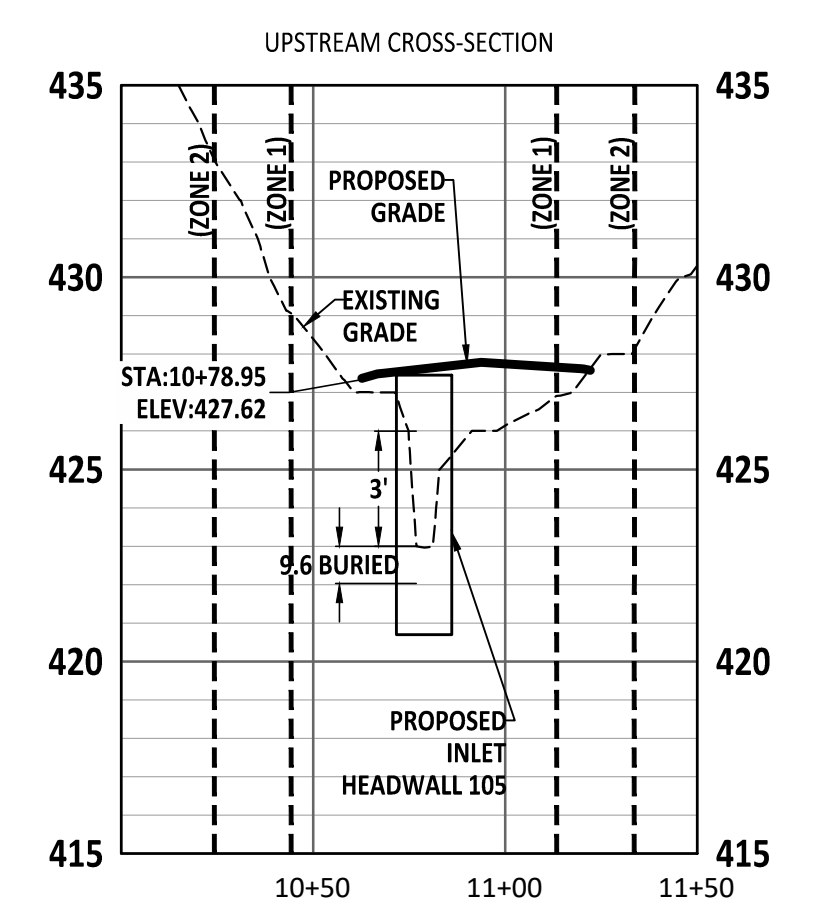
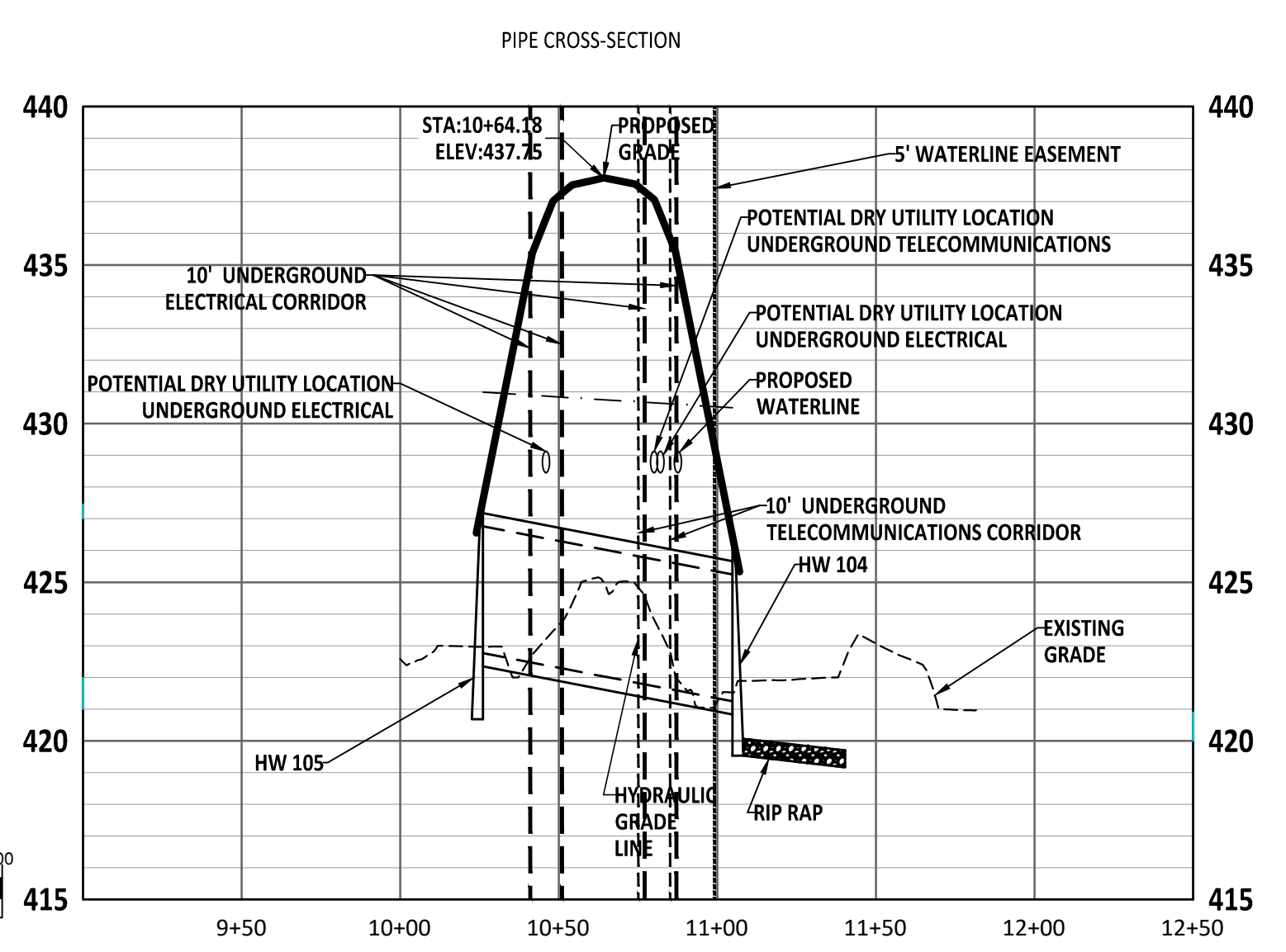
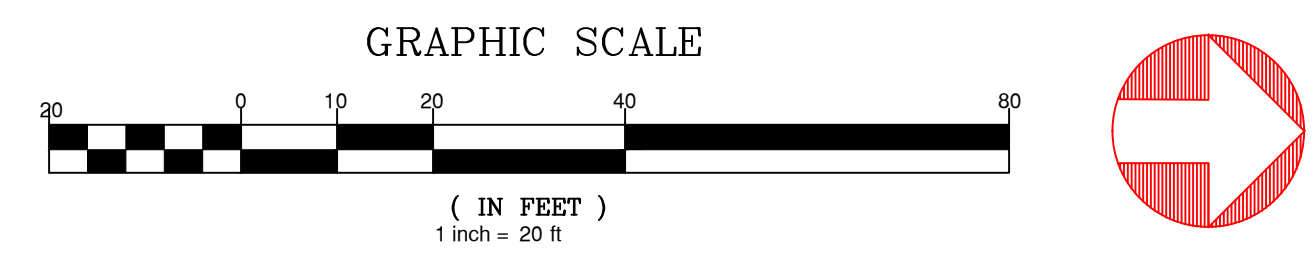
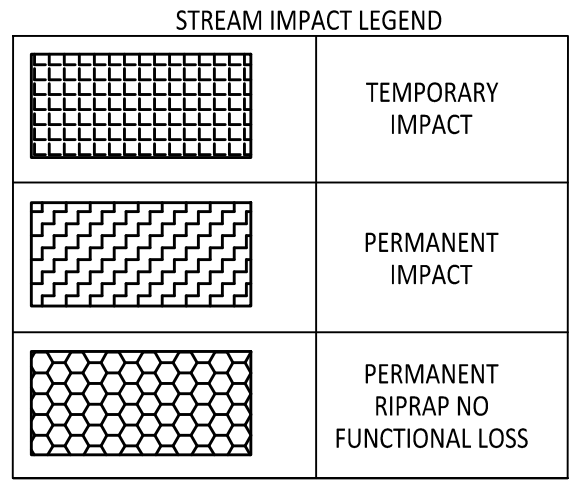
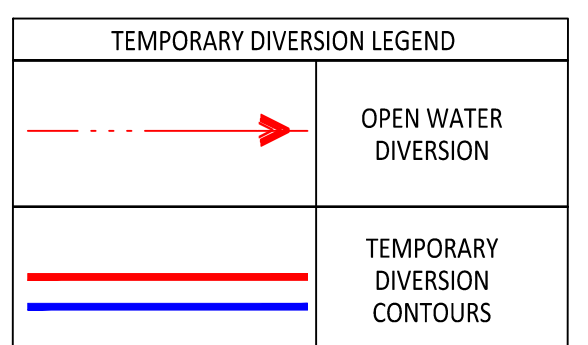
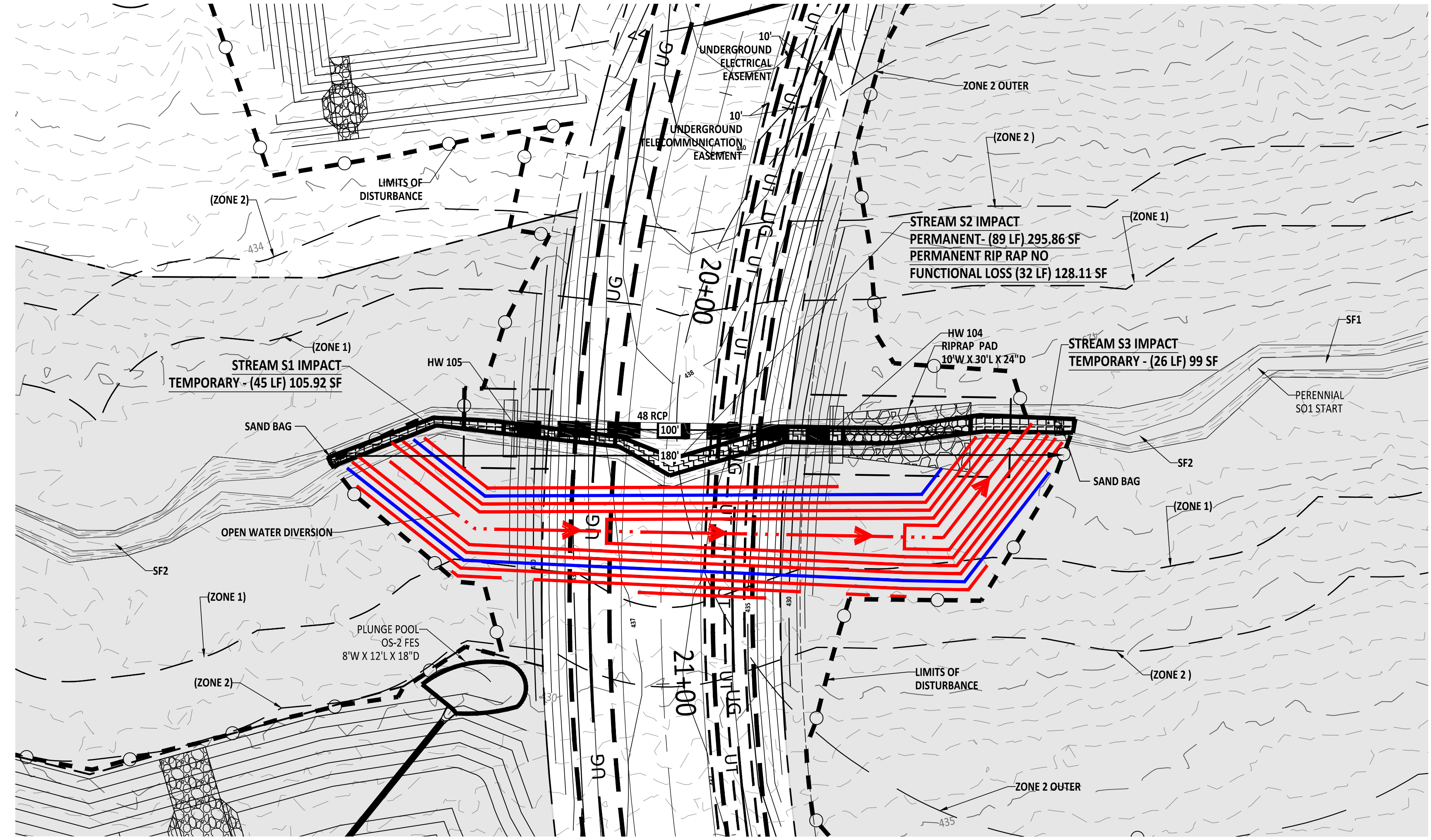
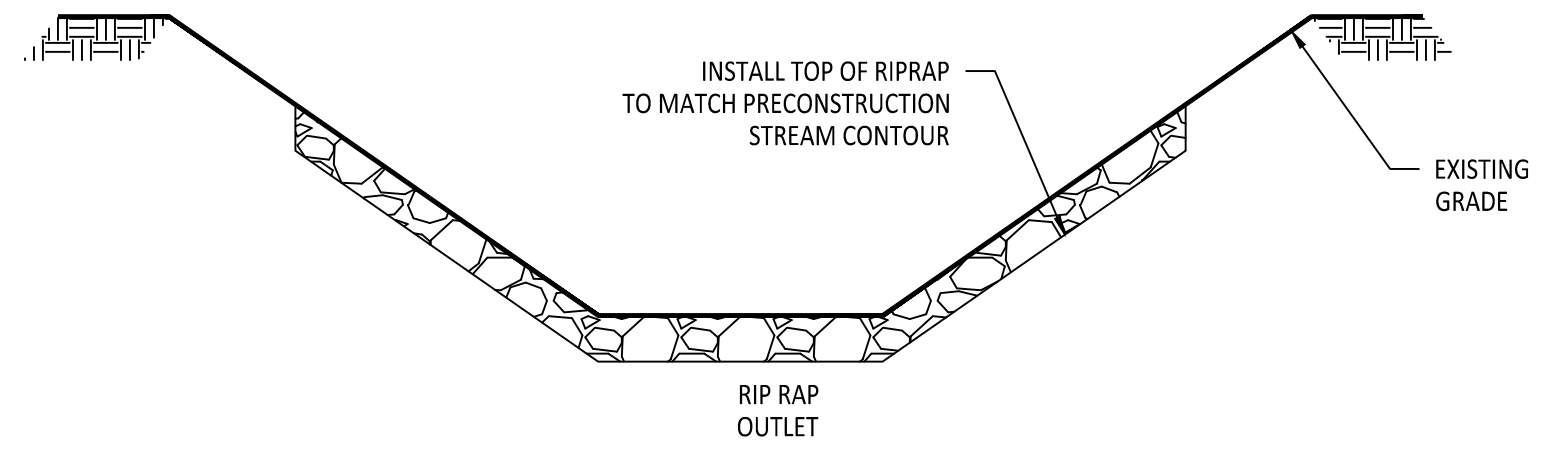
JOB NUMBER: 20-113
 CHECKED BY: EDS
 DRAWN BY:
 DATE: AUGUST 2022

SHEET TITLE:
BUFFER IMPACT A EXHIBIT

SHEET NO.:
IE-3.0



STREAM	
IMPACT NUMBER	IMPACT SPECIFICATION
S1	TEMPORARY 45 LF (105.92 SF)
S2	PERMANENT 89 LF (295.86 SF)
S2	PERMANENT NO FUNCTIONAL LOSS 32 LF (128.11 SF)
S3	TEMPORARY 26 LF (99 SF)



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STREAM IMPACT A EXHIBIT
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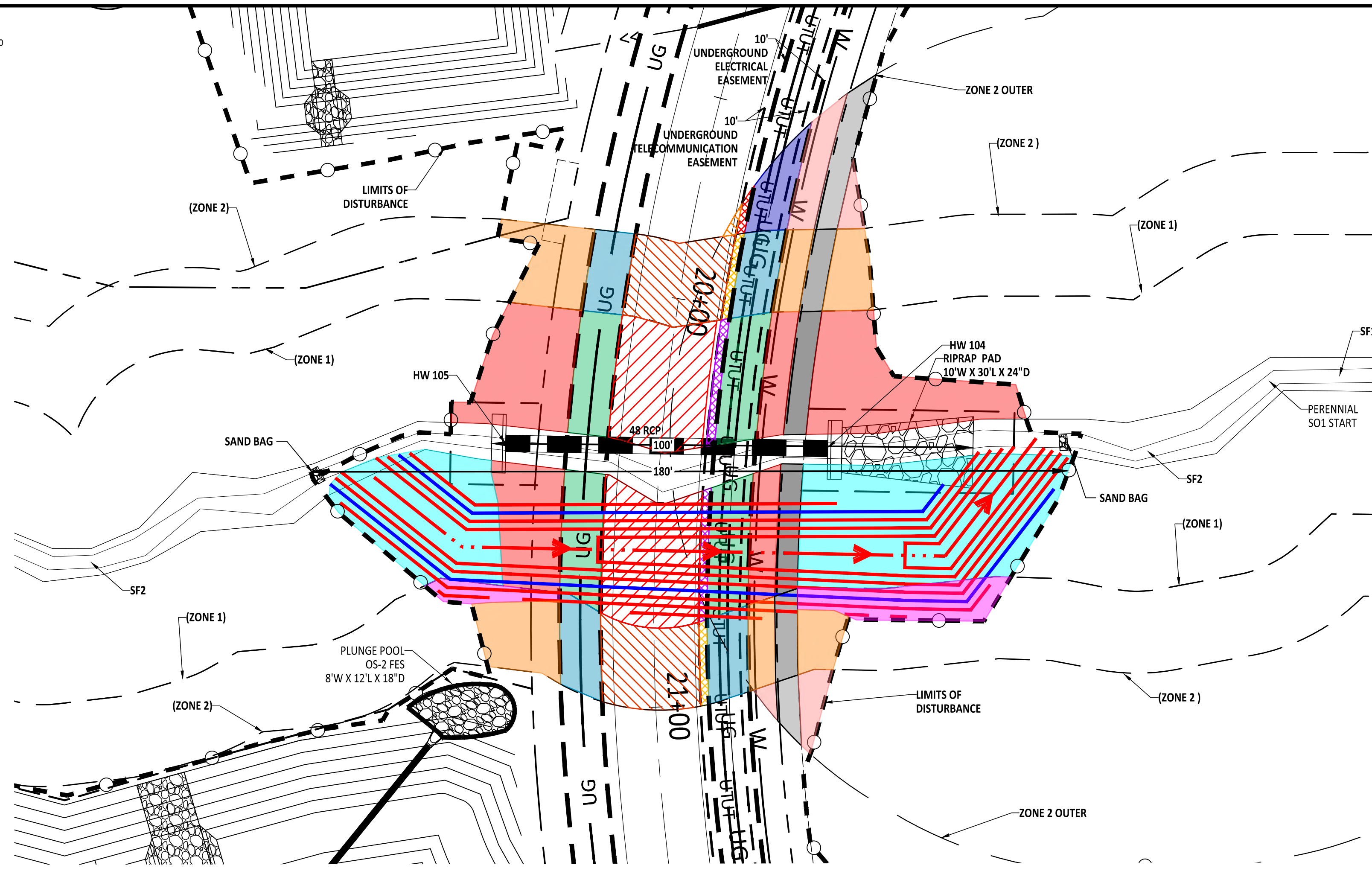
JOB NUMBER: 20-113
CHECKED BY: EDS
DRAWN BY:
DATE: AUGUST 2022

SHEET TITLE:
STREAM IMPACT A EXHIBIT
SHEET NO.: **IE-2.0**



IMPACT SUMMARY LEGEND

B1	Waterline extension area that will be cleared for public utility easement area (Zone 1)
B2	Waterline extension area that will be cleared for public utility easement area (Zone 2)
B3	Waterline extension area that will be cleared for public utility easement area (Zone 2 Outer)
B4	Road Crossing (Zone 1)
B5	Road Crossing (Zone 2)
B6	Road Crossing (Zone 2 Outer)
B7	Potential Dry Utility Location Underground Electrical (Zone 1)
B8	Potential Dry Utility Location Underground Telecommunications (Zone 1)
B9	Potential Dry Utility Location Underground Electrical (Zone 2)
B10	Potential Dry Utility Location Underground Telecommunications (Zone 2)
B11	Potential Dry Utility Location Underground Electrical (Zone 2 Outer)
B12	Potential Dry Utility Location Underground Telecommunications (Zone 2 Outer)
B13	Channel Bypass (Zone 1)
B14	Channel Bypass (Zone 2)
B15	Pavement Slope Fill (Zone 1) I-50 and P-100
B16	Pavement Slope Fill (Zone 2) I-50 and P-100
B17	Pavement Slope Fill (Zone 2 Outer) P-100
B18	Underground Electrical
B19	Underground Telecommunication
B20	Underground Electrical Easement
B21	Underground Telecommunication Easement



Project Impacts Inventory

Impact Summary

Which types of buffers will be impacted by the project?	X Intermittent (I-50')	Perennial (P-50')
Jordan Only Buffers	Ephemeral (E-30')	Intermittent (I-50')
County + Jordan Buffers	X Perennial (P-100')	Perennial Water Body (WB-50')
	Wetland (W-50')	FEMA Floodplain (FP - Extents)

Buffer Impacts (Reference each to Buffer Impact Map)

Buffer Impact Number	Permanent/Temporary	Purpose/Type of Impact	Stream Name (from USGS Map, UT (named tributary of stream name on USGS))	Buffer Zone (Zone 1, Zone 2, Zone 2 Outer)	Buffer Face Width (Linear Impact)	Square Feet	Buffer Face Width (Linear Impact)
Include all impacts under Impact 1 in this section							
B1	Permanent	Non-Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 1	334	100
B2	Permanent	Non-Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 2	228	90
B3	Permanent	Non-Electric Underground Utility	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	275	30
B4	Permanent	Road Crossing	Stream SA (UT to Ward Branch)	I-50	Zone 1	1469	10
B5	Permanent	Road Crossing	Stream SA (UT to Ward Branch)	I-50	Zone 2	983	10
B6	Permanent	Road Crossing	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	12	10
B7	Permanent	Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 1	1374	20
B8	Permanent	Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 2	927	20
B9	Permanent	Electric Underground Utility	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	220	20
B10	Temporary	Channel Bypass	Stream SA (UT to Ward Branch)	I-50	Zone 1	2829	180
B11	Temporary	Channel Bypass	Stream SA (UT to Ward Branch)	I-50	Zone 2	522	100
B12	Permanent	Pavement Slope Fill	Stream SA (UT to Ward Branch)	I-50 and P-100	Zone 1	2410	35
B13	Permanent	Pavement Slope Fill	Stream SA (UT to Ward Branch)	I-50 and P-100	Zone 2	1297	30
B14	Permanent	Pavement Slope Fill	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	389	6.5

For sites with multiple areas of buffer impacts please create additional Sections. If your impacts are all in one area please include them under Impact Area 1 above.

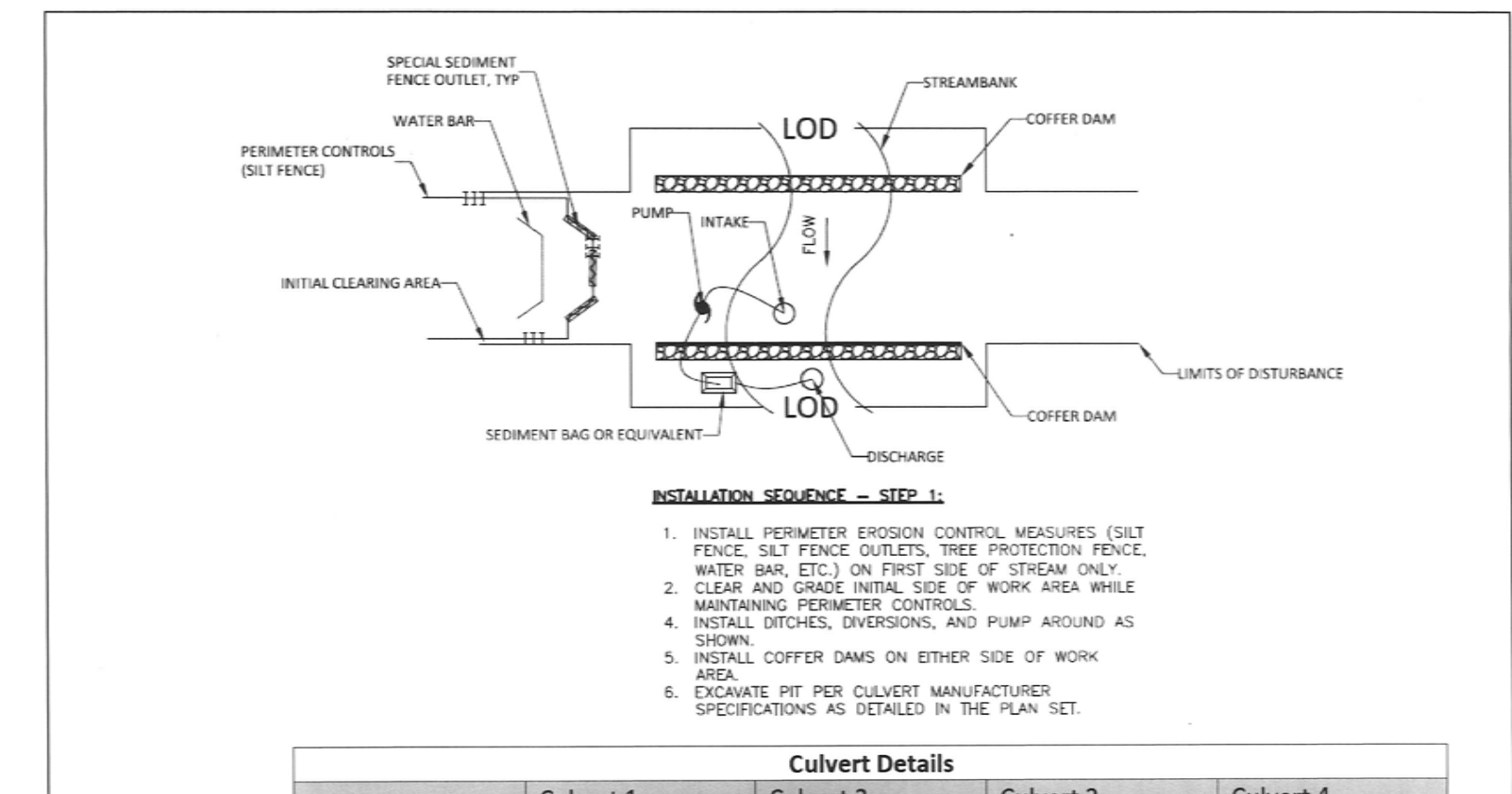
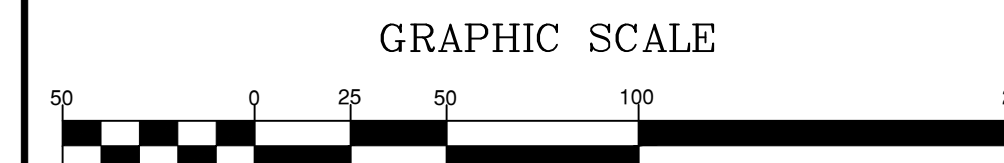
Example Impacts

List all exempt impacts below

Total Impacts by Zone

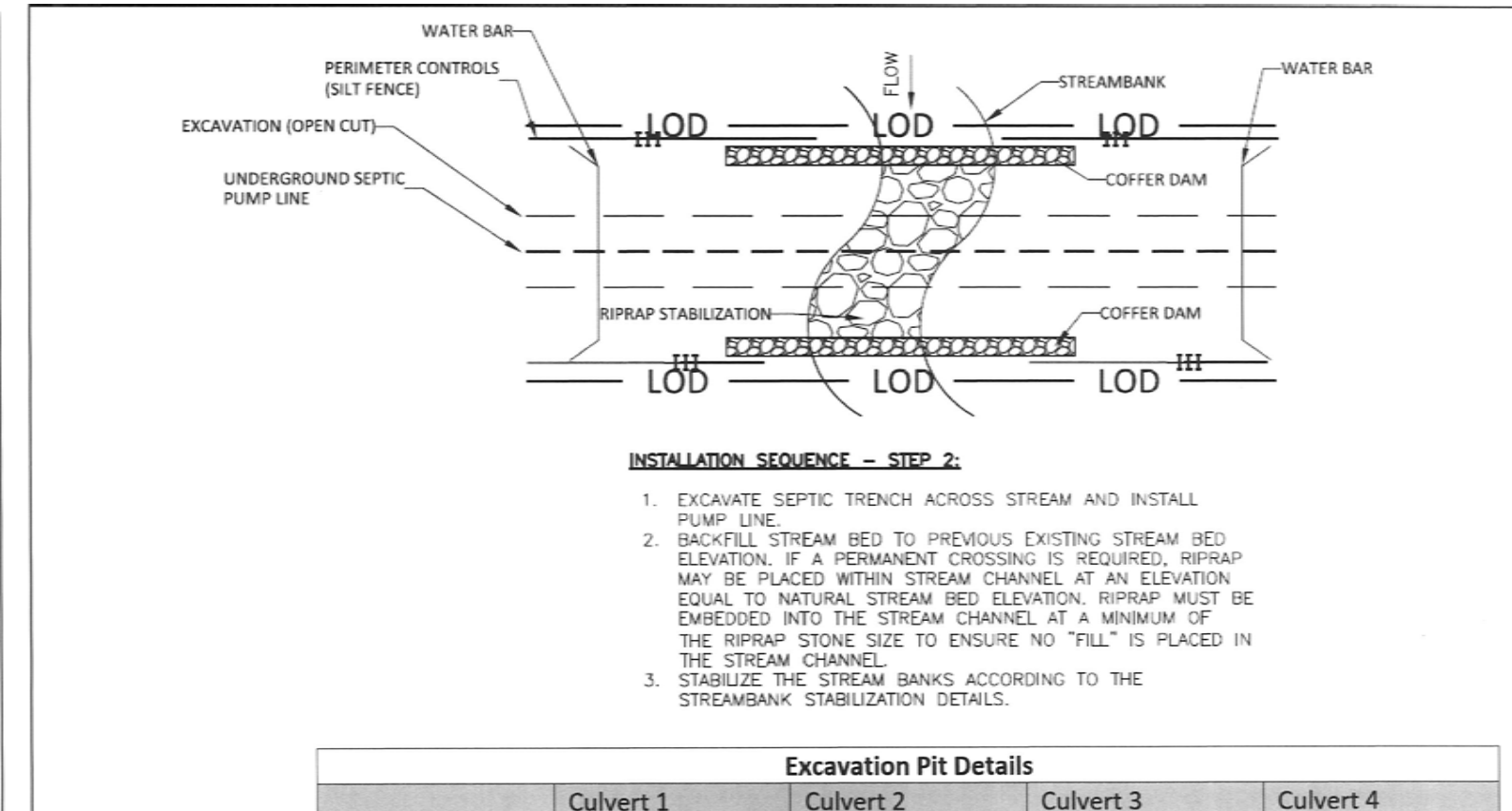
Total Impacts = the widest most impact for each zone (do not include embedded impacts or exempt impacts)	Zone	Square Feet
Non-Electric Underground Utility	Zone 1	334
Non-Electric Underground Utility	Zone 2	228
Non-Electric Underground Utility	Zone 2 - Outer	275
Electric Underground Utility	Zone 1	1374
Electric Underground Utility	Zone 2	927
Electric Underground Utility	Zone 2 - Outer	220
Road Crossing (Combined Road Crossing, Channel Slope and Fill Slope)	Zone 1	6708
Road Crossing (Combined Road Crossing, Channel Slope and Fill Slope)	Zone 2	2802
Road Crossing (Combined Road Crossing, Channel Slope and Fill Slope)	Zone 2 - Outer	401
Total Impacts (Utility + Road Crossing)	Zone 1	8416
Total Impacts (Utility + Road Crossing)	Zone 2	3957
Total Impacts (Utility + Road Crossing)	Zone 2 - Outer	896

Add rows as needed to list all buffer impacts separately. For buffers in the Jordan Lake Watershed, report I, P, and WB impacts as (Zone 1) first 30-feet, and (Zone 2) 30-50 feet landward. List any buffer impacts beyond Zone 2 normally.



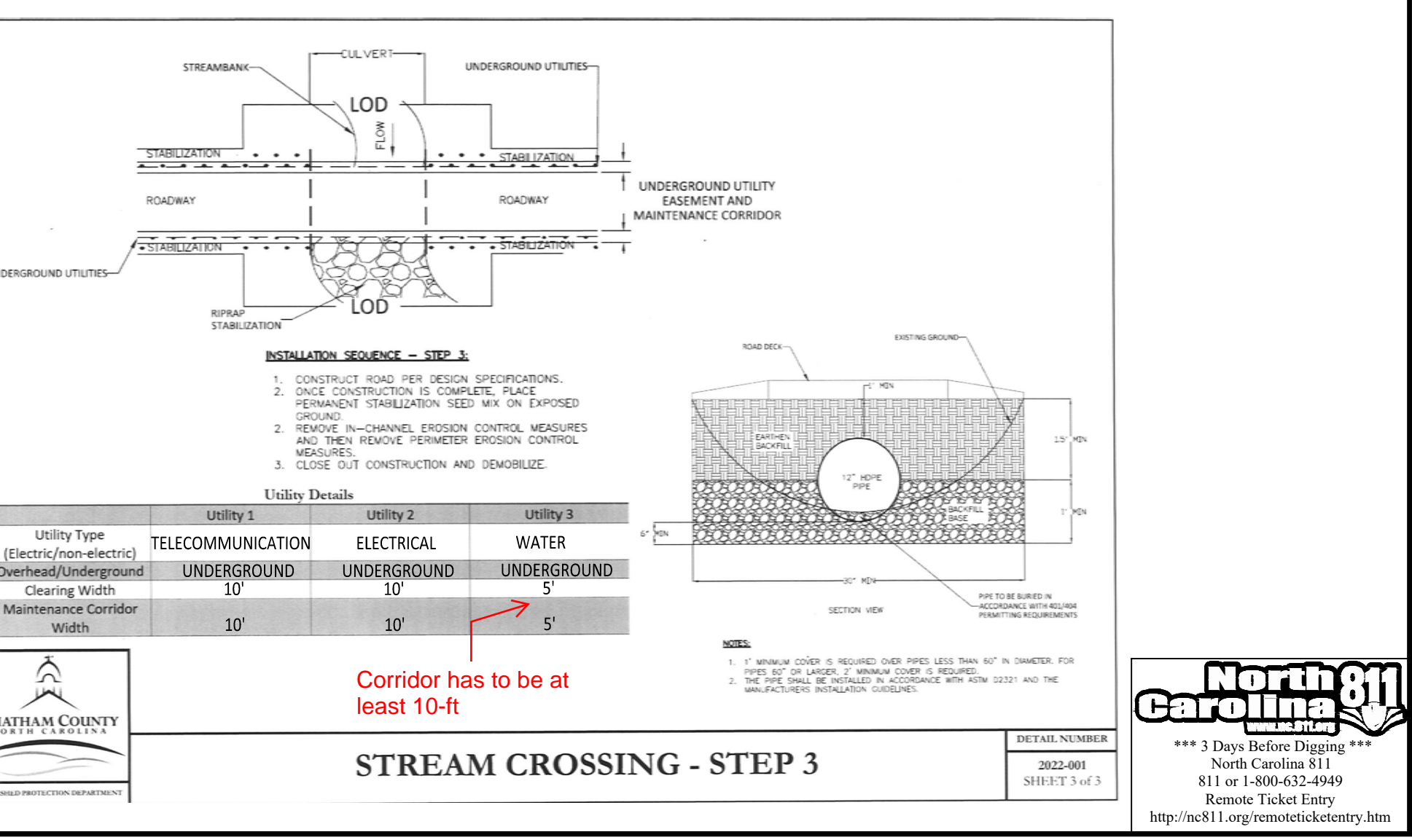
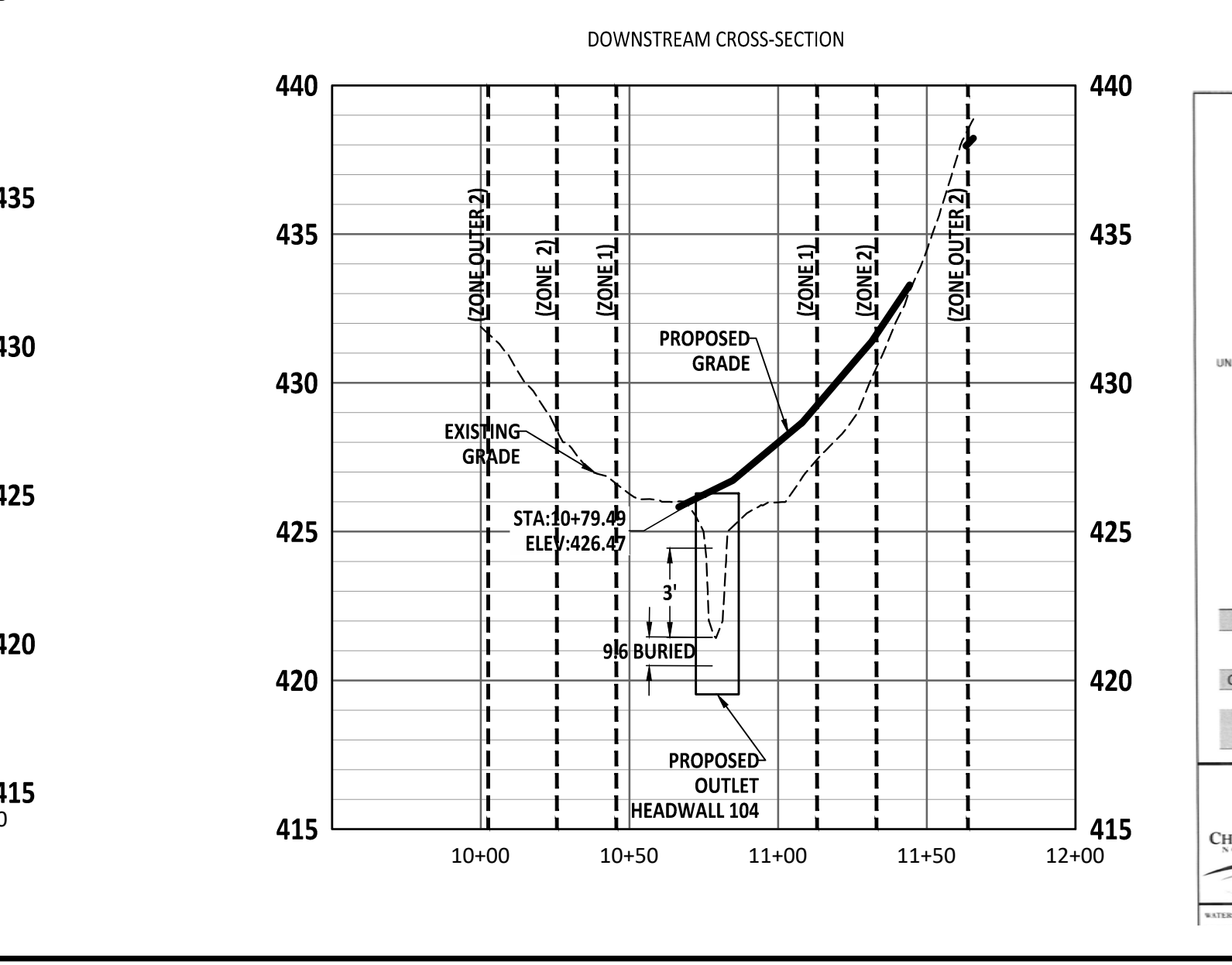
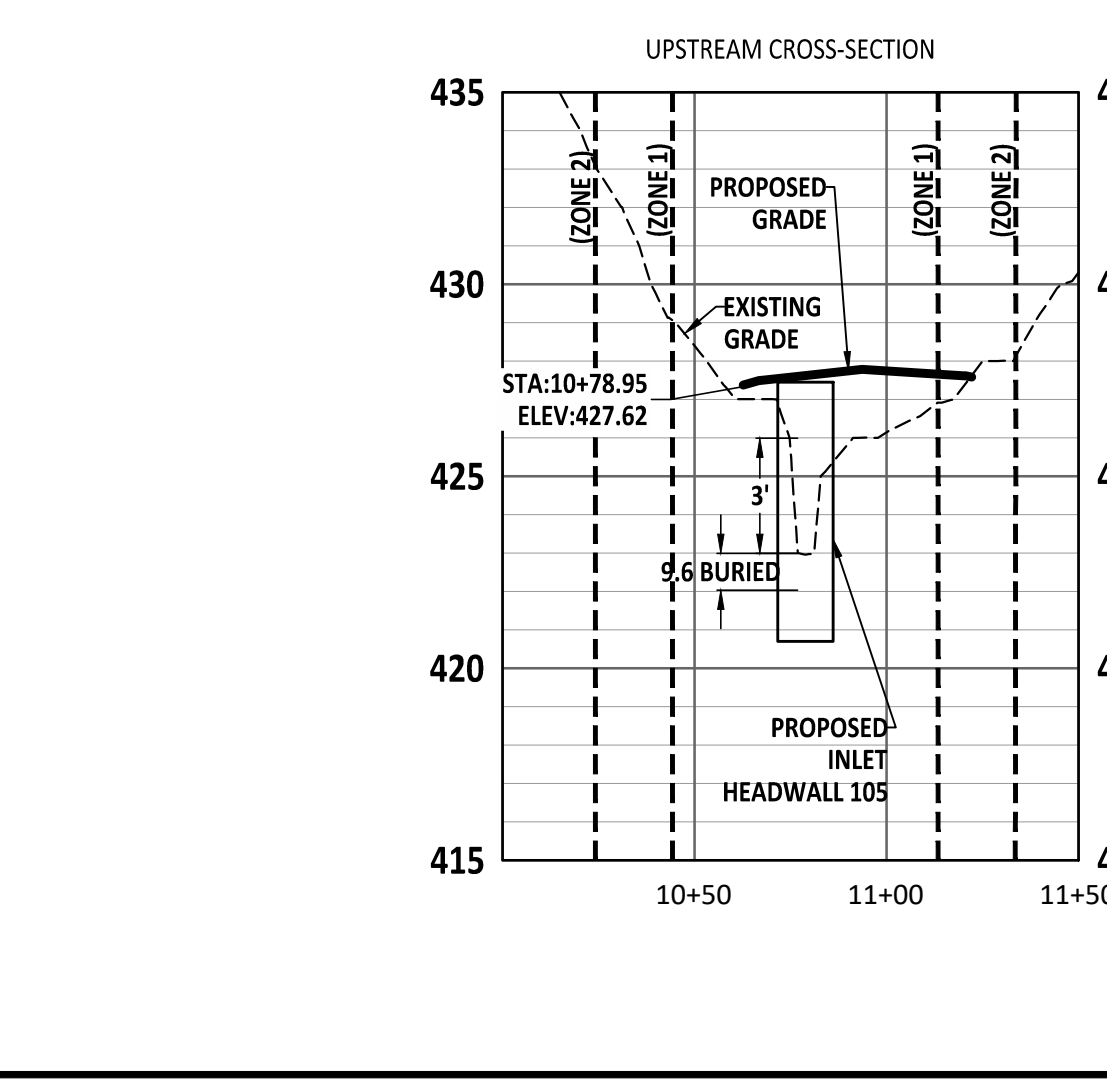
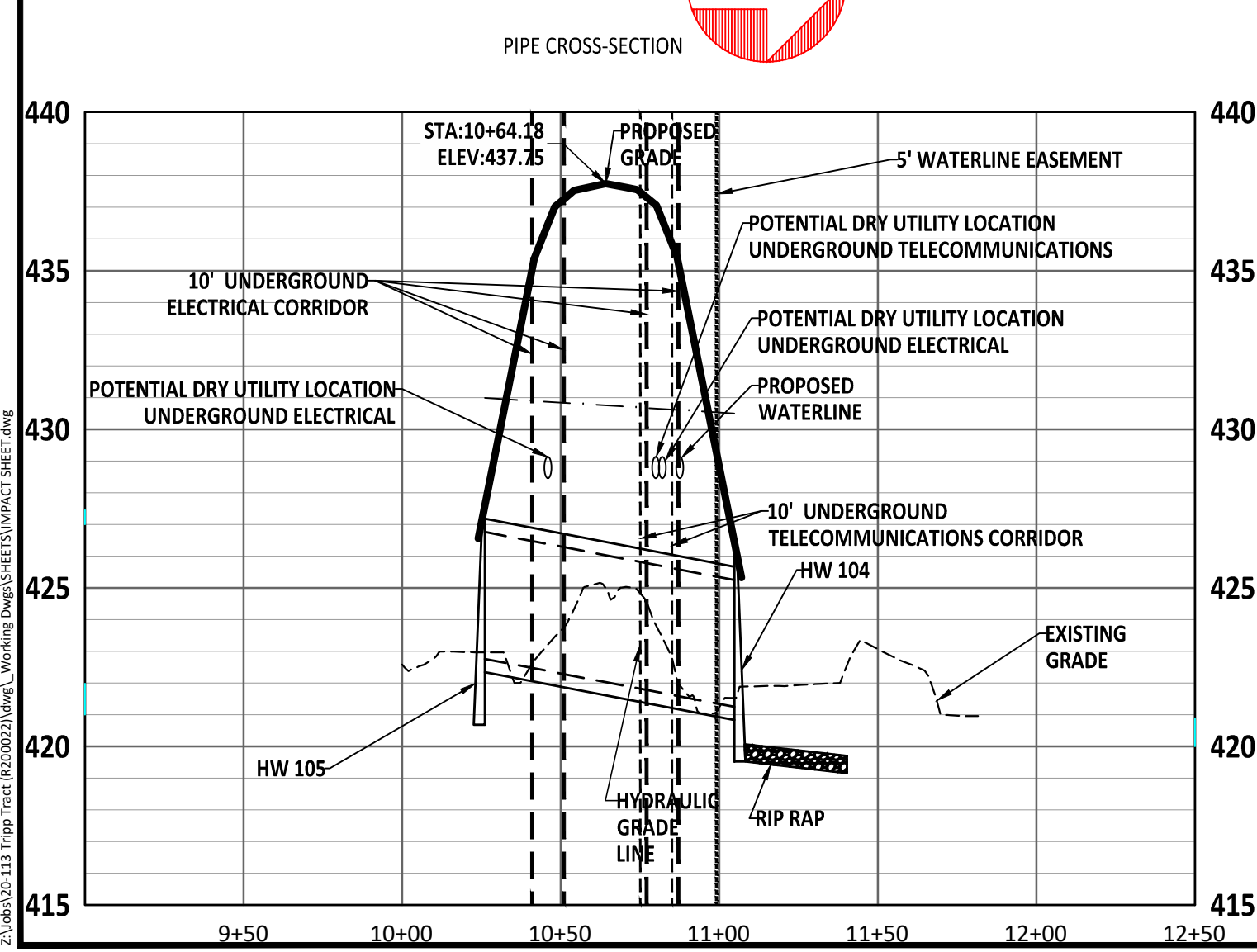
Culvert Details

	Culvert 1	Culvert 2	Culvert 3	Culvert 4
Length	78.62'			
Diameter	48"			



Excavation Pit Details

	Culvert 1	Culvert 2	Culvert 3	Culvert 4
Length	88'			
Width	14'			
Depth	8"			



FOR CONSTRUCTION

NO. DATE REVISION:

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STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

SUMMIT TERRACE
IMPACT EXHIBIT
 2624 MT GILEAD CHURCH RD
 PITTSBORO NC 27312

JOB NUMBER: 20-113
 CHECKED BY: EDS
 DRAWN BY:
 DATE: AUGUST 2022
 SHEET TITLE: **IMPACT SUMMARY TABLE**
 SHEET NO.: **IE-4.0**



*** 3 Days Before Digging ***
 North Carolina 811
 811 or 1-800-432-4849
 Remote Ticket Entry
<http://nc811.org/remoteticketentry.htm>

Project Impacts Inventory

Impact Summary

Which types of buffers will be impacted by the project?

Jordan Only Buffers	Intermittent (I-50)	Perennial (P-50)		
County + Jordan Buffers	Epithermal (E-30) Perennial (P-100) Wetland (W-50)	Yes	Intermittent (I-50) Perennial Water Body (WB-50) FEMA Floodplain (FP - Extents)	Yes

Buffer Impacts (Reference each to Buffer Impact Map)

Buffer Impact Number	Permanent/Temporary	Purpose/Type of Impact	Stream Name (from USGS Map, UT (unnamed tributary of stream name on USGS))	Buffer Type	Buffer Zone (Zone1, Zone 2, Zone 2 Outer)	Square Feet	Buffer Face Width (Linear Impact)
Impact Area 1							
Include all impacts under Impact 1 in this section							
B1	Permanent	Non-Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 1	334	100
B2	Permanent	Non-Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 2	228	90
B3	Permanent	Non-Electric Underground Utility	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	275	30
B4	Permanent	Road Crossing	Stream SA (UT to Ward Branch)	I-50	Zone 1	1469	10
B5	Permanent	Road Crossing	Stream SA (UT to Ward Branch)	I-50	Zone 2	983	10
B6	Permanent	Road Crossing	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	12	10
B7	Permanent	Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 1	1374	20
B8	Permanent	Electric Underground Utility	Stream SA (UT to Ward Branch)	I-50	Zone 2	927	20
B9	Permanent	Electric Underground Utility	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	220	20
B10	Temporary	Channel Bypass	Stream SA (UT to Ward Branch)	I-50	Zone 1	2829	180
B11	Temporary	Channel Bypass	Stream SA (UT to Ward Branch)	I-50	Zone 2	522	100
B12	Permanent	Pavement Slope Fill	Stream SA (UT to Ward Branch)	I-50 and P-100	Zone 1	2410	35
B13	Permanent	Pavement Slope Fill	Stream SA (UT to Ward Branch)	I-50 and P-100	Zone 2	1297	30
B14	Permanent	Pavement Slope Fill	Stream SA (UT to Ward Branch)	P-100	Zone 2 Outer	389	6.5

For sites with multiple areas of buffer impacts please create additional Sections. If your impacts are all in one area please include them under Impact Area 1 above.

Exempt Impacts

List all exempt impacts below

Total Impacts by Zone

Total Impacts = the widest most impact for each zone (do not include embedded impacts or exempt impacts)

	Non-Electric Underground Utility		Zone 1	334
	Non-Electric Underground Utility		Zone 2	228
	Non-Electric Underground Utility		Zone 2 - Outer	275
	Electric Underground Utility		Zone 1	1374
	Electric Underground Utility		Zone 2	927
	Electric Underground Utility		Zone 2 - Outer	220
	Road Crossing	(Combined Road Crossing, Channel Slope and Fill Slope)	Zone 1	6708
	Road Crossing	(Combined Road Crossing, Channel Slope and Fill Slope)	Zone 2	2802
	Road Crossing	(Combined Road Crossing, Channel Slope and Fill Slope)	Zone 2 - Outer	401
	Total Impacts (Utility + Road Crossing)		Zone 1	8416
	Total Impacts (Utility + Road Crossing)		Zone 2	3957
	Total Impacts (Utility + Road Crossing)		Zone 2 - Outer	896

Add rows as needed to list all buffer impacts separately. For buffers in the Jordan Lake Watershed, report I, P, and WB impacts as (Zone 1) first 30-feet, and (Zone 2) 30-50 feet landward. List any buffer impacts beyond Zone 2 normally.