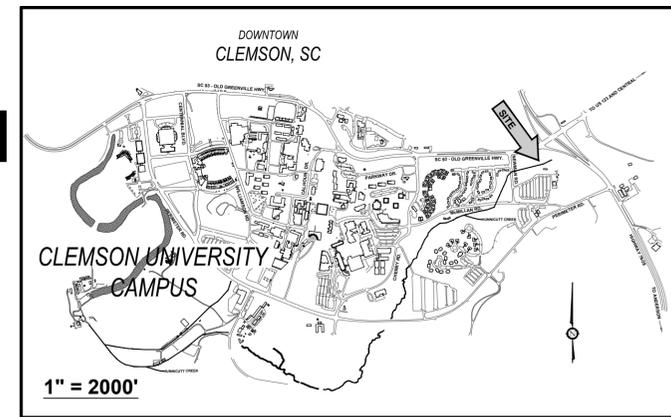


HUNNICUTT CREEK RESTORATION REACH 1 CUP - 4002323

CLEMSON UNIVERSITY CLEMSON, SOUTH CAROLINA



GENERAL NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR RAISING AND REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED.
- CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- WARRANTY/DISCLAIMER:**
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A TEMPORARY BASIS AT THE SITE.
- SAFETY NOTICE TO CONTRACTOR:**
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.
- ALL CONSTRUCTION WITHIN STATE HIGHWAY DEPARTMENT RIGHT-OF-WAY SHALL BE COORDINATED WITH THE HIGHWAY DEPARTMENT RESIDENT MAINTENANCE ENGINEER.
- ALL SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE RELEVANT UTILITY COMPANY OR REGULATORY AUTHORITY, AND THE SPECIFICATIONS FOR THE CONSTRUCTION OF THE EXISTING IMPROVEMENTS WHICH ARE BEING ALTERED OR REPLACED. CONTRACTOR SHALL CONTACT THE ENGINEER FOR SPECIFICATION SECTIONS FOR ITEMS SUCH AS LANDSCAPING AND IRRIGATION THAT ARE AFFECTED BY THE WORK BUT NOT COMPLETELY DETAILED OR SPECIFIED ON THESE PLANS.
- COSTS INCURRED DUE TO PROJECT DELAYS RESULTING FROM FAILURE OF THE CONTRACTOR TO MEET THE REQUIREMENTS OF THE GENERAL SPECIFICATIONS, MATERIALS SPECIFICATIONS AND RE-VEGETATION SPECIFICATIONS SHALL BE THE EXPENSE OF THE CONTRACTOR.



NOTE:
THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

CONTRACTOR QUALIFICATIONS:
THE CONTRACTOR PERFORMING THE WORK SHALL BE FULLY QUALIFIED, EXPERIENCED AND EQUIPPED TO COMPLETE THIS WORK EXPEDITIOUSLY AND IN A SATISFACTORY MANNER. A SOUTH CAROLINA CONTRACTORS LICENSE GDS IS REQUIRED. A MINIMUM OF AT LEAST THREE YEARS ACTIVE EXPERIENCE IN STREAM BANK RESTORATION IS REQUIRED. THE CONTRACTOR SHALL HAVE SUCCESSFULLY COMPLETED AND PROVIDE DOCUMENTATION OF THE FOLLOWING WORK:

- AT LEAST 2,000 FEET OR MORE OF STREAM BANK STABILIZATION WITHIN THE PAST FIVE (5) YEARS AS DOCUMENTED BY VERIFIABLE REFERENCES.
- TWO (2) STREAM CHANNEL DESIGN AND RESTORATION PROJECTS UTILIZING IN-STREAM ROCK STRUCTURES. STREAMS MUST HAVE BEEN AT LEAST 500 FEET OR MORE FOR EACH PROJECT WITHIN THE PAST (5) YEARS

THE CONTRACTOR SHALL SUBMIT THE ABOVE MENTIONED INFORMATION FOR REVIEW AND APPROVAL AT THE TIME OF BID SUBMITTAL.

REFERENCES
PROVIDE AT LEAST THREE (3) OR MORE PROFESSIONAL, BUSINESS REFERENCES WITH WHICH YOU HAVE CONTRACTED TO PROVIDE SIMILAR SERVICES IN THE PAST FIVE (5) YEARS. INCLUDE THE NAME OF THE PERSON, THEIR ORGANIZATION, TELEPHONE NUMBER, EMAIL ADDRESS, PROJECT TITLE, AND BRIEF PROJECT DESCRIPTION.

OWNER / DEVELOPER
CLEMSON UNIVERSITY

SCOTT BANKS, PE
PROJECT MANAGER
tbanks2@clemson.edu

CIVIL ENGINEER
LAND PLANNING ASSOCIATES, INC.
110 WEST 1ST AVENUE SUITE A
EASLEY, SC 29640
864.242.6072
FAX: 208.730.8214
ATTN: PATRICK M. RIVERS, PE

CIVIL DRAWING LIST

SHEET	TITLE
C-100	COVER SHEET
C-101	EXISTING CONDITIONS OVERALL
C-101A	EXISTING CONDITIONS SECTIONS A & B
C-101B	EXISTING CONDITIONS SECTION C
C-102	CU ATLAS
C-103	CONSTRUCTION ROUTING PLAN OVERALL
C-104	CLEARING/GRUBBING PLAN OVERALL
C-105	EROSION CONTROL PHASE I OVERALL
C-105A	EROSION CONTROL PHASE I SECTION A
C-105B	EROSION CONTROL PHASE I SECTION B
C-105C	EROSION CONTROL PHASE I SECTION C
C-106A	GRADING PLAN & PROFILE SECTION A
C-106B	GRADING PLAN & PROFILE SECTION B
C-106C	GRADING PLAN & PROFILE SECTION C
C-107A	GRADING PLAN & CROSS-SECTIONS SECTION A
C-107B	GRADING PLAN & CROSS-SECTIONS SECTION B
C-107C	GRADING PLAN & CROSS-SECTIONS SECTION C
C-108	EROSION CONTROL PHASE II OVERALL
C-108A	EROSION CONTROL PHASE II SECTION A
C-108B	EROSION CONTROL PHASE II SECTION B
C-108C	EROSION CONTROL PHASE II SECTION C
C-109	RESTORATION & STABILIZATION DETAILS
C-110	EROSION & SEDIMENT CONTROL DETAILS
C-111	CONSTRUCTION DETAILS
C-112	LONG-TERM BUFFER ZONES

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CLEMSON UNIVERSITY

HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:	
PERMIT DATE:	
BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 80' VERT.
JOB NUMBER:	16.061

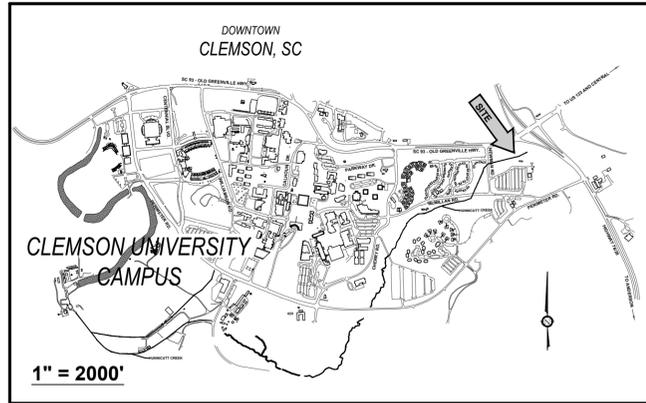
COVER SHEET

C-100

CUP - 4002323

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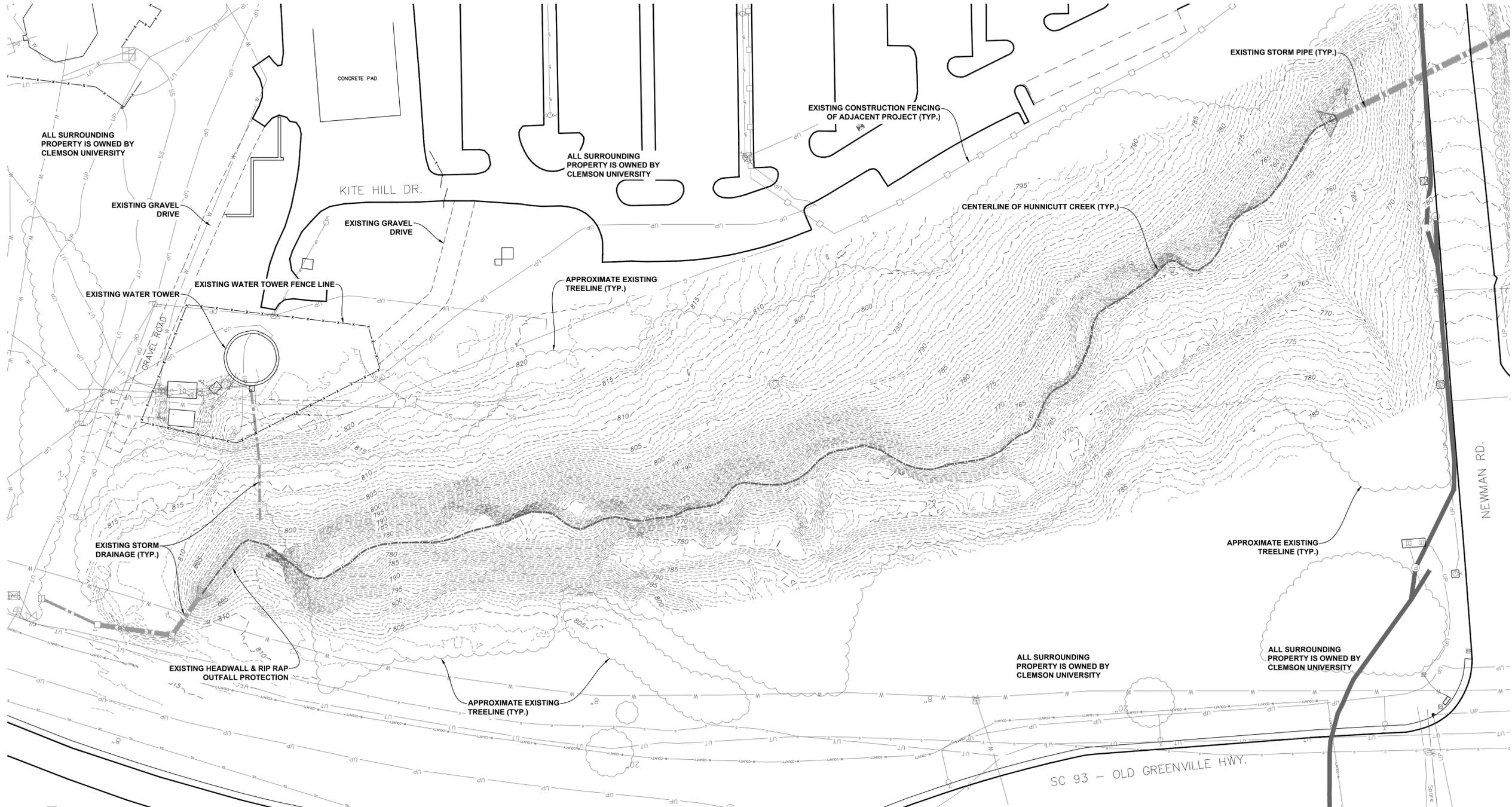




STANDARD ABBREVIATIONS		STANDARD SYMBOLS	
CB	CATCH BASIN	⊕	POWER POLE
CI	CURB INLET	⊕	WATER VALVE
CMP	CORRUGATED METAL PIPE	⊕	SANITARY SEWER MANHOLE
CMF	CONCRETE MONUMENT FND	⊕	STORM SEWER MANHOLE
CT	CRIMPED TOP PIPE	⊕	FIRE HYDRANT
DI	DROP INLET	⊕	SPOT ELEVATION
FNC	FENCE	X 000.00	GUY WIRE
CO	CLEAN OUT	—	WATER LINE
G	GAS	—	POWER LINE
GALV	GALVANIZED	—	UNDERGROUND POWER LINE
IE	INVERT ELEVATION	—	PHONE LINE
JB	JUNCTION BOX	—	ELECTRIC LINE
MH	MANHOLE	—	SANITARY SEWER
OT	OPEN TOP PIPE	—	STORM DRAIN
POB	POINT OF BEGINNING	—	EXISTING TEMPORARY CONSTRUCTION FENCE
RB	IRON REINFORCING BAR	—	EXISTING PERMANENT FENCE
RCP	REINFORCED CONCRETE PIPE	—	EXISTING TREE LINE
SS	SANITARY SEWER	—	EXISTING CENTERLINE OF HUNNICUTT CREEK
TBM	TEMPORARY BENCHMARK		
W	WATER		
OMP	OVERHEAD POWER		
IPF	IRON PIN FOUND		
IPS	IRON PIN SET		

TOPOGRAPHIC INFORMATION PROVIDED BY KUCERA INTERNATIONAL USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY TAKEN 03-16-17.

UTILITY LOCATIONS PROVIDED BY THE CLEMSON UNIVERSITY ATLAS AND NOT SURVEYED IN THE FIELD. CONTRACTOR RESPONSIBLE FOR FIELD VERIFYING STORM DRAINAGE RELEVANT TO PROJECT



REVISIONS:			
NO.	DATE	DESCRIPTION	BY

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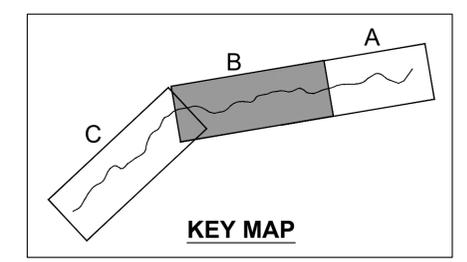
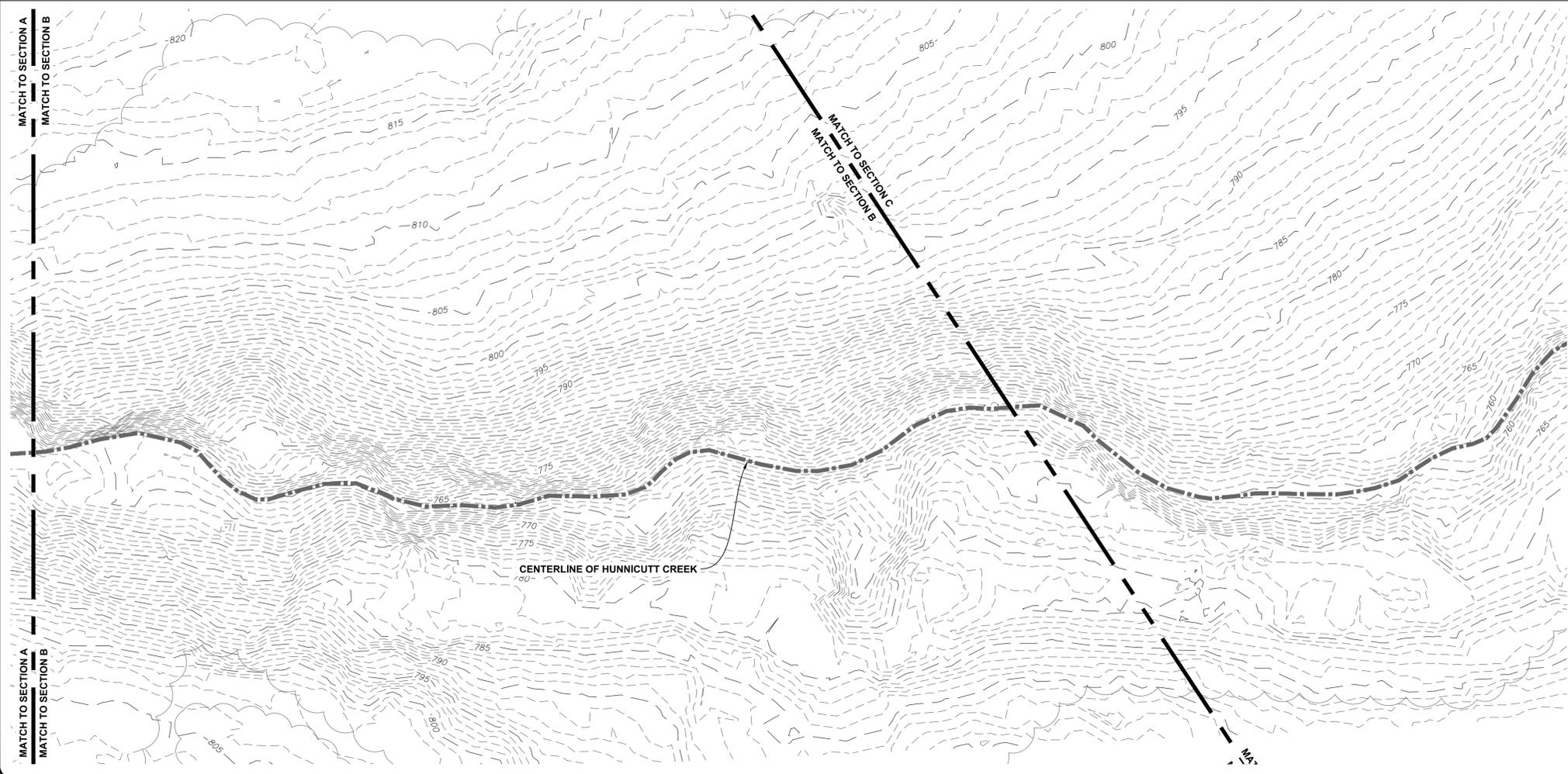
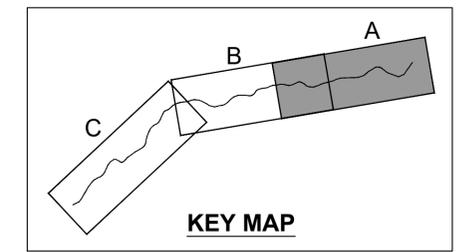
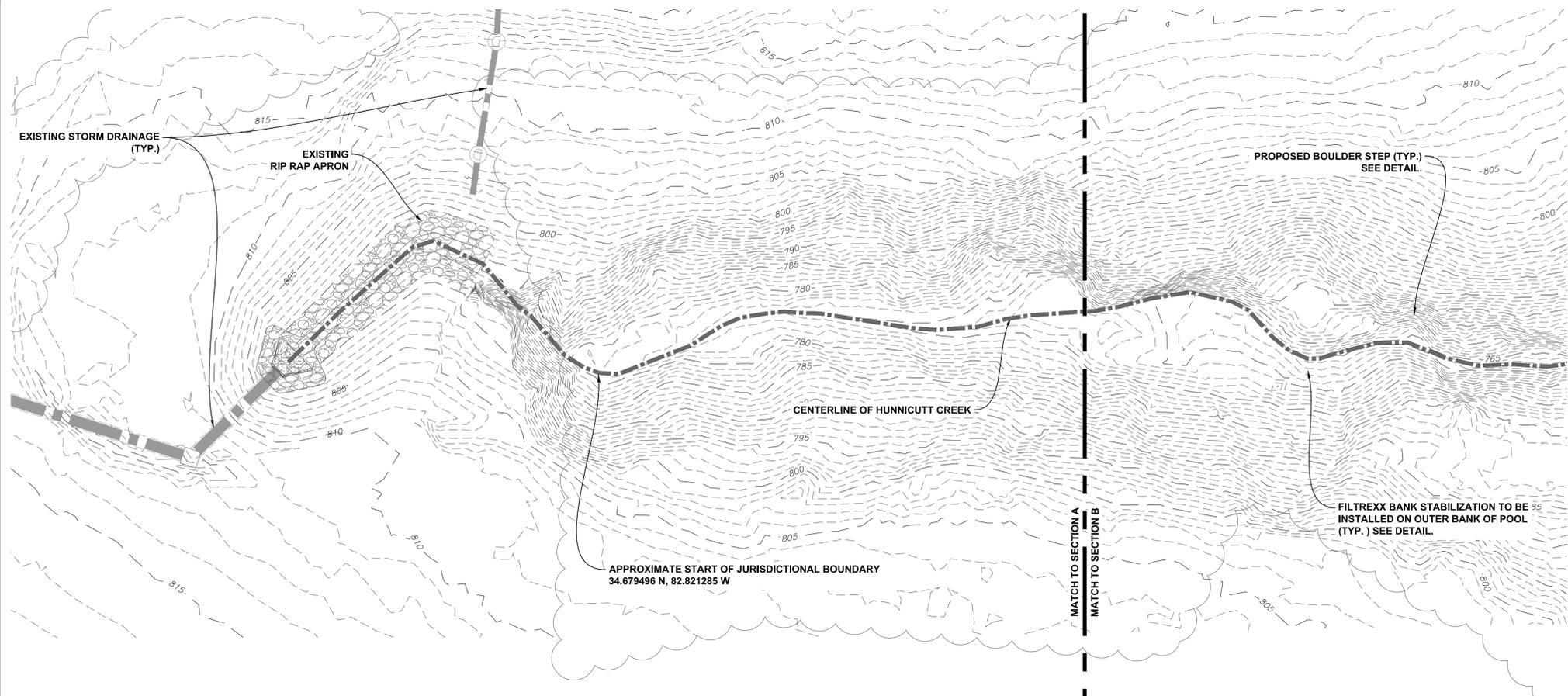
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EXISTING CONDITIONS OVERALL

C-101
CUP - 4002323

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Sep 18, 2018 at 15:32 by rocky



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CLEMSON

UNIVERSITY
HUNNICUTT CREEK
RESTORATION
REACH 1

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BID DATE:	
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DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 20' VERT. 1" = 10'
JOB NUMBER:	16.061

EXISTING CONDITIONS
SECTIONS A & B

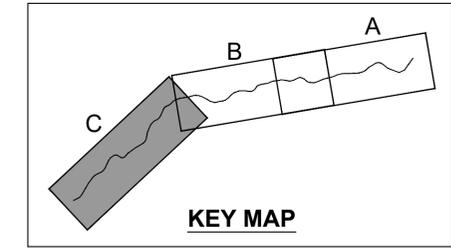
C-101A

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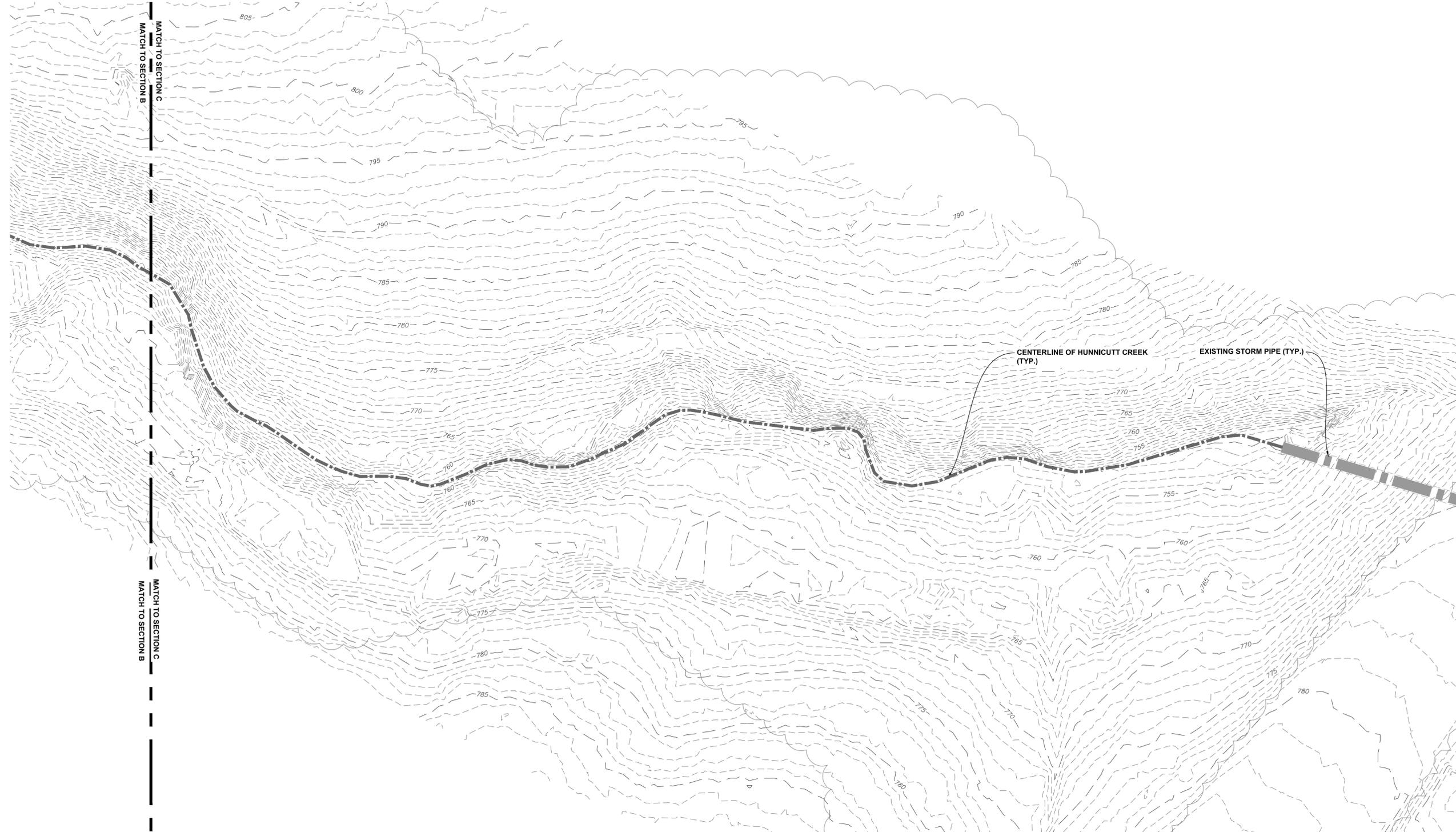
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 DESIGN BY: KCW
 CHECKED BY: PMR
 DATE: 8/29/18
 SCALE: HORIZ. 1" = 20' VERT. 1" = 20'
 JOB NUMBER: 16.061

EXISTING CONDITIONS
 SECTION C

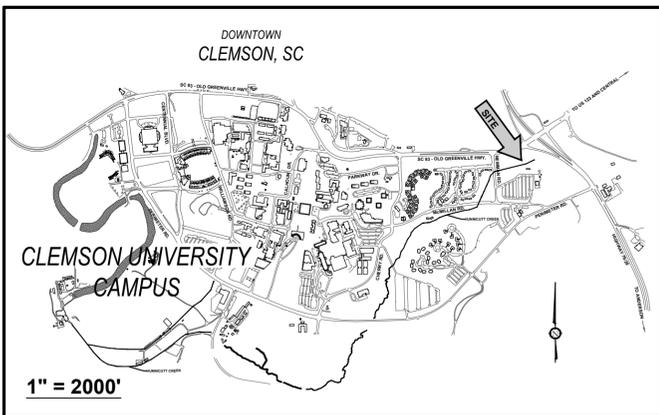
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 Sep 18, 2018 at 15:39 by rocky

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"



LEGEND	
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING UNDERGROUND TELEPHONE
	EXISTING UNDERGROUND ELECTRIC
	EXISTING SANITARY SEWER
	EXISTING STORM DRAINAGE LINE
	EXISTING FIBER OPTIC
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND POWER
	EXISTING LIGHT POLE
	EXISTING FIRE HYDRANT

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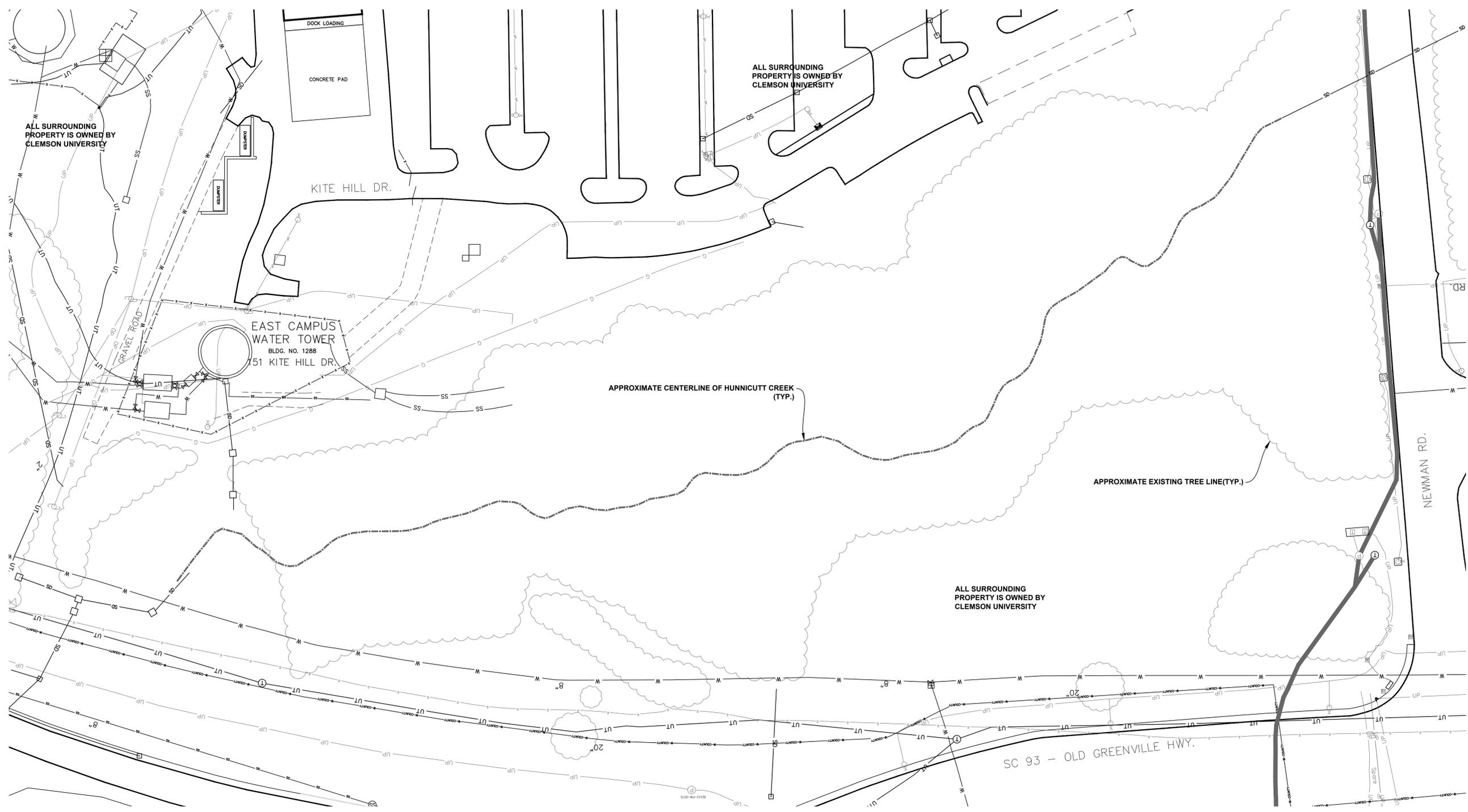
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 RESTORATION
 REACH 1

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DRAWN BY:	KCW
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DATE:	8/29/18
SCALE:	HORIZ. 1" = 40' VERT.
JOB NUMBER:	16.061

CU ATLAS PLAN

C-102

CUP - 4002323



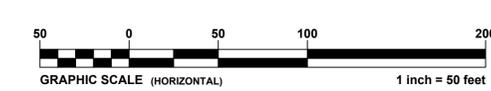
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WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

LEGEND

- CONSTRUCTION ACCESS TRAFFIC ROUTE
- TEMPORARY 6' TALL CHAIN LINK CONSTRUCTION FENCE WITH WIND SCREEN
- NO PEDESTRIAN ACCESS
- LIMITS OF DISTURBANCE

- CONSTRUCTION ROUTING AND SAFETY NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR ENSURING NO PEDESTRIAN ACCESS THROUGH THE PROJECT AREA
 - IF NECESSARY TO PREVENT PEDESTRIAN /PUBLIC TRAFFIC ACCESS, ADDITIONAL CONSTRUCTION FENCING WITH WIND SCREEN AND/OR SIGNAGE BEYOND THAT SHOWN ON THE PLANS SHALL BE INSTALLED AND IS CONSIDERED INCIDENTAL TO PROJECT WORK.
 - CONTRACTOR SHALL CONFIRM THAT ANY EXISTING CONSTRUCTION FENCING WITH WIND SCREEN AND CONSTRUCTION ENTRANCES WHICH NEW FENCING MAY TIE TO ARE PROPERLY INSTALLED. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL FENCING ASSOCIATED WITH THE PROJECT THROUGHOUT CONSTRUCTION.



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CLEMSON UNIVERSITY
HUNNICUTT CREEK RESTORATION REACH 1

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PERMIT DATE:

BID DATE:

DRAWN BY: KCW

DESIGN BY: KCW

CHECKED BY: PMR

DATE: 8/29/18

SCALE: HORIZ. 1" = 40' VERT.

JOB NUMBER: 16.061

OVERALL CONSTRUCTION ROUTING

C-103

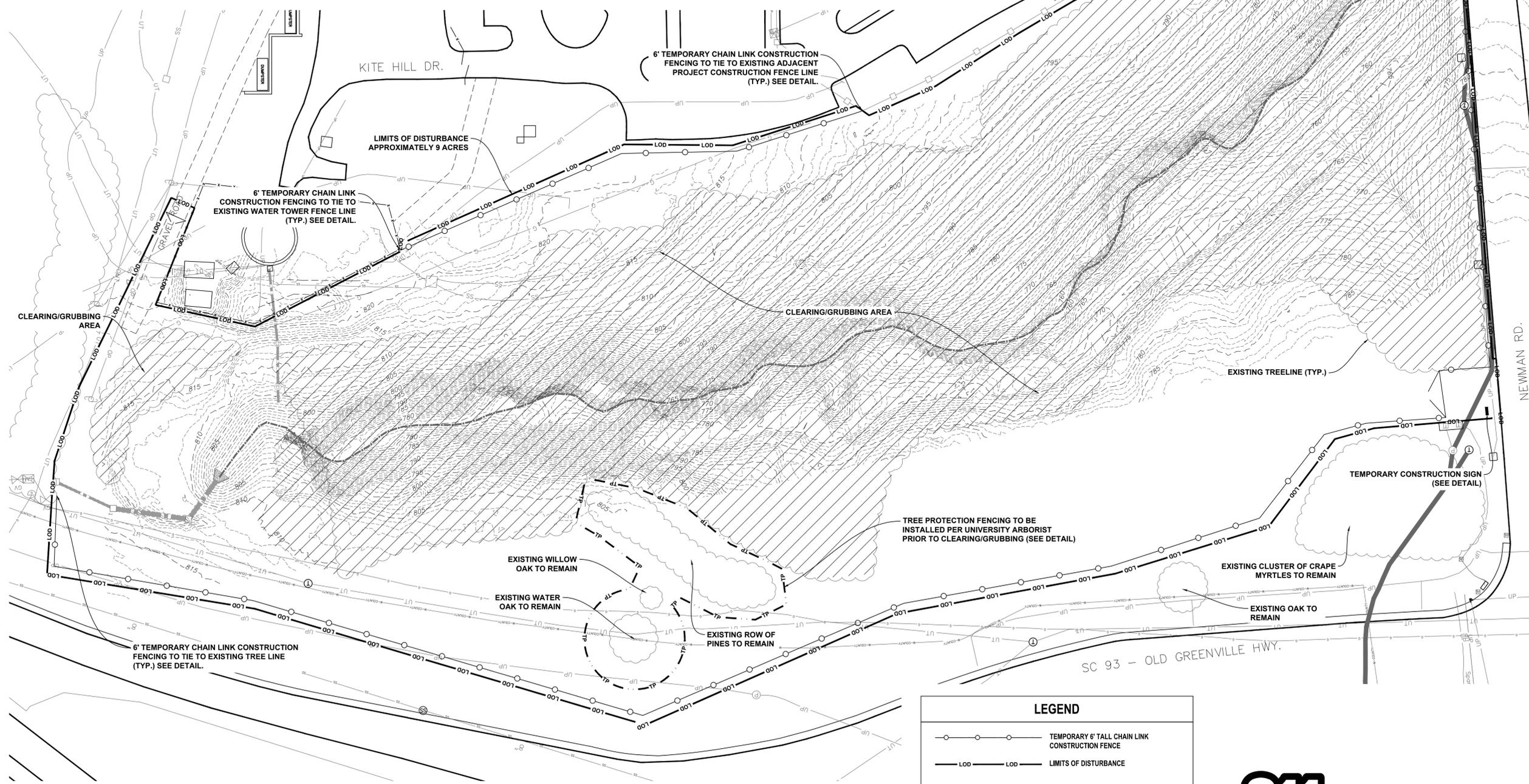
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P:\16.061 Clemson - Hunnicutt Creek Restoration\Wet Pond\DWG\Civil Drawings\16.061_Reach 1 Restoration_Bld Srd.dwg Layout: C-103 ROUTING
Sep 18, 2018 at 15:42 by rocky

CLEARING/GRUBBING NOTES:

- CONTRACTOR SHALL CONTACT UNIVERSITY ARBORIST PRIOR TO INSTALLING TREE PROTECTION. NO CLEARING/GRUBBING SHALL BEGIN UNTIL ALL TREE PROTECTION HAS BEEN INSTALLED.
- CONTRACTOR SHALL NOT DISTURB ANY VEGETATION OUTSIDE OF THE DESIGNATED TREE REMOVAL AREA. SHOULD ANY INCIDENTAL VEGETATION LOSS OCCUR OUTSIDE OF THIS AREA, THE CONTRACTOR IS RESPONSIBLE FOR RE-VEGETATION AS DETERMINED NECESSARY BY THE UNIVERSITY ARBORIST AND/OR THE ENGINEER.
- ONCE PROJECT CONSTRUCTION IS INITIATED, IT MUST BE CARRIED TO COMPLETION IN AN EXPEDITIOUS MANNER IN ORDER TO MINIMIZE THE PERIOD OF DISTURBANCE TO AQUATIC RESOURCES AND THE SURROUNDING ENVIRONMENT.
- SEDIMENT/EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO CLEARING/GRUBBING.
- CONTRACTOR IS RESPONSIBLE FOR TEMPORARY STABILIZATION OF ALL DISTURBED AREAS AT THE END OF EACH DAY.
- UTILITIES SERVICING CLEMSON UNIVERSITY SHOULD NOT BE INTERRUPTED DURING CLEMSON UNIVERSITY OPERATING HOURS.
- DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND DELIVERED TO A LICENSED TRANSFER STATION OR LANDFILL.

- THE LOCATION OF ANY OTHER POSSIBLE STOCKPILES, OFFSITE MATERIAL, WASTE, BORROW, OR CONSTRUCTION EQUIPMENT STORAGE LAYDOWN AREAS MUST BE SHOWN ON THE PLANS WITH THE LIMITS OF DISTURBANCE AND ADEQUATE SEDIMENT AND EROSION CONTROL MEASURES.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH SITE SPECIFICATIONS.
- THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE DURING CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- IF DEMOLITION OR CONSTRUCTION ON SITE WILL INTERFERE WITH THE TRAFFIC FLOW, THE CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER AND THE ADJACENT PROPERTY OWNER, TO MINIMIZE THE IMPACTS ON TRAFFIC FLOW. TEMPORARY RE-ROUTING OF TRAFFIC IS TO BE ACCOMPLISHED BY USING DOT APPROVED TRAFFIC BARRICADES, BARRELS, AND/OR CONES.
- UNDER NO CIRCUMSTANCES IS THE CONTRACTOR TO DISTURB ANY LAND OUTSIDE OF THE LIMITS OF DISTURBANCE
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE CLEMSON UNIVERSITY TREE PROTECTION POLICY (SEE C-111).



LEGEND	
	TEMPORARY 6' TALL CHAIN LINK CONSTRUCTION FENCE
	LIMITS OF DISTURBANCE
	TREE PROTECTION FENCING
	EXISTING TREE LINE
	CLEARING/GRUBBING AREA

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CIVIL ENGINEERING

LAND PLANNING ASSOCIATES, INC.
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864.242.6072 FAX 208.730.8214
design@lpa-inc.net

CLEMSON

UNIVERSITY
HUNNICUTT CREEK
RESTORATION
REACH 1

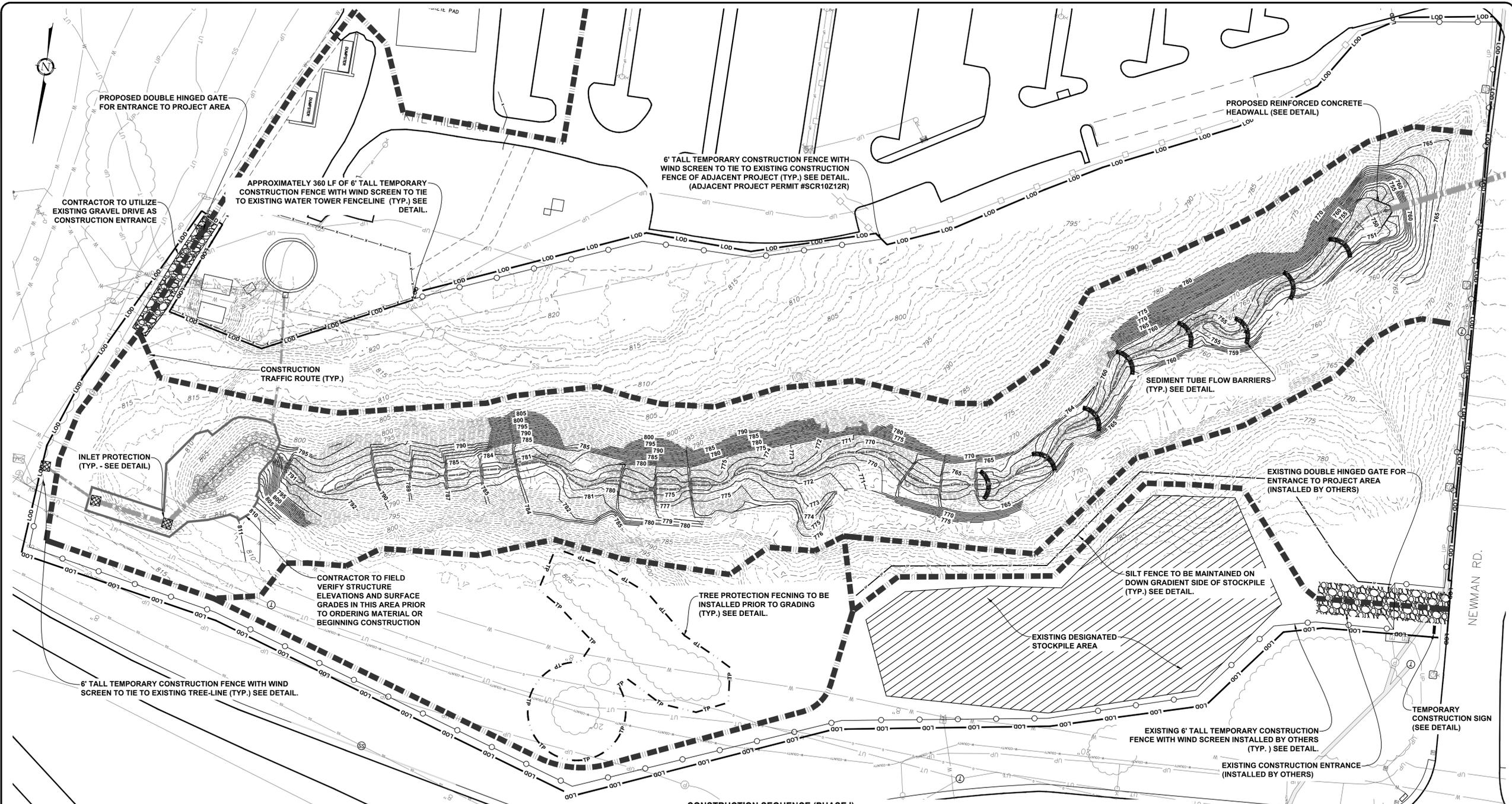
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BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 40' VERT.
JOB NUMBER:	16.061

OVERALL
CLEARING/GRUBBING
PLAN

C-104

CUP - 4002323

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CIVIL ENGINEERING

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CLEMSON UNIVERSITY
HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:

PERMIT DATE: _____

BID DATE: _____

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DESIGN BY: _____ KCW

CHECKED BY: _____ PMR

DATE: _____ 8/29/18

SCALE: HORIZ. 1" = 40' VERT. _____

JOB NUMBER: _____ 16.061

OVERALL EROSION CONTROL PHASE I

C-105

CUP - 4002323

- EROSION & SEDIMENT MANAGEMENT STRATEGIES:**
- CONSTRUCTION SCHEDULE SHALL BE SENSITIVE TO STORM EVENTS. MONITOR WEATHER FORECASTS CAREFULLY PRIOR TO START OF CONSTRUCTION TO MINIMIZE EXPOSED AREAS DURING STORM EVENTS WHEN POSSIBLE.
 - ALL SEDIMENT/EROSION CONTROL MEASURES AND TEMPORARY FLOW DIVERSION SHALL BE IN PLACE PRIOR TO BEGINNING ANY CLEARING/GRUBBING OR EARTH MOVING ACTIVITY. TEMPORARY FLOW DIVERSION TYPE SHALL BE AT THE DISCRETION OF THE CONTRACTOR, BUT DIVERSION MUST BE SIZED TO HANDLE FLOW AND DISCHARGE IS RELEASED WITHOUT SCOUR DOWNSTREAM.
 - AS CONSTRUCTION PROCEEDS DOWNSTREAM, SEDIMENT TUBE FLOW BARRIERS WILL NEED TO BE MOVED. SEDIMENT TUBES SHALL REMAIN IN PLACE UNTIL GRADING REQUIRES THEM TO BE MOVED.
 - ALL EARTH MOVING ACTIVITY SHALL BE DONE IN THE DRY. EARTH MOVING ACTIVITY SHALL NOT BEGIN IF THERE IS WATER FLOWING IN THE CURRENT AREA OF WORK. FLOW SHALL NOT BE RETURNED TO THE AREA UNTIL FINAL STRUCTURES AND STABILIZATION MEASURES HAVE BEEN INSTALLED.
 - CONTINUOUS FLOW DOWNSTREAM OF THE WORK SITE WILL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
 - ANY EXCAVATED SOIL SHALL BE PLACED IN DESIGNATED STOCKPILE AREA ON SITE UNTIL TRANSPORTED TO A PERMITTED SITE OR USED ON-SITE.
 - WORK SHALL BE PERFORMED IN SECTIONS OF LENGTH PRACTICAL TO BE STABILIZED (EITHER TEMPORARILY OR PERMANENTLY) AT THE END OF EACH WORK DAY.
 - CONTRACTOR IS RESPONSIBLE FOR STABILIZATION (TEMPORARY OR PERMANENT) OF ALL DISTURBED AREAS AT THE END OF EACH DAY SUCH THAT THE WORK PERFORMED WILL NOT BE DISPLACED IN THE EVENT THE AREA RECEIVES FLOW DURING A STORM EVENT.
 - CONTRACTOR SHALL BEGIN WORK AT UPSTREAM END AND WORK DOWNSTREAM.
 - ALL SLOPES WILL REQUIRE SURFACE TRACKING.
 - CONTRACTOR RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL DEBRIS FOUND ON THE PROJECT SITE. DEBRIS FOUND ON THE PROJECT SITE BE REMOVED AND DELIVERED TO A LICENSED TRANSFER STATION OR LANDFILL. DEBRIS MAY INCLUDE BUT IS NOT LIMITED TO, CONCRETE, TIRES, TRASH, OLD PIPE SECTIONS, ETC.
 - SHOULD THE CONTRACTOR FIND ANY EROSION OR SEDIMENT CONTROL MEASURE TO BE INADEQUATE IN THE FIELD, CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER IMMEDIATELY.
 - AT THE CONCLUSION OF ALL EARTH MOVING ACTIVITY AND INSTALLATION OF STABILIZATION MEASURES, SEDIMENT SHALL BE REMOVED FROM THE EXISTING DOWNSTREAM CULVERT.

- CONSTRUCTION SEQUENCE (PHASE I):**
- OBTAIN NPDES PERMIT FROM PICKENS COUNTY AND SCDHEC. OBTAIN APPROVAL FOR WORK WITHIN JURISDICTIONAL WATERS FROM SCDHEC AND U.S. ARMY CORPS OF ENGINEERS.
 - SCHEDULE PRE-CONSTRUCTION MEETING WITH OWNER, ENGINEER, SCDHEC, AND PICKENS COUNTY REPRESENTATIVE PRIOR TO STARTING CONSTRUCTION.
 - CONFIRM EXISTING CONSTRUCTION ENTRANCE IS PROPERLY MAINTAINED. ADDRESS ANY DEFICIENCIES PRIOR TO USING/INITIATING CONSTRUCTION ACTIVITY.
 - MONITOR WEATHER FORECASTS CAREFULLY PRIOR TO START OF CONSTRUCTION TO MINIMIZE EXPOSED AREAS DURING STORM EVENTS WHEN POSSIBLE.
 - INSTALL ALL EROSION/SEDIMENT CONTROL MEASURES.
 - INSTALL FLOW DIVERSION AROUND AREA OF WORK.
 - PERFORM CLEARING/GRUBBING ACCORDING TO PLAN. REMOVE AND TRANSPORT ANY DEBRIS FOUND ON SITE TO A LICENSED TRANSFER STATION OR LANDFILL.
 - PERFORM GRADING, INSTALLING STRUCTURES AND CHANNEL FEATURES AS NOTED ON PLANS. *NOTE CONTRACTOR IS RESPONSIBLE FOR ENSURING EXPOSED SOIL IS STABILIZED TO WITHSTAND POTENTIAL FLOW/RAINFALL RECEIVED AT THE CONCLUSION OF EACH WORK DAY BEFORE LEAVING THE PROJECT SITE.
- SEE C-108 FOR CONTINUED CONSTRUCTION SEQUENCE (EC PHASE II).



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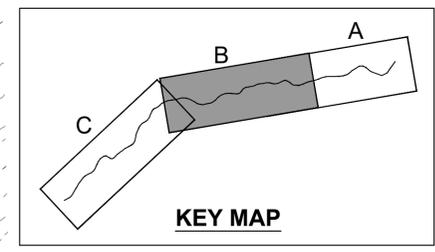
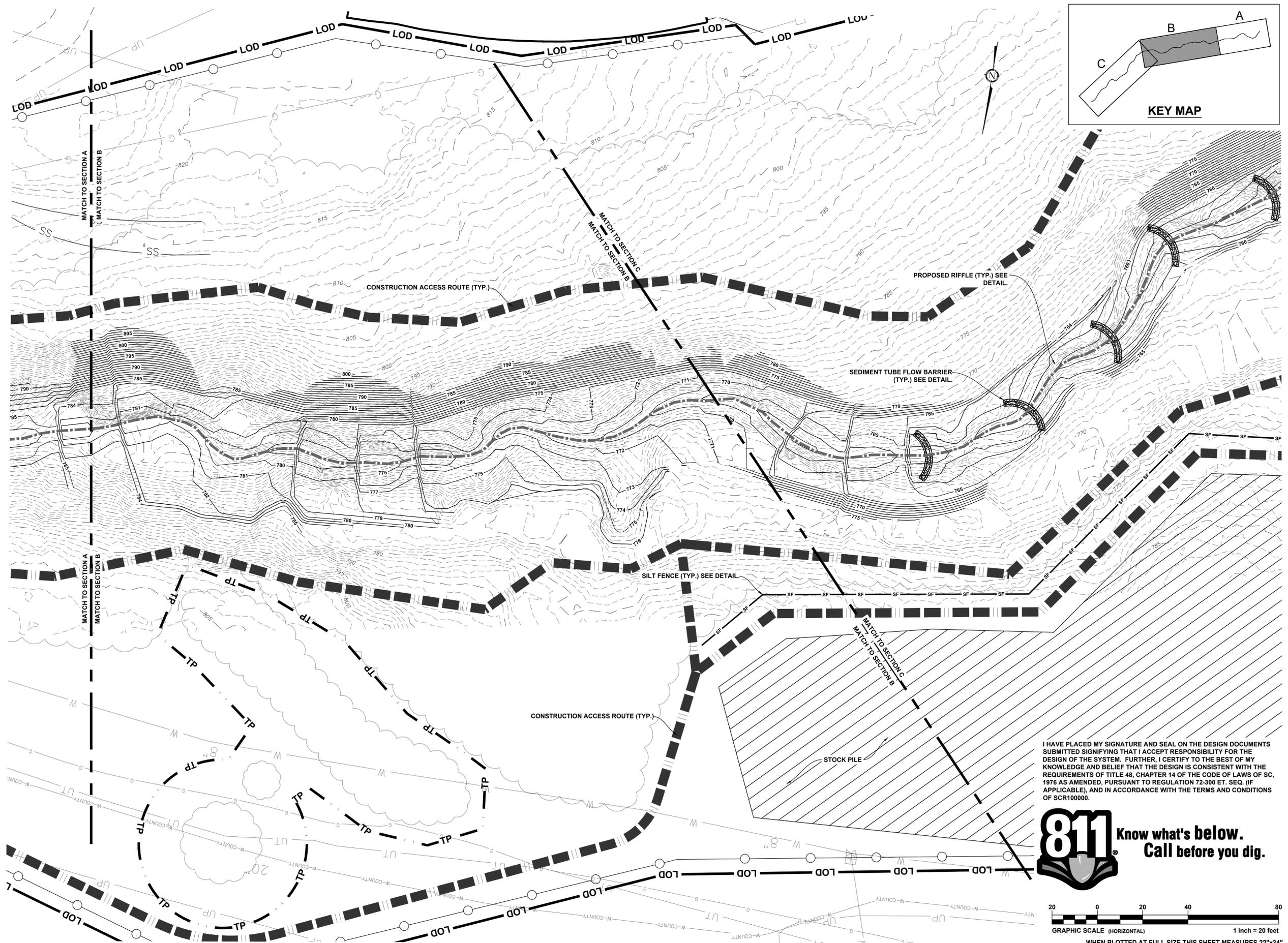
LEGEND

	CONSTRUCTION ACCESS TRAFFIC ROUTE
	TEMPORARY 6' TALL CHAIN LINK CONSTRUCTION FENCE
	SILT FENCE
	LIMITS OF DISTURBANCE
	STOCKPILE AREA
	CONSTRUCTION ENTRANCE
	SEDIMENT TUBE FLOW BARRIERS
	INLET PROTECTION

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

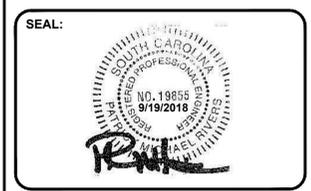
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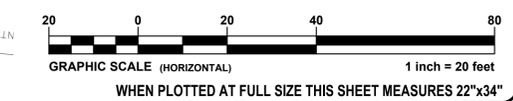
CLEMSON UNIVERSITY
 HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:

PERMIT DATE: _____
 BID DATE: _____

DRAWN BY: KCW
 DESIGN BY: KCW
 CHECKED BY: PMR
 DATE: 8/29/18
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 JOB NUMBER: 16.061

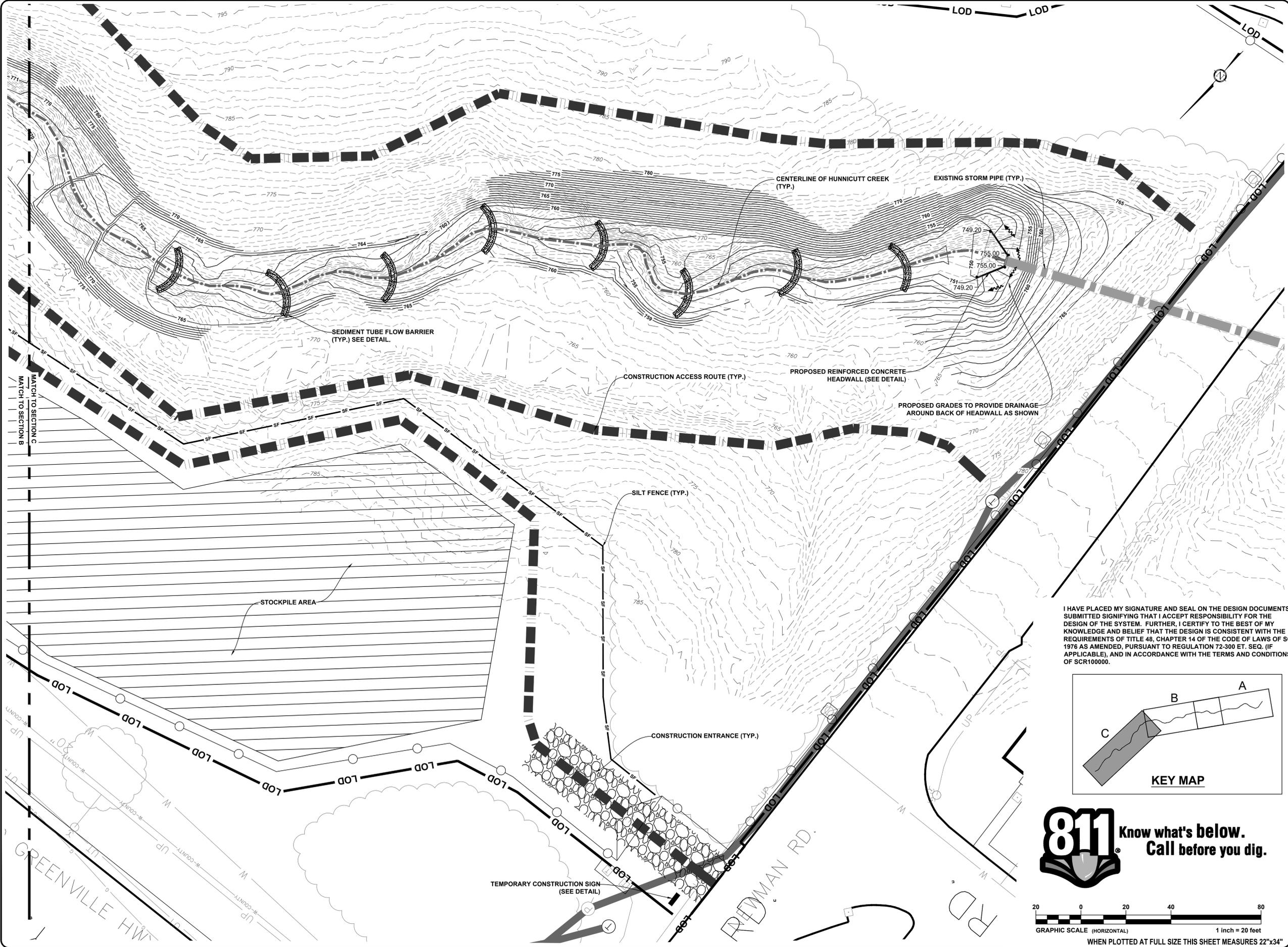
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**SECTION B
 EROSION CONTROL
 PHASE I**

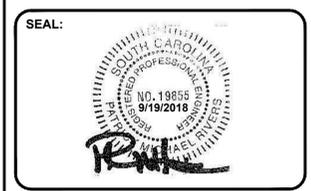
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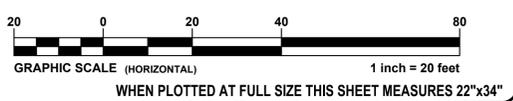
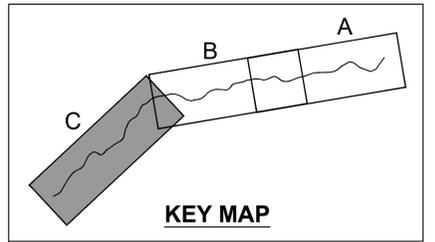


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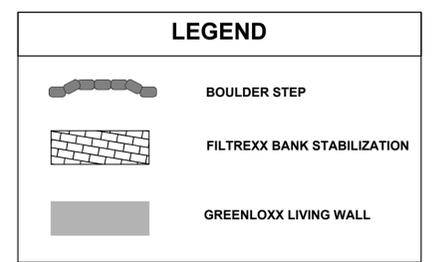
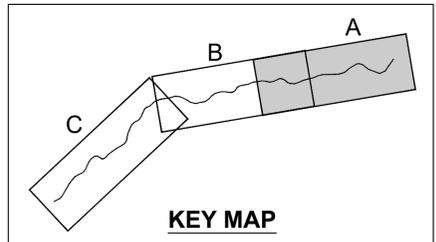
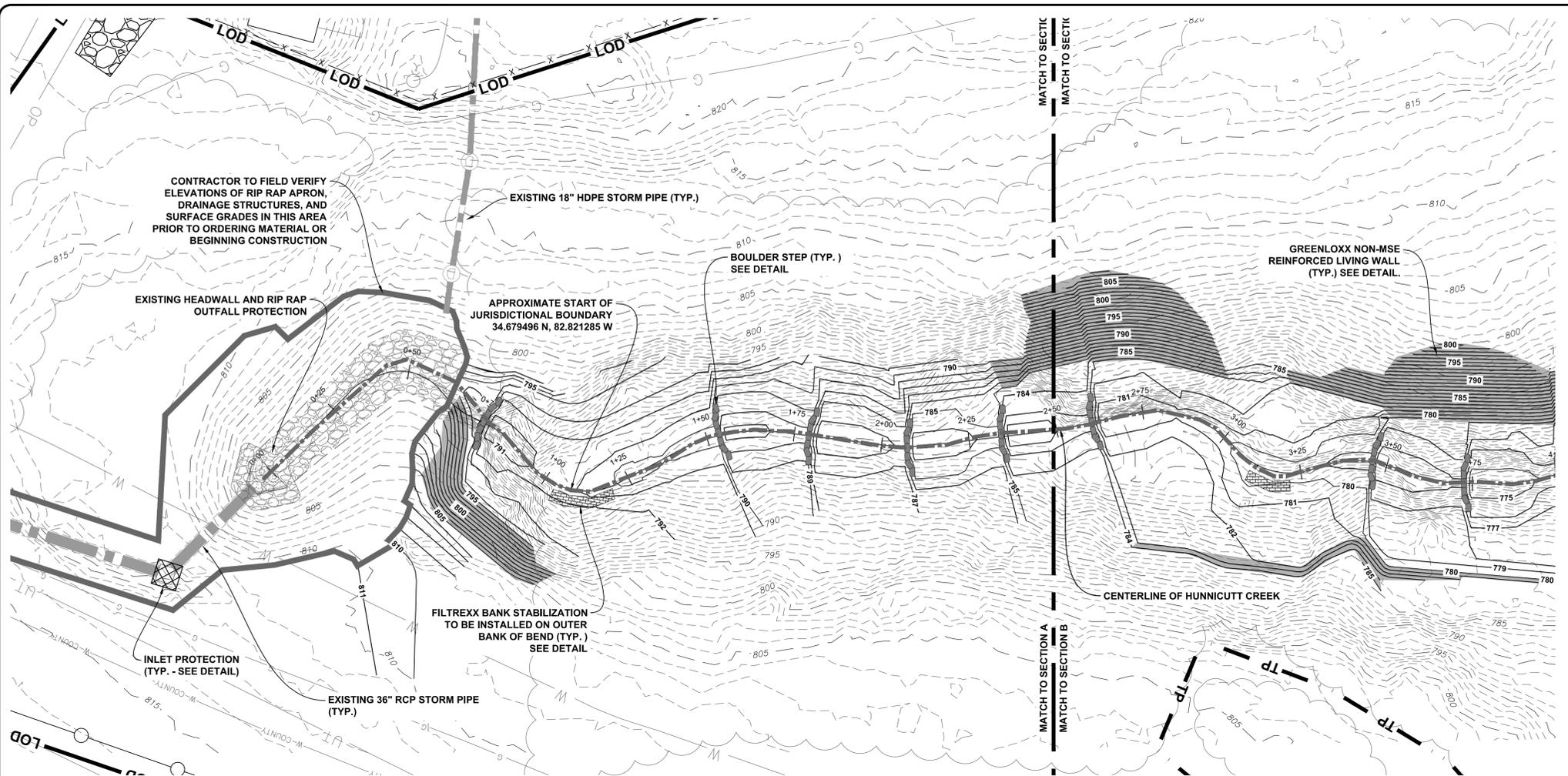
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**SECTION C
 EROSION CONTROL
 PHASE I**

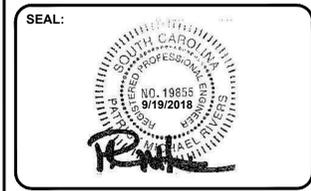
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CLEMSON UNIVERSITY

HUNNICUTT CREEK RESTORATION REACH 1

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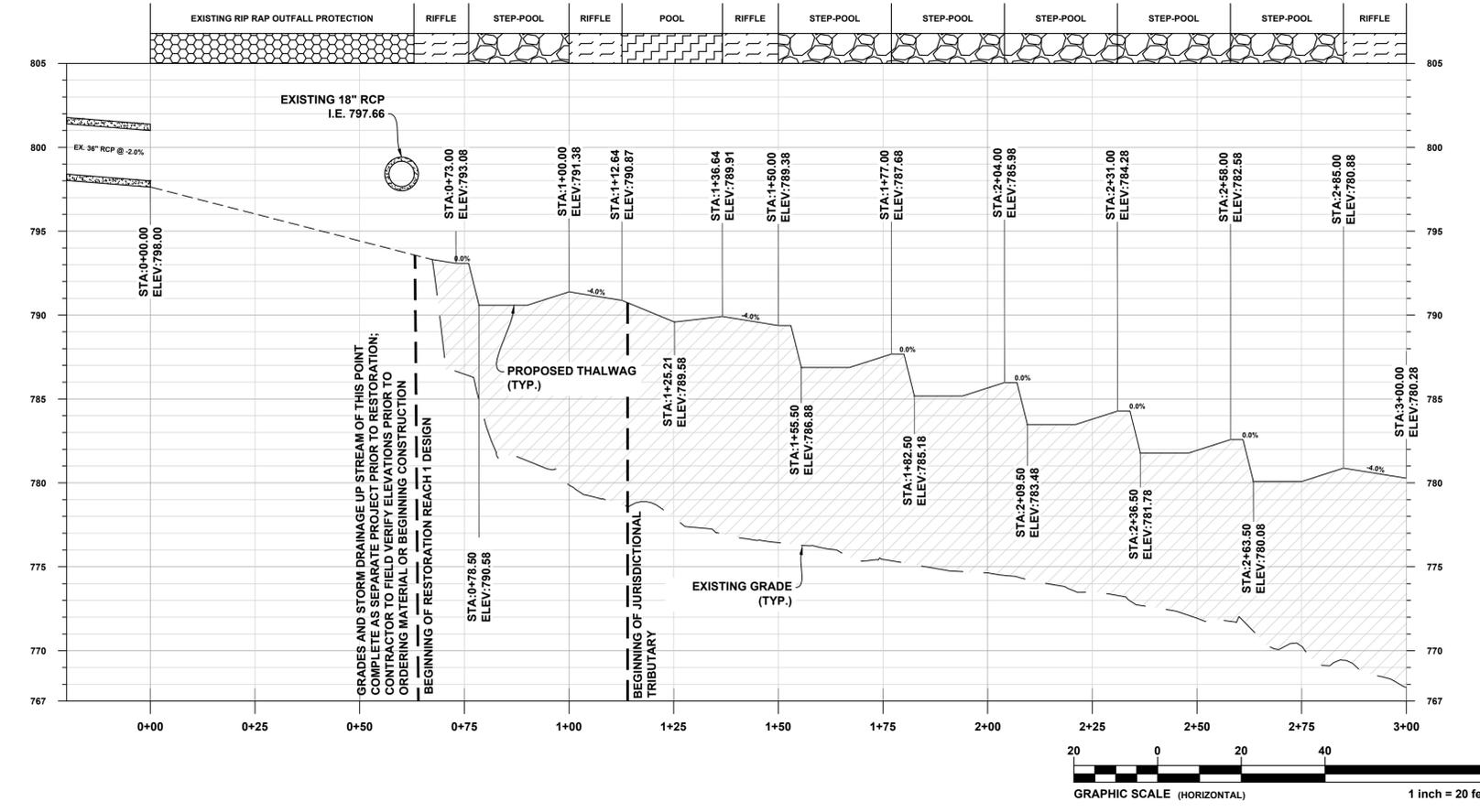
GRADING PLAN & PROFILE SECTION A

C-106A

CUP - 4002323



CONTRACTOR TO REFERENCE STATIONING PROVIDED ON PROFILES FOR POSITIONING DESIGNED CHANNEL FEATURES (RIFFLES, POOLS, BOULDER STEPS, AND STEP-POOLS) ALONG THE CENTERLINE. RIFFLE, POOLS, BOULDER STEPS, AND STEP-POOLS SHALL BE CONSTRUCTED ACCORDING TO TYPICAL CROSS-SECTIONS ON SHEET C-109.

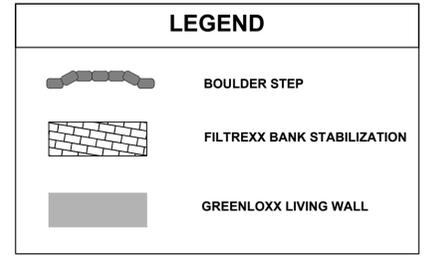
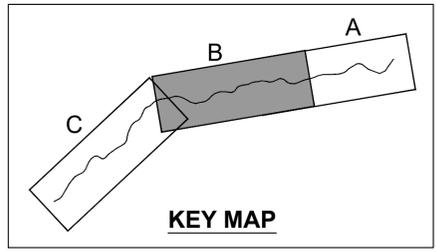
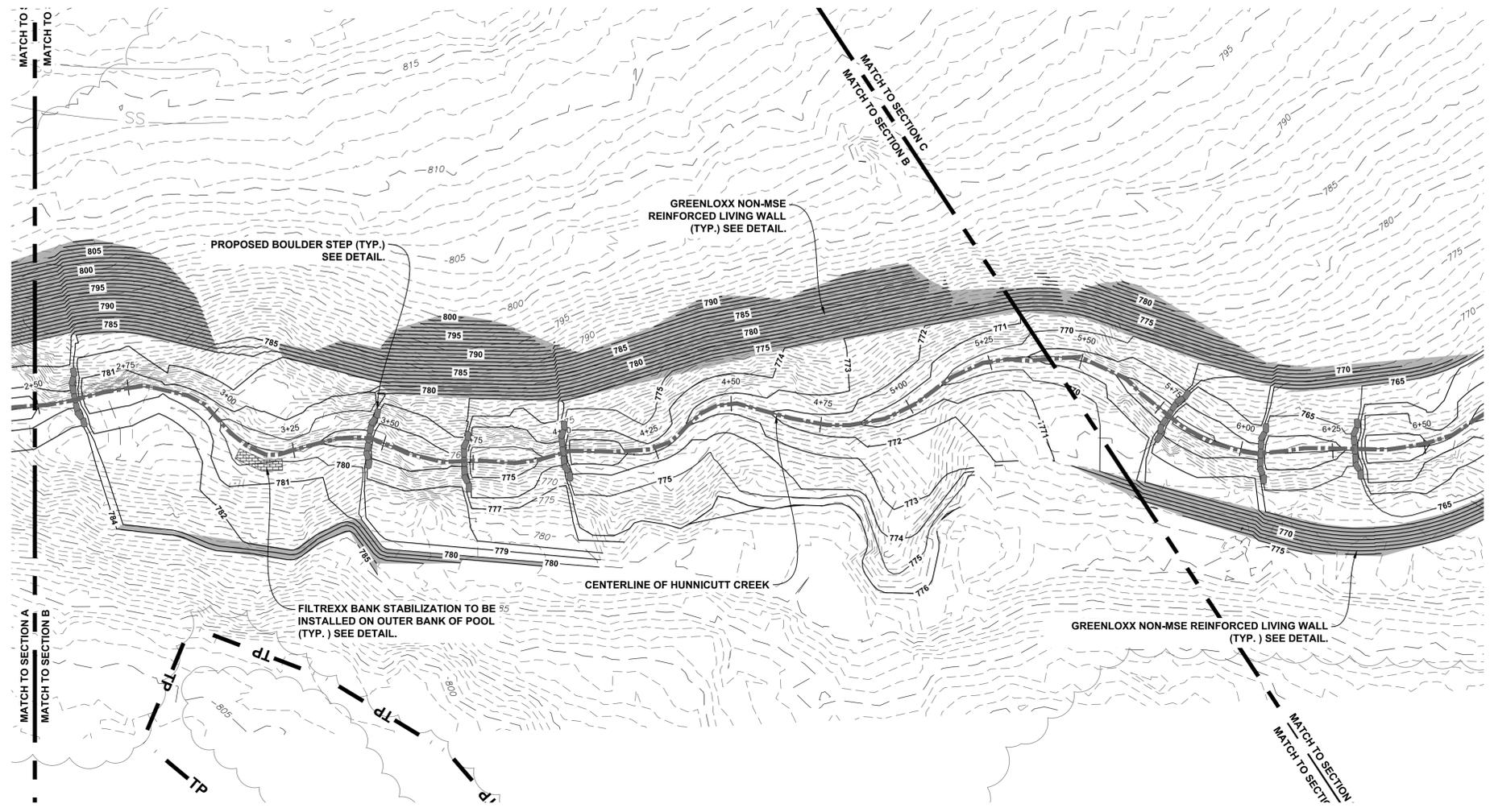


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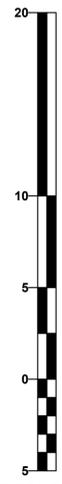
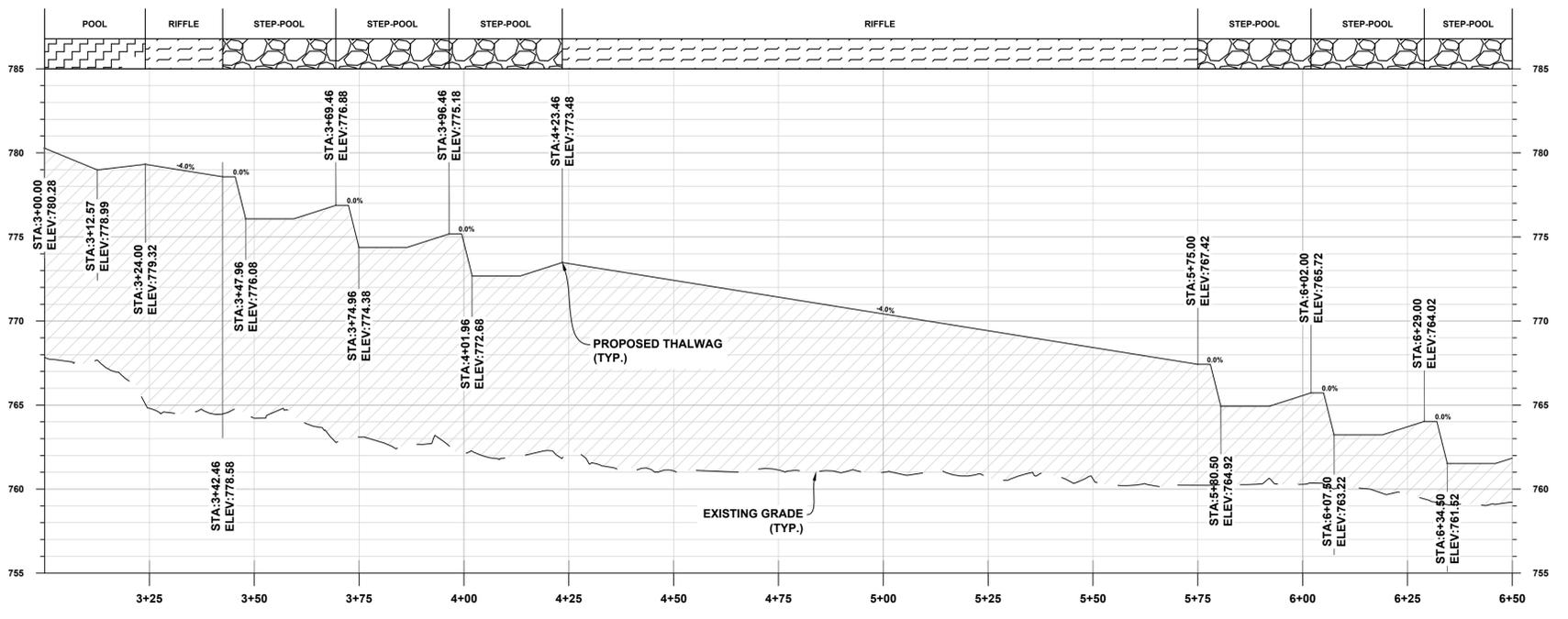
811 Know what's below.
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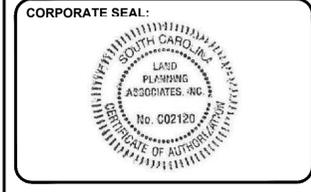
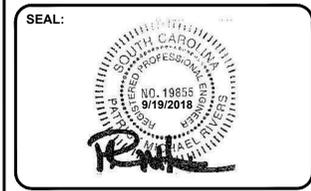
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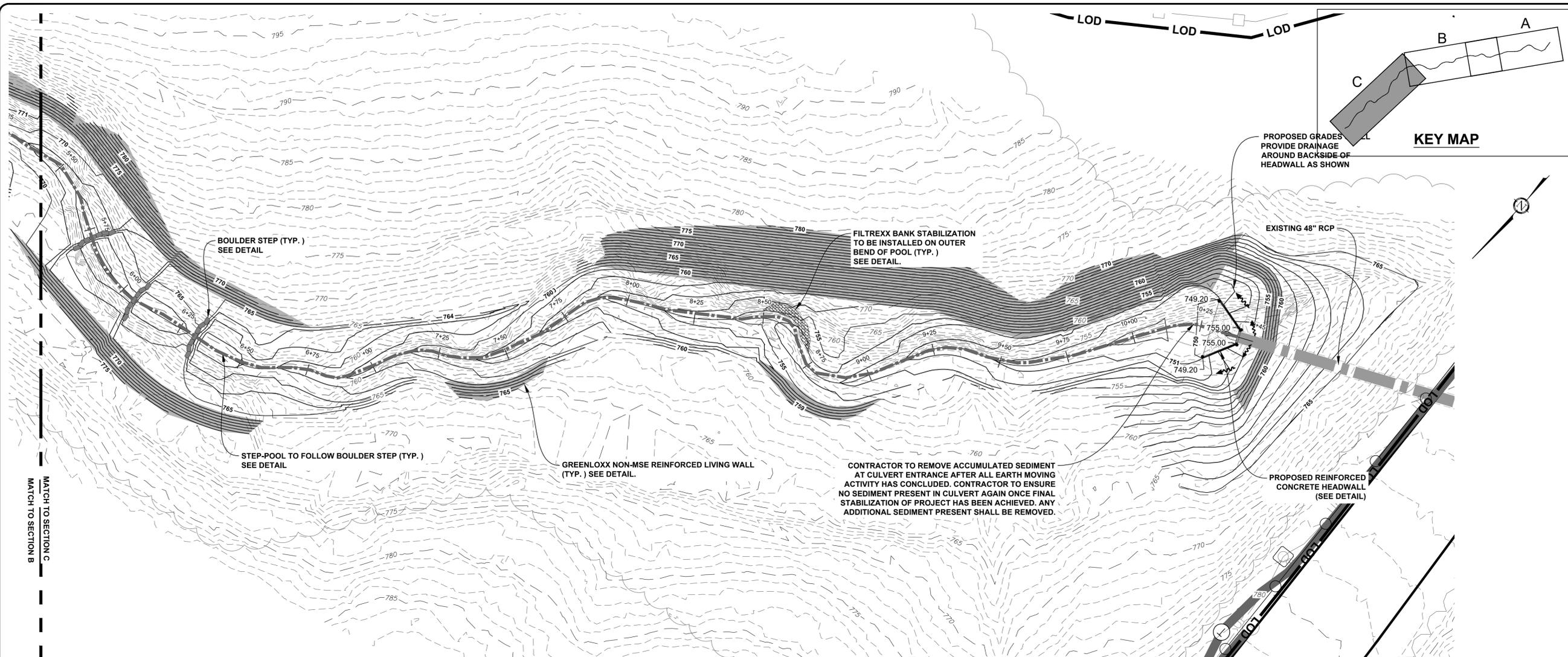
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PERMIT DATE:	
BID DATE:	
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DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
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JOB NUMBER:	16.061

GRADING PLAN & PROFILE SECTION B

C-106B

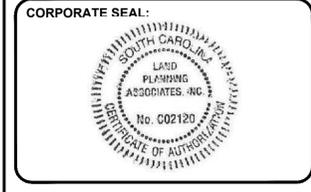
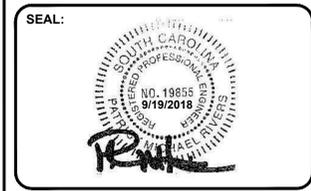
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HUNNICUTT CREEK RESTORATION REACH 1

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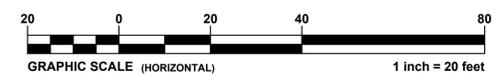
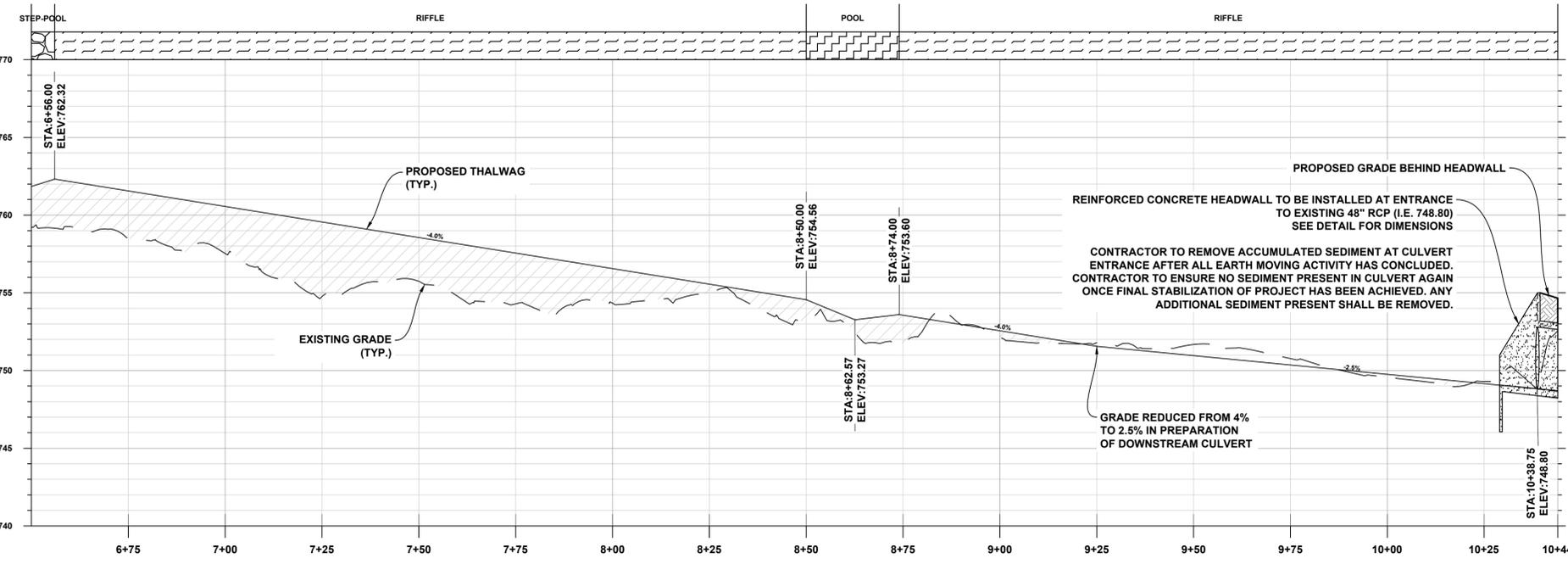
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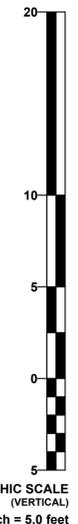
GRADING PLAN & PROFILE SECTION C

C-106C

CUP - 4002323



CONTRACTOR TO REFERENCE STATIONING PROVIDED ON PROFILES FOR POSITIONING DESIGNED CHANNEL FEATURE (RIFFLES, POOLS, BOULDER STEPS, AND STEP-POOLS) ALONG THE CENTERLINE. RIFFLE, POOLS, BOULDER STEPS, AND STEP-POOLS SHALL BE CONSTRUCTED ACCORDING TO TYPICAL CROSS-SECTIONS ON SHEET C-109.



LEGEND

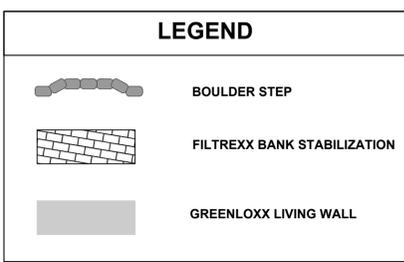
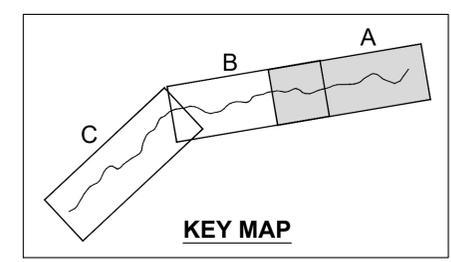
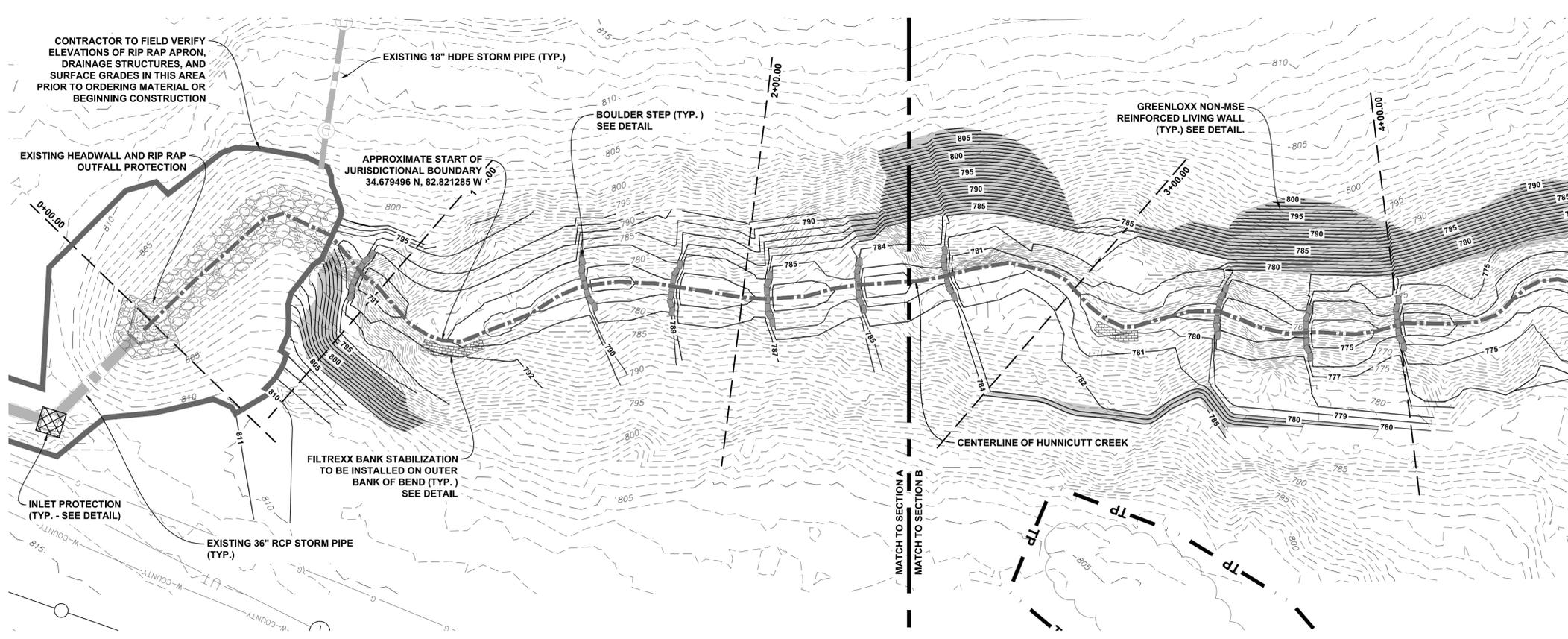
	BOULDER STEP
	FILTREXX BANK STABILIZATION
	GREENLOXX LIVING WALL

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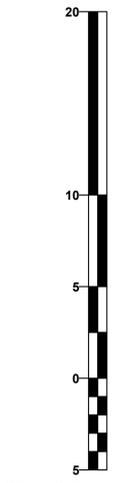
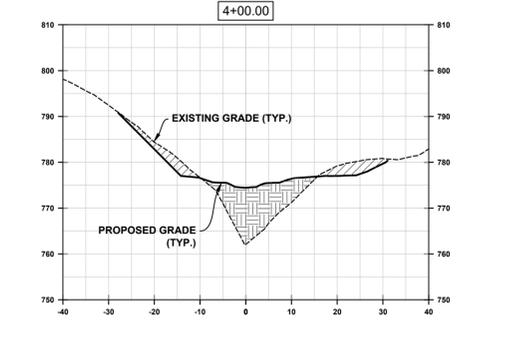
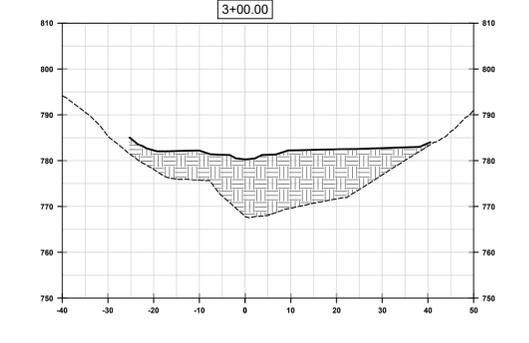
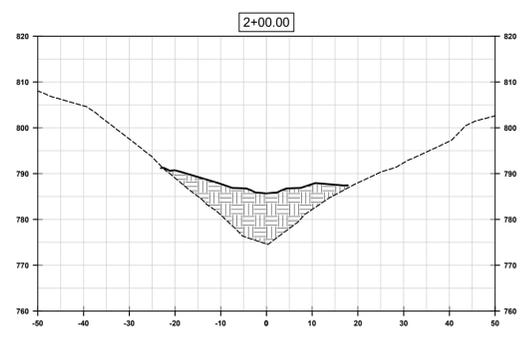
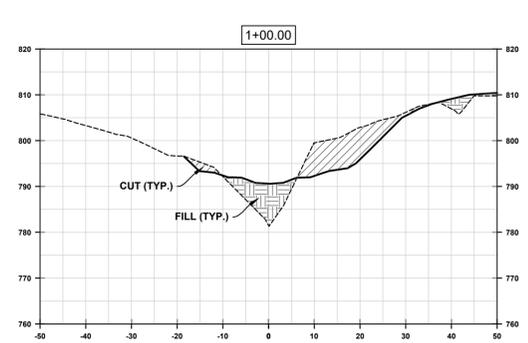
WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

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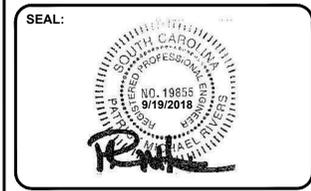


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GRADING PLAN & CROSS-SECTIONS SECTION A

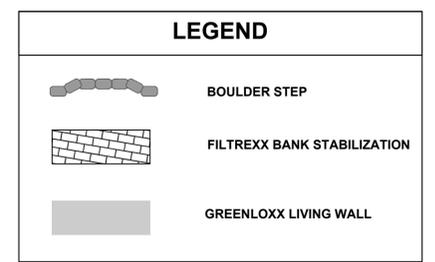
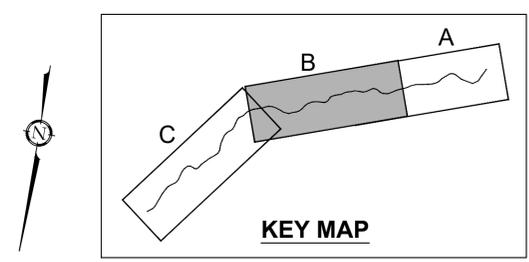
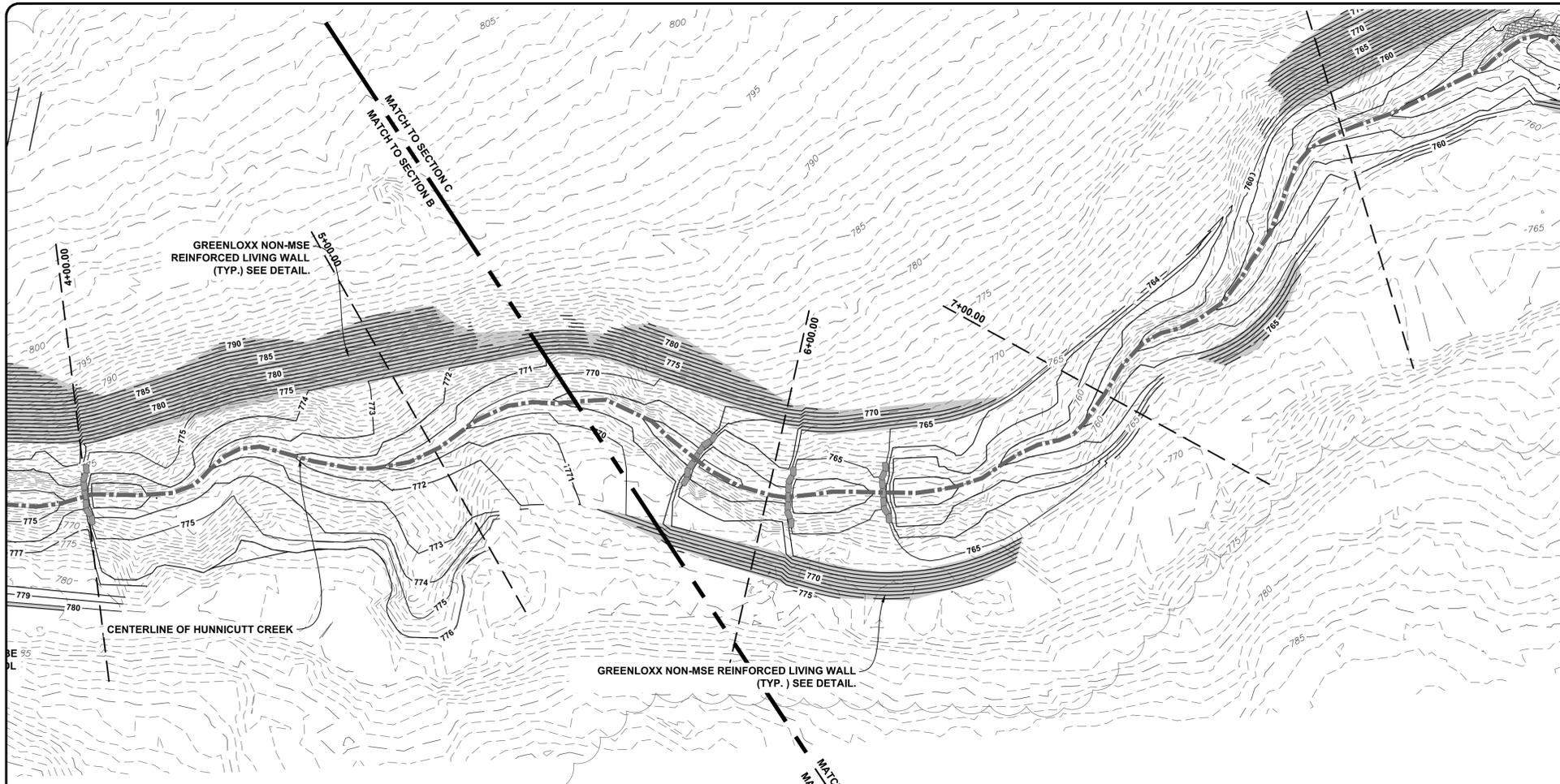
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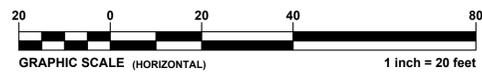
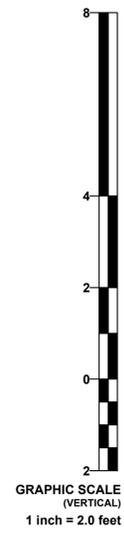
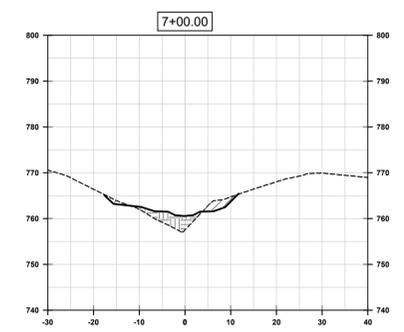
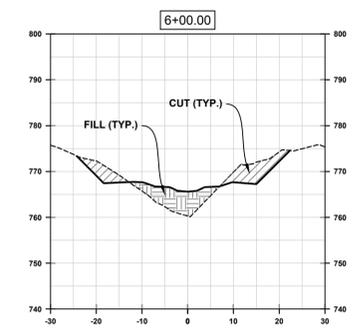
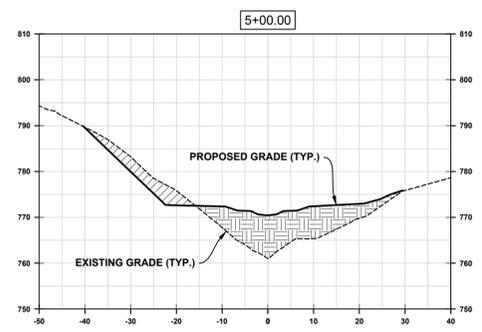
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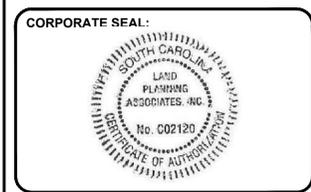
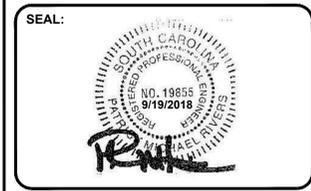


CONTRACTOR TO REFERENCE STATIONING PROVIDED ON PROFILES FOR POSITIONING DESIGNED CHANNEL FEATURES (RIFFLES, POOLS, BOULDER STEPS, AND STEP-POOLS) ALONG THE CENTERLINE. RIFFLE, POOLS, BOULDER STEPS, AND STEP-POOLS SHALL BE CONSTRUCTED ACCORDING TO TYPICAL CROSS-SECTIONS ON SHEET C-109.

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET. SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.



REVISIONS:			
NO.	DATE	DESCRIPTION	BY



LAND PLANNING ASSOCIATES
CIVIL ENGINEERING

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ISSUE FOR CONSTRUCTION:	
PERMIT DATE:	
BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 20' VERT. 1" = 5'
JOB NUMBER:	16,061

GRADING PLAN & CROSS-SECTIONS
SECTION B

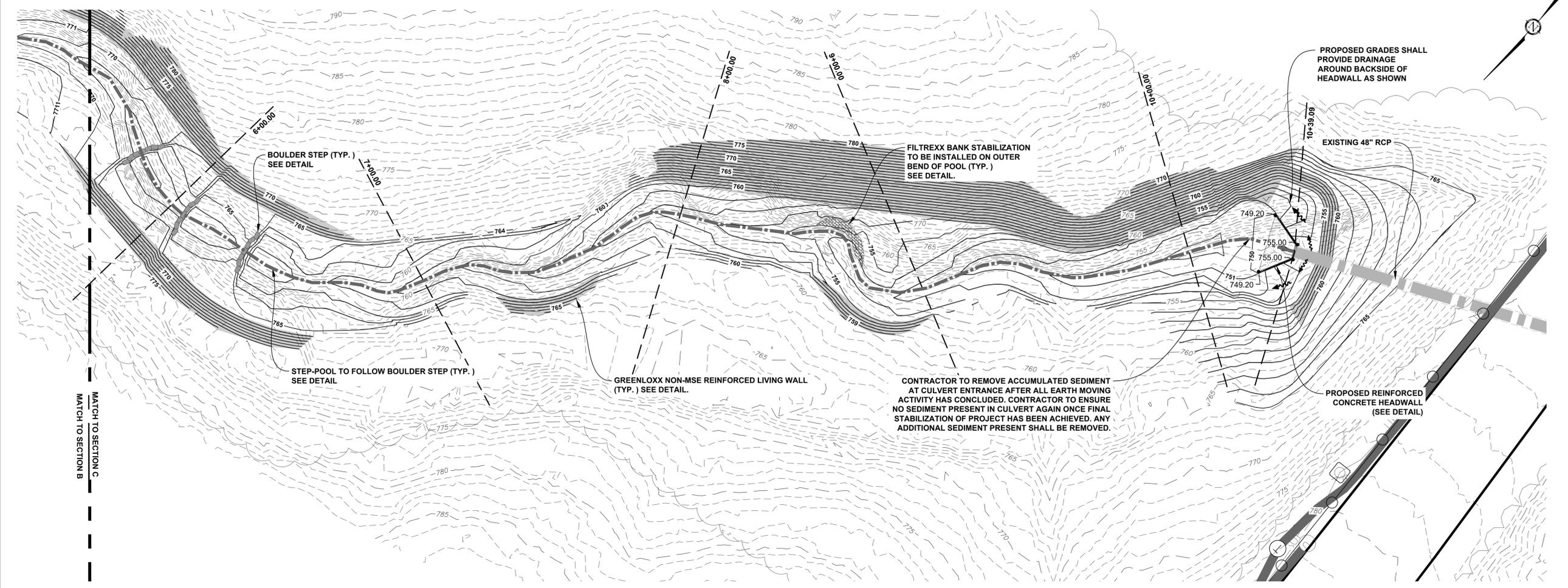
C-107B

CUP - 4002323



WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

P:\16,061_Clemson - Hunnicutt Creek Forebay Wet Pond\DWG\Civil Drawings\16,061_Reach 1 Restoration_Bld Set.dwg | Layout: C-107B X-SECTIONS B
Sep 18, 2018 at 16:00 by rocky



MATCH TO SECTION B
MATCH TO SECTION C

PROPOSED GRADES SHALL PROVIDE DRAINAGE AROUND BACKSIDE OF HEADWALL AS SHOWN

BOULDER STEP (TYP.) SEE DETAIL

FILTREXX BANK STABILIZATION TO BE INSTALLED ON OUTER BEND OF POOL (TYP.) SEE DETAIL.

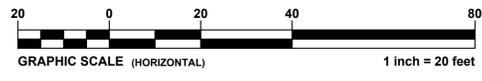
EXISTING 48" RCP

STEP-POOL TO FOLLOW BOULDER STEP (TYP.) SEE DETAIL

GREENLOXX NON-MSE REINFORCED LIVING WALL (TYP.) SEE DETAIL.

CONTRACTOR TO REMOVE ACCUMULATED SEDIMENT AT CULVERT ENTRANCE AFTER ALL EARTH MOVING ACTIVITY HAS CONCLUDED. CONTRACTOR TO ENSURE NO SEDIMENT PRESENT IN CULVERT AGAIN ONCE FINAL STABILIZATION OF PROJECT HAS BEEN ACHIEVED. ANY ADDITIONAL SEDIMENT PRESENT SHALL BE REMOVED.

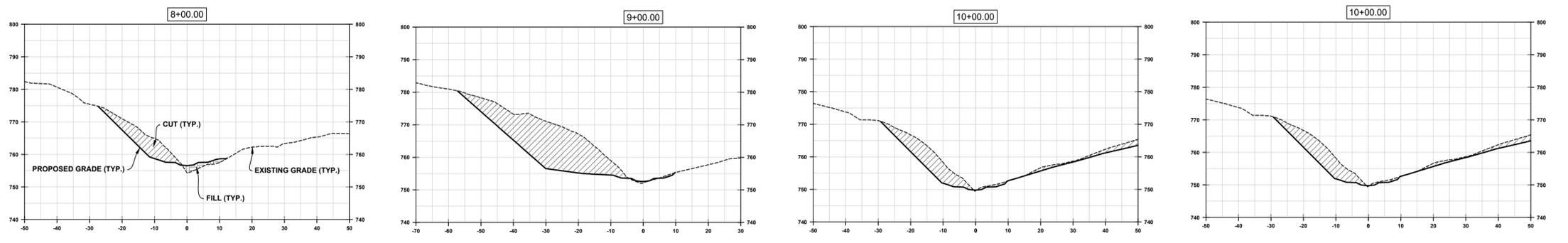
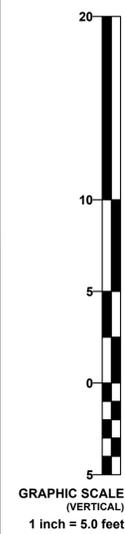
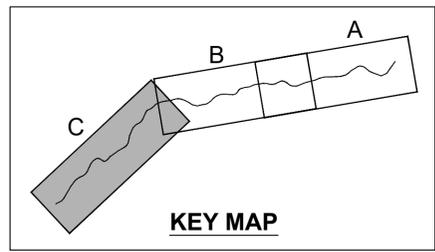
PROPOSED REINFORCED CONCRETE HEADWALL (SEE DETAIL)



LEGEND	
	BOULDER STEP
	FILTREXX BANK STABILIZATION
	GREENLOXX LIVING WALL

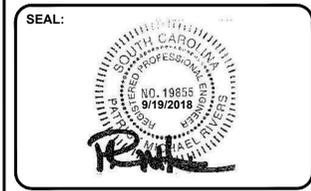
I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET. SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR1000000.

CONTRACTOR TO REFERENCE STATIONING PROVIDED ON PROFILES FOR POSITIONING DESIGNED CHANNEL FEATURES (RIFFLES, POOLS, BOULDER STEPS, AND STEP-POOLS) ALONG THE CENTERLINE. RIFFLE, POOLS, BOULDER STEPS, AND STEP-POOLS SHALL BE CONSTRUCTED ACCORDING TO TYPICAL CROSS-SECTIONS ON SHEET C-109.



WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

REVISIONS:			
NO.	DATE	DESCRIPTION	BY



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CIVIL ENGINEERING

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UNIVERSITY OF SOUTH CAROLINA
HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:	
PERMIT DATE:	
BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 20' VERT. 1" = 5'
JOB NUMBER:	16.061

GRADING PLAN & CROSS-SECTIONS SECTION C

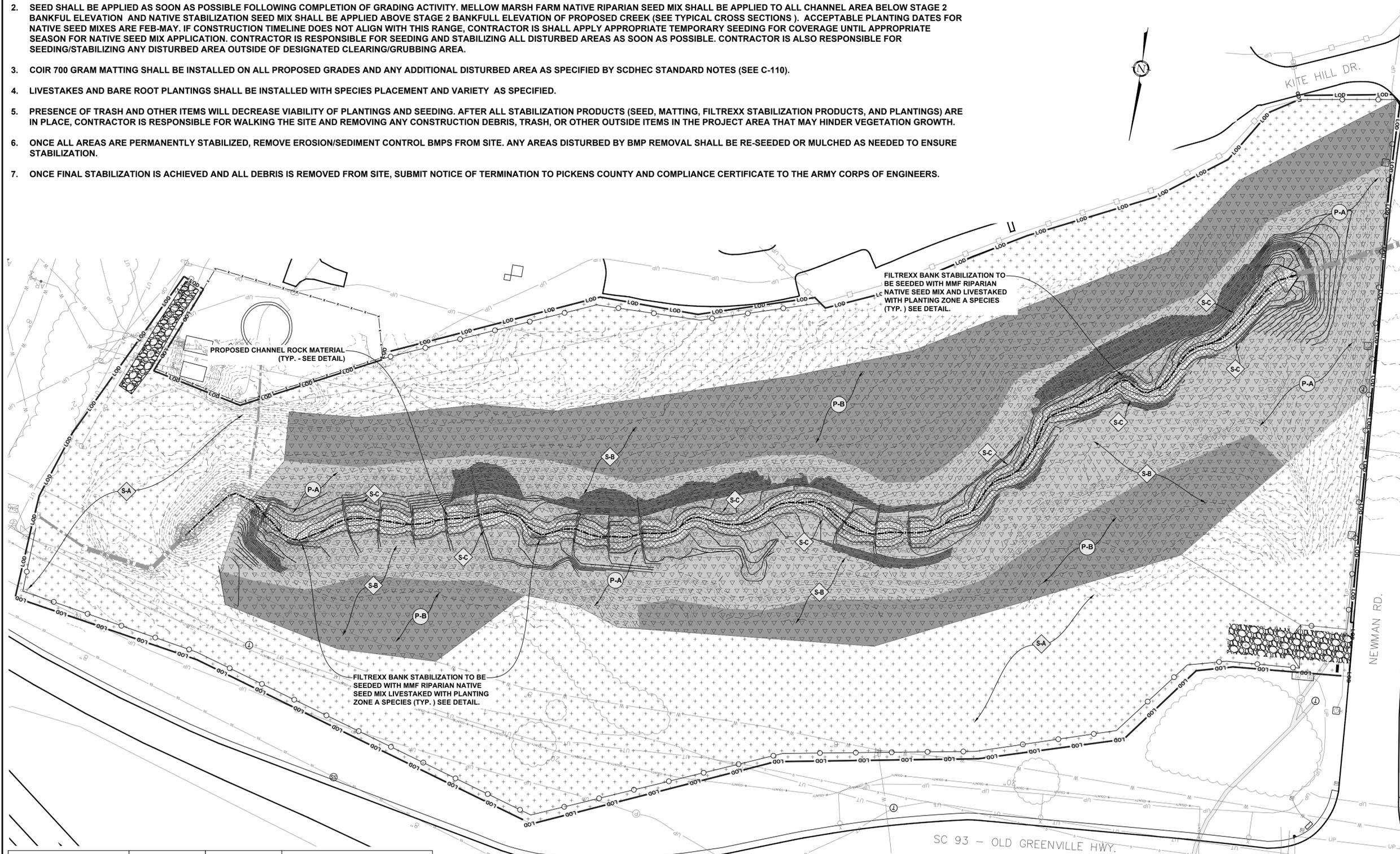
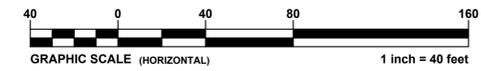
C-107C

CUP - 4002323

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Sep 18, 2018 at 16:00 by rocky

CONSTRUCTION SEQUENCE (PHASE II):

1. ALL DISTURBED AREA SHALL BE STABILIZED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER WORK AS CEASED PER SCDHEC STANDARDS (SEE C-110).
2. SEED SHALL BE APPLIED AS SOON AS POSSIBLE FOLLOWING COMPLETION OF GRADING ACTIVITY. MELLOW MARSH FARM NATIVE RIPARIAN SEED MIX SHALL BE APPLIED TO ALL CHANNEL AREA BELOW STAGE 2 BANKFUL ELEVATION AND NATIVE STABILIZATION SEED MIX SHALL BE APPLIED ABOVE STAGE 2 BANKFULL ELEVATION OF PROPOSED CREEK (SEE TYPICAL CROSS SECTIONS). ACCEPTABLE PLANTING DATES FOR NATIVE SEED MIXES ARE FEB-MAY. IF CONSTRUCTION TIMELINE DOES NOT ALIGN WITH THIS RANGE, CONTRACTOR IS SHALL APPLY APPROPRIATE TEMPORARY SEEDING FOR COVERAGE UNTIL APPROPRIATE SEASON FOR NATIVE SEED MIX APPLICATION. CONTRACTOR IS RESPONSIBLE FOR SEEDING AND STABILIZING ALL DISTURBED AREAS AS SOON AS POSSIBLE. CONTRACTOR IS ALSO RESPONSIBLE FOR SEEDING/STABILIZING ANY DISTURBED AREA OUTSIDE OF DESIGNATED CLEARING/GRUBBING AREA.
3. COIR 700 GRAM MATTING SHALL BE INSTALLED ON ALL PROPOSED GRADES AND ANY ADDITIONAL DISTURBED AREA AS SPECIFIED BY SCDHEC STANDARD NOTES (SEE C-110).
4. LIVESTAKES AND BARE ROOT PLANTINGS SHALL BE INSTALLED WITH SPECIES PLACEMENT AND VARIETY AS SPECIFIED.
5. PRESENCE OF TRASH AND OTHER ITEMS WILL DECREASE VIABILITY OF PLANTINGS AND SEEDING. AFTER ALL STABILIZATION PRODUCTS (SEED, MATTING, FILTREXX STABILIZATION PRODUCTS, AND PLANTINGS) ARE IN PLACE, CONTRACTOR IS RESPONSIBLE FOR WALKING THE SITE AND REMOVING ANY CONSTRUCTION DEBRIS, TRASH, OR OTHER OUTSIDE ITEMS IN THE PROJECT AREA THAT MAY HINDER VEGETATION GROWTH.
6. ONCE ALL AREAS ARE PERMANENTLY STABILIZED, REMOVE EROSION/SEDIMENT CONTROL BMPS FROM SITE. ANY AREAS DISTURBED BY BMP REMOVAL SHALL BE RE-SEEDING OR MULCHED AS NEEDED TO ENSURE STABILIZATION.
7. ONCE FINAL STABILIZATION IS ACHIEVED AND ALL DEBRIS IS REMOVED FROM SITE, SUBMIT NOTICE OF TERMINATION TO PICKENS COUNTY AND COMPLIANCE CERTIFICATE TO THE ARMY CORPS OF ENGINEERS.



REVISIONS:

NO.	DATE	DESCRIPTION	BY



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CIVIL ENGINEERING

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design@lp-inc.net

CLEMSON UNIVERSITY
HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:
PERMIT DATE:
BID DATE:

DRAWN BY: KCW
DESIGN BY: KCW
CHECKED BY: PMR
DATE: 8/29/18
SCALE: HORIZ. 1" = 40' VERT. 1" = 40'
JOB NUMBER: 16.061

OVERALL EROSION CONTROL PHASE II
C-108
CUP - 4002323

SEED MIX SPECIFICATION	PLAN DISPLAY	APPLICATION RATE	LOCATION
GENERAL PERMANENT SEEDING PER SCDHEC SEEDING SCHEDULE (SEE C-110)		SEE UPSTATE SCDHEC SEEDING SCHEDULE ON C-110	ALL DISTURBED AREAS OUTSIDE OF THOSE SPECIFIED TO RECEIVE NATIVE SEED MIXES
MMF STABILIZATION NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	TOP OF PROPOSED CHANNEL TO PLANTING ZONE B OUTER BOUNDARY
MMF RIPARIAN NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	PROPOSED CHANNEL BANKS

PLANTING ZONE	PLAN DISPLAY	SPECIES LIST (COMMON NAME)	SPECIES LIST (SCIENTIFIC NAME)	SPACING (O.C.)	PLANTING LOCATIONS
A		BLACK WILLOW, CAROLINA WILLOW, SILKY WILLOW	SALIX NIGRA, SALIX CAROLINIANA, SALIX SERICEA	3'	BEGIN AT TOE OF STAGE 2 CHANNEL BANK AND EXTEND OUTWARD FROM CHANNEL UNTIL SLOPES ARE LESS THAN 2:1. AS SPECIFIED IN ALL FILTREXX BANK STABILIZATION AND LIVING WALL APPLICATIONS.
B		SILKY DOGWOOD, ELDERBERRY, NINEBARK	CORNUS AMONUM, SAMBUCUS CANADENSIS, PHYSOCARPUS OPULIFOLIUS	3'	BEGIN WHERE SLOPES ARE LESS SEVERE THAN 2:1 (AT BOUNDARY OF PLANTING ZONE A) AND EXTEND TO BOUNDARY SHOWN ON PLANS

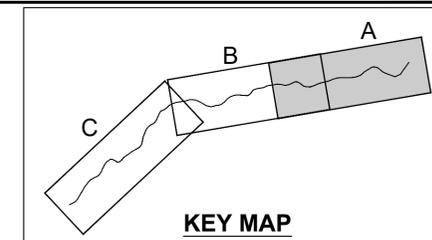
MATURITY OF PLANTINGS
PLANTINGS WITHIN PROPOSED CHANNEL SHALL BE LIVESTAKES
PLANTINGS OUTSIDE OF CHANNEL SHALL BE 25% LIVESTAKES 75% BARE ROOT

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

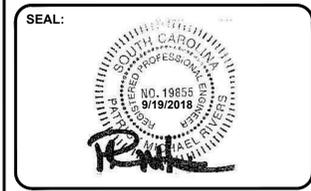
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8/24/2018 11:53 by Kelly

SEED MIX SPECIFICATION	PLAN DISPLAY	APPLICATION RATE	LOCATION
GENERAL PERMANENT SEEDING PER SCDHEC SEEDING SCHEDULE (SEE C-110)		SEE UPSTATE SCDHEC SEEDING SCHEDULE ON C-110	ALL DISTURBED AREAS OUTSIDE OF THOSE SPECIFIED TO RECEIVE NATIVE SEED MIXES
MMF STABILIZATION NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	TOP OF PROPOSED CHANNEL TO PLANTING ZONE B OUTER BOUNDARY
MMF RIPARIAN NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	PROPOSED CHANNEL BANKS

PLANTING ZONE	PLAN DISPLAY	SPECIES LIST (COMMON NAME)	SPECIES LIST (SCIENTIFIC NAME)	SPACING (O.C.)	PLANTING LOCATIONS
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B		SILKY DOGWOOD, ELDERBERRY, NINEBARK	CORNUS AMONUM, SAMBUCUS CANADENSIS, PHYSOCARPUS OPULIFOLIUS	3'	BEGIN WHERE SLOPES ARE LESS SEVERE THAN 2:1 (AT BOUNDARY OF PLANTING ZONE A) AND EXTEND TO BOUNDARY SHOWN ON PLANS



REVISIONS:			
NO.	DATE	DESCRIPTION	BY



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CIVIL ENGINEERING

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design@lpa-inc.net

CLEMSON UNIVERSITY
HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:	
PERMIT DATE:	
BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 20' VERT.
JOB NUMBER:	16.061

**SECTION A
EROSION CONTROL
PHASE II**

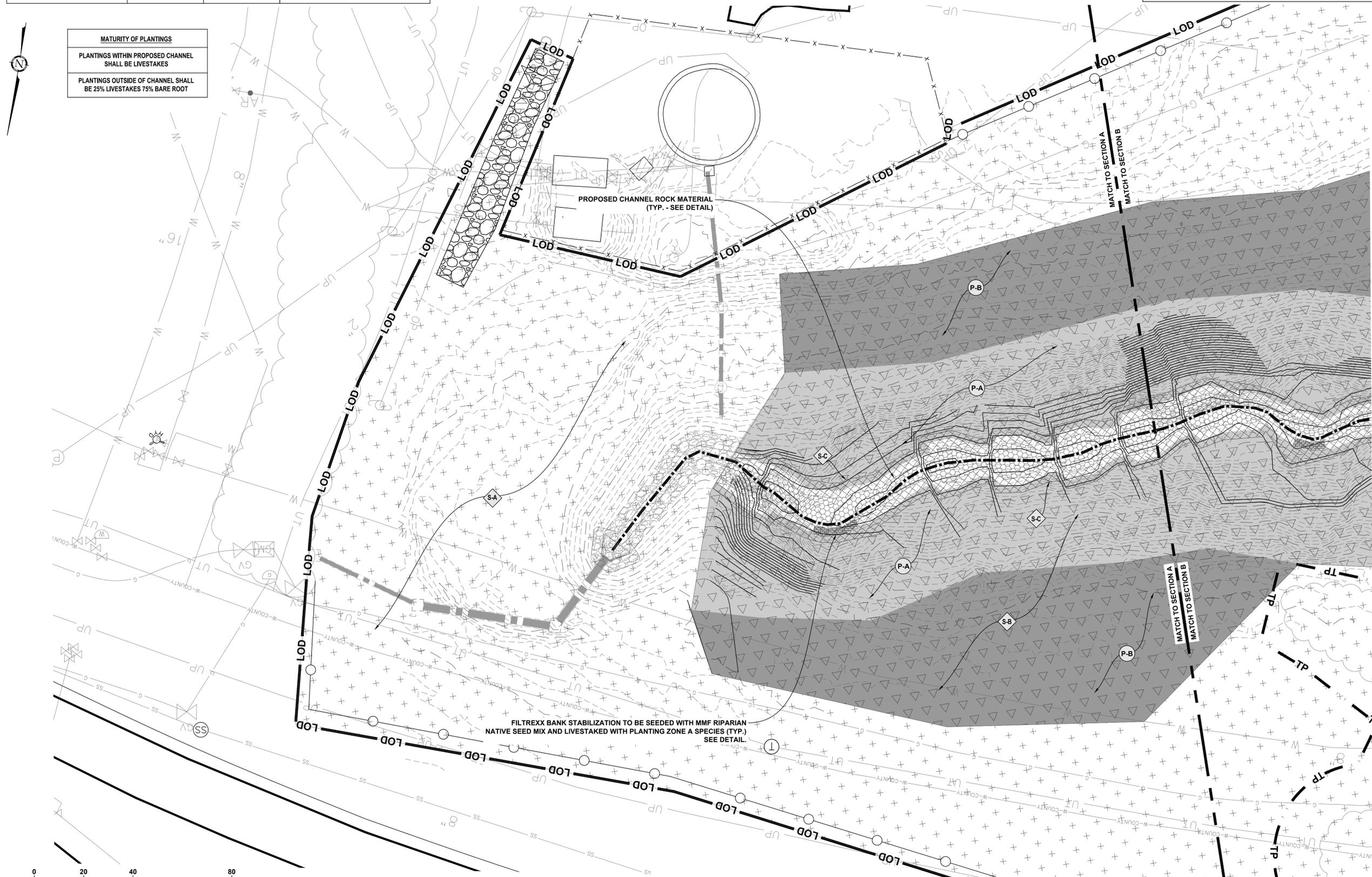
C-108A

CUP - 4002323

MATURITY OF PLANTINGS

PLANTINGS WITHIN PROPOSED CHANNEL SHALL BE LIVESTAKES

PLANTINGS OUTSIDE OF CHANNEL SHALL BE 25% LIVESTAKES 75% BARE ROOT

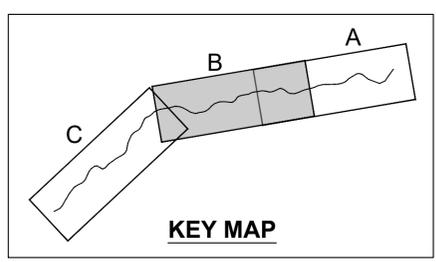
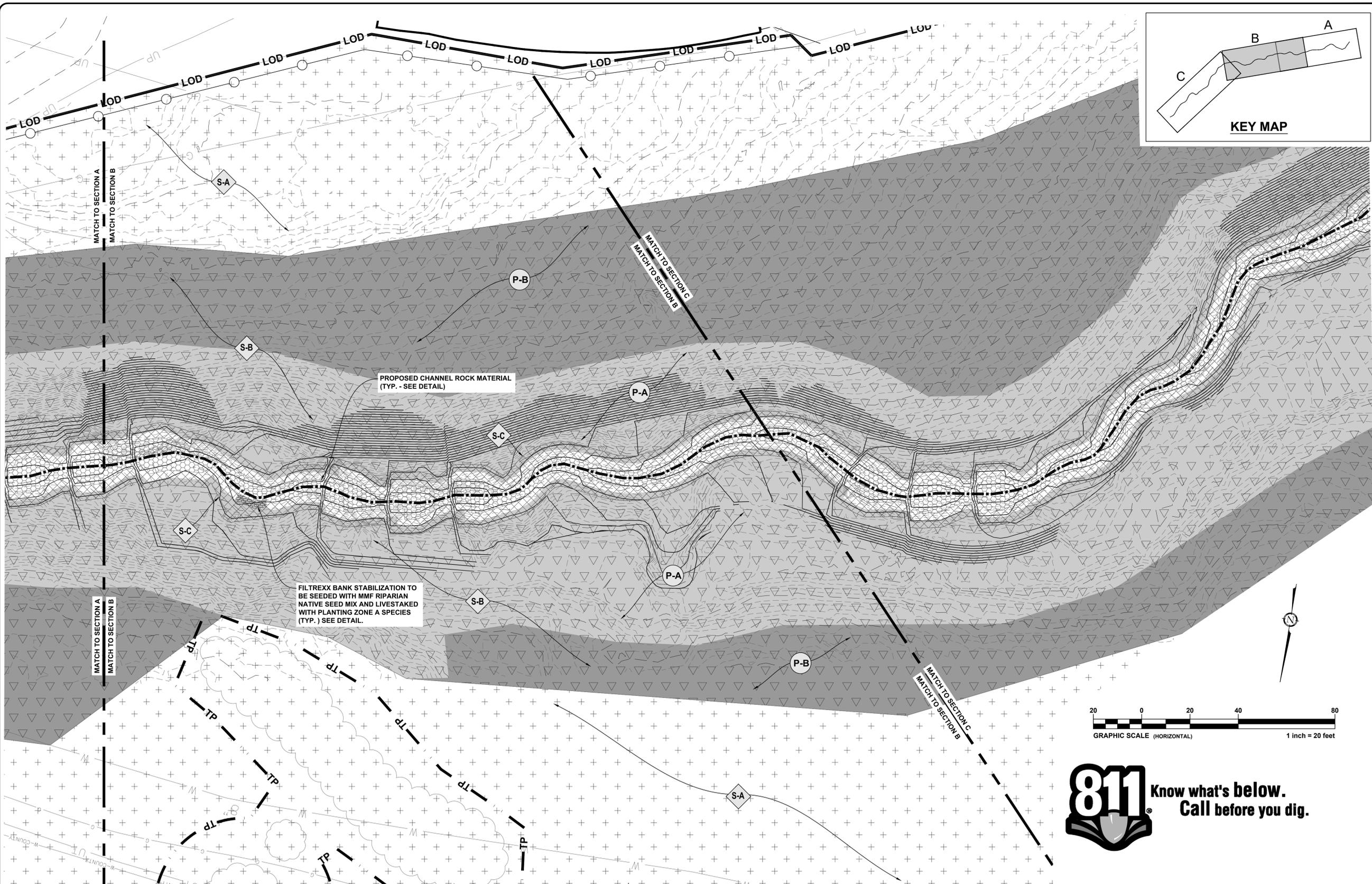


FILTREXX BANK STABILIZATION TO BE SEEDED WITH MMF RIPARIAN NATIVE SEED MIX AND LIVESTAKED WITH PLANTING ZONE A SPECIES (TYP.) SEE DETAIL

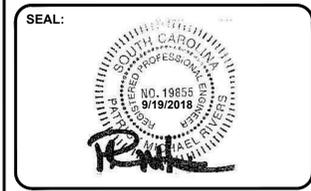


WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

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Sep 24, 2018 at 11:35 by velly



REVISIONS:			
NO.	DATE	DESCRIPTION	BY

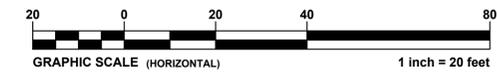


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PERMIT DATE:	
BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 20' VERT. 1" = 10'
JOB NUMBER:	16.061

**SECTION B
 EROSION CONTROL
 PHASE II**
C-108B
 CUP - 4002323



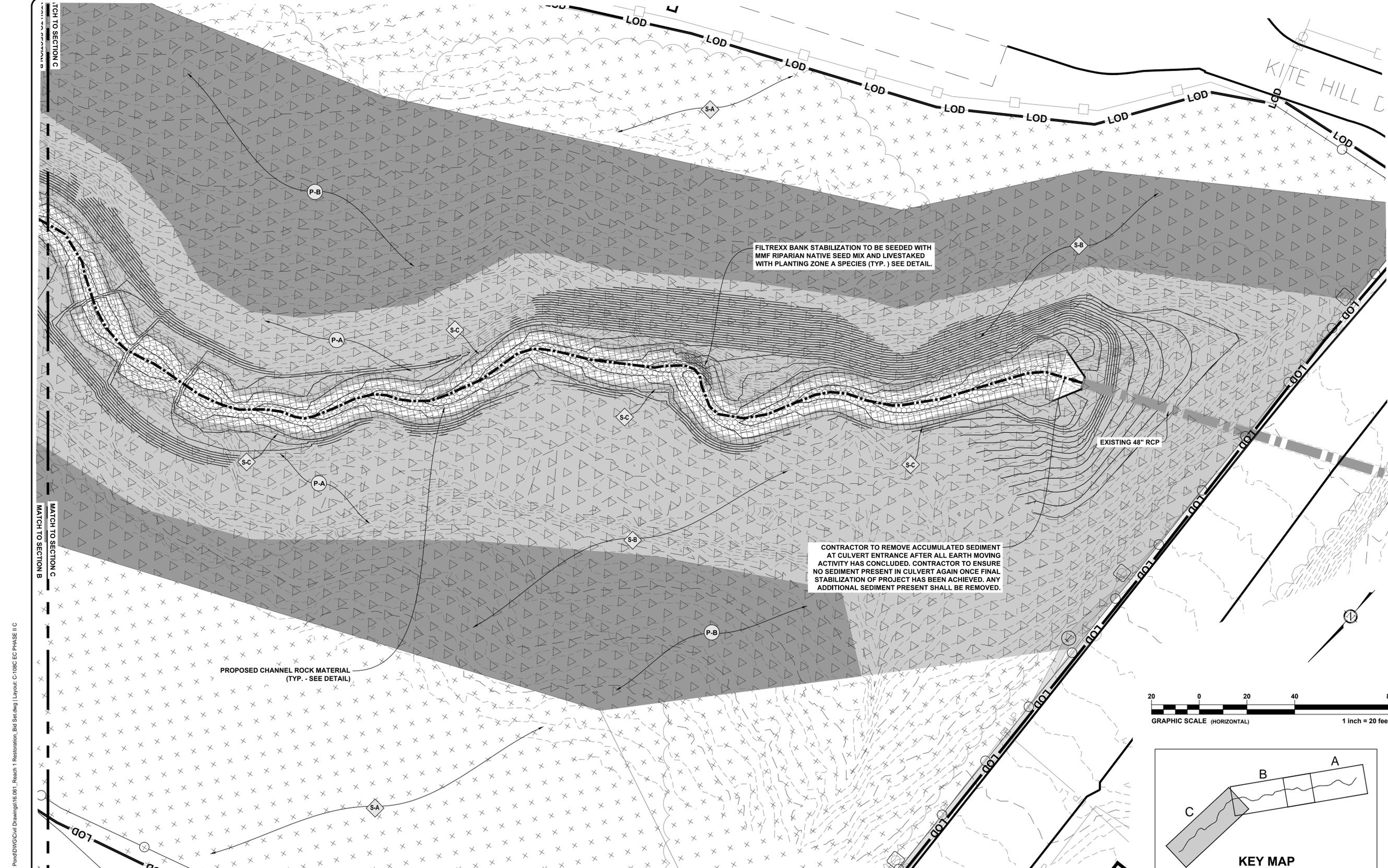
SEED MIX SPECIFICATION	PLAN DISPLAY	APPLICATION RATE	LOCATION
GENERAL PERMANENT SEEDING PER SCDHEC SEEDING SCHEDULE (SEE C-110)		SEE UPGRADE SCDHEC SEEDING SCHEDULE ON C-110	ALL DISTURBED AREAS OUTSIDE OF THOSE SPECIFIED TO RECEIVE NATIVE SEED MIXES
MMF STABILIZATION NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	TOP OF PROPOSED CHANNEL TO PLANTING ZONE B OUTER BOUNDARY
MMF RIPARIAN NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	PROPOSED CHANNEL BANKS

PLANTING ZONE	PLAN DISPLAY	SPECIES LIST (COMMON NAME)	SPECIES LIST (SCIENTIFIC NAME)	SPACING (O.C.)	PLANTING LOCATIONS
A		BLACK WILLOW, CAROLINA WILLOW, SILKY WILLOW	SALIX NIGRA, SALIX CAROLINIANA, SALIX SERICEA	3'	BEGIN AT TOE OF STAGE 2 CHANNEL BANK AND EXTEND OUTWARD FROM CHANNEL UNTIL SLOPES ARE LESS THAN 2:1; AS SPECIFIED IN ALL FILTREXX BANK STABILIZATION AND LIVING WALL APPLICATIONS.
B		SILKY DOGWOOD, ELDERBERRY, NINEBARK	CORNUS AMONUM, SAMBUCUS CANADENSIS, PHYSOCARPUS OPULIFOLIUS	3'	BEGIN WHERE SLOPES ARE LESS SEVERE THAN 2:1 (AT BOUNDARY OF PLANTING ZONE A) AND EXTEND TO BOUNDARY SHOWN ON PLANS

MATURITY OF PLANTINGS
PLANTINGS WITHIN PROPOSED CHANNEL SHALL BE LIVESTAKES
PLANTINGS OUTSIDE OF CHANNEL SHALL BE 25% LIVESTAKES 75% BARE ROOT

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

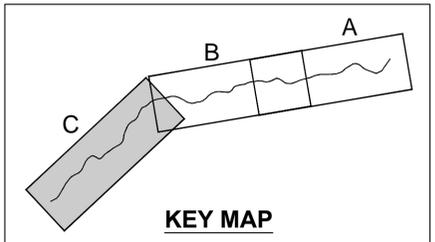
P:\16.061 Clemson - Hunnicutt Creek Forebay Wet Pond\DWG\Civil Drawings\16.061_Reach 1 Restoration_Bid Set.dwg | Layout: C-108B EC PHASE II B
 Sep 24, 2018 at 11:35 by Kelly



FILTREXX BANK STABILIZATION TO BE SEEDDED WITH MMF RIPARIAN NATIVE SEED MIX AND LIVESTAKED WITH PLANTING ZONE A SPECIES (TYP.) SEE DETAIL.

CONTRACTOR TO REMOVE ACCUMULATED SEDIMENT AT CULVERT ENTRANCE AFTER ALL EARTH MOVING ACTIVITY HAS CONCLUDED. CONTRACTOR TO ENSURE NO SEDIMENT PRESENT IN CULVERT AGAIN ONCE FINAL STABILIZATION OF PROJECT HAS BEEN ACHIEVED. ANY ADDITIONAL SEDIMENT PRESENT SHALL BE REMOVED.

PROPOSED CHANNEL ROCK MATERIAL (TYP. - SEE DETAIL)

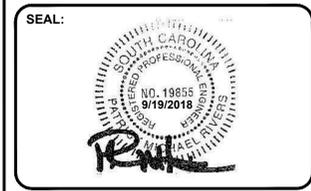


SEED MIX SPECIFICATION	PLAN DISPLAY	APPLICATION RATE	LOCATION
GENERAL PERMANENT SEEDING PER SCDHEC SEEDING SCHEDULE (SEE C-110)		SEE UPSTATE SCDHEC SEEDING SCHEDULE ON C-110	ALL DISTURBED AREAS OUTSIDE OF THOSE SPECIFIED TO RECEIVE NATIVE SEED MIXES
MMF STABILIZATION NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	TOP OF PROPOSED CHANNEL TO PLANTING ZONE B OUTER BOUNDARY
MMF RIPARIAN NATIVE SEED MIX (OR APPROVED EQUAL)		20-25 LB/AC	WITHIN PROPOSED CHANNEL

PLANTING ZONE	PLAN DISPLAY	SPECIES LIST (COMMON NAME)	SPECIES LIST (SCIENTIFIC NAME)	SPACING (O.C.)	PLANTING LOCATIONS
A		BLACK WILLOW, CAROLINA WILLOW, SILKY WILLOW	SALIX NIGRA, SALIX CAROLINIANA, SALIX SERICEA	3'	BEGIN AT TOE OF STAGE 2 CHANNEL BANK AND EXTEND OUTWARD FROM CHANNEL UNTIL SLOPES ARE LESS THAN 2:1; AS SPECIFIED IN ALL FILTREXX BANK STABILIZATION AND LIVING WALL APPLICATIONS.
B		SILKY DOGWOOD, ELDERBERRY, NINEBARK	CORNUS AMONUM, SAMBUCUS CANADENSIS, PHYSOCARPUS OPULIFOLIUS	3'	BEGIN WHERE SLOPES ARE LESS SEVERE THAN 2:1 (AT BOUNDARY OF PLANTING ZONE A) AND EXTEND TO BOUNDARY SHOWN ON PLANS

MATURITY OF PLANTINGS
PLANTINGS WITHIN PROPOSED CHANNEL SHALL BE LIVESTAKES
PLANTINGS OUTSIDE OF CHANNEL SHALL BE 25% LIVESTAKES 75% BARE ROOT

REVISIONS:			
NO.	DATE	DESCRIPTION	BY



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CIVIL ENGINEERING

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design@lpa-inc.net

CLEMSON UNIVERSITY

HUNNICUTT CREEK RESTORATION REACH 1

ISSUE FOR CONSTRUCTION:	
PERMIT DATE:	
BID DATE:	
DRAWN BY:	KCW
DESIGN BY:	KCW
CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 20' VERT. 1" = 10'
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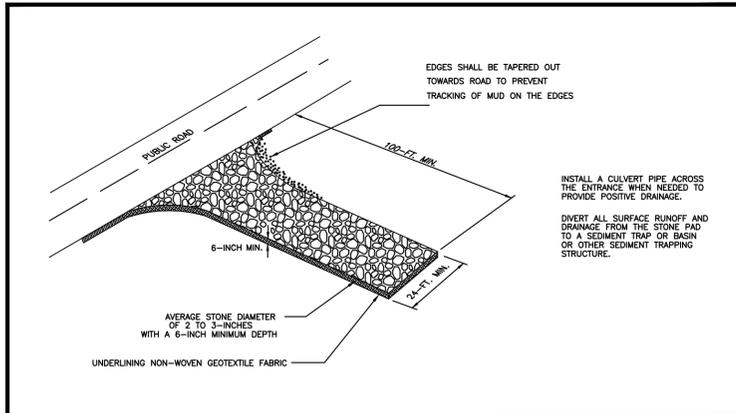
SECTION C EROSION CONTROL PHASE II

C-108C

CUP - 4002323

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

P:\16.081.Clemson - Hunnicutt Creek Forabay Wet Pond\DWG\Civil Drawings\16.081 - Reach 1 Restoration_Bld Set.dwg | Layout: C-111 CONSTRUCTION DETAILS
 Sep 18, 2018 at 16:03 by rocky



South Carolina Department of Health and Environmental Control
 STABILIZED CONSTRUCTION ENTRANCE
 STANDARD DRAWING NO. SC-06 Page 1 of 3
 APPROVED BY: _____ DATE: AUGUST 2006

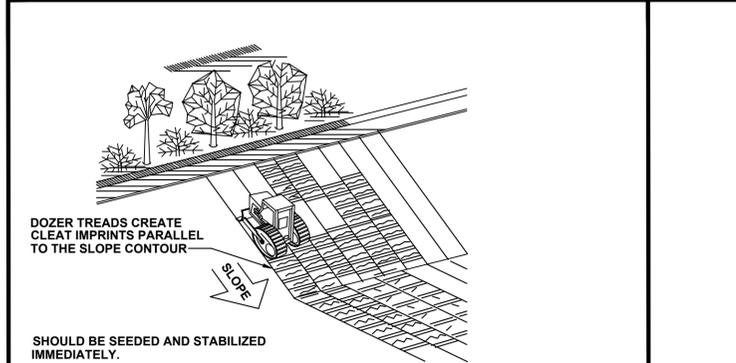
SITE SPECIFIC NOTES:
 1. LENGTH OF ENTRANCE MAY VARY DUE TO SITE CONSTRAINTS.
 2. IF UTILIZING EXISTING GRAVEL DRIVE OWNED BY THE UNIVERSITY, CONTRACTOR IS RESPONSIBLE FOR ENSURING DRIVE IS MAINTAINED DURING CONSTRUCTION AND LEFT IN EQUAL OR BETTER CONDITION UPON PROJECT COMPLETION. IF REQUESTED BY THE UNIVERSITY, THE CONTRACTOR IS RESPONSIBLE FOR ANY REPAIRS TO DRIVES USED FOR CONSTRUCTION ENTRANCE.

STABILIZED CONSTRUCTION ENTRANCE
 When and Where to Use It
 Stabilized construction entrances should be used at all points where traffic will be leaving a construction site and moving directly onto a public road.
 Important Considerations
 If washing is used, provisions must be made to intercept the wash water and trap the sediment before it is carried off-site. Washdown facilities shall be required as directed by SCOHEC as needed. Washdown areas in general must be established with crushed gravel and drain into a sediment trap or sediment basin. Construction entrances should be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by vehicles.
 Installation
 Remove all vegetation and any objectionable material from the foundation area.
 Divert all surface runoff and drainage from stones to a sediment trap or basin.
 Install a non-woven geotextile fabric prior to placing any stone.
 Install a culvert pipe across the entrance when needed to provide positive drainage.
 The entrance shall consist of 1-inch to 3-inch D50 stone placed at a minimum depth of 6-inches.
 Minimum dimensions of the entrance shall be 24-feet wide by 100-feet long, and may be modified as necessary to accommodate site constraints.
 The edges of the entrance shall be tapered out towards the road to prevent tracking of mud at the edge of the entrance.

South Carolina Department of Health and Environmental Control
 STABILIZED CONSTRUCTION ENTRANCE
 STANDARD DRAWING NO. SC-06 Page 2 of 3
 APPROVED BY: _____ DATE: AUGUST 2006

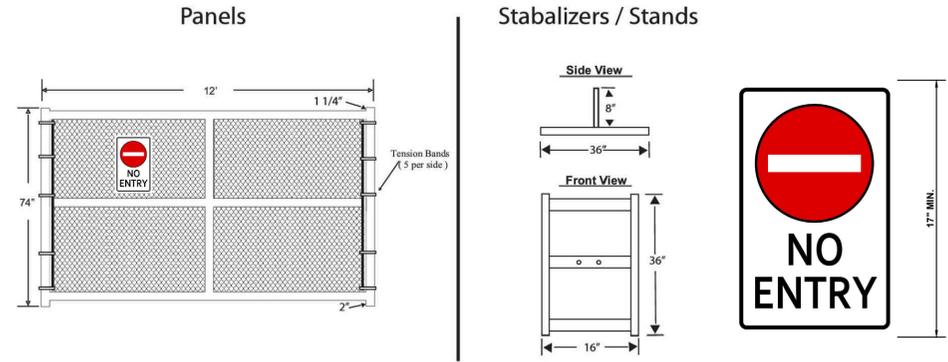
STABILIZED CONSTRUCTION ENTRANCE
 Inspection and Maintenance
 Inspect construction entrances every calendar week, or after heavy use. Check for mud and sediment buildup and pad integrity. Make daily inspections during periods of wet weather. Maintenance is required more frequently in wet weather conditions. Reshape the stone pad as needed for drainage and runoff control.
 Wash or replace stones as needed and as directed by the inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce mud being carried off-site by vehicles. Frequent washing will extend the useful life of stone.
 Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.

South Carolina Department of Health and Environmental Control
 STABILIZED CONSTRUCTION ENTRANCE
 STANDARD DRAWING NO. SC-06 Page 3 of 3
 APPROVED BY: _____ DATE: AUGUST 2006



South Carolina Department of Health and Environmental Control
 TRACKING
 STANDARD DRAWING NO. EC-01 Page 1
 APPROVED BY: _____ DATE: AUGUST 2006

Standard Temporary Construction Fence Panel Specification

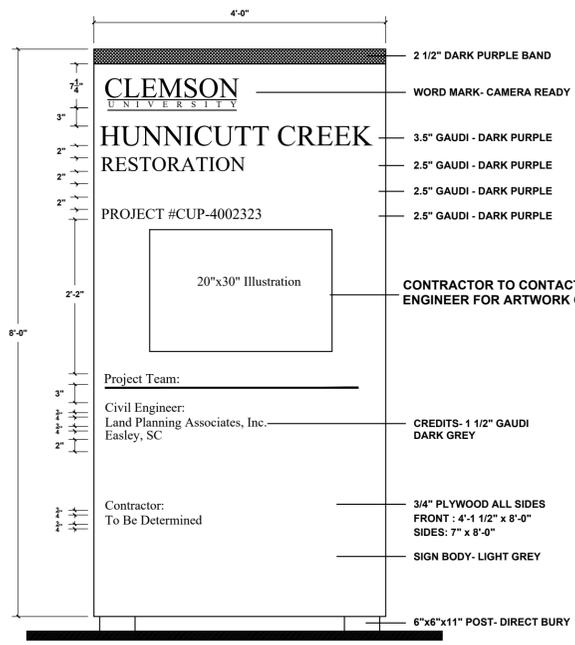


NOTE: CONTRACTOR TO INSTALL BLACK SHADE FABRIC WITH 80% MINIMUM SCREENING TO ALL TEMPORARY FENCING

Fabric	Height	Mesh	Gauge
	6'	2"	11
		OD	Wall
Framework	1 3/8"	.065"	

Notes:
 *2 x 11 ga wire fill
 *Tension bands w/ nuts and bolts (not press clips)
 *Wire ties every 12 inches

All pipe and wire to be hot dipped galvanized



NOTES:
 THIS WILL BE MADE AND INSTALLED BY THE CONTRACTOR.
TEMPORARY CONSTRUCTION SIGN

Main Campus Urban Forest and Landscape Management Policy

Policy Statement:
 Clemson University is committed to providing a safe, attractive, educational and sustainable campus urban forest that faculty, staff, students, and guests can use as a resource for teaching and learning as well as for respite and recreation. This Main Campus Urban Forest and Landscape Management Policy enables that commitment through the following requirements:

- The Division of University Facilities is authorized to promulgate and enforce procedures and requirements for achieving the purpose of this policy and its implementation ("Main Campus Urban Forest and Landscape Management Plan.")
- All projects, utility modifications, and landscape/hardscape improvements in which trees on University property may be affected shall comply with the Main Campus Urban Forest and Landscape Management Plan.
- This policy does not apply to the University Forests, Research & Education Centers or any other University owned property separate from the main campus.

Purpose:
 The University has an aspirational goal of maintaining a zero net loss of tree canopy on its main campus, to the extent possible, through preservation of existing trees and new tree plantings, to retain the maximum aesthetic and functional benefits provided by the multi-aged landscape tree population.

The thousands of large trees on the main campus are the most significant source of the acknowledged beauty of the University grounds. However, many activities and prohibited practices of employees, students, visitors, and contractors can and have caused tree damage, decline, and death.

As development of the campus becomes denser, the potential for such impacts will increase. For this reason, all construction/renovation projects shall be carefully reviewed early in the planning process, during the design process, and during the construction process to consider potential impacts on existing trees, damage prevention and/or mitigation approaches, or the necessity of tree removal and replacement. The University has an active landscape tree management, maintenance, and replacement program, and this policy establishes tree protection/preservation as an integral part of that program.

Responsible Department: Division of University Facilities
Approval Date: May 4th, 2015 - Approved by Administrative Council
Published Location of this Policy: <http://www.clemson.edu/buolices/about/policies.html>

Definitions:

Professional of Record: The A/E firm responsible for construction documentation & specification.

Site Survey: A measurable site plan that maps existing conditions of a given area being considered for new construction activities. This map becomes the basis for design decisions of proposed built elements and site modifications. The accuracy of such a plan is certified by a registered land surveyor.

Tree Survey: A measurable site plan that maps existing trees within a given area being considered for new construction. This survey identifies individual trees and tree groups to be protected during construction. The plan always shows tree protection areas and associated fence lines where land disturbance activities are prohibited. Construction details can be included to address areas where special mitigation factors are required. This plan is part of the construction documents that the contractor is responsible for implementing. The plan is produced by the Professional of Record in consultation with a trained and qualified arborist.

Tree Protection Plan: A measurable site plan that maps existing trees within a given area being considered for new construction. This survey identifies individual trees and tree groups to be protected during construction. The plan always shows tree protection areas and associated fence lines where land disturbance activities are prohibited. Construction details can be included to address areas where special mitigation factors are required. This plan is part of the construction documents that the contractor is responsible for implementing. The plan is produced by the Professional of Record in consultation with a trained and qualified arborist.

Critical Root Zone: The area from the trunk extending in all directions for a distance 1.5 times the branch spread.

Protected Root Zone: The area that is one and a half the distance of the tree canopy dripline outward from the trunk (1.5x the radius)

Tree Protection Area: An area identified in the Tree Protection plan to be kept free of physical or chemical influences that may damage trees.

Tree Protection Fencing: 6' chain link fence placed on the circumference of the "Protected Root Zone".

Compaction: Soils whose structure has been altered due to vehicular, heavy equipment and foot traffic.

Drip-line: The vertical line beginning at the outermost portion of the canopy of a tree and extending to the ground.

Calliper: The trunk diameter measured 6" above the ground.

DBH: Diameter of trunk, measured at breast height (4.5 ft above ground).

Main Campus Urban Forest & Landscape Management Plan Guidelines and Procedures

These Guidelines and Procedures are in accordance with Clemson University Main Campus Urban Forest and Landscape Management Policy

Guideline:
 A tree may be considered for removal for the following reasons: it is determined to be dead or diseased beyond preservation; its location, condition, or deterioration constitutes a safety hazard; its location affects the preservation and maintenance of adjacent buildings; the tree is damaged from the elements or disease to the extent that its appearance is unduly affected; its location is determined to be an obstruction or hazard to utility lines; its location interferes with the construction of facilities and associated site development; or for other appropriate reasons. The determination of trees meeting the above conditions is the responsibility of the Director of the Landscape Services.

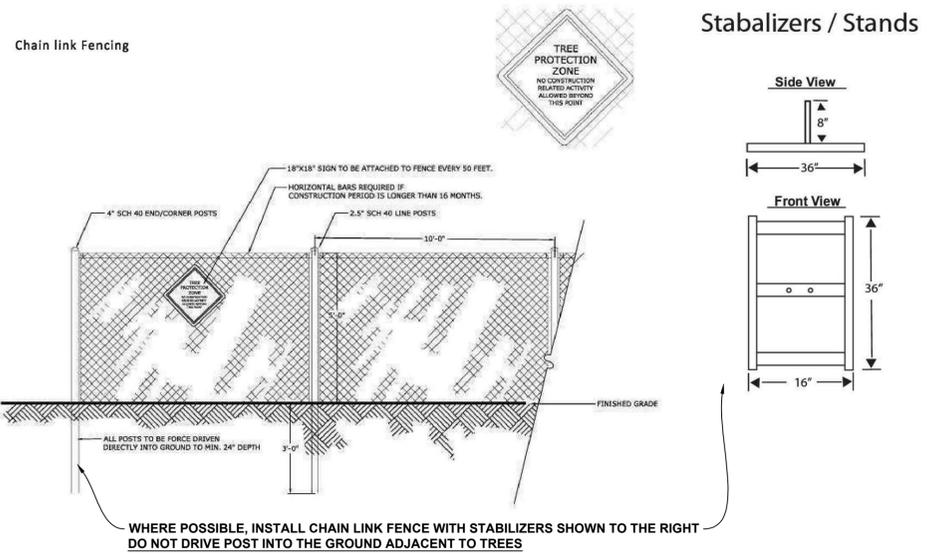
Prohibited Practices & Damage Assessment & Penalties:

- Nailing, bolting, using trees as anchorage for ropes, power lines, cables, etc.
- Cutting, breaking, skinning and abrasion of roots, branches and bark.
- Damage or removal of the tree protection fencing without approval from the University Arborist.
- Unauthorized filling, excavating, trenching or auguring within "protected root zone".
- Compaction/driving/parking over the "protected root zone".
- Storage of any materials or vehicles within the "protected root zone".
- Dumping of construction waste or materials (including liquids) within the "protected root zone".
- Unauthorized removal or relocation of woody plants.
- Performing University Arborist responsibilities as indicated above.

The penalty for damage to trees will be assessed and fines levied up to 100% of the value listed below:

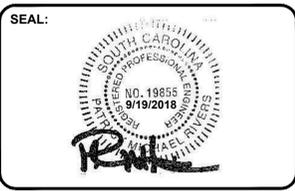
1" - 3" caliper	\$200/ inch
3" - 6" DBH	\$300/ inch
6" - 9" DBH	\$400/ inch
9" - 12" DBH	\$500/ inch
12" - 15" DBH	\$600/ inch
15" DBH or more	\$700/ inch

For construction projects, the University Project Manager is responsible for monitoring the site and reporting any prohibited practices and damage during the construction process to the University Arborist. The University Arborist will also make periodic site visits. Damage to University trees will include, but not limited to, any of the prohibited practices listed above and will be determined by the Director of Landscape Services or University Arborist. The University Arborist will notify the Project Manager of the damage assessment. The Project Manager will inform the responsible contractor and/or person, organization, or agent of the value of the assessed damage and work through options for corrective measures. While these guidelines and procedures apply to tree protection, protection of University shrubs, vines and ground covers within the project site are also of concern.



REVISIONS:

NO.	DATE	DESCRIPTION	BY



LAND PLANNING ASSOCIATES
 CIVIL ENGINEERING

LAND PLANNING ASSOCIATES, INC.
 110 WEST 1ST AVENUE - SUITE A
 EASLEY, SC 29640
 864.242.6072 FAX 208.730.8214
 design@pa-inc.net

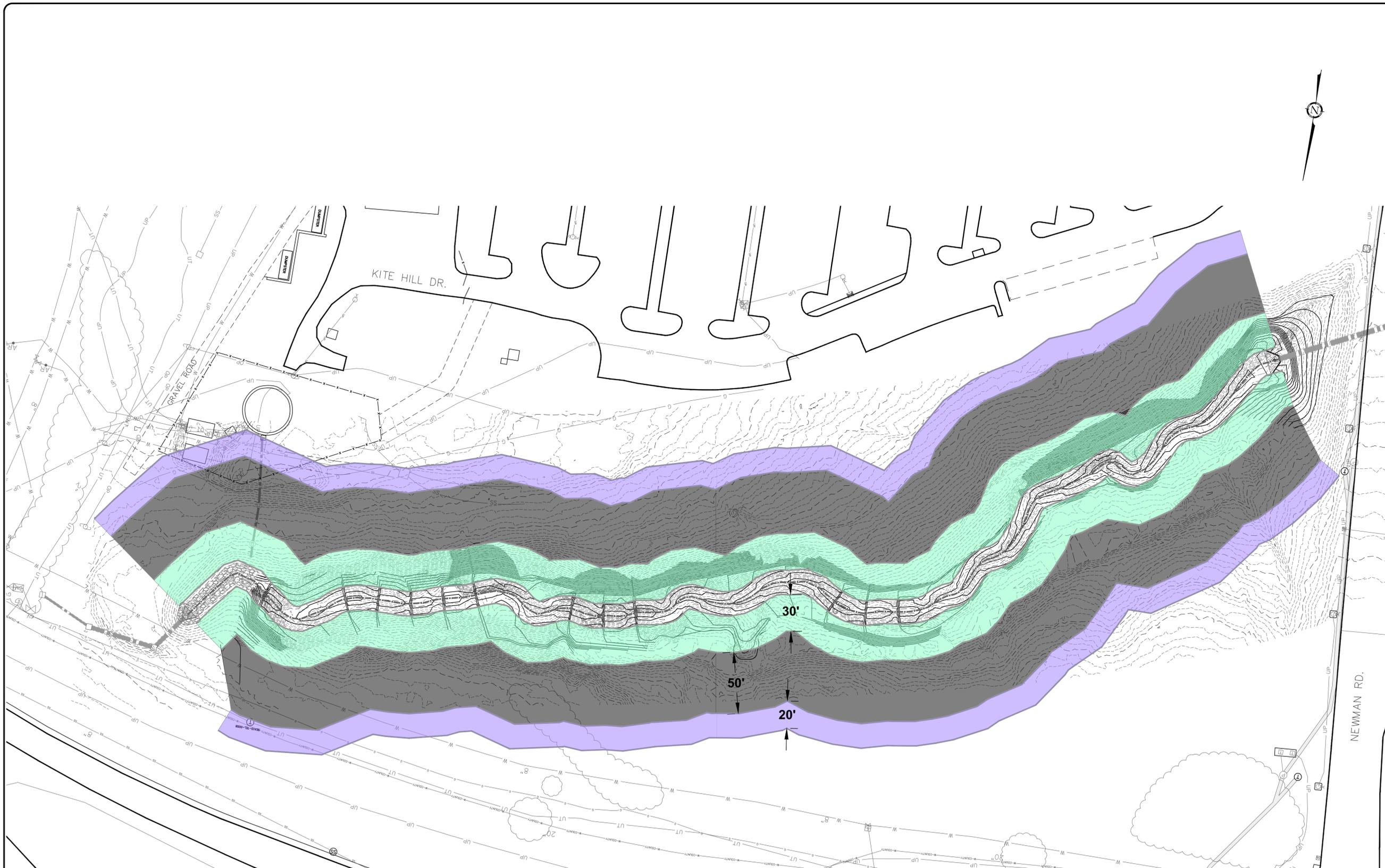
UNIVERSITY
HUNNICUTT CREEK RESTORATION REACH 1

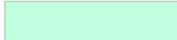
ISSUE FOR CONSTRUCTION:
 PERMIT DATE:
 BID DATE:
 DRAWN BY: KCW
 DESIGN BY: KCW
 CHECKED BY: PMR
 DATE: 8/29/18
 SCALE: HORIZ. VERT.
 JOB NUMBER: 16.061

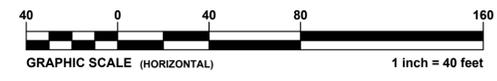
CONSTRUCTION DETAILS
C-111
 CUP - 4002323

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

P:\16.081_Clemson - Hunnicutt Creek Forebay Wet Pond\DWG\Civil Drawings\16.081_Restoration_Bld Set.dwg | Layout: C-112 Permanent Buffer Zones
 Sep 18, 2018 at 16:03 by rocky



LEGEND	
ZONE	ALLOWABLE ACTIVITIES
 STREAMSIDE ZONE	INVASIVE SPECIES CONTROL, BANK STABILIZATION, PERVIOUS FOOTPATHS/UTILITY RIGHT-OF-WAYS
 MANAGED USE ZONE	INVASIVE SPECIES CONTROL, PERVIOUS FOOTPATHS/UTILITY RIGHT-OF-WAYS, SMALL STRUCTURES SUCH AS GAZEBOS, SEATING, ARCHWAYS ETC., SERVING PARK/RECREATIONAL USES, MANAGEMENT OF VEGETATION FOR PURPOSE OF STORMWATER MANAGEMENT AND RECREATIONAL USES.
 OUTER ZONE	ALL ACTIVITIES ALLOWED EXCEPT CONSTRUCTION OF NEW LARGE PERMANENT STRUCTURES OR SEPTIC TANKS.




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

WHEN PLOTTED AT FULL SIZE THIS SHEET MEASURES 22"x34"

REVISIONS:			
NO.	DATE	DESCRIPTION	BY

SEAL:



CORPORATE SEAL:




LAND PLANNING ASSOCIATES, INC.
 CIVIL ENGINEERING

LAND PLANNING ASSOCIATES, INC.
 110 WEST 1ST AVENUE - SUITE A
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 864.242.6072 FAX 208.730.8214
 design@pa-inc.net

CLEMSON



UNIVERSITY HUNNICUTT CREEK RESTORATION REACH 1

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CHECKED BY:	PMR
DATE:	8/29/18
SCALE:	HORIZ. 1" = 40' VERT.
JOB NUMBER:	16.061

LONG-TERM BUFFER ZONES

C-112

CUP - 4002323