PHRC GRAVEL LOT RESTORATION

PARK, PENDLETON & ASSEMBLY STREETS · COLUMBIA · SOUTH CAROLINA

UNIVERSITY OF SOUTH CAROLINA

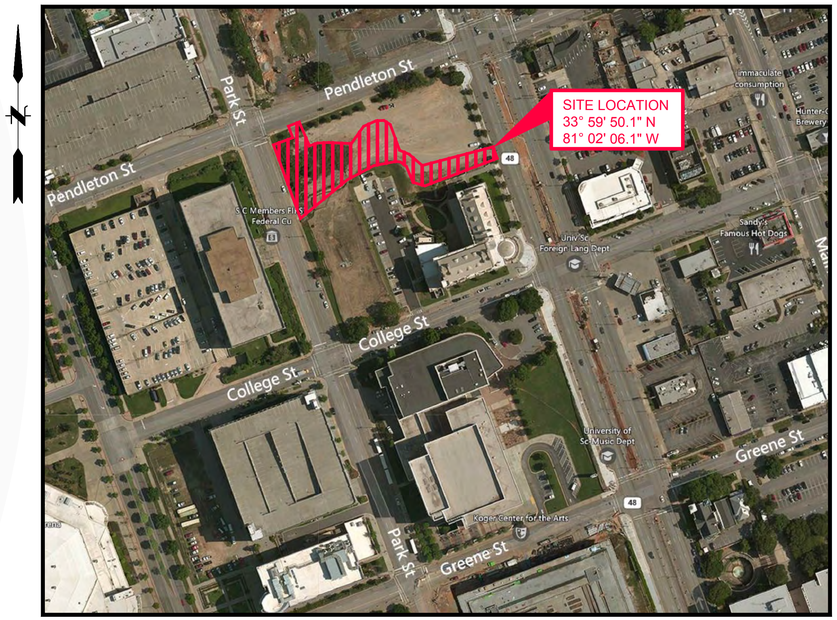
JULY 2014

PREPARED FOR

USC FACILITIES DESIGN & CONSTRUCTION
743 GREENE STREET
COLUMBIA, SC 29208

PREPARED BY

FUSS & O'NEILL
717 LADY ST, SUITE E
COLUMBIA, SOUTH CAROLINA 29201
803.376.6034
www.fando.com



LOCATION MAP
SCALE: 1" = 150'

SHEET INDEX

I or I (on behalf of my company and its contractors and agents), as the case may be, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I understand that City of Columbia and/or DHEC enforcement actions may be taken if the terms and conditions of the C-SWPPP are not met and I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I or I (on behalf of my company and its contractors and agents), as the case may be, also hereby certify that all land-disturbing construction and associated activity pertaining to this site shall be accomplished pursuant to and in keeping with the terms and conditions of the approved plans and SCR100000. I also certify that a responsible person will be assigned to the project for day-to-day control. I hereby grant authorization to the to S. C. Department of Health and Environmental Control (DHEC) and/or the City of Columbia the right of access to the site at all times for the purpose of on site inspections during the course of construction and to perform maintenance inspections following the completion of the land-disturbing activity." (*See Section 122.22 of S.C. Reg. 61-9* for signatory authority information.) Having understood the above information, I am signing this certification as Primary Permittee to the aforementioned NPDES general permit."

_____
Owner/Permit Applicant Signature and Date

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.

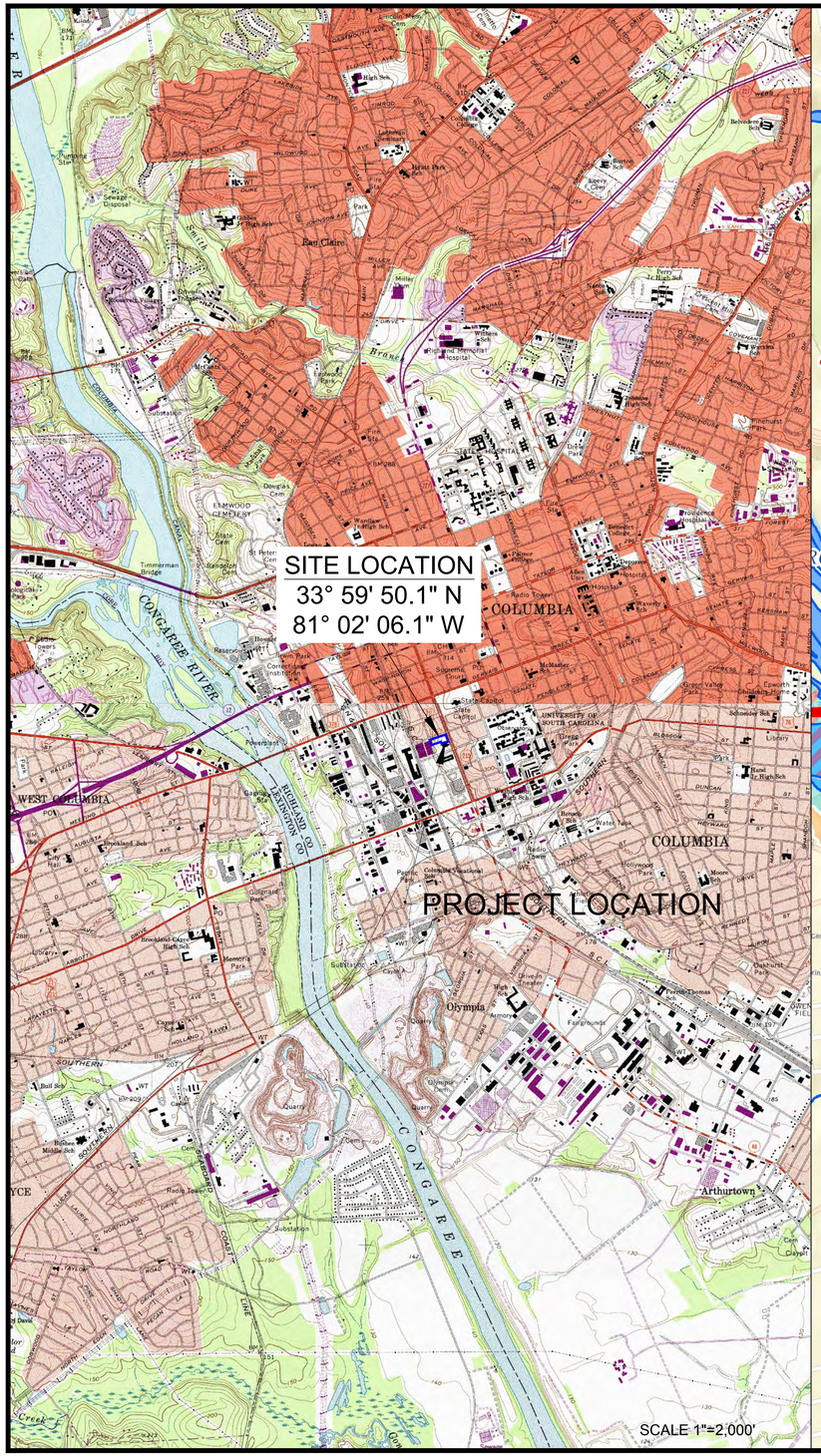
_____
Registered Professional Engineer's Signature, Certification and Date

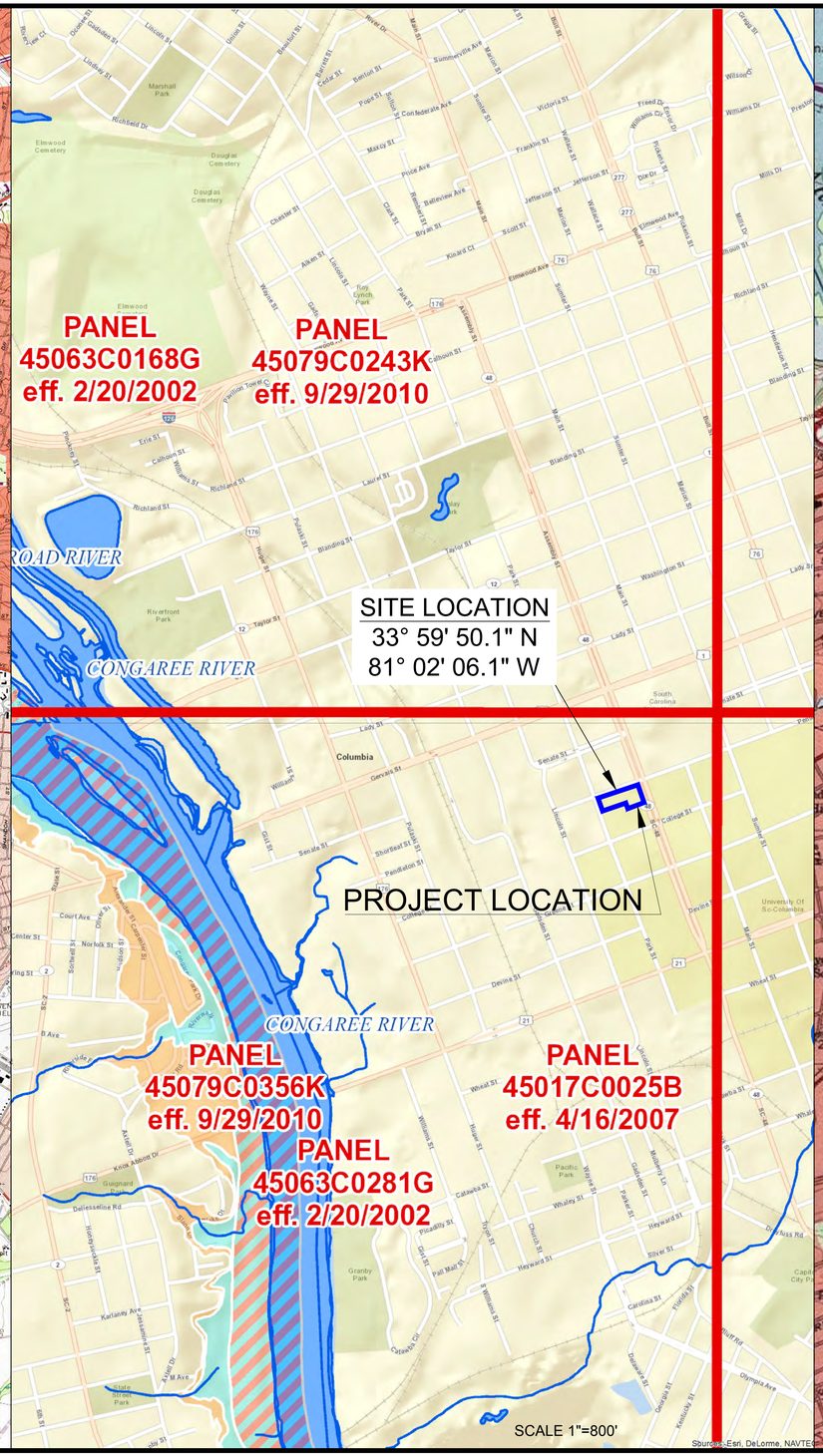
The site is located at 937 Assembly Street, Columbia, Richland County, South Carolina on the corner of Assembly Street and Pendleton Street next to the University of South Carolina Public Health Research Center Building.

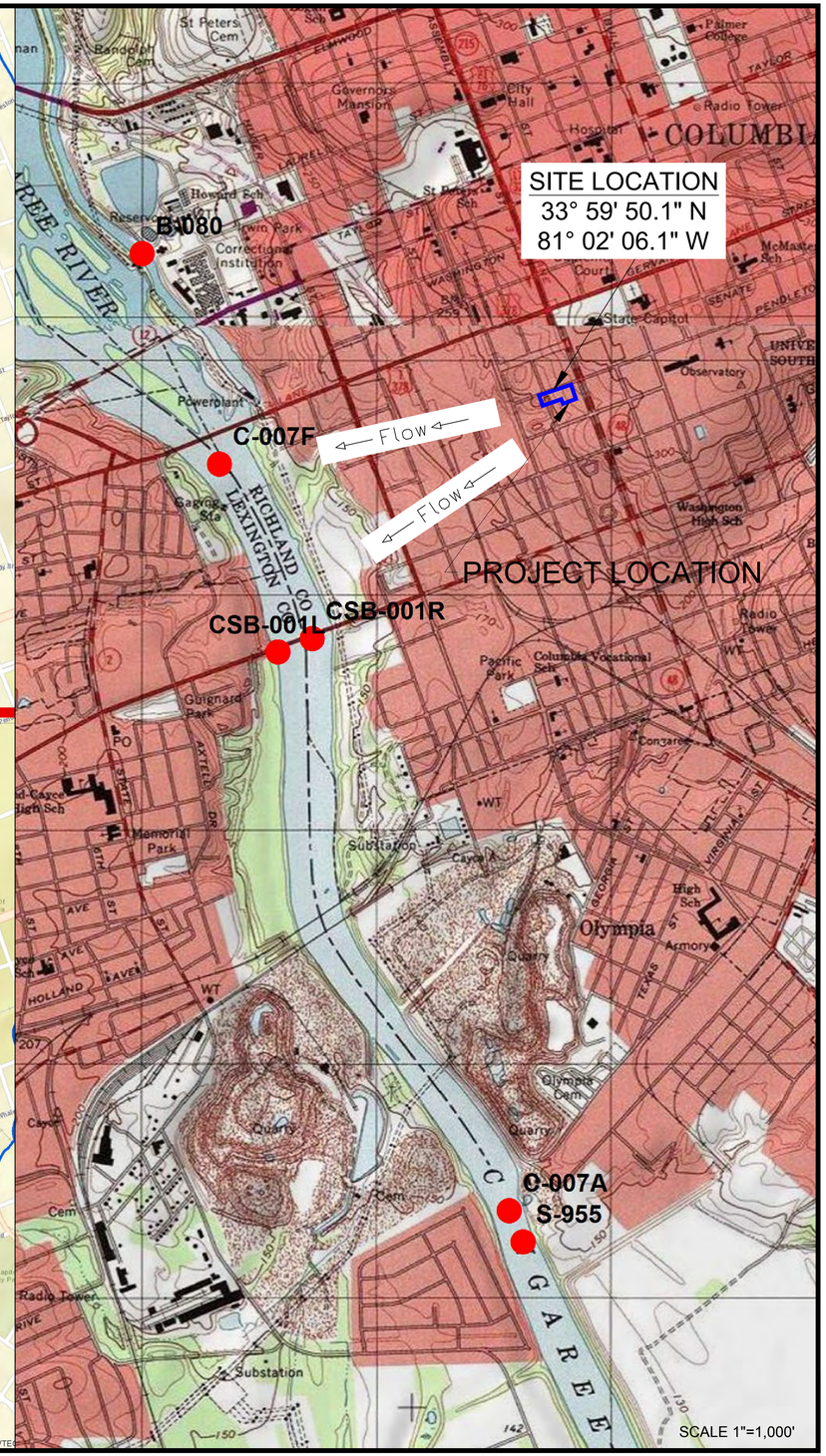
The project will consist of converting the north and west portions of the University of South Carolina Public Health Research Center (USC PHRC) block from the current gravel/stone surface to a predominantly green landscape. The existing drainage channel and detention basin will be resized/reconstructed to prevent current erosion patterns found on the site, while reducing pre-development runoff rates and volumes as compared to post-development conditions.

PROJ. No.: 20130349.A11
DATE: JULY 2014

C-001







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Plotter: DWG TO PDF.PC3 CTB File: FO.STB
LAYER STATE:
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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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GRAPHIC SCALE

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UNIVERSITY OF SOUTH CAROLINA

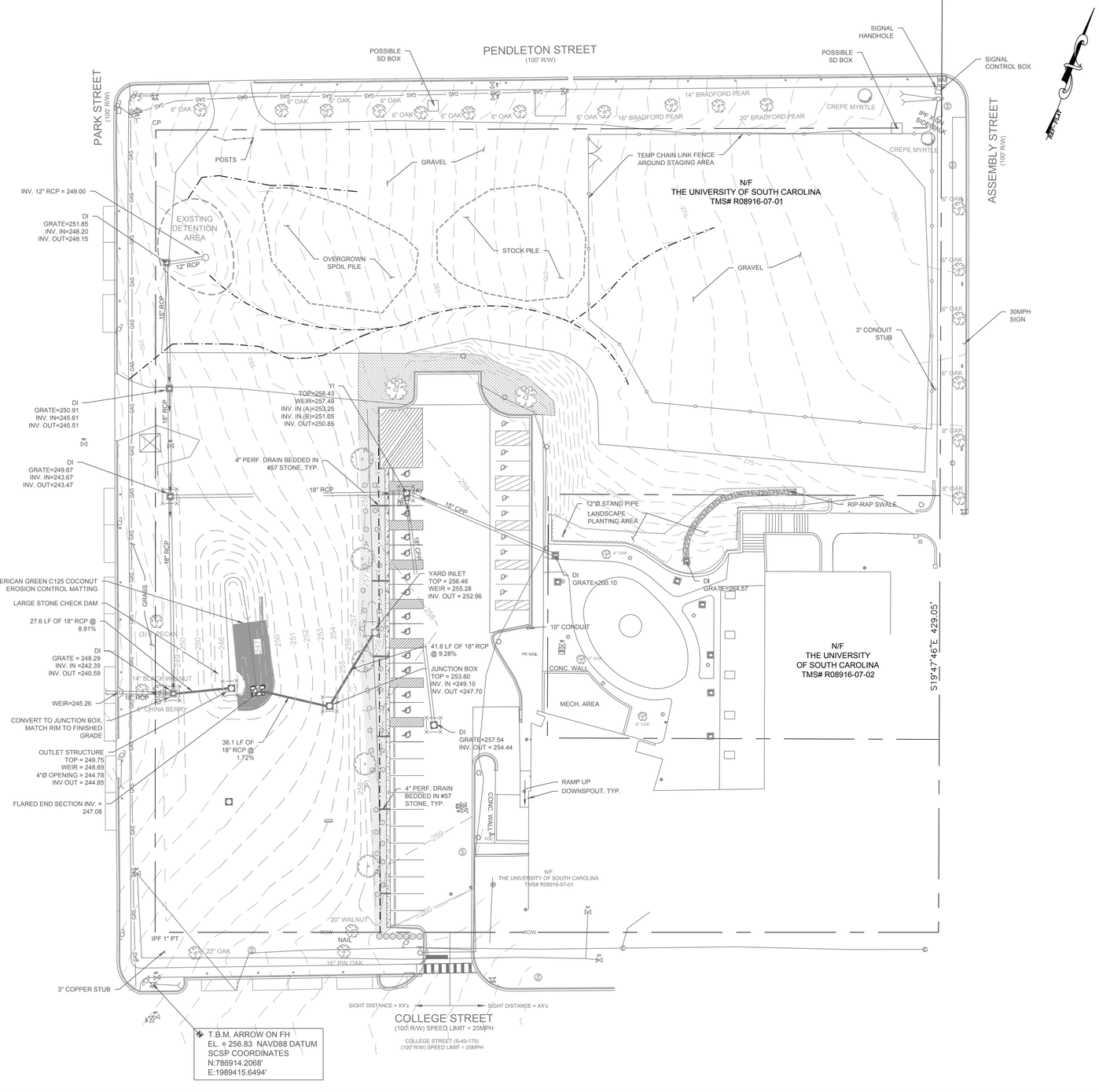
TOPOGRAPHIC MAP, FEMA MAP, & STORMWATER FLOW MAP

PARK, PENDLETON & ASSEMBLY STREETS

COLUMBIA SOUTH CAROLINA

PROJ. No.: 20130349.A11
DATE: JULY 2014

C-100



LEGEND

- FIRE HYDRANT
- WATER VALVE
- WATER METER
- GAS VALVE
- SANITARY SEWER MANHOLE
- CLEANOUT (CO)
- NATURAL GAS LINE
- SANITARY SEWER LINE
- WATER LINE
- FENCE
- OVERHEAD ELECTRIC
- UNDERGROUND TELEPHONE
- UNDERGROUND FIBER OPTIC LINE
- CONC. CURB & GUTTER
- YARD INLET (YI)
- JUNCTION BOX (JB)
- DROP INLET (DI)
- CURB INLET (CI)
- STORM DRAIN PIPE
- CONCRETE SIDEWALK
- POWER POLE & GUY
- LIGHT POLE
- UNDERGROUND STEAM LINES

GENERAL NOTES

1. EXISTING CONDITIONS INFORMATION:
   - A. EXISTING CONDITIONS:
     PROPERTY BOUNDARY, TOPOGRAPHICAL INFORMATION, AND EXISTING FEATURES WERE OBTAINED FROM PLANS PREPARED BY CHAO & ASSOCIATES, INC. TITLED "CONSTRUCTION PLANS FOR USC PUBLIC HEALTH BUILDING GREEN SPACE IN THE CITY OF COLUMBIA, RICHLAND COUNTY, SC," LAST REVISED ON MAY 1, 2012.

     ELEVATIONS AND COORDINATES REFLECTED ON DRAWINGS ARE BASED ON NAVD88 AND THE SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83), RESPECTIVELY.
   - B. FLOOD ZONE:
     THE PROJECT SITE DOES NOT LIE WITHIN THE 100-YEAR FLOOD ZONE PER FLOOD INSURANCE RATE MAP (FIRM) FOR RICHLAND COUNTY, SOUTH CAROLINA, MAP NO. 45079C0094H, DATED FEBRUARY 20, 2002.
   - C. UTILITIES:
     1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE NOT YET BEEN INDEPENDENTLY VERIFIED BY THE CITY OF COLUMBIA, OWNER, OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR IS TO CONTACT "CALL BEFORE YOU DIG" (SOUTH CAROLINA 811) AT 1-888-721-7877, THREE FULL WORKING DAYS OR 72 HOURS (NOT INCLUDING THE DAY YOU CALL) PRIOR TO ANY EXCAVATION PERFORMED ON SITE.
2. CITY OF COLUMBIA AND SCDOT STANDARDS:
   - A. CITY OF COLUMBIA:
     PENDLETON STREET IS MAINTAINED BY THE CITY OF COLUMBIA.
   - B. SCDOT:
     PARK STREET (S-171) AND ASSEMBLY STREET (SC-48) ARE MAINTAINED BY SCDOT.
   - C. TRAFFIC CONTROL:
     ALL TRAFFIC CONTROL (INCLUDING TEMPORARY CONSTRUCTION SIGNAGE, PERMANENT SIGNAGE, AND LANE/ROAD CLOSURES) SHALL CONFORM TO THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007) AND THE LATEST EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
   - E. UTILITY LATERAL PROTECTION, SUPPORT, REPLACEMENT, OR INTERRUPTION: THE CONTRACTOR SHALL COORDINATE THE PROTECTION TO WATER AND SEWER SERVICE MAINS AND LATERALS WITHIN EXCAVATIONS IN THE RIGHT-OF-WAY WITH CITY OF COLUMBIA DEPARTMENT OF PUBLIC WORKS. ANY REPAIR OF WATER OR SANITARY SERVICE LATERALS SHALL BE IN ACCORDANCE WITH THE DEPARTMENT'S RULES AND REGULATIONS INCLUDING PARTS 16 AND 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY OR OWNER AS APPLICABLE TO STABILIZE LIGHT POLES AND POWER POLES IN CLOSE PROXIMITY TO EXCAVATIONS.

GENERAL CONSTRUCTION REQUIREMENTS

1. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
2. THE OWNER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS WITH THE CITY OF COLUMBIA. NO CONSTRUCTION SHALL COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED.
3. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE CITY OF COLUMBIA AND THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION.
4. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER/OWNER.
5. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ANY EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT AND THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS/HER EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. ALL WATER, GAS, SEWER AND OTHER UTILITY SERVICES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
7. RELOCATION OF ANY UTILITIES SHALL BE AT THE OWNERS EXPENSE AND COMPLETED WITH THE UTILITY WORK. THE OWNER SHALL BE NOTIFIED AS TO THE RELOCATIONS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, WALKS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
9. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
10. CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER."
11. THE STATE OF SOUTH CAROLINA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION, REVISIONS AND ALL CURRENT ADDENDA, AND THE SOUTH CAROLINA STANDARD DRAWINGS (2013) ARE MADE A PART HEREOF, AS IF ATTACHED HERETO.
12. CONTRACTOR SHALL IDENTIFY TREES TO BE REMOVED PRIOR TO CONSTRUCTION AND MARK THEM WITH CONSTRUCTION TAPE FOR REVIEW BY THE OWNER AND ARCHITECT. CONTRACTOR SHALL NOT REMOVE TREES UNTIL REVIEWED AND APPROVED BY THE OWNER.
13. THE CONTRACTOR SHALL RESTORE DISTURBED AREAS TO ORIGINAL CONDITION. AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESODDED, RESEEDED, OR OTHERWISE RESTORED TO THEIR ORIGINAL STATE. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHEREVER FEASIBLE.
14. ALL EXCESS EXCAVATED MATERIALS, EXCESS FILL, EXCESS CONSTRUCTION MATERIALS, AND DEBRIS SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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UNIVERSITY OF SOUTH CAROLINA

EXISTING CONDITIONS PLAN

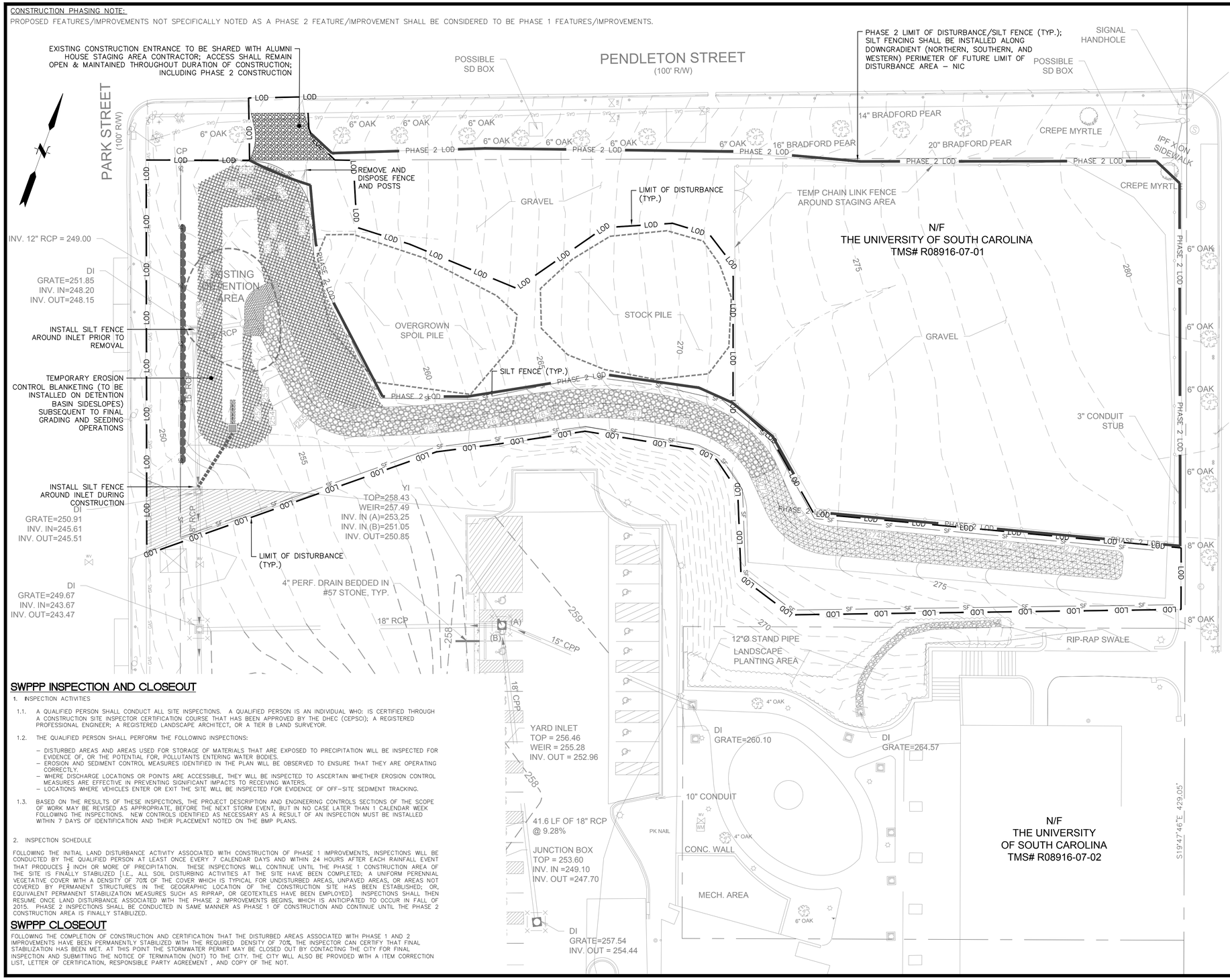
PHRC GRAVEL PARK RESTORATION

COLUMBIA SOUTH CAROLINA

PROJ. No.: 20130349.A11
DATE: JULY 2014

C-101

CONSTRUCTION PHASING NOTE:
PROPOSED FEATURES/IMPROVEMENTS NOT SPECIFICALLY NOTED AS A PHASE 2 FEATURE/IMPROVEMENT SHALL BE CONSIDERED TO BE PHASE 1 FEATURES/IMPROVEMENTS.



SWPPP INSPECTION AND CLOSEOUT

1. INSPECTION ACTIVITIES

1.1. A QUALIFIED PERSON SHALL CONDUCT ALL SITE INSPECTIONS. A QUALIFIED PERSON IS AN INDIVIDUAL WHO: IS CERTIFIED THROUGH A CONSTRUCTION SITE INSPECTOR CERTIFICATION COURSE THAT HAS BEEN APPROVED BY THE DHEC (CEPSCI); A REGISTERED PROFESSIONAL ENGINEER; A REGISTERED LANDSCAPE ARCHITECT, OR A TIER B LAND SURVEYOR.

1.2. THE QUALIFIED PERSON SHALL PERFORM THE FOLLOWING INSPECTIONS:

- DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING WATER BODIES.
- EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY.
- WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY WILL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.

1.3. BASED ON THE RESULTS OF THESE INSPECTIONS, THE PROJECT DESCRIPTION AND ENGINEERING CONTROLS SECTIONS OF THE SCOPE OF WORK MAY BE REVISED AS APPROPRIATE, BEFORE THE NEXT STORM EVENT, BUT IN NO CASE LATER THAN 1 CALENDAR WEEK FOLLOWING THE INSPECTIONS. NEW CONTROLS IDENTIFIED AS NECESSARY AS A RESULT OF AN INSPECTION MUST BE INSTALLED WITHIN 7 DAYS OF IDENTIFICATION AND THEIR PLACEMENT NOTED ON THE BMP PLANS.

2. INSPECTION SCHEDULE

FOLLOWING THE INITIAL LAND DISTURBANCE ACTIVITY ASSOCIATED WITH CONSTRUCTION OF PHASE 1 IMPROVEMENTS, INSPECTIONS WILL BE CONDUCTED BY THE QUALIFIED PERSON AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½ INCH OR MORE OF PRECIPITATION. THESE INSPECTIONS WILL CONTINUE UNTIL THE PHASE 1 CONSTRUCTION AREA OF THE SITE IS FINALLY STABILIZED [(I.E., ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED; A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE COVER WHICH IS TYPICAL FOR UNDISTURBED AREAS, UNPAVED AREAS, OR AREAS NOT COVERED BY PERMANENT STRUCTURES IN THE GEOGRAPHIC LOCATION OF THE CONSTRUCTION SITE HAS BEEN ESTABLISHED; OR, EQUIVALENT PERMANENT STABILIZATION MEASURES SUCH AS RIPRAP, OR GEOTEXTILES HAVE BEEN EMPLOYED)]. INSPECTIONS SHALL THEN RESUME ONCE LAND DISTURBANCE ASSOCIATED WITH THE PHASE 2 IMPROVEMENTS BEGINS, WHICH IS ANTICIPATED TO OCCUR IN FALL OF 2015. PHASE 2 INSPECTIONS SHALL BE CONDUCTED IN SAME MANNER AS PHASE 1 OF CONSTRUCTION AND CONTINUE UNTIL THE PHASE 2 CONSTRUCTION AREA IS FINALLY STABILIZED.

SWPPP CLOSEOUT

FOLLOWING THE COMPLETION OF CONSTRUCTION AND CERTIFICATION THAT THE DISTURBED AREAS ASSOCIATED WITH PHASE 1 AND 2 IMPROVEMENTS HAVE BEEN PERMANENTLY STABILIZED WITH THE REQUIRED DENSITY OF 70%, THE INSPECTOR CAN CERTIFY THAT FINAL STABILIZATION HAS BEEN MET. AT THIS POINT THE STORMWATER PERMIT MAY BE CLOSED OUT BY CONTACTING THE CITY FOR FINAL INSPECTION AND SUBMITTING THE NOTICE OF TERMINATION (NOT) TO THE CITY. THE CITY WILL ALSO BE PROVIDED WITH A ITEM CORRECTION LIST, LETTER OF CERTIFICATION, RESPONSIBLE PARTY AGREEMENT , AND COPY OF THE NOT.

EROSION CONTROL NOTES

1. DISTURBANCE OF SOIL SURFACES IS REGULATED BY STATE LAW AND LOCAL ORDINANCE. ALL WORK SHALL COMPLY WITH THE FOLLOWING CRITERIA TO PREVENT OR MINIMIZE SOIL EROSION.

2. THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN, OR AS DIRECTED BY THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION AND/OR THE CITY OF COLUMBIA.

3. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

4. THE CONTRACTOR SHALL USE THE "SOUTH CAROLINA DHEC STORMWATER MANAGEMENT BMP HANDBOOK (2005)" AND THE "SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007)" IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THE PLANS. ALL EROSION AND SEDIMENT CONTROL MEASURES OR WORKS AND REHABILITATION MEASURES MUST CONFORM TO OR EXCEED THE SPECIFICATIONS OR STANDARDS SET OUT IN BOTH PUBLICATIONS.

5. THE CONTRACTOR IS RESPONSIBLE FOR THE TIMELY INSTALLATION, INSPECTION, MAINTENANCE, AND/OR REPLACEMENT OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES TO ENSURE PROPER OPERATION THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF PERMANENT MEASURES UNTIL CONSTRUCTION OF THE PROJECT IS COMPLETED OR UNTIL IT IS ACCEPTED BY THE OWNER. THE OWNER IS RESPONSIBLE THEREAFTER.

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, WATER, CALCIUM CHLORIDE, AND/OR CRUSHED STONE SUBJECT TO THE APPROVAL OF THE ENGINEER. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE SURROUNDING ROADWAYS MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR VIA SWEEPING.

6. THE PROPOSED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND DETAILS. ALL VEHICLE TRAFFIC ENTERING OR EXITING THE PROJECT SITE SHALL PASS OVER THE CONSTRUCTION ENTRANCE TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO THE SURROUNDING ROADWAY. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE SURROUNDING ROADWAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE SURROUNDING ROADWAY MUST BE REMOVED IMMEDIATELY. ADDITIONAL ENTRANCES FOR CONSTRUCTION SHALL BE INSTALLED AS REQUIRED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS.

7. THE CONTRACTOR SHALL INSTALL PERIMETER SEDIMENT CONTROL BARRIERS (SILT FENCING) AS SHOWN ON THE SITE PLANS OR AS MAY BE REQUIRED TO PREVENT SEDIMENT FLOW TO STORM DRAINS OR POROUS PAVEMENT (SUBSEQUENT TO INSTALLATION). A ROW OF SILT FENCING SHALL ALSO BE INSTALLED AROUND ANY SOIL STOCKPILE AREAS UTILIZED BY THE CONTRACTOR DURING CONSTRUCTION. CLEANOUT OF ACCUMULATED SEDIMENT BEHIND SILT FENCING IS NECESSARY WHEN 1/3 THE ORIGINAL HEIGHT OF THE BARRIER BECOMES FILLED WITH SEDIMENT. REPLACE BARRIERS IMMEDIATELY IF BARRIER DECOMPOSED OR BECOMES INEFFECTIVE. SILT FENCING SHALL NOT BE REMOVED UNTIL VEGETATED SHOULDER AREAS ARE SATISFACTORILY STABILIZED.

8. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER. IF SITE INSPECTIONS IDENTIFY BMPS THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE MUST BE PERFORMED AS SOON AS PRACTICAL OR AS REASONABLY POSSIBLE AND BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE.

9. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE

10. TEMPORARY AND PERMANENT VEGETATIVE COVER SHALL BE APPLIED TO ANY DISTURBED AREAS (INCLUDING SOIL STOCKPILE AREAS) THAT HAVE NOT YET REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED, EXCEPT:
- WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE; OR
- WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

12. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED IN ACCORDANCE WITH THE "SOUTH CAROLINA DHEC STORMWATER MANAGEMENT BMP HANDBOOK (2005)" AND SHALL CONSIST OF BROWNTOP MILLET OR AN ANNUAL SUDAN GRASS (SWEET OR TIFF) MIX IF INSTALLED BETWEEN MAY 1 AND SEPTEMBER 15 OR A RYE GRASS (ITALIAN) IF INSTALLED BETWEEN SEPTEMBER 16 AND APRIL 31.
LIME IS NOT REQUIRED FOR TEMPORARY SEEDING UNLESS A SOIL TEST SHOWS THAT THE SOIL PH IS BELOW 5.0. IT MAY BE DESIRABLE TO APPLY LIME DURING THE TEMPORARY SEEDING OPERATION TO BENEFIT THE LONG-TERM PERMANENT SEEDING. APPLY A MINIMUM OF 1.5 TONS OF LIME/ACRE (70 POUNDS PER 1000 SQUARE FEET) IF IT IS TO BE USED. SOIL TESTING IS AVAILABLE THROUGH CLEMSON UNIVERSITY COOPERATIVE EXTENSION SERVICE. APPLY A MINIMUM OF 500 POUNDS PER ACRE OF 10-10-10 FERTILIZER (11.5 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING TEMPORARY SEEDING UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW.

13. ALL AREAS WITHIN THE LIMIT OF DISTURBANCE THAT ARE NOT TO RECEIVE IMPERVIOUS, GRAVEL, OR MULCH SURFACE TREATMENTS SHALL BE VEGETATED WITH PERMANENT VEGETATIVE COVER. PERMANENT VEGETATIVE COVER SHALL CONSIST OF HYDROSEED AND SHALL BE APPLIED TO ALL DISTURBED AREAS THAT HAVE REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS PERMANENTLY CEASED.

A. PERMANENT SEEDING WITHIN THE PROJECT LIMITS (AS DETERMINED BY THE ENGINEER OR CITY) SHALL CONSIST OF A MIX OF
50% BERMUDA GRASS, 15% WEEPING LOVEGRASS, 15% PURPLE LOVEGRASS, 10% INOCULATED WHITE CLOVER, AND 10% CRIMSON CLOVER.

APPLY A MINIMUM OF 1,000 POUNDS PER ACRE OF A COMPLETE 10-10-10 FERTILIZER (23 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING PERMANENT SEEDING OF GRASSES UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW.

14. AREAS WHICH HAVE BEEN TEMPORARILY SEEDED SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING IN ADDITION TO AREAS WHICH CANNOT BE SEEDED WITHIN THE RECOMMENDED SEEDING DATES AND ANY SOIL STOCKPILE AREAS. TEMPORARY MULCHING SHOULD BE PERFORMED AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS. TYPICAL MULCH APPLICATIONS INCLUDE STRAW, WOOD FIBER, HYDROMULCHES, BONDED FIBER MATRIX (BFM), AND FGM. USE HYDROMULCHES WITH A MINIMUM BLEND OF 70% WOOD FIBERS.

15. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. WHERE EROSION IS OBSERVED, ADDITIONAL MULCH MUST BE APPLIED. IF NETTING IS USED, THE NET SHALL BE INSPECTED AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, THE NET MUST BE REINSTALLED AS NECESSARY AFTER REPAIRING DAMAGE TO SLOPE. INSPECTIONS SHALL TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED. GRASS IS CONSIDERED TO BE FIRMLY ESTABLISHED AT A MINIMUM HEIGHT OF THREE (3) INCHES.

16. SEEDED AREAS MUST BE INSPECTED EVERY 7 CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½-INCHES OR MORE OF PRECIPITATION. CONTRACTOR SHALL SUPPLY PERMANENT SEEDING WITH ADEQUATE MOISTURE AND SHALL SUPPLY WATER AS NEEDED, ESPECIALLY IN ABNORMALLY HOT OR DRY WEATHER OR ON ADVERSE SITES. THE RATE OF WATER APPLIED MUST BE IN A CONTROLLED MANNER TO PREVENT RUNOFF FROM BEING DISCHARGED ONTO ADJACENT ROADWAY AREAS. RE-SEED AREAS WHERE THE PLANTS DO NOT GROW QUICK ENOUGH, THICK ENOUGH, OR ADEQUATELY ENOUGH TO PREVENT EROSION.

17. ALL EXCESS EXCAVATED MATERIALS, EXCESS FILL, EXCESS CONSTRUCTION MATERIALS, AND DEBRIS SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.

18. WASTE DISPOSAL: MATERIALS WHICH COULD BE A POTENTIAL SOURCE OF STORMWATER POLLUTION SUCH AS GASOLINE, DIESEL FUEL, HYDRAULIC OIL, ETC., SHALL BE STORED AT THE END OF EACH DAY IN A STORAGE TRAILER OR COVERED LOCATION AND TAKEN OFF-SITE AND PROPERLY DISPOSED OF. ALL TYPES OF WASTE GENERATED AT THIS SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE LAW AND/OR REGULATIONS.

19. SPILL PROTECTION AND RESPONSE: THE CONTRACTOR SHALL FUEL VEHICLES AND EQUIPMENT AWAY FROM INFILTRATION TRENCHES, PERVIOUS CONCRETE, ADJACENT DRAINAGE INLETS, AND PRIVATE PROPERTY. BOOMS AND OTHER CONTAINMENT DEVICES SHALL BE PROVIDED BY THE CONTRACTOR AND USED IN THE EVENT OF A SPILL. THE CONTRACTOR SHALL NOTIFY [E.Y. IF SPILL OCCURS].

20. GOOD HOUSEKEEPING: THE PROJECT SITE SHALL PROVIDE FOR THE MINIMIZATION OF EXPOSURE OF CONSTRUCTION DEBRIS (INCLUDING, BUT NOT LIMITED TO, INSULATION, WIRING, PAINTS AND PAINT CANS, SOLVENTS, WALL BOARD, ETC.) TO PRECIPITATION BY MEANS OF DISPOSAL AND/OR PROPER SHELTER OR COVER. CONSTRUCTION WASTE MUST BE PROPERLY DISPOSED OF IN ORDER TO AVOID EXPOSURE TO PRECIPITATION AT THE END OF EACH WORKING DAY.

21. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

22. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

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803.376.6034
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PHRC GRAVEL LOT RESTORATION
EROSION & SEDIMENT CONTROL PLAN
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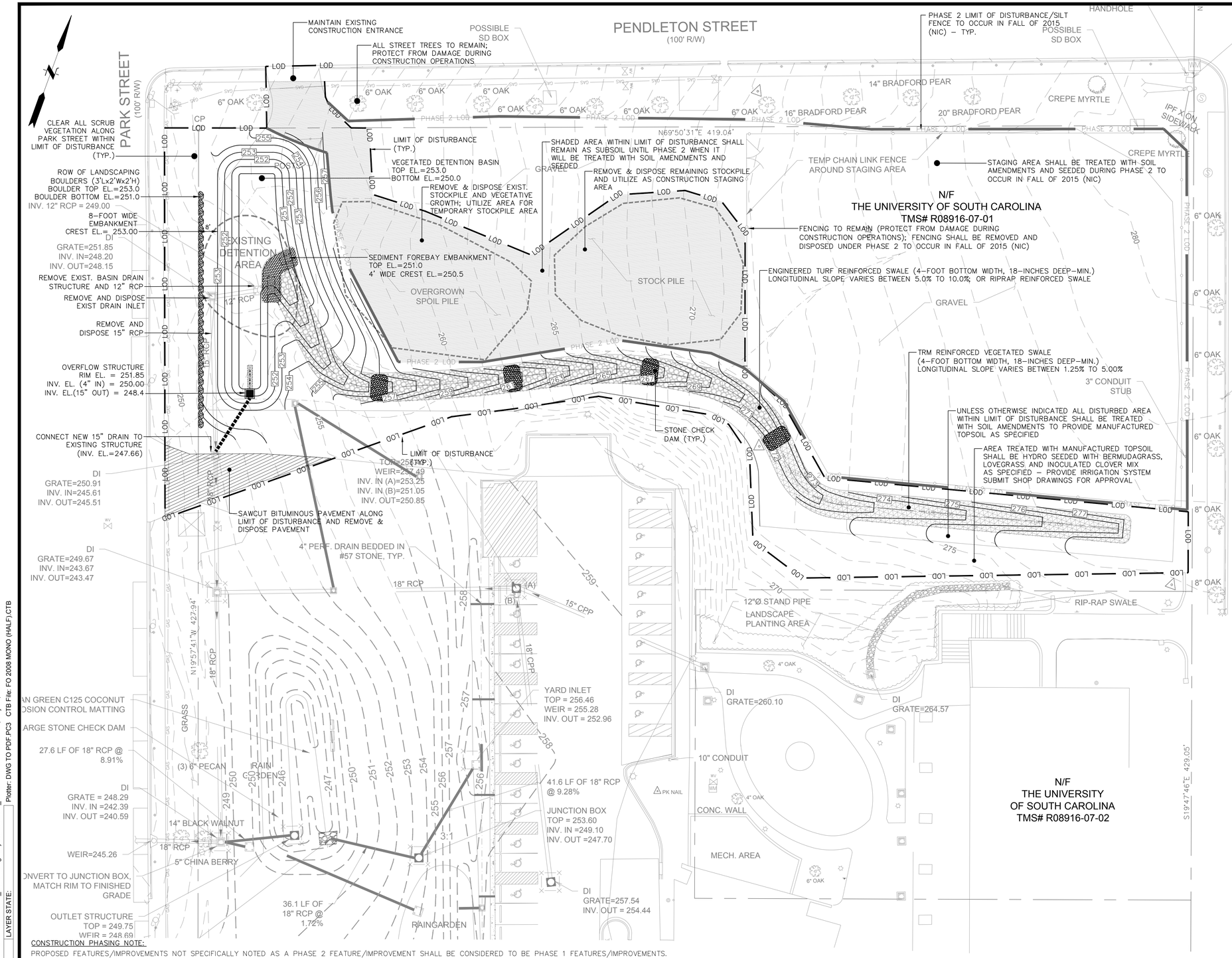

CONSTRUCTION SEQUENCE

IN ACCORDANCE WITH THE PROJECT SWPPP, THE SEQUENCE OF CONSTRUCTION IS AS FOLLOWS:

PHASE 1

1. RECEIVE NPDES COVERAGE FROM CITY.
2. PRE–CONSTRUCTION MEETING WITH CITY, OWNER & ENGINEER ON–SITE.
3. NOTIFY CITY AT LEAST 48 HOURS PRIOR TO BEGINNING LAND–DISTURBING ACTIVITIES.
4. MOBILIZE AND INSTALL TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AS INDICATED INCLUDING THE CONSTRUCTION ENTRANCE AND SILT FENCING. THESE MEASURES WILL BE INSTALLED PRIOR TO INITIATING ANY LAND DISTURBANCE ACTIVITIES.
5. CLEAR AND GRUB AREAS WITHIN LIMIT OF DISTURBANCE. REMOVE EXISTING STOCKPILES.
6. REMOVE DRAINAGE STRUCTURES WITHIN VICINITY OF THE EXISTING DETENTION BASIN (INCLUDING PIPING) THAT ARE INDICATED TO BE REMOVED.
7. PERFORM EXCAVATION AND ROUGH GRADING OF NEW DRAINAGE SWALE, DETENTION BASIN, AND ADJACENT SLOPES. THIS INCLUDES THE CONSTRUCTION OF THE DETENTION BASIN EMBANKMENT. DISTURBED AREAS OUTSIDE OF THE DETENTION BASIN AND SWALE SHALL HAVE SOIL SURFACES ROUGHENED TO REDUCE RUNOFF FROM THE CONSTRUCTION SITE AND IMPROVE LOCALIZED SURFACE WATER IMPOUNDMENT.
8. INSTALL THE DETENTION BASIN'S OVERFLOW STRUCTURE AND ASSOCIATED PIPING. CONNECT PROPOSED PIPING INTO EXISTING DRAINAGE STRUCTURE AS REFLECTED ON THE CONSTRUCTION DRAWINGS.
9. PERFORM FINAL GRADING OF SWALE AND DETENTION BASIN AND SURROUNDING SLOPES INCLUDING INSTALLATION OF COMPOST/SURFICIAL SOIL MIX IN TRM SECTION OF SWALE.
10. INSTALL ENGINEERED TURF SYSTEM AND TURF REINFORCEMENT MATTING WITHIN THE DRAINAGE SWALE.
11. INSTALL COMPOST/SURFICIAL SOIL MIX TO DETENTION BASIN SIDE SLOPES AND REMAINING DISTURBED AREAS WITHIN THE LIMIT OF DISTURBANCE THAT ARE NOT TO REMAIN AS A GRAVEL SURFACE.
12. INSTALL PERMANENT VEGETATION VIA SEEDING OR HYDROSEEDING.
13. APPLY TOP DRESSING OF COMPOST/SURFICIAL SOIL MIX ATOP THE TRM.
14. INSTALL EROSION CONTROL BLANKETING ON DETENTION BASIN SIDE SLOPES.
15. REMOVE TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AFTER ENTIRE AREA DRAINING TO THE STRUCTURE HAS SUFFICIENTLY STABILIZED. NOTE THAT THE SWPPP PREPARER OR REGISTRATION EQUIVALENT MUST APPROVE THE REMOVAL OF TEMPORARY STRUCTURES.

PHASE 2 (PLANNED FOR FALL OF 2015)

16. CONDUCT A PRE–CONSTRUCTION MEETING WITH CITY, OWNER & ENGINEER ON–SITE FOR PHASE 2 IMPROVEMENTS.
17. MOBILIZE AND INSTALL TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AS INDICATED INCLUDING THE CONSTRUCTION ENTRANCE AND SILT FENCING. THESE MEASURES WILL BE INSTALLED PRIOR TO INITIATING ANY LAND DISTURBANCE ACTIVITIES.
18. REMOVE FENCING WITHIN PHASE 2 LIMIT OF DISTURBANCE.
19. INSTALL COMPOST/SURFICIAL SOIL WITHIN PHASE 2 LIMIT OF DISTURBANCE.
20. INSTALL PERMANENT VEGETATION VIA SEEDING OR HYDROSEEDING.
21. REMOVE TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AFTER ENTIRE AREA WITHIN THE PHASE 2 LIMIT OF DISTURBANCE HAS SUFFICIENTLY STABILIZED. NOTE THAT THE SWPPP PREPARER OR REGISTRATION EQUIVALENT MUST APPROVE THE REMOVAL OF TEMPORARY STRUCTURES.
22. SUBMIT NOTICE OF TERMINATION (NOT) TO CITY.

CONSTRUCTION SCHEDULE

1. CONSTRUCTION OF PHASE 1 IMPROVEMENTS IS SCHEDULED TO BEGIN IN MID–AUGUST 2014. ALTHOUGH THE MAJORITY OF CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO BE COMPLETED WITHIN 30 WORK DAYS, A 90–DAY CONSTRUCTION PERIOD IS ASSUMED TO ASSURE THAT VEGETATION HAS ADEQUATELY ESTABLISHED. CONSTRUCTION OF PHASE 2 IMPROVEMENTS IS SCHEDULED TO BEGIN IN FALL 2015. ALTHOUGH THE MAJORITY OF CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO BE COMPLETED WITHIN 20 WORK DAYS, A 70–DAY CONSTRUCTION PERIOD IS ASSUMED TO ASSURE THAT VEGETATION HAS ADEQUATELY ESTABLISHED.

2. THE FOLLOWING PROVIDES A BREAKDOWN OF THE MAJOR WORK ITEMS FOR PHASE 1 AND ANTICIPATED TIME FRAMES FOR EACH:
   - MOBILIZE AND INSTALL OF TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS INDICATED ON THE CONSTRUCTION DRAWINGS. APPROXIMATE TIME FRAME OF 1 TO 5 WORKING DAYS.
   - REMOVE EXISTING SOIL STOCKPILES, CLEAR AND GRUB AREAS WITHIN LIMIT OF DISTURBANCE, AND REMOVE DRAINAGE STRUCTURES WITHIN VICINITY OF THE EXISTING DETENTION BASIN (INCLUDING PIPING) THAT ARE INDICATED TO BE REMOVED ON CONSTRUCTION DRAWINGS. APPROXIMATE TIME FRAME 1 TO 5 WORKING DAYS.
   - PERFORM EXCAVATION AND ROUGH GRADING OF NEW DRAINAGE SWALE, DETENTION BASIN, AND ADJACENT SLOPES. THIS INCLUDES THE CONSTRUCTION OF THE DETENTION BASIN EMBANKMENT. DISTURBED AREAS OUTSIDE OF THE DETENTION BASIN AND SWALE SHALL HAVE SOIL SURFACES ROUGHENED TO REDUCE RUNOFF FROM THE CONSTRUCTION SITE AND IMPROVE LOCALIZED SURFACE WATER IMPOUNDMENT. APPROXIMATE TIME FRAME OF 5 TO 10 WORKING DAYS.
   - INSTALL THE DETENTION BASIN'S OVERFLOW STRUCTURE AND ASSOCIATED PIPING. CONNECT PROPOSED PIPING INTO EXISTING DRAINAGE STRUCTURE AS REFLECTED ON THE CONSTRUCTION DRAWINGS. APPROXIMATE TIME FRAME 1 TO 5 WORKING DAYS.
   - PERFORM FINAL GRADING OF SWALE AND DETENTION BASIN AND SURROUNDING SLOPES; AND INSTALL EROSION CONTROL BLANKETING ON DETENTION BASIN SIDE SLOPES AND ENGINEERED TURF SYSTEM AND TURF REINFORCEMENT MATTING WITHIN THE DRAINAGE SWALE. APPROXIMATE TIME FRAME 1 TO 5 WORKING DAYS.
   - INSTALL PERMANENT VEGETATION VIA SEEDING OR HYDROSEEDING AND REMOVE TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AFTER ENTIRE AREA DRAINING TO THE STRUCTURE HAS SUFFICIENTLY STABILIZED. APPROXIMATE TIME FRAME 1 TO 30 WORK DAYS.

2. THE FOLLOWING PROVIDES A BREAKDOWN OF THE MAJOR WORK ITEMS FOR PHASE 2 AND ANTICIPATED TIME FRAMES FOR EACH:
   - MOBILIZE AND INSTALL TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AS INDICATED INCLUDING THE CONSTRUCTION ENTRANCE AND SILT FENCING. THESE MEASURES WILL BE INSTALLED PRIOR TO INITIATING ANY LAND DISTURBANCE ACTIVITIES. APPROXIMATE TIME FRAME OF 1 TO 5 WORKING DAYS.
   - REMOVE FENCING WITHIN PHASE 2 LIMIT OF DISTURBANCE. APPROXIMATE TIME FRAME OF 1 TO 5 WORKING DAYS.
   - INSTALL COMPOST/SURFICIAL SOIL WITHIN PHASE 2 LIMIT OF DISTURBANCE. APPROXIMATE TIME FRAME OF 1 TO 5 WORKING DAYS.
   - INSTALL PERMANENT VEGETATION VIA SEEDING OR HYDROSEEDING AND REMOVE TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AFTER ENTIRE AREA WITHIN THE PHASE 2 LIMIT OF DISTURBANCE HAS SUFFICIENTLY STABILIZED. APPROXIMATE TIME FRAME 1 TO 5 DAYS.

STORMWATER MAINTENANCE PROGRAM

THE UNIVERSITY OF SOUTH CAROLINA WILL BE RESPONSIBLE FOR LONG–TERM MAINTENANCE OF THE CONSTRUCTED CONTROLS ONCE ACCEPTED FROM THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE UNTIL SUBSTANTIAL COMPLETION OF CONSTRUCTION. MAINTENANCE OF ALL BEST MANAGEMENT PRACTICES SHALL BE PERFORMED AS FOLLOWS:

DETENTION BASIN AND COMPONENTS:
SHALL BE INSPECTED SEMI–ANNUALLY AND AFTER EVERY MAJOR STORM EQUIVALENT TO OR GREATER THAN THE 1–YEAR, 24–HOUR STORM EVENT (OR STORM GENERATING 3.3 INCHES OF RAINFALL OR MORE OVER A 24–HOUR PERIOD). INSPECTIONS SHALL FOCUS ON EROSION, SEDIMENT ACCUMULATION, TRASH REMOVAL, AND OUTLET STRUCTURE STRUCTURAL INTEGRITY.

1. INSPECT BASIN SLOPES FOR EROSION AND GULLYING. REINFORCE EXISTING RIPRAP IF RIPRAP IS FOUND TO BE DEFICIENT, EROSION IS PRESENT AROUND THE CONTROL STRUCTURE, OR IF EXISTING RIPRAP HAS BEEN COMPROMISED. INSTALL EROSION CONTROL MATTING ON SLOPES PRONE TO EROSION AND RE–VEGETATE ACCORDINGLY.
2. INSPECT DETENTION BASIN EMBANKMENT FOR DAMAGE. CHECK FOR SEEPAGE AND BURROWING ANIMALS. REPAIR WITH ORIGINAL DESIGN MATERIALS AND RE–VEGETATE IF NECESSARY.
3. INSPECT OUTLET STRUCTURE, LOW–FLOW ORIFICE PIPE, AND TRASH RACK. VISUAL INSPECTION SHALL FOCUS ON DAMAGE AND SEDIMENT ACCUMULATION. REMOVE TRASH, DEBRIS, AND SEDIMENT THAT HAS COLLECTED WITHIN OR ADJACENT TO THE STRUCTURE, LOW–FLOW ORIFICE, AND TRASH RACK. ENSURE THAT THE OUTLET STRUCTURE IS FREE OF DEBRIS AND IS FULLY OPERATIONAL.
4. REMOVE TRASH AND DEBRIS THAT HAS BUILT–UP IN BASIN AND AT INFLOW POINT.
5. MOW BASIN AND SIDE SLOPES SEMI–ANNUALLY (AT MINIMUM).
6. REVEGETATE (VIA SEEDING OR SODDING) DEAD OR DAMAGED GROUND COVER.
7. INSPECT SEDIMENT ACCUMULATION WITHIN THE SEDIMENT FOREBAY. SEDIMENT SHALL BE REMOVED FROM THE FOREBAY WHEN INSPECTION REVEALS THAT SEDIMENT ACCUMULATION HAS EXCEEDED 50% OF FOREBAY VOLUME OR THREE INCHES. AT MINIMUM, THIS MUST OCCUR ONCE EVERY 5 TO 7 YEARS. DISPOSE OF ACCUMULATED SEDIMENT AND HYDROCARBONS IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.
8. WATERING: WATER GRASSES TO GET A STAND ESTABLISHED AND DURING TIMES OF DROUGHT STRESS.

OPEN CHANNEL (REINFORCED SWALE):
SHALL BE INSPECTED SEMI–ANNUALLY AND AFTER EVERY MAJOR STORM EQUIVALENT TO OR GREATER THAN THE 1–YEAR, 24–HOUR STORM EVENT (OR STORM GENERATING 3.3 INCHES OF RAINFALL OR MORE OVER A 24–HOUR PERIOD). INSPECTIONS SHALL FOCUS ON PRESERVING THE HYDRAULIC EFFICIENCY OF THE CHANNEL AND MAINTAINING A NON–EROSIVE SURFACE/COVER INCLUDING A HEALTHY STAND OF VEGETATION WHERE APPLICABLE.

1. INSPECT SWALE SLOPES AND BOTTOM FOR EROSION AND REPAIR IMMEDIATELY. IF RIPRAP IS USED REINFORCE SWALE BOTTOM AND SLOPES, REPLACE IN–KIND. IF TURF REINFORCEMENT IS USED, RE–INSTALL MATTING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND RE–VEGETATE ACCORDINGLY.
2. INSPECT FOR LITTER AND DEBRIS AND REMOVE IMMEDIATELY.
3. MOW SWALE AND SIDE SLOPES AS REQUIRED TO MAINTAIN VEGETATION TO HEIGHTS IN THE 4–6 INCH RANGE WITH MANDATORY MOWING ONCE VEGETATION REACHES 10–INCHES IN HEIGHT.
4. SEED OR SOD DEAD OR DAMAGED GROUND COVER IN VEGETATED SECTIONS OF THE SWALE.
5. INSPECT SEDIMENT ACCUMULATION WITHIN THE SWALE. SEDIMENT SHALL BE REMOVED FROM THE FOREBAY AND CHECK DAMS WHEN INSPECTION REVEALS THAT SEDIMENT ACCUMULATION HAS REACHED A DEPTH OF APPROXIMATELY 3–INCHES IN ANY LOCATION OF THE SWALE. AT MINIMUM, THIS SHALL BE PERFORMED ONCE EVERY 5–7 YEARS. THE SEDIMENT SHALL BE REMOVED AND THE SWALE RECONFIGURED TO ITS ORIGINAL DIMENSIONS IF NECESSARY. DISPOSE OF ACCUMULATED SEDIMENT AND HYDROCARBONS IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.

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COLUMBIA SOUTH CAROLINA

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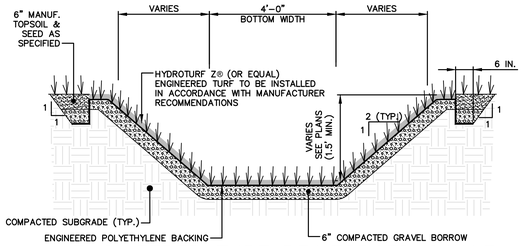

ENGINEERED TURF REINFORCED SWALE

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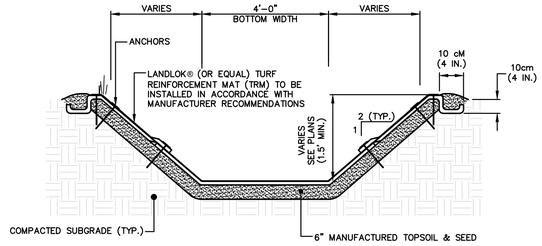

REINFORCED VEGETATED SWALE

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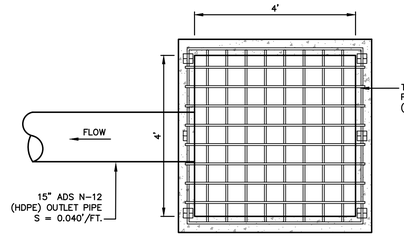

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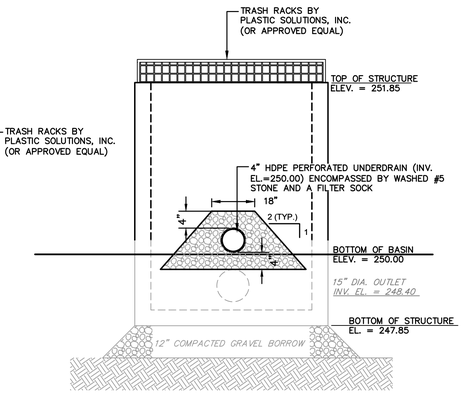


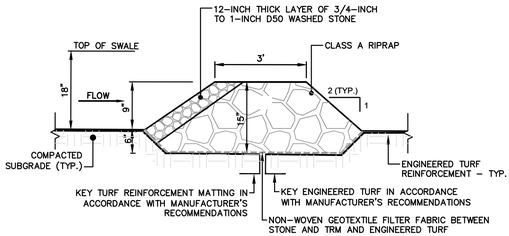
FRONT

GENERAL OVERFLOW STRUCTURE NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 719.2.9 OF THE SCDOT STANDARD SPECIFICATIONS.
2. STEEL REINFORCEMENT SHALL CONFORM TO SECTION 703 OF THE SCDOT STANDARD SPECIFICATIONS. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ.IN./LIN.FT. (BOTH WAYS).
4. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI.
5. OVERFLOW STRUCTURE DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
6. ONE POUR MONOLITHIC BASE SECTION.
7. IF DEPTH INSIDE STRUCTURE EXCEEDS 4'-6", STRUCTURE STEPS SHALL BE STEEL-REINFORCED WITH A PLASTIC COATING CONFORMING TO ASTM D4101, COPOLYMER POLYPROPYLENE.
8. SECTION JOINTS SHALL BE BUTYL RUBBER PER ASTM C-443 AND FEDERAL SPECIFICATION SS-S-210A.
9. WATERTIGHT SEAL AT PIPE CONNECTIONS SHALL BE MADE WITH RUBBER MANHOLE BOOT.

TABLE 1			
OVERFLOW STRUCTURE SIZE	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"x4'-0"	5"	6"	.12 SQ.IN. / LIN.FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2



STONE CHECK DAM AT TRANSITION BETWEEN TRM AND ENGINEERED TURF

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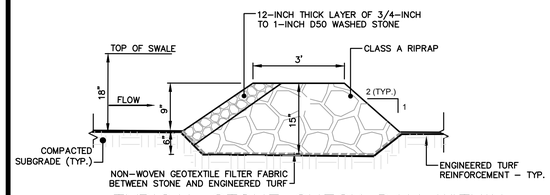

TYPICAL STONE CHECK DAM WITHIN ENGINEERED TURF PORTION OF SWALE

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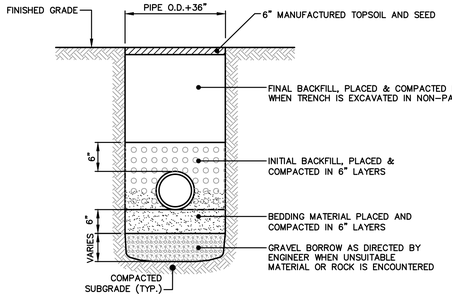

NOTES:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A LAYER OF GRAVEL BORROW.
2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

TYPICAL STORM DRAIN TRENCH DETAIL

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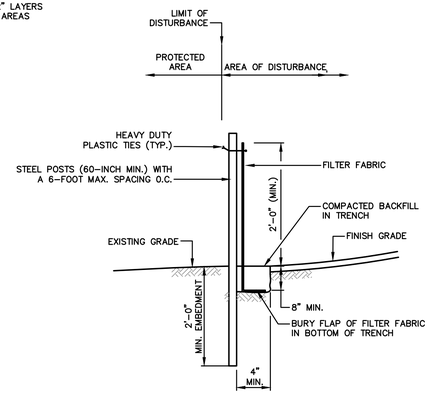

NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 815 OF THE SCDOT STANDARD SPECIFICATIONS.
2. STEEL POSTS SHALL BE A MINIMUM OF 60 INCHES LONG AND SHALL MEET THE MINIMUM PHYSICAL REQUIREMENTS SPECIFIED IN SUBSECTION 815.2.12 OF THE SCDOT STANDARD SPECIFICATIONS.
3. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

SILT FENCE (SCDOT 815-605-000)

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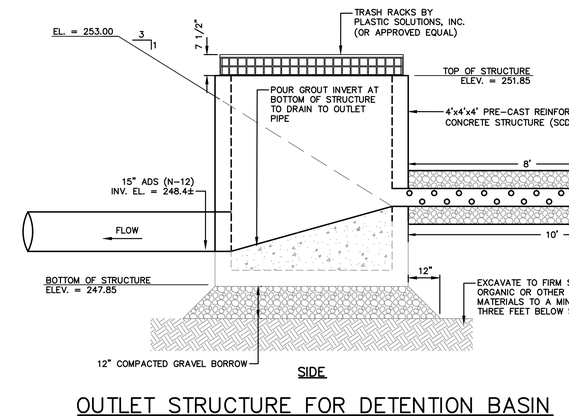

SIDE

OUTLET STRUCTURE FOR DETENTION BASIN

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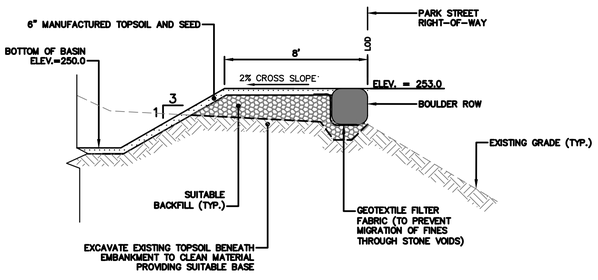
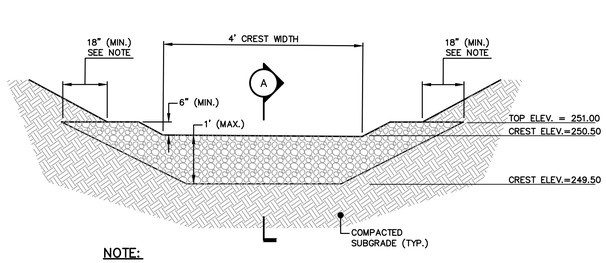


NOTES:

1. SUITABLE BACKFILL MATERIAL USED FOR BASIN EMBANKMENT CONSTRUCTION SHALL BE COMPOSED OF SATISFACTORY ON-SITE MATERIAL OR BORROW SOIL MATERIALS WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE FROM EXCAVATIONS. SATISFACTORY ON-SITE MATERIAL SHALL HAVE SOIL CLASSIFICATION GROUPS OF GW, GP, GM, SW, SP, AND SM ACCORDING TO ASTM D 2487, OR A COMBINATION OF THESE GROUPS AND SHALL BE FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES (75 MM) IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER.
2. EACH BOULDER USED TO CONSTRUCT THE ROW OF LANDSCAPING BOULDERS THAT LINE THE WESTERN EDGE OF THE BASIN EMBANKMENT SHALL BE 3'Lx2'Wx2'H, AT MINIMUM.

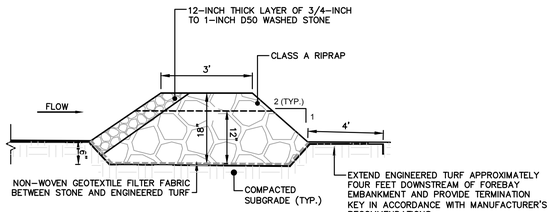
DETENTION BASIN EMBANKMENT

NOT TO SCALE



NOTE:

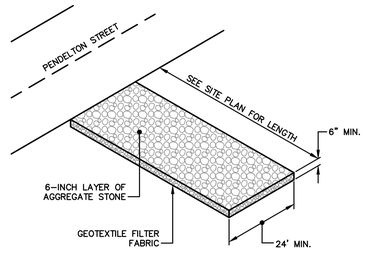
KEY STONE INTO THE DETENTION BASIN SIDESLOPES A MINIMUM OF 18" TO PREVENT FLOW FROM FLANKING THE EMBANKMENT.



FOREBAY EMBANKMENT SECTION A-A

SEDIMENT FOREBAY EMBANKMENT

NOT TO SCALE



NOTE:

1. AGGREGATE STONE SHALL BE NO. 1 AGGREGATE IN ACCORDANCE WITH SUBSECTION 815.2.9 OF THE STANDARD SPECIFICATIONS CONFORMING TO THE GRADATION INCLUDED WITHIN THE PROJECT SPECIFICATIONS.
2. GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH SUBSECTION 804.2.11 OF THE SCDOT STANDARD SPECIFICATIONS.

CONSTRUCTION ENTRANCE (SCDOT 815-505-000)

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			XX/XX	XX

SEAL

SEAL

SCALE:
HORZ.: 1" = 20'
VERT.:
DATUM:
HORZ.:
VERT.:
20 10 0 20
GRAPHIC SCALE

FUSS & O'NEILL
717 LADY ST, SUITE E
COLUMBIA, SOUTH CAROLINA 29201
803.376.6034
www.fando.com

UNIVERSITY OF SOUTH CAROLINA

PHRC GRAVEL LOT RESTORATION
CONSTRUCTION DETAIL SHEET

PARK, PENDLETON & ASSEMBLY STREETS

COLUMBIA SOUTH CAROLINA

PROJ. No.: 20130349.A11
DATE: JULY 2014

C-104

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