BEFORE YOU DIG CALL

"MISS UTILITY"

CITY OF HAMPTON, VA DEPARTMENT OF PUBLIC WORKS

22 Lincoln Street, Hampton, VA 23669 757-727-6346 (TEL) 757-727-6123 (FAX)

N. King Street/Brights Creek Area Stormwater Basin Retrofit City Project 17-023

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CONTACT **INFORMATION:**

CITY OF HAMPTON, VA. DEPARTMENT OF PUBLIC WORKS

22 LINCOLN STREET HAMPTON, VA 23669 TEL: (757) 727-6786 FAX: (757) 727-6123

MOHAMMAD SHAR, PHD, P.E., CFM

ENGINEER: AECOM

NEWPORT NEWS, VA 23606 CONTACT: MR. FRED WHITLEY, P.E.

TEL: (757) 873-0559

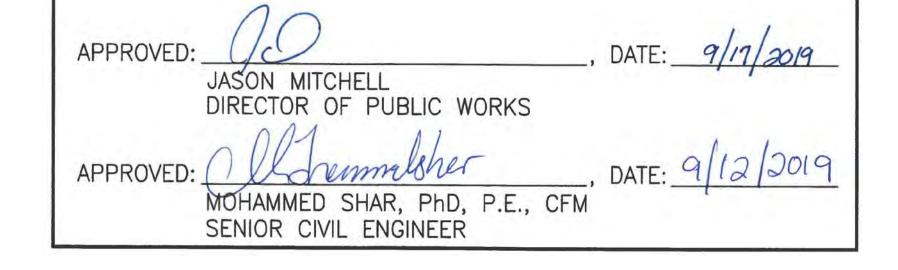
DIRECT: (757) 383-6206

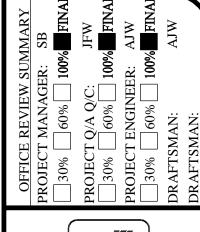
11832 ROCK LANDING DRIVE

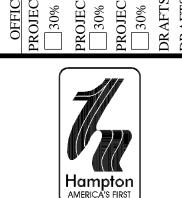
INTERSTATE 64 **PROJECT LOCATION VICINITY MAP** SCALE: 1"=2000"

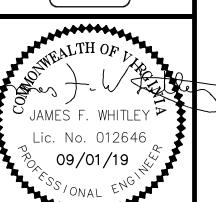
> TOTAL PROJECT AREA: 183,147 S.F. (4.20 AC.) TOTAL DISTURBED AREA: 179,282 S.F. (4.12 AC.)

N. KING STREET S	STORMWATER BASIN
LATITUDE AND LONGITUDE	N37° 2' 0.21" / W76° 20' 43.54"
HUC CODE	020802060906
WATERSHED NAME	HAMPTON RIVER WEST/SOUTHHAMPTO
OUTFALL	BRIGHTS CREEK
BMP TYPE	LEVEL 1 WET POND
TOTAL AREA TREATED BY BMP	31.75 AC
AREA OF EACH TYPE OF LAND COVER TREATED	18.35 REGULATED PERVIOUS
	13.40 REGULATED IMPERVIOUS
WATER QUALITY STORAGE REQUIRED	1.41 AC/FT
WATER QUALITY STORAGE PROVIDED	2.07 AC/FT
TOTAL PHOSPHORUS REMOVAL	14.87 LBS/YR
TOTAL NITROGEN REMOVAL	50.75 LBS/YR
TOTAL SUSPENDED SOLIDS (TSS) REMOVAL	6,797.97 LBS/YR
PROPERTY OWNERS	CITY OF HAMPTON
LRSN(S)	90020102, 080021592
ZONING	HEAVY AND LIGHT MANUFACTURING
FLOOD ZONE	FIRM ZONE AE (ELEV 7)











ISSUE DATE: **SEPTEMBER 1, 2019**

SHEET

GENERAL NOTES:

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH CURRENT APPLICABLE CODES AND THE FOLLOWING DOCUMENTS, AS AMENDED BY CONTRACT PROVISIONS AND THE PLANS:
- a.AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (6TH EDITION, 2011)
- b.CITY OF HAMPTON DESIGN AND CONSTRUCTION STANDARDS (2012 EDITION)
- c.HRPDC REGIONAL CONSTRUCTION STANDARDS (6TH EDITION)
- d.CITY OF HAMPTON UTILITY POLICY (3rd EDITION, 2012)
- e. VDOT ROAD AND BRIDGE STANDARDS (2016 EDITION) f. VDOT ROAD AND BRIDGE SPECIFICATIONS (2016 EDITION)
- q.FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD, 2009 EDITION WITH REVISION NUMBERS 1 AND 2 INCORPORATED, DATED MAY 2012) AND THE VA SUPPLEMENT (2011 EDITION WITH REVISION NUMBER 1 INCORPORATED, DATED SEPTEMBER 2013)
- h. VIRGINIA WORK AREA PROTECTION MANUAL (2011 EDITION WITH REVISION NUMBER 1 INCORPORATED, DATED APRIL 2015)
- i. VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (3rd EDITION, 1992) j. HAMPTON ROADS REGIONAL CONSTRUCTION STANDARDS (6TH EDITION, 2016)
- DIMENSIONS ARE FROM FACE OF BUILDING OR FACE OF CURB UNLESS OTHERWISE NOTED. ALL FILLET RADII SHALL BE MEASURED TO FACE OF CURB.
- THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT, MATERIAL AND GENERAL CONSTRUCTION DEBRIS FROM THE PROJECT SITE AND DISPOSE OF THE SAME IN A LEGAL MANNER AND/OR DELIVER TO THE CITY THOSE ITEMS SO DESIGNATED.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL, REPLACEMENT, AND TEMPORARY RELOCATION OF EXISTING SIGNS UNLESS OTHERWISE INDICATED
- UNFORESEEN EXISTING ABANDONED STRUCTURES OR UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION SHALL NOT BE REMOVED WITHOUT AUTHORIZATION FROM THE CITY OR THE UTILITY OWNER.
- AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK DISTURBED/DENUDED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENTS, SHALL BE GRADED TO DRAIN, TOPSOILED, SEEDED AND MULCHED AS REQUIRED BY THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING, AT HIS OWN EXPENSE, ANY EXISTING UTILITIES, PAVEMENT, CONCRETE ITEMS, PIPES, LANDSCAPING, AND OTHER ITEMS THAT ARE DAMAGED DURING CONSTRUCTION
- UNLESS OTHERWISE SPECIFIED, SAWCUT WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO OTHER LIKE ITEMS.
- THE CONTRACTOR SHALL NOT ENCROACH UPON THE LIMITS OF WETLANDS, RESOURCE PROTECTION AREA (RPA) BUFFER ZONES AND/OR WATERS OF THE U.S. (WOUS) UNLESS OTHERWISE SPECIFIED AND ALLOWED BY APPROPRIATE ENVIRONMENTAL PERMIT(S). ANY FINES ASSOCIATED WITH ANY ENVIRONMENTAL PERMIT OR REGULATORY VIOLATIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 10. UNLESS OTHERWISE SPECIFIED, UNSUITABLE MATERIAL ENCOUNTERED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH SELECT MATERIAL TYPE II
- 11. ALL PAVEMENT MARKINGS ERADICATED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE KIND. THESE MAY BE TEMPORARY, AS APPROVED BY CITY OF HAMPTON DEPARTMENT OF PUBLIC WORKS.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERADICATING ANY CONFLICTING PAVEMENT MARKINGS.
- 13. WHERE DESIGNATED ON THE PLANS, ALL TREES, STUMPS, ROOTS, BRUSH AND OTHER VEGETATION SHALL BE CLEARED AND GRUBBED. TREES INDICATED TO REMAIN SHALL BE TRIMMED OF DEAD BRANCHES, PAINTED WITH TREE-WOUND PAINT. AND PROTECTED FROM DAMAGE. ALL DEPRESSIONS SHALL BE FILLED AND COMPACTED.
- 14. IF A CONSTRUCTION TRAILER CONTAINING TOILET FACILITIES IS PROPOSED DURING CONSTRUCTION, IT SHALL BE CONNECTED TO THE SEWER SYSTEM OR A "PUMP AND HAUL" PERMIT SHALL BE OBTAINED FROM THE HEALTH DEPARTMENT.
- 15. GRADING AND DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH HRPDC REGIONAL CONSTRUCTION STANDARDS (6TH EDITION).
- 16. CONTRACTOR SHALL RESTORE GRADE TO PRE-CONSTRUCTION CONDITION UNLESS OTHERWISE NOTED ON THE PLANS.
- 17. FINISHED GRADES SHALL SLOPE UNIFORMLY BETWEEN SPOT ELEVATIONS SHOWN. 18. ALL TRANSITIONS IN GRADING SHALL BE SMOOTH AND ROUNDED CURVES.
- 19. THE CONTRACTOR SHALL REINSTALL ALL SIGNS, PAVEMENT MARKINGS, AND ROADWAY LIGHTING IN ACCORDANCE WITH VDOT STANDARDS, ALONG STATE ROADWAYS AND PUBLIC OR PRIVATE STREETS, AS REQUIRED BY THE CITY OF HAMPTON DEPARTMENT OF PUBLIC WORKS.

UTILITY NOTES:

- 1. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NONEXISTENCE, SIZE, TYPE, LOCATION, ALIGNMENT, OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNER'S RECORDS AND/OR ELECTRONIC LINE TRACING, THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER REINVESTIGATION AS NECESSARY TO VERIFY LOCATIONS AND CLEARANCES AT HIS OWN COST, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES TO THE ENGINEER. ANY TEST EXCAVATION OR OTHER REINVESTIGATION NECESSARY SHALL BE PERFORMED IN ADVANCE OF PLANNED WORK IN THE AREA TO PREVENT SCHEDULE DELAYS.
- 2. PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA OF CONSTRUCTION. A MINIMUM OF 72 HOURS PRIOR TO EXCAVATING, MISS UTILITY OF VIRGINIA (811) MUST BE CONTACTED.
- 3. IF ANY EXISTING UTILITY (PUBLIC OR PRIVATE) IS IN CONFLICT WITH THE PROPOSED DESIGN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND COORDINATE THE UTILITY RELOCATION WITH THE UTILITY OWNER.
- 4. THE CONTRACTOR SHALL HAND DIG WHEN CROSSING ANY UNDERGROUND UTILITIES. THE COST FOR HAND DIGGING SHALL BE INCLUDED IN THE PRICE BID FOR OTHER RELATED ITEMS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 5. ALL EXISTING UTILITIES SHALL REMAIN IN PLACE AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL CARRY ON HIS WORK AROUND SUCH UTILITIES AT HIS OWN RISK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY EXISTING UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO EXPENSE TO THE OWNER.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH POWER COMPANY ANY ADDITIONAL SUPPORT OF EXISTING POWER POLES AS REQUIRED FOR TRENCH EXCAVATION. ALL COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR AND INCIDENTAL TO LIKE ITEMS.
- 7. BURIED TELEPHONE AND CATV CABLES (FIBER OPTICS AND CONVENTIONAL) ARE KNOWN TO VARY DUE TO INSTALLATION TECHNIQUES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COORDINATING WITH THE UTILITY COMPANY TO DETERMINE SPECIFIC CABLE LOCATIONS AND NOTIFYING THE ENGINEER OF THE EXACT ELEVATION OF THE CABLES. WHERE EXISTING UTILITIES CONFLICT WITH THE PROPOSED IMPROVEMENTS, THE CONTRACTOR SHALL COORDINATE ANY NECESSARY RELOCATIONS WITH THE SERVICE PROVIDER.
- 8. ALL WORK TO BE PERFORMED ON WATERMAINS SHALL BE PERFORMED BY A CONTRACTOR CERTIFIED TO WORK ON NEWPORT NEWS WATERWORKS WATER LINES. WATER UTILITY WORK IS TO BE PERFORMED PER THE LATEST REVISION OF NEWPORT NEWS WATERWORKS DISTRIBUTION STANDARDS FOR MATERIALS AND CONSTRUCTION.
- 9. ALL VALVES, WATER METERS, MANHOLES, AND CLEANOUTS IMPACTED BY THE PROJECT SHALL BE ADJUSTED TO FINISHED GRADE. COST ASSOCIATED WITH SUCH WORK SHALL BE INCIDENTAL TO LIKE ITEMS UNLESS OTHERWISE SPECIFIED.
- 10. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL REPLACE EXISTING FIRE HYDRANTS WITH NEW FIRE HYDRANTS, AND RETURN ALL EXISTING FIRE HYDRANTS, METERS AND CHECK DETECTORS TO BE REMOVED/REPLACED TO NEWPORT NEW WATERWORKS.
- 11. PAVEMENT FAILURE IN THE VICINITY OF THE PROPOSED WORK SHALL BE CORRECTED BY THE CONTRACTOR BY PAVEMENT REPLACEMENT REPAIR FOLLOWED BY MILLING AND OVERLAYING.
- 12. INSTALLATION OF UTILITIES WITHIN CITY RIGHT-OF-WAY SHALL FOLLOW PROCEDURES SET FORTH IN THE CITY OF HAMPTON UTILITY POLICY IN EFFECT AT THE TIME OF PLAN APPROVAL
- 13. WATER SERVICE AND SEWER LATERALS MUST HAVE A MINIMUM SEPARATION OF TEN FEET (10'). SANITARY SEWER CLEANOUTS MUST BE LOCATED OUTSIDE OF THE DRIVEWAY APRONS AND SIDEWALK. METER BOXES SHALL NOT BE LOCATED IN DRIVEWAY APRONS OR SIDEWALKS.
- 14. THIS SITE MAY BE SUBJECT TO VIRGINIA OVERHEAD HIGH-VOLTAGE LINE SAFETY ACT. CONTRACTORS MUST CALL THE UTILITY TO MAKE SAFETY ARRANGEMENTS (DOMINION'S NUMBER IS 1-888-667-3000) BEFORE WORKING WITHIN THE 10-FOOT SAFETY ZONE. NO WORK CAN BE STARTED UNTIL APPROPRIATE SAFETY MEASURES ARE COMPLETED.

CONSTRUCTION SURVEY/STAKEOUT

PERMIT COORDINATION NOTES:

- 1. A ROW PERMIT IS REQUIRED BEFORE ANY WORK CAN BEGIN WITHIN CITY ROW. FOR INFORMATION CONTACT THE CITY OF HAMPTON PERMIT COORDINATOR AT (757) 728-2444.
- 2.A GENERAL VPDES PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES (GENERAL PERMIT NO. VAR10 — ALSO REFERRED TO AS THE CONSTRUCTION GENERAL PERMIT, VSMP PERMIT OR VPDES PERMIT) IS REQUIRED FOR PROJECTS WITH AREA OF LAND DISTURBANCE GREATER THAN 1 ACRE. WHEN A VPDES CONSTRUCTION GENERAL PERMIT (CGP) IS REQUIRED. THE CONTRACTOR IS REQUIRED TO:
- a.CONTACT THE LD PERMIT COORDINATOR WITH THE CITY OF HAMPTON PUBLIC WORKS DEPARTMENT AT (757) 728-2444 TO COORDINATE THE CGP APPLICATION PROCESS AT LEAST ONE WEEK BEFORE THE PRECONSTRUCTION CONFERENCE.
- b.SUBMIT THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) "PERMIT REGISTRATION STATEMENT" APPLICATION AND ASSOCIATED PERMIT APPLICATION FEE TO THE LD PERMIT COORDINATOR. THE CGP APPLICATION MUST BE SUBMITTED TO THE DEQ BY THE LD PERMIT COORDINATOR AFTER THE SWPPP DOCUMENTS HAVE BEEN APPROVED BY THE CITY. DEQ REVIEW OF THE CGP APPLICATION MATERIALS MAY TAKE MORE THAN TWO WEEKS.
- c. SATISFY ALL THE REQUIREMENTS OF THE CGP, INCLUDING MAINTAINING THE SWPPP DOCUMENTS WITH A COPY OF THE APPROVED PLAN SET ON THE PROJECT SITE AT ALL TIMES FOR THE DURATION OF THE PROJECT.
- 3. WHEN A CONSTRUCTION GENERAL PERMIT (CGP) IS REQUIRED, THE CITY OF HAMPTON LAND DISTURBANCE PERMIT (LDP) CANNOT BE ISSUED UNTIL THE CGP IS APPROVED BY THE VIRGINIA DEPARTMENET OF ENVIRONMENTAL QUALITY (DEQ).
- 4. A CITY OF HAMPTON LAND DISTURBANCE PERMIT (LDP) IS REQUIRED BEFORE ANY LAND DISTURBING ACTIVITY CAN BEGIN FOR PROJECTS WITH AREA OF LAND DISTURBANCE GREATER THAN 2,500 SQUARE FEET IF THE PROJECT IS LOCATED IN THE CHESAPEAKE BAY PRESERVATION DISTRICT (CBPD) OR GREATER THAN 10,000 SQUARE FEET IF THE PROJECT IS OUTSIDE THE CBPD. WHEN A LDP IS REQUIRED, THE CONTRACTOR IS REQUIRED TO:
 - a.SUBMIT THE LDP APPLICATION DOCUMENTS AND PERMIT FEE TO THE LD PERMIT COORDINATOR WITH THE CITY OF HAMPTON PUBLIC WORKS DEPARTMENT AT LEAST ONE WEEK BEFORE THE PRECONSTRUCTION CONFERENCE. THE LD PERMIT COORDINATOR CAN BE REACHED AT (757) 728-2444. SURETY BONDS REQUIRED BY THE CONTRACT MUST BE SUBMITTED WITH THE LD PERMIT APPLICATION.
 - b.COORDINATE THE "INITIAL LAND DISTURBANCE INSPECTION" FOR EROSION AND SEDIMENT CONTROL. CONTACT INFORMATION FOR SCHEDULING LAND DISTURBANCE INSPECTIONS WILL BE PROVIDED AT THE PRECONSTRUCTION CONFERENCE.
 - c.ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED PRIOR TO THE "INITIAL LAND DISTURBANCE INSPECTION". AFTER TWO FAILED INITIAL LD INSPECTIONS, AN ADDITIONAL FEE WILL BE INCURRED FOR EACH RE-INSPECTION UNTIL THE INSPECTION PASSES. NO OTHER LAND DISTURBING ACTIVITY CAN BEGIN UNTIL THE INITIAL LD INSPECTION PASSES.
 - d.SATISFY ALL THE REQUIREMENTS OF THE LDP, INCLUDING MAINTAINING A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN ON SITE AT ALL TIMES AND COORDINATING PERIODIC EROSION AND SEDIMENT CONTROL INSPECTIONS FOR THE DURATION OF THE PROJECT AS REQUIRED BY VIRGINIA ADMINISTRATIVE CODE (9VAC25-840-60).
 - e.COORDINATE THE "FINAL LAND DISTURBANCE INSPECTION" FOR EROSION AND SEDIMENT CONTROL.

SURVEY PROVIDED BY:

A. D. POTTS & ASSOCIATES, Inc. 11524 Jefferson Avenue NEWPORT NEWS, VA. 23601 TEL 757.595.4610 FAX 757.591.2723

- 1. VERTICAL DATUM DERIVED FROM BENCHMARK STAMPED "G312 1952", BEING A NGS BRASS DISK ON THE SOUTHWEST WING WALL OF A 4'x19' BOX CULVERT, ELEV. 3.81' (NAVD 88) HORIZONTAL DATUM: VIRGINIA SOUTH ZONE (NAD 83), (2011), (US SURVEY FT) FB 965.
- 2. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF ANTHONY D. POTTS FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED IN AUGUST THROUGH NOVEMBER, 2017 AND THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA, INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
- 3. THIS PROJECT IS LOCATED IN FIRM ZONE AE, (ELEV. 7) (AREA OF 1% ANNUAL CHANCE FLOOD) AS SHOWN ON COMMUNITY PANEL NO. 515527 0018 H DATED MAY 16, 2016 (INDEX DATE MAY
- 4. LOCATION OF BELOW GROUND UTILITIES PER MISS
- 5. PROPERTY LINES SHOWN HEREON ARE SOURCES. PROPERTY CONTROL MONUMENTATION RECORD.
- 1. TEMPORARY DRAINAGE DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR TO RELIEVE AND PREVENT FLOODING IN AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS OR ADJACENT PROPERTIES
- 2.ALL STORM PIPE, DROP INLET STRUCTURES, DITCHES AND CURB AND GUTTER SHALL BE CLEANED OF DEBRIS AND SILT DURING THE LAST STAGES OF CONSTRUCTION, THE COST OF WHICH SHALL BE INCIDENTAL TO OTHER ITEMS.
- 4.ALL NEW DRAINAGE STRUCTURES SHALL HAVE INVERT SHAPING IN ACCORDANCE WITH VDOT STD. IS-1. INVERT SHAPING SHALL BE INCLUDED IN THE UNIT PRICE PER DRAINAGE STRUCTURE.
- 5.STORM DRAINAGE PIPE: REINFORCED CONCRETE PIPE (RCP) SHALL CONFORM TO ASTM C-76, CLASS III. DUCTILE IRON PIPE (DIP) SHALL CONFORM TO ANSI/AWWA C151/A21.51, CLASS 52 WITH PUSH-ON OR MECHANICAL JOINTS.
- 6.ALL STORM DRAINAGE PIPES WITHIN THE PROJECT LIMITS AND TO 200 FEET DOWNSTREAM SHALL BE VACUUMED CLEAN AFTER ESTABLISHMENT OF PERMANENT SEEDING. THE COST FOR CLEANING OUT STORM SEWER PIPING SHALL BE INCLUDED IN THE PRICE BID FOR OTHER RELATED ITEMS. NO

_____ _____ -----OH -----<u><−−8"SAN.SEW.</u>

GAS LINE _ _ _ _ _ FLOODZONE

_____ ____ X ___ X ____ _____ ~~~~~

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RESIDENCE

ASPHALT

CONC

GRAVEL

△ TRAV PT

- 16, 2016).
- UTILITY DESIGN TICKET #A72500992.
- APPROXIMATE AND WERE COMPLIED FROM VARIOUS FOUND DOES NOT ALIGN TO PLATS AND DEEDS OF

DRAINAGE NOTES:

- 3.ALL STORM DRAINAGE DIMENSIONS ARE FROM CENTER OF STRUCTURE, UNLESS OTHERWISE INDICATED

- ADDITIONAL COMPENSATION WILL BE ALLOWED.

EXISTING

MINOR CONTOUR MAJOR CONTOUR PROPERTY LINE OVERHEAD ELECTRIC LINE **GUY WIRE**

LEGEND

STORM DRAINAGE PIPE SANITARY SEWER PIPE

_____4 ____

TOP OF BANK BOTTOM OF BANK EASEMENT LINE

RIGHT-OF-WAY LINE FENCE. MATERIAL AS SPECIFIED

DITCH TREE LINE CONCRETE CURB CURB & GUTTER _____ PAVEMENT CENTERLINE

> MANHOLE CURB INLET YARD DRAIN POWER POLE

LIGHT POST WATER VALVE FIRE HYDRANT WATER METER

TELEPHONE PEDESTAL DITCH ELEVATION TOP OF CURB ELEVATION

PAVEMENT ELEVATION CONCRETE PAD BOLLARD

RESIDENCE ASPHALT PAVEMENT CONCRETE

GRAVEL

BLOCK WALL RIP RAP CURB DROP INLET

WATER VALVE

TREE, AS SPECIFIED

SANITARY SEWER MANHOLE

CLEAN OUT DEMOLITION

SILT FENCE

RIPRAP

CURB INLET

POND OUTFALL STRUCTURE STORM MANHOLE

AQUATIC/SAFETY BENCH

CHECK VALVE SLOPE ARROW

CUT SLOPE

MAINTENANCE ACCESS ROAD SOIL BORING

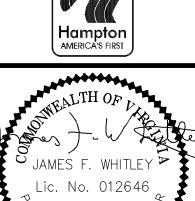


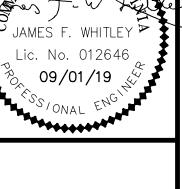
ACCEPTABLE TO THE OWNER (CITY OF HAMPTON). THESE AS-BUILTS SHOULD INCLUDE THE AS-BUILT STRUCTURES, STORMWATER BASINS, AND DITCHES LOCATED HORIZONTALLY AND VERTICALLY. AS-BUILT STRUCTURE INFORMATION SHALL INCLUDE AS-BUILT DRAWINGS WILL INCLUDE CONTOURS WITH AREAS AND STORAGE VOLUME OF THE BASIN AT CRITICAL ELEVATIONS SUCH AS DEEP POOLS AND AQUATIC BENCHES. DESIGN VOLUMES AND AREAS WILL ALSO BE PROVIDED ON THE PLANS FOR CHANGES, DEVIATIONS FROM THE DRAWINGS DUE BOTH TO DIFFERING SITE CONDITIONS AND CHANGE ORDERS. COST FOR THE AS-BUILT SURVEY WILL BE PAID BY THE CITY

SURFACE WILL BE REMOVED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A

ACTIVITIES. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN A LAWFUL MANNER.







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TRAVERSE POINT

GAS METER

CONSTRUCTION ENTRANCE

STORMWATER BASIN OUTLINE

FLARED END SECTION

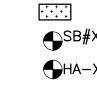
DROP INLET

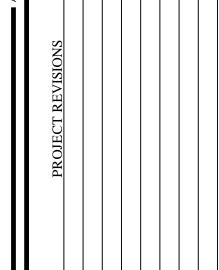
BLANKETS AND MATTING

TURF REINFORCEMENT MAT (TRM)

INLET PROTECTION

FILL SLOPE





ISSUE DATE: **SEPTEMBER 1, 2019**

UTILITY CONTACTS

SANITARY SEWER (GRAVITY) **ADJACENT PROPERTY OWNER NOTIFICATION:** CITY OF HAMPTON PUBLIC WORKS 419 ARMISTEAD AVE. HAMPTON, VA 23669 CONTACT: BARRY DOBBINS

(757) 926-1080 **HAMPTON ROADS SANITATION** DISTRICT (HRSD) 1436 AIR RAIL AVENUE VIRGINIA BEACH, VA 23455 CONTACT: CHRIS EVERTON

(757) 318-4327

CONTACT: DAN PASKO

<u>GAS</u>

ON THE PROJECT BID SHEET

VIRGINIA NATURAL GAS 544 S. INDEPENDENCE BLVD. VIRGINIA BEACH, VA 23452 CONTACT: KEVIN STARKE (757) 616-7529 COLONIAL PIPELINE

ALL SURVEY WORK (CONSTRUCTION STAKEOUT) SHALL BE THE RESPONSIBILITY OF THI

CONTRACTOR AND THE SURVEY COST WILL BE PAID BY THE CITY PER THE LINE ITEM

DOMINION VIRGINIA POWER 1600 HAMILTON AVENUE PORTSMOUTH, VA 23707 CONTACT: JOSE PESQUERA

<u>CITY OF HAMPTON</u> TRAFFIC ENGINEERING 22 LINCOLN ST. 4TH FLOOR, CITY HALL HAMPTON, VA 23669 CONTACT: BRIAN WILSON

(757) 726-2975

(800) 926–2728

<u>VERIZON</u> 5701 CLEVELAND STREET 5TH FLOOR VIRGINIA BEACH, VA 23462 CONTACT: MIKE CAVIISTON

COX COMMUNICATIONS 5200 CLEVELAND STREET VIRGINIA BEACH, VA 23462 CONTACT: JESSE JORDAN

WINDSTREAM ENTERPRISE (FORMERLY CAVALIER TELEPHONE) (800) 347-1991

CENTURYLINK (FORMERLY LEVEL 3)

DEED BOOK DOUBLE DEC. DECIDUOUS DROP INLET DUCTILE IRON PIPE DIAMETER DRIVEWAY FAST EACH EXPANSION JOINT **EDGE OF PAVEMENT** ELEVATION

ABUTMENT

ADDITIONAL

ALUMINUM

AGGREGATE

ASPHALT

BASELINE

BITUMINOUS

BENCH MARK

CENTERLINE

BEGIN VERTICAL CURVE

CONSTRUCTION JOINT

CURB DROP INLET

CUBIC FEET/FOOT

CURB & GUTTER

CHANGE GRADE

CLEAN OUT

CONCRETE

CONSTRUCTION

CUBIC YARDS

CONCRETE PIPE

BUILDING

BLOCK

BRICK

APPROXIMATE

ACRE

ABUT.

ADD'L.

AGGR.

ASPH.

BI DG

CONC.

CONST

EXIST./EX

APPRO)

ALUM.

MATCH GRADE MAXIMUM MANHOLE MEAN HIGH WATER M.H.W. DITCH (ELEVATION) M.L.W. MEAN LOW WATER MIN. MOD. MINIMUM MODIFIED M.B. MAP BOOK NAD NORTH AMERICAN NORTHWEST NO./# NOT IN CONTRACT NTS NOT TO SCALE OVERALL ON CENTER O.D. O/H OVERHEAD

ABBREVIATIONS

FOOT/FEET

GALVANIZED

HORIZONTAL

H.R.S.D. HAMPTON ROADS

HYDRANT

INTERIOR

INVFRT

LENGTH

LIGHT POLE

LINEAR FEET

POUNDS

GRADE CHANGE

GALLONS

HEIGHT

GALV.

G.C.

LBS.

L.F.

HORIZ.

GROUND (ELEVATION)

HIGH POINT (ELEVATION)

SANITATION DISTRICT

INSIDE DIAMETER

INLET PROTECTION

IRON PIN FOUND

NORTH AMERICAN DATUM VERTICAL DATUM NOW OR FORMERLY OUTSIDE DIAMETER PROPERTY LINE

POINT OF CURVATUE

SEC. SECTION LOW POINT (ELEVATION) SAN. SEW. SANITARY SEWER SANITARY SEWER MANHOLE SANITARY SEWER CLEAN OUT STORM DRAIN MANHOLE SILT FENCE SQUARE FEET SPACED SQUARE STA. TELE. U/G UTIL VA VERT.

TELEPHONE TREE PROTECTION TYPICAL UNDERGROUND UTILITY VIRGINIA VERTICAL **TRANSPORTATION** WATER/WEST WATER MAIN

STANDARD STORY SQUARE YARD TANGENT

STATION STREET

YARD DRAIN

AS-BUILT REQUIREMENT

CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION IN AN ELECTRONIC FORMAT TYPE OF STRUCTURE, RIM, INVERTS OF EACH PIPE, PIPE SIZES AND MATERIAL. VERIFICATION PURPOSES. THE AS-BUILT DRAWINGS SHALL ALSO INCLUDE ANY FIELD PER THE LINE ITEM ON THE PROJECT BID SHEET.

SEDIMENT CONTROLLED DISPOSAL AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE SITE, AND LEGAL DISPOSAL OF, DEBRIS GENERATED AS A RESULT OF DEMOLITION AND/OR CONSTRUCTION

THE LOCATION OF UTILITIES AND THE MANAGEMENT OF THEIR RELOCATION IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL AND WILL NOT BE MEASURED AND PAID FOR SEPARATELY. THE COST FOR UTILITY LOCATION AND

MANAGING THE RELOCATION OF THE UTILITY SHALL BE INCLUDED IN CONSTRUCTION COST.

THE CITY WILL PAY THE UTILITY COMPANIES DIRECTLY, AND NOT THE CONTRACTOR, IF

THERE ARE ANY FEES ASSOCIATED WITH THE RELOCATION OF THE UTILITY.

THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ALL OWNERS AND RESIDENTS OF THE PROPERTY ADJACENT TO THIS DEVELOPMENT OR ADJACENT TO THE OFF-SITE IMPROVEMENTS, 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK UNLESS OTHERWISE DIRECTED BY THE CITY. CONSTRUCTION WITHIN EASEMENTS OR ON PUBLIC RIGHT-OF-WAY NECESSITATES NOTICE WHETHER ADJACENT TO OR LOCATED ON THE ADJOINING PROPERTY FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN A SUSPENSION OF

PRIOR TO CONSTRUCTION OF ANY PROPOSED UTILITIES THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL EXISTING UTILITY LINES. IF ANY OF THE EXISTING UTILITIES ARE IN CONFLICT WITH THE PROPOSED DRAINAGE THE CONTRACTOR WILL COORDINATE THE RELOCATION OF THE EXISTING LINES WITH THE APPROPRIATE UTILITY

(757) 726–2944 NEWPORT NEWS WATERWORKS 700 TOWN CENTER DRIVE NEWPORT NEWS 23606

(757) 928–2093

5TH FLOOR (757) 369-6277

(804) 298 - 7182

(757) 875–2677

ELEV./EL. EDGE OF PAVEMENT EP ELEC. ELECTRIC E.S. END SECTION END VERTICAL CURVE E.V.C.

FXISTING

FENCE

EXPOSED

FORCE MAIN

FIRE HYDRAN

PED. PEDESTAL

PAVEMENT (ELEVATION)

PAGE

PLATE

PROP

P.S.

POWER POLE

PUMP STATION

PER SQUARE INCH

PROPOSED

RAILROAD

RIGHT-OF-WAY

SOUTHWEST

SANITARY

RIGHT

SOUTH

POINT OF TANGENCY

PER SQUARE FOOT/FEET

POLYVINYL CHLORIDE PIPE

REINFORCED CONCRETE PIPE

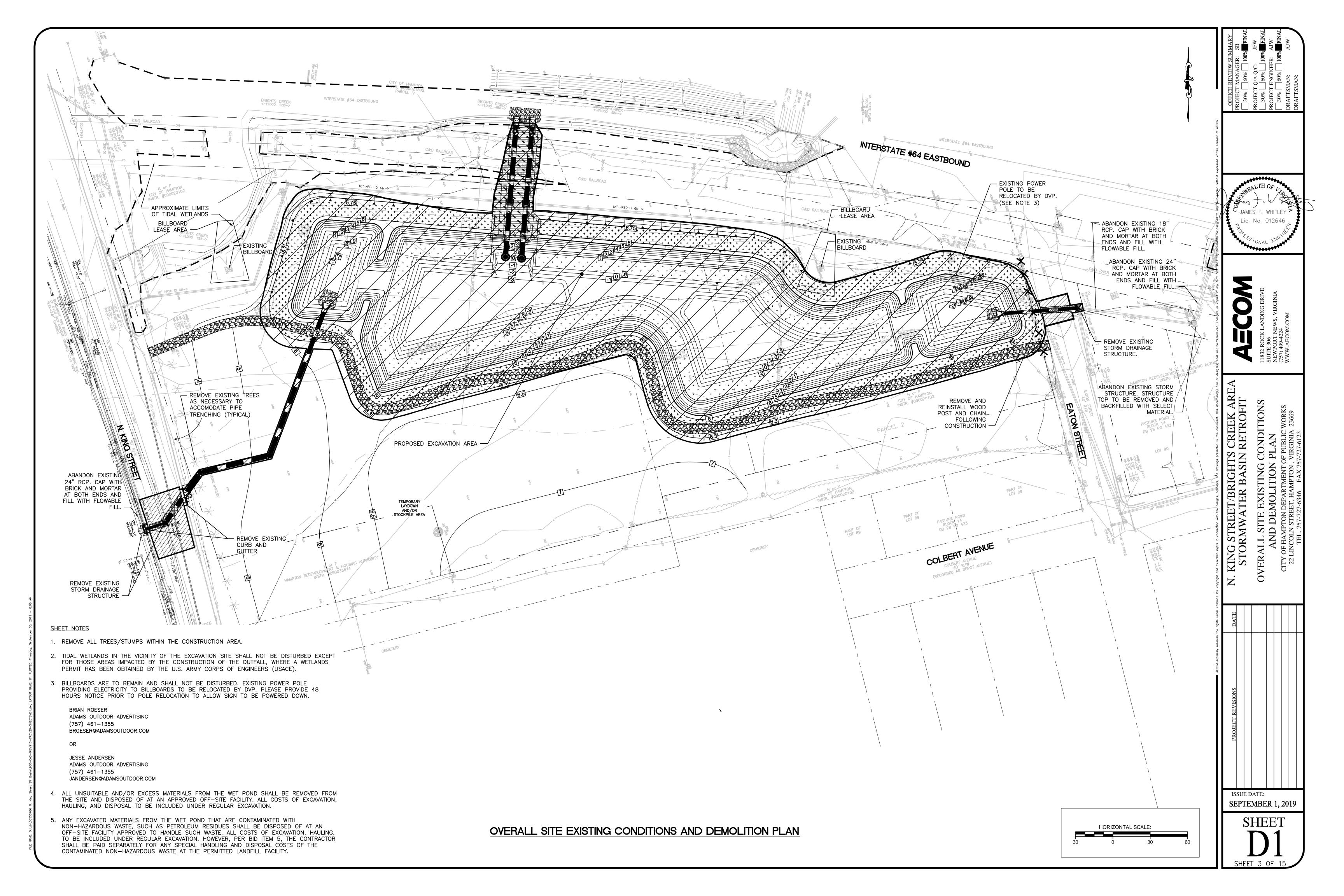
POINT OF VERTICAL INTERSECTION

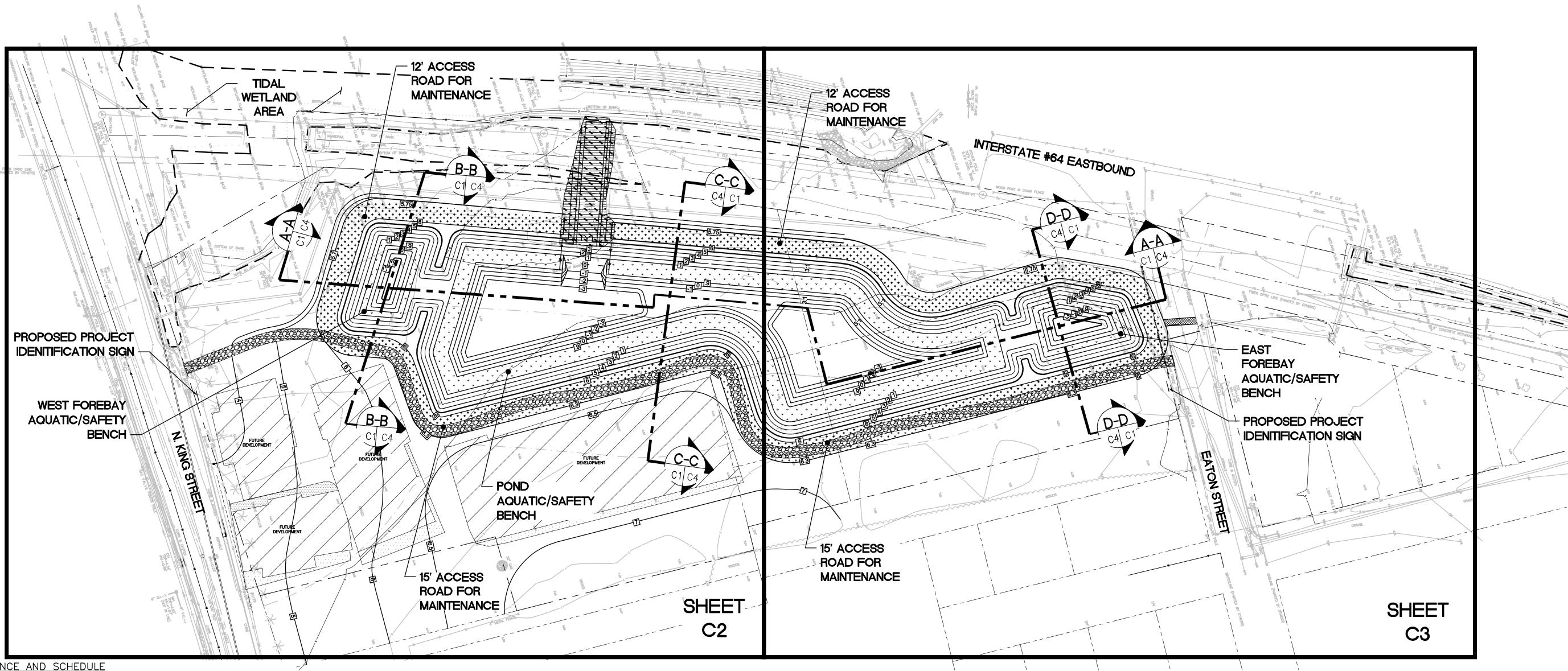
TOP OF CURB (ELEVATION)

VIRGINIA DEPARTMENT OF

ANY AND ALL MATERIAL OR DEBRIS TRACKED ONTO A PUBLIC OR PRIVATE ROAD

SHEE





BMP MAINTENANCE AND SCHEDULE

FIRST YEAR MAINTENANCE OPERATIONS

- SUCCESSFUL ESTABLISHMENT OF WET PONDS REQUIRES THAT THE FOLLOWING TASKS BE UNDERTAKEN DURING THE FIRST YEAR FOLLOWING CONSTRUCTION.
 INITIAL INSPECTIONS. DURING THE FIRST SIX MONTHS FOLLOWING CONSTRUCTION,
- THE SITE SHOULD BE INSPECTED AT LEAST TWICE AFTER STORM EVENTS THAT EXCEED A 1/2-INCH OF RAINFALL.

 3. PLANTING OF AQUATIC BENCHES. THE AQUATIC BENCHES SHOULD BE PLANTED.
- WITH EMERGENT WETLAND SPECIES, FOLLOWING THE PLANTING RECOMMENDATIONS CONTAINED IN STORMWATER DESIGN SPECIFICATION NO. 13 (CONSTRUCTED WETLANDS).
- 4. SPOT RESEEDING. INSPECTORS SHOULD LOOK FOR BARE OR ERODING AREAS IN THE CONTRIBUTING DRAINAGE AREA OR AROUND THE POND BUFFER, AND MAKE SURE THEY ARE IMMEDIATELY STABILIZED WITH GRASS COVER.
- 5. WATERING. TREES PLANTED IN THE POND BUFFER NEED TO BE WATERED DURING THE FIRST GROWING SEASON. IN GENERAL, CONSIDER WATERING EVERY 3 DAYS FOR FIRST MONTH, AND THEN WEEKLY DURING THE REMAINDER OF THE FIRST GROWING SEASON (APRIL OCTOBER), DEPENDING ON RAINFALL.

INSPECTIONS AND ONGOING MAINTENANCE TASKS

- 1. MAINTENANCE OF A WET POND IS DRIVEN BY ANNUAL INSPECTIONS THAT EVALUATE THE CONDITION AND PERFORMANCE OF THE POND, INCLUDING THE FOLLOWING:
- MEASURE SEDIMENT ACCUMULATION LEVELS IN THE FOREBAY.
 MONITOR THE GROWTH OF WETLAND PLANTS, TREES AND SHRUBS PLANTED. RECORD THE SPECIES AND THEIR APPROXIMATE COVERAGE, AND NOTE THE
- PRESENCE OF ANY INVASIVE PLANT SPECIES.

 4. INSPECT THE CONDITION OF STORMWATER INLETS TO THE POND FOR MATERIAL
- DAMAGE, EROSION OR UNDERCUTTING.

 5. INSPECT THE BANKS OF UPSTREAM AND DOWNSTREAM CHANNELS FOR EVIDENCE OF SLOUGHING, ANIMAL BURROWS, BOGGY AREAS, WOODY GROWTH, OR GULLY
- EROSION THAT MAY UNDERMINE EMBANKMENT INTEGRITY.

 6. INSPECT THE POND OUTFALL CHANNEL FOR EROSION, UNDERCUTTING, RIP—RAP DISPLACEMENT, WOODY GROWTH, ETC.
- 7. INSPECT THE CONDITION OF THE PRINCIPAL SPILLWAY AND RISER FOR EVIDENCE OF SPALLING, JOINT FAILURE, LEAKAGE, CORROSION, ETC.8. INSPECT THE CONDITION OF ALL TRASH RACKS, REVERSE—SLOPED PIPES, OR
- FLASHBOARD RISERS FOR EVIDENCE OF CLOGGING, LEAKAGE, DEBRIS ACCUMULATION, ETC.

 9. INSPECT MAINTENANCE ACCESS TO ENSURE IT IS FREE OF WOODY VEGETATION, AND CHECK TO SEE WHETHER VALVES, MANHOLES AND LOCKS CAN BE OPENED
- 10. INSPECT INTERNAL AND EXTERNAL SIDE SLOPES OF THE POND FOR EVIDENCE OF SPARSE VEGETATIVE COVER, EROSION, OR SLUMPING, AND MAKE NEEDED REPAIRS IMMEDIATELY.

TYPICAL WET POND MAINTENANCE FREQUENCY AND TASKS

- MONTHLY–MOWING
- QUARTERLY OR AFTER MAJOR STORMS (>1 INCH OF RAINFALL)
 - -REMOVE DEBRIS AND BLOCKAGES
 -REPAIR UNDERCUT, ERODED, AND BARE SOIL AREAS
- <u>ANNUALLY</u>
- -SHORELINE CLEANUP TO REMOVE TRASH, DEBRIS AND FLOATABLES
 -A FULL MAINTENANCE INSPECTION
- -OPEN UP THE RISER TO ACCESS AND TEST THE VALVES
 -REPAIR BROKEN MECHANICAL COMPONENTS, IF NEEDED
- ONE TIME DURING THE SECOND YEAR FOLLOWING CONSTRUCTION
- -POND BUFFER AND AQUATIC BENCH REINFORCEMENT PLANTINGS
- EVERY 5 TO 7 YEARS
- -FOREBAY SEDIMENT REMOVAL
- FROM 5 TO 25 YEARS
 - -REPAIR PIPES, THE RISER AND SPILLWAY, AS NEEDED

SEDIMENT REMOVAL

1. FREQUENT SEDIMENT REMOVAL FROM THE FOREBAY IS ESSENTIAL TO MAINTAIN THE FUNCTION AND PERFORMANCE OF A WET POND. MAINTENANCE PLANS SHOULD SCHEDULE CLEANOUTS APPROXIMATELY EVERY 5 TO 7 YEARS, OR WHEN INSPECTIONS INDICATE THAT 50% OF FOREBAY SEDIMENT STORAGE CAPACITY HAS BEEN FILLED. THE DESIGNER SHOULD ALSO CHECK TO SEE WHETHER REMOVED SEDIMENTS CAN BE SPOILED ON—SITE OR MUST BE HAULED AWAY. SEDIMENTS EXCAVATED FROM WET PONDS ARE NOT USUALLY CONSIDERED TOXIC OR HAZARDOUS. THEY CAN BE SAFELY DISPOSED OF BY EITHER LAND APPLICATION OR LAND FILLING. SEDIMENT TESTING MAY BE NEEDED PRIOR TO SEDIMENT DISPOSAL IF THE RETROFIT SERVES A HOTSPOT LAND USE.

BMP AREAS AND VOLUMES

West Forebay - N. King Street

Contour	Area (SQ/FT)	Area (Acres)	Volume (CU. FT)	Cumulative Volume (CU. FT)	Volume (AC. FT)
-2	178	0.004	-	+	-
-1	441	0.010	299.72	299.72	0.01
0	777	0.018	601.12	900.85	0.02
0.9	1143	0.026	858.72	1759.57	0.04
1	1795	0.041	145.68	1905.25	0.04
2	2368	0.054	2074.9	3980.14	0.09
			Pond - N. King	Street	
Contour	Area (SQ/FT)	Area (Acres)	Volume (CU. FT)	Cumulative Volume (CU. FT)	Volume (AC. FT)
-3	7414	0.17	-	+	-
-2	9293	0.21	8336	8336	0.19
-1	12900	0.30	11047	19383	0.44
0	15666	0.36	14261	33644	0.77
0.9	18237	0.42	15242	48885	1.12
1	28581	0.66	2322	51207	1.18
2	31656	0.73	30105	81313	1.87
			East Forebay - N.	King Street	
Contour	Area (SQ/FT)	Area (Acres)	Volume (CU. FT)	Cumulative Volume (CU. FT)	Volume (AC. FT)
-2	279	0.006	-	-	-
-1	570	0.013	415.93	415.93	0.01
0	931	0.021	743.16	1159.09	0.03
0.9	1317	0.030	1006.59	2165.68	0.05
1	1992	0.046	164.29	2329.9	0.05
2	2580	0.059	2279.67	4609.64	0.11
		Po	nd and Forebays	N. King Street	
Contour	Area (SQ/FT)	Area (Acres)	Volume (CU. FT)	Cumulative Volume (CU. FT)	Volume (AC. FT)
2	37308	0.84	34464	90141	2.07
3	41747	0.96	39506.71	129647.64	2.98
3.5	43974	1.01	21427.84	151075.48	3.47
4	46212	1.06	22554.19	173619.67	3.99
4.5	48470	1.11	23668.26	197287.92	4.53
4.9	50262	1.15	19743.5	208223.47	4.78
				222224 27	F 10
5	50711	1.16	5048.63	222081.87	5.10

NORTH KING STREET WET POND RETROFIT:
TYPE: LEVEL 1 WET POND
AREA TREATED: 31.75AC

13.40 AC REGULATED IMPERVIOUS

NUTRIENT REMOVALS (LBS/YEAR):

NITROGEN: 50.78

• PHOSPHORUS REMOVAL: 14.87 TOTAL SUSPENDED SOLIDS: 6,797.97

NOTE:

THESE NUMBERS WERE CALCULATED USING THE

CHESAPEAKE BAY TMDL NUTRIENT LOADING RATES FOUND
IN THE CITY OF HAMPTON'S MS4 PERMIT FOR THE JAMES
RIVER WATERSHED.

LAND COVER TREATED: 18.35 AC REGULATED PERVIOUS

SHEET LAYOUT NOTES

- REFER TO SHEET G1 FOR GENERAL NOTES, SURVEY NOTES, LEGEND AND ABBREVIATIONS.
- WETLANDS WERE SURVEYED BY A. D. POTTS IN SEPTEMBER AND OCTOBER 2017
 USING MARKERS SET BY KERR ENVIRONMENTAL SERVICES CORPORATION. WETLAND
 BOUNDARIES WERE CONFIRMED BY THE U.S. ARMY CORPS OF ENGINEERS IN A
 LETTER DATED DECEMBER 22, 2017.

HORIZONTAL SCALE:
40 0 40 80

OVERALL SITE LAYOUT PLAN

PROJECT MANAGER: SB

| 30% | 60% | 100% | FIN
| 230% | 60% | 100% | FIN
| 30% | 60% | 100% | FIN
| DRAFTSMAN:

Hampton AMERICA'S FIRST

JAMES F. WHITLEY

Lic. No. 012646

09/01/19

832 ROCK LANDING DRIVE JITE 306 EWPORT NEWS, VIRGINIA 57) 499-4224

OUT PLAN
SUIT PLAN
FOR PUBLIC WORKS

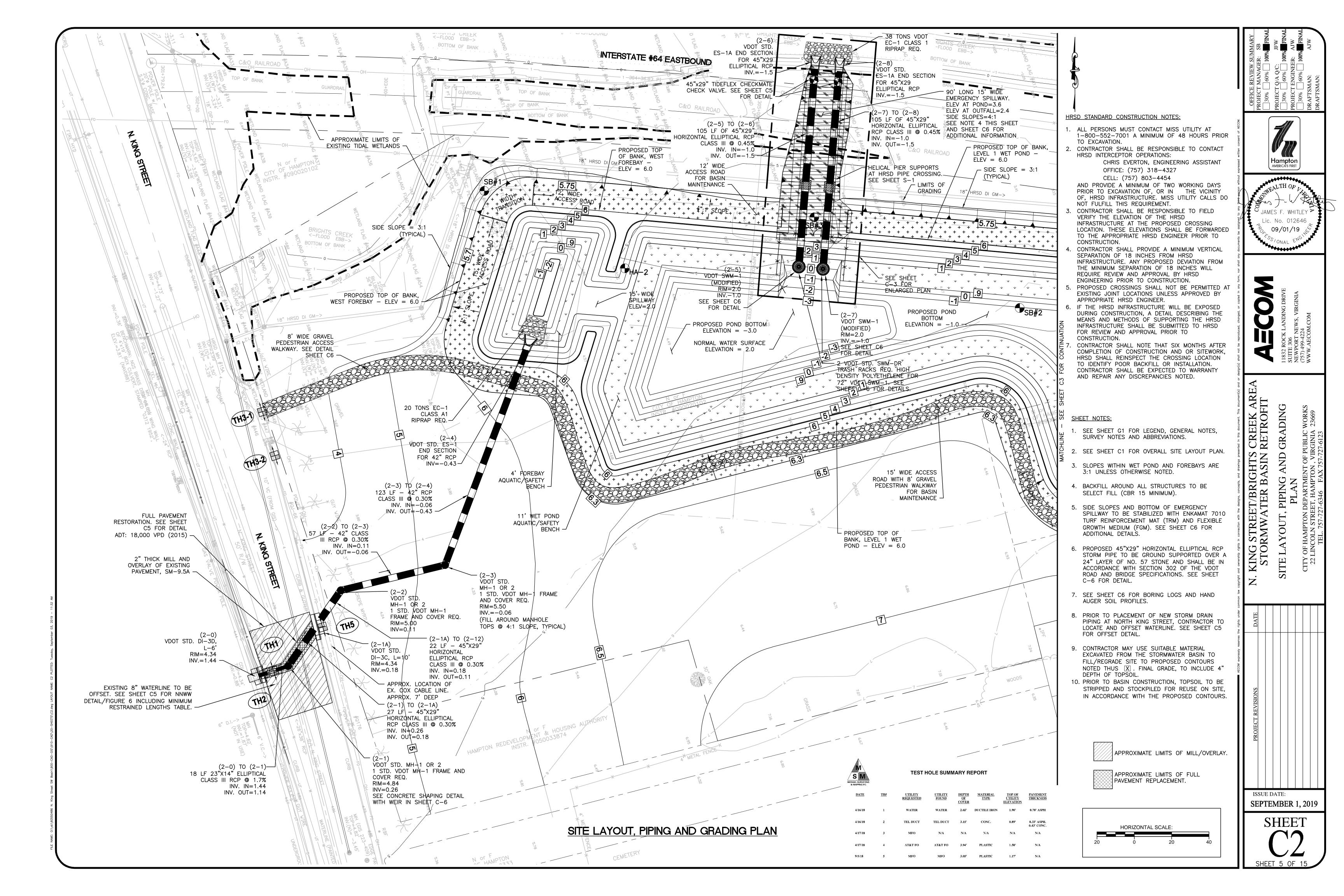
(757)

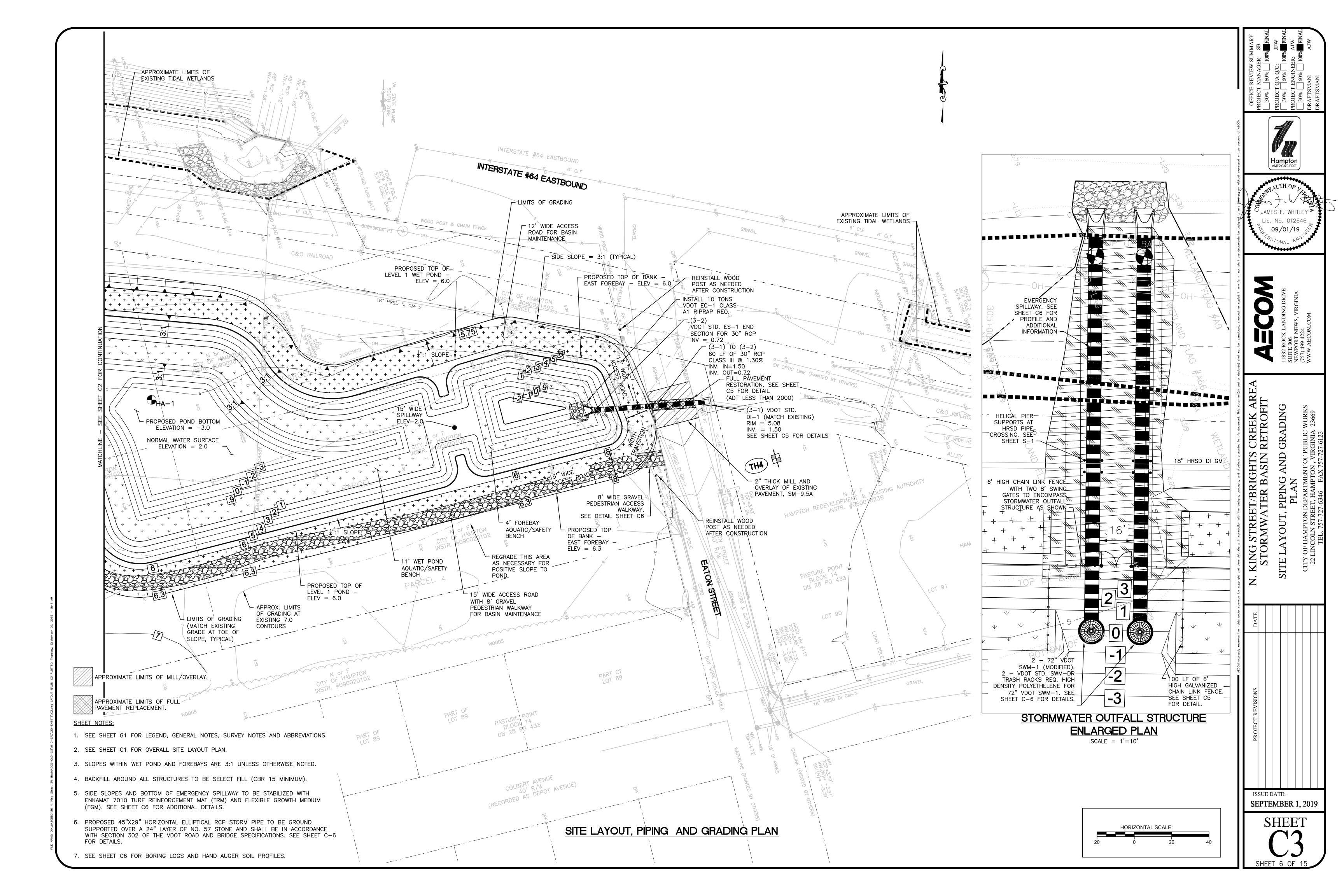
KING STREET/BRIGHTS CRISTORMWATER BASIN RETOVERALL SITE LAYOUT PLASITY OF HAMPTON DEPARTMENT OF PUBLIC 22 LINCOLN STREET, HAMPTON, VIRGINIA

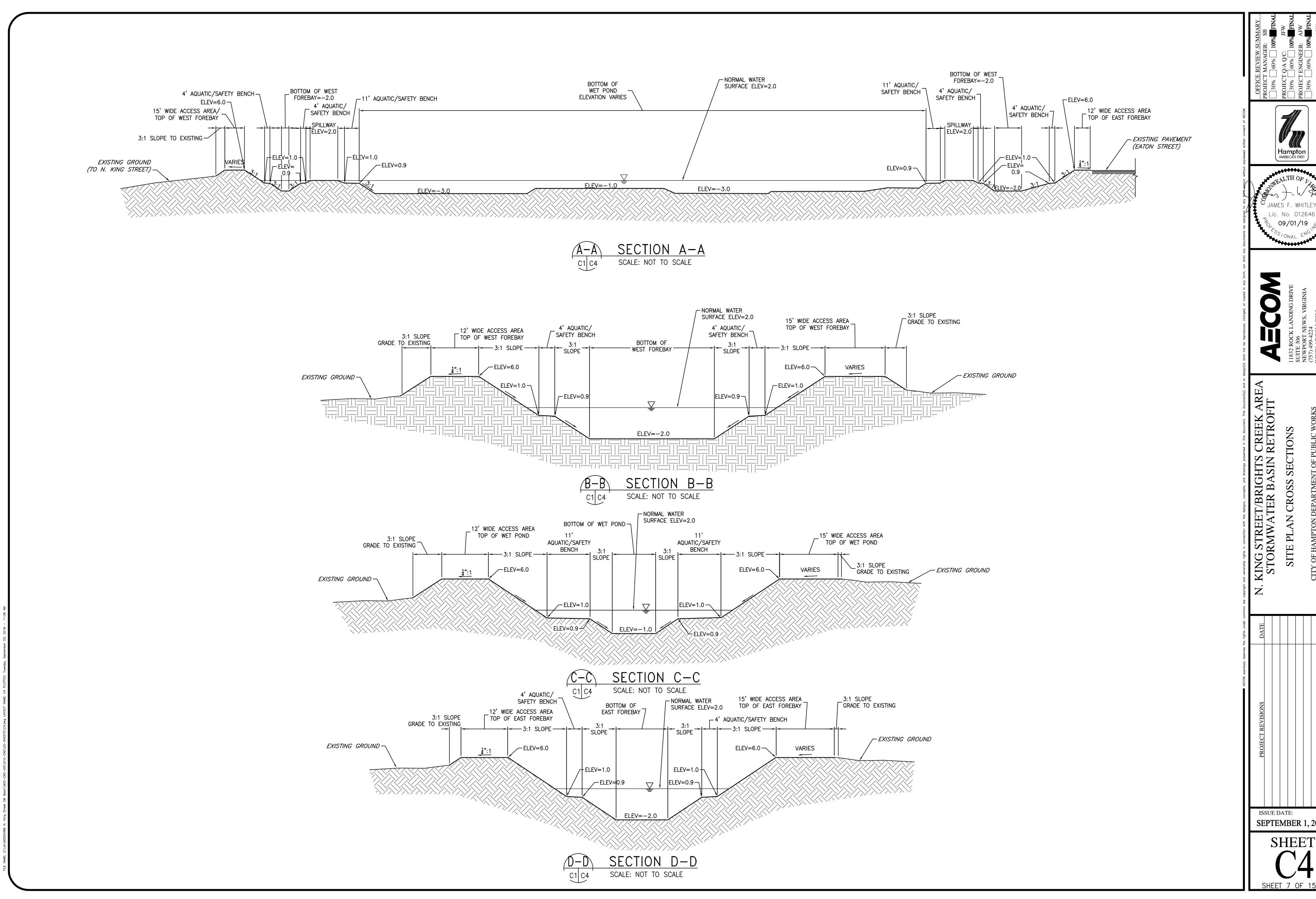
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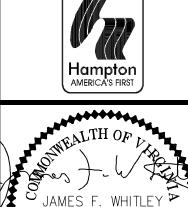
ISSUE DATE:
SEPTEMBER 1, 2019

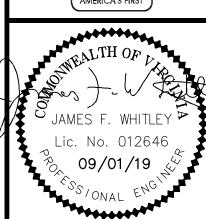
SHEET C1



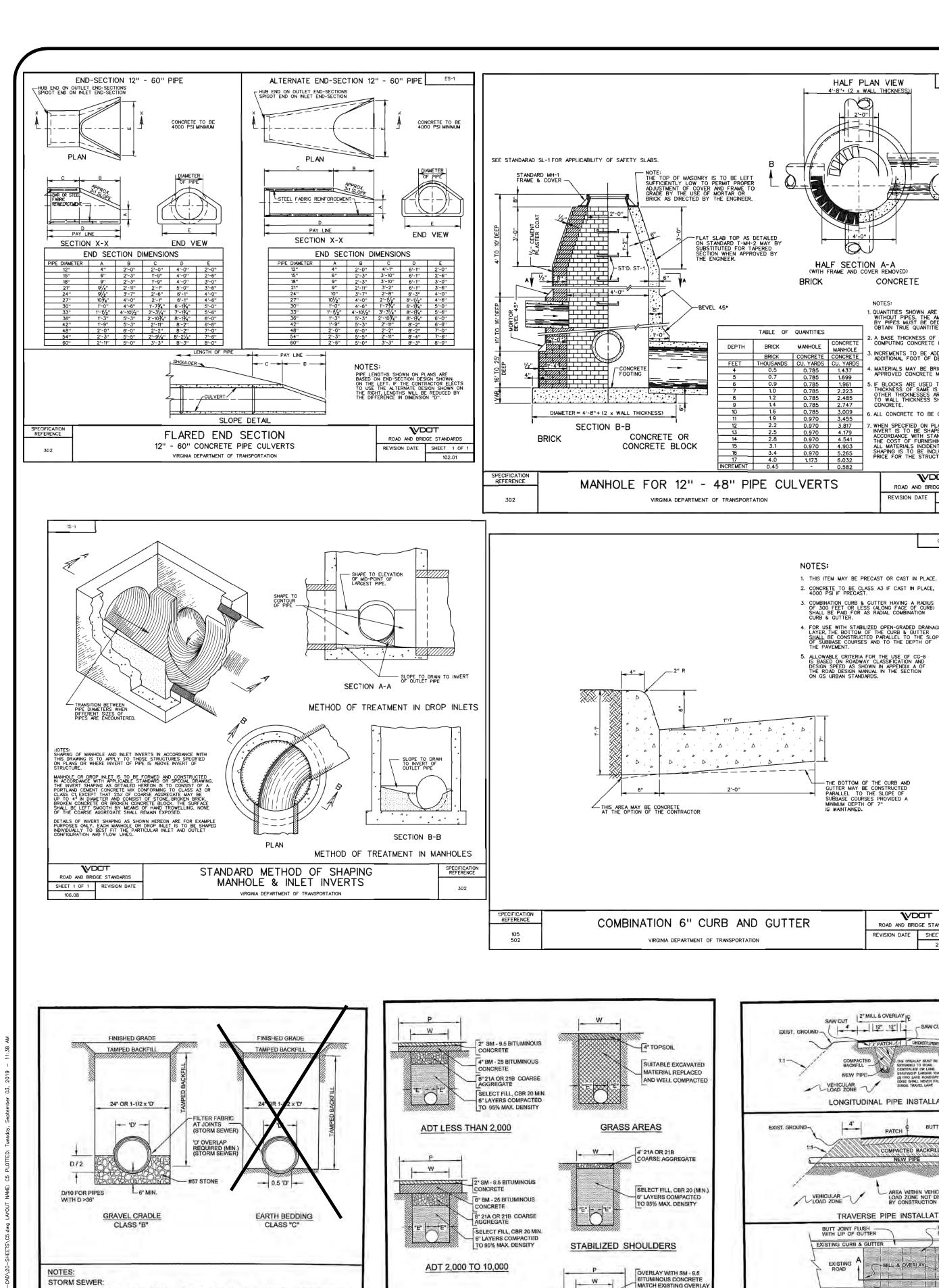








SEPTEMBER 1, 2019



W

2" SM - 9.5D BITUMINOUS

8" BM - 25 BITUMINOUS

8" 21A OR 21B COARSE AGGREGATE

SELECT FILL, CBR 20 MIN.

6" LAYERS COMPACTED TO 95% MAX, DENSITY

Pavement & Site Restoration

CITY OF HAMPTON, VA - DESIGN & CONSTRUCTION STANDARDS

CONCRETE

CONCRETE

ADT GREATER THAN 10,000

1. PIPE IS TO BE CONCRETE ASTM C-76 CLASS III, WHERE SUBJECT TO TRAFFIC. CLASS II MAY BE

1. PIPE IS TO BE SDR 26 PIPE OR DUCTILE IRON WITH MECHANICAL OR PUSH ON JOINTS. LATERALS

JOINTS ARE TO BE TONGUE AND GROOVE WITH RUBBER COMPRESSION JOINTS OR BUTYL -RUBBER SIMILAR TO BUTYL-TITE OR OTHER APPROVED EQUAL COMPLYING TO FEDERAL

2. JOINTS WILL BE MADE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

1. CLASS "B" BEDDING IS REQUIRED UNDER ALL PIPES UNLESS OTHERWISE DIRECTED BY THE

3. PIPE WITH LIFT HOLES IS NOT ACCEPTABLE.

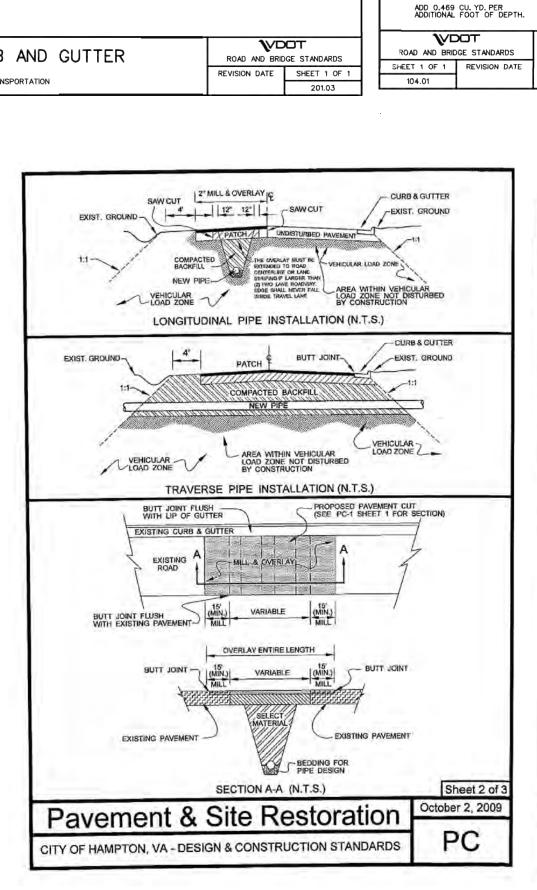
DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE.

2. BACKFILL IS TO BE IN ACCORDANCE WITH HAMPTON STANDARD PC-1.

Pipe Bedding

CITY OF HAMPTON, VA. - DESIGN & CONSTRUCTION STANDARDS

ARE TO BE SDR 26 OR DUCTILE IRON.



9" A-3 HIGH FARLY

CEMENT CONCRETE

STRENGTH PORTLAND

8" 21A OR 21B COARSE AGGREGATE

SELECT FILL, CBR 20 MIN

TO 95% MAX. DENSITY

Sheet 1 of 3

October 2, 2009

PORTLAND CEMENT

CONCRETE STREETS

CONCRETE

. IF BLOCKS ARE USED THE MINIMUM THICKNESS OF SAME IS TO BE 5". OTHER THICKNESSES ARE TO CONFO TO WALL THICKNESS SHOWN FOR CONCRETE.

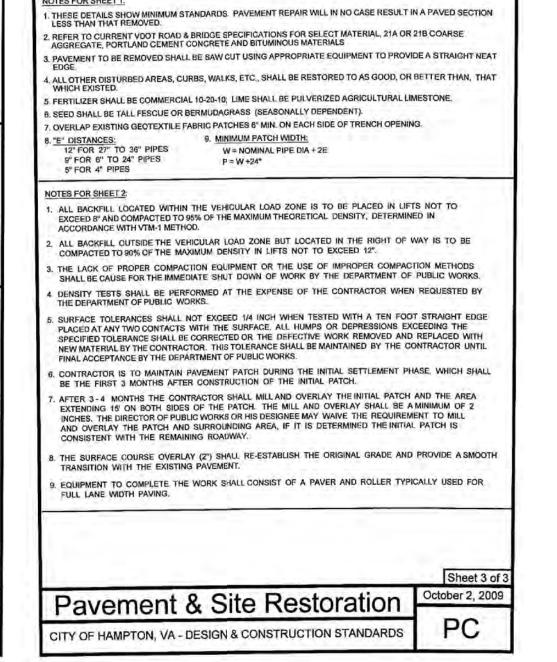
₩DOT

ROAD AND BRIDGE STANDARDS

REVISION DATE SHEET 1 OF 5

CG-6

106.01



54.20" [1377mm]

(4) - .50 [13mm] DIA. S/STEEL

1/2 SECTION CAST IRON ---- 1/2 SECTION STEEL

CAST

3 LBS

SEE DETAIL A

43.6 LBS

SECTION B-B

DETAIL B

2'-6"

SEE DETAIL B APPROXIMATE WEIGHT

11/4" GRATE 363 ± 18 LBS

SECTION C-C SECTION D-D

GRATE DETAIL

STANDARD DROP INLET

12" - 24" PIPE: MAXIMUM DEPTH (H) - 10'

VIRGINIA DEPARTMENT OF TRANSPORTATION

COLLAR DETAIL

HEX HEAD BOLTS

PIN PFR NOTE #4

RECOMMENDED PINNING CONFIGURATION

(SUPPLIED BY CUSTOMER) (SEE I.O.M.)

NOT TO SCALE

CUSTOMER: XXX

ORDER No: XXX

91/2" 2'-7"

PLAN

-| |- %"

21/2"

DETAIL A

SECTION A-A

NOTES FOR SHEET 1:

CONCRETE QUANTITIES FOR MIN. DEPTH

1 | 1 | CHECKMATE CHECK VALVE

Technologies
A Division of Red Valve Company, Inc.

PLOT SCALE: NTS

1

SEE NOTE #1 45.00" [1143mm] PIPE I.D.

AND THE INFORMATION EMBODIED THEREIN SHALL BE USED UNLT FOR RECORD

AND REFERENCE PURPOSES. IT SHALL NOT BE USED OR CAUSED TO BE USED IN DR. BY: DJJ DATE: 1-24-12 CHKD. BY: NOT BE REPRODUCED OR COPIED IN WHOLE OR PART, OR DISCLOSED TO ANYONE CAD SCALE: FULL

CAD SCALE: FULL

PROPRIETARY NOTICE

WITHOUT THE DIRECT WRITTEN PERMISSION OF TIDEFLEX TECHNOLOGIES AND SHALL BE RETURNED UPON REQUEST.

<u>NOTES</u> DEPTH OF INLET (H) TO BE SHOWN ON PLANS. FOR DEPTH GREATER THAN 10'USE STANDARD DI-1A

WHEN SPECIFIED ON THE PLANS THE INVERT IS TO BE SHAPED IN ACCORDANCE WITH STANDARD IS-1. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.

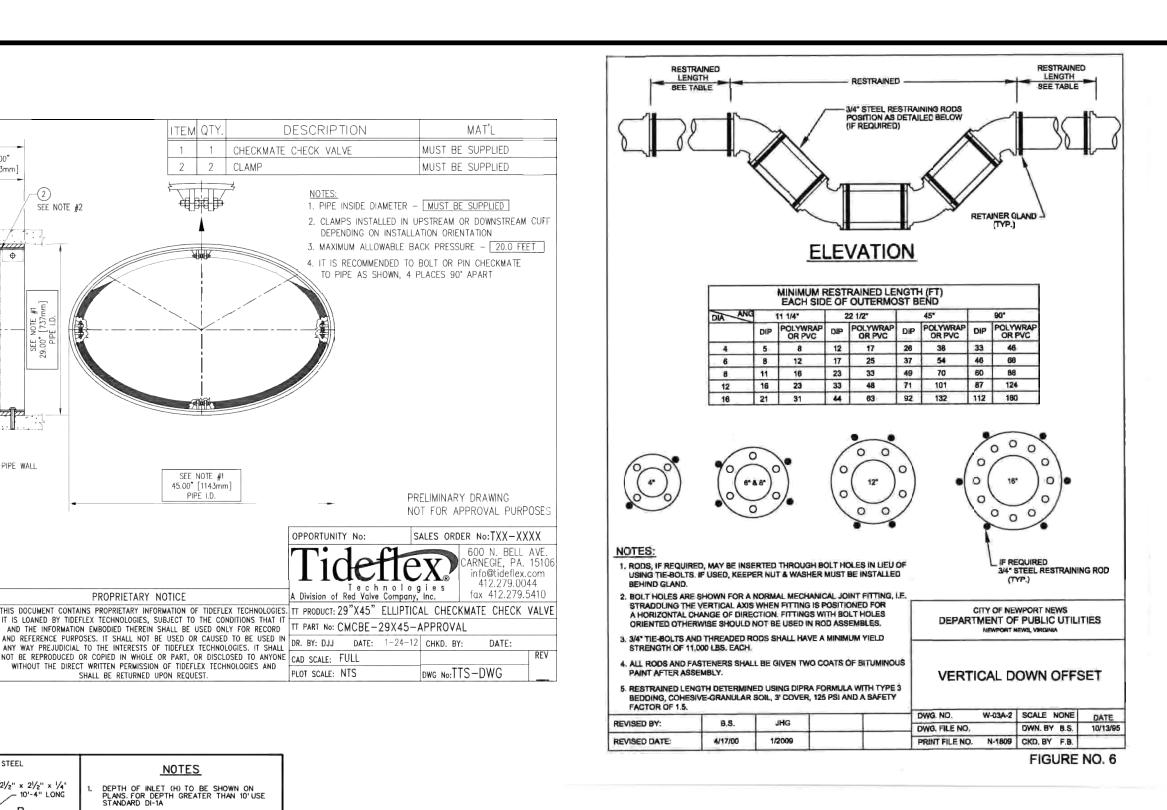
STEPS ARE TO BE PROVIDED WHEN H IS 4'-0" OR GREATER. FOR DETAILS SEE

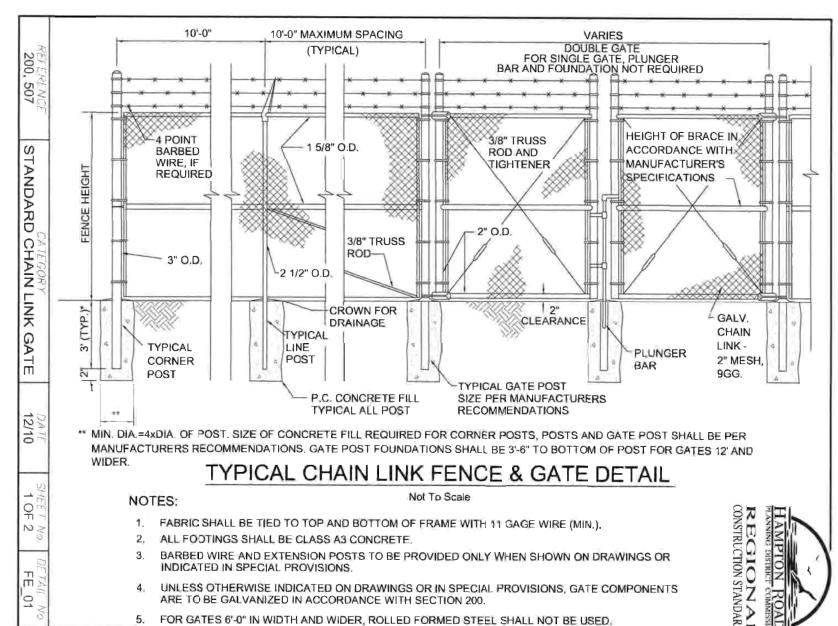
THIS ITEM MAY BE PRECAST OR CAST-IN-PLACE.

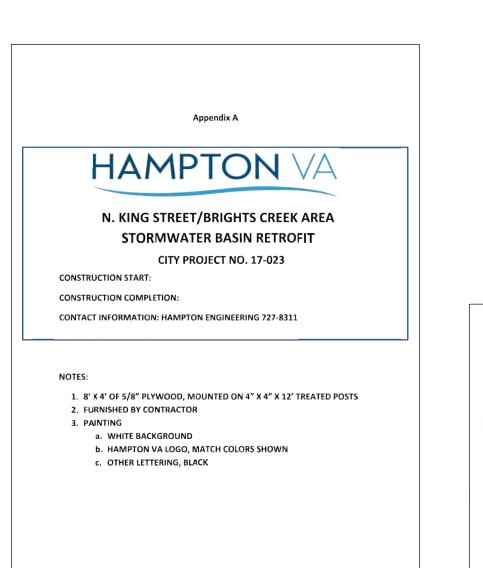
CAST IN PLACE CONCRETE IS TO BE CLASS A3 (3000 PSI). PRECAST CONCRETE IS TO BE 4000 PSI.

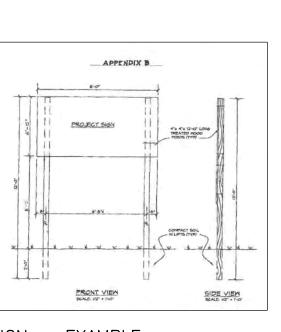
D. ANY ALTERNATE METHODS OF ANCHORAGE MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE CAST IRON LUGS AS SHOWN HEREON.

SPECIFICATION REFERENCE

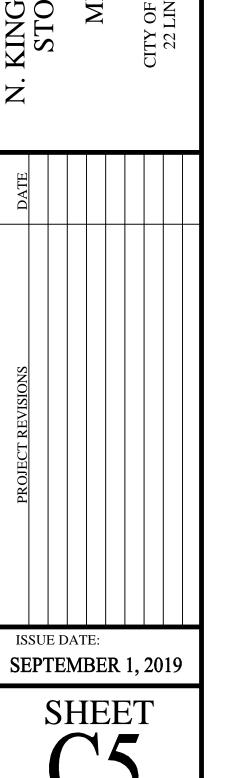








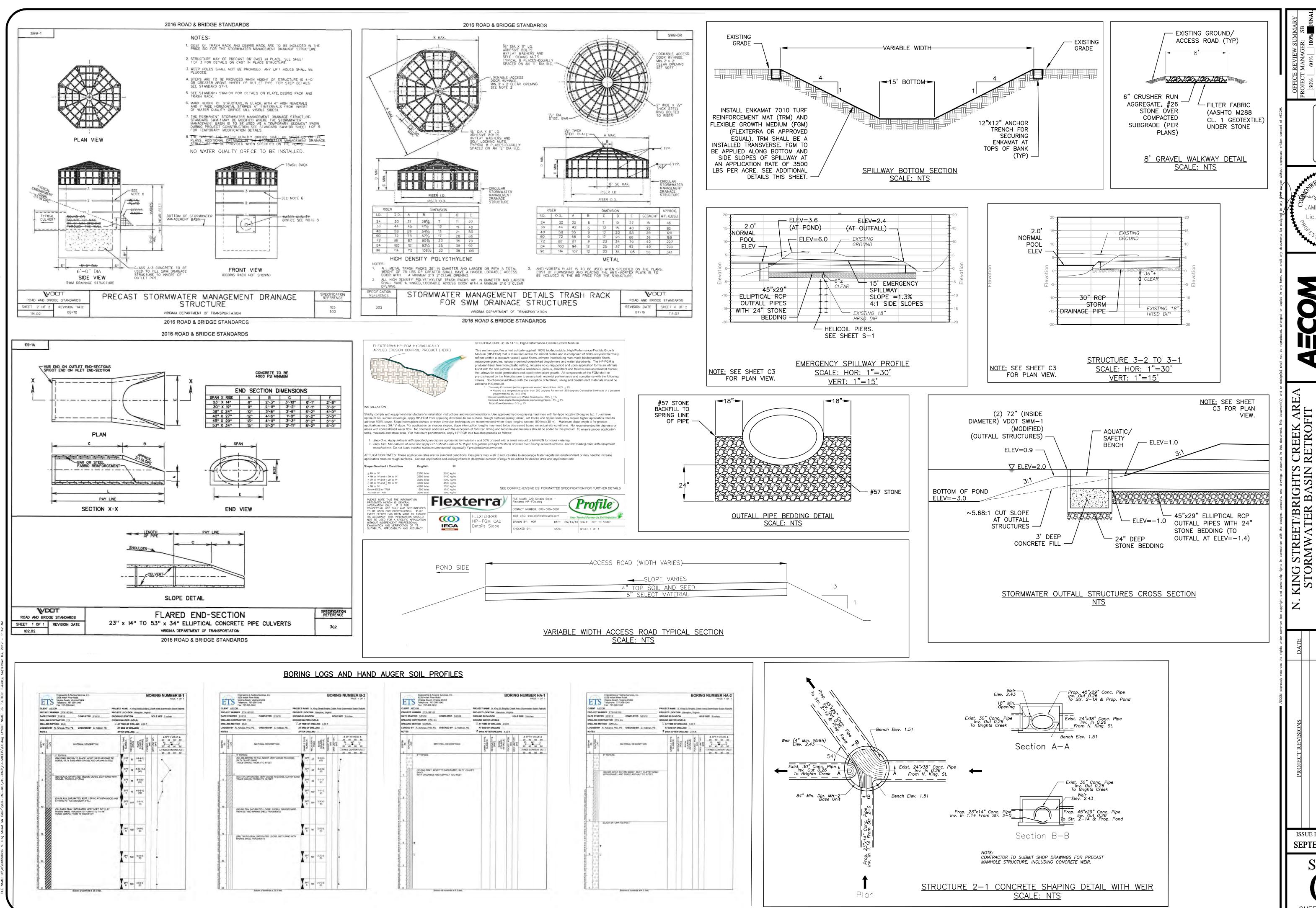




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Hampton AMERICA'S FIRST

09/01/19



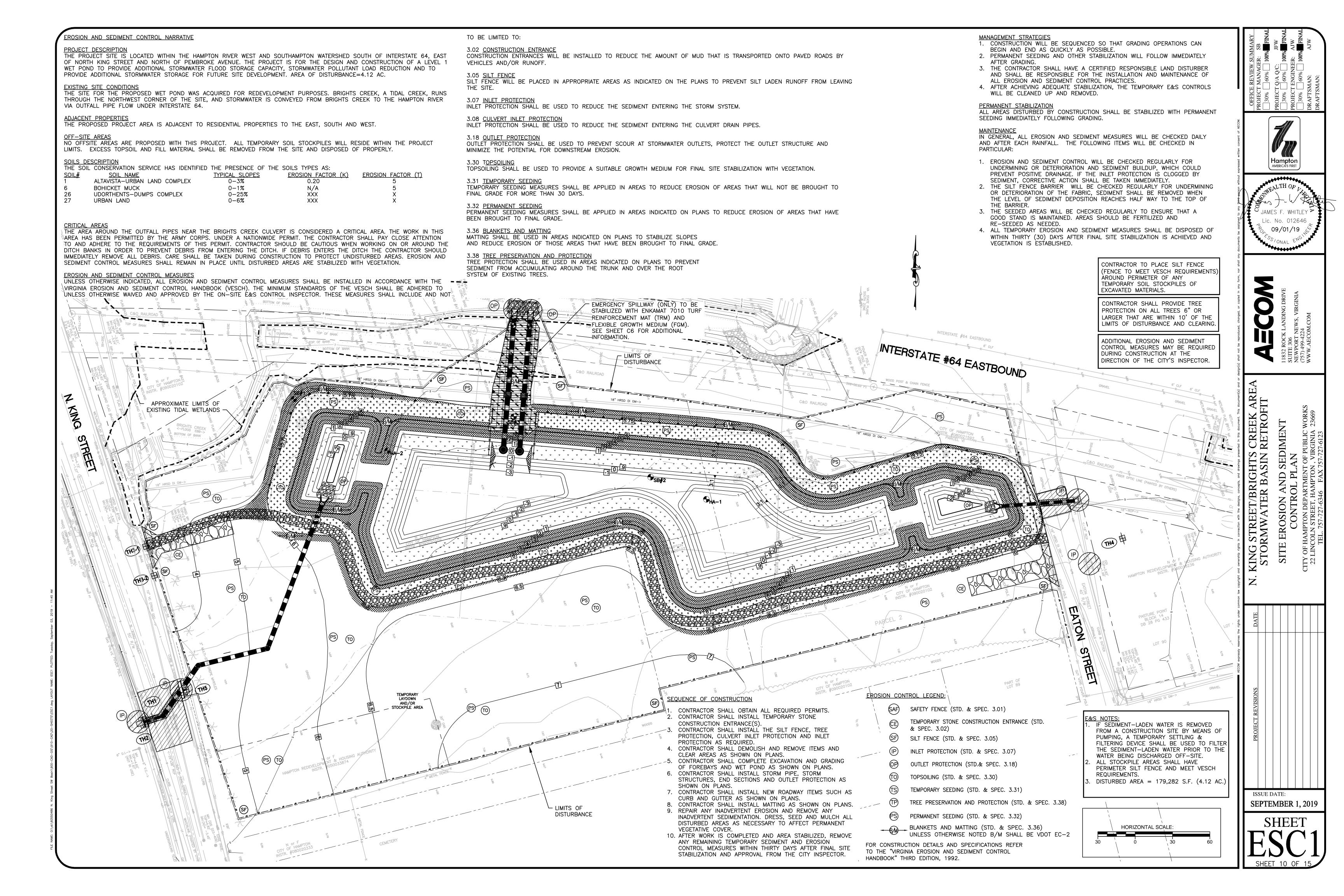
Hampton AMERICA'S FIRST

09/01/19

ANEOUS

ISSUE DATE: **SEPTEMBER 1, 2019**

SHEE



EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS:

- MS-1 PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.
- MS-2 DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- MS-3 A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- MS-4 SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- MS-5 STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- MS-6 SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.
 - A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
 - B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPROMISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25 YEAR STORM OF 24 HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.
- MS-7 CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
- MS-8 CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- MS-9 WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- MS-10 ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- MS-11 BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL
- MS-12 WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED IN THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIAL
- MS-13 WHEN A LIVE WATER COURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE (2) IN ANY SIX (6) MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
- MS-14 ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE
- MS-15 THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS
- MS-16 UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA.
 - A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - C. EFFLUENT FROM DEWATERING DEVICES SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY. PU
 - D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
 - F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- MS-17 WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT HAS BEEN REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
- MS-18 ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

DEPTH (INCHES)

TOPSOIL (FOR APPLICATION TO VARIOUS DEPTHS)				
ES)	PER 1000 SQUARE FEET (CY)	PER ACRE (CY)		
	3.1	134		
	6.2	268		
	9.3	403		
	12.4	537		
	15.5	672		

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TO)

EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS (CONT'D.):

- MS-19 PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE ROTECTED FROM SEDIMENT DESPOSITIONS, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF TWENTY-FOUR (24) HOUR DURATION IN ACCORDANCE WITH THE
 - A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
 - B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
 - 1. THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSES WITHIN THE CHANNEL IS ONE HUNDRED (100) TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION: OR
 - 2. (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO (2) YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS.
 - (b) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN (10) YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO (2) YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS: AND
 - (c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN (10) YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.
 - C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:
 - 1. IMPROVE THE CHANNELS TO A CONDITION WHERE TEN (10) YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO (2) YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR
 - 2. IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN (10) YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;
 - 3. DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO (2) YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN (10) YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR
 - 4. PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION.
 - D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
 - E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITIONS OF THE SUBJECT PROJECT.
 - F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
 - G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
 - H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
 - I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM OR TO A DETENTION FACILITY.
 - J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.

PERMANENT SEEDING SPECIFICATION

(FOR N. KING STREET/BRIGHTS CREEK AREA STORMWATER BASIN RETROFIT)

Seeding Specific	cation		
(Fall / Winter September – February)			
Ingredient	Rate Per 1000 SF		
70/30 Hydromulch or equivalent	50.65 lbs/1000 SF		
Perennial Ryegrass Seed	10.71 lbs/1000 SF		
Common Unhulled Bermuda grass seed	1.79 lbs/1000 SF		
20-20-20 Soluble Fertilizer	2.0 lbs/1000 SF		
Jump Start or equivalent	0.75 lbs/ 1000 SF		
Neutralime or equivalent	** pending soil test		
Tacking Agent	1.14 lbs/ 1000 SF		

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Seeding S	Seeding Specification		
(Spring / Summer	March –September)		
Ingredient	Rate Per 1000 SF		
70/30 Hydromulch or equivalent	50.65 lbs/1000 SF		
Perennial Ryegrass Seed	10.71 lbs/1000 SF		
Common hulled Bermuda grass seed	1.79 lbs/1000 SF		
20-20-20 Soluble Fertilizer	2.0 lbs/1000 SF		
Jump Start or equivalent	0.75 lbs/ 1000 SF		
Neutralime or equivalent	**pending soil test		
Tacking Agent	1.14 lbs/ 1000 SF		

Tacking Agent

VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK NOTES

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ADDITIONAL EROSION & SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL APPLY PERMANENT SOIL STABILIZATION TO ALL DENUDED OR DISTURBED AREAS WITHIN 7 DAYS OF ACHIEVING FINAL GRADE. SOIL STABILIZATION MEASURES INCLUDES VEGETATIVE ESTABLISHMENTS, MULCHING, AND THE EARLY APPLICATION OF GRAVEL BASE MATERIAL ON AREAS TO BE
- 2.INLET PROTECTION IS REQUIRED ON ALL INLETS WITHIN THE PROJECT LIMITS.
- 3.CLEANING AND REPLACEMENT COSTS OF EROSION AND SEDIMENT CONTROL MEASURES ARE INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF THESE ITEMS.
- 4. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN SUFFICIENT EROSION AND SEDIMENT CONTROL DEVICES TO PREVENT SOIL FROM BEING ERODED AND DEPOSITED ON ADJACENT STREETS, DRAINAGE SYSTEMS, AND WATER COURSES. THE DEVICES SHALL BE CLEAR OF MUD, DEBRIS, AND ERODED MATERIAL DURING ALL STAGES OF CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED ON A DAILY BASIS AND ARE SUBJECT TO DAILY INSPECTIONS, AFTER A STORM EVENT, OR AS REQUIRED BY THE
- 5.ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE CITY.

SEEDING NOTES

- 1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE, TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- 2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- 3. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- 4. ALL PERMANENT SEEDING SHALL BE APPLIED WITH A HYDROSEEDER UNLESS OTHERWISE SPECIFIED.

5. ALL SEEDING PROCEDURES SHALL BE IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND VESCH

- STANDARDS. 6. ALL SEEDED AREAS, BOTH TEMPORARY AND PERMANENT, SHALL BE MAINTAINED THROUGHOUT THE
- CONSTRUCTION DURATION UNTIL SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO WATERING, MOWING, FERTILIZING, WEEDING, TRIMMING, REPLANTING, MULCHING, AND OTHER NECESSARY MAINTENANCE OPERATIONS.

TEMPORARY SEEDING SCHEDULE

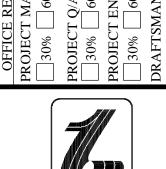


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APPLICATION	SPECIES	APPLICATION RATES
Sept. 1 — Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale creale)	50-100 (lbs/acre)
Feb. 16 — Apr. 30	Annual Ryegrass (Iolium multi—florum)	60-100 (lbs/acre)
May 1 — Aug. 31	German Millet	50 (lbs/acre)

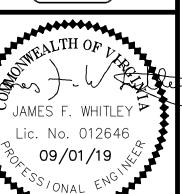
FERTILIZER & LIME

Apply 10-10-10 Fertilizer at a rate of 450 lbs/acre (or 10 lbs. / 1,000 sq. ft.) Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

l. A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site. 2. Incorporate the lime and fertilizer into the top 4-6 inches of the soil by disking or by other means. 3. When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4 2003 Nutrient Management for Development Sites at http://www.dcr.state.va.us/sw/e&s.htm#pubs

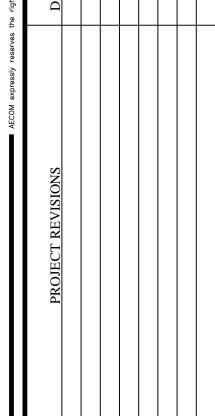






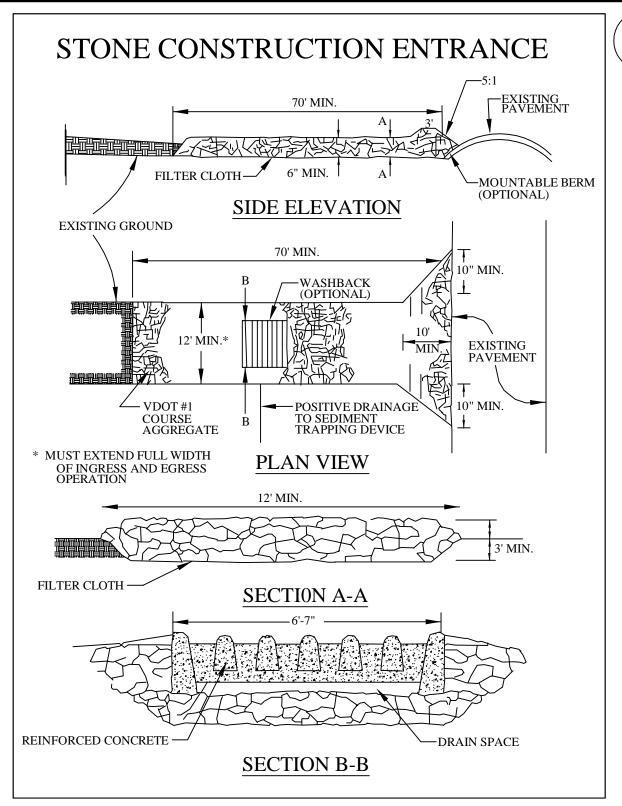
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HAMPTON DEPART SITE

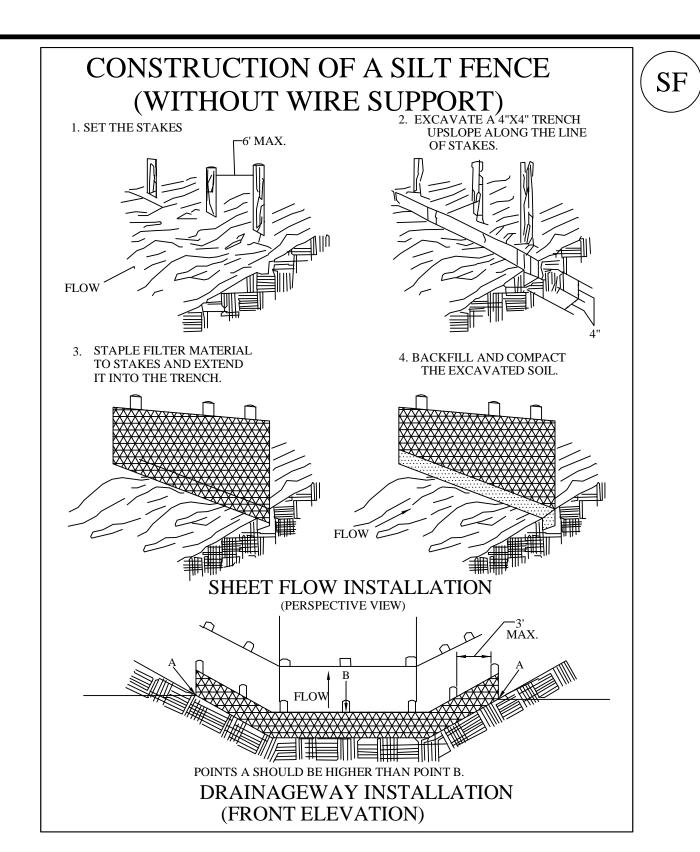


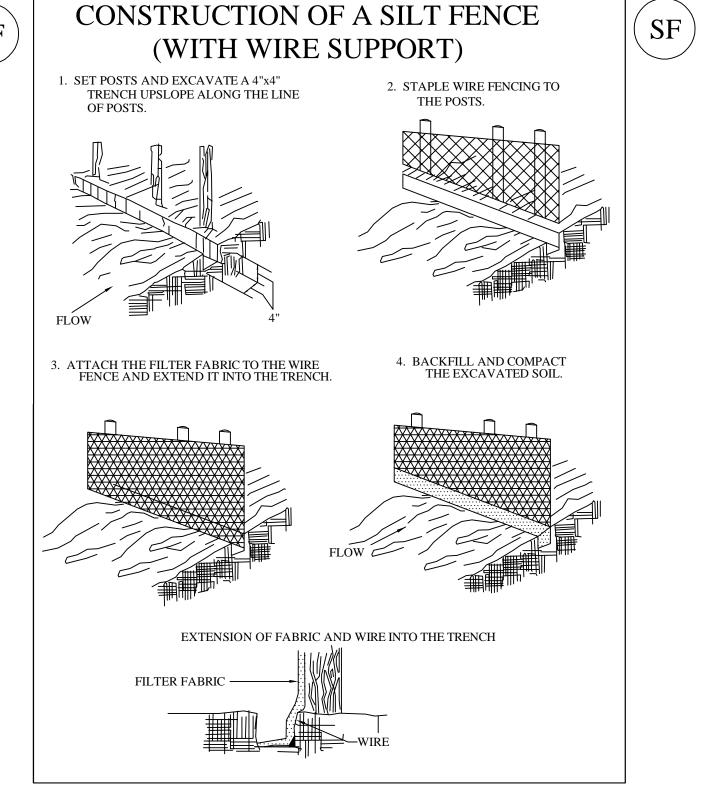
ISSUE DATE: **SEPTEMBER 1, 2019**

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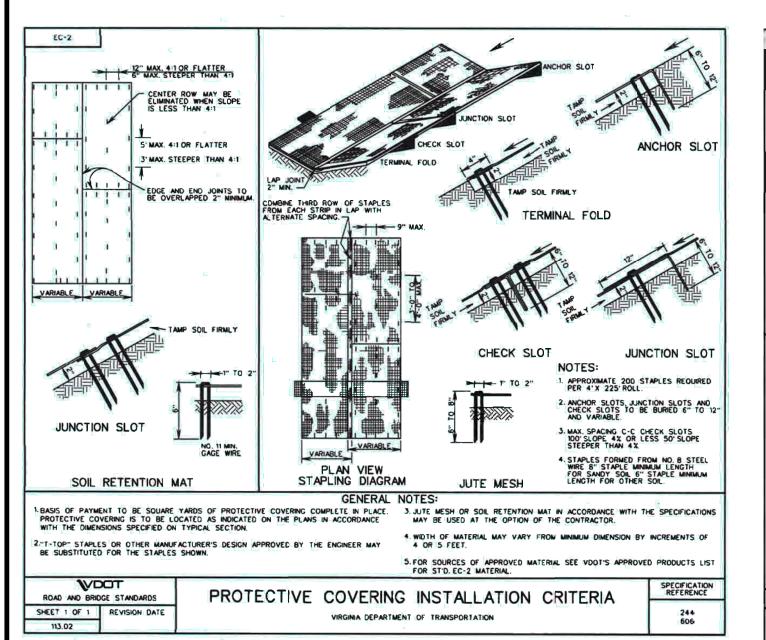


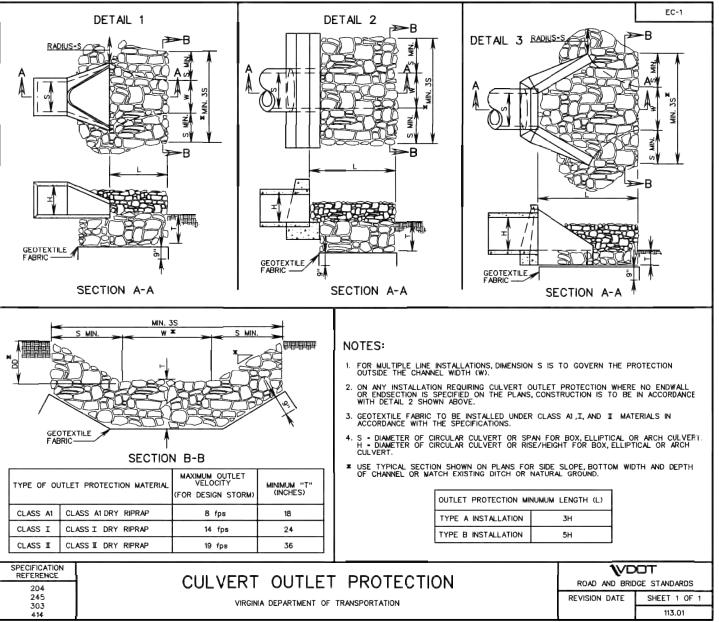
NOTE: CONSTRUCTION ENTRANCE TO INCLUDE ELEVATED EXIT GRATE TO ELIMINATE TRACKING OF DIRT INTO ROADWAY.

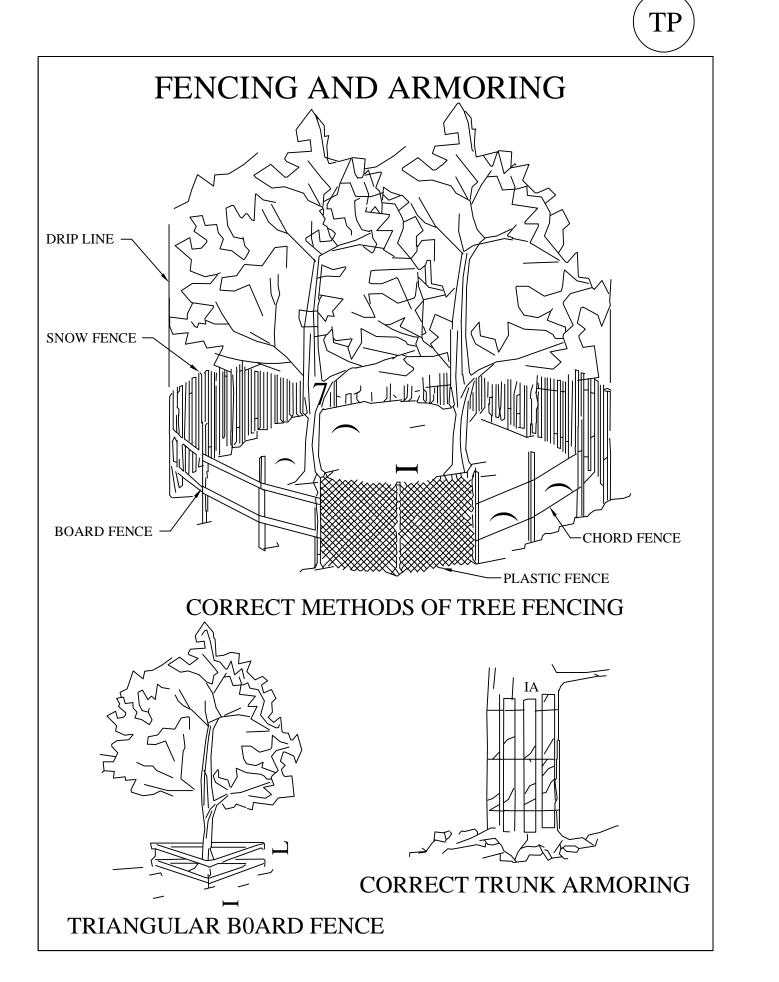


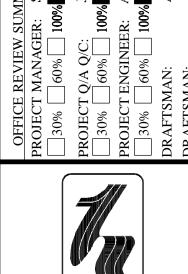


NOTE: SILT FENCE FABRIC SHALL BE 36" TALL, STAKED WITH 2"X2"X5" HARDWOOD STAKES ON 6" CENTERS.

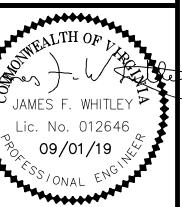


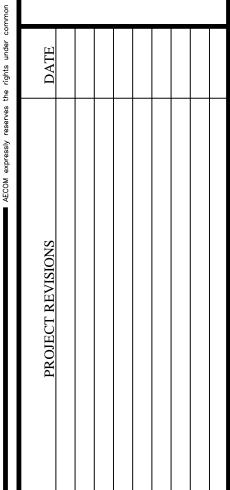






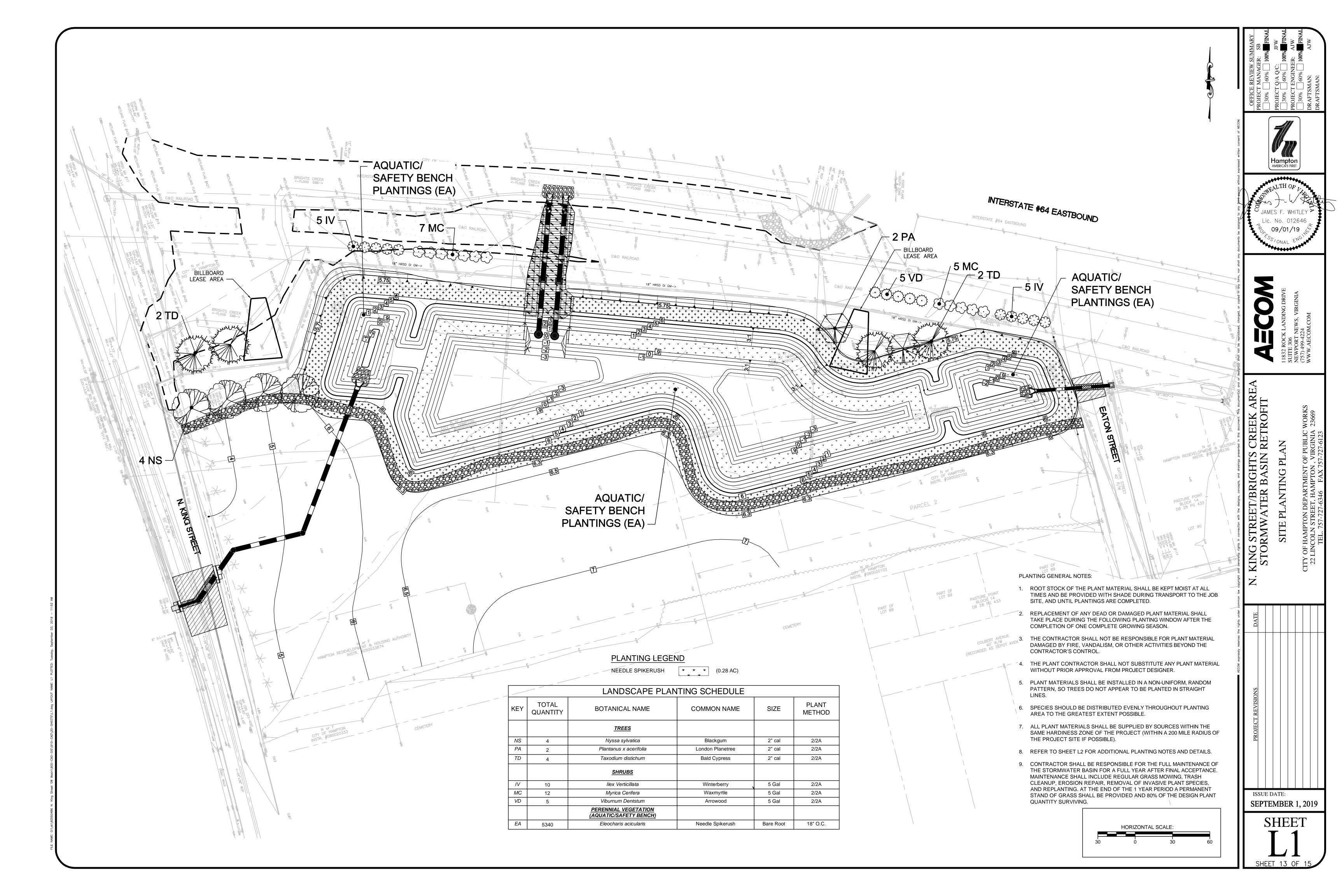






ISSUE DATE: SEPTEMBER 1, 2019

SHEET



LANDSCAPE PLANTING NOTES

- 1. ALL PLANT MATERIALS SHALL MEET THE MINIMUM SPECIFICATIONS AND STANDARDS DESCRIBED IN THE MOST RECENT "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, 1250 I STREET, N.W. SUITE 500, WASHINGTON, DC. 20005.
- 2. THE PLANTING SEASON FOR B&B STOCK WILL BE BETWEEN OCTOBER 15 AND MARCH 31. IN NO CASE SHALL OUT OF SEASON PLANTING WITH B&B STOCK BE DONE WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT. THE PLANTING SEASON FOR CONTAINER GROWN NURSERY STOCK SHALL BE BETWEEN SEPT. 15 AND MAY 15, IN NO CASE SHALL OUT OF SEASON PLANTING WITH CONTAINER STOCK BE DONE WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
- 3. FINISHED GRADES ON THE PLANTING PLAN INDICATE TOP OF FINISHED MULCH. INSTALLATION OF PROPOSED PLANTING AND BEDS SHALL NOT EXCEED THE GRADES INDICATED ON GRADING PLAN WHEN WORK IS COMPLETE INCLUDING MULCH. IF SITE CONDITIONS WARRANT CHANGES TO GRADES, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT.
- 4. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" SHREDDED HARDWOOD BARK MULCH. TOP OF MULCH SHALL FINISH 1" BELOW ANY ADJACENT PAVING SUCH AS TO RETAIN MULCH IN PLANTED AREAS.
- 5. VERIFICATION OF TOTAL PLANT QUANTITIES AS SHOWN IN "LANDSCAPE PLANTING SCHEDULE" IS THE RESPONSIBILITY OF THE CONTRACTOR. THE PLANTING PLAN SHALL PREVAIL IN CASE OF DISCREPANCIES.
- 6. ALL NEW PLANTINGS SHALL BE LOCATED AS SHOWN AND OR/
 INDICATED BY PLANS AND "LANDSCAPE PLANTING SCHEDULE".
 CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF
 ALL EXISTING SITE UTILITIES. IF OBSTRUCTIONS OCCUR BELOW
 GROUND OR OVERHEAD, CONTRACTOR SHALL NOTIFY THE
 LANDSCAPE ARCHITECT. ANY ADJUSTMENTS SHALL BE MADE UPON
 APPROVAL OF THE LANDSCAPE ARCHITECT.
- 7. ALL PLANT MATERIAL IS SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER AND / OR LANDSCAPE ARCHITECT PRIOR TO DELIVERY. BED LAYOUT AND PLANT MATERIAL LOCATIONS MUST BE APPROVED BY THE OWNER AND / OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- 8. ALL SOILS MUST BE EXAMINED, TESTED AND AMENDED OR REPLACED BY CONTRACTOR TO MEET FERTILITY AND DRAINAGE REQUIREMENTS OF THE SPECIFIED PLANTS INCLUDING THE INSTALLATION OF DRAIN TILE, GRAVEL, ETC. AS NECESSARY TO CREATE A SUITABLE SOIL ENVIRONMENT FOR VIGOROUS PLANT GROWTH AND PLANT LONGEVITY.
- 9. PREPARED SOIL MIXTURE SHALL CONSIST OF: 4 PARTS TOPSOIL, 2 PARTS SPHAGUM PEAT MOSS, AND 2 PARTS PERLITE.
- 10. ALL PLANTINGS SHALL FOLLOW THE INDIVIDUAL DETAILS ON THIS PLANTING PLAN FOR TREE PLANTING, SHRUB PLANTING, BARE ROOT PLANTING, ETC. ALL LOCAL PLANTING REQUIREMENTS, DEEMED BY A LOCAL AGENCY, MUST ALSO BE ADHERED TO. ALL TREES SHALL BE FURNISHED BALLED AND BURLAP (B&B) OR CONTAINER GROWN UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- 11. ALL PLANTS SHALL BE FERTILIZED, WATERED AND PRUNED AT THE TIME OF PLANTING. FERTILIZER: AGRIFORM TABLET 10-20-20, SHRUBS AND GROUND COVERS 5-10-15 IN BED AT 1 LB PER 100 SQ. FT.
- 12. INSTALL CENTURY, NDS, DEERPROOT, OR APPROVED EQUAL 18"
 DEEP LINEAR ROOT BARRIER AROUND TREES PER
 MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. TAMP
 SOIL ADJACENT TO ROOT BARRIERS TO STABILIZE THEM.
- 13. CONTRACTOR TO REMOVE STAKES FROM ALL TREES 6 MONTHS AFTER PLANTING.

CITY OF HAMPTON GENERAL LANDSCAPE NOTES

- 1. THIS PLAN, IF SIGNED BY THE CITY OF HAMPTON'S DIRECTOR OF PLANNING OR THE DIRECTOR'S ASSIGNS, SERVES AS THE APPROVED LANDSCAPE PLANING PLAN FOR THE PROJECT AND IS AN ELEMENT OF THE PROJECT'S SITE PLAN. ALL LANDSCAPE FEATURES DEPICTED AND SPECIFIED ON THIS PLAN AS EITHER "NEW" OR "EXISTING TO BE RETAINED" ARE LANDSCAPE IMPROVEMENTS PROPOSED BY THE PROJECT DEVELOPER/OWNER/BUILDER TO SATISFY PROVISIONS OF THE CITY OF HAMPTON BUILDING AND DEVELOPMENT CODE AND ZONING ORDINANCES. AFTER THE PLAN IS IMPLEMENTED BY THE DEVELOPER/OWNER/BUILDERAND ACCEPTED BY THE CITY OF HAMPTON DEPARTMENT OF CODES COMPLIANCE, THE DEVELOPER/OWNER/BUILDER SHALL CAUSE THE MAINTENANCE AND CARE NECESSARY TO ESTABLISH
- 2. LANDSCAPE MAINTENANCE: ALL NEW LANDSCAPE IMPROVEMENTS AND EXISTING TREES TO BE RETAINED AS SHOWN ON THE APPROVED LANDSCAPE PLAN SHALL BE SUBJECT TO REGULAR MAINTENANCE CONSISTING OF, BUT NOT LIMITED TO: FERTILIZATION, PRUNING, REPLACEMENT, INSECT AND DISEASE CONTROL, WATERING, MULCHING AND WEED CONTROL

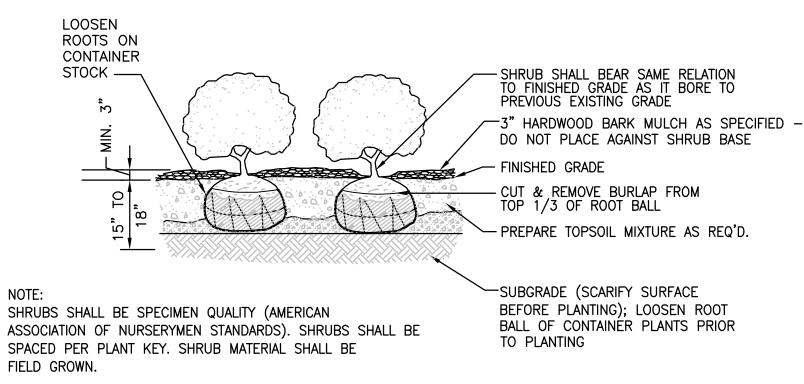
AND SUSTAIN THE LANDSCAPE FEATURES SHOWN ON THE PLAN.

- 3. GREEN AREAS: GREEN AREAS SHALL CONSIST OF EARTH CAPABLE OF SUSTAINING PLANT MATERIAL AND PROVIDING NATURAL PERCOLATION OF WATER. GREEN AREAS SHALL NOT BE USED TO STORE MATERIALS, PRODUCTS OR EQUIPMENT. WHERE ORNAMENTAL PLANTS AND/OR TURF GRASSES ARE TO BE ESTABLISHED, TOPSOIL OR A PREPARED SOIL MIXTURE SHALL BE APPLIED AT DEPTHS NOT LESS THAN THREE INCHES FOR GRASSES, TWELVE INCHES FOR SHRUBS AND EIGHTEEN INCHES FOR TREES IN AREAS WHERE THE SUBSOIL OR EXISTING SOIL ONE OR MORE OF THE FOLLOWING PROBLEMS:
- a. THE TEXTURE, pH, OR NUTRIENT BALANCE OF THE AVAILABLE SOIL CANNOT BE MODIFIED BY REASONABLE MEANS TO PROVIDE AN ADEQUATE GROWTH MEDIUM FOR THE SPECIFIED PLANTS.
- b. THE SOIL MATERIAL IS TOO SHALLOW TO PROVIDE AN ADEQUATE ROOT ZONE AND TO SUPPLY NECESSARY MOISTURE AND NUTRIENTS FOR THE PLANT GROWTH.
- c. THE SOIL CONTAINS SUBSTANCES POTENTIALLY TOXIC TO PLANT GROWTH.
 4. OTHERWISE, THE EXISTING SOILS SHALL BE MODIFIED THROUGH THE USE OF SOIL AMENDMENTS (I.E. PEATMOSS, PERLITE, LIME, GYPSUM, ETC.) TO
- PROVIDE AN ADEQUATE GROWING MEDIUM.

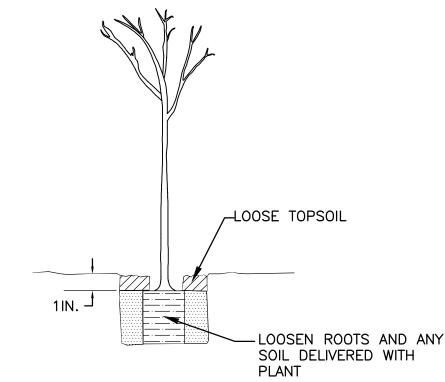
 5. TOPSOIL OR PREPARED SOIL MIXTURES SHALL BE FRIABLE AND LOAMY. THEY SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, NOXIOUS
- WEEDS, AND SUBSTANCES POTENTIALLY TOXIC TO PLANTS.

 6. ALL TOPSOIL AND PREPARED SOIL MIXTURES SHALL MEET OR EXCEED THE
- FOLLOWING MINIMUM CRITERIA:
 d. SOIL SOLIDS SHALL CONSIST OF 40 PERCENT SAND, 40 PERCENT SILT,
- 10 PERCENT CLAY, AND 10 PERCENT ORGANIC MATTER.
 e. ph level shall be adjusted as necessary to match the specified
- pH NEEDS OF THE PROPOSED PLANTS.

 f. SOLUBLE SALTS SHALL NOT EXCEED 500 PPM

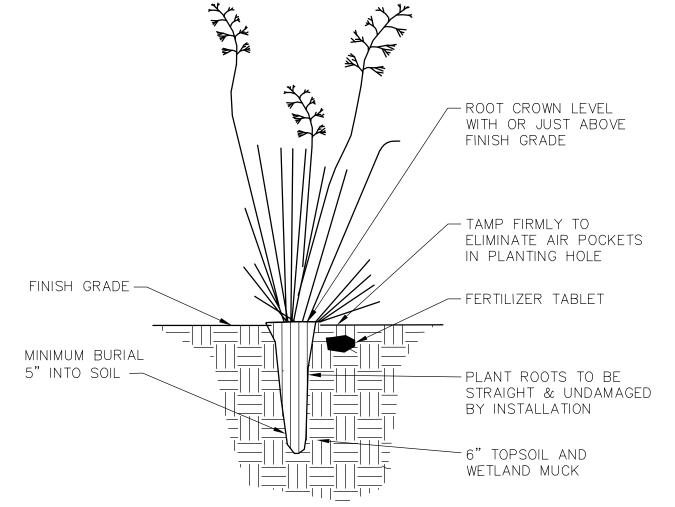


SHRUB PLANTING DETAILS SCALE: NOT TO SCALE



PLANTING OF CONTAINERS

NOT TO SCALE

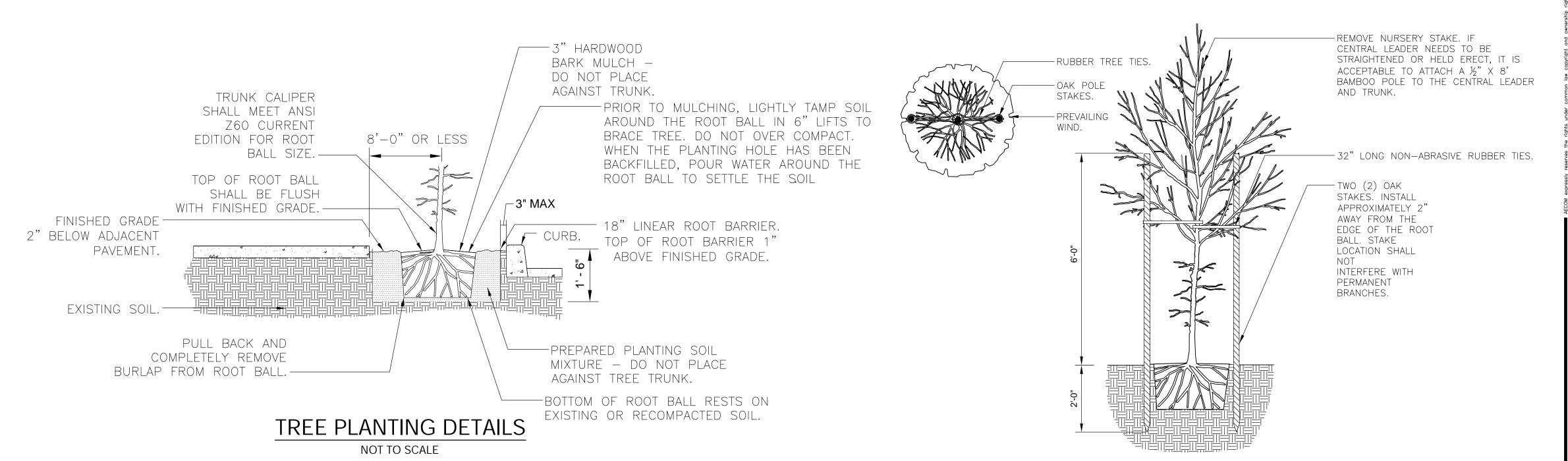


NOTES:
1. LEAVES & ROOT CROWN TO REMAIN UNDAMAGED DURING PLANTING

 CREATE PLANTING HOLE WITH AUGER
 PLUGS SHALL BE PLANTED WITH AN AVERAGE SPACING OF 1.5' WITHIN PLANTING CLUMPS

WETLAND PLUG PLANTING DETAIL

NOT TO SCALE

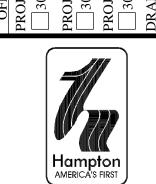


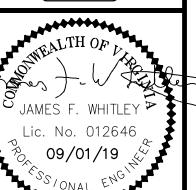
TREE STAKING - OAK POLES (2)

NOT TO SCALE

OFFICE REVIEW SUMMARY
PROJECT MANAGER: SB

☐ 30% ☐ 60% ☐ 100% ☐ FINAL
PROJECT Q/A Q/C: JFW
☐ 30% ☐ 60% ☐ 100% ☐ FINAL
PROJECT ENGINEER: AJW
☐ 30% ☐ 60% ☐ 100% ☐ FINAL
DRAFTSMAN: AJW



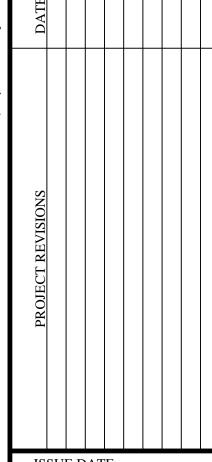


1832 ROCK LANDING DRIVE UITE 306 VEWPORT NEWS, VIRGINIA 757) 499-4224

T/BRIGHTS CREEK ARE
TER BASIN RETROFIT

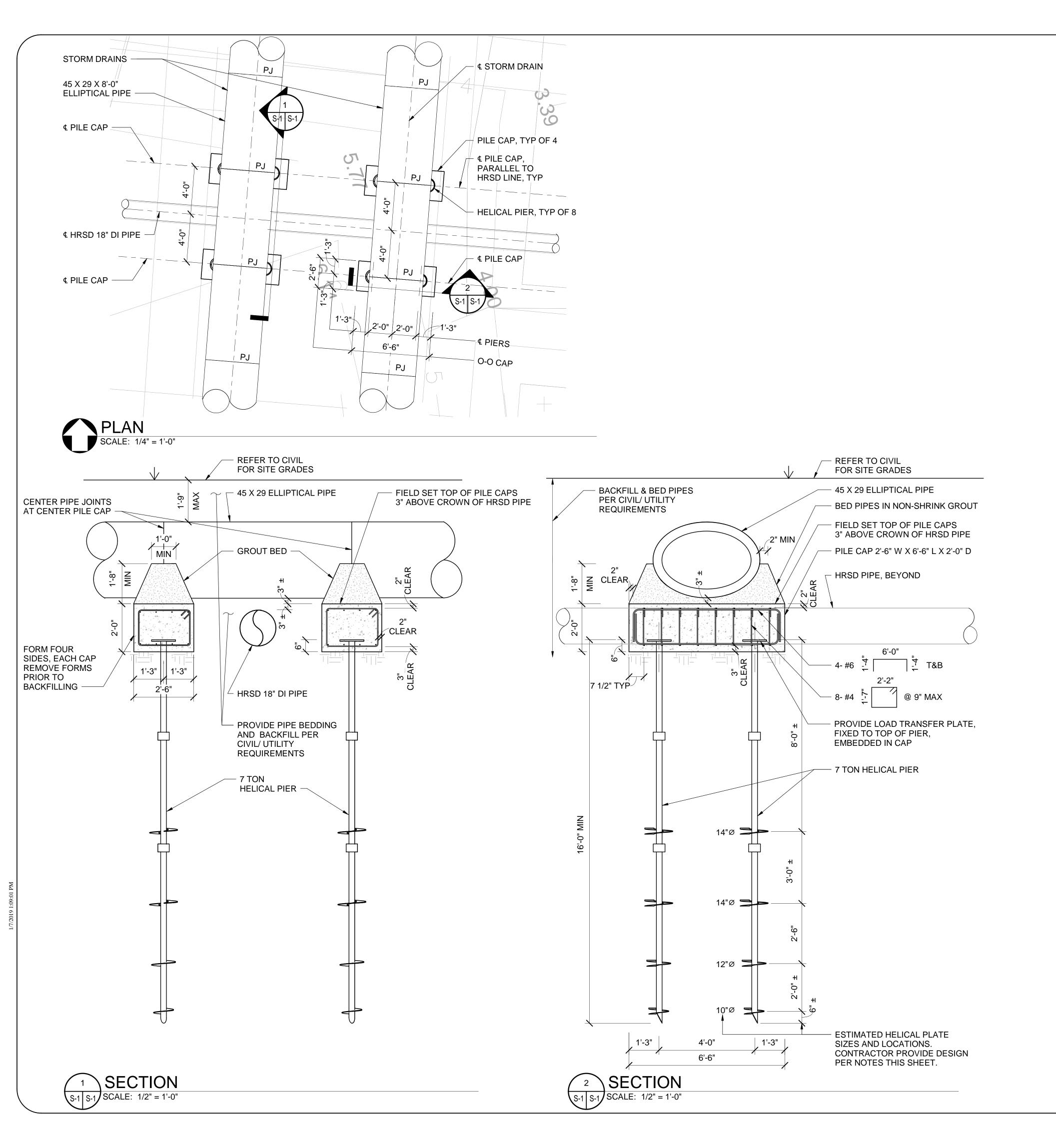
NOTES AND DETAILS

STORMWATER BA



ISSUE DATE:
SEPTEMBER 1, 2019

SHEET LA OF 15



HELICAL PIER NOTES:

- HELICAL PIERS SHALL BE INSTALLED TO ACHIEVE A SAFE BEARING CAPACITY OF 7 TONS.
- PIER LENGTH SHALL BE 16 FEET MINIMUM
- HELICAL PIER CONTRACTOR SHALL BE CERTIFIED BY THE MANUFACTURER AND HAVE MINIMUM OF 5 YEARS EXPERIENCE IN HELICAL PIER WORK.
- ALL WORK AS DESCRIBED HEREIN SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SAFETY CODES IN EFFECT AT THE TIME OF INSTALLATION.
- THE HELICAL LEAD SECTIONS AND EXTENSION SECTIONS SHALL BE ROUND STEEL PIPE SHAFT 27/8" DIAMETER MINIMUM WITH ONE OR MORE HELICAL BEARING PLATES WELDED TO THE SHAFT.
- ALL PIERS SHALL HAVE CORROSION PROTECTION CONSISTING OF HOT DIP GALVANIZING.
- INSTALLATION UNITS SHALL CONSIST OF A ROTARY TYPE TORQUE MOTOR WITH FORWARD AND REVERSE CAPABILITIES.
- INSTALLATION UNITS SHALL BE CAPABLE OF DEVELOPING THE MINIMUM TORQUE AS REQ'D FOR INSTALLATION OF THE HELICAL PIER TO THE SPECIFIED DESIGN BEARING CAPACITIES.
- INSTALLATION UNITS SHALL BE CAPABLE OF POSITIONING THE HELICAL PIER AT THE PROPER INSTALLATION ANGLE. THIS ANGLE MAY VARY BETWEEN VERTICAL AND 5 DEGREES DEPENDING UPON APPLICATION AND THE TYPE OF LOAD TRANSFER DEVICE SPECIFIED OR REQUIRED
- 10. INSTALLATION TORQUE SHALL BE MONITORED AND RECORDED THROUGHOUT THE INSTALLATION PROCESS.
- 11. DESIGN OF HELICAL PIERS AND ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH EXISTING LOCAL CODE REQUIREMENTS AND ESTABLISHED LOCAL PRACTICES. THIS DESIGN WORK SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER.
- 12. HELICAL PIERS SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA.
- 13. PROVIDE AN APPROPRIATE STEEL NEW CONSTRUCTION LOAD TRANSFER DEVICE.
- 14. PROVIDE AND APPROPRIATE HELICAL PIER SECTION CONSIDERING THE DESIGN LOAD AND SOIL PARAMETERS ON SITE. DESIGN PIERS FOR A MINIMUM FACTOR OF SAFETY OF 2.0.
- 15. PROVIDE A CERTIFICATE OF INSTALLATION SHOWING INSTALLATION TORQUES AND SAFE BEARING CAPACITY ACHIEVED FOR EACH PIER.

CAST-IN-PLACE CONCRETE NOTES

- FORM VERTICAL FACES OF CONCRETE PILE CAPS. REMOVE FORMS PRIOR TO BACK-FILLING. CASTING AGAINST SIDES OF EXCAVATION IS NOT ACCEPTABLE. USE OF STAY IN PLACE FORMS IS NOT ACCEPTABLE.
- 2. ALL REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS SHALL GOVERN WHEN IN CONFLICT WITH ACI 318.
- REINFORCING BARS SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED.
- CONCRETE SHALL BE NORMAL WEIGHT, AIR ENTRAINED AND SHALL OBTAIN 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
- NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 6000 PSI AND SHALL CONFORM TO ASTM C1107.

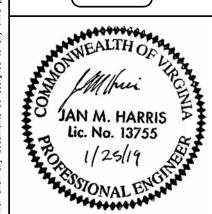
ABBREVIATIONS

- NUMBER
- AMERICAN CONCRETE INSTITUTE
- AMERICAN SOCIETY FOR TESTING AND MATERIALS
- **CENTER LINE**
- DEPTH
- **DUCTILE IRON**
- HAMPTON ROADS SANITATION DISTRICT
- LENGTH
- MAXIMUM
- MINIMUM OUT TO OUT
- PIPE JOINT
- POUNDS PER SQUARE INCH
- TOP AND BOTTOM
- **TYPICAL**
- WIDTH DIAMETER

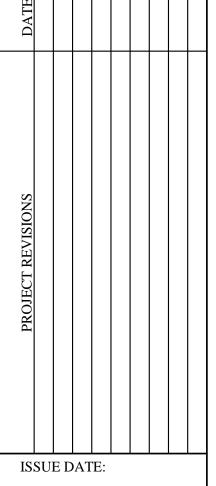
GRAPHIC SCALES

1/2" = 1'-0"





S CREEK AREA RETROFIT



JANUARY 25, 2019

SHEET **5**-1 SHEET 15 OF 15