City of Norfolk
Department of Public Works

NORFOLK, VIRGINIA

JUVENILE DETENTION CENTER WATER QUALITY IMPROVEMENTS PROJECT

SEPTEMBER 2015
SITE PLAN # 14-0079

RESPONSIBLE LAND DISTURBER (RLD) DESIGNATION

THE FOLLOWING PERSON ROBERT HOPPER, III P.E.
_____ (SIGN), IS IDENTIFIED AS THE RESPONSIBLE LAND DISTURBER WHO WILL BE IN CHARGE OF AND RESPONSIBLE FOR CARRYING OUT THE LAND DISTURBING ACTIVITY. THIS PERSON MEETS THE APPLICABLE REQUIREMENTS OF VIRGINIA CODE SECTION 10.1–563 AND 10.1–566 BY VIRTUE OF THE FOLLOWING (CHECK THE CATEGORY THAT APPLIES):

_____ RESPONSIBLE LAND DISTURBER CERTIFICATE

_____ DCR CERTIFICATION FOR COMBINED ADMINISTRATOR, ADMINISTRATOR, PLAN REVIEWER, INSPECTOR, OR CONTRACTOR

X VA PROFESSIONAL ENGINEER, LAND SURVEYOR, LANDSCAPE ARCHITECT, OR ARCHITECT

RLD CONTACT INFORMATION

NAME: ROBERT HOPPER, III

CERTIFICATION/REGISTRATION NUMBER: Virginia P.E. / 0402052824

COMPANY: CDM SMITH

MAILING ADDRESS: 5400 Glenwood Ave Raleigh NC, 27615

TELEPHONE: 919-325-3500 FAX: (919) 781-5730

EMAIL: hopperrv@cdmsmith.com

THIS DESIGNATION MAY ONLY BE CHANGED BY A PLAN COVER SHEET REVISION THAT MUST BE SUBMITTED TO THE CITY FOR VERIFICATION AND APPROVAL.

UPON AWARD OF THE CONTRACT AND BEFORE ANY LAND DISTURBING ACTIVITY CAN BEGIN, THE CONTRACTOR SHALL EXECUTE AND SUBMIT A RESPONSIBLE LAND DISTURBER NOTIFICATION FORM TO THE DEPARTMENT OF PLANNING, ENVIRONMENTAL SERVICES, ROOM 508, CITY HALL BUILDING, 810 UNION STREET, NORFOLK, VA 23510 TEL: (757) 664–4368. AWARD OF THE CONTRACT WILL RELIEVE THE ABOVE SIGNER OF ALL RESPONSIBILITY.

APPROVAL

APPROVED DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT	SIGNATURE	DATE
APPROVED ENGINEERING MANAGER	SIGNATURE	DATE

SITE INFORMATION

PROPERTY OWNER	CITY OF NORFOLK
PROPERTY ADDRESS	1260 SECURITY LANE
EXISTING LAND USE	INSTITUTIONAL
ZONING	IN–2 INSTITUTIONAL CAMPUS
RIVER BASIN	BROAD CREEK
PIN	1458332957
PARCEL ACREAGE	578.77
FLOOD ZONE	ZONE X – 0.2 ANNUAL CHANCE
RESOURCE PROTECTION AREA	NONE

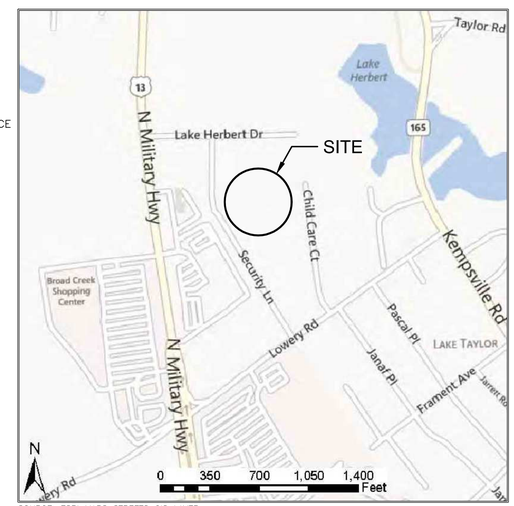
LAND DISTURBANCE

TOTAL SITE (PARCEL) AREA	578 ACRES
PRE–DEVELOPMENT IMPERVIOUS AREA (ACRES,%)	0 ACRES (0%)
POST DEVELOPMENT IMPERVIOUS AREA (ACRES,%)	0.6 ACRES (OPEN WATER)
AREA OF DISTURBANCE	1.6 ACRES

BMP INFORMATION

OWNERSHIP OF THE BMP	CITY OF NORFOLK
TYPE OF BMP	RETENTION POND
STORAGE REQUIRED FOR WATER QUALITY	79,715 CF
STORAGE PROVIDED FOR WATER QUALITY	111,514 CF
DRAINAGE WATERSHED OF BMP	1,305,493 SQFT

NOTE: BMP IS RETROFIT OF EXISTING DETENTION POND INTO RETENTION POND TREATING LARGER DRAINAGE WATERSHED.



SOURCE: ESRI MAPS STREETS GIS LAYER

VICINITY MAP

INDEX OF SHEETS

––	COVER SHEET
G–1	GENERAL NOTES AND LEGEND
C–1	EROSION CONTROL AND DEMOLITION PLAN
C–2	PROPOSED GRADING PLAN
C–3	SECTIONS
C–4	PROPOSED PLANTING PLAN
C–5	DETAILS
C–6	EROSION CONTROL DETAILS
C–7	CIVIL DETAILS II

NOTES:

1. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE STAFF OF THE NORFOLK JUVENILE DETENTION CENTER AT 1260 SECURITY LANE NORFOLK, VA 23502, PHONE 757–441–5667. THE CONSTRUCTION SITE IS LOCATED ON THE PREMISES AND THE STAFF SHALL BE INFORMED OF THE DAYS AND HOURS OF CONSTRUCTION. ANY ACCESS RESTRICTIONS IMPOSED BY THE STAFF OF THE CENTER WILL BE STRICTLY ADHERED TO. WRITTEN NOTIFICATION SHALL BE PROVIDED 30 DAYS PRIOR TO CONSTRUCTION AND CONTACT MADE AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AND MUST INCLUDE A 24 HOUR CONTACT PHONE NUMBER FOR EMERGENCIES. FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN A SUSPENSION OF WORK.
2. CONTRACTOR IS TO INSTALL ALL UTILITIES TO THE TOLERANCE REQUIRED BY THE CITY OF NORFOLK AND AS SHOWN ON THESE PLANS, SPECIFICALLY: ALL STORM DRAINAGE SHALL BE INSTALLED TO WITHIN 0.10' (ONE TENTH OF A FOOT) OF THE ELEVATION SHOWN ON THE PLAN, OR AS SPECIFIED IN WRITING BY THE CITY.
3. CONTRACTOR TO BE RESPONSIBLE FOR ALL CORRECTION COSTS (I.E. PLAN, REVISION, PHYSICAL CORRECTION, REPAIRS, REPLACEMENTS, RETROFITS, ETC.) REQUIRED AS A RESULT OF INSTALLATION NOT MEETING THE REQUIREMENT TOLERANCE.
4. ALL MISS UTILITY MARKINGS IN THE RIGHT–OF–WAY ASSOCIATED WITH THE PROJECT ARE REQUIRED TO BE ERADICATED AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE CITY'S ROW EXCAVATION & RESTORATION MANUAL LOCATED AT WWW.NORFOLK.GOV/PUBLICWORKS/ROW.ASP.
5. THE CONTRACTOR TO CONTACT ENVIRONMENTAL STORM WATER MANAGEMENT AT (757) 823–4000 (48 HOURS NOTICE) FOR TIE–IN INSPECTION TO ANY OF CITY OF NORFOLK STORM WATER INFRASTRUCTURE.
6. THE CONTRACTOR SHALL CONTACT THE CITY OF NORFOLK, BUREAU OF ENVIRONMENTAL SERVICES AT 664–4368 AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY SO THAT LAND DISTURBING PERMIT CAN BE ISSUED AND A PRECONSTRUCTION CONFERENCE CAN BE SCHEDULED.
7. CONTRACTOR IS REQUIRED TO IDENTIFY THE LAY DOWN/STORAGE AREA LOCATION AND SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN TO ENVIRONMENTAL SERVICES PRIOR TO WORK COMMENCING. CONTACT (757) 664–4363 FOR INFORMATION.
8. THIS SITE REQUIRES A VSMP GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS REQUIRED TO SECURE PERMIT COVERAGE FROM THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE REQUIRED BY THE PROJECT BY SUBMITTING A COMPLETE REGISTRATION STATEMENT AND PAYING THE APPROPRIATE PERMIT FEE TO THE CITY OF NORFOLK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING PERMIT COMPLIANCE DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO INSPECTIONS, SWPPP UPDATES, ETC. CONTACT NORFOLK ENVIRONMENTAL SERVICES AT (757) 664–4363 FOR FURTHER INFORMATION

va811.com Dig With CARE

CONTRACTOR TO CONTACT ENVIRONMENTAL STORM WATER MANAGEMENT @ 823-4089 (48 HOURS' NOTICE) FOR PRE-CONSTRUCTION CONFERENCE AND INSPECTION REQUIREMENT WHEN A BMP IS PROPOSED

OWNER CONTACT INFORMATION

CITY OF NORFOLK DEPARTMENT OF PUBLIC WORKS
2233 McKANN AVENUE
NORFOLK, VIRGINIA 23509
(757) 823–4021

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No.0402052824
10/27/15
PROFESSIONAL ENGINEER

CDM Smith

CDM Smith Inc.
5700 Thurston Ave, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CDM Smith Project No. 1589-100393

CITY OF NORFOLK STANDARD NOTES:

1. CONTRACTOR IS ENCOURAGED TO VISIT SITE PRIOR TO SUBMITTING BID.
2. ELEVATIONS ARE BASED ON NAVD–88 (92) (NORTH AMERICAN VERTICAL DATUM). BENCH MARKS ARE SHOWN ON SHEET C–1.
3. FIELD ENGINEERING INFORMATION: ALL REQUESTS FOR INSPECTIONS, AND FIELD CONSTRUCTION INFORMATION SHOULD BE DIRECTED TO: CITY OF NORFOLK CHIEF OF CONSTRUCTION AT (757) 823–1013
4. PRIOR TO THE SCHEDULING OF A PRE–CONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT A PRELIMINARY DETAILED TRAFFIC CONTROL PLAN FOR REVIEW BY THE DIVISION OF TRAFFIC ENGINEERING, DEPARTMENT OF PUBLIC WORKS. THE TRAFFIC CONTROL PLAN AS WELL AS ALL TRAFFIC CONTROL DEVICES UTILIZED ON THE PROJECT MUST COMPLY WITH THE "FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS. FOLLOWING APPROVAL OF THE PLAN, A REPRODUCIBLE DRAWING SHALL BE SUBMITTED TO THE OWNER FOR USE AND DISTRIBUTION.
5. SUBMITTALS ON MATERIALS FOR THIS PROJECT SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
6. A CONSTRUCTION SCHEDULE SHALL BE SUBMITTED TO THE OWNER, AT THE TIME OF THE PRE–CONSTRUCTION CONFERENCE.
7. ALL WORK WITHIN THE RIGHT–OF–WAY SHALL COMPLY WITH THE CITY OF NORFOLK RIGHT–OF–WAY EXCAVATION & RESTORATION MANUAL, (ORDINANCE NO. 40,778), DEPT. OF PUBLIC WORKS, DIVISION OF TRANSPORTATION. THE DOCUMENT MAY BE DOWNLOADED AT http://www.norfolk.gov/PublicWorks/
8. THERE MAY BE A C.B.D. TRAFFIC CONTROL SYSTEM IN THIS AREA. FOR PROTECTION OF THIS SYSTEM, PHONE THE PUBLIC WORKS DEPARTMENT BEFORE STARTING WORK: (757) 664–7300
9. CONTRACTOR SHALL CONFORM TO THE "OVERHEAD HIGH VOLTAGE ACT" (EFFECTIVE JULY 1, 1989) AND SHALL CONTACT THE NECESSARY AUTHORITIES PRIOR TO START OF CONSTRUCTION.
10. THE DEPARTMENT OF PUBLIC WORKS WILL OBTAIN ALL NECESSARY TREE PERMITS. THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS OF THE "CITY OF NORFOLK TREE ORDINANCE" (EFFECTIVE FEBRUARY 15, 2005). CONTACT CITY FORESTER, RICHARD WERNICKE (757) 823–4024, TO ACQUIRE PERMIT FOR REMOVAL OF TREES. CONTRACTOR SHALL MAINTAIN TREE PERMIT ON–SITE AND CONDUCT AN ON–SITE MEETING WITH CITY FORESTER PRIOR TO TREE DEMOLITION.
11. STATE LAW MANDATES THE NOTIFICATION OF UTILITY OWNERS 48 HOURS IN ADVANCE OF EXCAVATION. FOR LOCATION OF UTILITIES, CALL 'MISS UTILITY' AT 1–800–552–7001 FOR: WATER & SEWER, H.R.S.D., VERIZON TELEPHONE, DOMINION VA. POWER, VIRGINIA NATURAL GAS, TRAFFIC CONTROLS, STORM DRAIN, COX CABLE T.V.
12. THE CONTRACTOR SHALL BE REQUIRED AND AGREES TO COMPLY WITH ALL THE PROVISIONS OF THE "VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT" (SECTION 56–265.14 et seq., CODE OF VIRGINIA, 1950, AS AMENDED) AND HEREBY AGREES TO HOLD THE CITY OF NORFOLK HARMLESS AGAINST ANY LOSS, DAMAGES, OR CLAIMS OF ANY NATURE WHATSOEVER ARISING OUT OF THE CONTRACTOR'S FAILURE TO SO COMPLY WITH THE REQUIREMENTS OF SAID ACT.
13. CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE, ANY DAMAGE DONE TO THE UTILITIES SHALL BE IMMEDIATELY REPAIRED AT CONTRACTOR'S EXPENSE.
14. EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE RECORDS AND FIELD SURVEYS, AND IS NOT GUARANTEED TO BE EXACT OR COMPLETE. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN ADVANCE OF CONSTRUCTION.
15. CONTRACTOR SHALL HAVE A SET OF PROJECT PLANS AND SPECIFICATIONS ON SITE AT ALL TIMES. IN ADDITION THE CONTRACTOR SHALL HAVE IN HIS POSSESSION THE CURRENT EDITION OF THE HRPDC SPECIFICATIONS.
16. FOR WORK IN THE CITY OF NORFOLK RIGHT–OF–WAY, CONTACT 48 HOURS IN ADVANCE.

RIGHT–OF–WAY DIVISION (PERMITS)	(757) 664–7306
DIVISION OF TRANSPORTATION	(757) 664–7300
DIVISION OF ENVIRONMENTAL STORM WATER	(757) 823–4000
DEPARTMENT OF PARKS AND URBAN FORESTRY	(757) 823–4023
CONSTRUCTION PERMITS	(757) 664–6565

17. THE CONTRACTOR SHALL REPLACE ALL DAMAGED OR REMOVED SIDEWALKS DAILY. THE TEMPORARY SIDEWALK SHALL BE A MINIMUM OF 1" COLD MIX OVER COMPACTED SUBGRADE AND SLOPED TO PROVIDE POSITIVE DRAINAGE. THE PERMANENT SIDEWALK REPLACEMENT SHALL BE IN ACCORDANCE WITH CURRENT CITY STANDARDS AND SHALL BE REPLACED TO THE NEAREST JOINT.
18. THE CONTRACTOR SHALL NOTE THAT THERE MAY BE OTHER CONSTRUCTION IN THIS AREA. THE CONTRACTOR SHALL COOPERATE WITH THE CITY AND ANY OTHER CONTRACTOR OR UTILITY OWNER TO PREVENT DELAYS TO EITHER PROJECT.
19. WITH EXCEPTION OF THOSE TREES SPECIFICALLY SHOWN TO BE REMOVED, ALL EXISTING TREES ON SITE SHALL BE ACTIVELY PRESERVED AND PROTECTED BY THE CONTRACTOR, AND ANY SUBCONTRACTORS, FROM DAMAGE TO THE CROWN AREA, TRUNK, ROOT SYSTEM, OR ROOTING ENVIRONMENT (SOIL SYSTEM) DURING CONSTRUCTION.

CITY OF NORFOLK STANDARD EROSION AND SEDIMENT CONTROL NOTES:

1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (3RD EDITION 1992) AND THE CITY OF NORFOLK EROSION AND SEDIMENT CONTROL ORDINANCE.
2. THE CONTRACTOR SHALL CONTACT THE CITY OF NORFOLK, BUREAU OF ENVIRONMENTAL SERVICES AT (757) 664–4368 AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITIES INCLUDING DEMOLITION, SO THAT A PRE–CONSTRUCTION CONFERENCE CAN BE HELD.
3. THE CONTRACTOR SHALL APPLY PERMANENT OR TEMPORARY SOIL STABILIZATIONS TO ALL DENUDED OR DISTURBED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED TO ANY DENUDED OR DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 14 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT, MULCHING AND THE EARLY APPLICATION OF GRAVEL BASE MATERIAL ON AREAS TO BE PAVED.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CONSTRUCTION.
5. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND CLEANUP OF SEDIMENTATION ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IMMEDIATELY.
6. THE CONTRACTOR SHALL LIMIT SITE ACCESS BY CONSTRUCTION VEHICLES TO ENTRANCES PROTECTED BY A STONE CONSTRUCTION ENTRANCE (VESCH STANDARD & SPEC 3.02) OR AN APPROVED COMPARABLE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED FROM PAVED AREAS ON A DAILY BASIS.
7. STOCKPILES OF SOIL AND OTHER ERODIBLE MATERIALS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION FOR STOCKPILES ON SITE AS WELL AS FOR MATERIAL TRANSPORTED FROM THE PROJECT SITE,
8. THE CONTRACTOR SHALL MONITOR AND TAKE PRECAUTIONS TO CONTROL DUST INCLUDING (BUT NOT LIMITED TO) THE USE OF WATER, MULCH, OR CHEMICAL DUST ADHESIVES AND CONTROL OF CONSTRUCTION SITE TRAFFIC.
9. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT ADJACENT PROPERTIES, WETLANDS, WATERWAYS OR THE STORM DRAINAGE SYSTEM.
10. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ANY ADDITIONAL CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED NECESSARY BY THE PLAN APPROVING AUTHORITY.
11. THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.

EROSION AND SEDIMENTATION CONTROL NARRATIVE:

PROJECT DESCRIPTION

THE CONTRACT PLANS PROVIDE FOR CONSTRUCTION OF NEW OPEN WATER BASIN. THE PROJECT SITE IS A DRAINAGE BASIN ON CITY OWNED PROPERTY BORDERED BY MILITARY HIGHWAY TO THE WEST. THE EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE INCLUDE PREVENTION OF SEDIMENT LADEN WATERS FROM DISCHARGING THROUGH THE BASIN OUTLET STRUCTURE AND ADDITION OF SILT FENCE AROUND THE PERIMETER OF LIMITS OF DISTURBANCE. ALL WORK PERFORMED SHALL CONFORM TO THE LATEST VERSION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH, 3RD EDITION 1992) PROVIDED STANDARDS, CRITERIA AND GUIDELINES.

LAYDOWN AREAS – THE CONTRACTOR SHALL DETERMINE THE SUFFICIENCY OF THE AVAILABLE STAGING AND STOCKPILE AREA. SHOULD THE LAYDOWN AREA PROVE INSUFFICIENT FOR THE CONTRACTOR'S NEEDS, ADDITIONAL SPACE SHALL BE LOCATED, COORDINATED, AND PAID FOR AT THE CONTRACTOR'S EXPENSE WITH NO ADDITIONAL EXPENSE TO THE CITY.

CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) TO VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ) THAT IS PREPARED IN ACCORDANCE WITH NPDES REGULATIONS. THE SWPPP SHALL BE MAINTAINED AT THE CONSTRUCTION SITE.

PROJECT SOIL TYPE AND WATER TABLE
SOIL TYPE: UDORTHENTS–DUMPS COMPLEX
WATER TABLE: APPROXIMATE ELEVATION 0 FT NAVD88.

CRITICAL EROSION AREAS
THE WORK WILL BE CONDUCTED IN THE STORMWATER MANAGEMENT FACILITY WHEN DRAINED. IN THE EVENT THAT STORMWATER INFLOWS EXCEED THE CAPACITY OF THE DEWATERING PUMPS, EQUIPMENT WILL BE REMOVED FROM THE BASIN AND THE BASIN WILL BE ALLOWED TO FILL UP AND DRAIN THROUGH THE EXISTING OR NEW DRAINAGE PIPING AND OUTLET STRUCTURE. CONSTRUCTION MAY RESUME ONCE THE BASIN IS DRAINED. EXISTING AND NEW PIPE DISCHARGE AREAS WILL BE PROTECTED WITH RIPRAP APRONS AS SOON AS POSSIBLE FOLLOWING INSTALLATION TO PREVENT EROSION. THE DOWNSTREAM BROAD CREEK COULD EXPERIENCE SIGNIFICANT DEGRADATION IN THE EVENT SEDIMENT IS TRANSFERRED OFFSITE.

EROSION AND SEDIMENT CONTROL MEASURES
UNLESS OTHERWISE NOTED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). THE MINIMUM STANDARDS SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

STRUCTURAL PRACTICES
UNLESS OTHERWISE NOTED, SEE PLAN SHEET C–1 FOR LOCATIONS OF STRUCTURAL AND C–4 FOR VEGETATIVE EROSION AND SEDIMENT CONTROL PRACTICES PROPOSED FOR THIS PROJECT.

1. TEMPORARY CONSTRUCTION ENTRANCE – 3.02 A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE CONTRACTOR LAYDOWN AREA INTERSECTS IS SHOWN IN A MINIMALLY USED PARKING LOT. DURING MUDDY CONDITIONS DRIVERS OF CONSTRUCTION VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE STREET.
2. ROCK INLET PROTECTION – A RIPRAP AND STONE SEDIMENT BARRIER IS TO BE INSTALLED AT THE INLET OF EXISTING DISCHARGE STRUCTURE WITH AN EXCAVATED VOLUME OF 240 CUBIC YARDS TO TRAP SEDIMENT FROM THE 1.79 ACRE DISTURBANCE AREA AS SHOWN ON THE CONTRACT DRAWINGS.
3. DEWATERING STRUCTURE – FILTER BAG – 3.26 A FILTER BAG IS TO BE USED TO FILTER PUMP DISCHARGE WHEREVER SEDIMENT–LADEN WATER MUST BE REMOVED FROM THE SITE BY PUMPING.
4. TREE PROTECTION – 3.38 A FENCE BARRIER IS TO BE PLACED AROUND TREES AND VEGETATED AREAS WHICH WILL NOT BE DISTURBED TO PROTECT THE TREES AND OTHER VEGETATION FROM CONSTRUCTION EQUIPMENT AND SOIL COMPACTION.

VEGETATIVE PRACTICES

1. TEMPORARY SEEDING – 3.32 ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR 14 DAYS OR LONGER SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION.
2. EROSION CONTROL BLANKETS – 3.36 OR MULCH 3.35 EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES GREATER THAN OR EQUAL TO SLOPES OF 3 HORIZONTAL TO 1 VERTICAL WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDED TO PROTECT THE SLOPES FROM RILL AND GULLY EROSION AND ALLOW SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON AREAS FLATTER THAN 3 HORIZONAL TO 1 VERTICAL AND WILL BE APPLIED AS A SECOND STEP IN SEEDING OPERATION.

MANAGEMENT STRATEGIES

1. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
3. TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
5. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

SEQUENCE OF CONSTRUCTION

1. OBTAIN ALL APPLICABLE CITY AND STATE REQUIRED PERMITS FOR CONSTRUCTION.
2. CONDUCT PRE–CONSTRUCTION MEETING WITH CITY OF NORFOLK, ENGINEER, AND JUVENILE DETENTION CENTER STAFF.
3. INSTALL CONSTRUCTION FENCE AROUND LIMITS OF CONSTRUCTION AS SHOWN ON PLAN SHEET C–1 AND DETAILS ON C–6.
4. INSTALL CONSTRUCTION ENTRANCE AS SHOWN ON C–1 FROM PUBLIC RIGHT OF WAY AT END OF CHILD CARE COURT.
5. DELINEATE STAGING AREA AS SHOWN ON C–1 AND SURROUND WITH SILT FENCE.
6. INSTALL TEMPORARY ROCK INLET PROTECTION AROUND EXISTING DRAIN INLET AS SHOWN ON C–1.
7. REMOVE SELECT TREES AND CLEAR AND GRUB AS SHOWN ON C–1.
8. EXCAVATE AND GRADE POND VOLUME AS SHOWN ON PROPOSED GRADING PLAN C–2 AND SECTIONS ON C–3 TO EXTENT POSSIBLE LEAVING EXISTING DRAINAGE PIPING IN PLACE. PROPERLY DISPOSE OF SOILS OFFSITE.
9. DEMOLISH DRAINAGE STRUCTURES AND INSTALL NEW OUTLET STRUCTURE AS SHOWN ON C–1 KEEPING DRAINAGE FLOWPATHS OPEN TO THE EXTENT PRACTICAL.
10. INSTALL PERMANENT 4' CHAIN LINK FENCE AND 2 GATES AROUND POND AS SHOWN ON SHEET C–4.
11. PROVIDE PERMANENT SEEDING WITH NATIVE VEGETATION AND TURF GRASS ACCORDING TO PLANTING PLAN ON C–4 AND DETAILS ON C–5 AND C–6.
12. MULCH AND STABILIZE THE SITE AS AREAS COMPLETED.
13. PROVIDE AS–BUILT SURVEY TO ENGINEER FOR FINAL APPROVAL.

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE DONE IN ACCORDANCE WITH VESCH SPEC 3.32, PERMAMENT SEEDING AND VIRGINIA EROSION AND SEDIMENT CONTROL TECHNICAL BULLETIN NO. 4 – NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES. EROSION CONTROL BLANKETS WILL BE INSTALLED OVER SLOPES AT 3H:1V.

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

1. THE SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALFWAY TO THE TOP OF THE BARRIER.
2. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE RE–SEEDED AS NEEDED.
3. THE SEDIMENT FILTER BAG WILL BE CHECKED REGULARLY TO ENSURE FUNCTIONALITY AND WILL BE CLEANED OUT/REPLACED IF ANY CLOGGING IS OCCURRING.
4. ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED.

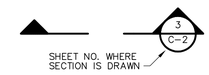
EXISTING CONDITIONS LEGEND

179	PMI SPOT ELEVATION
L/P	LIGHT POLE
DI	DRAINAGE INLET
	STORM PIPES
	TRAVERSE POINT
TBM	TEMPORARY BENCH MARK
18"OAK	TREE/SIZE & TYPE
	SAPLING
	ASPHALT SURFACE
x x	CHAINLINK FENCE
TOB	TOP OF BANK
TOS	TOE OF SLOPE
BOS	BOTTOM OF STRUCTURE
RCP	REINFORCED CONCRETE PIPE
5	1 FOOT INDEX CONTOUR SURVEYED
	1 FOOT INTERMEDIATE CONTOUR SURVEYED
FO	FIBER OPTIC CABLE
CDI	CURB DRAIN INLET
C&G	CURB AND GUTTER
	APPROXIMATE 0.2% ANNUAL FLOOD BOUNDARY

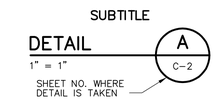
PROPOSED CONDITIONS LEGEND

	EROSION CONTROL (SILT FENCE)
	LIMITS OF CONSTRUCTION
×	HORIZONTAL CONTROL POINT
	TREE REMOVAL
	DEMOLITION
	TREE PROTECTION FENCE
	TEMPORARY CONSTRUCTION ENTRANCE
84	PROPOSED MINOR CONTOUR LINE AND ELEVATION DESIGNATION
84	PROPOSED MAJOR CONTOUR LINE AND ELEVATION DESIGNATION

SYMBOL WHERE THERE IS A DETAIL

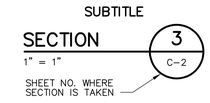


SYMBOL WHERE THERE IS A SECTION



SYMBOL WHERE DETAIL IS DRAWN

DETAIL SYMBOL



SYMBOL WHERE SECTION IS DRAWN

SECTION SYMBOL

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/27/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

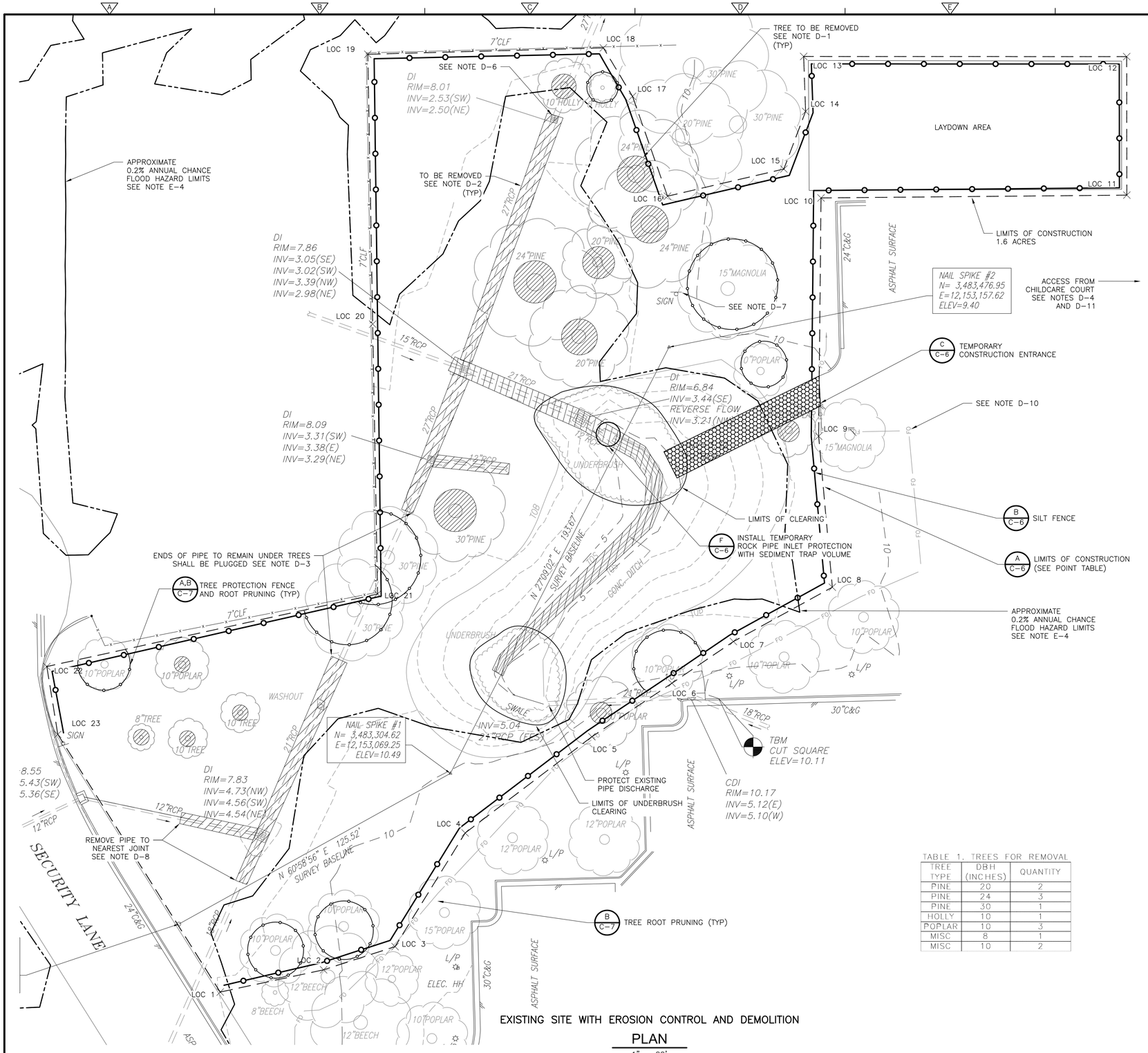
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 319-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

GENERAL NOTES AND LEGEND

PROJECT NO. 1589–100393
FILE NAME: G001GNLG.DWG
SHEET NO.
G-1

xREFs: [CDMS_2436] Images: [VA PE Seal Lic No 0402__ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 6/7/2015 10:54:14 AM
C:\cdmwm\hopperv\d1386895\G001GNLG.dwg
© 2015 CDM SMITH ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



EXISTING SITE WITH EROSION CONTROL AND DEMOLITION PLAN

1" = 20'

N

10' 0 20'

SCALE 1" = 20'
FOR FULL SIZE 24"X36" DRAWING

LIMITS OF CONSTRUCTION		
LOC POINT NO.	NORTHING	EASTING
1	3483216.22	12152976.16
2	3483225.22	12153017.97
3	3483234.60	12153046.85
4	3483280.54	12153075.21
5	3483319.46	12153126.45
6	3483341.11	12153158.83
7	3483357.94	12153183.69
8	3483379.91	12153223.68
9	3483440.93	12153218.16
10	3483537.31	12153219.11
11	3483538.42	12153342.78
12	3483594.43	12153342.72
13	3483594.48	12153212.09
14	3483572.28	12153212.87
15	3483548.99	12153204.07
16	3483538.00	12153157.03
17	3483578.36	12153142.89
18	3483597.96	12153131.10
19	3483595.37	12153035.85
20	3483486.27	12153037.82
21	3483377.16	12153039.79
22	3483347.83	12152906.04
23	3483320.40	12152910.48

LEGEND

- SILT FENCE
- LIMITS OF CONSTRUCTION
- HORIZONTAL CONTROL POINT
- TREE REMOVAL
- DEMOLITION
- TREE PROTECTION FENCE
- TEMPORARY CONSTRUCTION ENTRANCE

TABLE 1. TREES FOR REMOVAL

TREE TYPE	DBH (INCHES)	QUANTITY
PINE	20	2
PINE	24	3
PINE	30	1
HOLLY	10	1
POPLAR	10	3
MISC	8	1
MISC	10	2

EXISTING CONDITIONS NOTES

E-1. SURVEY PREPARED BY PRECISION MEASUREMENTS, INC. 813 DILIGENCE DRIVE, SUITE 121-B, NEWPORT NEWS, VA 23606. TEL: (757) 595-7570. THE MERIDIAN SOURCE OF THIS TOPOGRAPHIC SURVEY IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM 1983 (1993). THE PROJECT MERIDIAN WAS ESTABLISHED USING GPS. ELEVATIONS REFER TO NAVD88 (92) AND WERE ESTABLISHED USING DIFFERENTIAL LEVELING METHODS INITIATED AT CITY OF NORFOLK CONTROL MONUMENT J2.

E-2. LOCATIONS OF UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES.

E-3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EXISTING TRASH OR DEBRIS FROM THE SITE AND PROPER DISPOSAL IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

E-4. PART OF THE CONSTRUCTION SITE IS IN THE 0.2% ANNUAL CHANCE FLOOD HAZARD ZONE AS SHOWN ON FIRM 5101040145F PANEL 145/185 DATED SEPTEMBER 2, 2009.

DEMOLITION AND SITE PREPARATION NOTES

D-1. TREES SHOWN SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING ROOT SYSTEM. ALL OTHER TREES SHALL BE PROTECTED UNLESS APPROVED BY THE OWNER.

D-2. DEMOLITION, REMOVAL, AND PROPER DISPOSAL OF EXISTING RCP PIPING AND MISCELLANEOUS STRUCTURES SHALL BE AS SHOWN. DRAINAGE SYSTEM SHALL REMAIN IN PLACE AS LONG AS PRACTICAL TO PROVIDE BYPASS DRAINAGE AND AVOID FILLING BASIN WHILE UNDER CONSTRUCTION. ONCE DRAINAGE PIPING IS REMOVED, NEW OUTLET STRUCTURE SHALL BE INSTALLED AND DRAINAGE PATH RESTORED IMMEDIATELY. PIPES TO REMAIN SHALL BE PROTECTED TO ALLOW CONNECTION WITH NEW PIPE.

D-3. SEGMENTS OF PIPE REMAINING BENEATH EXISTING TREES AND NOT PROVIDING DRAINAGE FOLLOWING CONSTRUCTION SHALL BE PLUGGED WITH RIPRAP AND GROUT FOR LENGTH OF THREE FEET ON EACH END.

D-4. SITE ACCESS SHALL BE GAINED VIA THE PUBLIC RIGHT-OF-WAY ALONG CHILDCARE COURT WITH THE CONTRACTOR RESPONSIBLE FOR FULL RESTORATION OF EXISTING CONDITIONS.

D-5. CONTRACTOR SHALL RECORD VIDEO SHOWING EXISTING CONDITIONS ON AND SURROUNDING THE SITE PRIOR TO BEGINNING CONSTRUCTION AS SPECIFIED. CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY DAMAGE TO EXISTING CONDITIONS BESIDES THAT SPECIFIED IN THESE PLANS AT THEIR EXPENSE.

D-6. EXISTING PIPE DISCHARGE SHALL BE PRESERVED FOR CONNECTION OF NEW OUTLET STRUCTURE. ANY DAMAGE TO PIPE OR UNSUITABLE CONDITIONS FOR DRAINAGE OBSERVED IN DOWNSTREAM PIPING SHALL BE REPORTED TO OWNER IMMEDIATELY.

D-7. EXISTING SIGN TO BE REMOVED, STOCKPILED, AND REPLACED UPON COMPLETION OF GRADING.

D-8. EXISTING RCP SHALL BE REMOVED TO NEAREST JOINT BELOW PROPOSED GRADE AS SHOWN TO ALLOW INSTALLATION OF FLARED END SECTION FLUSH WITH PROPOSED GRADE.

D-9. REFER TO SHEET G-1 FOR EROSION CONTROL SEQUENCE AND NOTES.

D-10. CAUTION LOW OVERHEAD POWERLINE CROSSING ACCESS AREA.

D-11. ANY DAMAGE TO CURB OR PAVEMENT OR OTHER RIGHT-OF-WAY INFRASTRUCTURE OR UTILITY SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS IN ACCORDANCE WITH ALL CITY ROW EXCAVATION & RESTORATION MANUAL REQUIREMENTS WITH ALL RIGHT-OF-WAY PERMITS OBTAINED IN ADVANCE OF REPAIRS.

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/27/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: M. BROKAW
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JANUARY 2015

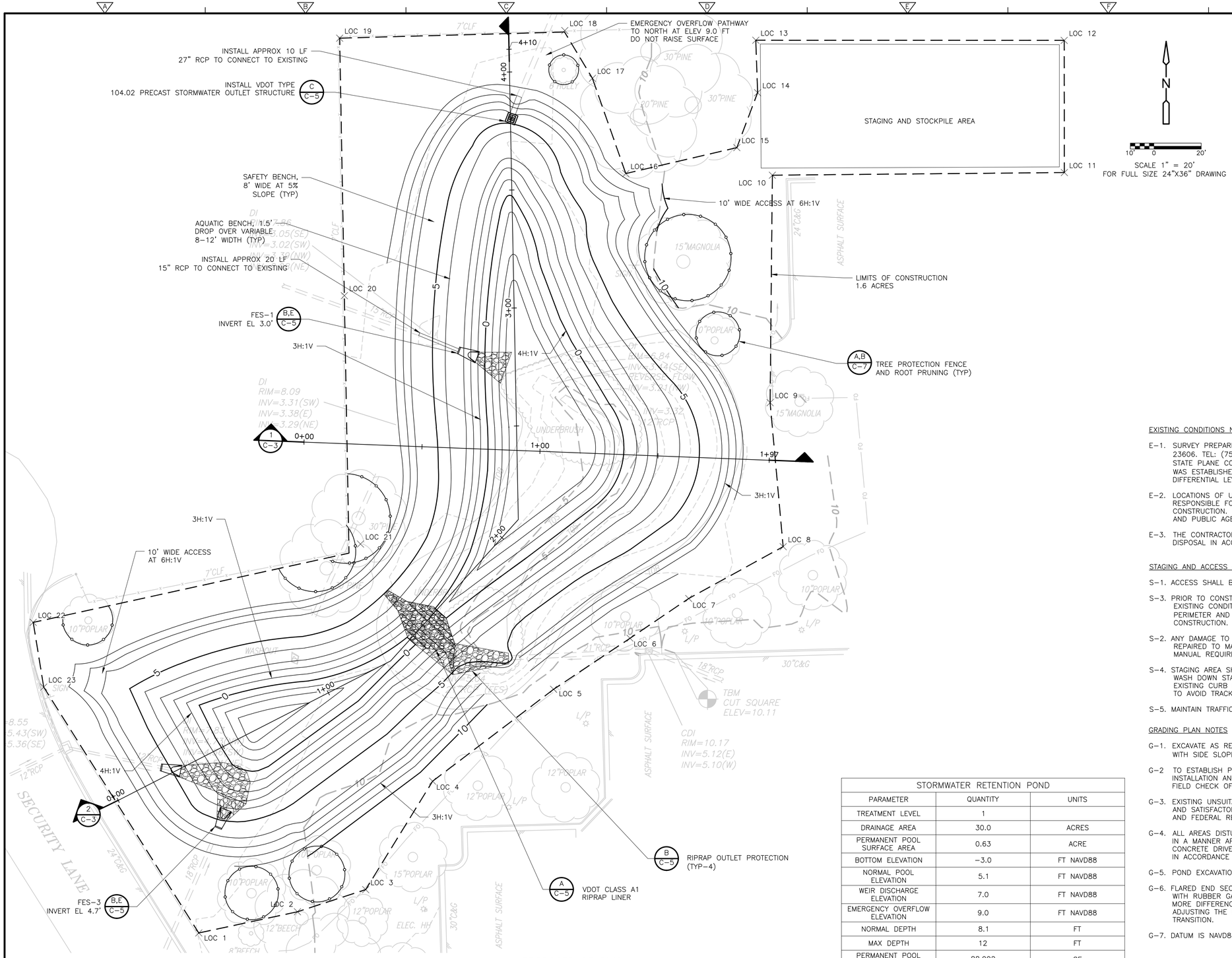
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

EROSION CONTROL AND DEMOLITION PLAN

PROJECT NO. 1589-100393
FILE NAME: C001STPL.DWG
SHEET NO.
C-1

xREFs: [CDMS_2436, RC01STPL, RC03STPL, RC02STPL, 500yrFloodZone] Images: [VA PE Seal Lic No 0402_ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 6/3/2015 2:50:52 PM
C:\cdmwm\hopperv\d1386895\C001STPL.dwg
© 2015 CDM SMITH ALL RIGHTS RESERVED
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



PROPOSED GRADING

PLAN

1" = 20'

LIMITS OF CONSTRUCTION		
LOC POINT NO.	NORTHING	EASTING
1	3483216.22	12152976.16
2	3483225.22	12153017.97
3	3483234.60	12153046.85
4	3483280.54	12153075.21
5	3483319.46	12153126.45
6	3483341.11	12153158.83
7	3483357.94	12153183.69
8	3483379.91	12153223.68
9	3483440.93	12153218.16
10	3483537.31	12153219.11
11	3483538.42	12153342.78
12	3483594.43	12153342.72
13	3483594.48	12153212.09
14	3483572.28	12153212.87
15	3483548.99	12153204.07
16	3483538.00	12153157.03
17	3483578.36	12153142.89
18	3483598.60	12153131.20
19	3483595.37	12153035.85
20	3483486.27	12153037.82
21	3483381.03	12153044.67
22	3483347.83	12152906.04
23	3483320.40	12152910.48

STORMWATER RETENTION POND		
PARAMETER	QUANTITY	UNITS
TREATMENT LEVEL	1	
DRAINAGE AREA	30.0	ACRES
PERMANENT POOL SURFACE AREA	0.63	ACRE
BOTTOM ELEVATION	-3.0	FT NAVD88
NORMAL POOL ELEVATION	5.1	FT NAVD88
WEIR DISCHARGE ELEVATION	7.0	FT NAVD88
EMERGENCY OVERFLOW ELEVATION	9.0	FT NAVD88
NORMAL DEPTH	8.1	FT
MAX DEPTH	12	FT
PERMANENT POOL VOLUME	88,992	CF
LENGTH/WIDTH	2.3	
FOREBAY VOLUME	23,544	CF

EXISTING CONDITIONS NOTES

E-1. SURVEY PREPARED BY PRECISION MEASUREMENTS, INC. 813 DILIGENCE DRIVE, SUITE 121-B, NEWPORT NEWS, VA 23606. TEL: (757) 595-7570. THE MERIDIAN SOURCE OF THIS TOPOGRAPHIC SURVEY IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM 1983 (1993). THE PROJECT MERIDIAN WAS ESTABLISHED USING GPS. ELEVATIONS REFER TO VERTICAL DATUM NAVD88 (92) AND WERE ESTABLISHED USING DIFFERENTIAL LEVELING METHODS INITIATED AT CITY OF NORFOLK CONTROL MONUMENT J2.

E-2. LOCATIONS OF UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES.

E-3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EXISTING TRASH OR DEBRIS FROM THE SITE AND PROPER DISPOSAL IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

STAGING AND ACCESS AREA NOTES

S-1. ACCESS SHALL BE VIA SECURITY LANE OR CHILD CARE LANE AS SHOWN ON C-1.

S-3. PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL CONDUCT A VIDEOTAPED INSPECTION OF THE EXISTING CONDITIONS OF THE PROJECT PERIMETER. THE CONTRACTOR SHALL MAINTAIN THE PROJECT PERIMETER AND REPAIR/REPLACE AS REQUIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION.

S-2. ANY DAMAGE TO CURB OR PAVEMENT OR OTHER RIGHT-OF-WAY INFRASTRUCTURE OR UTILITY SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS IN ACCORDANCE WITH ALL CITY ROW EXCAVATION & RESTORATION MANUAL REQUIREMENTS WITH ALL RIGHT-OF-WAY PERMITS OBTAINED IN ADVANCE.

S-4. STAGING AREA SHALL BE SET BY CONTRACTOR AND SURROUNDED WITH SILT FENCE. WASH DOWN STAGING AREA INTO PROPOSED BASIN DAILY. DO NOT ALLOW RUNOFF TO FLOW TO EXISTING CURB INLETS IN THE ROADWAY. WASH DOWN TRUCKS PRIOR TO LEAVING STAGING AREA TO AVOID TRACKING MUD ONTO THE ROADWAY.

S-5. MAINTAIN TRAFFIC FLOW AT ALL TIMES THROUGHOUT CONSTRUCTION.

GRADING PLAN NOTES

G-1. EXCAVATE AS REQUIRED TO OBTAIN POND BOTTOM ELEVATIONS AS SHOWN WITH RESPECT TO NAVD 88 AND WITH SIDE SLOPES AT MAXIMUM 3H:1V (3 HORIZONTAL:1 VERTICAL) SLOPES AS SHOWN.

G-2 TO ESTABLISH PROPER GRADES WITHIN 0.2 FT TOLERANCE THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF GRADE STAKES. CONTRACTOR SHALL BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE OWNER AND THE ENGINEER.

G-3. EXISTING UNSUITABLE EXCESS FILL AS DETERMINED AND DIRECTED BY THE ENGINEER SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF OFF-SITE BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AND AS SPECIFIED.

G-4. ALL AREAS DISTURBED OUTSIDE THE LIMITS OF WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE IN A MANNER APPROVED BY THE ENGINEER. AREAS OF THE ASPHALT ROAD, CONCRETE SIDEWALK, CONCRETE DRIVEWAYS, ETC. REMOVED OR DAMAGED DUE TO CONSTRUCTION ACTIVITIES SHALL BE REPAIRED IN ACCORDANCE WITH CITY OF NORFOLK STANDARDS.

G-5. POND EXCAVATION VOLUME APPROXIMATELY 7500 CUBIC YARDS.

G-6. FLARED END SECTIONS SHALL BE INSTALLED TO FIT EXISTING PIPE DISCHARGE ENDS WITH RUBBER GASKETS FIT TO SEAL. FIELD FIT REQUIRED AT END OF PIPE DISCHARGES WHERE A FOOT OR MORE DIFFERENCE BETWEEN END OF PIPE SEGMENT AND EXISTING GRADING SHALL BE CORRECTED BY ADJUSTING THE GRADING AROUND THE OUTLET AND ADDING RIPRAP TO AVOID ANY DROP AT THE TRANSITION.

G-7. DATUM IS NAVD88.

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/7/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

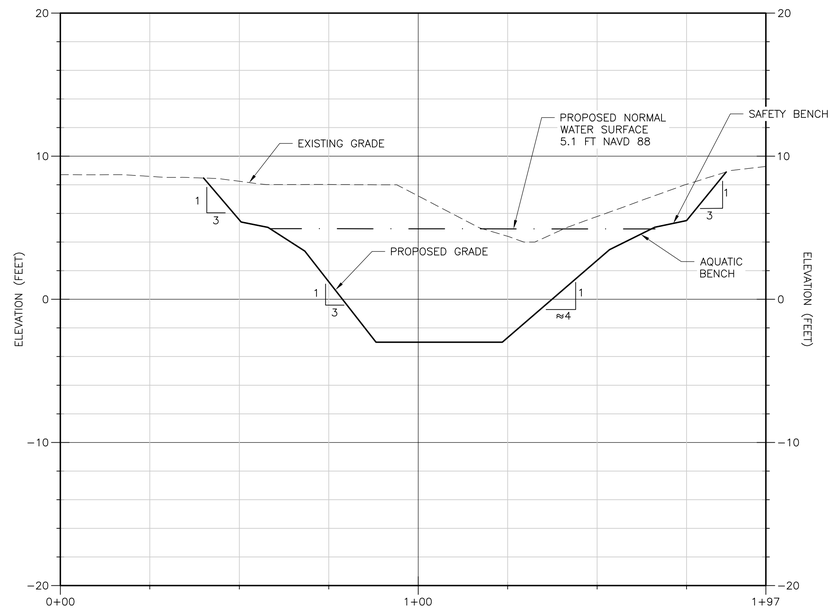
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

PROPOSED GRADING PLAN

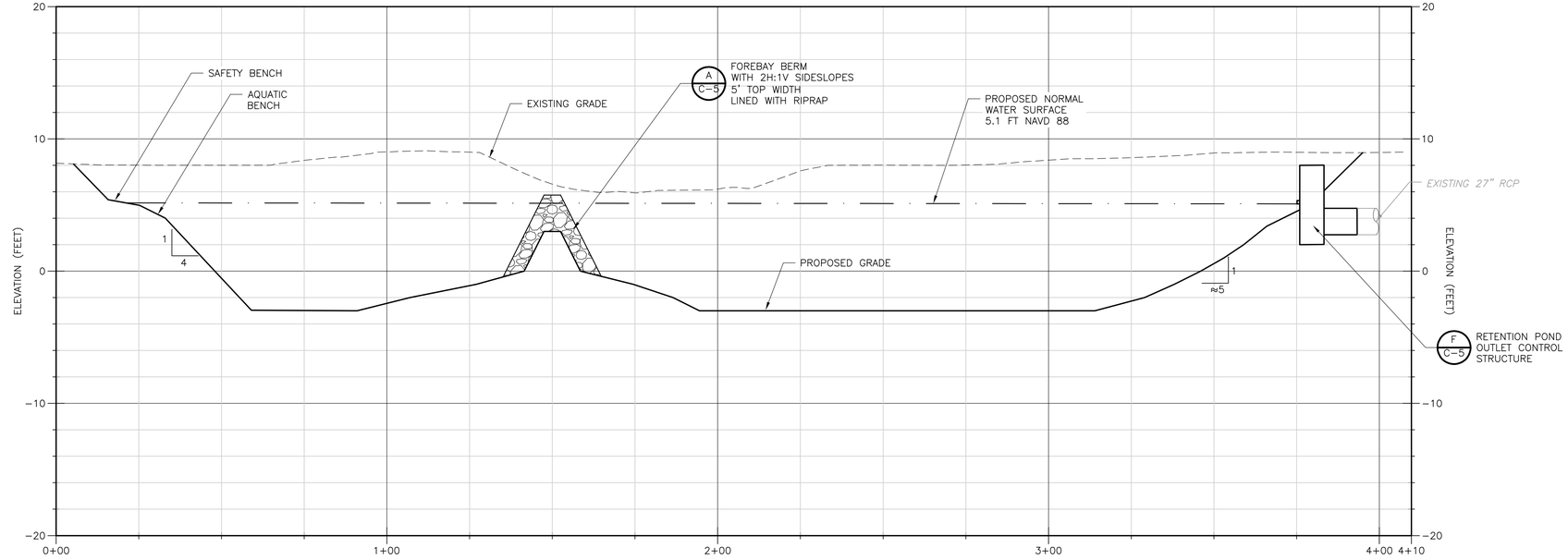
PROJECT NO. 1589-100393
FILE NAME: C002STPL.DWG
SHEET NO.
C-2

XREFs: [CDMS_2436, RC01STPL, RC02STPL, RC03STPL] Images: [VA PE Seal Lic No 0402_ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 9/18/2015 2:06:19 PM
C:\cdmwn\hopperrv\d136895\C002STPL.dwg
©2015 CDM SMITH ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



SECTION 1 (C-2)

HORZ 1" = 20'
VERT 1" = 5'



SECTION 2 (C-2)

HORZ 1" = 20'
VERT 1" = 5'

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/22/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

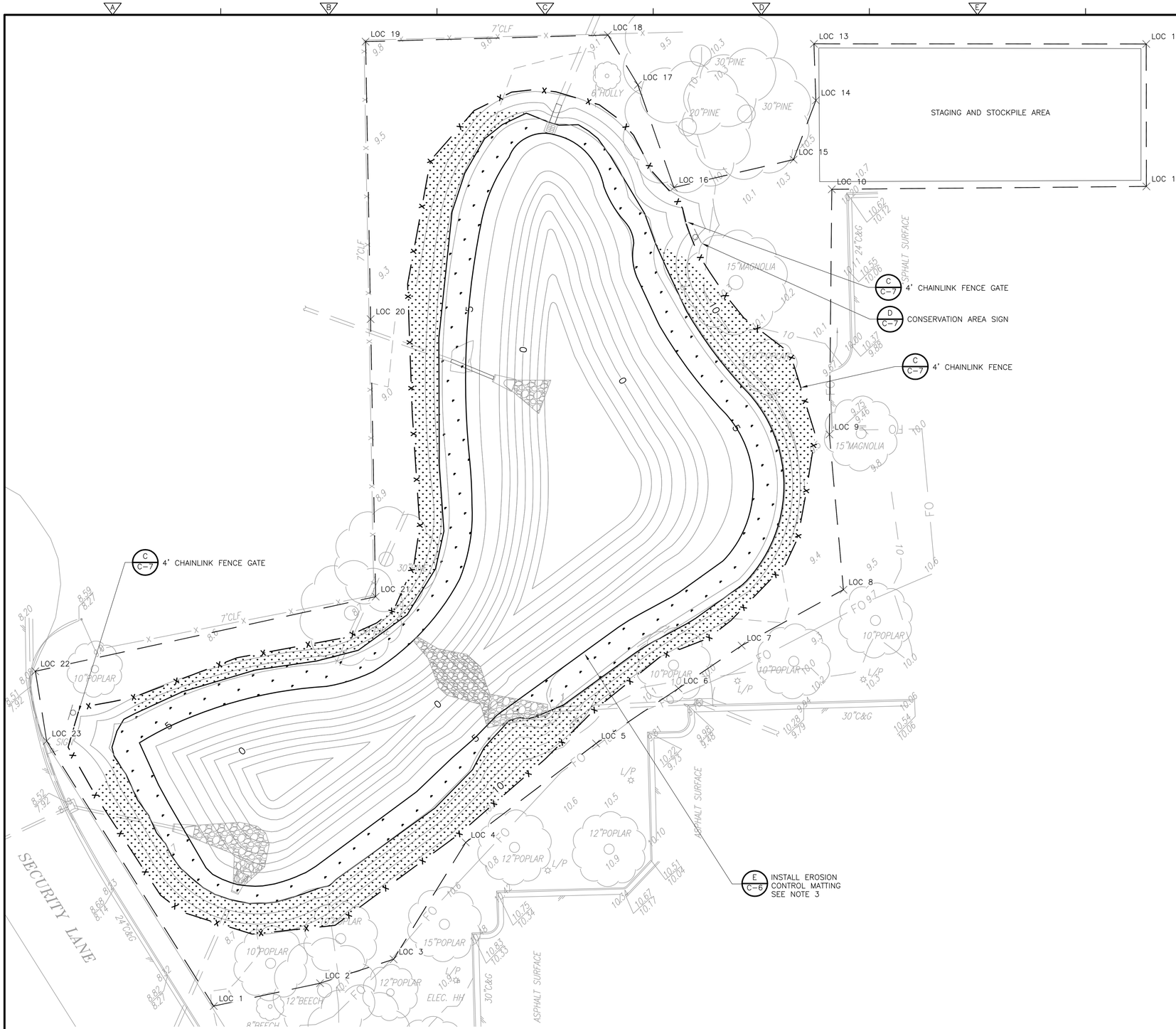
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

SECTIONS

PROJECT NO. 1589-100393
FILE NAME: C003STPL.DWG
SHEET NO.
C-3

XREFs: [CDMS_2436, RC01STPL, RC02STPL] Images: [VA PE Seal Lic No 0402_ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 6/3/2015 3:20:29 PM
C:\cdmxm\hopperrv\d1386895\C003STPL.dwg
©2015 CDM SMITH ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



PROPOSED PLANTING

PLAN

1" = 20'

N

10' 0 20'

SCALE 1" = 20'
FOR FULL SIZE 24"X36" DRAWING

STABILIZATION LEGEND

- 4' TALL CHAINLINK FENCE
- CONSERVATION MANAGEMENT AREA SIGN
- ZONE A: COASTAL PLAIN RETENTION BASIN MIX 9,000 SQ FT
- ZONE B: OUTER COASTAL PLAIN UPLAND GRASS MIX 9,200 SQ FT

SEEDING NOTES:

1. ZONES A AND B SHALL BE PLANTED WITH THE SPECIFIED SEED MIXTURES AT 20 POUNDS PER ACRE.
2. ALL OTHER DISTURBED AREAS OUTSIDE ZONES A AND B SHALL BE SEEDED WITH TURF GRASS AS SPECIFIED.
3. INSTALL EROSION CONTROL MATTING ON ALL BANKS WITH SLOPES AT 3 HORIZONTAL TO 1 VERTICAL OR STEEPER AS SPECIFIED.
4. RETENTION BASIN SEED MIX INCLUDES:

   25% REDTOP PANICGRASS, COASTAL PLAIN NC ECOTYPE (PANICUM RIGIDULUM (P. STIPITATUM), COASTAL PLAIN NC ECOTYPE)
   16% RIVER OATS, COASTAL PLAIN NC ECOTYPE (CHASMANTHIUM LATIFOLIUM (UNIOLA LATIFOLIA), COASTAL PLAIN NC ECOTYPE)
   15% VIRGINIA WILDRYE, 'SUTHER'–NC ECOTYPE (ELYMUS VIRGINICUS, 'SUTHER'–NC ECOTYPE)
   15% LURID (SHALLOW) SEDGE, SOUTHEASTERN VA/NORTHEASTERN NC ECOTYPE BLEND (CAREX LURIDA, SOUTHEASTERN VA/NORTHEASTERN NC ECOTYPE BLEND)
   10% GREENWHITE SEDGE, COASTAL PLAIN NC ECOTYPE (CAREX ALBOLUTESCENS (C. LONGII), COASTAL PLAIN NC ECOTYPE)
   5% HOP SEDGE, COASTAL PLAIN NC ECOTYPE (CAREX LUPULINA, COASTAL PLAIN NC ECOTYPE)
   4% SOFT RUSH, COASTAL PLAIN NC ECOTYPE (JUNCUS EFFUSUS, COASTAL PLAIN NC ECOTYPE)
   2% AUTUMN BENTGRASS, PA ECOTYPE (AGROSTIS PERENNANS, PA ECOTYPE)
   2% PURPLEHEAD SNEEZEWEED, VA ECOTYPE (HELENIUM FLEXUOSUM, VA ECOTYPE)
   2% LEATHERY RUSH, COASTAL PLAIN NC ECOTYPE (JUNCUS CORIACEUS, COASTAL PLAIN NC ECOTYPE)
   2% WOOLGRASS, COASTAL PLAIN NC ECOTYPE (SCIRPUS CYPERINUS, COASTAL PLAIN NC ECOTYPE)
   2% CRIMSONEYED ROSEMALLOW, VA ECOTYPE (HIBISCUS MOSCHEUTOS, VA ECOTYPE)

5. UPLAND COASTAL PLAIN SEED MIX INCLUDES:

   30% BEAKED PANICGRASS, VA ECOTYPE (PANICUM ANCEPS, VA ECOTYPE)
   30% LITTLE BLUESTEM, 'CAMPER' (SCHIZACHYRIUM SCOPARIUM, 'CAMPER')
   20% VIRGINIA WILDRYE, 'SUTHER'–NC ECOTYPE (ELYMUS VIRGINICUS, 'SUTHER'–NC ECOTYPE)
   10% SWITCHGRASS, 'SHELTER' (PANICUM VIRGATUM, 'SHELTER')
   5% PURPLETOP, SOUTHEASTERN VA ECOTYPE (TRIDENS FLAVUS, SOUTHEASTERN VA ECOTYPE)
   4% BIGTOP LOVEGRASS, VA ECOTYPE (ERAGROSTIS HIRSUTA, VA ECOTYPE)
   1% SLENDER WOODOATS, NC ECOTYPE (CHASMANTHIUM LAXUM (UNIOLA LAXA), NC ECOTYPE)

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/27/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

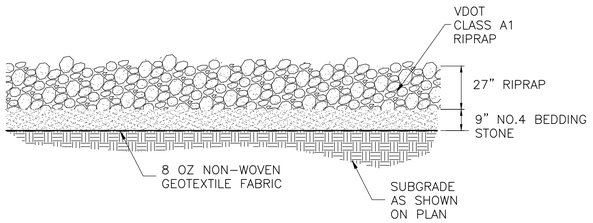
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

PROPOSED PLANTING PLAN

PROJECT NO. 1589–100393
FILE NAME: C004STPL.DWG
SHEET NO.
C-4

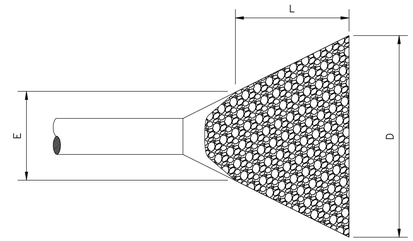
XREFs: [CDMS_2436, RC01STPL, RC02STPL, RC03STPL] Images: [VA PE Seal Lic No 0402_ROBHOPPER_jan]
Last saved by: HOPPERRV Time: 6/3/2015 3:32:45 PM
C:\cdmxm\hopperrv\d1386895\C004STPL.dwg
©2015 CDM SMITH. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



RIPRAP LINER

DETAIL A / C-2

NTS

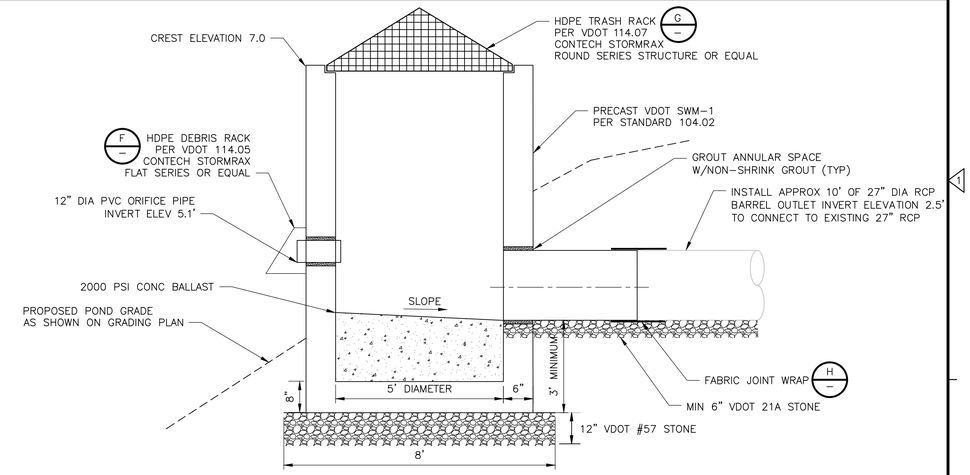


APRON TYPE	LENGTH L – (FT)	TOTAL THICKNESS (IN)	UPSTREAM WIDTH – E (FT)	DOWNSTREAM WIDTH – D (FT)	MATERIALS
1	13	33"	VARIES	14.5	8 oz GEOTEXTILE FABRIC, 6" THICK NO. 4 BEDDING STONE, AND 27" THICK VDOT CLASS A1 RIPRAP

RIPRAP OUTLET PROTECTION

DETAIL B / C-2

NTS



SECTION THROUGH CENTER

STORMWATER MANAGEMENT STRUCTURE:

1. FOLLOW VDOT STANDARD 114.02 FOR PRECAST STORMWATER MANAGEMENT STRUCTURE EXCEPT WHERE PLANS INDICATE OTHERWISE.
2. INSTALL HDPE DEBRIS HOOD AND TRASH RACK PER VDOT STANDARDS 114.05 AND 114.08 OR ALTERNATIVE AS APPROVED BY ENGINEER.
3. HEIGHT OF STRUCTURE IS 8'. STRUCTURE INSIDE DIAMETER IS 5'
4. BACKFILL AROUND PIPE SHALL BE VDOT SELECT MATERIAL (SECTION 207) – TYPE 1 AND 20 CBR COMPACTION.

MODIFIED VDOT STANDARD 104.02 PRECAST CONCRETE STORMWATER MANAGEMENT OUTLET STRUCTURE

DETAIL C / C-2

NOT TO SCALE

Conservation
Management Area
DO NOT MOW
DO NOT DUMP

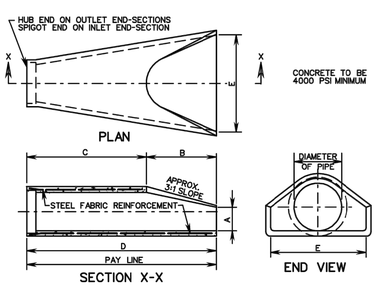
NOTES:

1. THE SIGN SHALL BE 12" BY 18" MANUFACTURED FROM 0.080" COATED ALUMINUM.
2. THE SIGN SHALL HAVE A WHITE SCOTCHLITE BACKGROUND WITH BLACK SCOTCHLITE LETTERS.
3. ALL LETTERING SHALL BE 1.5" IN HEIGHT EXCEPT FOR THE WORDS "DO NOT MOW DO NOT DUMP" WHICH SHALL BE 2 INCHES IN HEIGHT. FONT SHALL BE ROMANS.
4. SIGNS SHALL BE POSTED AS SHOWN ON PLANS WITH WORDS FACING AWAY FROM THE POND.
5. SIGNS SHALL BE POSTED AT LEAST 2' HIGH AND NOT MORE THAN 8' TALL.
6. SIGNS SHALL BE ATTACHED TO THE CHAINLINK FENCE WITH A MINIMUM 17" 14 GAUGE STEEL BRACKET.

CONSERVATION MANAGEMENT AREA SIGN

DETAIL D / C-4

NTS

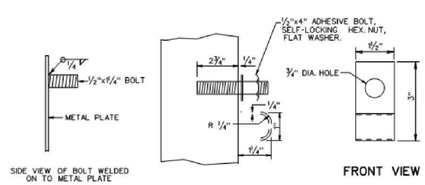


END SECTION DIMENSIONS					
PIPE DIAMETER	A	B	C	D	E
12"	4"	2'-0"	4'-1"	6'-1"	2'-0"
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"
21"	9"	2'-11"	3'-2"	6'-1"	3'-6"
24"	10"	3'-7"	2'-8"	6'-3"	4'-0"
27"	10½"	4'-0"	2'-9½"	6'-9½"	4'-6"
30"	1'-0"	4'-6"	1'-7¾"	6'-1½"	5'-0"
33"	1'-1½"	4'-10½"	3'-3¼"	8'-1¾"	5'-6"
36"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"
54"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"
60"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"

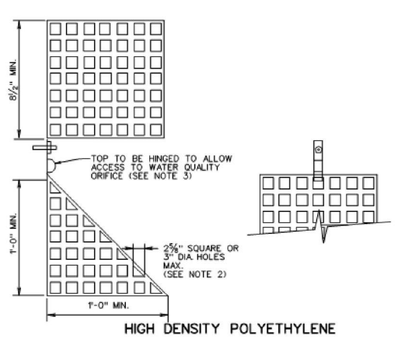
VDOT STANDARD 102.01 PRECAST CONCRETE FLARED END SECTION

DETAIL E / C-2

NOT TO SCALE



DETAIL FOR DEBRIS RACK HOLDER

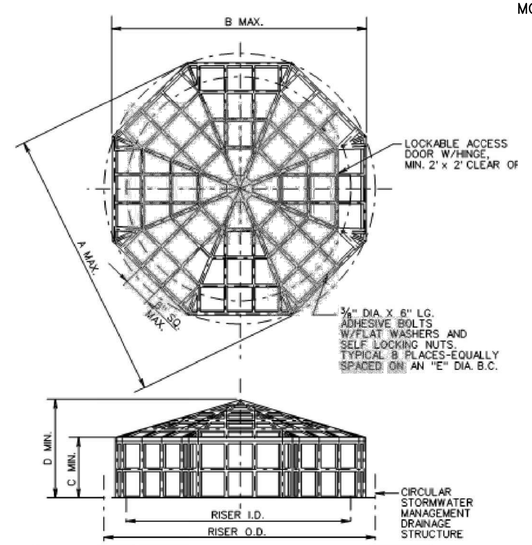


HIGH DENSITY POLYETHYLENE

DEBRIS HOOD VDOT STANDARD 114.05

DETAIL F / –

NOT TO SCALE



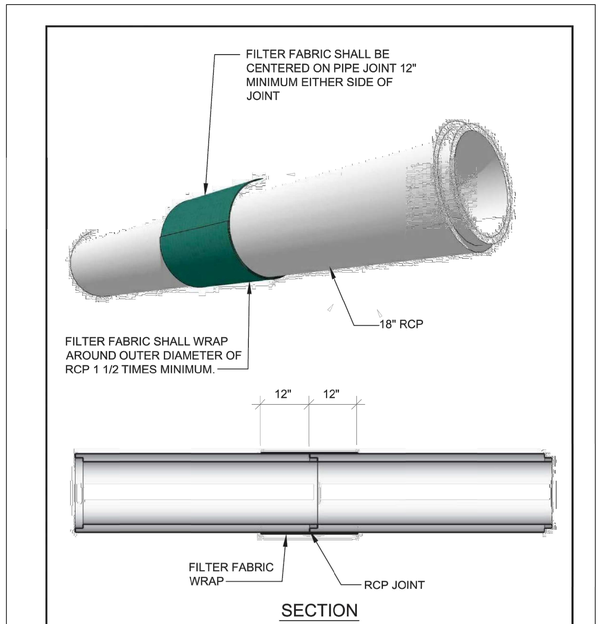
RISER		DIMENSION					APPROX.
I.D.	O.D.	A	B	C	D	E	WT. (LBS.)
24	30	31	28⅝	7	11	27	24
36	44	45	41½	13	19	40	58
48	58	59	54½	13	21	53	86
60	72	73	67½	17	28	66	135
72	86	87	80⅝	23	35	79	204
84	100	101	93¼	25	39	92	266
96	114	115	106¼	22	38	105	305

HIGH DENSITY POLYETHYLENE

TRASH RACK VDOT STANDARD 114.07

DETAIL G / –

NOT TO SCALE



SECTION

NOTE

FILTER FABRIC SHALL BE NONWOVEN GEOTEXTILE CONSTRUCTION FABRIC (ACF ENVIRONMENTAL #35)

CITY OF NORFOLK DEPT. OF PUBLIC WORKS	DESCRIPTION			DESIGNATION
	FABRIC JOINT WRAP			HS-106
	SCALE NOT TO SCALE	EDITION NCDS2013.10	REVISED MARCH 2013	

FABRIC JOINT WRAP

DETAIL H / –

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No.0402052824
10/27/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

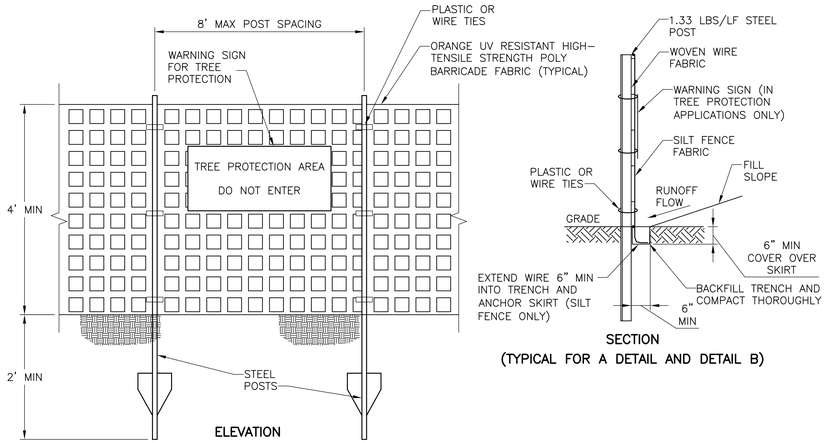
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

DETAILS

PROJECT NO. 1589-100393
FILE NAME: C005STPL.DWG
SHEET NO.
C-5

XREFs: [CDMS_2436] Images: [VA PE Seal Lic No 0402_ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 10/2/2015 11:12:29 AM
C:\cdmxm\hopperrv\d1386895\C005STPL.dwg
© 2015 CDM SMITH ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.

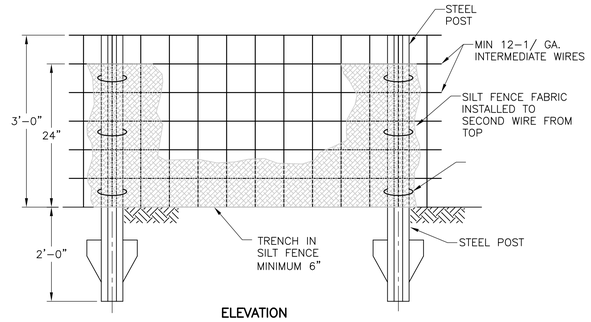


TREE PROTECTION NOTES:

1. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
2. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS.
4. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.

CONSTRUCTION AND TREE PROTECTION FENCE

DETAIL A / C-1
NTS

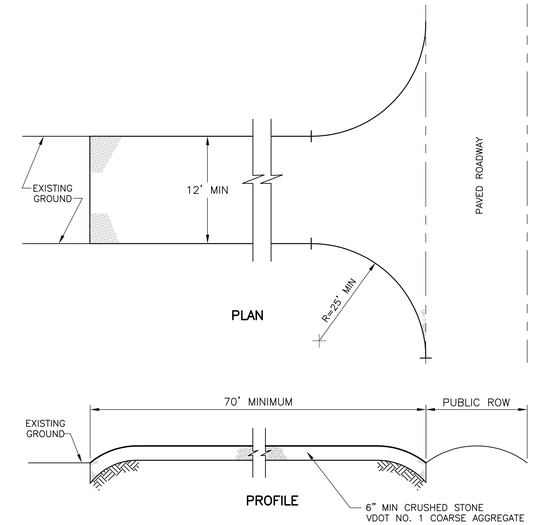


SILT FENCE NOTES:

1. SILT FENCES SHALL BE POSITIONED AS INDICATED ON THE DRAWINGS AND AS NECESSARY TO PREVENT OFF SITE MOVEMENT OF SEDIMENT PRODUCED BY CONSTRUCTION ACTIVITIES AS DIRECTED BY THE ENGINEER.
2. DIG TRENCH APPROXIMATELY 4-IN WIDE AND 4-IN DEEP ALONG PROPOSED FENCE LINES AND UPSLOPE FROM THE BARRIER.
3. DRIVE STAKES, 8-FT ON CENTER (MAXIMUM) AT BACK EDGE OF TRENCHES. STAKES SHALL BE DRIVEN 2-FT (MINIMUM) INTO GROUND.
4. HANG FILTER FABRIC ON POSTS CARRYING TO BOTTOM OF TRENCH WITH 12-IN OF FABRIC LAID ACROSS BOTTOM AND SIDE OF TRENCH. STRETCH FABRIC FAIRLY TAUT ALONG FENCE LENGTH AND MAINTAIN SECURE BOTH WAYS.
5. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST.
6. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHALL BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
7. BACKFILL TRENCH WITH EXCAVATED MATERIAL AND TAMP THOROUGHLY.
8. INSTALL PREFABRICATED SILT FENCE ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
9. THE HEIGHT OF THE SEDIMENT FENCE SHALL NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE.
10. THE FABRIC SHALL BE CONSTRUCTED FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
11. SEDIMENT FENCE SHALL NOT BE ATTACHED TO TREES.
12. END OF SILT FENCE SHALL BE TURNED UPHILL.

SILT FENCE

DETAIL B / C-1
NTS



CONSTRUCTION ENTRANCE NOTES:

A. 2" TO 3" VDOT NO, 1 STONE SHALL BE USED.

B. PROVIDE TURNING RADII SUFFICIENT TO ACCOMMODATE LARGER TRUCKS.

C. ENTRANCE(S) MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT SOIL TRACKING OR DIRECT FLOW ONTO STREETS.

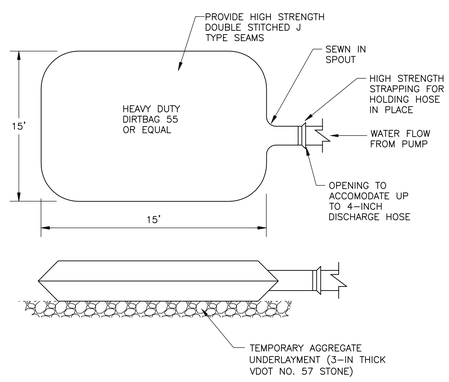
D. PERIODIC TOP DRESSING WITH STONE WILL BE NECESSARY, KEEP SOME ON HAND. ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED IMMEDIATELY.

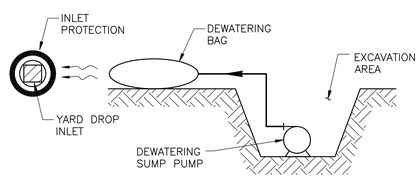
E. CONTRACTOR MUST PROVIDE TIRE WASHING STATION AT EVERY CONSTRUCTION ENTRANCE AND CLEAN THE TIRES OF EVERY VEHICLE BEFORE EXITING CONSTRUCTION SITE TO PUBLIC ROAD TO PREVENT TRACKING OF MATERIAL ON PUBLIC ROADS. CONTRACTOR MUST SUBMIT PLAN TO OWNER AND ENGINEER FOR APPROVAL AND MUST INCLUDE METHOD OF CONTROLLING AND CAPTURING SEDIMENT FROM WASH WATER.

G. REMOVE AND REPLACE CURB AND GUTTER TO MATCH EXISTING AT EACH CONSTRUCTION ENTRANCE TO THE LIMITS SHOWN, INCLUDING ANY ADDITIONAL CURB AND GUTTER DISTURBED BY THE WORK.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

DETAIL C / C-1
NTS



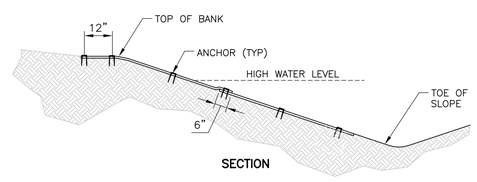


NOTES:

1. THE DEWATERING BAG SHALL BE MADE OF NON-WOVEN GEOTEXTILE WITH A MINIMUM SURFACE AREA OF 225 SQUARE FEET PER SIDE.
2. ALL STRUCTURAL SEAMS SHALL BE SEWN WITH A DOUBLE STITCH USING A DOUBLE NEEDLE MACHINE WITH HIGH STRENGTH THREAD.
3. THE SEAM STRENGTH SHALL WITHSTAND 100 LB/IN USING ASTM D-4884 TEST METHOD.
4. THE GEOTEXTILE FABRIC SHALL BE A 10 OZ NON-WOVEN FABRIC.
5. DISCHARGE FROM THE DEWATERING BAG SHALL BE DIRECTED SUCH THAT PRE-DISTURBANCE HYDROLOGY IS NOT CHANGED.
6. SECURE DEWATERING BAG IN PLACE WITH STAKES AND ROPE TO AVOID ROLLING.

DEWATERING BAG

DETAIL D / –
NTS

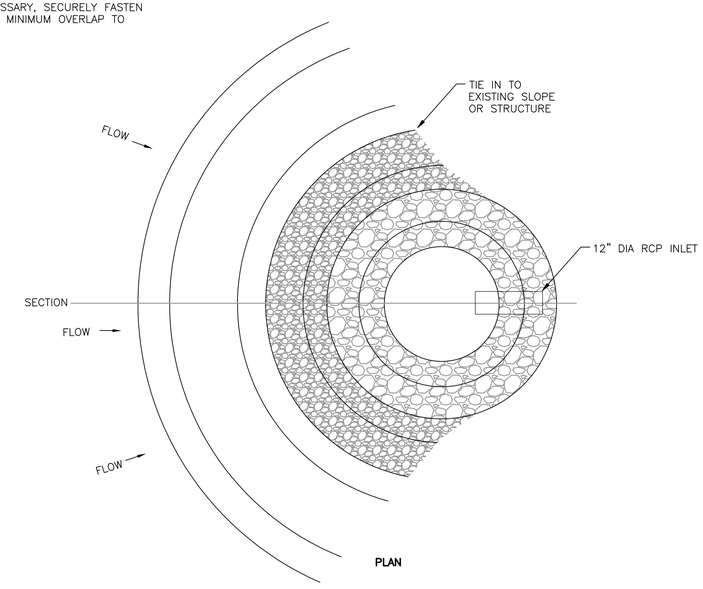


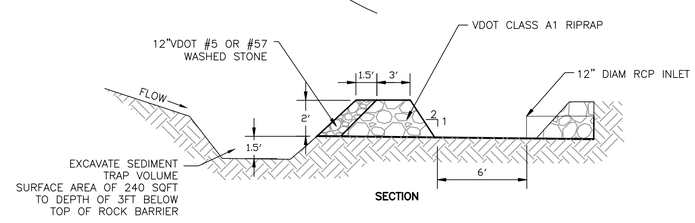
EROSION CONTROL MATTING NOTES:

1. INSTALL NAG S150 DOUBLE NET SHORT-TERM BLANKET, AMERICAN EXCELSIOR CURLEX II, SI LANDLOK S2, OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. USE MAXIMUM MANUFACTURER RECOMMENDED ANCHOR DENSITY.

EROSION CONTROL MATTING

DETAIL E / C-4
NTS





ROCK PIPE INLET PROTECTION

DETAIL F / C-1
NTS

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/21/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

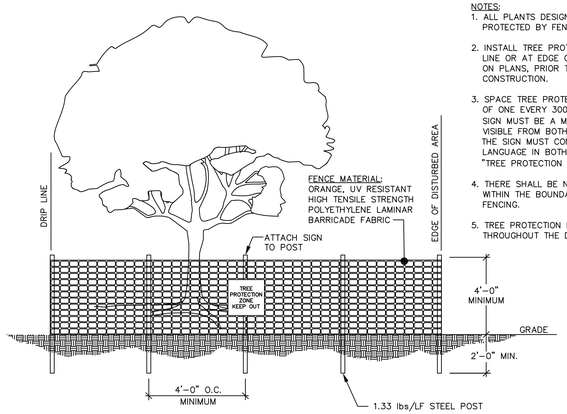
CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

EROSION CONTROL DETAILS

PROJECT NO. 1589-100393
FILE NAME: C006ECDT.DWG
SHEET NO.
C-6

XREFs: [CDMS_2436] Images: [esnuton 12, esnuton 9, VA PE Seal Lic No 0402_ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 6/3/2015 5:04:27 PM
C:\cdmxrs\hopperrv\d1386895\C006ECDT.dwg
© 2015 CDM SMITH ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.



NOTES:
1. ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
2. INSTALL TREE PROTECTION FENCE AT TREE DRIP LINE OR AT EDGE OF DISTURBED AREA, AS SHOWN ON PLANS, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. SPACE TREE PROTECTION ZONE SIGNS A MINIMUM OF ONE EVERY 300 FEET. THE SIZE OF EACH SIGN MUST BE A MINIMUM OF 2' x 2' AND BE VISIBLE FROM BOTH SIDES OF THE FENCE. THE SIGN MUST CONTAIN THE FOLLOWING LANGUAGE IN BOTH ENGLISH & SPANISH: "TREE PROTECTION ZONE, KEEP OUT".
4. THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
5. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

TREE PROTECTION

DETAIL A
NTS –

CITY OF NORFOLK TREE PROTECTION NOTES

PROTECTED TREE:

WITH EXCEPTION OF THOSE TREES SPECIFICALLY SHOWN TO BE REMOVED, ALL EXISTING TREES ON PUBLIC OR PRIVATE PROPERTY SHALL BE ACTIVELY PRESERVED AND PROTECTED BY THE CONTRACTOR, AND ANY SUBCONTRACTORS, FROM DAMAGE TO THE CROWN AREA, TRUNK, ROOT SYSTEM, OR ROOTING ENVIRONMENT (SOIL SYSTEM) DURING CONSTRUCTION.

1. CRITICAL ROOT ZONE:
GENERAL: THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS THE SURFACE AREA O THE GROUDN DIRECTLY BENEATH THE LIMITS OF THE CROWN (BRANCH) SPREAD OF A TREE. THE CRZ IS ALSO COMMONLOY REFERRED TO AS THE DRIPLINE. (SEE TREE PROTECTION FENCING DETAIL). IT S WITHIN THIS ZONE THAT THE MAJORITY OF LARGER ROOTS THAT PROVIDE SUPPORT FOR THE TREE, AND TRANSPORT WATER AND NUTRIENTS EXISTS.

CONSTRUCTION PROCEDURES; NO CONSTRUCTION VEHICLES, EQUIPMENT, MATERIALS, SUPPLIES OR TEMPORARY FACILITIES (TRAILERS, PORTABLE TOILETS) MAY BE PLACED WITHIN THE CRZ (DRIPLINE) OF PROTECTED TREES. PAVED STREETS (CURB TO CURB) EXCEPTED.

2. HAND DIG ZONE:
GENERAL: THE HAND DIG ZONE (HDZ) IS THE AREA OF THE ROOT SYSTEM THAT IS LIKELY TO CONTAIN THE MAJORITY OF SUPPORT AND TRANSPORT ROOTS 2 INCHES AND LARGER IN DIAMETER, HAND DIG ZONES VARY BASED ON TREE SIZE AND SPECIES CHARACTERISTICS, SOIL CONDITIONS, AND OTHER SITE FACTORS THAT AFFECT ROOTING PATTERNS.

CONSTRUCTION PROCEDURES: THE CITY FORESTER WILL DETERMINE THE EXTENT OF ALL HAND DIG ZONES WITHIN THE CRZ INCLUDING ALL ROOTS 2 INCHES AND LARGER IN DIAMETER (ANY DIMENSION) ENCOUNTERED TO A 30" DEPTH IN THE HDZ, OUTSIDE THE ACTUAL SPACE PROTECTED FROM ABRASION, CUTS, OR OTHER SIGNIFICANT WOUND. IT IS STRONGLY RECOMMENDED THAT AN AIR SPADE POWERED BY AN AIR COMPRESSOR (AIR–SPADE 150/90 MANUFACTURED BY CEG, INC. VERONA, PA, OR APPROVED EQUAL) BE UTILIZED TO EXPOSE PROTECTED ROOTS WITHOUT INJURY.

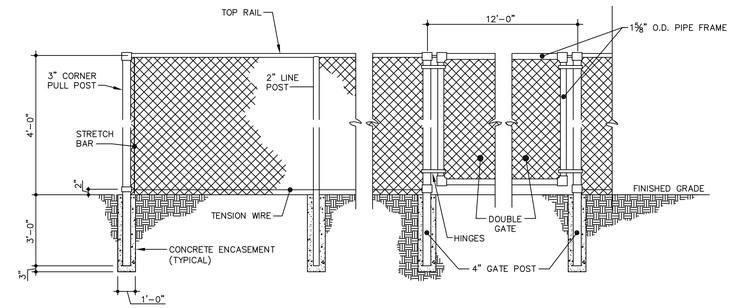
3. PRE–CONSTRUCTION FORESTRY REVIEW – LAYOUT OF SCOPE OF WORK, EXCAVATION AND EQUIPMENT CLEARANCE PRUNING REVIEW:

A. GENERAL: CONSTRUCTION/EXCAVATION LAYOUT – IN ORDER TO ASSESS AND RESOLVE CONSTRUCTION IMPACTS TO EXISTING TREES, THE LOCATION OF ALL PROPOSED CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE JOINTLY REVIEWED AT THE PROJECT/CONSTRUCTION SITE BY THE CITY FORESTER, PROJECT ENGINEER AND CONTRACTOR, PRIOR TO ANY CONSTRUCTION.

CONSTRUCTION PROCEDURES: FOR THE PURPOSES OF IDENTIFYING AND RESOLVING ANY CONFLICTS WITH EXISTING TREES, PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL TOUR THE JOB SITE WITH THE PROJECT ENGINEER, AND CITY FORESTER TO ASSESS AND RESOLVE CONSTRUCTION IMPACTS TO EXISTING TREES. LIMITS OF ALL CONSTRUCTION ACTIVITIES IN THE VICINITY OF EXISTING TREES INCLUDING ALL EXCAVATION SHALL BE IDENTIFIED AND MARKED IN THE FIELD PRIOR TO THE FORESTRY PRE–CONSTRUCTION REVIEW.

B. TREE PRUNING – GENERAL: EXISTING TREE LIMBS INDICATED TO REMAIN MIGHT OBSTRUCT CONSTRUCTION OPERATION. CONSTRUCTION PROCEDURES: ALL CLEARANCE PRUNING REQUIREMENTS NOT SPECIFICALLY INDICATED ON THE PLANS SHALL REQUIRE THE ISSUANCE OF A SEPARATE TREE WORK PERMIT. EQUIPMENT CLEARANCE AND PRUNING REQUIREMENTS, INCLUDING ANY SPECIAL CONDITIONS, WILL BE DETERMINED THROUGH A REQUIRED PRE–CONSTRUCTION REVIEW BETWEEN THE CONTRACTOR, EQUIPMENT OPERATOR, PROJECT ENGINEER AND CITY FORESTER.

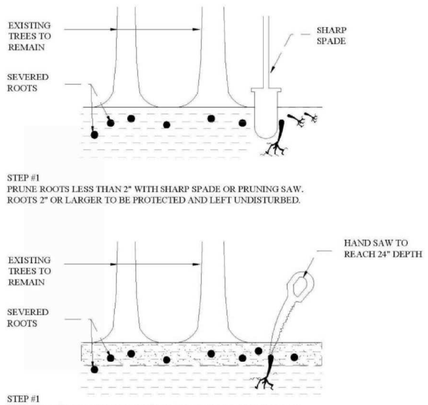
4. ROOT PRUNE:
GENERAL: THE PURPOSE FOR ROOT PRUNING OF EXISTING TREES ADJACENT TO CONSTRUCTION IS TO PROVIDE A CLEANER, MORE CONTROLLED CUT THAN IS NORMALLY ACCOMPLISHED BY CONVENTIONAL EXCAVATING MACHINES. ROOT PRUNING ALSO PROVIDES AN OPPORTUNITY FOR A FORESTRY ASSESSMENT OF ROOT DAMAGE/LOSS AND IMPACT OF ROOT PRUNING ON TREE HEALTH AND PUBLIC SAFETY.
CONSTRUCTION PROCEDURES: ROOT PRUNING, WHERE INDICATED, WITHIN THE CRITICAL ROOT ZONE, MAY BE ACCOMPLISHED WITH A ROCK SAW, CHAINSAW, HAND PRUNING SAW, SHARPENED TRENCHER, OR A MACHINE SPECIFICALLY DESIGNED FOR ROOT PRUNING (I.E. DOSCO RC14SP ROOT PRUNER), AS REQUIRED TO RESULT IN A SMOOTH, FLAT TRUNCATION OF THE ROOT. THE LOCATION OF THE CUT IS 6 INCHES OUTSIDE THE LIMITS OF THE EXCAVATION. LARGE ROOTS ENCOUNTERED THAT CANNOT BE SEVERED WITH ROOT PRUNING MACHINERY ARE TO BE HAND CUT WITH A SHARPENED PRUNING OR CHAIN SAW.



NOTES:
1. DOUBLE GATE SHALL HAVE A LOCKING MECHANISM, DROP ROD, AND TRUSS ROD.
2. ALL FENCE COMPONENT MATERIALS SHALL BE EITHER HOT DIPPED GALVANIZED STEEL OR IRON. FENCE FABRIC SHALL BE ALUMINUM COATED.

4 FT TALL CHAIN LINK FENCE AND GATE

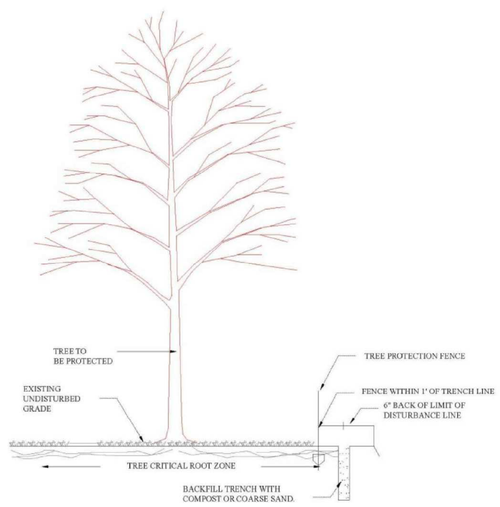
DETAIL C
NTS C–4



ROOT PRUNE HAND

City of Norfolk

NO SCALE



ROOT PRUNING

City of Norfolk

NO SCALE

TREE ROOT PRUNING

DETAIL B
NTS C–1

TABLE 3.31-B
(Revised June 2003)
TEMPORARY SEEDING SPECIFICATIONS
QUICK REFERENCE FOR ALL REGIONS

SEED

APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 -100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium 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.)

NOTE:
1 - 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

3.31 –TEMPORARY SEEDING

COMMONWEALTH OF VIRGINIA
ROBERT V. HOPPER III
Lic. No. 0402052824
10/27/15
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. HOPPER
DRAWN BY: M. KOSKI
SHEET CHK'D BY: J. POLZIN
CROSS CHK'D BY:
APPROVED BY: R. HOPPER
DATE: JUNE 2015

CDM Smith
CDM Smith, Inc.
5700 Thurston Avenue, Suite 102
Virginia Beach, VA 23455
Tel: (757) 318-9800

CITY OF NORFOLK, VIRGINIA
DEPARTMENT OF PUBLIC WORKS
JUVENILE DETENTION CENTER
WATER QUALITY IMPROVEMENTS PROJECT - WO15

CIVIL DETAILS II

PROJECT NO. 1589–100393
FILE NAME: C007ECDT.DWG
SHEET NO.
C-7

XREFs: [CDMS_2436] Images: [ernuton 12, ernuton 9, VA PE Seal Lic No 0402_ROBHOPPER_jpn]
Last saved by: HOPPERRV Time: 6/3/2015 5:09:36 PM
C:\cdmwm\hopperrv\d1386895\C007ECDT.dwg
© 2015 CDM SMITH. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.