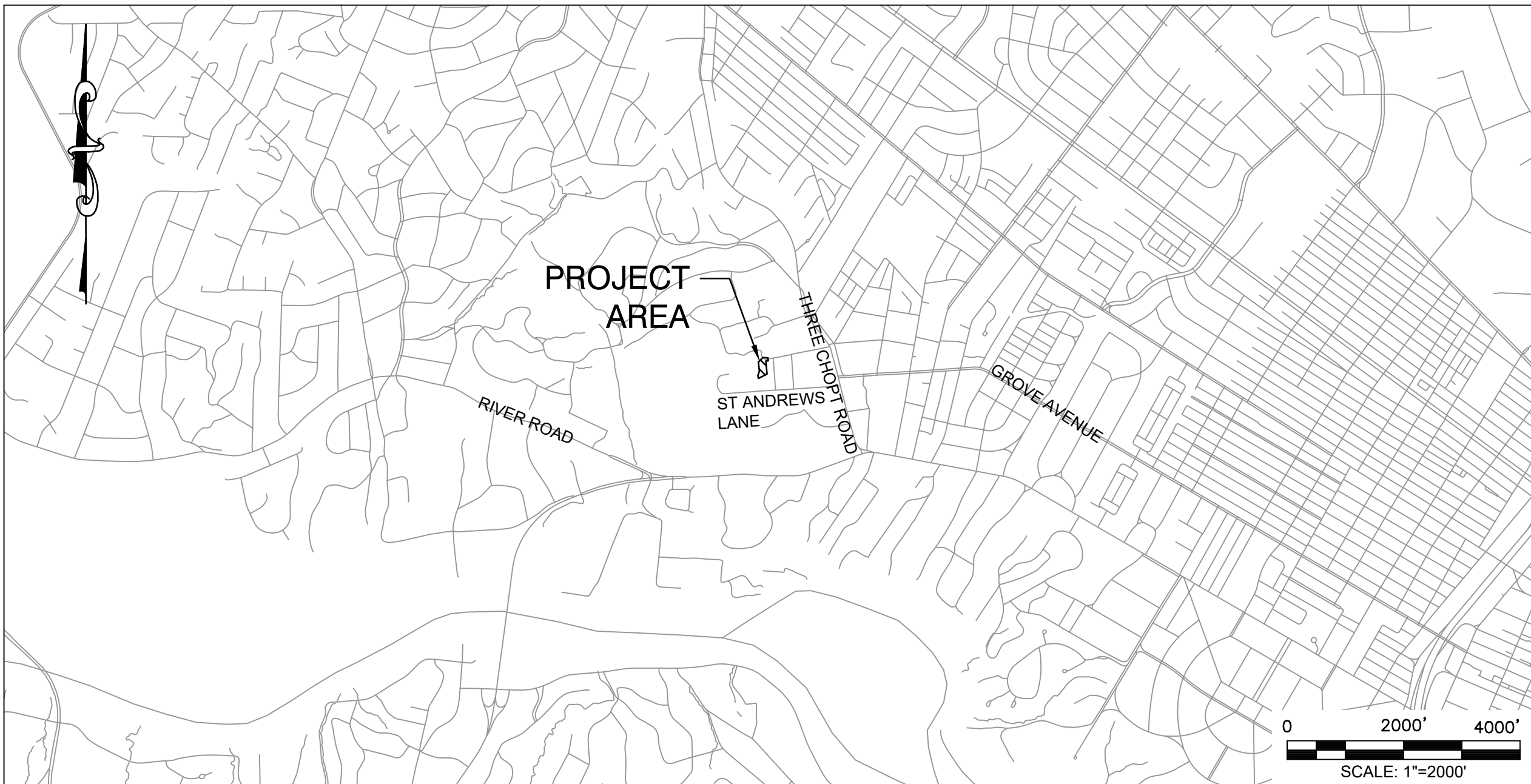


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Vicinity Map



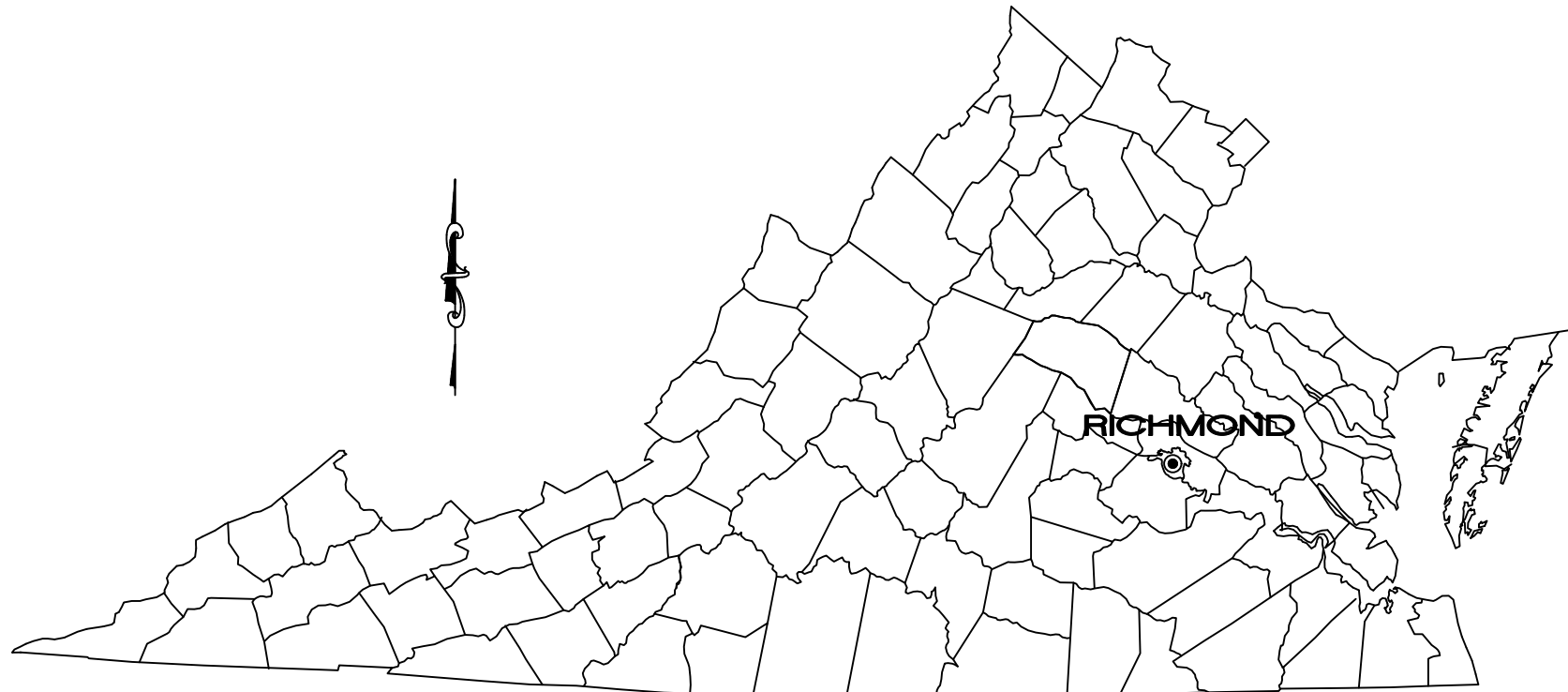
# ROBIN ROAD SEWER REPLACEMENT

Richmond, VA  
100% Submission

Client:  
City of Richmond  
Department of Public Utilities



Location Map



Project Information

THIS PROJECT INCLUDES PROVIDING MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO REPLACE EXISTING GRAVITY SANITARY SEWER AND ASSOCIATED MANHOLES ACROSS FOUR PROPERTIES: 4 ROBIN ROAD, 17 ROBIN ROAD, 6110 ST ANDREWS LANE, AND 6112 ST ANDREWS LANE. NEW SEWER INSTALLATION INCLUDES APPROXIMATELY 430 LINEAR FEET OF 8" DR26 PVC SEWER, AND 4 NEW MANHOLES.

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ROBIN ROAD  
SEWER REPLACEMENT  
DEPARTMENT OF PUBLIC UTILITIES  
RICHMOND, VA

SEAL



KEY PLAN

SCALE

No.	DATE	BY	Description

REVISIONS

DRAWN BY RPN

APPROVED BY HAC

CHECKED BY JEH

DATE JUNE 2022

TITLE

COVER  
SHEET

PROJECT NO. 50113238

T1

SHEET NO.



GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM WITH THE PROJECT BOOK FOR THE CAPITAL IMPROVEMENT PROJECTS ANNUAL SEWER REPAIR AND REPLACEMENT SERVICES CONTRACT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE CITY OF RICHMOND BEFORE BEGINNING WORK.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN EMPLOYEE WHO WILL BE IN RESPONSIBLE CHARGE FOR THE EROSION AND SEDIMENT CONTROL PLAN AND REQUIREMENTS FOR THE PROJECT THAT IS CERTIFIED BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AS A RESPONSIBLE LAND DISTURBER (RLD), THE NAME OF THE CONTRACTOR'S RLD AND COPY OF HIS CURRENT CERTIFICATION SHALL BE PROVIDED TO THE OWNER, ENGINEER AND THE CITY OF RICHMOND DEPARTMENT OF PUBLIC UTILITIES INSPECTOR PRIOR TO BEGINNING WORK.
4. ANY DEVIATIONS FROM THE APPROVED PLANS AND/OR STANDARDS AND SPECIFICATIONS MUST BE APPROVED BY THE ENGINEER IN WRITING, PRIOR TO THE START OF WORK.
5. THE LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS, OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONGS THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THESE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR SHALL BE LIABLE FOR ALL DAMAGE DONE TO ANY STRUCTURES OR PROPERTY THROUGH HIS NEGLIGENCE OR CARELESSNESS. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS IF THERE APPEARS TO BE A CONFLICT OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. CONTRACTOR SHALL CONTACT "MISS UTILITY" OF VIRGINIA AT 811 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
6. CONTRACTOR SHALL NOTIFY THE APPLICABLE DEPARTMENT PRIOR TO MAKING ANY ADJUSTMENTS TO THE UTILITIES OR WORK WITHIN THE CITY RIGHT-OF-WAY.
7. IF AN ELEVATION CONFLICT IS FOUND TO EXIST, CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE ANY WORK IS STARTED IN ORDER TO COORDINATE THE REMAINDER OF THE WORK TO BE DONE.
8. ELEVATIONS SHOWN ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM NAVD'83 AND HORIZONTAL DATUM NAD'83.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO EXISTING RESIDENCES AND BUSINESSES DURING CONSTRUCTION. WHEN SERVICES ARE TO BE INTERRUPTED FOR CUT-INS, PLUGGING, ABANDONMENT, ETC., CONTRACTOR SHALL NOTIFY THE CITY, THE AFFECTED PROPERTY OWNER, RESIDENCE, OR BUSINESS AS REQUIRED AND OUTLINED IN THE SPECIFICATIONS.
10. CONTRACTOR SHALL RESTORE GRADE TO PRE-CONSTRUCTION CONDITION UNLESS OTHERWISE NOTED ON THE PLANS.
11. CONTRACTOR SHALL RESTORE/REINSTALL ALL DRIVEWAYS, FENCES, LAWNS, LANDSCAPING, LIGHTS AND POWER POLES, ETC DISTURBED OR TEMPORARILY RELOCATED DURING WORK TO PRE-CONSTRUCTION CONDITIONS AT A MINIMUM.
12. THE WORK IN THIS CONTRACT WILL BE PERFORMED ADJACENT TO OVERHEAD POWER LINES. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR EQUIPMENT AND MATERIALS OR OTHER MEASURES AS REQUIRED FOR PROTECTION FROM INDUCED CURRENTS OR SHOCK HAZARD. CONTRACTOR SHALL MAINTAIN A MINIMUM 10' CLEARANCE FROM ELECTRICAL LINES AND COMPLY WITH THE VIRGINIA HIGH VOLTAGE SAFETY ACT.
13. 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 FLOWING STREAMS OR OFF-SITE PROPERTY.
14. TOPOGRAPHIC SURVEY, WAS PROVIDED BY H&B SURVEYING AND MAPPING, LLC DATED 4/5/2019 AND 9/9/2019.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING TEMPORARY BENCH MARKS (TBM'S) OUTSIDE THE EXPECTED LIMITS OF WORK AND INCIDENTAL TO OTHER PAY ITEMS.
16. REMOVAL OF ANY ITEM WITHIN THE LIMITS OF CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO EXCAVATION UNLESS PROVIDED FOR BY A SPECIFIC ITEM OF PAYMENT.

SUGGESTED SEQUENCE OF CONSTRUCTION

1. OBTAIN NECESSARY PERMITS.
2. SCHEDULE PRE-CONSTRUCTION MEETING WITH THE CITY OF RICHMOND PUBLIC UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES.
3. INSTALL EROSION AND SEDIMENT CONTROL MEASURES.
4. COMPLETE INSTALLATION OF 8" SEWER AND SEWER MANHOLE.
5. TEST NEW SEWER FACILITIES.
6. COMPLETE NECESSARY PROPERTY RESTORATION.
7. REMOVE EROSION AND SEDIMENT CONTROL MEASURES.

E&S NARRATIVE

**PROJECT DESCRIPTION**  
THE PROJECT INCLUDES PROVIDING MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO INSTALL APPROXIMATELY 430 LINEAR FEET OF 8" SEWER BEGINNING AT THE EXISTING MANHOLE NEAR 17 ROBIN ROAD. THE PROJECT INVOLVES THE INSTALLATION OF UNDERGROUND UTILITIES BENEATH EXISTING PVIOUS COVER THAT WILL BE RETURNED TO ITS PREDEVELOPMENT CONDITION AFTER COMPLETION OF CONSTRUCTION. THE PROJECT WILL DISTURB APPROXIMATELY 0.31 ACRES OF LAND.

**EXISTING SITE CONDITIONS**  
THE SITE IS LOCATED ALONG ROBIN ROAD WITHIN THE CITY OF RICHMOND, VA. STORMWATER RUNOFF FROM THE PROJECT IS GENERALLY CONVEYED BY OVERLAND FLOW AND ULTIMATELY FLOWS TO LITTLE WESTHAM CREEK. WETLANDS ARE NOT ANTICIPATED TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT. ACCORDING TO FEMA FLOODPLAIN MAP #5101290009D, THE SITE IS LOCATED WITHIN ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

**ADJACENT SITE**  
THE SITE WILL BE ACCESSED FROM ROBIN ROAD. ADJACENT PROPERTIES ARE NOT ANTICIPATED TO BE AFFECTED BY THIS PROJECT.

**OFF-SITE AREAS**  
OFF-SITE SOIL STOCKPILES AND BORROW AREAS ARE NOT ANTICIPATED FOR THIS PROJECT.

**SOILS**  
ACCORDING TO NATIONAL COOPERATIVE SOIL SURVEY BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, THE FOLLOWING SOILS MAY BE FOUND WITHIN THE PROJECT LIMITS:

16B	EDGEHILL-URBAN LAND COMPLEX, 2 TO 6 PERCENT SLOPES
41	URBAN LAND
44E	WATEREE-WEDOWEE COMPLEX, 20 TO 45 PERCENT SLOPES

**CRITICAL AREAS**  
THE PROJECT INVOLVES THE INSTALLATION OF UNDERGROUND UTILITIES BENEATH EXISTING PVIOUS COVER THAT WILL BE RETURNED TO ITS PREDEVELOPMENT CONDITION AFTER COMPLETION OF CONSTRUCTION. THE PROJECT DOES NOT HAVE ANY CRITICAL AREAS.

**EROSION AND SEDIMENT CONTROL MEASURES**  
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

STRUCTURAL PRACTICES

SILT FENCE (VESCH STD & SPEC 3.05):  
A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED. SILT FENCE IS INSTALLED TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE AND TO DECREASE THE VELOCITY OF SHEET FLOWS AND LOW-TO-MODERATE CHANNEL FLOWS.

ROCK CHECK DAM (VESCH STD & SPEC 3.20)  
A SMALL TEMPORARY STONE DAM CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH. ROCK CHECK DAMS ARE INSTALLED TO REDUCE THE VELOCITY OF CONCENTRATED STORMWATER FLOW, THEREBY REDUCING EROSION OF THE SWALE OR DITCH. THE ROCK CHECK DAM TRAPS SEDIMENT GENERATED FROM ADJACENT AREAS OR THE DITCH ITSELF, MAINLY BY PONDING STORMWATER RUNOFF.

**VEGETATIVE PRACTICES**  
TOPSOILING (STOCKPILE) - ONSITE STOCKPILES ARE NOT ANTICIPATED FOR THIS PROJECT.

TEMPORARY SEEDING (VESCH STD & SPEC 3.31):  
ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR PERIODS OF 14 DAYS TO ONE YEAR BY SEEDING WITH APPROPRIATE RAPIDLY-GROWING PLANTS. SELECTION OF THE APPROPRIATE SEED MIXTURE WILL DEPEND UPON THE TIME OF YEAR IT IS TO BE APPLIED.

PERMANENT SEEDING (VESCH STD & SPEC 3.32):  
AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENT AREAS SHALL BE SEEDED IN ACCORDANCE WITH THE PERMANENT SEEDING SCHEDULE SHOWN ON THE PLANS.

MULCHING (VESCH STD & SPEC 3.35):  
APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO DISTURBED SURFACES TO PREVENT EROSION AND REDUCE OVERLAND FLOW VELOCITIES. FOSTERS PLANT GROWTH BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION AGAINST EXTREME HEAT OR COLD. SHOULD BE APPLIED TO ALL SEEDING OPERATIONS. OTHER PLANT MATERIALS WHICH DO NOT PROVIDE ADEQUATE SOIL PROTECTION BY THEMSELVES, AND BARE AREAS WHICH CANNOT BE SEEDED DUE TO THE SEASON BUT WHICH STILL NEED PROTECTION TO PREVENT SOIL LOSS.

**PERMANENT STABILIZATION**  
THE SITE SHALL BE PERMANENTLY STABILIZED FOLLOWING CONSTRUCTION WITH PERMANENT SEEDING ACCORDING TO THE VESCH STD AND SPEC 3.32 AND THE PERMANENT SEEDING SCHEDULE FOR THE PIEDMONT AREA AS SHOWN ON THE PLANS. ESC MEASURES SHALL BE INSTALLED AND NO MORE THAN 500 LINEAR FEET OF TRENCH BE OPEN AT A GIVEN AREA OF CONSTRUCTION WITH STABILIZATION WITHIN SEVEN (7) DAYS OF THE AREA IMPACTED BY THE INSTALLATION OF THE SEWER. ALL DENUDED AREAS SHALL BE TEMPORARILY SEEDED AND STABILIZED WITHIN SEVEN (7) DAYS IN ACCORDANCE WITH MINIMUM STANDARD 16.

**STORMWATER RUN-OFF CONSIDERATIONS**  
THE PROJECT WILL DISTURB APPROXIMATELY 0.31 ACRES OF LAND, REQUIRING REMOVAL OF EXISTING TREES WITHIN THE PROPOSED PERMANENT UTILITY EASEMENT. THE PROJECT AREA WILL BE REPLACED WITH TURF IN KIND AND ALLOWED TO RETURN TO EXISTING CONDITIONS. THIS PROJECT DOES NOT RESULT IN SIGNIFICANT CHANGES TO THE PRE-DEVELOPMENT RUNOFF CHARACTERISTICS OF THE LAND SURFACE AFTER COMPLETION OF CONSTRUCTION AND FINAL STABILIZATION. ALL STORMWATER RUNOFF FROM THE PROJECT AREA WILL BE SHEET FLOW OR CONVEYED THROUGH EXISTING CHANNELS. THEREFORE, WATER QUANTITY AND QUALITY CONTROLS ARE NOT REQUIRED.

LINEAR UTILITY PROJECTS NOTES

NOTES FROM GUIDANCE MEMO NO. 15-2003: "POSTDEVELOPMENT STORMWATER MANAGEMENT IMPLEMENTATION GUIDANCE FOR LINEAR UTILITY PROJECTS UNDER THE VIRGINIA STORMWATER MANAGEMENT PROGRAM REGULATION, 9VAC25-870".

- UNDERGROUND LINEAR UTILITIES MAY BE CONSTRUCTED WITHOUT A VPDES PERMIT (GENERAL CONSTRUCTION PERMIT) PROVIDED THAT:
- THE PROJECT DOES NOT SIGNIFICANTLY ALTER THE PREDEVELOPMENT RUNOFF CHARACTERISTICS OF THE LAND SURFACE AFTER THE COMPLETIONS OF CONSTRUCTION AND FINAL STABILIZATION;
  - THE PROJECT IS MANAGED SO THAT LESS THAN ONE (1) ACRE OF LAND DISTURBANCE OCCURS ON A DAILY BASIS;
  - THE DISTURBED LAND WHERE WORK HAS BEEN COMPLETED IS ADEQUATELY STABILIZED ON A DAILY BASIS;
  - THE ENVIRONMENT IS PROTECTED FROM EROSION AND SEDIMENTATION DAMAGE ASSOCIATED WITH THE LAND-DISTURBING ACTIVITY
  - THE OWNER AND/OR CONSTRUCTION ACTIVITY OPERATOR SHALL DESIGN, INSTALL, IMPLEMENT, AND MAINTAIN POLLUTION PREVENTION MEASURES TO:
  - MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS.
  - MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTER, AND OTHER MATERIAL PRESENT ON-SITE TO PRECIPITATION AND TO STORMWATER.
  - MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES.
  - PROHIBIT THE DISCHARGE OF WASTEWATER FROM THE WASHOUT OF CONCRETE
  - PROHIBIT THE DISCHARGE OF WASTEWATER FROM THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS
  - PROHIBIT THE DISCHARGE OF FUELS, OILS, OR THE POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE.

EROSION AND SEDIMENT CONTROL MAINTENANCE

IN GENERAL, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED DAILY AND AFTER EACH RUNOFF PRODUCING RAINFALL. NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY. MAINTENANCE SHALL CONTINUE THE LENGTH OF THE PROJECT. EROSION AND SEDIMENT CONTROL MEASURES SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF CITY OF RICHMOND DPU INSPECTOR. THE FOLLOWING ITEMS SHALL BE CHECKED, CLEANED, AND REPAIRED IN PARTICULAR:

1. SILT FENCE BARRIER SHALL BE REPLACED IF IT HAS DECOMPOSED OR BECOME INEFFECTIVE. SEDIMENT DEPOSITS SHALL BE REMOVED
2. CHECK DAMS SHOULD BE CHECKED FOR SEDIMENT ACCUMULATION WHICH SHOULD BE REMOVED.
3. SEEDED AREAS SHALL BE CHECKED TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RE-SEEDED AS NEEDED.
4. MULCHED AREAS SHALL BE CHECKED FOR EROSION. ADDITIONAL MULCH SHALL BE APPLIED AS NEEDED.

EROSION AND SEDIMENT CONTROL SEQUENCE

1. ONCE RELEASED BY THE CITY OF RICHMOND FOR LAND DISTURBANCE AND PERMIT IS ISSUED TO THE PROJECT INSTALL SILT FENCE AS SHOWN ON THE PLANS.
2. INSTALL 8" PVC SEWER PER PLANS IN ACCORDANCE WITH MS-16.
3. INSTALL SEWER MANHOLE.
4. CLEAN ROAD SURFACE AT THE END OF EACH DAY PER MS-17.
5. IF DUST BECOMES A PROBLEM DURING CONSTRUCTION, DUST NUISANCE SHALL BE ABATED BY CLEANING, SWEEPING, SPRINKLING WITH WATER OR CALCIUM CHLORIDE. DUST SHALL BE CONTROLLED IN ACCORDANCE WITH THE VESCH STD AND SPEC 3.39 DUST CONTROL.
6. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
7. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES PER MS-18 FOLLOWING APPROVAL FROM ENVIRONMENTAL INSPECTOR.

MINIMUM STANDARDS

ALL VIRGINIA EROSION AND SEDIMENT CONTROL PLAN MINIMUM STANDARDS (MS-19) SHALL BE FOLLOWED BY THE CONTRACTOR FOR THIS PROJECT. THE FOLLOWING STANDARDS ARE OF PARTICULAR INTEREST AND RELEVANCE FOR THIS PROJECT.

MS-1: PERMANENT OF 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 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE 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, IN THE OPINION OF DCD/DSWC, 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 LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

MS-16: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

A. NO MORE THAN 200 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 OPERATIONS 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 OFF-SITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

E. RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER.

F. APPLICABLE SAFETY REQUIREMENTS 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 TRUCKING 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 IS 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 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

GENERAL E&S CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, 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 (9VAC25-840) EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN-APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OPEN BORROW OR SMALL STOCKPILES), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN-APPROVING AUTHORITY.

ES-6: 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.

ES-7: 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.

ES-8: DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT 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.

ES-10: THE CONTRACTOR IS RESPONSIBLE FOR THE DAILY REMOVAL OF SEDIMENT THAT HAS BEEN TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE.

ES-11: SEEDING OPERATIONS SHALL BE INITIATED WITHIN 7 DAYS AFTER REACHING FINAL GRADE OR UPON SUSPENSION OF GRADING OPERATIONS FOR ANTICIPATED DURATION OF GREATER THAN 30 DAYS OR UPON COMPLETION OF GRADING OPERATIONS FOR A SPECIFIC AREA.

ES-12: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS, OR HARM ANIMAL OR PLANT LIFE.

ABBREVIATIONS

AC	ACRE	N	NORTH / NORTHING
AD	APPROXIMATE DIRECTION	NAD	NORTH AMERICAN DATUM
APR	APRIL	NAVD	NORTH AMERICAN VERTICAL DATUM
AUG	AUGUST	NGS	NATIONAL GEODETIC SURVEY
AVE	AVENUE	NO#	NUMBER
BLVD	BOULEVARD	NTS	NOT TO SCALE
BM	BASE MIX	NW	NORTHWEST
CBPA	CHESAPEAKE BAY PRESERVATION AREA	OD	OUTER DIAMETER
CI	CAST IRON	PG	PAGE
CIPP	CURED-IN-PLACE PIPE	PVC	POLYVINYL CHLORIDE
CMU	CONCRETE MASONRY UNIT	RCP	REINFORCED CONCRETE PIPE
CONC	CONCRETE	RD	ROAD
CORS	CONTINUALLY OPERATING REFERENCE STATION	RLD	RESPONSIBLE LAND DISTURBER
CU	CUBIC	R/W	REAL TIME KINEMATIC
DB	DEED BOOK	R/W	RIGHT OF WAY
DI	DUCTILE IRON	S	SOUTH
DIA	DIAMETER	SE	SOUTHEAST
DPU	DEPARTMENT OF PUBLIC UTILITIES	SEPT	SEPTEMBER
DPW	DEPARTMENT OF PUBLIC WORKS	SPEC	SPECIFICATION
DSWC	DIVISION OF SOIL AND WATER CONSERVATION	SQ	SQUARE
E	EAST / EASTING	ST	STREET
EA	EACH	STA	STATION
EL	ELEVATION	STD	STANDARD
E&S	EROSION AND SEDIMENT	SY	SQUARE YARD
EX	EXISTING	TBM	TEMPORARY BENCH MARK
(F)	FOUND	TC	TERRA COTTA
FEB	FEBRUARY	TH	TEST HOLE
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	T/P	TOP OF PIPE
FT	FEET	UNK	UNKNOWN
GIS	GEOGRAPHIC INFORMATION SYSTEM	VA	VIRGINIA
GPS	GLOBAL POSITIONING SYSTEM	VCIA	VIRGINIA CROP IMPROVEMENT ASSOCIATION
ID	IDENTIFICATION	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
INC	INCORPORATED	VESCH	VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK
INST	INSTRUMENT	VESCP	VIRGINIA EROSION AND SEDIMENT CONTROL PROGRAM
INV	INVERT	VSMP	VIRGINIA STORMWATER MANAGEMENT PROGRAM
LBS	POUNDS	W	WEST
LF	LINEAR FEET	YDS	YARDS
LLC	LIMITED LIABILITY COMPANY	&	AND
MAX	MAXIMUM	@	AT
MH	MANHOLE	¢	CENTER LINE
MIN	MINIMUM	%	PERCENT
MS	MINIMUM STANDARD	±	PLUS OR MINUS

LEGEND

EXISTING	PROPOSED
SURVEY CONTROL POINT	SEWER MANHOLE
CABLE PEDESTAL	SANITARY SEWER
ELECTRICAL BOX	SEWER TO BE ABANDONED
ELECTRIC METER	
POWER CONDUIT	
GATE POST	
GAS METER	
RTK GPS CONTROL	
GUY WIRE ANCHOR	
GAS VALVE	
HVAC	
IRRIGATION VALVE	
MAIL BOX	
ROD FOUND	
MONUMENT FOUND	
POST	
POWER POLE	
SPRINKLER HEAD	
WATER SPIGOT	
WATER METER	
DECIDUOUS TREE	
EVERGREEN TREE	
SHRUB	
SANITARY MANHOLE	
SANITARY CLEANOUT	
LANDSCAPED AREA	
APPROXIMATE DIRECTION	
EDGE OF PAVEMENT	
FENCE	
OVERHEAD ELECTRIC	
OVERHEAD UTILITY	
PAINTED UNDERGROUND GAS	
PAINTED UNDERGROUND TELEPHONE	
PAINTED UNDERGROUND WATER	
BUILDING	
BRICK	

E&S CONTROL LEGEND

LOD	LIMITS OF DISTURBANCE	CHECK DAM	CD	TEMPORARY SEEDING	TS
X-X-X	SILT FENCE	MULCHING	MU	PERMANENT SEEDING	PS

SURVEY NOTES

1. INVERTS FOR PIPES AND STRUCTURES SHOWN HEREON ARE BASED ON FIELD MEASUREMENTS, HOWEVER THEY SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.
2. PIPE SIZES, MATERIAL TYPE AND INVERT ELEVATIONS AS INDICATED ARE BASED UPON OBSERVATIONS MADE ABOVE GROUND. NO MEASUREMENTS HAVE BEEN PERFORMED BY PERSONNEL IN A CONFINED SPACE SITUATION.
3. EXISTING GROUND SURFACE LOCATION PERFORMED BY CONVENTIONAL INSTRUMENT SURVEY.
4. HORIZONTAL (NAD'83) AND VERTICAL (NAVD'88) DATUM ESTABLISHED THROUGH REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS ON APRIL 10, 2019. DIFFERENTIAL CORRECTIONS WERE DERIVED FROM NATIONAL GEODETIC SURVEY (NGS) CONTINUALLY OPERATING REFERENCE STATION (CORS) "VAAD". COORDINATE VALUES, IF SHOWN HEREON, ARE BASED ON VIRGINIA STATE GRID, SOUTH ZONE.
5. UNDERGROUND UTILITIES WERE DESIGNATED (PAINTED) BY ACCUMARK ON APRIL 01, 2019. H & B SURVEYING AND MAPPING, LLC HAS FIELD LOCATED THE DESIGNATED LINES AS PAINTED AND IS NOT RESPONSIBLE FOR THE ACCURACY OF THE PAINT DESIGNATION WITH RESPECT TO THE EXISTING UTILITY. UTILITY INFORMATION ON THIS DRAWING WILL NEED TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION. INDIVIDUALS ARE REQUIRED BY VIRGINIA LAW TO CONTACT MISS UTILITY OF VIRGINIA AT 1-800-552-7001 (OR 811) 2 BUSINESS DAYS (48 HOURS) PRIOR TO CONSTRUCTION OR EXCAVATION ACTIVITIES.
6. THE PROPERTY SHOWN HEREON FALLS IN THE FOLLOWING FLOOD HAZARD ZONE: "X"(UNSHADED)-AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN;THE APPROXIMATE BOUNDARY LIMITS OF THESE AREAS ARE SHOWN GRAPHICALLY, IF THEY FALL WITHIN THE LIMITS OF THIS SURVEY, AS SCALED FROM FEMA FLOOD INSURANCE RATE MAP, MAP NUMBER 5101290009D, REVISED DATE: APRIL 02, 2009.
7. PROPERTY LINES SHOWN HEREON ARE TAKEN FROM COURT HOUSE RECORDS, EVIDENCE OF MONUMENTATION AND OCCUPATION FOUND IN THE FIELD. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT, THEREFORE ALL EASEMENTS MAY NOT BE SHOWN ON THIS SURVEY.
8. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF ALISON W. HANSON, LS FROM AN ACTUAL GROUND SURVEY MADE UNDER HER SUPERVISION. THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON APRIL 15, 2019 & SEPTEMBER 09, 2019. THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.



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ROBIN ROAD  
SEWER REPLACEMENT  
DEPARTMENT OF PUBLIC UTILITIES  
RICHMOND, VA

SEAL



KEY PLAN

SCALE


No.	DATE	BY	Description
REVISIONS			

DRAWN BY	RPN
APPROVED BY	HAC
CHECKED BY	JEH
DATE	JUNE 2022
TITLE	

GENERAL NOTES, E&S NARRATIVE & LEGEND

PROJECT NO. 50113238

C1

SHEET NO.





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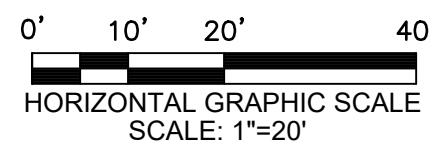
ROBIN ROAD  
SEWER REPLACEMENT  
DEPARTMENT OF PUBLIC UTILITIES  
RICHMOND, VA

SEAL



KEY PLAN

SCALE



No.	DATE	BY	Description

REVISIONS	
DRAWN BY	RPN
APPROVED BY	HAC
CHECKED BY	JEH
DATE	JUNE 2022
TITLE	

KEY PLAN

PROJECT NO. 50113238

C2

SHEET NO.



PROPOSED STRUCTURES			
ID NO.	ID TYPE	NORTHING	EASTING
S1	48" DIA MANHOLE	3733780.66	11764464.14
S2	48" DIA MANHOLE	3733638.87	11764484.43

1. CONTRACTOR SHALL KEEP ALL SURROUNDING ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES.
2. CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER AND ENGINEER ANY UNFORESEEN OR ADVERSE CONDITIONS DISCOVERED DURING DEMOLITION OPERATIONS.
3. MANHOLE CONE SHALL BE ROTATED SO THAT THE MANHOLE FRAME AND COVER OPENING IS CENTERED OVER THE SEWER MAIN TO ALLOW EASY OBSERVATION OF MAIN FLOW WHEN COVER IS REMOVED.
4. ALL TREES & PLANTINGS LOCATED IN THE PERMANENT EASEMENT SHALL BE REMOVED TO COMPLETE WORK. TREES & PLANTINGS LOCATED IN TEMPORARY EASEMENT MAY NEED TO BE REMOVED TO COMPLETE WORK. TREES SHALL NOT BE REPLANTED WITHIN THE LINES OF THE PERMANENT EASEMENT. SHORT EASEMENT ROW ROTATED SHRUBS CAN BE REMOVED AND REPLANTED OR REPLANTED OUTSIDE. CONTRACTOR CAN ASSIST PROPERTY OWNER WITH REPLACING TREES OUTSIDE PERMANENT EASEMENT.
5. CITY HAS APPROVED THE USE OF MANHOLES WITHOUT CONSHIELD FOR THIS PROJECT GIVEN IMMEDIATE AVAILABILITY OF MANHOLES IN STOCK WITHOUT CONSHIELD AND THE EMERGENCY NATURE TO COMPLETE WORK AS SOON AS POSSIBLE TO ADDRESS A SUSPECTED SEWER COLLAPSE AND RESULTING SINK HOLE IDENTIFIED ON 17 ROBIN ROAD. PROPERTY THE WEEK OF JUNE 13, 2022.
6. A) CONTRACTOR SHALL VERIFY ACTIVITY OF ANY SEWER SERVICES ENCOUNTERED.  
B) CONTRACTOR SHALL REPLACE ACTIVE SERVICES AND INSTALL CLEANOUTS ON THE PERMANENT EASEMENT LINE OR AS DIRECTED BY THE CITY.

1. INSTALL 8" DR26 PVC SANITARY SEWER.
2. REPLACE EXISTING SEWER WITH 8" DR26 PVC SANITARY SEWER.
3. INSTALL 48" DIAMETER SEWER MANHOLE.
4. REPLACE EXISTING MANHOLE WITH 48" DIAMETER SEWER MANHOLE.
5. ON THE EXISTING SMALL, VERIFY DEPTH AND LOCATION OF EXISTING UTILITIES AND SHALL PROTECT THE EXISTING TELEPHONE, WATER SERVICE, AND GAS LINE DURING INSTALLATION OF NEW MANHOLES AND SEWER.
6. ABANDON EXISTING 8" SEWER PIPE WITH FLOWABLE FILL.
7. CONNECT TO EXISTING SANITARY MANHOLE.
8. RESTORATION TO PREVENT FURTHER STORMWATER EROSION ABOVE SANITARY SEWER.
9. RE-BE NEGOTIATED WITH PROPER AGENCIES TO RE-ESTABLISH EXISTING BENCH.
9. RESHAPE BENCH AND FLOW CHANNEL, AND REHABILITATE MANHOLE.
10. REPLACE DRIVEWAY PAVEMENT TO RESTORE ANTICIPATED DAMAGE CAUSED BY CONSTRUCTION VEHICLES/EQUIPMENT.

MH #1144	MH #1146
RIM=237.69'	RIM = 240.19
INV. IN = 227.69' (8" CONC PIPE FROM #1143)	INV. IN = 232.89 (8" PVC FROM 1769)
INV. IN = 229.72' (8" CONC PIPE FROM #1145)	INV. IN = 230.19 (6" PVC FROM A.D.)
INV. OUT= 227.39' (8" CONC. PIPE TO POSSIBLE	INV. OUT = 230.89 (8" CONC PIPE TO 1145)
PAVED OVER MH #1190)	
	MH #1769
MH #1145	RIM = 236.97
RIM = 236.66	NO PIPES VISIBLE
INV. IN = 232.98 (6" CONC PIPE FROM A.D.)	(SURCHARGED WITH SANITARY WASTE)
INV. IN = 230.30 (8" CONC PIPE FROM 1146)	
INV. OUT = 230.27 (8" CONC PIPE TO 1144)	



Profile view of a sewer line showing elevations, stationing, and manhole details.

**Vertical Axis (Elevations):** 225, 230, 235, 240.

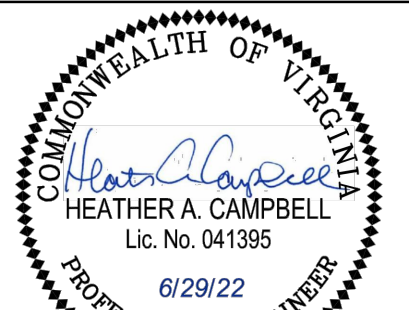
**Horizontal Axis (Stationing):** 9+75, 10+00, 11+00, 12+00, 12+50.

**Key Features and Data:**

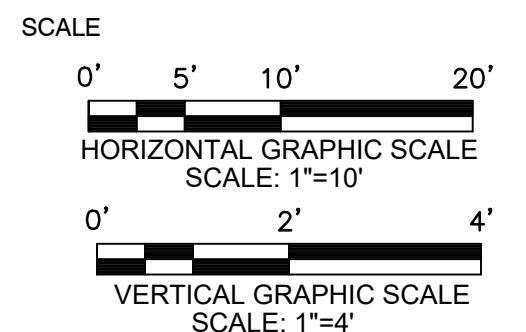
- Existing Grade:** Indicated by a dashed line.
- Proposed Sewer Line:** 8" DR26 PVC, 143' @ 0.40% slope.
- Manholes:**
  - STA 10+00: 11.45' 48" DIA MANHOLE, RIM=235.05', INV IN=230.30' (S).
  - STA 10+50: 11.46' 48" DIA MANHOLE, RIM=240.19', INV IN=230.99' (SE), INV IN=233.19' (SW), INV OUT=230.89' (N).
  - STA 10+68: 11.46' 48" DIA MANHOLE, RIM=242.78', INV IN=231.17' (S), INV OUT=231.07' (NW).
  - STA 12+12: 12.48' DIA MANHOLE, RIM=235.97', INV IN=231.64' (SW), INV OUT=231.74' (N).
- Notes:**
  - 8" CONC 48" @ 1.23% (between STA 10+00 and STA 10+50).
  - EX UNDERGROUND GAS APPROXIMATE LOCATION DEPTH UNKNOWN.
  - EX UNDERGROUND WATER APPROXIMATE LOCATION DEPTH UNKNOWN.
  - EX TELEPHONE LINE APPROXIMATE LOCATION DEPTH UNKNOWN.
  - INCOMING PIPES FROM EXISTING SEWER MAIN AT EXISTING INVERT IN.



SEAL



### KEY PLAN



No.	DATE	BY	Description

## PLAN & PROFILE

PROJECT NO. 50113238

# C3

SHEET NO.



PROPOSED STRUCTURES			
ID NO.	ID TYPE	NORTHING	EASTING
S3	48" DIA MANHOLE	3733574.61	11764394.88
S4	48" DIA MANHOLE	3733637.85*	11764251.23*

## GENERAL NOTES

- ## CONSTRUCTION NOTES

- ## EXISTING STRUCTURES

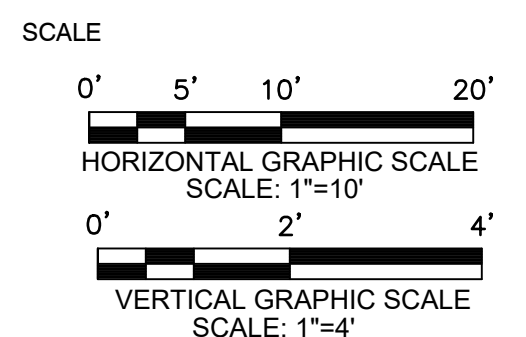
## 8" SEWER PROFILE



ROBIN ROAD  
SEWER REPLACEMENT  
DEPARTMENT OF PUBLIC UTILITIES  
RICHMOND, VA



## KEY PLAN



No.	DATE	BY	Description
REVISIONS			

DRAWN BY	RPN
APPROVED BY	HAC
CHECKED BY	JEH
DATE	JUNE 2022
TITLE	

## PLAN & PROFILE

PROJECT NO. 50113238

# C4

SHEET NO.



E

D

C

B

A

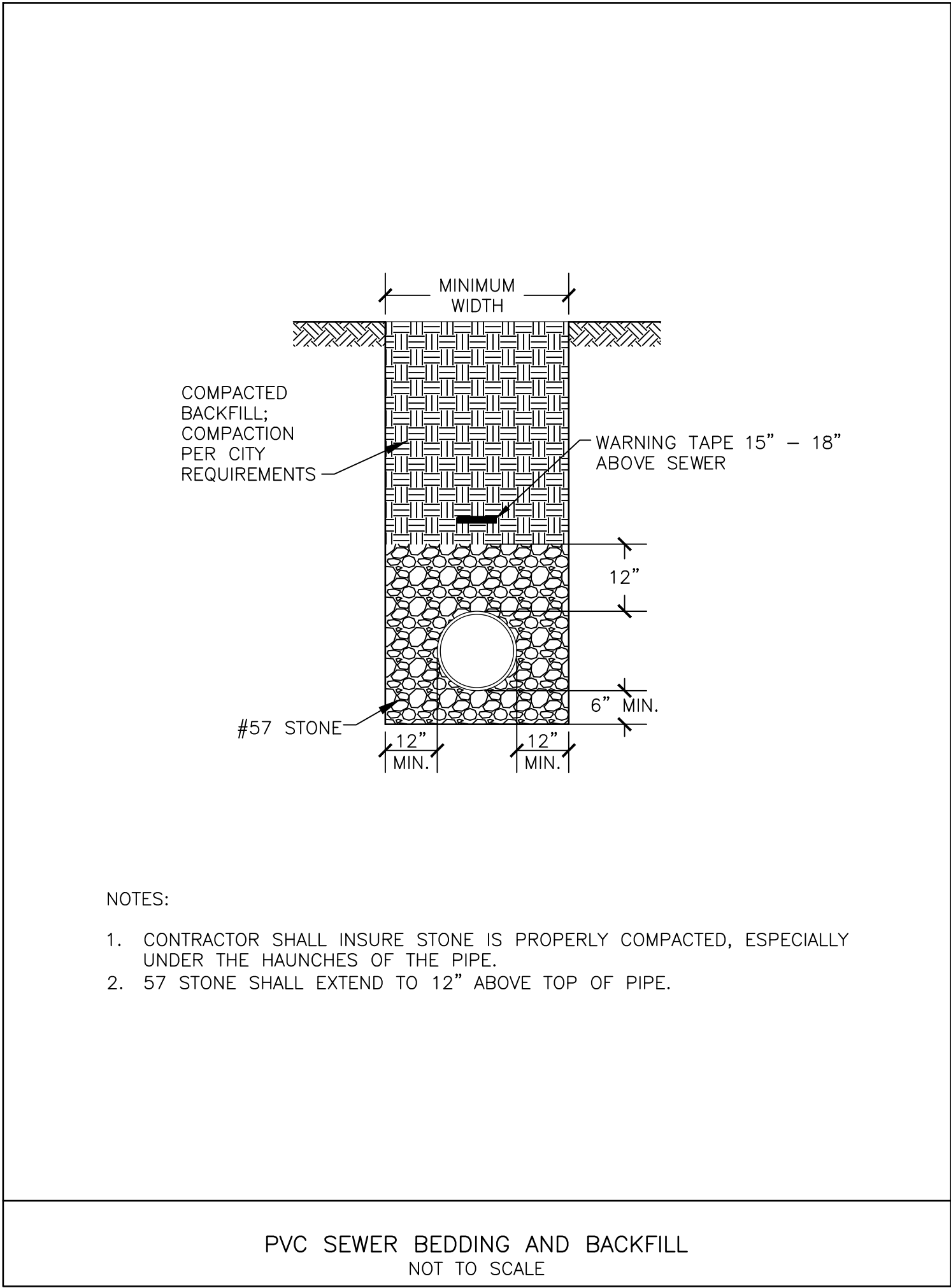
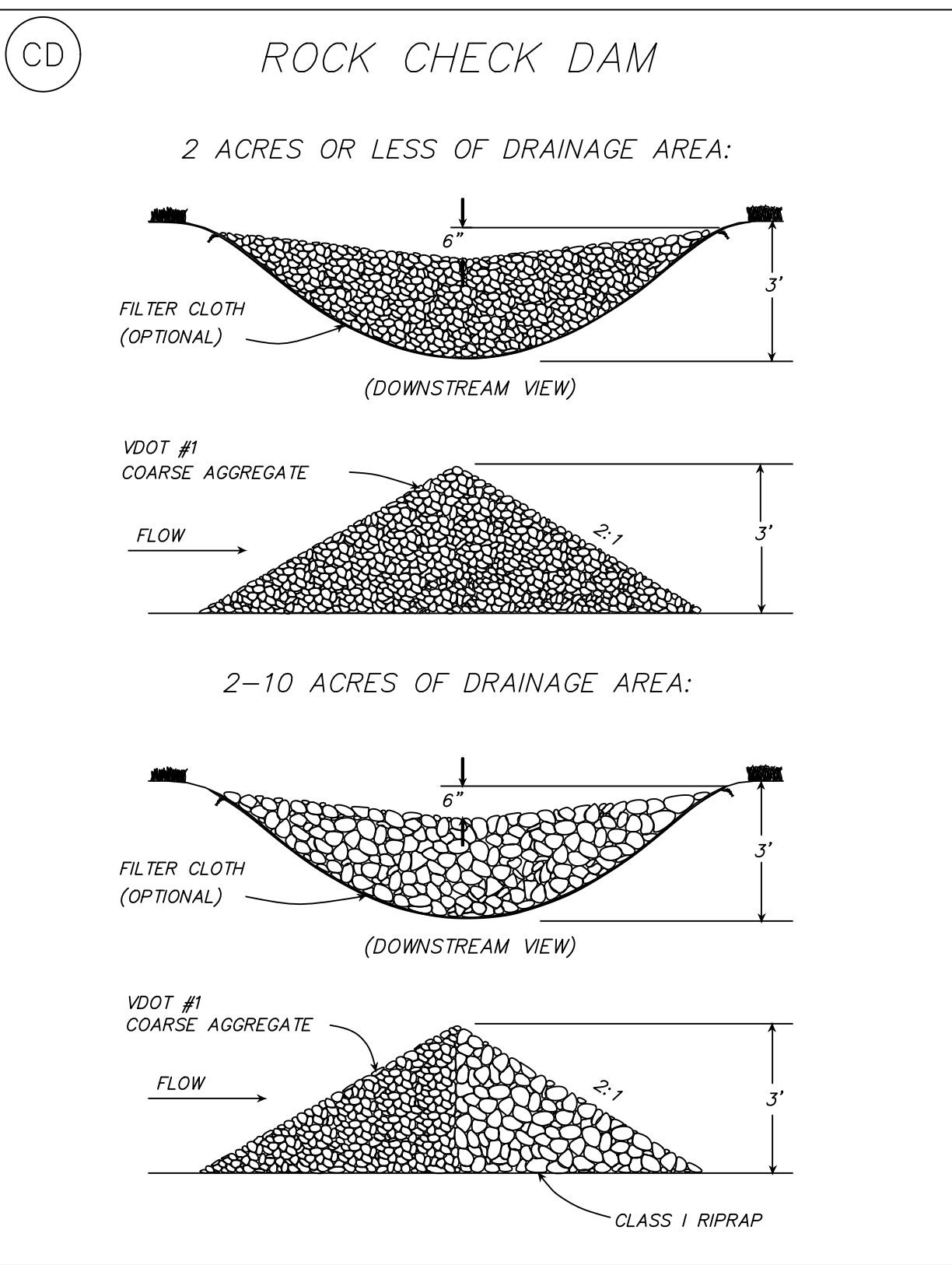


TABLE 3.35-A ORGANIC MULCH MATERIALS AND APPLICATION RATES			
MULCHES:	RATES:		NOTES:
	PER ACRE	PER 1000 SQ FT	
STRAW OR HAY	1½ - 2 TONS (MINIMUM 2 TONS FOR WINTER COVER)	70-90 LBS	FREE FROM WEEDS AND COARSE MATTER. MUST BE ANCHORED. SPREAD WITH MULCH BLOWER OR BY HAND.
FIBER MULCH	MINIMUM 1500 LBS	35 LBS	DO NOT USE AS MULCH FOR WINTER COVER OR DURING HOT, DRY PERIODS.* APPLY AS SLURRY.
CORN STALKS	4 - 6 TONS	185-275 LBS	CUT OR SHREDDED IN 4-6" LENGTHS. AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER OR BY HAND.
WOOD CHIPS	4 - 6 TONS	185-275 LBS	FREE OF COARSE MATTER. AIR-DRIED. TREAT WITH 12 LBS NITROGEN PER TON. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.
BARK CHIPS OR SHREDDED BARK	50 - 70 CU YDS	1-2 CU YDS	FREE COARSE MATTER. AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.

\* WHEN FIBER MULCH IS THE ONLY AVAILABLE MULCH DURING PERIODS WHEN STRAW SHOULD BE USED, APPLY AT A MINIMUM RATE OF 2000 LBS/AC OR 45 LBS/1000 SQ FT.



SEED <sup>1</sup>		
LAND USE	SPECIES	APPLICATION PER ACRE
MINIMUM CARE LAWN (COMMERCIAL OR RESIDENTIAL)	TALL FESCUE <sup>1</sup>	95-100%
	PERENNIAL RYEGRASS	0-5%
	KENTUCKY BLUEGRASS <sup>1</sup>	0-5%
	TOTAL:	175-200 LBS
HIGH-MAINTENANCE LAWN	TALL FESCUE <sup>1</sup>	TOTAL: 200-250 LBS
GENERAL SLOPE (3:1 OR LESS)	TALL FESCUE <sup>1</sup>	128 LBS
	RED TOP GRASS OR CREEPING	2 LBS
	RED FESCUE	20 LBS
	SEASONAL NURSE CROP <sup>2</sup>	20 LBS
LOW MAINTENANCE SLOPE (STEEPER THAN 3:1)	TALL FESCUE <sup>1</sup>	108 LBS
	RED TOP GRASS OR CREEPING	2 LBS
	RED FESCUE	20 LBS
	SEASONAL NURSE CROP <sup>2</sup>	20 LBS
	CROWNVELTCH <sup>3</sup>	20 LBS
	TOTAL:	150 LBS

1-WHEN SELECTING VARIETIES OF TURFGRASS, USE THE VIRGINIA CROP IMPROVEMENT ASSOCIATION (VCIA) RECOMMENDED TURFGRASS VARIETY LIST. QUALITY SEED WILL BEAR A LABEL INDICATING THAT THEY ARE APPROVED BY VCIA. A CURRENT TURFGRASS VARIETY LIST IS AVAILABLE AT THE LOCAL COUNTY EXTENSION OFFICE OR THROUGH VCIA AT 804.746.4884 OR AT [HTTP://SUDAN.CSES.VT.EDU/HTML/TURF/TURF/PUBLICATIONS/PUBLICATIONS2.HTML](http://sudan.cses.vt.edu/html/turf/turf/publications/publications2.html)

2-USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:

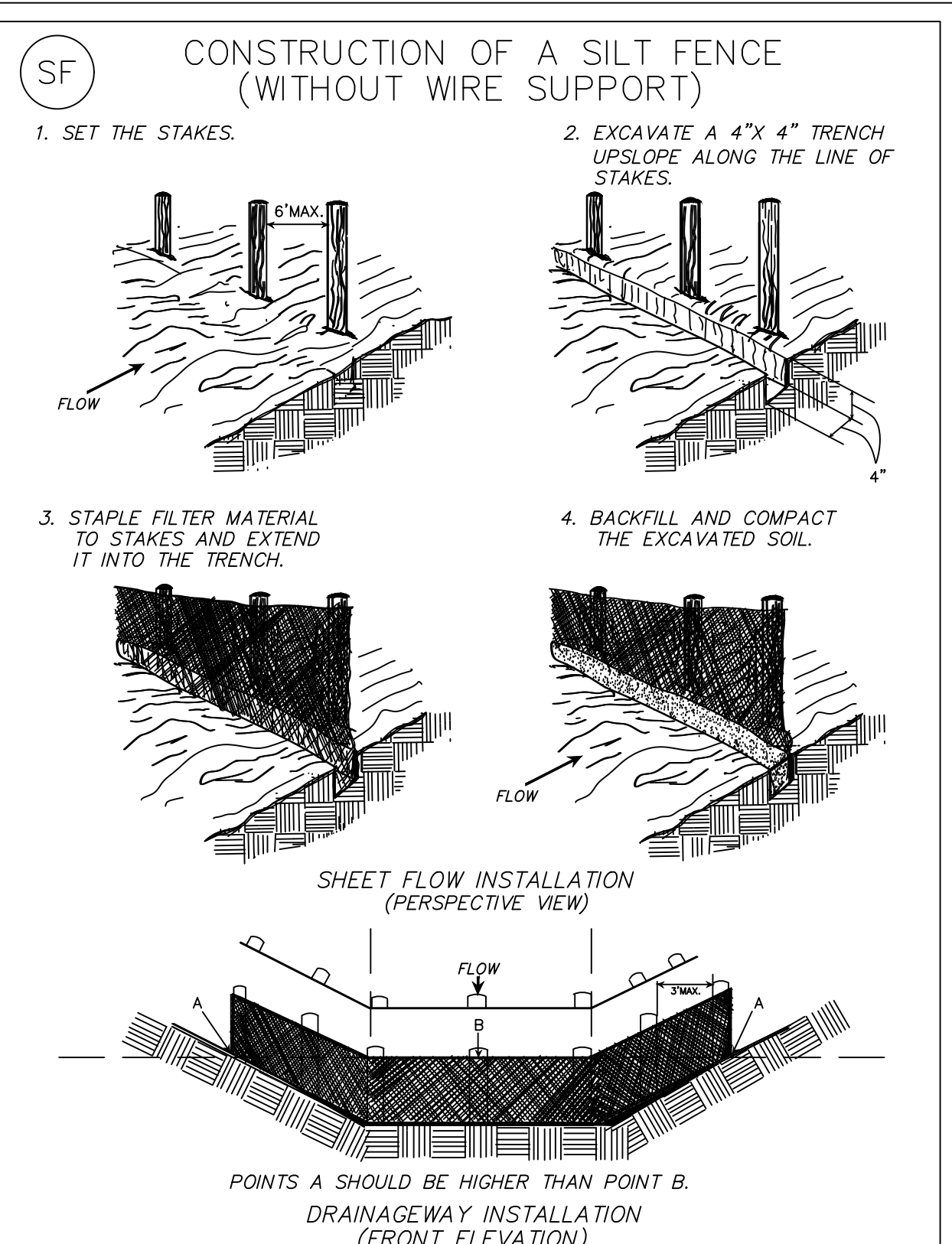
FEBRUARY 16 - APRIL 30..... ANNUAL RYE  
MAY 1 - AUGUST 15..... FOXTAIL MILLET  
AUGUST 16 - OCTOBER 31..... ANNUAL RYE  
NOVEMBER 1 - FEBRUARY 15..... WINTER RYE

3-SUBSTITUTE SERICEA LESPEDEZA FOR CROWNVELTCH EAST OF FARMVILLE, VA (MAY THROUGH SEPTEMBER USE HULLED SEED, ALL OTHER PERIODS, USE UNHULLED SERICEA). IF FLATPEA IS USED, INCREASE RATE TO 30 LBS/ACRE. IF WEEPING LOVEGRASS IS USED, INCLUDE IN ANY SLOPE OR LOW MAINTENANCE MIXTURE DURING WARMER SEEDING PERIODS, INCREASE TO 30-40 LBS/ACRE.

FERTILIZER & LIME	
<ul style="list-style-type: none"><li>• APPLY 10-20-10 FERTILIZER AT A RATE OF 500 LBS/ACRE (OR 12 LBS/1,000 SQ FT)</li><li>• APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS/1,000 SQ FT)</li></ul>	
NOTES: 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 NO 4, NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT: <a href="http://www.deq.virginia.gov/portals/0/deq/water/publications/esctechnicalbulletin4.pdf">HTTP://WWW.DEQ.VIRGINIA.GOV/PORTALS/0/DEQ/WATER/PUBLICATIONS/ESCTEchnicalbulletin4.pdf</a> .	

PS PERMANENT SEEDING SPECIFICATIONS FOR PIEDMONT AREA

TABLE 3.32-D  
(REVISED JUNE 2003)



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	
<ul style="list-style-type: none"><li>• APPLY 10-10-10 FERTILIZER AT A RATE OF 450 LBS/ACRE (OR 10 LBS/1,000 SQ FT)</li><li>• APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS/1,000 SQ FT)</li></ul>	
NOTES: 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, NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT: <a href="http://www.deq.virginia.gov/portals/0/deq/water/publications/esctechnicalbulletin4.pdf">HTTP://WWW.DEQ.VIRGINIA.GOV/PORTALS/0/DEQ/WATER/PUBLICATIONS/ESCTEchnicalbulletin4.pdf</a> .	

TEMPORARY SEEDING SPECIFICATIONS QUICK REFERENCE FOR ALL REGIONS

TABLE 3.31-B  
(REVISED JUNE 2003)

TS

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ROBIN ROAD  
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DEPARTMENT OF PUBLIC UTILITIES  
RICHMOND, VA



KEY PLAN

SCALE

No.	DATE	BY	Description

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TITLE	

PROJECT NO. 50113238

SHEET NO.

DETAILS

C5