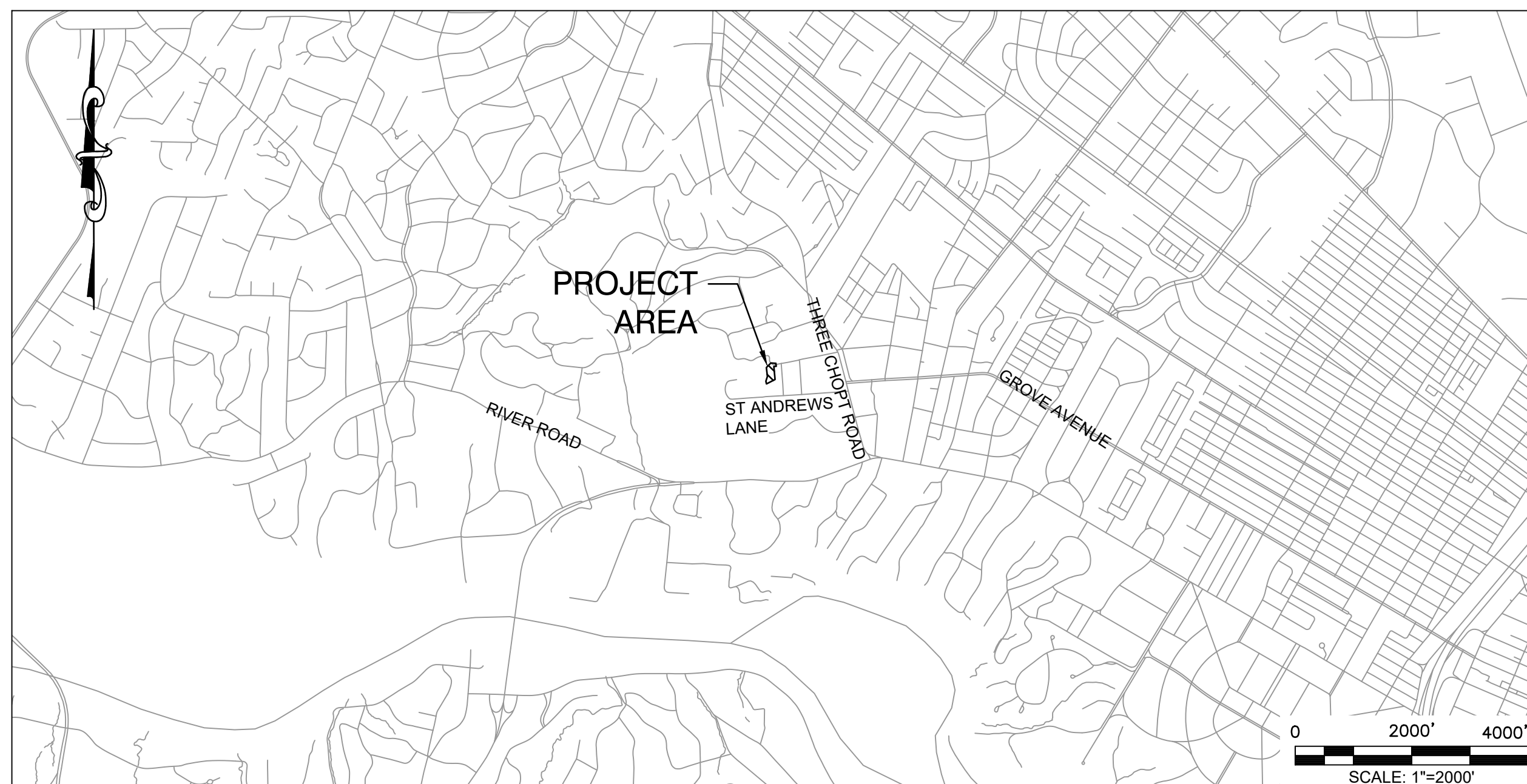


Drawing Index

SHEET # TITLE

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Vicinity Map



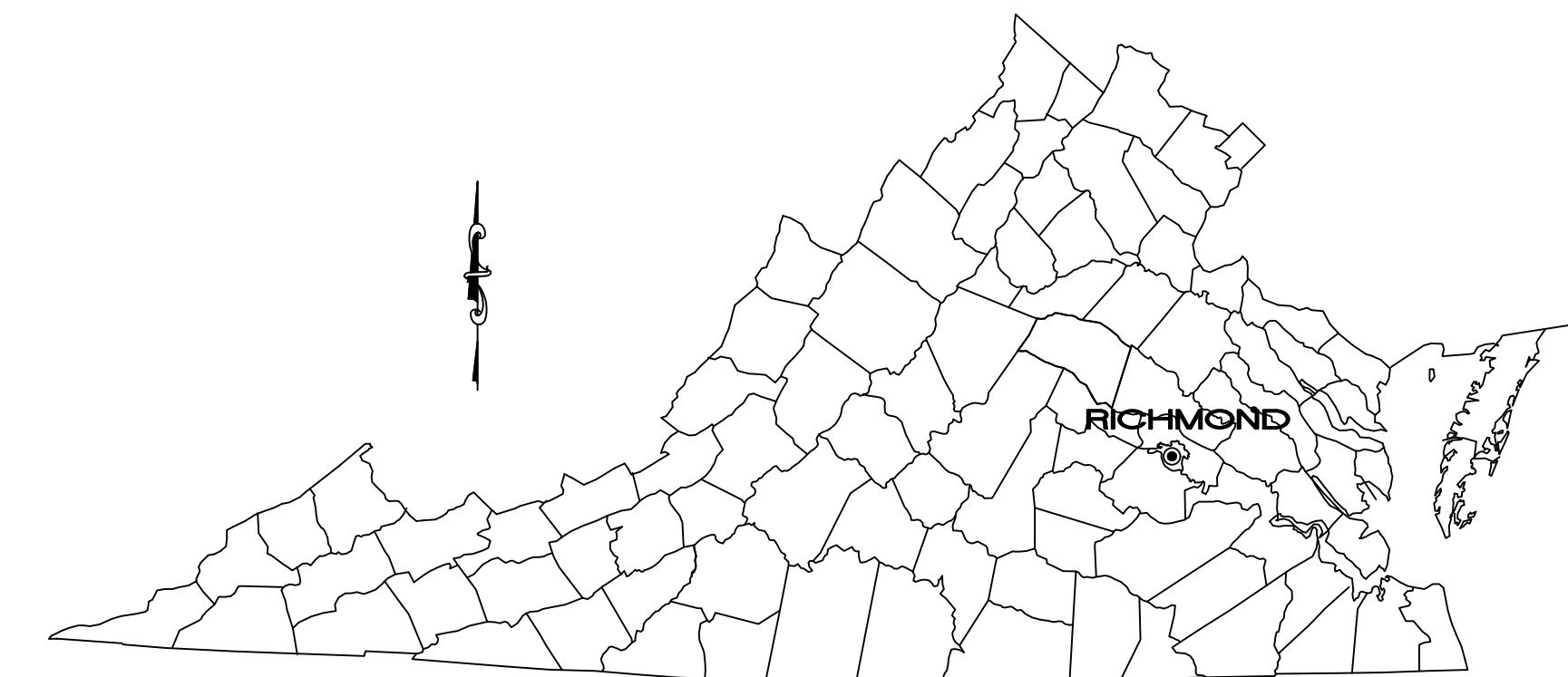
ROBIN ROAD SEWER REPLACEMENT

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.

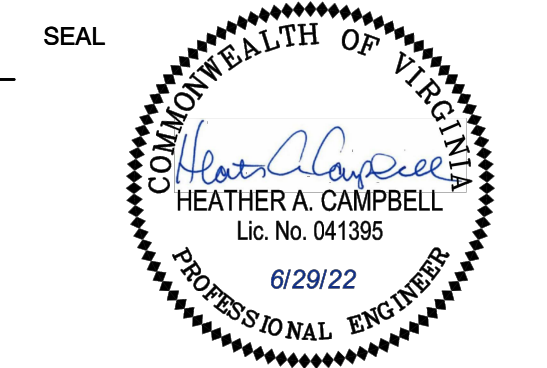
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ROBIN ROAD
SEWER REPLACEMENT
DEPARTMENT OF PUBLIC UTILITIES
RICHMOND, VA



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.

1 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)...

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 PAVEMENT 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:

Table with 2 columns: Code, Description. Includes 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 PAVEMENT 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 SEEDDED 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 SEEDDED 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 SEEDDED 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 SHALL 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. 16-2003: "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. SEEDDED AREAS SHALL BE CHECKED TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RE-SEEDDED 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 DCR/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 UPRIAL 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 TRACKING ONTO THE PAVED SURFACE, WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE. THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT 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, OFF-SITE BORROW OR WASTE AREA), 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

Table with 2 columns: Abbreviation, Full Name. Includes AC ACRE, AD APPROXIMATE DIRECTION, APRIL APRIL, AUGUST AUGUST, AVE AVENUE, BLVD BOULEVARD, BM BASE MIX, CBPA C, CI CAST IRON, CIPP CURED-IN-PLACE PIPE, CMU CONCRETE MASONRY UNIT, CONC CONCRETE, CORS CONTINUALLY OPERATING REFERENCE STATION, CU CUBIC, DB DEED BOOK, DI DUCTILE IRON, DIA DIAMETER, DPU DEPARTMENT OF PUBLIC UTILITIES, DPW DEPARTMENT OF PUBLIC WORKS, DSWC DIVISION OF SOIL AND WATER CONSERVATION, E EAST / EASTING, EA EACH, EL ELEVATION, E&S EROSION AND SEDIMENT, EX EXISTING, (F) FOUND, FEB FEBRUARY, FEMA FEDERAL EMERGENCY MANAGEMENT AGENCY, FT FEET, GIS GEOGRAPHIC INFORMATION SYSTEM, GPS GLOBAL POSITIONING SYSTEM, ID IDENTIFICATION, INC INCORPORATED, INST INSTRUMENT, INV INVERT, LBS POUNDS, LF LINEAR FEET, LLC LIMITED LIABILITY COMPANY, MAX MAXIMUM, MH MANHOLE, MIN MINIMUM, MS MINIMUM STANDARD, N NORTH / NORTHING, NAD NORTH AMERICAN DATUM, NAVD NORTH AMERICAN VERTICAL DATUM, NGS NATIONAL GEODETIC SURVEY, NO# NUMBER, NTS NOT TO SCALE, NW NORTHWEST, OD OUTER DIAMETER, PG PAGE, PVC POLYVINYL CHLORIDE, RCP REINFORCED CONCRETE PIPE, RD ROAD, RLD RESPONSIBLE LAND DISTURBER, RTK REAL TIME KINEMATIC, R/W RIGHT OF WAY, S SOUTH, SE SOUTHEAST, SEPT SEPTEMBER, SPEC SPECIFICATION, SQ SQUARE, ST STREET, STA STATION, STD STANDARD, SY SQUARE YARD, TBM TEMPORARY BENCH MARK, TC TERRA COTTA, TH TEST HOLE, T/P TOP OF PIPE, UNK UNKNOWN, VA VIRGINIA, VCA VIRGINIA CROP IMPROVEMENT ASSOCIATION, VDOT VIRGINIA DEPARTMENT OF TRANSPORTATION, VESCH VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, VESCP VIRGINIA EROSION AND SEDIMENT CONTROL PROGRAM, VESMP VIRGINIA STORMWATER MANAGEMENT PROGRAM, W WEST, YDS YARDS, & AND, @ AT, € CENTER LINE, % PERCENT, ± PLUS OR MINUS

LEGEND

Legend table with columns: EXISTING, PROPOSED. Includes symbols for SURVEY CONTROL POINT, CABLE PEDESTAL, ELECTRICAL BOX, ELECTRIC METER, POWER CONDUIT, GATE POST, GAS METER, RTK GPS CONTROL, GUY WIRE ANCHOR, GAS VALVE, HYAC, 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, L.S.A APPROXIMATE DIRECTION, A.D. EDGE OF PAVEMENT, FENCE, OVERHEAD ELECTRIC, OVERHEAD UTILITY, PAINTED UNDERGROUND GAS, PAINTED UNDERGROUND TELEPHONE, PAINTED UNDERGROUND WATER, BUILDING, BRICK.

E&S CONTROL LEGEND

E&S Control Legend table with symbols and descriptions: LOD LIMITS OF DISTURBANCE, CHECK DAM, CD TEMPORARY SEEDING, SF SILT FENCE, MULCHING, MU PERMANENT SEEDING, PS PERMANENT SEEDING.

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 (NAD83) AND VERTICAL (NAVD88) 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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DEPARTMENT OF PUBLIC UTILITIES
RICHMOND, VA

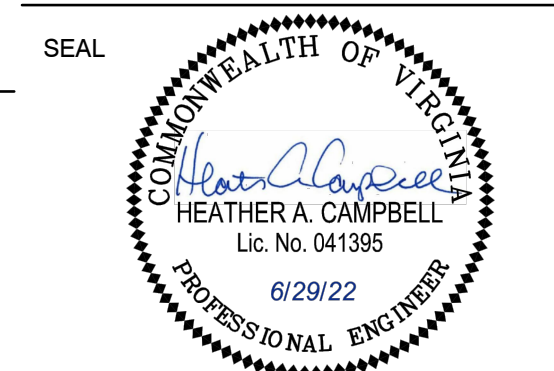


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GENERAL NOTES, E&S NARRATIVE & LEGEND

PROJECT NO. 50113238

C1

SHEET NO.

PROPOSED STRUCTURES

ID NO.	ID TYPE	NORTHING	EASTING
S1	48" DIA MANHOLE	3733780.66	11764484.14
S2	48" DIA MANHOLE	3733638.87	11764484.43

GENERAL NOTES

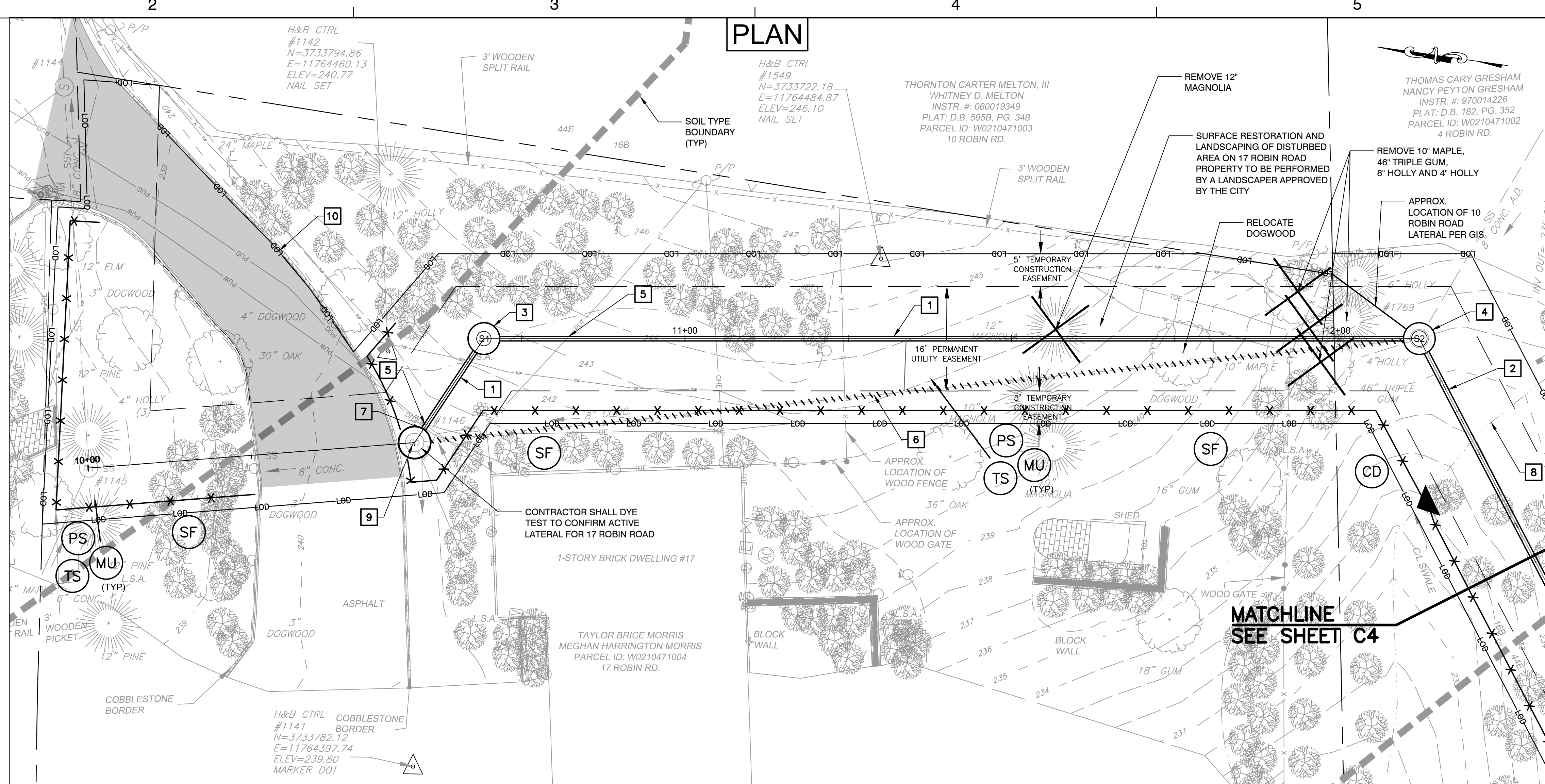
- CONTRACTOR SHALL KEEP ALL SURROUNDING ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES.
- CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER AND ENGINEER ANY UNFORESEEN OR ADVERSE CONDITIONS DISCOVERED DURING DEMOLITION OPERATIONS.
- MANHOLE CONE SHALL BE ROTATED 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.
- 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 LIMITS OF PERMANENT EASEMENT. SHALLOW ROOTED SHRUBS CAN BE REMOVED AND REPLANTED OR REPLACED IN KIND. CONTRACTOR CAN ASSIST PROPERTY OWNER WITH REPLACING TREES OUTSIDE PERMANENT EASEMENT.
- 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.
- SEWER SERVICES:
 - CONTRACTOR SHALL VERIFY ACTIVITY OF ANY SEWER SERVICES ENCOUNTERED.
 - CONTRACTOR SHALL REPLACE ACTIVE SERVICES AND INSTALL CLEANOUTS ON THE PERMANENT EASEMENT LINE OR AS DIRECTED BY THE CITY.

CONSTRUCTION NOTES

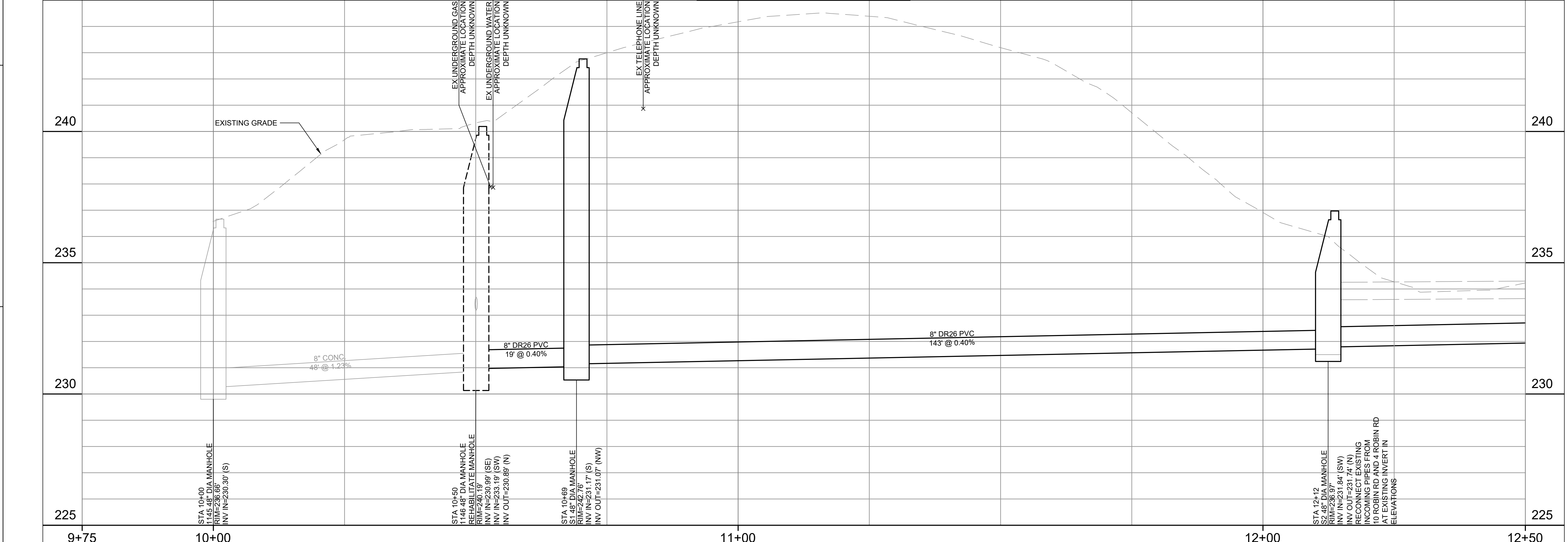
- INSTALL 8" DR26 PVC SANITARY SEWER.
- REPLACE EXISTING SEWER WITH 8" DR26 PVC SANITARY SEWER.
- INSTALL 48" DIAMETER SEWER MANHOLE.
- REPLACE EXISTING MANHOLE WITH 48" DIAMETER SEWER MANHOLE.
- CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF EXISTING UTILITIES AND SHALL PROTECT THE EXISTING TELEPHONE, WATER SERVICE, AND GAS LINE DURING INSTALLATION OF NEW MANHOLES AND SEWER.
- ABANDON EXISTING 8" SEWER PIPE WITH FLOWABLE FILL.
- CONNECT TO EXISTING SANITARY MANHOLE.
- RESTORATION TO PREVENT FURTHER STORMWATER EROSION ABOVE SANITARY SEWER TO BE NEGOTIATED WITH PROPERTY OWNER.
- RESHAPE BENCH AND FLOW CHANNEL AND REHABILITATE MANHOLE.
- REPLACE DRIVEWAY PAVEMENT TO RESTORE ANTICIPATED DAMAGE CAUSED BY CONSTRUCTION VEHICLES/EQUIPMENT.

EXISTING STRUCTURES

MH #1144 RIM = 237.69' INV IN = 227.69' (8" CONC PIPE FROM #1143) INV IN = 229.72' (8" CONC PIPE FROM #1145) INV OUT = 227.39' (8" CONC. PIPE TO POSSIBLE PAVED OVER MH #1190)	MH #1146 RIM = 240.19 INV IN = 232.89' (8" PVC FROM 1769) INV IN = 233.19' (6" PVC FROM A.D.) INV OUT = 230.89' (8" CONC PIPE TO 1145)	MH #1145 RIM = 236.66 INV IN = 232.98' (6" CONC PIPE FROM A.D.) INV IN = 230.30' (8" CONC PIPE FROM 1146) INV OUT = 230.27' (8" CONC PIPE TO 1144)	MH #1769 RIM = 236.97 NO PIPES VISIBLE (SURCHARGED WITH SANITARY WASTE)
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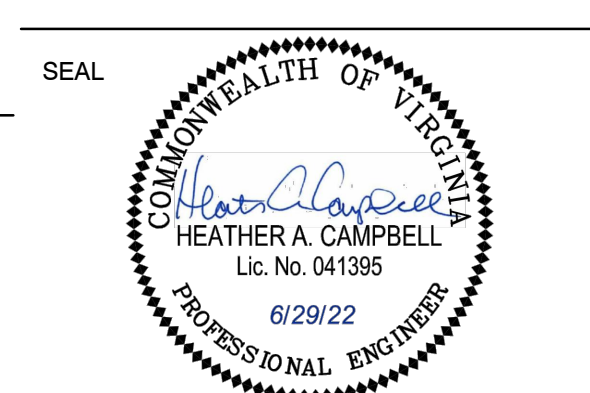


8" SEWER PROFILE

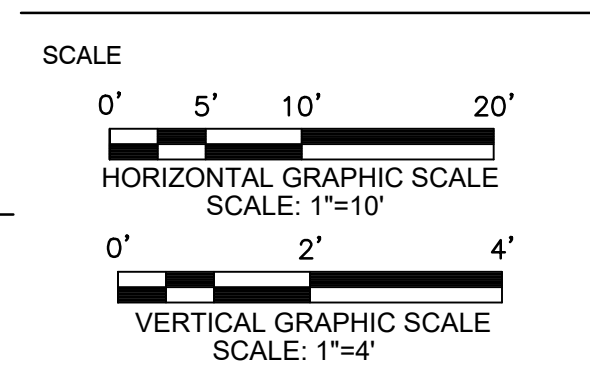


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**ROBIN ROAD
SEWER REPLACEMENT**
DEPARTMENT OF PUBLIC UTILITIES
RICHMOND, VA



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
SHEET NO. **C3**

PROPOSED STRUCTURES

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

*LOCATION OF S4 IS ASSUMED; CONTRACTOR SHALL VERIFY IN THE FIELD PER CONSTRUCTION NOTE 3.

GENERAL NOTES

- CONTRACTOR SHALL KEEP ALL SURROUNDING ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES. CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER AND ENGINEER ANY UNFORESEEN OR ADVERSE CONDITIONS DISCOVERED DURING DEMOLITION OPERATIONS.
- 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.
- 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 LIMITS OF PERMANENT EASEMENT. SHALLOW ROOTED SHRUBS CAN BE REMOVED AND REPLANTED OR REPLACED IN KIND. CONTRACTOR CAN ASSIST PROPERTY OWNER WITH REPLACING TREES OUTSIDE PERMANENT EASEMENT.
- 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.
- SEWER SERVICES:
 - CONTRACTOR SHALL VERIFY ACTIVITY OF ANY SEWER SERVICES ENCOUNTERED.
 - CONTRACTOR SHALL REPLACE ACTIVE SERVICES AND INSTALL CLEANOUTS ON THE PERMANENT EASEMENT LINE OR AS DIRECTED BY THE CITY.

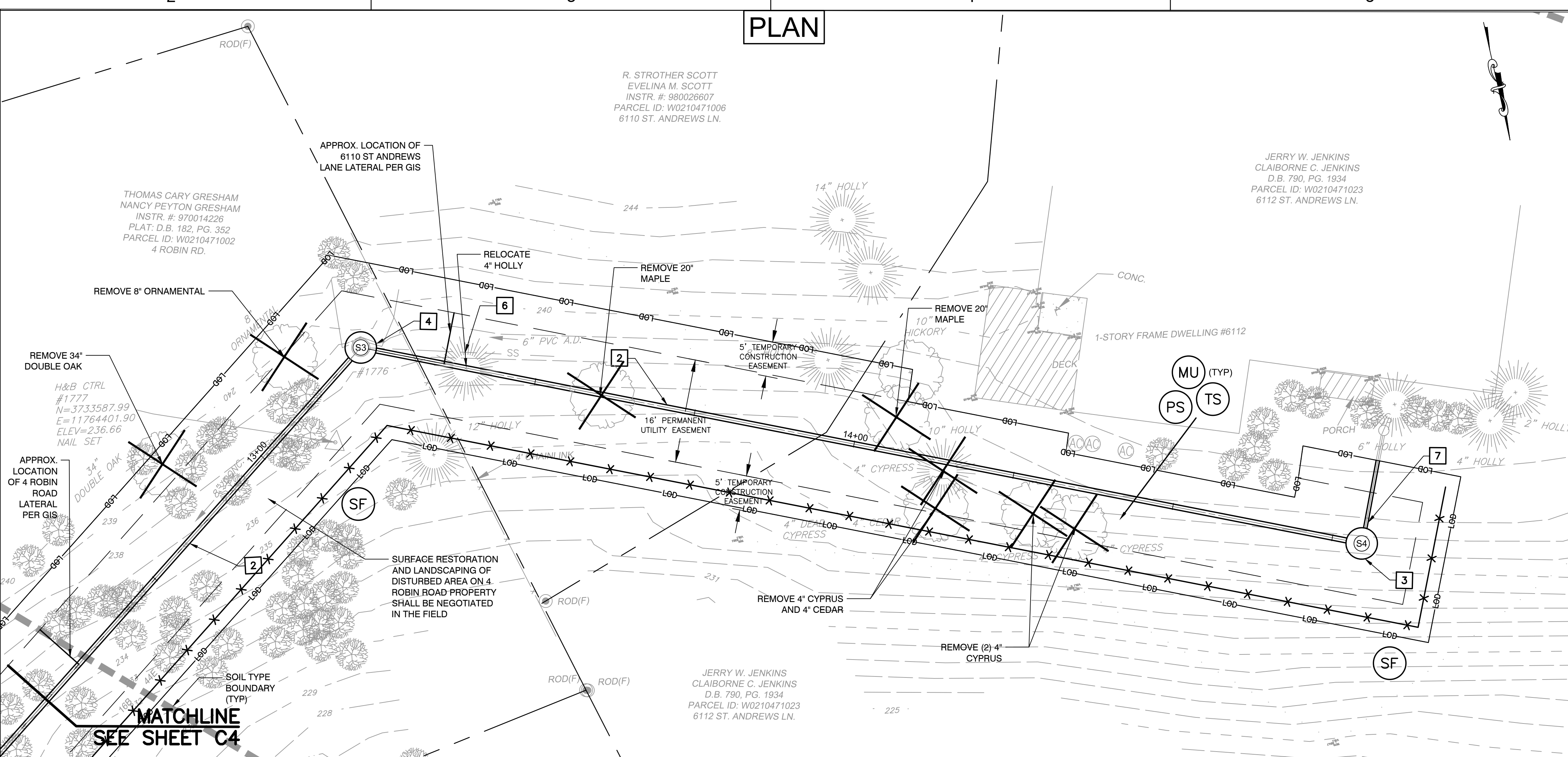
CONSTRUCTION NOTES

- INSTALL 8" DR26 PVC SANITARY SEWER.
- REPLACE EXISTING SEWER WITH 8" DR26 PVC SANITARY SEWER.
- INSTALL 48" DIAMETER SEWER MANHOLE. CONTRACTOR SHALL CCTV FROM 6112 ST ANDREWS LANE CLEANOUT TO EXISTING SEWER MAIN TO DETERMINE LOCATION FOR MANHOLE.
- REPLACE EXISTING MANHOLE WITH 48" DIAMETER SEWER MANHOLE.
- CONTRACTOR SHALL 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. CONTRACTOR SHALL CONTACT THE GAS UTILITY TO HAVE SOMEONE ONSITE WHEN EXCAVATING AROUND THE GAS LINE.
- ABANDON EXISTING 6" SEWER PIPE IN PLACE. EXACT LOCATION OF 6" SEWER IS UNKNOWN. CONTRACTOR SHALL REMOVE AS NECESSARY TO INSTALL NEW 8" SEWER PIPE.
- CONNECT EXISTING LATERAL TO NEW SANITARY MANHOLE. REPLACE PORTION OF SERVICE LATERAL AS NECESSARY TO CONNECT TO MANHOLE. NEW LATERAL SHALL BE PVC. MATCH SIZE OF EXISTING LATERAL. CONTRACTOR TO VERIFY DEPTH OF LATERAL. LATERAL INVERT FOR MH S4 CONNECTION CAN BE ADJUSTED BASED ON EXISTING LATERAL ELEVATION.

EXISTING STRUCTURES

MH #1776
RIM = 238.61
INV. IN = 233.78 (8" CONC PIPE FROM A.D. - UPSTREAM MH LOOKED FOR BUT NOT FOUND)
INV. OUT = 233.73 (8" CONC PIPE TO 1769)

PLAN



8" SEWER PROFILE

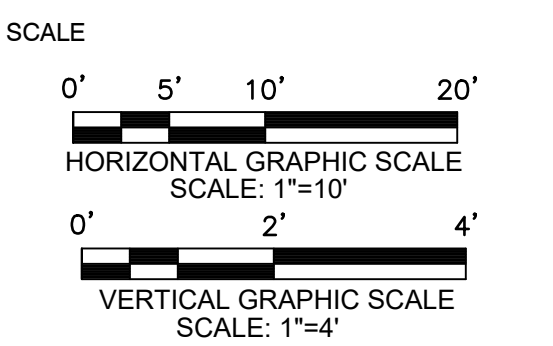


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RICHMOND, VA



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

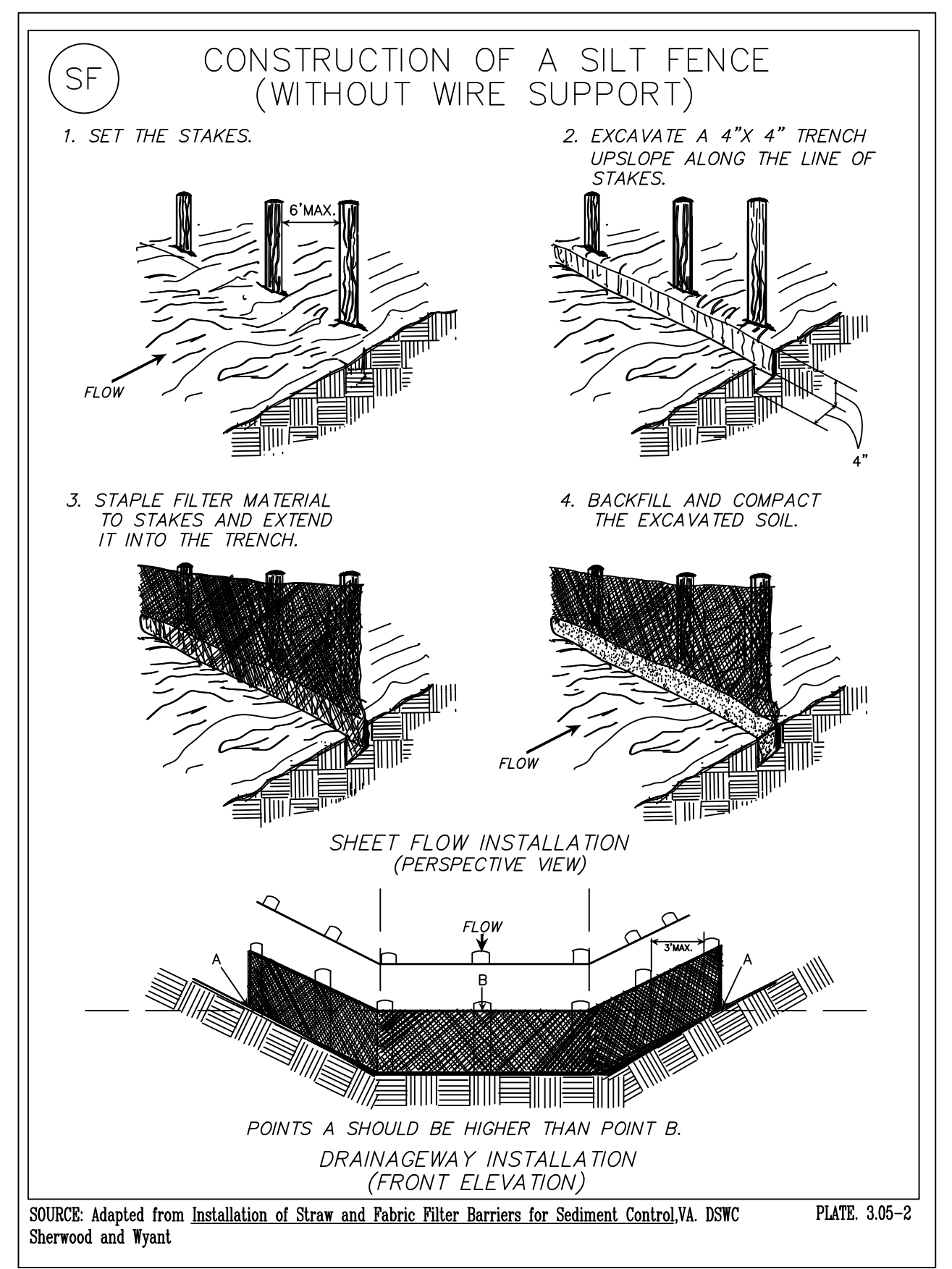
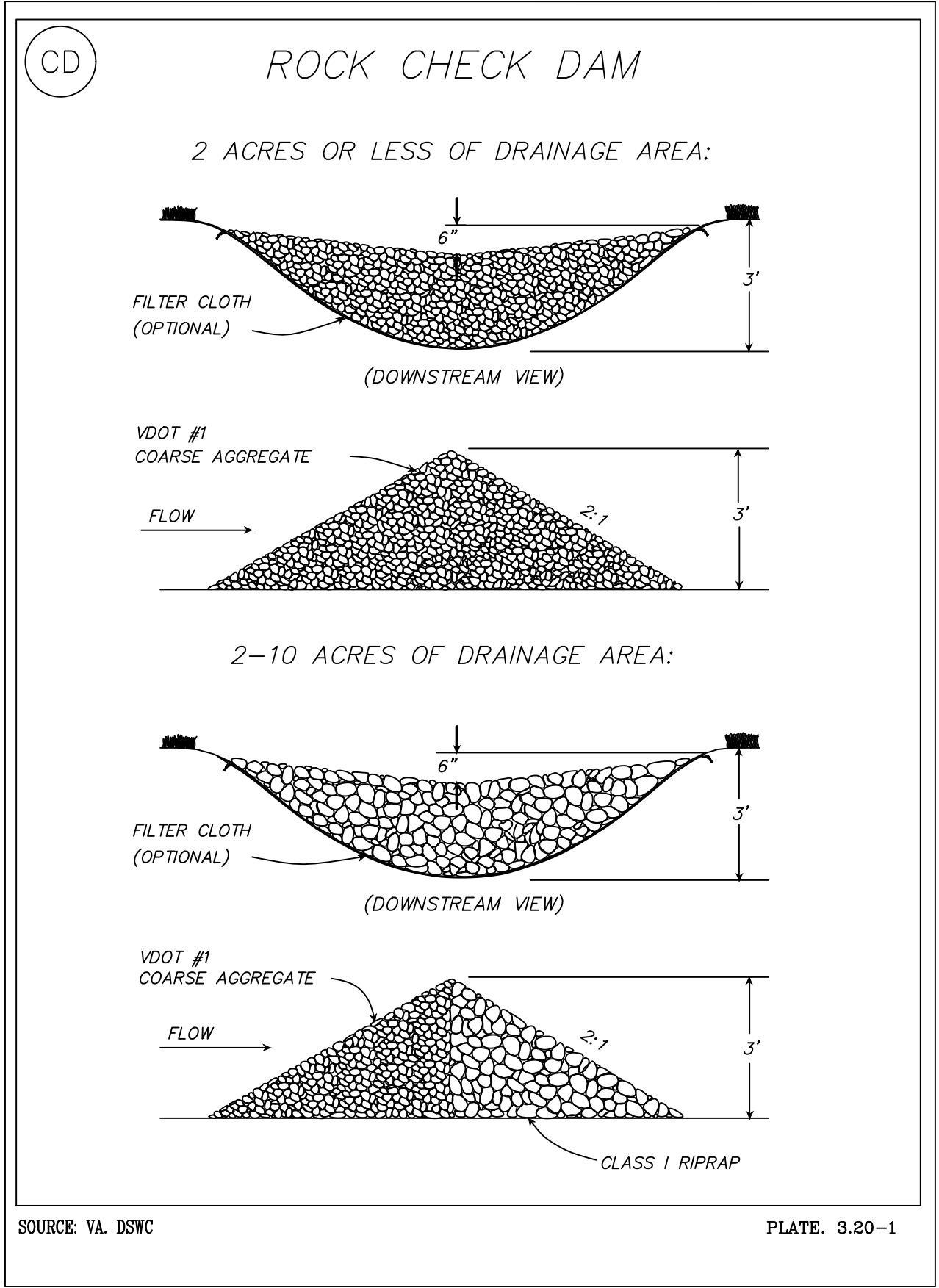
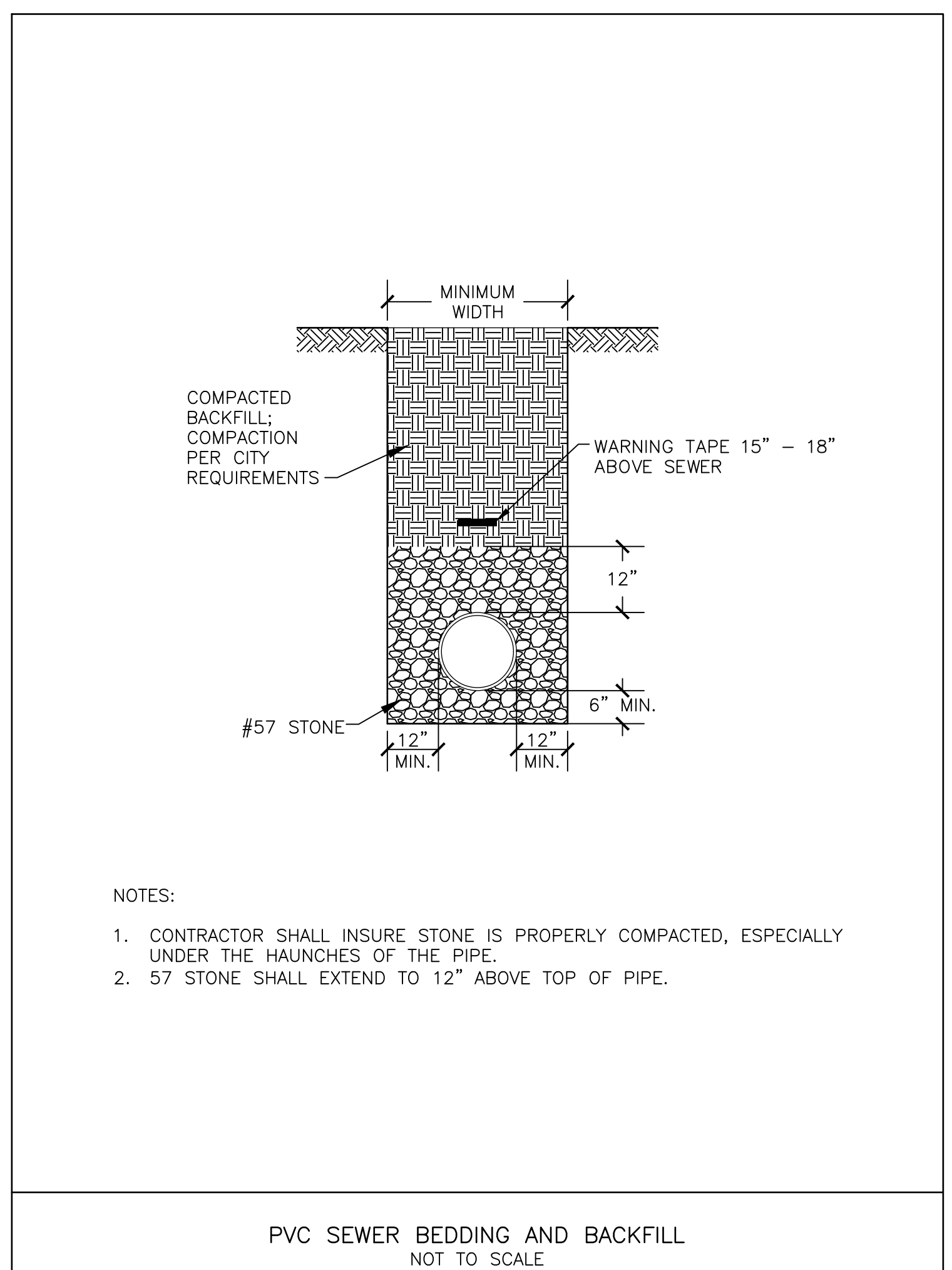
C4

SHEET NO.

No.	DATE	BY	Description

REVISIONS

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



LAND USE	SEED ¹	
	SPECIES	APPLICATION PER ACRE
MINIMUM CARE LAWN (COMMERCIAL OR RESIDENTIAL)	TALL FESCUE ¹	95-100%
	PERENNIAL RYEGRASS ¹	0-5%
	KENTUCKY BLUEGRASS ¹	0-5%
	TOTAL:	175-200 LBS
HIGH-MAINTENANCE LAWN	TALL FESCUE ¹	TOTAL: 200-250 LBS
GENERAL SLOPE (3:1 OR LESS)	TALL FESCUE ¹	128 LBS
	RED TOP GRASS OR CREEPING RED FESCUE	2 LBS
	SEASONAL NURSE CROP ²	20 LBS
	TOTAL:	150 LBS
LOW MAINTENANCE SLOPE (STEEPER THAN 3:1)	TALL FESCUE ¹	108 LBS
	RED TOP GRASS OR CREEPING RED FESCUE	2 LBS
	SEASONAL NURSE CROP ²	20 LBS
	CROWNWETCH ³	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 CROWNWETCH 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	
• APPLY 10-20-10 FERTILIZER AT A RATE OF 500 LBS/ACRE (OR 12 LBS/1,000 SQ FT)	
• APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS/1,000 SQ FT)	

NOTES:

- A) SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL pH OF SITE.
- INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR BY OTHER MEANS.
- WHEN APPLYING SLOWLY AVAILABLE NITROGEN USE RATES AVAILABLE IN EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN NO 4, NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT: [HTTP://WWW.DEQ.VIRGINIA.GOV/PORTALS/0/DEQ/WATER/PUBLICATIONS/ESCTECHNICALBULLETIN4.PDF](http://www.deq.virginia.gov/portals/0/deq/water/publications/esctechnicalbulletin4.pdf).

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	
• 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)	

NOTES:

- A) SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL pH OF SITE.
- INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR BY OTHER MEANS.
- WHEN APPLYING SLOWLY AVAILABLE NITROGEN USE RATES AVAILABLE IN EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT: [HTTP://WWW.DEQ.VIRGINIA.GOV/PORTALS/0/DEQ/WATER/PUBLICATIONS/ESCTECHNICALBULLETIN4.PDF](http://www.deq.virginia.gov/portals/0/deq/water/publications/esctechnicalbulletin4.pdf).

TS TEMPORARY SEEDING SPECIFICATIONS QUICK REFERENCE FOR ALL REGIONS
TABLE 3.31-B
(REVISED JUNE 2003)

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.