NORTHSIDE DRIVE INDUSTRIAL

INITIAL SITE PLAN

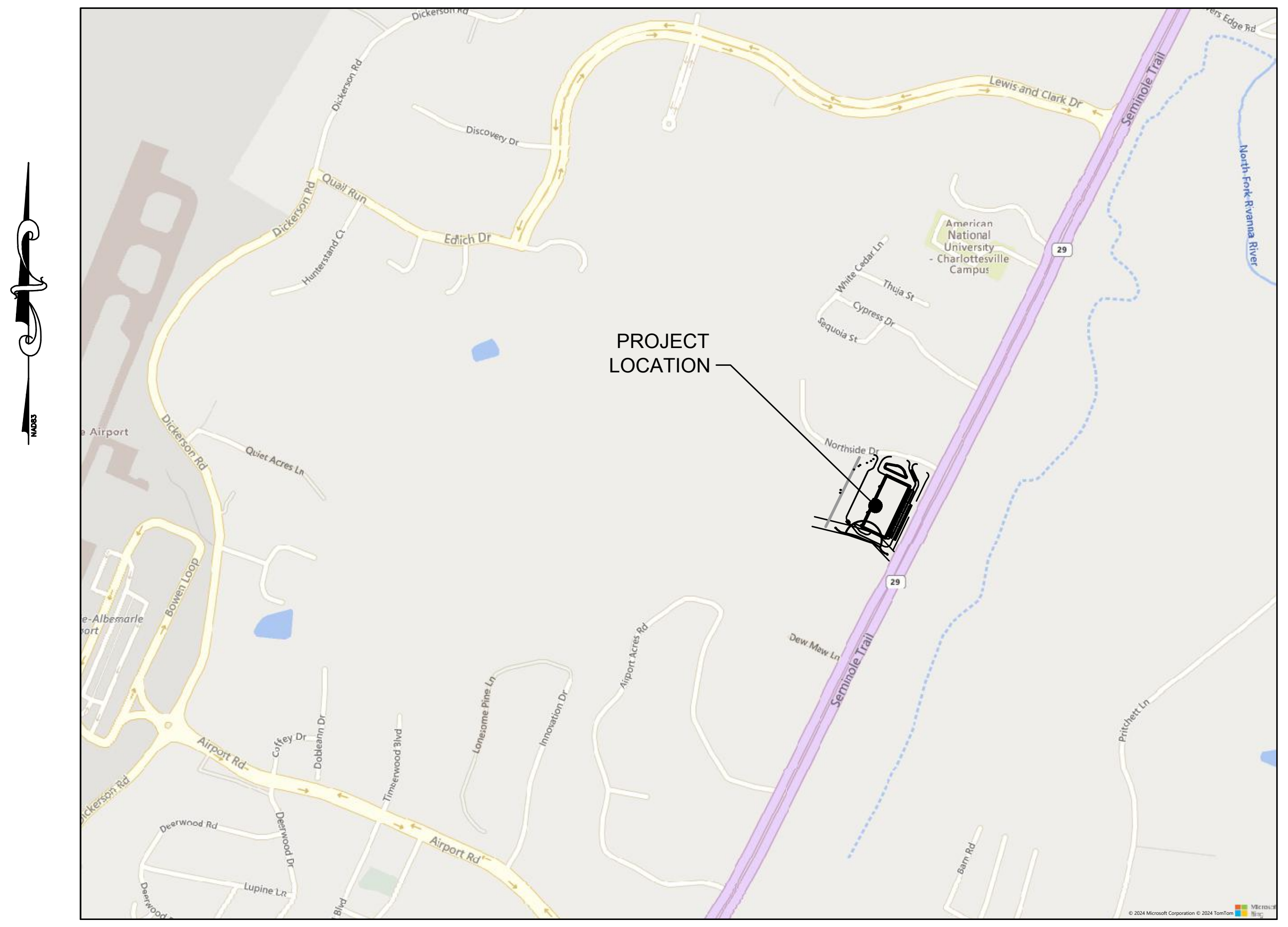
ALBEMARLE COUNTY, VIRGINIA

03/14/2025

SITE DATA:

TAX MAP PARCEL AND OWNER INFO:	NORTHSIDE DRIVE LLC P O BOX 7885 CHARLOTTESVILLE VA, 22906
PARCEL ID:	03200-00-00-02200 03200-00-00-022M0
TOTAL SITE AREA:	29.77 ACRES
LIMITS OF DISTURBANCE:	7.03 ACRES
EXISTING IMPERVIOUS AREA:	0.01 ACRES
PROPOSED IMPERVIOUS AREA:	4.07 ACRES
SOURCE OF SURVEY, BOUNDARY, AND TOPOGRAPHY:	TIMMONS GROUP 28 IMPERIAL DRIVE STAUNTON, VA 24401 JOSEPH C. MEDLEY, L.S. (540) 885-0920 CONDUCTED: JUNE 25, 2024
HORIZONTAL DATUM REFERENCE:	NAD83, VIRGINIA STATE GRID, SOUTH ZONE
VERTICAL DATUM REFERENCE:	NAVD88
MISS UTILITY TICKET NUMBER:	A121700921
CURRENT USE:	VACANT
PROPOSED USE:	LIGHT INDUSTRIAL FLEX SPACE
ZONING:	HEAVY INDUSTRIAL
OVERLAY DISTRICT:	AIRPORT IMPACT AREA ENTRANCE CORRIDOR STEEP SLOPES - MANAGED
MAGISTERIAL DISTRICT:	RIO DISTRICT
SETBACKS:	FRONT: 10' MIN. SIDE: 100' MIN. REAR: 50' MIN.
PROPOSED PARKING SPACES:	62 SPACES
PARKING REQUIRED:	1 SPACE PER EMPLOYEE ON LARGEST SHIFT + 1 SPACE PER EACH 500 SF OPEN TO THE PUBLIC (MINIMUM OF TWO CUSTOMER PARKING SPACES)
REQUIRED ADA SPACES:	3 TOTAL ADA SPACES (1 VAN)
PROVIDED ADA SPCAES:	3 TOTAL ADA SPACES (1 VAN)
PROPOSED FLEX INDUSTRIAL SQUARE FOOTAGE:	72,000 SF
PROPOSED BUILDING HEIGHT:	35 FT

WETLANDS: THERE ARE WETLAND IMPACTS PROPOSED WITH THIS PROJECT



VICINITY MAP

SCALE: 1" = 1,000'

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TOTAL SHEETS: 34

OWNER:

NORTHSIDE DRIVE LLC
PO BOX 7885
CHARLOTTESVILLE, VA 22906
CONTACT: CHARLIE ARMSTRONG
PHONE: 434-245-0894 | 108
CARMSTRONG@SOUTHERN-DEVELOPMENT.COM

DEVELOPER:

SOUTHERN-DEVELOPMENT
142 SOUTH PANTOPS DRIVE
CHARLOTTESVILLE, VA 22911
CONTACT: CHARLIE ARMSTRONG
PHONE: 434-245-0894 | 108
CARMSTRONG@SOUTHERN-DEVELOPMENT.COM

ENGINEER OF RECORD:

TIMMONS GROUP
608 PRESTON AVENUE, SUITE 200
CHARLOTTESVILLE, VA 22903
CONTACT: CLINT SHIFFLETT, P.E.
434-327-1690
CLINT.SHIFFLETT@TIMMONS.COM

SIGNATURE PANEL:

	APPROVAL	DATE
DEPARTMENT OF COMMUNITY DEVELOPMENT		
PLANNING & ZONING		
ENGINEERING		
INSPECTIONS		
E911		
DEPARTMENT OF FIRE AND RESCUE		
ALBEMARLE COUNTY SERVICE AUTHORITY		
VIRGINIA DEPARTMENT OF TRANSPORTATION		
VIRGINIA DEPARTMENT OF HEALTH		
ARCHITECTURAL REVIEW BOARD		

CLINT W. SHIFFLETT
Lic. No. 54380

NOT FOR CONSTRUCTION

THIS DRAWING PREPARED AT THE
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YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	N/A

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
COVER

JOB NO.
64375

SHEET NO.
C0.0

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR AS BUILT DOCUMENTATION, AS REQUIRED BY THE LOCALITY. THIS INCLUDES, BUT IS NOT LIMITED TO, TESTING, INSTALLATION DOCUMENTATION, SURVEY, ETC. ALL REQUIREMENTS SHALL BE DISCUSSED WITH THE LOCALITY PRIOR TO THE BEGINNING CONSTRUCTION.
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS AND STANDARDS.
3. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONSULT THE ENGINEER AND VERIFY THE APPROVAL OF THE PLANS BY ALL FEDERAL, STATE AND LOCAL AGENCIES.
4. LAND USE PERMITS (LUP-A) MUST BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO BEGINNING ANY CONSTRUCTION WITHIN THE EXISTING STATE MAINTAINED RIGHT OF WAY (INCLUDING ACCESS).
5. VDOT IS TO RECEIVE WRITTEN NOTIFICATION 48 HOURS PRIOR TO COMMENCING WITH INITIAL CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL POINTS OF CONNECTION OR PROPOSED WORK TO EXISTING CURBS, SANITARY LINES, WATERLINES, ETC, PRIOR TO CONSTRUCTION.
7. UPON DISCOVERY OF SOILS THAT ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE OWNER. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE OWNER'S REPRESENTATIVE, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.
8. ALL STORM SEWER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH VDOT STANDARDS.
9. ALL STORM SEWER PIPE SHALL BE REINFORCED TONGUE AND GROVE CONCRETE PIPE IN ACCORDANCE WITH ASTM-C-76. PIPE WITHIN THE RIGHT OF WAY SHALL BE MINIMUM CLASS III OR GREATER IN ACCORDANCE WITH CURRENT VDOT STANDARDS AND SPECIFICATIONS.
10. IF PRE-CAST UNITS ARE TO BE USED, VDOT SHALL BE NOTIFIED AND THE MANUFACTURER SHALL SUBMIT DRAWING DETAILS FOR REVIEW. CERTIFICATION AND VDOT STAMP WILL BE REQUIRED ON ALL UNITS.
11. ALL CONCRETE SHALL BE A3-AE (AIR ENTRAINED 3,000 PSI), UNLESS OTHERWISE NOTED.
12. ALL ENTRANCES ARE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CURRENT VDOT STANDARDS.
13. DESIGN CHANGES, SPECIFIED MATERIALS CHANGES AND/OR FIELD CHANGES FROM THE APPROVED PLANS NEED TO BE RESUBMITTED TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. A LETTER OF EXPLANATION SHALL ACCOMPANY THE REVISED PLANS AND/OR THE DRAINAGE CALCULATIONS, WHICH MUST BE SUBMITTED AND APPROVED BY THE ENGINEER.
14. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THIS PLAN, CALL MISS UTILITY OF CENTRAL VIRGINIA AT 1-800-552-7001. THE OWNER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING AND/OR PROPOSED RIGHT-OF-WAY REQUIRED BY THE DEVELOPMENT.
15. CASING SLEEVES SHALL BE PLACED AT ALL ROAD CROSSINGS FOR GAS, POWER, TELEPHONE AND CABLE TV SERVICE TRUNK LINES.
16. THE INSTALLATION OF SEWER, WATER, AND GAS MAINS (INCLUDING SERVICE LATERALS AND SLEEVES) SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF AGGREGATE BASE COURSE.
17. VDOT & ALBEMARLE COUNTY APPROVAL OF CONSTRUCTION PLANS DOES NOT PRECLUDE THE RIGHT TO REQUIRE ADDITIONAL FACILITIES AS DEEMED NECESSARY.
18. VDOT SHALL HAVE APPROVED THE AGGREGATE BASE COURSE(S) FOR DEPTH, TEMPLATE AND PERFORMED THE REQUIRED FIELD INSPECTION (PROOF ROLL) PRIOR TO PLACEMENT OF ANY SURFACE COURSE(S). CONTACT THE OWNER'S REPRESENTATIVE FOR INSPECTION FOR THE AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO APPLICATION OF THE SURFACE COURSE(S).
19. A PRIME COAT SEAL BETWEEN THE AGGREGATE BASE AND BITUMINOUS CONCRETE WILL BE REQUIRED AT THE RATE OF 0.30 GALLONS PER SQUARE YARD (REC-250 PRIME COAT) PER VDOT STANDARDS AND SPECIFICATIONS.
20. THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECAST WEATHER CONDITIONS PER SECTION 315 OF THE ROAD AND BRIDGE SPECIFICATIONS.
21. THE OWNER'S REPRESENTATIVE SHALL HAVE APPROVED THE AGGREGATE BASE COURSE(S) FOR DEPTH, TEMPLATE AND PERFORMED THE REQUIRED FIELD INSPECTION (PROOF ROLL) PRIOR TO PLACEMENT OF ANY SURFACE COURSE(S). CONTACT THE OWNER FOR INSPECTION FOR THE AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO APPLICATION OF THE SURFACE COURSE(S).
22. A GEOTECHNICAL ENGINEER IS TO ASCERTAIN CAUSE AND CERTIFY RECOMMENDED METHOD OF REPAIR FOR ALL PAVEMENT STRUCTURAL FAILURES PRIOR TO STATE ACCEPTANCE.
23. ALL VEGETATION AND ORGANIC MATERIAL IS TO BE REMOVED FROM THE PROPOSED PAVEMENT LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.
24. CERTIFICATION AND SOURCE OF MATERIALS ARE TO BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR ALL MATERIALS AND BE IN ACCORDANCE WITH THE ROAD AND BRIDGE SPECIFICATIONS, AND ROAD AND BRIDGE STANDARDS.
25. APPROVAL OF A DETAILED CONSTRUCTION SEQUENCING/MAINTENANCE OF TRAFFIC NARRATIVE FOR THE WORK ZONE IS A PREREQUISITE FOR ISSUANCE OF A LAND USE PERMIT ALLOWING ACCESS TO AND CONSTRUCTION WITHIN VDOT MAINTAINED RIGHT OF WAY.
26. GRADE LINES ON PROFILES DENOTE FINISHED GRADE OF CENTER LINE OF ROAD. (N/A)
27. ALL APPROACH GUTTERS TO SAG INLETS SHALL MAINTAIN A MINIMUM SLOPE OF 0.004 ft./ft.
28. WHERE A TYPE "B" NOSE IS SPECIFIED ON AN INLET IN CONJUNCTION WITH ROLL FACE CURB AND GUTTER OR CG-7, THERE SHALL BE A 20' TRANSITION ON EACH SIDE OF THE INLET. (N/A)
29. CONTRACTOR SHALL PROVIDE A SEQUENCE OF CONSTRUCTION/MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE STANDARDS AND GUIDELINES CONTAINED IN THE 2011 EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL FOR REVIEW BY THE ENGINEER, OWNER'S REPRESENTATIVE, AND VDOT PRIOR TO STARTING WORK THAT IMPACTS TRAFFIC ON STATE ROADS.
30. ALL NEW HANDICAP ACCESSIBLE REQUIREMENTS ON-SITE AND WITHIN ALL NEW STRUCTURES SHALL COMPLY WITH THE 2021 UNIFORM STATEWIDE BUILDING CODE, 2021 VIRGINIA CONSTRUCTION CODE, 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN, AND ICC/ANSI A117.1-17.
31. THE CLEAR ZONE IS TO BE FREE OF STORED MATERIALS AND PARKED EQUIPMENT.
32. HORIZONTAL AND VERTICAL SIGHT DISTANCES SHALL BE FREE OF PARKED VEHICLES.
33. ALL EXCAVATED AREAS WITHIN THE CLEAR ZONE THAT HAVE A DEPTH GREATER THAN 6" SHALL HAVE A 6:1 STONE WEDGE PLACED AT THE END OF THE DAY.
34. VISIBILITY OF ALL MECHANICAL EQUIPMENT FROM THE ENTRANCE CORRIDOR SHALL BE ELIMINATED.
35. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT HAVE A SURFACE SLOPE GREATER THAN 1:48. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE PARKING SPACE THEY SERVE. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE. IN PARKING FACILITIES THAT DO NOT SERVE A PARTICULAR BUILDING, ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ROUTE TO AN ACCESSIBLE PEDESTRIAN ENTRANCE TO THE PARKING FACILITY. WHERE BUILDINGS HAVE MULTIPLE ACCESSIBLE ENTRANCES WITH ADJACENT PARKING, ACCESSIBLE PARKING SPACES SHALL BE DISPERSED AND LOCATED NEAR THE ACCESSIBLE ENTRANCES. ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTE SHALL BE INSTALLED IN ACCORDANCE WITH ICC ANSI A117.1-17 AND THE 2021 VIRGINIA CONSTRUCTION CODE.
36. ALL ROOF DRAINS SHALL DISCHARGE IN A MANNER NOT TO CAUSE A PUBLIC NUISANCE AND NOT OVER SIDEWALKS.
37. ALL WATER, SEWER, AND FIRE LINES REQUIRE NEW INSPECTION AND TESTING PROCEDURES. THE ACSA PERFORMS ANY TESTING AND INSPECTIONS OF THE PUBLIC SEWER AND WATER MAIN(S). THE ALBEMARLE COUNTY BUILDING INSPECTIONS DEPARTMENT (ACBID) DOES A VISUAL INSPECTION AND WITNESSES THE TESTING OF THE BUILDING DRAIN, WATER SERVICE PIPE, AND THE SPRINKLER LEAD-IN CONNECTION. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE TO RETAIN A SPECIAL INSPECTOR AS OUTLINED IN THE UPDATED ALBEMARLE COUNTY POLICY FOR SITE UTILITIES TO PERFORM THE VISUAL INSPECTION AND TESTING OF ALL UTILITIES NOT COVERED BY THE ACSA OR ACBID. THIS INCLUDES BUILDING SEWERS, WATER AND FIRE LINE BRANCHES BETWEEN THE MAIN AND THE METER(S)/BUILDING(S). THE SPECIAL INSPECTOR'S REPORT MUST BE SUBMITTED AND APPROVED BY THE ALBEMARLE COUNTY ENGINEERING DEPARTMENT PRIOR TO A CERTIFICATE OF OCCUPANCY BEING ISSUED.
38. CONTACT ACSA 3 DAYS PRIOR TO ESTABLISHING A CONNECTION TO THE ACSA WATER MAIN.

ALBEMARLE COUNTY ENGINEERING GENERAL CONSTRUCTION NOTES

1. PRIOR TO ANY CONSTRUCTION WITHIN ANY EXISTING PUBLIC RIGHT OF WAY, INCLUDING CONNECTION TO ANY EXISTING ROAD, A PERMIT SHALL BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT). THIS PLAN AS DRAWN MAY NOT ACCURATELY REFLECT THE REQUIREMENTS OF THE PERMIT. WHERE ANY DISCREPANCIES OCCUR THE REQUIREMENTS OF THE PERMIT SHALL GOVERN.
2. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO CURRENT SPECIFICATIONS AND STANDARDS OF VDOT.
3. EROSION AND SILTATION CONTROL MEASURES SHALL BE PROVIDED IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLAN AND MUST BE INSTALLED PRIOR TO ANY CLEARING, GRADING OR OTHER CONSTRUCTION.
4. ALL SLOPES AND DISTURBED AREAS ARE TO BE FERTILIZED, SEEDED AND MULCHED.
5. THE MAXIMUM ALLOWABLE SLOPE IS 2:1 (HORIZONTAL:VERTICAL). WHERE REASONABLY OBTAINABLE, LESSER SLOPES OF 3:1 OR BETTER ARE TO BE ACHIEVED.
6. PAVED, RIP-RAP OR STABILIZATION MAT LINED DITCH MAY BE REQUIRED WHEN IN THE OPINION OF THE COUNTY ENGINEER, OR DESIGNEE, IT IS DEEMED NECESSARY IN ORDER TO STABILIZE A DRAINAGE CHANNEL.
7. ALL TRAFFIC CONTROL SIGNS SHALL CONFORM WITH THE VIRGINIA MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES.
8. UNLESS OTHERWISE NOTED ALL CONCRETE PIPE SHALL BE REINFORCED CONCRETE PIPE - CLASS III.
9. ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFR PART 1926).
10. RETAINING WALLS GREATER THAN 3 FEET IN HEIGHT REQUIRE A SEPARATE BUILDING PERMIT. WALLS EXCEEDING 4 FEET IN HEIGHT REQUIRE A STAMPED ENGINEERED DESIGN ALSO. WALLS REQUIRE INSPECTIONS AS OUTLINED IN THE USBC.
11. ALL WATER LINES, SEWER LINES AND FIRE LINES FROM THE MAIN TO THE STRUCTURE MUST HAVE A VISUAL INSPECTION PERFORMED BY THE BUILDING DEPARTMENT.

BLASTING NOTES

1. BLASTING SHALL NOT BE PERMITTED ON THIS PROJECT.

CONSTRUCTION RECORD DRAWINGS NOTES

1. CONTRACTOR SHALL PROVIDE ALL INFORMATION REQUIRED FOR CONSTRUCTION RECORD DRAWINGS:

ALBEMARLE COUNTY STORMWATER MANAGEMENT NOTES

1. ALL DAMS AND CONSTRUCTED FILL TO BE WITHIN 95% OF MAXIMUM DRY DENSITY AND 2% OF OPTIMUM MOISTURE CONTENT. ALL FILL MATERIAL TO BE APPROVED BY A GEOTECHNICAL ENGINEER. A GEOTECHNICAL ENGINEER IS TO BE PRESENT DURING CONSTRUCTION OF DAMS.
2. PIPE AND RISER JOINTS ARE TO BE WATERTIGHT WITHIN STORMWATER MANAGEMENT FACILITIES.
3. FOR TEMPORARY SEDIMENT TRAPS OR BASINS WHICH ARE TO BE CONVERTED TO PERMANENT STORMWATER MANAGEMENT FACILITIES; CONVERSION IS NOT TO TAKE PLACE UNTIL THE SITE IS STABILIZED, AND PERMISSION HAS BEEN OBTAINED FROM THE COUNTY EROSION CONTROL INSPECTOR.

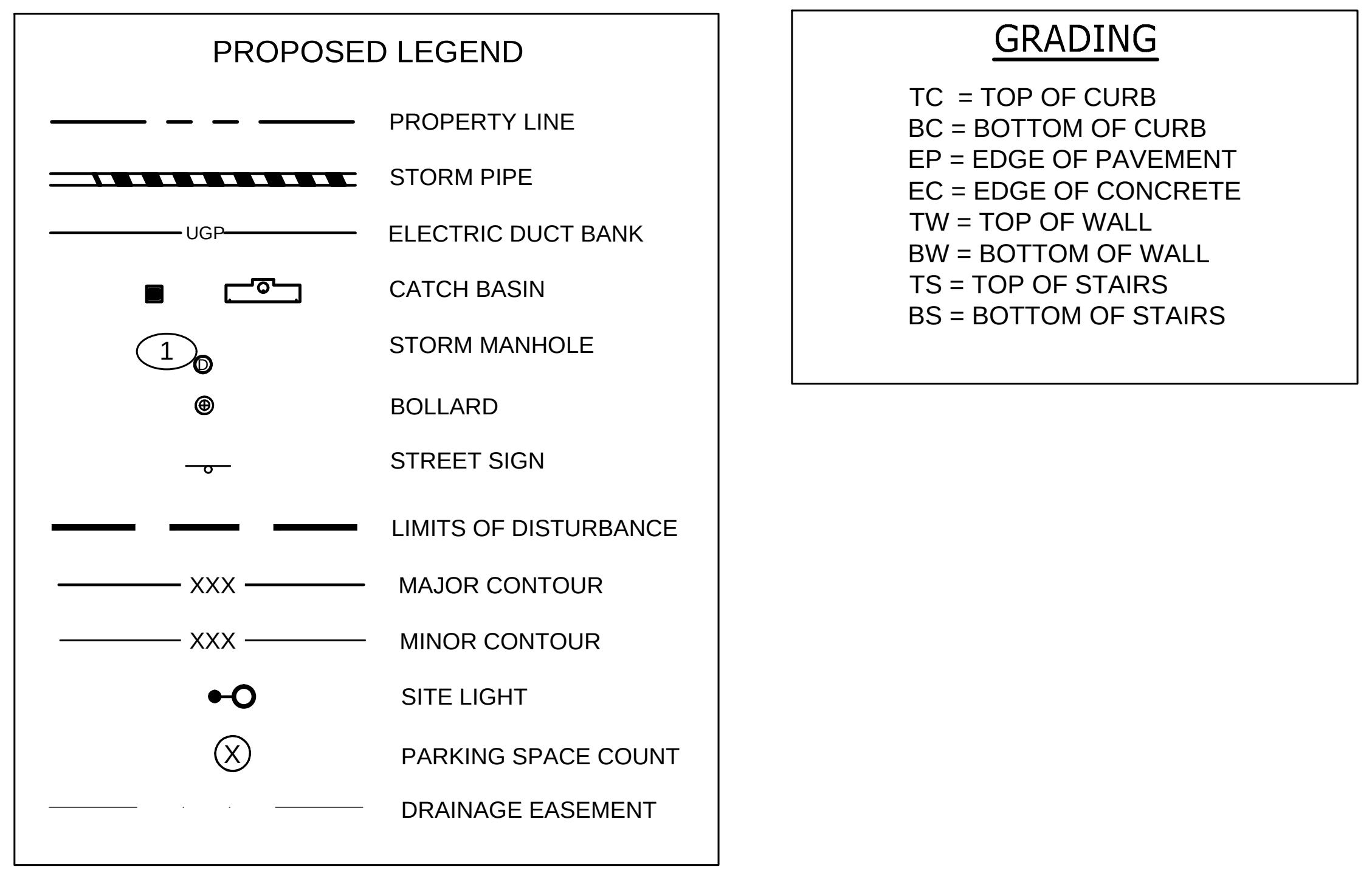
ALBEMARLE COUNTY FIRE PREVENTION NOTES

1. SMOKING SHALL BE PROHIBITED IN AREAS WHERE SMOKING MAKES CONDITIONS A HAZARD AND THESE AREAS SHALL BE DESIGNATED WITH "NO SMOKING" SIGNS PER THE VIRGINIA STATEWIDE FIRE PREVENTION CODE.
2. AREAS WHERE SMOKING CAN OCCUR SHALL HAVE APPROPRIATE RECEPTACLES FOR DISCARDED SMOKING MATERIALS PER THE VIRGINIA STATEWIDE FIRE PREVENTION CODE.
3. PER THE VIRGINIA STATEWIDE FIRE PREVENTION CODE, VEHICULAR ACCESS FOR FIREFIGHTING SHALL BE PROVIDED AT ALL CONSTRUCTION AND DEMOLITION SITES. PROVIDE ACCESS TO WITHIN 100' OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS AND HAVE NO OVERHEAD WIRING OR OTHER OVERHEAD OBSTRUCTIONS LOWER THAN 13'-6". THIS ACCESS MA BE VIA PERMANENT OR TEMPORARY ROAD, BUT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS IN ALL WEATHER CONDITIONS.
4. CONTRACTOR SHALL ENSURE THE STREET NUMBERS ARE PLAINLY VISIBLE FROM THE FRONTAGE STREET DURING CONSTRUCTION PER THE VIRGINIA STATEWIDE FIRE CODE.
5. AN APPROVED WATER SUPPLY FOR FIREFIGHTING OPERATIONS SHALL BE IN PLACE AND AVAILABLE AS SOON AS COMBUSTIBLE MATERIALS ARRIVE ON SITE.
6. WASTE AND COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING AT THE END OF EACH DAY AND DISPOSED OF IN ACCORDANCE WITH THE VIRGINIA STATEWIDE FIRE CODE.
7. FIRE EXTINGUISHERS SHALL BE PROVIDED, ON ALL FLOOR LEVELS WHERE COMBUSTIBLE MATERIALS HAVE ACCUMULATED (WITH NOT LESS THAN ONE APPROVED FIRE EXTINGUISHER AT EACH STAIRWELL), IN EVERY STORAGE AND CONSTRUCTION SHED, AND IN AREAS OF SPECIAL HAZARDS, SUCH AS WHERE FLAMMABLE AND COMBUSTIBLE LIQUIDS ARE STORED OR USED, IN ACCORDANCE WITH THE VIRGINIA STATEWIDE FIRE CODE.
8. OPERATIONS INVOLVING THE USE OF CUTTING AND WELDING SHALL COMPLY WITH THE VIRGINIA STATEWIDE FIRE PREVENTION CODE AND SHALL REQUIRE A PERMIT FROM THE ALBEMARLE COUNTY FIRE MARSHAL'S OFFICE.
9. ALL FIRE HOSE THREADS SHALL BE C & O TYPE.

GENERAL CONSTRUCTION NOTES FOR EROSION AND SEDIMENT CONTROL

1. 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.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
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 AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
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.
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.
8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
9. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
10. ALL FILL MATERIAL TO BE TAKEN FROM AN APPROVED, DESIGNATED BORROW AREA.
11. ALL WASTE MATERIALS SHALL BE TAKEN TO AN APPROVED WASTE AREA. EARTH FILL SHALL BE INERT MATERIALS ONLY, FREE OF ROOTS, STUMPS, WOOD, RUBBISH, AND OTHER DEBRIS.
12. BORROW OR WASTE AREAS ARE TO BE RECLAIMED WITHIN 7 DAYS OF COMPLETION PER ZONING ORDINANCE SECTION 5.1.28.
13. ALL INERT MATERIALS SHALL BE TRANSPORTED IN COMPLIANCE WITH SECTION 13-301 OF THE CODE OF ALBEMARLE.
14. BORROW, FILL OR WASTE ACTIVITY INVOLVING INDUSTRIAL-TYPE POWER EQUIPMENT SHALL BE LIMITED TO THE HOURS OF 7:00AM TO 9:00PM.
15. BORROW, FILL OR WASTE ACTIVITY SHALL BE CONDUCTED IN A SAFE MANNER THAT MAINTAINS LATERAL SUPPORT, IN ORDER TO MINIMIZE ANY HAZARD TO PERSONS, PHYSICAL DAMAGE TO ADJACENT LAND AND STRUCTURES/IMPROVEMENTS, AND DAMAGE TO ANY PUBLIC STREET BECAUSE OF SLIDES, SINKING, OR COLLAPSE.
16. THE DEVELOPER SHALL RESERVE THE RIGHT TO INSTALL, MAINTAIN, REMOVE OR CONVERT TO PERMANENT STORMWATER MANAGEMENT FACILITIES WHERE APPLICABLE ALL EROSION CONTROL MEASURES REQUIRED BY THIS PLAN REGARDLESS OF THE SALE OF ANY LOT, UNIT, BUILDING OR OTHER PORTION OF THE PROPERTY.
17. TEMPORARY STABILIZATION SHALL BE TEMPORARY SEEDING AND MULCHING. SEEDING IS TO BE AT 75 LBS/ACRE, AND IN THE MONTHS OF SEPTEMBER TO FEBRUARY TO CONSIST A 50/50 MIX OF ANNUAL RYEGRASS AND CEREAL WINTER RYE, OR IN MARCH AND APRIL TO CONSIST OF ANNUAL RYE, OR MAY THROUGH AUGUST TO CONSIST OF GERMAN MILLET. STRAW MULCH IS TO BE APPLIED AT 80LBS/100SF. ALTERNATIVES ARE SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
18. PERMANENT STABILIZATION SHALL BE LIME AND FERTILIZER, PERMANENT SEEDING, AND MULCH. AGRICULTURAL GRADE LIMESTONE SHALL BE APPLIED AT 90LBS/1000SF, INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. FERTILIZER SHALL BE APPLIED AT 1000 LBS/ACRE AND CONSIST OF A 10-20-10 NUTRIENT MIX. PERMANENT SEEDING SHALL BE APPLIED AT 180 LBS/ACRE AND CONSIST OF 95% KENTUCKY 31 OR TALL FESCUE AND 0-5% PERENNIAL RYEGRASS OR KENTUCKY BLUEGRASS. STRAW MULCH IS TO BE APPLIED AT 80 LBS/100SF. ALTERNATIVES ARE SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
19. MAINTENANCE: ALL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. ANY DAMAGE OR CLOGGING TO STRUCTURAL MEASURES SHALL BE REPAIRED IMMEDIATELY. SILT TRAPS SHALL BE CLEANED WHEN 50% OF THE WET STORAGE VOLUME IS FILLED WITH SEDIMENT. ALL SEEDED AREAS SHALL BE RESEEDED WHEN NECESSARY TO ACHIEVE A GOOD STAND OF GRASS. SILT FENCE AND DIVERSION DYKES WHICH COLLECT SEDIMENT TO HALF THEIR HEIGHT MUST BE CLEANED AND REPAIRED IMMEDIATELY.
20. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF FINAL SITE STABILIZATION, WHEN MEASURES ARE NO LONGER NEEDED, SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
21. THIS PLAN SHALL BE VOID IF THE OWNER DOES NOT OBTAIN A PERMIT WTIHIN 1 YEAR OF THE DATE OF APPROVAL. (WATER PROTECTION ORDINANCE SECTION 17-204G.)
22. PERMANENT VEGETATION SHALL BE INSTALLED ON ALL DENUDED AREAS WITHIN NINE (9) MONTHS AFTER THE DATE THE LAND DISTURBING ACTIVITY COMMENCED. (WATER PROTECTION ORDINANCE SECTION 17-207B)
23. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING FOURTEEN (14) CALENDAR DAYS. STABILIZATION MUST BE COMPLETED WITHIN THE PERIOD OF TIME DETERMINED BY THE ADMINISTRATOR. IN ARID, SEMIARID, AND DROUGHT-STRICKEN AREAS WHERE INITIATING VEGETATIVE STABILIZATION MEASURES IMMEDIATELY IN IS INFEASIBLE, ALTERNATIVE STABILIZATION MEASURES MUST BE IMPLORED AS SPECIFIED BY THE ADMINISTRATOR. (WATER PROTECTION ORDINANCE SECTION 17 - 405 6.h)

PROPOSED LEGEND



GRADING

TC = TOP OF CURB
BC = BOTTOM OF CURB
EP = EDGE OF PAVEMENT
EC = EDGE OF CONCRETE
TW = TOP OF WALL
BW = BOTTOM OF WALL
TS = TOP OF STAIRS
BS = BOTTOM OF STAIRS

VDOT CHARLOTTESVILLE RESIDENCY GENERAL NOTES AND DETAILS

1. ALL MATERIALS AND CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE *VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE SPECIFICATIONS, ROAD AND BRIDGE STANDARDS AND VIRGINIA WORK AREA PROTECTION MANUAL.*
2. LAND USE PERMITS (LUP) SHALL BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO BEGINNING ANY CONSTRUCTION WITHIN THE EXISTING STATE MAINTAINED RIGHT-OF-WAY (INCLUDING ACCESS).
3. VDOT REQUIRES NOTIFICATION 48 HOURS PRIOR TO COMMENCING WITH INITIAL CONSTRUCTION ACTIVITIES. PLEASE CONTACT THE APPROPRIATE PERMIT OFFICE IN WHICH YOUR PROPOSED ACTIVITIES ARE TO OCCUR.
4. APPROVAL OF A DETAILED CONSTRUCTION SEQUENCING AND MAINTENANCE OF TRAFFIC PLAN FOR THE WORK ZONE IS A PREREQUISITE FOR ISSUANCE OF A LAND USE PERMIT. THE PLAN SHALL ACCOMMODATE ACCESS TO AND CONSTRUCTION WITHIN VDOT MAINTAINED RIGHT-OF-WAY.
5. WORK ZONES - REQUESTS FOR THE IMPLEMENTATION OF TEMPORARY LANE AND SHOULDER CLOSURES ON INTERSTATE, LIMITED ACCESS PRIMARY ROUTES, AND HIGH VOLUME SECONDARY ROUTES MUST BE ENTERED INTO THE VDOT LANE CLOSURE ADVISORY MANAGEMENT SYSTEM (LCAMS) BY 12:00 PM ON THURSDAY THE WEEK BEFORE THE WORK IS TO TAKE PLACE FOR APPROVAL. CONTACT THE WORK ZONE COORDINATOR AT 540-717-4121 FOR QUESTIONS AND ASSISTANCE. ALL LANE/SHOULDER CLOSURES REQUIRING LCAMS APPROVAL SHALL BE ENTERED INTO VA TRAFFIC. LANE/SHOULDER CLOSURES ON PRIMARY AND MAJOR SECONDARY ROUTES MUST ALSO BE ENTERED IN VA TRAFFIC. MAJOR SECONDARY ROUTES ARE DEFINED AS THOSE LISTED IN THE RICHMOND DISTRICT RECOMMENDED WORK HOURS DOCUMENT. JUST PRIOR TO THE FIRST CONE GOING DOWN, USERS MUST CONTACT THE TOC AT 540-332-9500 TO ACTIVATE THE WORK ZONE AND WHEN THE LAST CONE HAS BEEN PICKED UP TO DEACTIVATE THE WORK ZONE.
6. PERMITTEE MUST NOTIFY VIRGINIA DEPARTMENT OF TRANSPORTATION TOC WHEN THERE IS A CRASH IN A WORK ZONE AT 540-332-9500
7. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONSULT THE DEVELOPER'S ENGINEERING CONSULTANT AND VERIFY THE APPROVAL OF THE PLANS BY ALL APPLICABLE FEDERAL, STATE AND LOCAL AGENCIES.
8. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE DEVELOPER'S ENGINEERING CONSULTANT IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THIS PLAN, CALL “MISS UTILITY” AT 811. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING AND PROPOSED RIGHT OF WAY REQUIRED BY THE DEVELOPMENT.
9. THE PERMITTEE OR THEIR AGENT MUST CONTACT THE VDOT CUSTOMER SERVICE CENTER AT 1-800-367-7623 A MINIMUM OF 48 HOURS PRIOR TO INITIATING ANY PLANNED EXCAVATION WITHIN 1,000 FEET OF A SIGNALIZED INTERSECTION AND/OR NEAR VDOT ITS INFRASTRUCTURE. EXCAVATION MAY PROCEED ONLY AFTER THE VDOT REGIONAL UTILITY LOCATION AGENT HAS NOTIFIED THE PERMITTEE THAT THE UTILITY MARKING HAS BEEN COMPLETED. ADDITIONAL INFORMATION CAN BE FOUND AT: HTTP://WWW.VIRGINIADOT.ORG/BUSINESS/RESOURCES/IIM/TE-383_REQUEST_FOR_MARKING_VDOT_UTILITY_LOCATION.PDF “MISS UTILITY” DOES NOT LOCATE VDOT UTILITIES.
10. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL POINTS OF CONNECTION OF PROPOSED WORK TO EXISTING CURBS, SANITARY LINES, WATER LINES, ETC., PRIOR TO CONSTRUCTION.
11. DESIGN CHANGES, SPECIFIED MATERIALS CHANGES AND FIELD CHANGES FROM THE APPROVED PLANS SHALL BE RE-SUBMITTED TO VDOT FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK. A LETTER OF EXPLANATION SHALL ACCOMPANY THE PROPOSED REVISION ALONG WITH DRAINAGE CALCULATIONS WHEN APPROPRIATE.
12. VDOT APPROVAL OF CONSTRUCTION PLANS DOES NOT PRECLUDE THE RIGHT TO REQUIRE ADDITIONAL FACILITIES AS DEEMED NECESSARY FOR ACCEPTANCE OF THE ROADS INTO THE VDOT SECONDARY ROAD SYSTEM BASED ON FIELD CONDITIONS OR UNAPPROVED PLAN CHANGES.
13. VDOT APPROVAL OF THESE PLANS WILL EXPIRE FIVE (5) YEARS FROM THE DATE OF APPROVAL FOR SITE PLANS AND SUBDIVISION PLANS IF CONSTRUCTION HAS NOT STARTED.
14. PRELIMINARY DESIGN OF THE PAVEMENT STRUCTURE FOR ALL SUBDIVISION STREETS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF *THE PAVEMENT DESIGN GUIDE FOR SUBDIVISION AND SECONDARY ROADS IN VIRGINIA*. THE COMPLETED DESIGN WORKSHEET APPENDIX IV SHALL BE INCLUDED WITH THE INITIAL PLAN SUBMITTAL FOR EACH PROPOSED PAVEMENT SECTION UTILIZING THE PREDICTED SOIL SUPPORT VALUE SHOWN IN APPENDIX I OF THE PAVEMENT DESIGN GUIDE OR AS REPORTED IN A GEOTECHNICAL ANALYSIS OF THE ON-SITE SOILS.
15. A COPY OF THE COMPLETE CBR REPORT SHALL BE SUBMITTED TO VDOT IN CONJUNCTION WITH FINAL PAVEMENT DESIGNS. ALL PAVEMENT DESIGN RECOMMENDATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF *PAVEMENT DESIGN GUIDE FOR SUBDIVISION AND SECONDARY ROADS IN VIRGINIA*.
16. ALL VEGETATION AND ORGANIC MATERIAL SHALL BE REMOVED FROM THE RIGHT OF WAY LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.
17. UPON DISCOVERY OF SOILS THAT ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY CONSTRUCTION PURPOSES, THE DEVELOPER OR HIS DESIGNEE, WHICH MAY BE THE CONTRACTOR, SHALL IMMEDIATELY ENGAGE A GEOTECHNICAL ENGINEER AND NOTIFY VDOT. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE GEOTECHNICAL ENGINEER, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH CURRENT VDOT SPECIFICATIONS.
18. THE NECESSITY AND LOCATIONS FOR ADDITIONAL VDOT STANDARD UNDERDRAINS SHALL BE DETERMINED AT TIME OF SUBGRADE INSPECTION. VIDEO INSPECTION OF ACCESSIBLE OUTLET LOCATIONS, MAINLINE LONGITUDINAL CONNECTIONS, AND LONGITUDINAL PIPE FOR ALL PAVEMENT UNDERDRAINS, CROSS DRAINS, EDGEDRAINS AND PREFABRICATED GEOCOMPOSITE PANEL DRAINS SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 501 OF THE *ROAD AND BRIDGE SPECIFICATIONS* AND *VIRGINIA TEST METHOD 108 - POST INSTALLATION INSPECTION OF UNDERDRAINS, CROSSDRAINS, AND EDGEDRAINS.*
19. VDOT SHALL HAVE PERFORMED THE REQUIRED FIELD INSPECTION (PROOF ROLL) PRIOR TO PLACEMENT OF THE AGGREGATE BASE COURSE(S). CONTACT VDOT FOR SUBGRADE INSPECTION 48 HOURS PRIOR TO SCHEDULING PLACEMENT OF AGGREGATE BASE COURSE(S).
20. THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECASTED WEATHER CONDITIONS PER SECTION 315 OF *THE ROAD AND BRIDGE SPECIFICATIONS*.
21. VDOT SHALL HAVE APPROVED THE AGGREGATE BASE COURSE(S) FOR DEPTH, TEMPLATE AND PERFORMED THE REQUIRED FIELD INSPECTION (PROOF ROLL) PRIOR TO PLACEMENT OF ANY ASPHALT CONCRETE SURFACE COURSE(S). CONTACT VDOT FOR INSPECTION OF THE AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO APPLICATION OF THE SURFACE COURSE(S).
22. A LICENSED GEOTECHNICAL ENGINEER OR HIS DESIGNEE SHALL ASCERTAIN CAUSE AND CERTIFY RECOMMENDED METHOD OF REPAIR FOR ALL PAVEMENT STRUCTURAL FAILURES PRIOR TO STATE ACCEPTANCE.
23. VDOT SHALL BE PROVIDED DOCUMENTATION BY A LICENSED GEOTECHNICAL ENGINEER, CERTIFYING THAT ALL IN-PLACE PAVEMENTS MEET OR EXCEED THE APPROVED PAVEMENT DESIGN THICKNESS PRIOR TO STATE ACCEPTANCE OF THE STREET. CORES ARE TO BE OBTAINED VERIFYING PAVEMENT THICKNESS UNLESS OTHERWISE DIRECTED BY VDOT. THE PERMIT INSPECTOR SHALL BE CONTACTED 24 HOURS PRIOR TO THE CORE SAMPLES BEING TAKEN.
24. ALL STORM SEWER DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH LATEST *VDOT DRAINAGE MANUAL, ROAD AND BRIDGE STANDARDS*, AND IIMS.
25. ALL PRE-CAST UNITS SHALL BE VDOT APPROVED. CERTIFICATION AND VDOT STAMP IS REQUIRED ON ALL UNITS.
26. ALL CONCRETE SHALL BE CLASS A3-AE (AIR ENTRAINED 3,000 PSI) UNLESS OTHERWISE SPECIFIED.
27. ALL ROADSIDE DITCHES SHOWN AS PAVED ON PLANS ARE TO BE PAVED IN ACCORDANCE WITH THE STANDARD TYPICAL SECTION AS SHOWN ON THE PLANS. ANY ADDITIONAL PAVING OF THE DITCHES, OTHER THAN THOSE SHOWN ON THE ROAD PLANS WILL BE DETERMINED PRIOR TO ACCEPTANCE OF THE ROADS INTO THE VDOT SECONDARY ROAD SYSTEM.
28. ROAD & BRIDGE SPECIFICATIONS SECTION 302, DRAINAGE STRUCTURES ADDRESSES POST INSTALLATION VISUAL/VIDEO CAMERA INSPECTION OF STORM SEWER PIPES AND PIPE CULVERTS. INSPECTION FREQUENCY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR AS NECESSITATED BY THE ENGINEER. VIDEO INSPECTION SHALL BE CONDUCTED IN ACCORDANCE WITH *VIRGINIA TEST METHOD (VTM) 123, POST INSTALLATION INSPECTION OF BURIED STORM SEWER PIPE AND PIPE CULVERTS*.
29. A CONSTRUCTION ENTRANCE SHALL BE INSTALLED ON EACH INDIVIDUAL LOT PRIOR TO ANY LOT GRADING OR HOME CONSTRUCTION ACTIVITIES AND SHALL BE ADEQUATELY MAINTAINED UNTIL ALL CONSTRUCTION TRAFFIC AREAS WITHIN THE LOT HAVE BEEN STABILIZED.
30. ALL ENTRANCES SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CURRENT VDOT STANDARDS. RESIDENTIAL LOT ACCESS SHALL BE PROVIDED PER THE FOLLOWING CRITERIA:
    - ALL DRIVEWAY ENTRANCES AND ENTRANCE CULVERTS SHALL CONFORM TO PE-1 PRIVATE ENTRANCE STANDARDS UNLESS OTHERWISE APPROVED BY VDOT. NO ENTRANCE CULVERTS ARE TO BE INSTALLED WITHIN FIVE (5) FEET OF A PROPERTY CORNER.
    - VDOT STANDARD CG-9D ENTRANCES SHALL BE USED WHEN AN ENTRANCE IS REQUIRED IN CURB AND GUTTER NEIGHBORHOODS UNLESS OTHERWISE APPROVED BY VDOT.
31. DRY GUTTER IS NOT ALLOWED IN VDOT RIGHT OF WAY EXCEPT AS SHOWN ON VDOT'S ENTRANCE STANDARD DETAILS.
32. THE DEVELOPER SHALL FURNISH AND INSTALL STOP SIGNS AND STOP BARS AT STREET INTERSECTIONS AND ALL REGULATORY SIGNAGE PER THE *MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES*. ALL SIGNS MUST BE INSTALLED ON VDOT STANDARD STP-1 SIGN POSTS.
33. INSTALLATION, MAINTENANCE AND OPERATION OF STREET LIGHTING SHALL BE PROVIDED BY AND AT THE SOLE EXPENSE OF OTHERS. VDOT WILL ALLOW LIGHTING WITHIN THE RIGHT OF WAY BY LAND USE PERMIT (LUP) ONLY. LIGHTING ON CURB SECTIONS SHALL BE PLACED BEHIND THE CURB AND PREFERABLY BEHIND THE SIDEWALK. FOR SHOULDER SECTIONS, THE POLE SHALL BE PLACED A MINIMUM OF 10' FROM EDGE OF PAVEMENT AND BEHIND THE DITCH LINE. ALL LIGHTING PROPOSED WITHIN THE RIGHT OF WAY MUST BE DESIGNED IN ACCORDANCE WITH THE *AASHTO GUIDE FOR ROADWAY LIGHTING* AND SHALL MEET THE CURRENT ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) STANDARDS.
34. TRAFFIC SIGNALS REQUIRE AN INDIVIDUAL LAND USE PERMIT. THE APPLICANT SHALL BE RESPONSIBLE FOR THE DESIGN COSTS OF ANY TRAFFIC SIGNAL INSTALLATION OR MODIFICATION OF EXISTING SIGNALS. DESIGN PLANS MUST BE PREPARED AND SUBMITTED TO VDOT BY A LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL. THIS INCLUDES THE FOUNDATION DESIGN AND ANY EQUIPMENT ASSOCIATED WITH THE COMPLETED TRAFFIC SIGNAL. ALL EQUIPMENT MUST BE APPROVED BY VDOT. SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO FABRICATING ANY SIGNAL STRUCTURAL COMPONENTS.
35. SOIL STABILIZATION IS REQUIRED WITHIN 7 DAYS FOR ALL AREAS WHERE CLEARING, GRADING, EXCAVATION OR OTHER LAND DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED OR WHERE LAND DISTURBANCE ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED FOR AN ANTICIPATED DURATION OF GREATER THAN 7 DAYS, OR UPON COMPLETION OF GRADING OPERATIONS FOR A SPECIFIED AREA. SOIL STABILIZATION SHALL BEGIN AS SOON AS PRACTICABLE, BUT NOT LATER THAN THE SEVEN DAYS FOLLOWING THE DAY WHEN LAND DISTURBING ACTIVITIES TEMPORARILY OR PERMANENTLY CEASED.
36. NO STRUCTURE SHALL BE CONSTRUCTED ON STATE MAINTAINED RIGHT OF WAYS, OR ON RIGHT OF WAYS INTENDED TO BE MAINTAINED BY VDOT UNLESS SAID STRUCTURES ARE SHOWN ON CONSTRUCTION PLANS APPROVED BY VDOT OR SUCH STRUCTURES ARE COVERED BY A VDOT LUP (OR BY A LETTER OF INTENT FROM THE RESIDENT ADMINISTRATOR/RESIDENT ENGINEER TO ISSUE SAID PERMIT AT THE TIME OF STATE ACCEPTANCE).

NOTE: ANY CHANGES TO THIS DOCUMENT AFTER BIDDING THAT ARE REQUIRED BY THE ALBEMARLE COUNTY ENGINEERING DEPARTMENT SHALL APPLY.

CLINT W. SHIFFLETT
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NOT FOR CONSTRUCTION

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TIMMONS GROUP

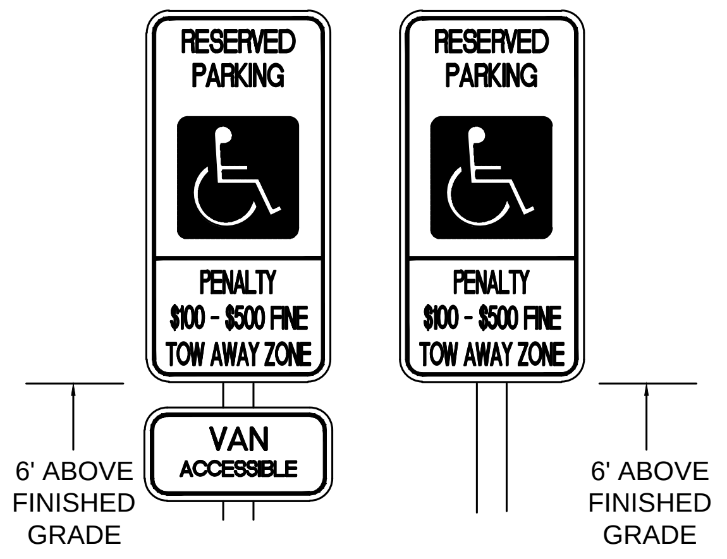
REVISION DESCRIPTION	DATE

DATE
03/14/2025
DRAWN BY
C. TAYLOR
DESIGNED BY
T. BRIGHT
CHECKED BY
C. SHIFFLETT
SCALE

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
NOTES & DETAILS

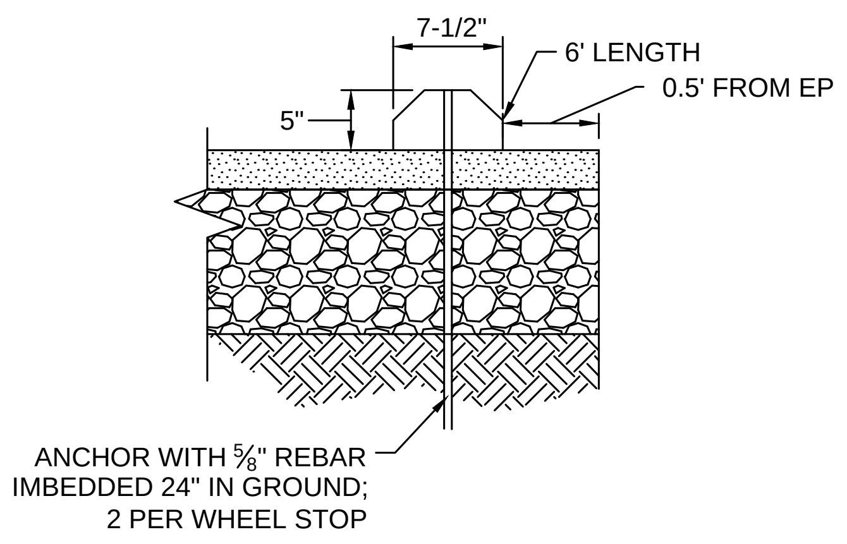
JOB NO.
64375
SHEET NO.
C1.0

VA. SIGN FOR THE DISABLED ON 0.80 GAUGE ALUMINUM. COLORS: GREEN BORDER & LEGEND, BLUE SYMBOL FOR ACCESSIBILITY, WHITE BACKGROUND.



SPACES SHALL BE IDENTIFIED BY ABOVE GRADE SIGNS AS RESERVED FOR PHYSICALLY DISABLED PERSONS. PROVIDE ONE (1) R-7-8 SIGN AT EACH PARKING SPACE INDICATED ON SITE PLAN. SIGN SHALL BE ALUMINUM (PAINTED WHITE) WITH GREEN LETTERS AND INTERNATIONAL WHEELCHAIR SYMBOL. SIGN SHALL BE PLACED ON STEEL POST 1-1/2" O PAINTED BLACK SET IN MIN. 2' OF CONCRETE.

ADA PARKING SIGNS
No Scale

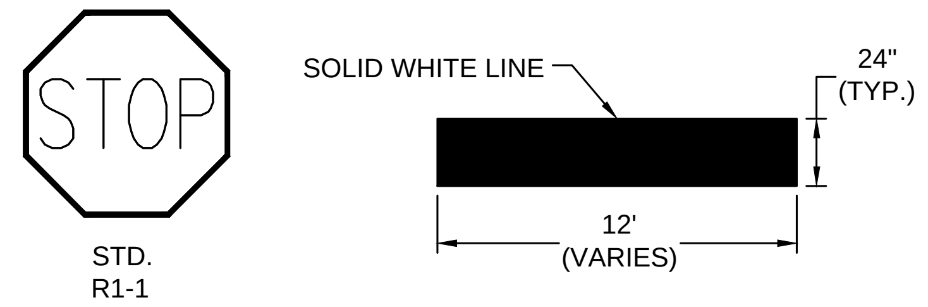


7-1/2"
6' LENGTH
0.5' FROM EP
5"
ANCHOR WITH ⅝" REBAR IMBEDDED 24" IN GROUND; 2 PER WHEEL STOP

PRECAST CONCRETE WHEEL STOP
No Scale

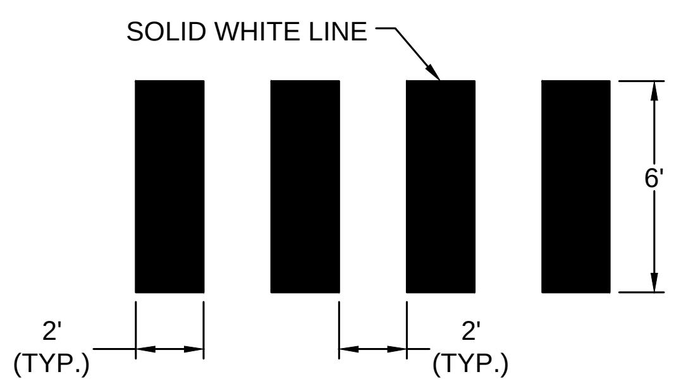
SIGNAGE NOTES:

1. ALL SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF EACH OF THE FOLLOWING AND ANY REVISION THERE TO:
   - A. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   - B. THE VIRGINIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   - C. THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
   - D. THE 2000 INTERNATIONAL FIRE CODE.
2. SIGN LOCATIONS ARE APPROXIMATE AND ARE TO BE MODIFIED IN THE FIELD TO AVOID CONFLICT WITH UNDERGROUND UTILITIES OR OTHER CONSTRUCTIONS, AND TO COMPLY WITH STANDARDS REFERENCED IN NOTE 1 ABOVE.
3. ALL SIGNS AND PAVEMENT MARKINGS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR. ALL SIGNS TO BE FURNISHED AND INSTALLED WITH STANDARD U POST GALVANIZED BY THE CONTRACTOR.

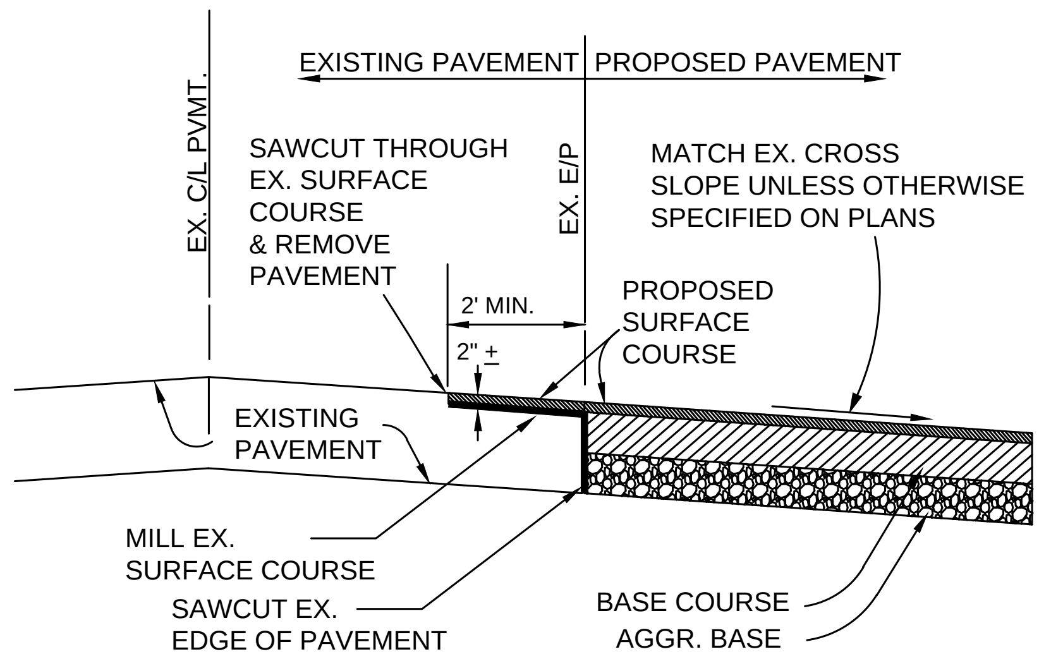


NOTE: STOP SIGNS TO BE 30" WITH HIGH INTENSITY SHEETING

STOP BAR DETAIL
NO SCALE

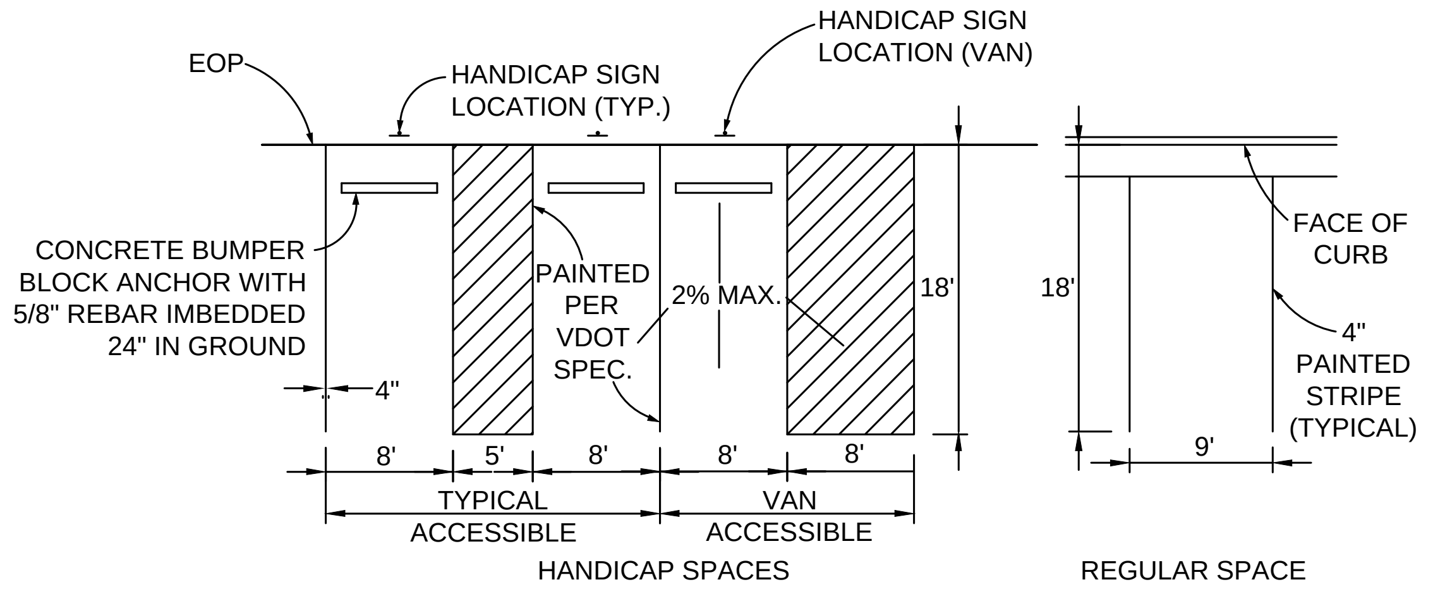


STRIPING AND SIGNAGE DETAIL
No Scale



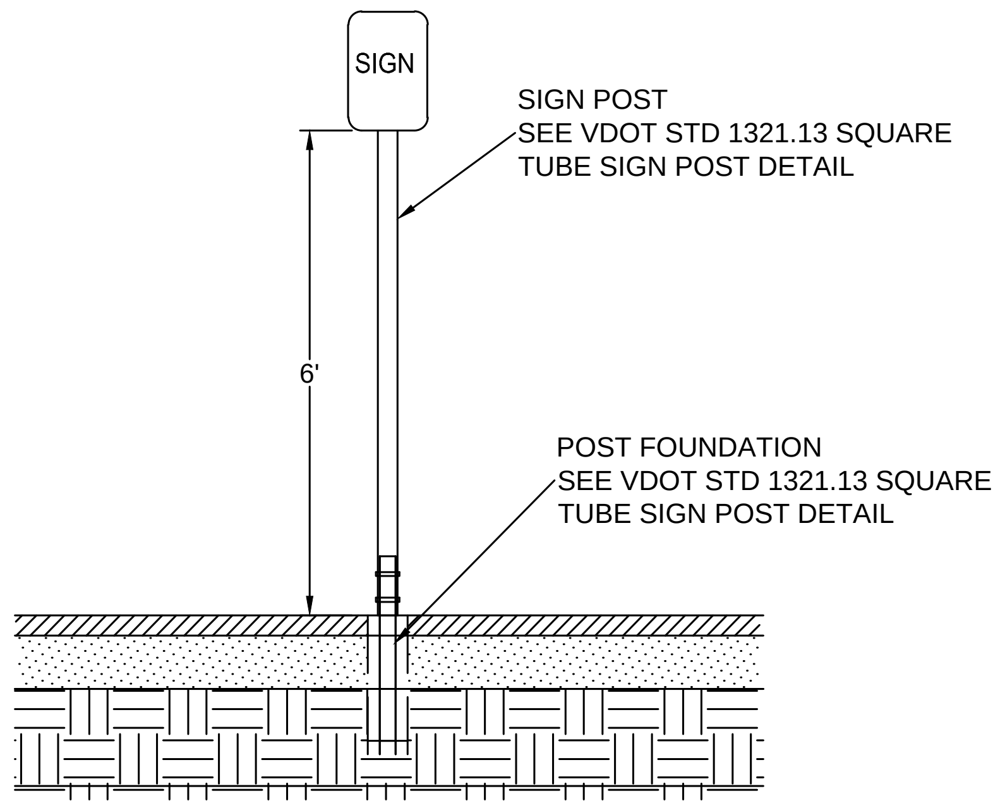
NOTE: PROPOSED PAVEMENT MUST TIE IN WITH EXISTING PAVEMENT

PAVEMENT REPLACEMENT JOINT DETAIL
No Scale



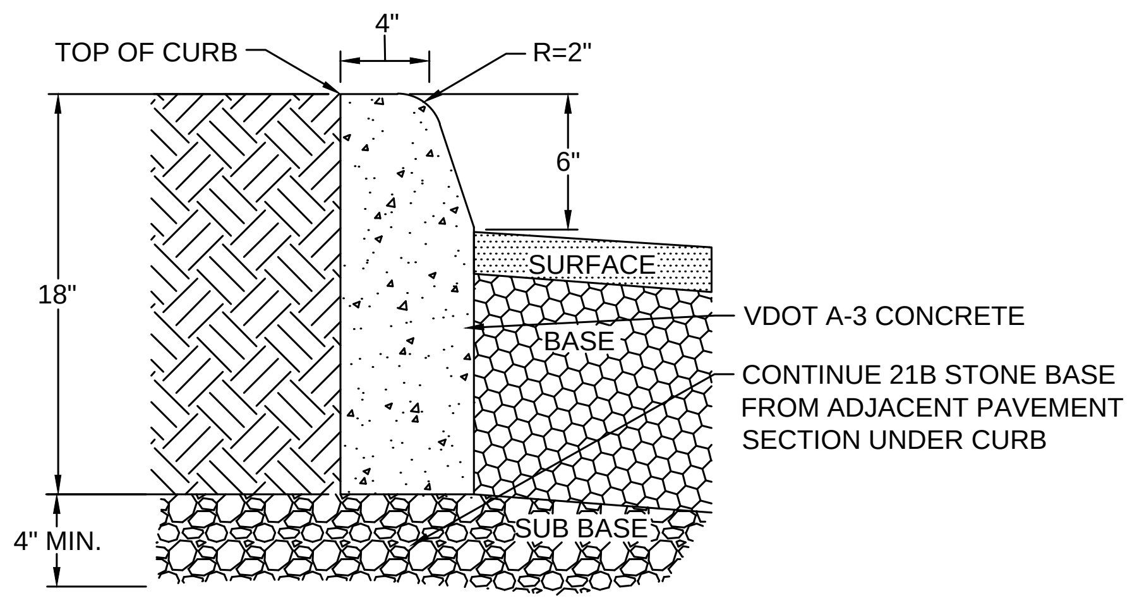
EOP
HANDICAP SIGN LOCATION (TYP.)
HANDICAP SIGN LOCATION (VAN)
CONCRETE BUMPER BLOCK ANCHOR WITH 5/8" REBAR IMBEDDED 24" IN GROUND
4"
PAINTED PER VDOT SPEC.
2% MAX.
18'
18'
FACE OF CURB
4" PAINTED STRIPE (TYPICAL)
8'
5'
8'
8'
8'
9'
TYPICAL ACCESSIBLE
VAN ACCESSIBLE
HANDICAP SPACES
REGULAR SPACE

TYPICAL PARKING SPACE DETAILS
No Scale



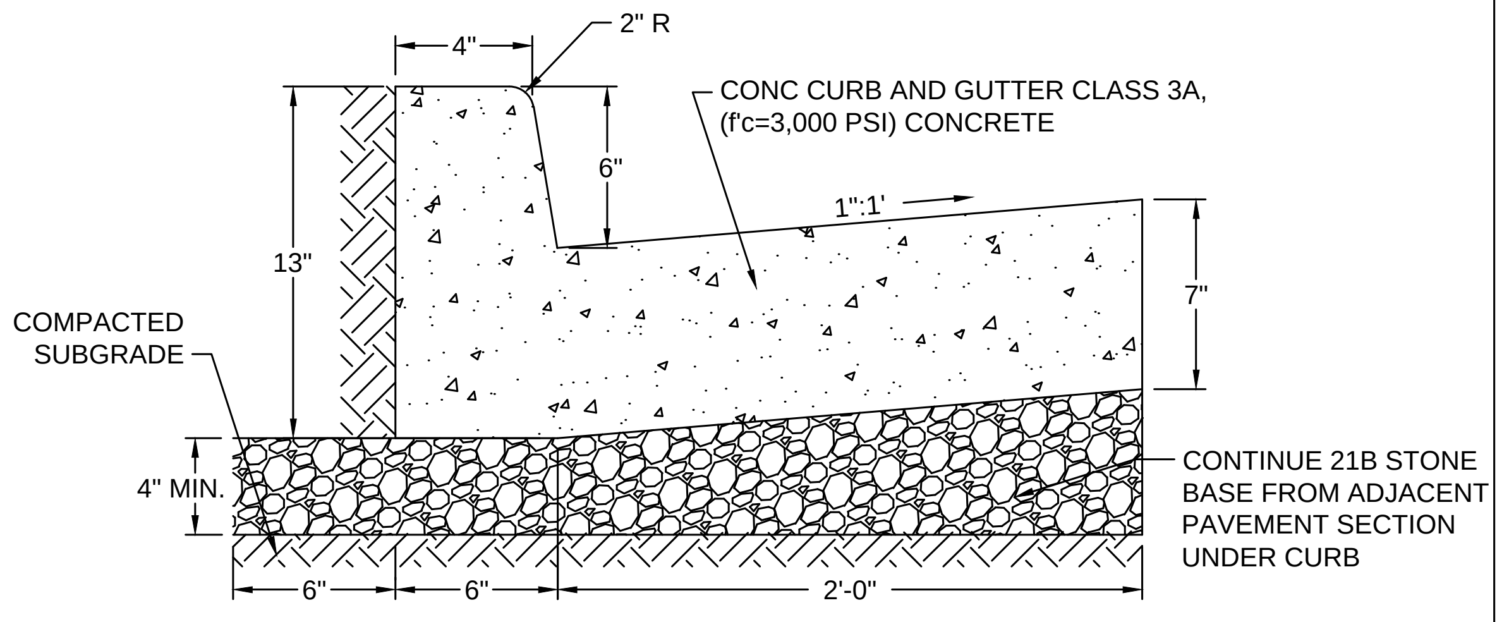
SIGN
SIGN POST SEE VDOT STD 1321.13 SQUARE TUBE SIGN POST DETAIL
6'
POST FOUNDATION SEE VDOT STD 1321.13 SQUARE TUBE SIGN POST DETAIL

SIGN AND POST DETAIL
No Scale



4"
TOP OF CURB
R=2"
6"
18"
SURFACE
BASE
VDOT A-3 CONCRETE
CONTINUE 21B STONE BASE FROM ADJACENT PAVEMENT SECTION UNDER CURB
4" MIN.
SUB BASE

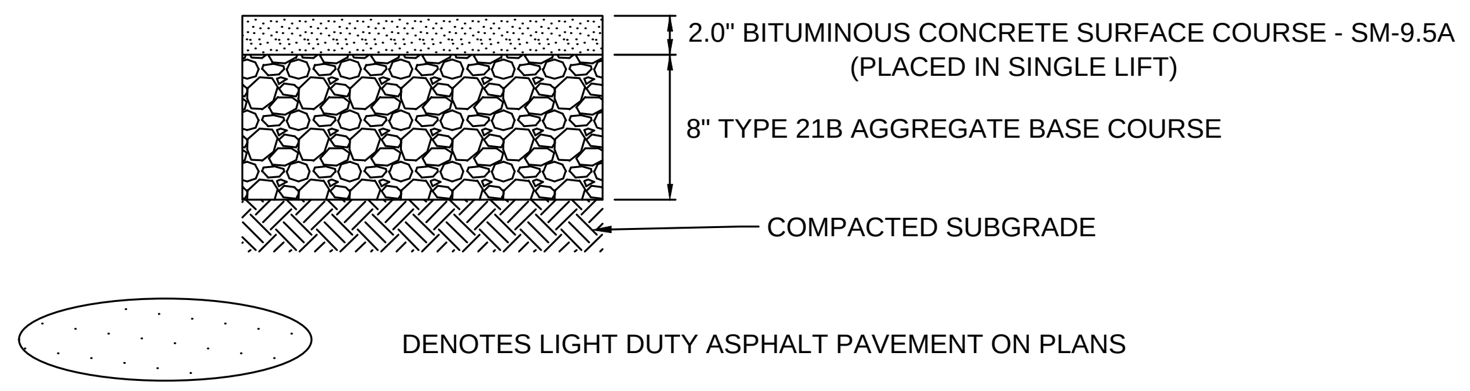
VDOT STANDARD CG-2 CURB
No Scale



4"
2" R
CONC CURB AND GUTTER CLASS 3A, (f'c=3,000 PSI) CONCRETE
6"
1":1'
13"
7"
COMPACTED SUBGRADE
4" MIN.
CONTINUE 21B STONE BASE FROM ADJACENT PAVEMENT SECTION UNDER CURB
6"
6"
2'-0"

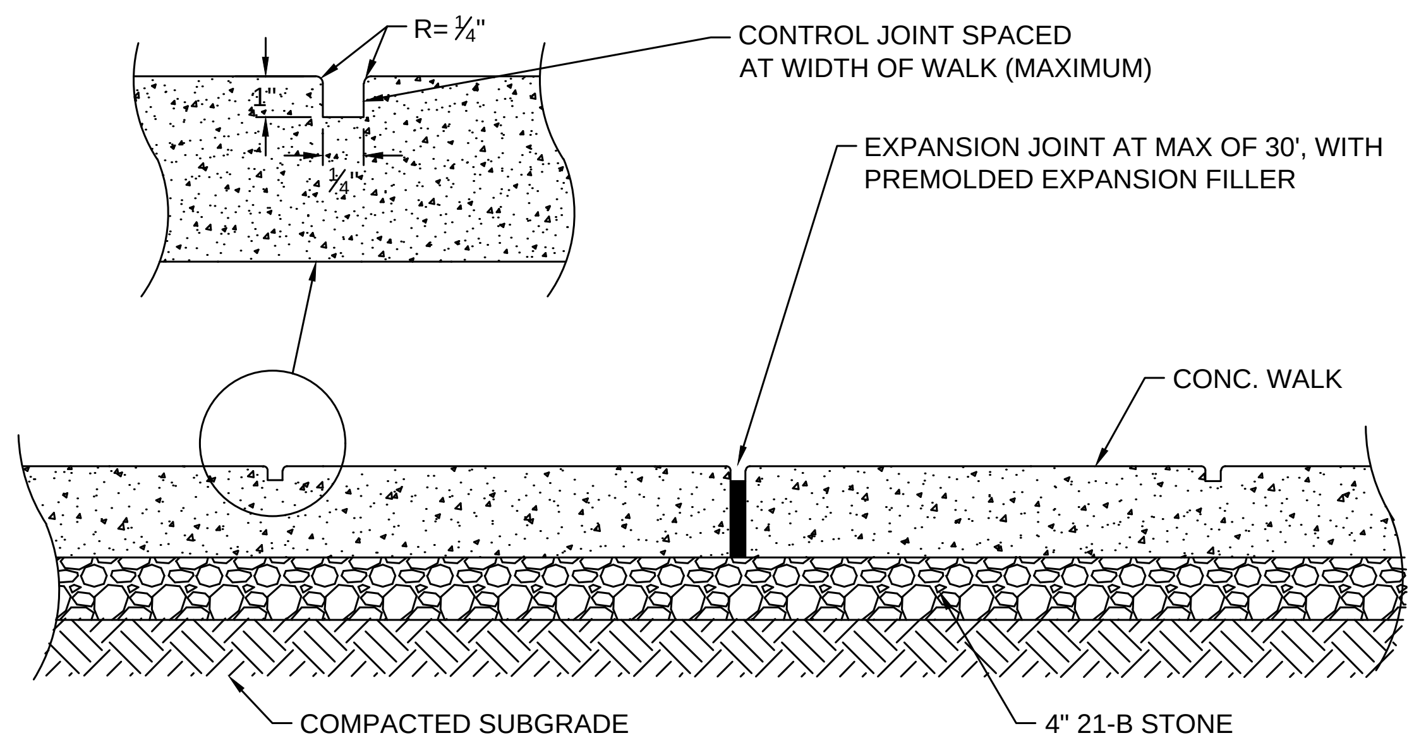
NOTE: CONTRACTOR SHALL INSTALL UD-4 PER VDOT SPECIFICATIONS

VDOT STANDARD CG-6 CURB & GUTTER
No Scale



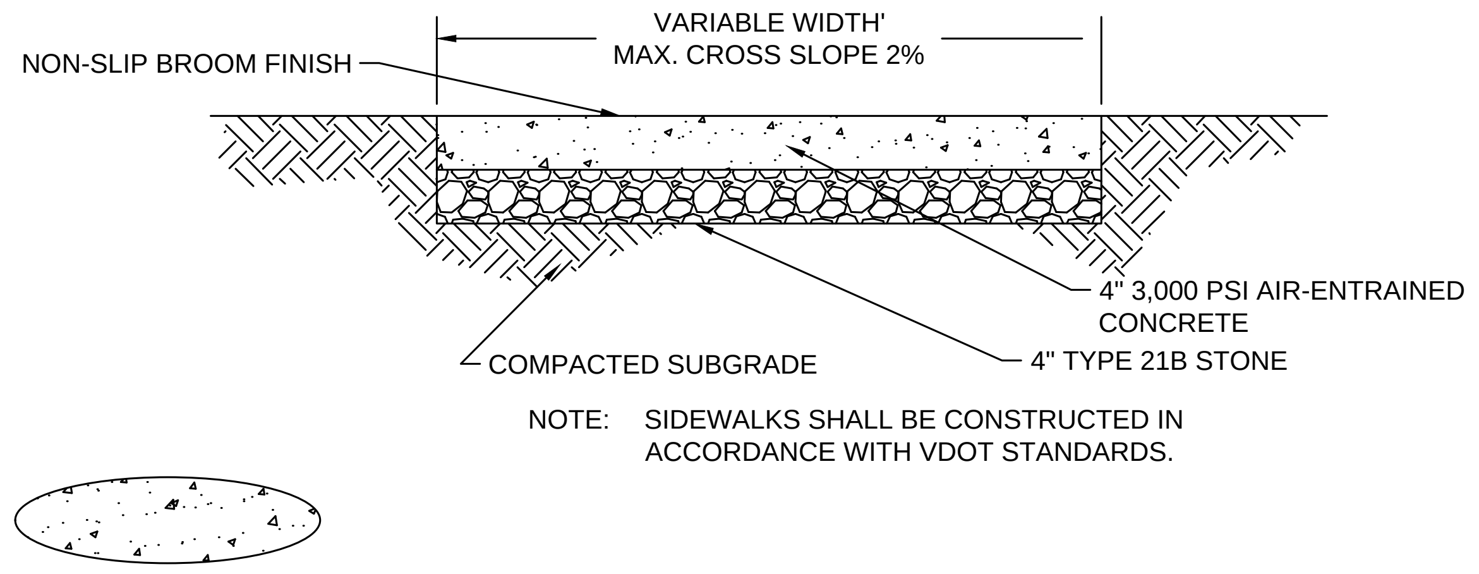
2.0" BITUMINOUS CONCRETE SURFACE COURSE - SM-9.5A (PLACED IN SINGLE LIFT)
8" TYPE 21B AGGREGATE BASE COURSE
COMPACTED SUBGRADE
DENOTES LIGHT DUTY ASPHALT PAVEMENT ON PLANS

LIGHT DUTY ASPHALT PAVEMENT SECTION
No Scale



R= ¼"
CONTROL JOINT SPACED AT WIDTH OF WALK (MAXIMUM)
EXPANSION JOINT AT MAX OF 30', WITH PREMOLDED EXPANSION FILLER
CONC. WALK
COMPACTED SUBGRADE
4" 21-B STONE

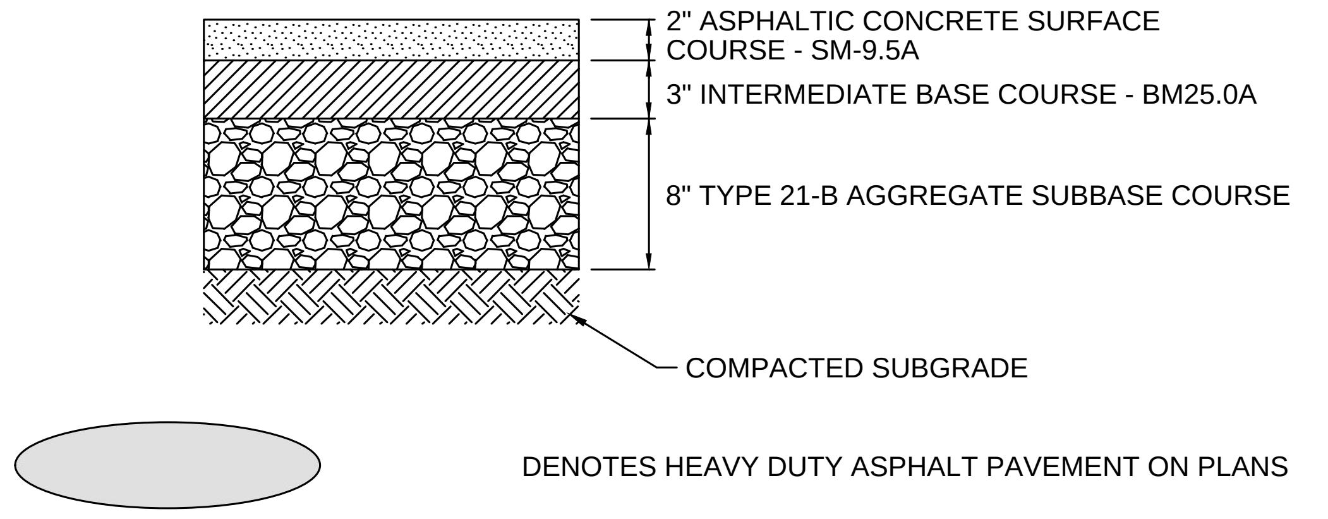
CONCRETE SIDEWALK JOINT DETAIL
No Scale



NON-SLIP BROOM FINISH
VARIABLE WIDTH' MAX. CROSS SLOPE 2%
4" 3,000 PSI AIR-ENTRAINED CONCRETE
COMPACTED SUBGRADE
4" TYPE 21B STONE

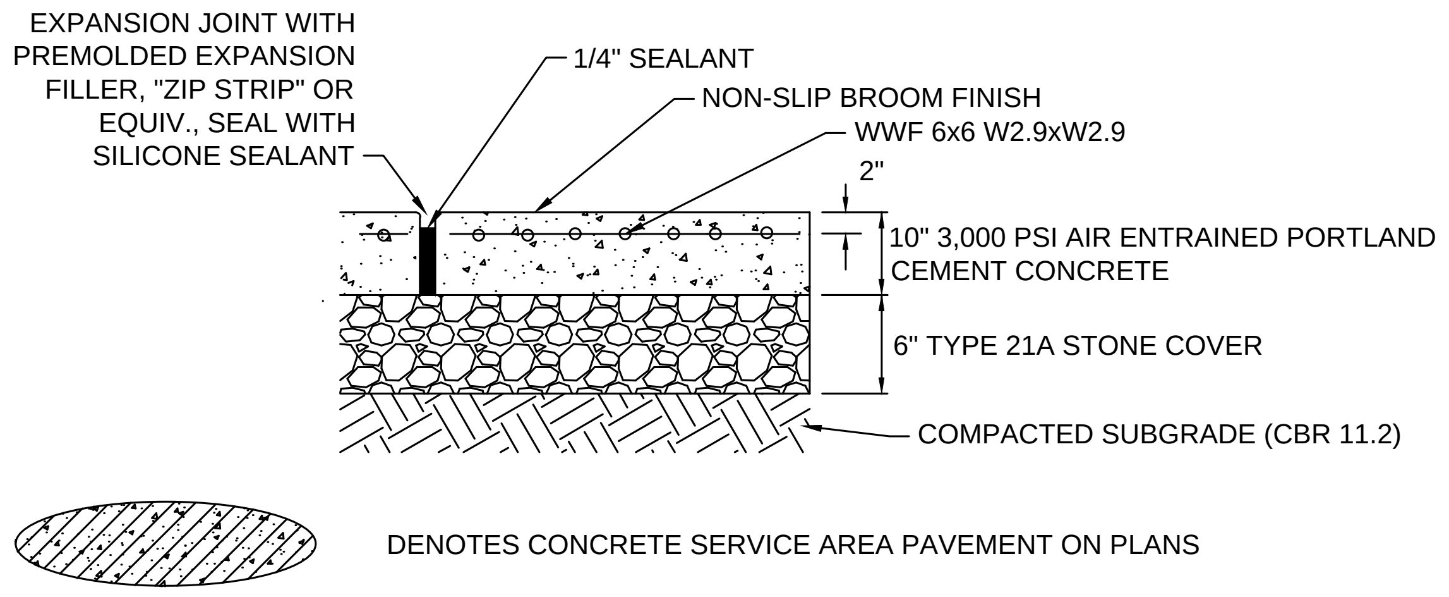
NOTE: SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT STANDARDS.

CONCRETE SIDEWALK PAVEMENT SECTION
No Scale



2" ASPHALTIC CONCRETE SURFACE COURSE - SM-9.5A
3" INTERMEDIATE BASE COURSE - BM25.0A
8" TYPE 21-B AGGREGATE SUBBASE COURSE
COMPACTED SUBGRADE
DENOTES HEAVY DUTY ASPHALT PAVEMENT ON PLANS

HEAVY DUTY ASPHALT PAVEMENT SECTION
No Scale



EXPANSION JOINT WITH PREMOLDED EXPANSION FILLER, "ZIP STRIP" OR EQUIV., SEAL WITH SILICONE SEALANT
1/4" SEALANT
NON-SLIP BROOM FINISH
WWF 6x6 W2.9xW2.9
2"
10" 3,000 PSI AIR ENTRAINED PORTLAND CEMENT CONCRETE
6" TYPE 21A STONE COVER
COMPACTED SUBGRADE (CBR 11.2)
DENOTES CONCRETE SERVICE AREA PAVEMENT ON PLANS

HEAVY DUTY CONCRETE SECTION
No Scale

CLINT W. SHIFFLETT
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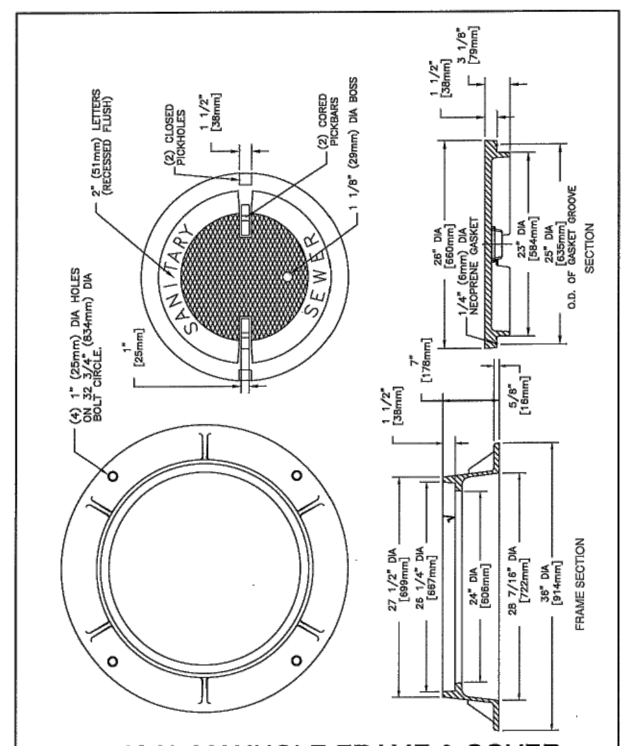
DATE	REVISION DESCRIPTION

DATE
03/14/2025
DRAWN BY
C. TAYLOR
DESIGNED BY
T. BRIGHT
CHECKED BY
C. SHIFFLETT
SCALE

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
NOTES & DETAILS

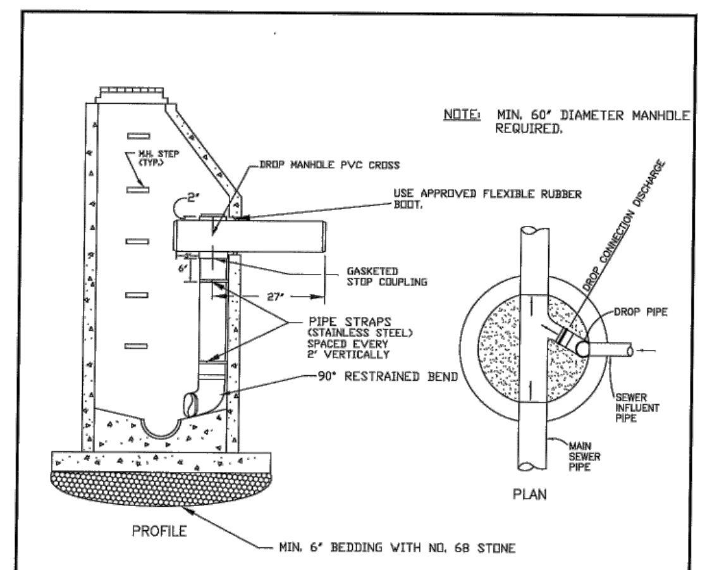
JOB NO.
64375
SHEET NO.
C1.1



TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31



M.H. STEP (TYP.)
DROP MANHOLE PVC CROSS
USE APPROVED FLEXIBLE RUBBER BOOT.
GASKETED STOP COUPLING
PIPE STRAPS (STAINLESS STEEL) SPACED EVERY 2' VERTICALLY
90° RESTRAINED BEND
DROP CONNECTION DISCHARGE
DROP PIPE
SEWER INFLUENT PIPE
MAIN SEWER PIPE
PROFILE
PLAN
MIN. 6" BEDDING WITH NO. 68 STONE

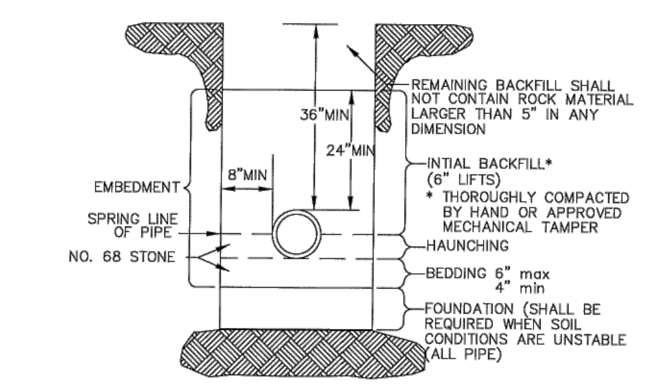
NOTE: MIN. 60" DIAMETER MANHOLE REQUIRED.

1. HEIGHT OF THE VERTICAL DROP PIPE WILL BE DETERMINED BY THE ACSA, BUT SHALL NOT BE LESS THAN TWO (2) FEET.
2. VERTICAL DROP PIPE SHALL BE SDR 26 P.V.C, SIZED THE SAME AS THE INCOMING PIPE AND CONNECTED TO THE DROP FITTING WITH STANDARD GASKET JOINT.
3. VERTICAL DROP PIPE SHALL BE STRAPPED TO THE MANHOLE AT PIPE JOINTS. STRAPS SHALL BE MADE OF STAINLESS STEEL.
4. SHAPE INVERT AS NEEDED TO PROVIDE SMOOTH TRANSITION FROM DROP CONNECTION DISCHARGE POINT TO SPRING LINE OF MANHOLE INVERT.
5. DROP CONNECTION DISCHARGE FITTING SHALL BE ORIENTED AT 45 DEGREES, INTO THE FLOW.
6. VERTICAL DROP PIPE SHALL BE INSTALLED AT 90 DEGREES FROM THE ACCESS STEPS.
7. MINIMUM 72" DIAMETER MANHOLE REQUIRED FOR A SINGLE 10" OR 12" DIAMETER DROP CONNECTION, OR TWO 8" DIAMETER DROP CONNECTIONS.

STANDARD INTERNAL DROP CONNECTION

N.T.S.
FIG. S-1-C2

TD-30



36"MIN
24"MIN
8"MIN
EMBEDMENT
SPRING LINE OF PIPE
NO. 68 STONE
REMAINING BACKFILL SHALL NOT CONTAIN ROCK MATERIAL LARGER THAN 5" IN ANY DIMENSION
INTIAL BACKFILL* (6" LIFTS)
* THOROUGHLY COMPACTED BY HAND OR APPROVED MECHANICAL TAMPER
HAUNCHING
BEDDING 6" max 4" min
FOUNDATION (SHALL BE REQUIRED WHEN SOIL CONDITIONS ARE UNSTABLE (ALL PIPE)

NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE

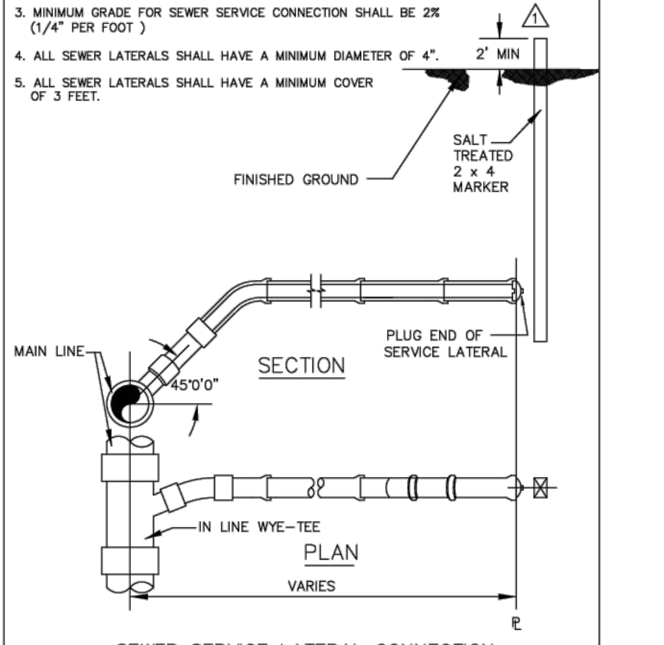
TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3

TD-34

SEWER SERVICE LATERAL CONNECTION NOTES:

1. WHERE A SEWER SERVICE LATERAL CONNECTS TO A MANHOLE AND NO INVERT ELEVATION FOR THE SERVICE LATERAL IS INDICATED , THE TOP (CROWN) ELEVATION OF THE SERVICE LATERAL PIPE SHALL BE AT LEAST 0.2' HIGHER THAN THE TOP (CROWN) ELEVATION OF THE THE LOWEST PIPE CONNECTED TO THE MANHOLE.
2. SEWER LATERALS TAPPED INTO AN EXISTING SEWER MAIN SHALL BE CONNECTED USING A PIPE SADDLE.
3. MINIMUM GRADE FOR SEWER SERVICE CONNECTION SHALL BE 2% (1/4" PER FOOT)
4. ALL SEWER LATERALS SHALL HAVE A MINIMUM DIAMETER OF 4".
5. ALL SEWER LATERALS SHALL HAVE A MINIMUM COVER OF 3 FEET.

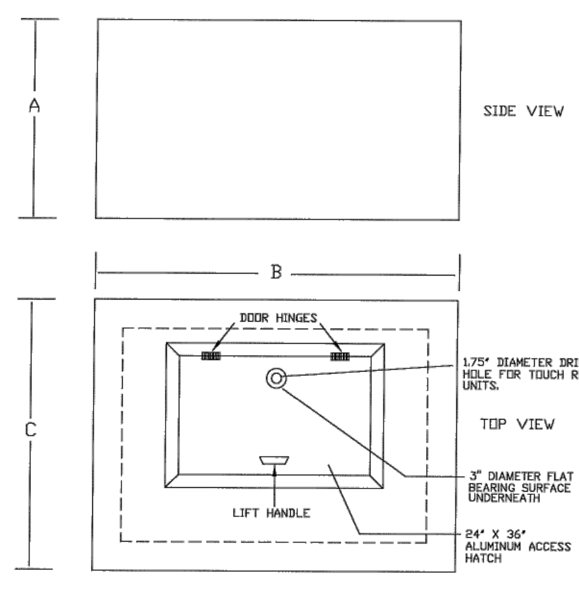


SEWER SERVICE LATERAL CONNECTION

N.T.S.
FIG. S-2

TD-33

METER SIZE	DIMENSION A	DIMENSION B	DIMENSION C
1 1/2"	3'1"	5'0"	3'8"
2"	3'1"	5'0"	3'8"
3"	5' MIN.	10' MIN.	6' MIN.
4"	5' MIN.	12' MIN.	6' MIN.
GREATER THAN 4"	PROPOSALS WILL BE SUBMITTED.		

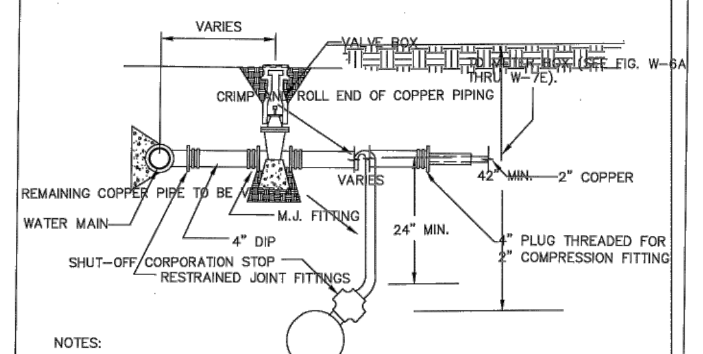


A
SIDE VIEW
B
C
DOOR HINGES
1.75" DIAMETER DRILLED HOLE FOR TOUCH READ UNITS.
TOP VIEW
3" DIAMETER FLAT BEARING SURFACE UNDERNEATH
LIFT HANDLE
24" X 36" ALUMINUM ACCESS HATCH

TYPICAL METER VAULT

N.T.S.
FIG. W-7A

TD-14



VARIES
VALVE BOX
TO METER BOX (SEE FIG. W-6A THRU W-7E).
CRIMP AND ROLL END OF COPPER PIPING
REMAINING COPPER PIPE TO BE
VARIES
42" MIN.
2" COPPER
WATER MAIN
M.J. FITTING
4" DIP
24" MIN.
SHUT-OFF/CORPORATION STOP
RESTRAINED JOINT FITTINGS
4" PLUG THREADED FOR 2" COMPRESSION FITTING

NOTES:

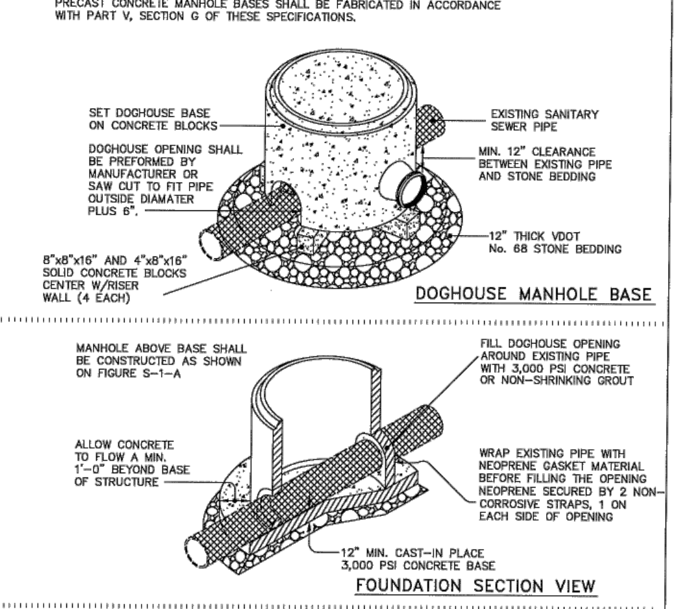
- GATE VALVE WILL BE 4" UNLESS OTHERWISE SPECIFIED BY THE ACSA.
- SERVICE LINE TO CONNECT AT MAIN WITH X"x4" TEE.
- REFER TO FIG. W-3 FOR THRUST BLOCK DETAILS ON TEE.
- REFER TO FIG. W-5 FOR THRUST BLOCK DETAILS AND DEPTH OF COVER ON GATE VALVE.
- NO CONCRETE SHOULD BE POURED ON ANY PART OF THE RESTRAINED JOINT. USE PLASTIC SHEETING AS PROTECTION FOR BOLTS.
- USE 2500 P.S.I. CONCRETE

TYPICAL SERVICE TAP ABANDONMENT

LARGE METER SERVICE LINE

NTS
FIG. W-6B
NTS
FIG. W-6C
TD-11
TD-12

PRECAST CONCRETE MANHOLE BASES SHALL BE FABRICATED IN ACCORDANCE WITH PART V, SECTION G OF THESE SPECIFICATIONS.



SET DOGHOUSE BASE ON CONCRETE BLOCKS
DOGHOUSE OPENING SHALL BE PREFORMED BY MANUFACTURER OR SAW CUT TO FIT PIPE OUTSIDE DIAMATER PLUS 6".
8"x8"x16" AND 4"x8"x16" SOLID CONCRETE BLOCKS CENTER W/RISER WALL (4 EACH)
EXISTING SANITARY SEWER PIPE
MIN. 12" CLEARANCE BETWEEN EXISTING PIPE AND STONE BEDDING
12" THICK VDOT No. 68 STONE BEDDING
DOGHOUSE MANHOLE BASE
MANHOLE ABOVE BASE SHALL BE CONSTRUCTED AS SHOWN ON FIGURE S-1-A
ALLOW CONCRETE TO FLOW A MIN. 1'-0" BEYOND BASE OF STRUCTURE
FILL DOGHOUSE OPENING AROUND EXISTING PIPE WITH 3,000 PSI CONCRETE OR NON-SHRINKING GROUT
WRAP EXISTING PIPE WITH NEOPRENE GASKET MATERIAL BEFORE FILLING THE OPENING NEOPRENE SECURED BY 2 NON-CORROSIVE STRAPS, 1 ON EACH SIDE OF OPENING
12" MIN. CAST-IN PLACE 3,000 PSI CONCRETE BASE
FOUNDATION SECTION VIEW

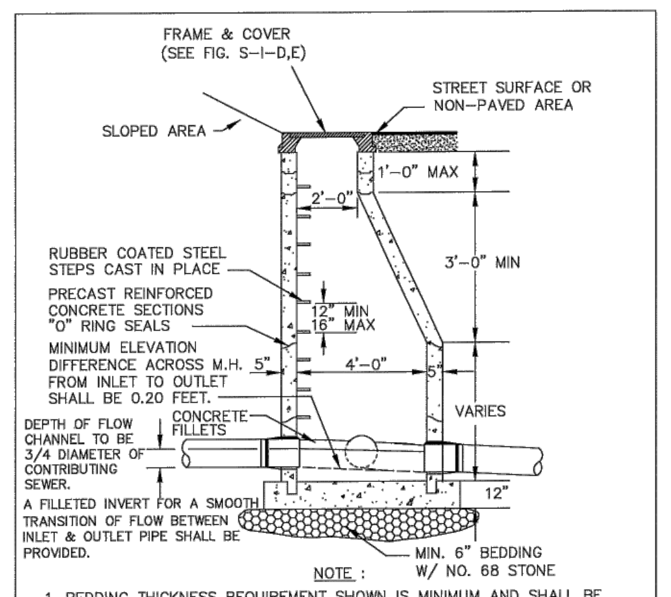
NOTES:

1. CONSTRUCT A FORMED INVERT FROM NEW SEWER LINE TO ALLOW FLOW TO THE EXISTING PIPE.
2. POUR A SHELF TO THE LOWER HALF OF THE EXISTING PIPE.
3. CUT AND REMOVE THE TOP HALF OF EXISTING PIPE TO WITHIN 6" OF THE MANHOLE WALLS AFTER THE INVERT AND SHELF HAVE BEEN FORMED, AND THE MH HAS BEEN FULLY TESTED IN ACCORDANCE WITH THESE SPECIFICATIONS.

TYPICAL MANHOLE BASE SHOWING "DOGHOUSE" INSTALLATION

N.T.S
FIG. S-1-A1

TD-26



FRAME & COVER (SEE FIG. S-I-D,E)
STREET SURFACE OR NON-PAVED AREA
SLOPED AREA
1'-0" MAX
2'-0"
3'-0" MIN
RUBBER COATED STEEL STEPS CAST IN PLACE
PRECAST REINFORCED CONCRETE SECTIONS "O" RING SEALS
12" MIN
16" MAX
MINIMUM ELEVATION DIFFERENCE ACROSS M.H. FROM INLET TO OUTLET SHALL BE 0.20 FEET.
5"
4'-0"
VARIES
DEPTH OF FLOW CHANNEL TO BE 3/4 DIAMETER OF CONTRIBUTING SEWER.
CONCRETE FILLETS
A FILLETED INVERT FOR A SMOOTH TRANSITION OF FLOW BETWEEN INLET & OUTLET PIPE SHALL BE PROVIDED.
12"
MIN. 6" BEDDING W/ NO. 68 STONE

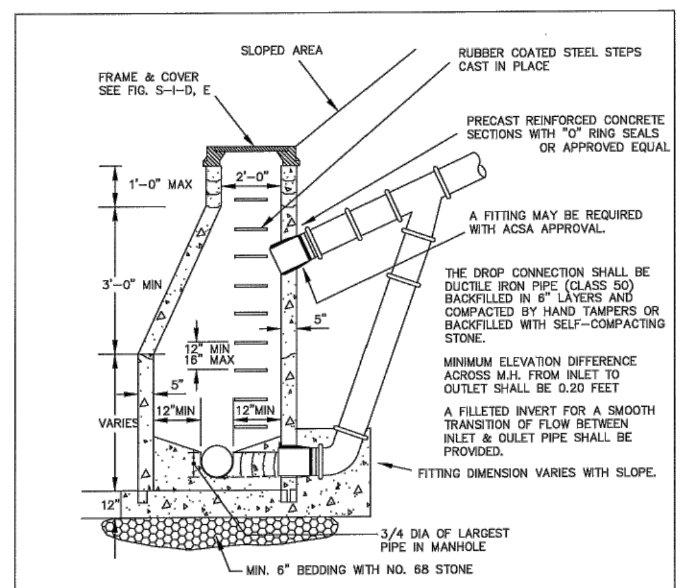
NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE-IN

N.T.S
FIG. S-I-A

TD-25



SLOPED AREA
RUBBER COATED STEEL STEPS CAST IN PLACE
FRAME & COVER SEE FIG. S-I-D, E
PRECAST REINFORCED CONCRETE SECTIONS WITH "O" RING SEALS OR APPROVED EQUAL
1'-0" MAX
2'-0"
A FITTING MAY BE REQUIRED WITH ACSA APPROVAL.
3'-0" MIN
THE DROP CONNECTION SHALL BE DUCTILE IRON PIPE (CLASS 50) BACKFILLED IN 6" LAYERS AND COMPACTED BY HAND TAMPERS OR BACKFILLED WITH SELF-COMPACTING STONE.
5"
12" MIN
16" MAX
MINIMUM ELEVATION DIFFERENCE ACROSS M.H. FROM INLET TO OUTLET SHALL BE 0.20 FEET
VARIES
12"MIN
A FILLETED INVERT FOR A SMOOTH TRANSITION OF FLOW BETWEEN INLET & OULET PIPE SHALL BE PROVIDED.
FITTING DIMENSION VARIES WITH SLOPE.
12"
3/4 DIA OF LARGEST PIPE IN MANHOLE
MIN. 6" BEDDING WITH NO. 68 STONE

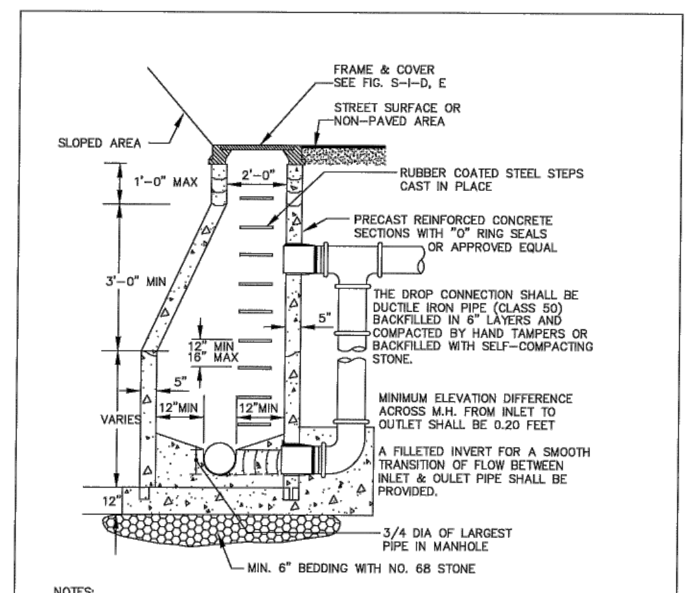
NOTES:

1. BEDDING THICKNESS REQUIREMENTS SHOWN ARE MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT SHALL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE DROP CONNECTION WITH STEEP INCOMING SLOPE

NTS
FIG. S-1-C1

TD-29



FRAME & COVER SEE FIG. S-I-D, E
STREET SURFACE OR NON-PAVED AREA
SLOPED AREA
1'-0" MAX
2'-0"
RUBBER COATED STEEL STEPS CAST IN PLACE
PRECAST REINFORCED CONCRETE SECTIONS WITH "O" RING SEALS OR APPROVED EQUAL
3'-0" MIN
THE DROP CONNECTION SHALL BE DUCTILE IRON PIPE (CLASS 50) BACKFILLED IN 6" LAYERS AND COMPACTED BY HAND TAMPERS OR BACKFILLED WITH SELF-COMPACTING STONE.
5"
12" MIN
16" MAX
MINIMUM ELEVATION DIFFERENCE ACROSS M.H. FROM INLET TO OUTLET SHALL BE 0.20 FEET
VARIES
12"MIN
A FILLETED INVERT FOR A SMOOTH TRANSITION OF FLOW BETWEEN INLET & OULET PIPE SHALL BE PROVIDED.
12"
3/4 DIA OF LARGEST PIPE IN MANHOLE
MIN. 6" BEDDING WITH NO. 68 STONE

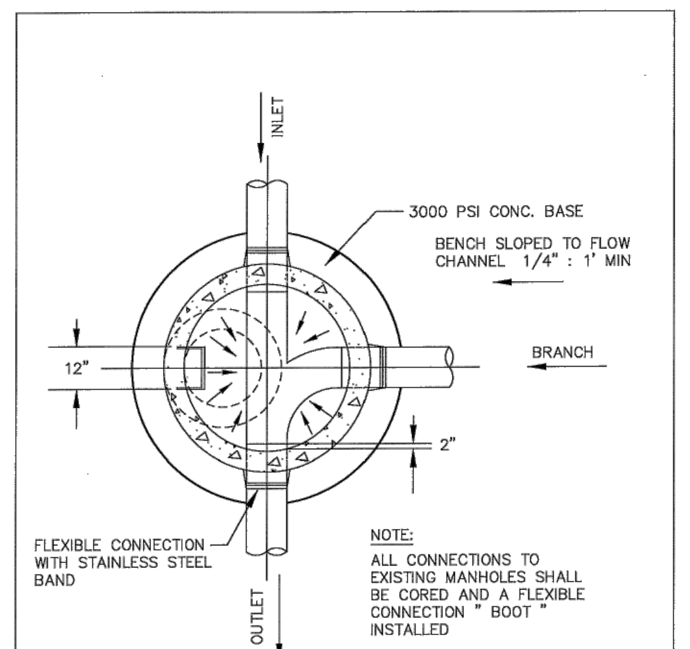
NOTES:

1. BEDDING THICKNESS REQUIREMENTS SHOWN ARE MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT SHALL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.
4. SPECIAL CONSIDERATION SHALL BE GIVEN FOR ENTRANCE DESIGN ON SEWERS WITH STEEP SLOPES.

TYPICAL MANHOLE WITH DROP CONNECTION

NTS
FIG. S-I-C

TD-28



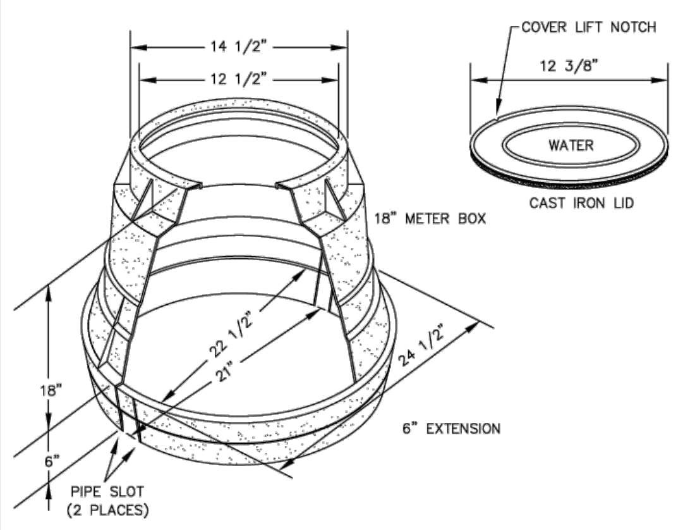
INLET
3000 PSI CONC. BASE
BENCH SLOPED TO FLOW CHANNEL 1/4" : 1' MIN
BRANCH
12"
2"
FLEXIBLE CONNECTION WITH STAINLESS STEEL BAND
OUTLET

NOTE:
ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE CORED AND A FLEXIBLE CONNECTION " BOOT " INSTALLED

TYPICAL MANHOLE PLAN SHOWING BRANCH TIE - IN

NTS
FIG. S-I-B

TD-27

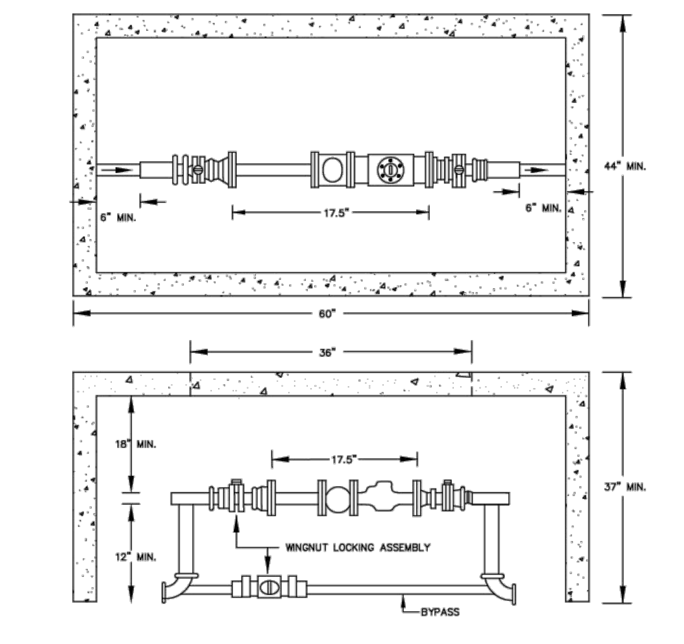


NOTES:
(1) A 1-3/4" DIAMETER HOLE IS REQUIRED IN THE LID FOR TOUCH READ METERS.

TYPICAL METER BOXES (3/4"-1" METERS)

NTS
FIG. W-7

TD-13



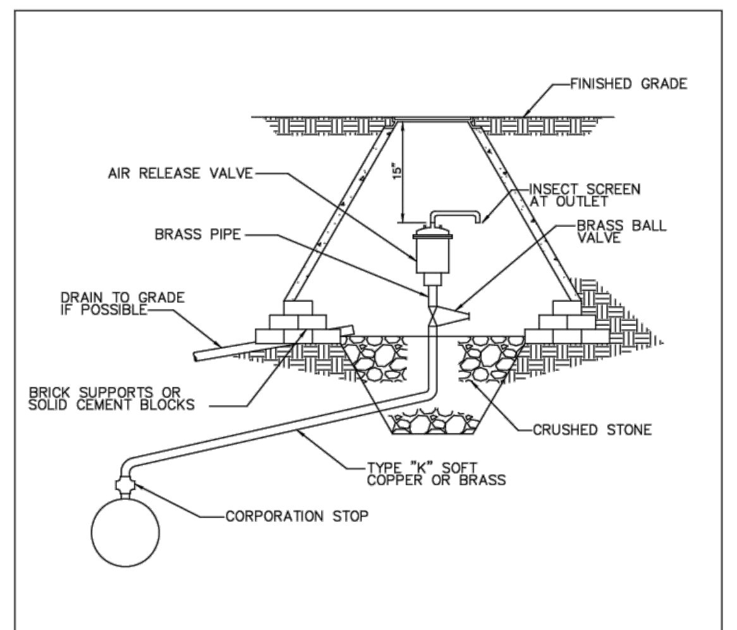
NOTES:

1. PROVIDE A 6" THICK GRAVEL BED BENEATH THE METER VAULT.
2. MINIMUM WALL THICKNESS FOR PRECAST OR POUR-IN-PLACE VAULTS SHALL BE 4".
3. THE OUTSIDE OF THE VAULT BELOW GRADE SHALL BE COATED WITH AN APPROVED WATER PROOFING COMPOUND.

TYPICAL METER VAULT (1 1/2" METER)

NTS
FIG. W-7B

TD-15



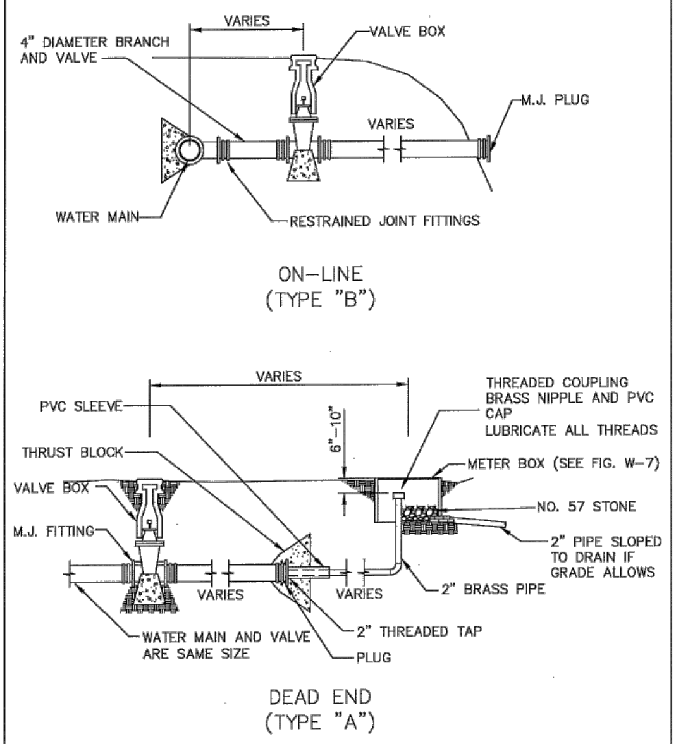
NOTES:

1) A PRECAST MANHOLE CONE AND COVER WITH WATER CAST ON LID FOR TRAFFIC AREAS, OR A METER BOX ASSEMBLY IN NON-TRAFFIC AREAS, OR APPROVED EQUAL, SHALL BE USED.
2) FOR WATERLINES SMALLER THAN 12" USE A 1" A.R.V. AND FITTINGS. FOR WATER LINES 12" AND LARGER USE 2" A.R.V. AND FITTINGS.
3) IN SITUATIONS WHERE THE A.R.V. ASSEMBLY CANNOT BE OFFSET FROM THE MAIN AN ADEQUATE FOUNDATION SHALL BE INSTALLED SO THE WATER LINE DOES NOT SUPPORT THE MANHOLE CONE.
4) THE ACSA WILL DETERMINE IF A TYPICAL 5/8-INCH METER BOX CAN BE USED IN LIEU OF MANHOLE CONE UPON REQUEST.

AIR RELEASE VALVE (ARV)

NTS
FIG. W-9

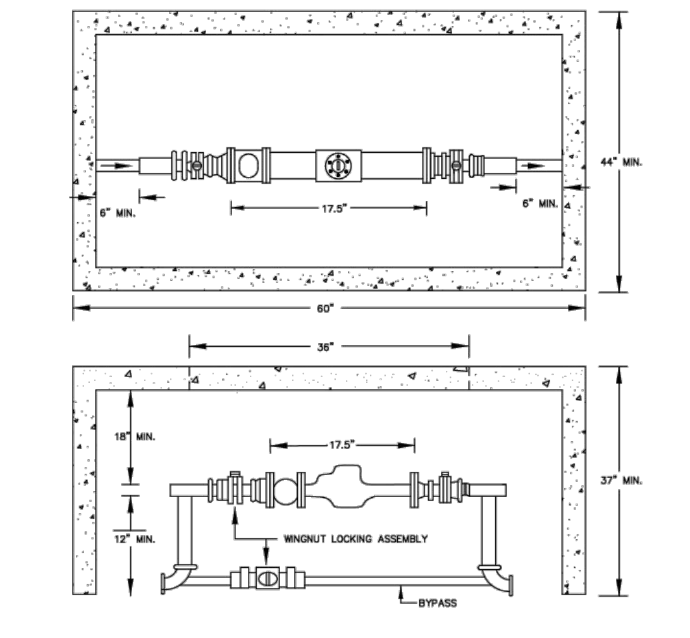
TD-20



TYPICAL BLOW-OFF ASSEMBLY

NTS
FIG. W-8

TD-19



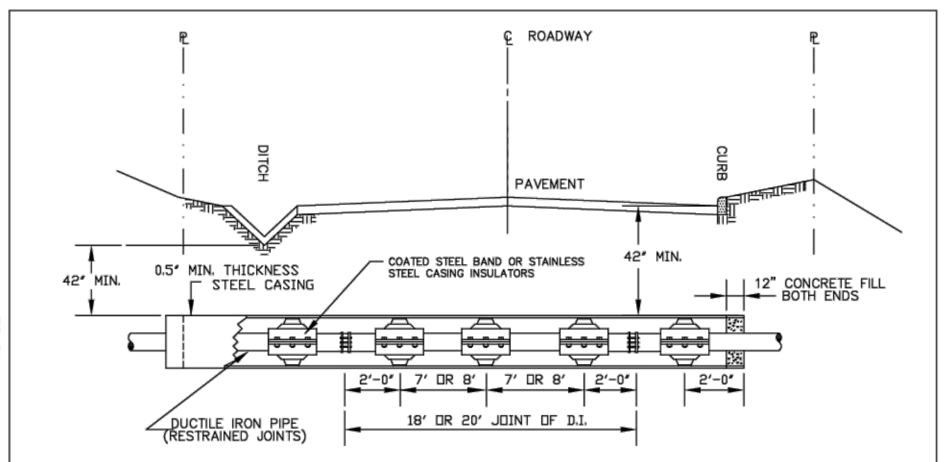
NOTES:

1. PROVIDE A 6" THICK GRAVEL BED BENEATH THE METER VAULT.
2. MINIMUM WALL THICKNESS FOR PRECAST OR POUR-IN-PLACE VAULTS SHALL BE 4".
3. THE OUTSIDE OF THE VAULT BELOW GRADE SHALL BE COATED WITH AN APPROVED WATER PROOFING COMPOUND.

TYPICAL METER VAULT (2" METER)

NTS
FIG. W-7C

TD-16

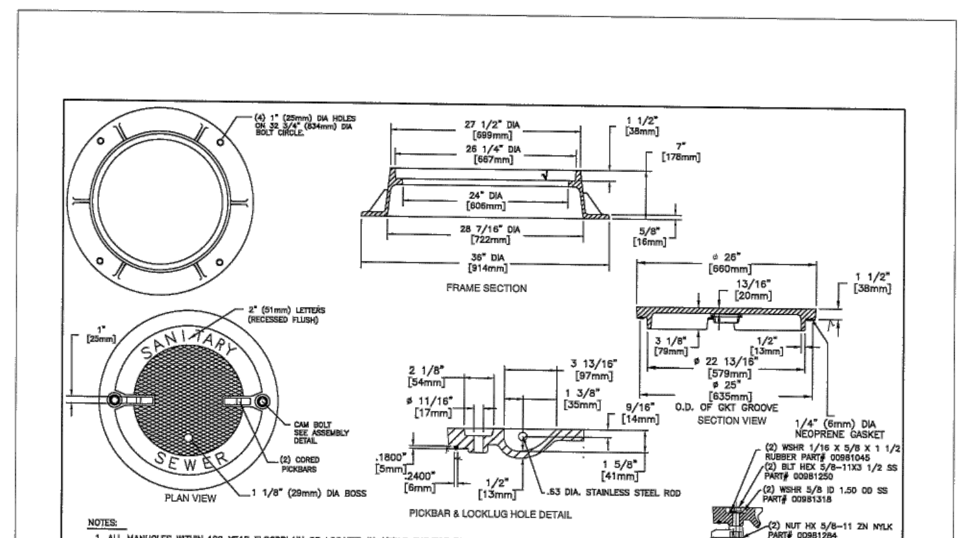


TD-21
℗
℄ ROADWAY
℗
DITCH
PAVEMENT
CURB
42" MIN.
0.5" MIN. THICKNESS STEEL CASING
COATED STEEL BAND OR STAINLESS STEEL CASING INSULATORS
42" MIN.
12" CONCRETE FILL BOTH ENDS
2'-0"
7' OR 8'
7' OR 8'
2'-0"
2'-0"
DUCTILE IRON PIPE (RESTRAINED JOINTS)
18' OR 20' JOINT OF D.I.

NOTE:
1. STEEL CASING TO EXTEND TO BACK OF CURB, DITCH, SIDEWALK, ETC. OR A MINIMUM OF 5' BEYOND THE EDGE OF PAVEMENT, WHICHEVER IS GREATER.
2. ENDS OF CASING CAN BE SEALED USING A PULL-ON END SEAL GASKET IN LIEU OF CONCRETE FILL.
3. MIDDLE SPACER SHALL BE PLACED AT THE CENTERPOINT OF PIPE JOINT.

WATER TYPICAL STEEL SLEEVE INSTALLATION UNDER ROADWAYS

N.T.S
FIG. W-10



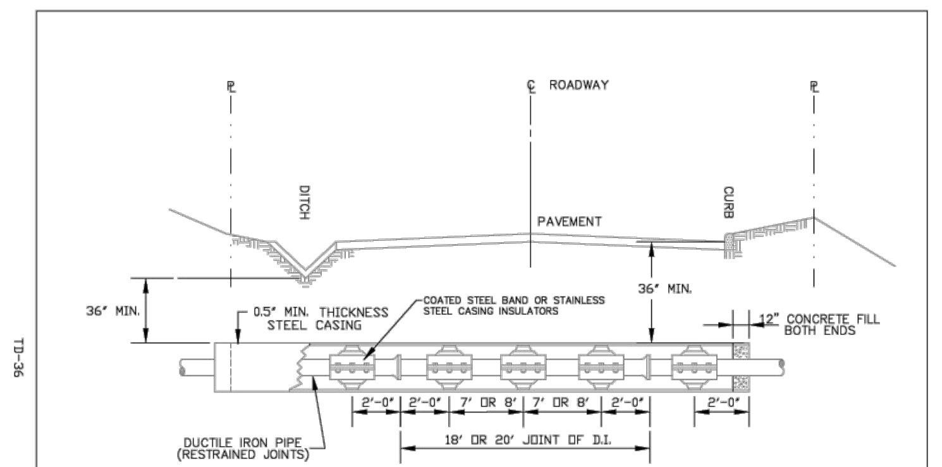
NOTES:

1. ALL MANHOLES WITHIN 100 YEAR FLOODPLAIN OR LOCATED IN AREAS SUBJECT TO FLOODING SHALL HAVE WATERTIGHT FRAME & COVER.
2. ALTERNATIVE DESIGN FOR WATERTIGHT COVERS WILL BE CONSIDERED.
3. COVERS SHALL BE FIXED TO FRAMES WITH LOCKING LUGS OR SIMILIAR ASSEMBLY.

TYPICAL WATERTIGHT MANHOLE FRAME & COVER

N.T.S FIG S-I-E

TD-32



TD-36
℗
℄ ROADWAY
℗
DITCH
PAVEMENT
CURB
36" MIN.
0.5" MIN. THICKNESS STEEL CASING
COATED STEEL BAND OR STAINLESS STEEL CASING INSULATORS
36" MIN.
12" CONCRETE FILL BOTH ENDS
2'-0"
2'-0"
7' OR 8'
7' OR 8'
2'-0"
2'-0"
DUCTILE IRON PIPE (RESTRAINED JOINTS)
18' OR 20' JOINT OF D.I.

NOTE:
1. STEEL CASING TO EXTEND TO BACK OF CURB, DITCH, SIDEWALK, ETC. OR A MINIMUM OF 5' BEYOND THE EDGE OF PAVEMENT, WHICHEVER IS GREATER.
2. ENDS OF CASING CAN BE SEALED USING A PULL-ON END SEAL GASKET IN LIEU OF CONCRETE FILL.
3. MIDDLE SPACER SHALL BE PLACED AT THE CENTERPOINT OF PIPE.

SEWER TYPICAL STEEL SLEEVE INSTALLATION UNDER ROADWAYS

N.T.S
FIG. S-5

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C1.0-NTDT.dwg | Plotted on 3/14/2025 11:09 AM | by Tre Bright

NOT FOR CONSTRUCTION

CLINT W. SHIFFLETT
Lic. No. 54380

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YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE
03/14/2025
DRAWN BY
C. TAYLOR
DESIGNED BY
T. BRIGHT
CHECKED BY
C. SHIFFLETT
SCALE

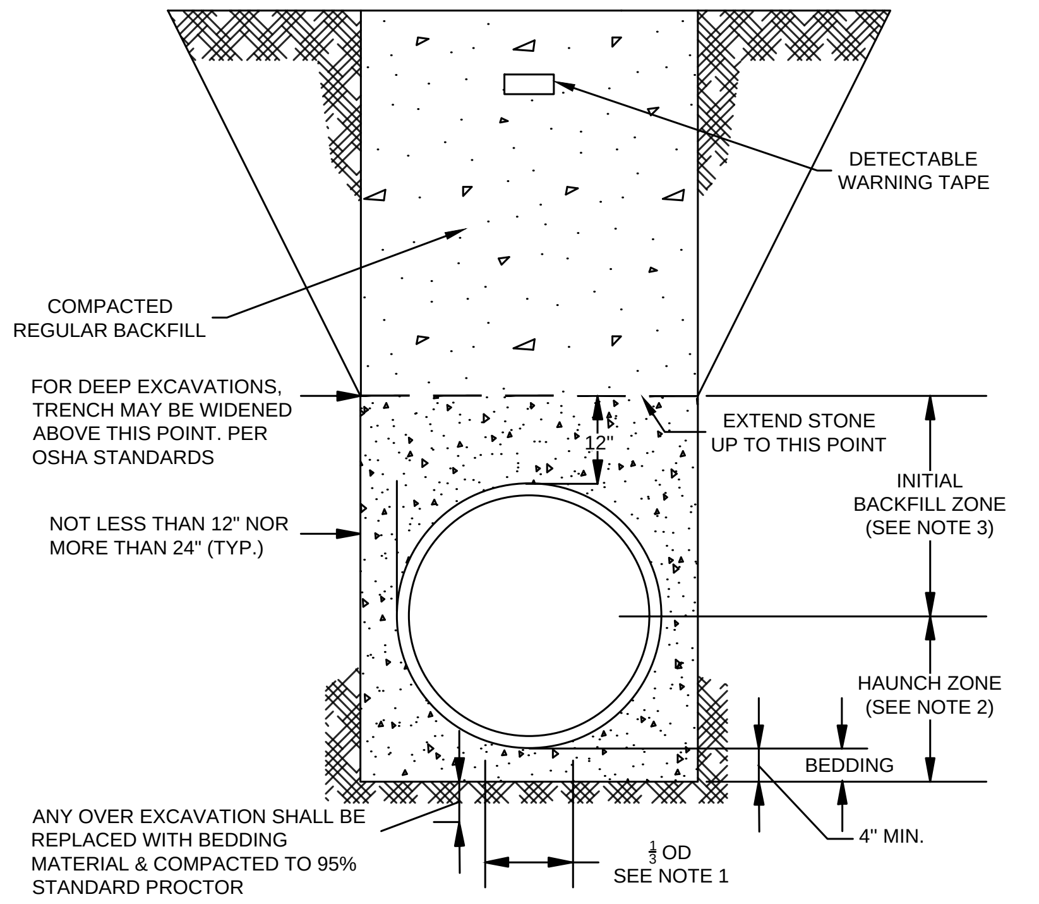
TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

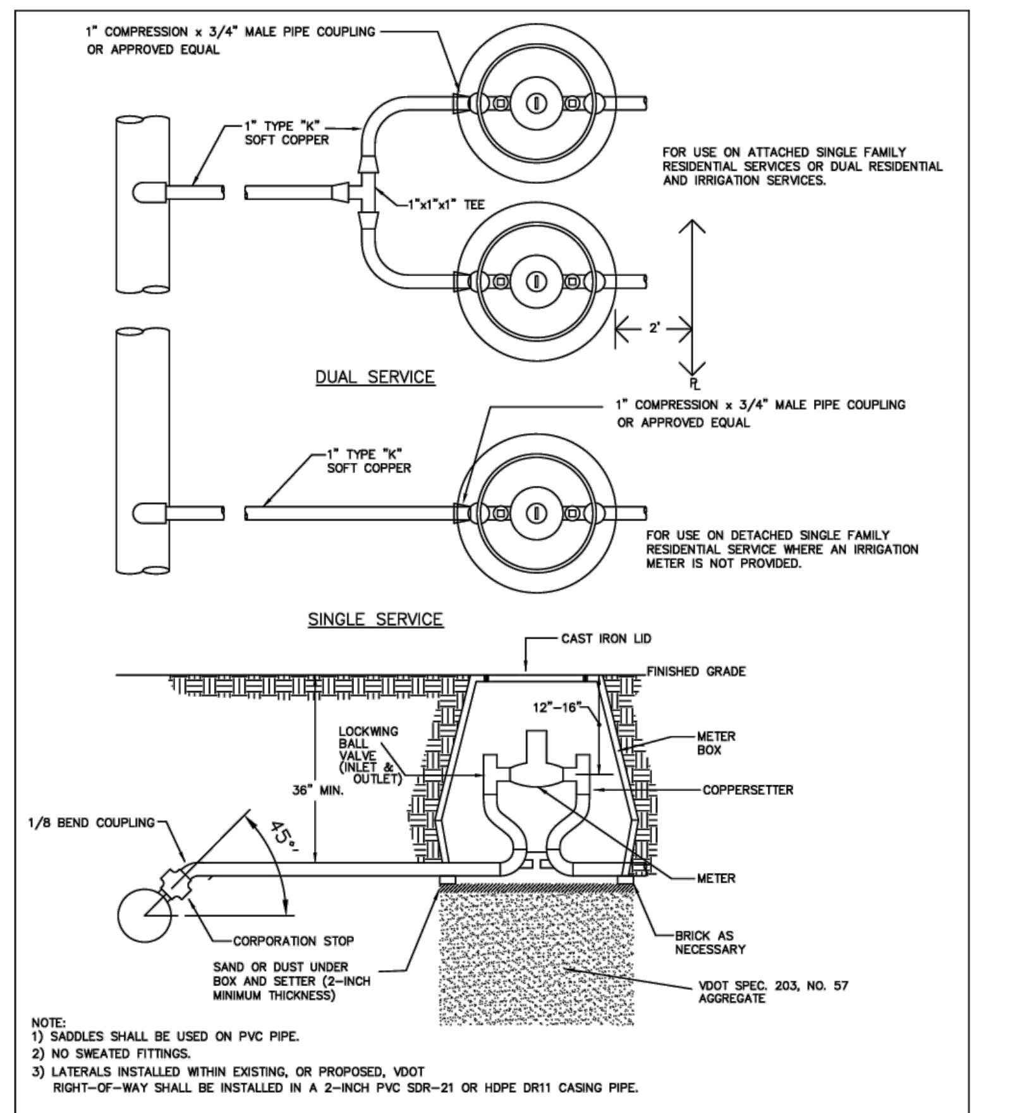
NOTES & DETAILS

JOB NO.
64375
SHEET NO.
C1.2


DETECTABLE WARNING TAPE
COMPACTED REGULAR BACKFILL
FOR DEEP EXCAVATIONS, TRENCH MAY BE WIDENED ABOVE THIS POINT. PER OSHA STANDARDS
12"
EXTEND STONE UP TO THIS POINT
INITIAL BACKFILL ZONE (SEE NOTE 3)
NOT LESS THAN 12" NOR MORE THAN 24" (TYP.)
HAUNCH ZONE (SEE NOTE 2)
BEDDING
4" MIN.
ANY OVER EXCAVATION SHALL BE REPLACED WITH BEDDING MATERIAL & COMPACTED TO 95% STANDARD PROCTOR
1/3 OD SEE NOTE 1

NOTES:
1. TRENCH BEDDING PER DETAIL 107.00 & 107.01 OF THE VDOT ROAD AND BRIDGE STANDARDS.
2. MATERIAL IN HAUNCH ZONE SHALL BE VDOT BEDDING MATERIAL.
3. INITIAL BACKFILL SHALL BE VDOT CLASS 1 BACKFILL MATERIAL.
4. ALL BACKFILL, BEDDING MATERIALS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 302 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
5. ALL MATERIAL SHALL BE PLACED IN 6" LOOSE LAYERS AND COMPACTED TO AT LEAST 95% STANDARD PROCTOR, UNLESS OTHERWISE NOTED BY THE ENGINEER. WORK IN AND TAMP THE HAUNCHING MATERIAL IN THE SPACE BETWEEN THE BEDDING AND UNDERSIDE OF PIPE.
6. DO NOT PERMIT COMPACTION EQUIPMENT TO CONTACT PIPE. REMOVE DAMAGED PIPE SECTIONS BEFORE PROCEEDING.

STORM SEWER TRENCH BEDDING DETAIL
No Scale

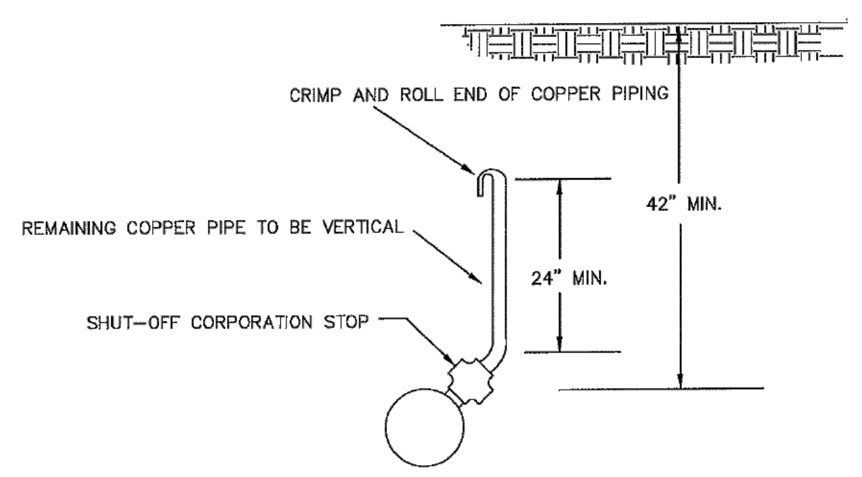

1" COMPRESSION x 3/4" MALE PIPE COUPLING OR APPROVED EQUAL
1" TYPE "K" SOFT COPPER
1"x1"x1" TEE
FOR USE ON ATTACHED SINGLE FAMILY RESIDENTIAL SERVICES OR DUAL RESIDENTIAL AND IRRIGATION SERVICES.
2'
PL
DUAL SERVICE
1" COMPRESSION x 3/4" MALE PIPE COUPLING OR APPROVED EQUAL
1" TYPE "K" SOFT COPPER
FOR USE ON DETACHED SINGLE FAMILY RESIDENTIAL SERVICE WHERE AN IRRIGATION METER IS NOT PROVIDED.
SINGLE SERVICE
CAST IRON LID
FINISHED GRADE
12"–16"
LOCKWING BALL VALVE (INLET & OUTLET)
METER BOX
36" MIN.
COPPERSETTER
1/8 BEND COUPLING
45°
METER
CORPORATION STOP
BRICK AS NECESSARY
SAND OR DUST UNDER BOX AND SETTER (2-INCH MINIMUM THICKNESS)
VDOT SPEC. 203, NO. 57 AGGREGATE

NOTE:
1) SADDLES SHALL BE USED ON PVC PIPE.
2) NO SWEATED FITTINGS.
3) LATERALS INSTALLED WITHIN EXISTING, OR PROPOSED, VDOT RIGHT-OF-WAY SHALL BE INSTALLED IN A 2-INCH PVC SDR-21 OR HDPE DR11 CASING PIPE.

TYPICAL SERVICE LATERAL INSTALLATION (3/4" & 1" METERS)

NTS
FIG. W-6A

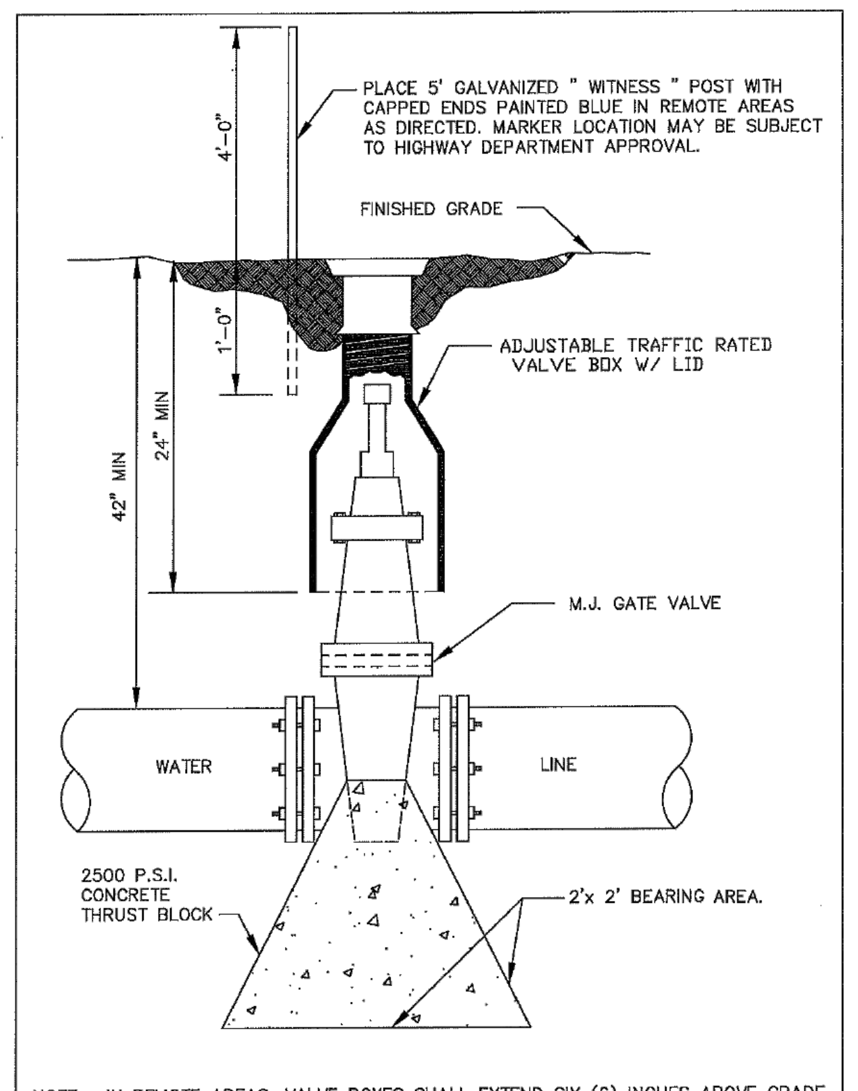
TD-10


CRIMP AND ROLL END OF COPPER PIPING
REMAINING COPPER PIPE TO BE VERTICAL
SHUT-OFF CORPORATION STOP
42" MIN.
24" MIN.

TYPICAL SERVICE TAP ABANDONMENT

NTS
FIG. W-6B

TD-11

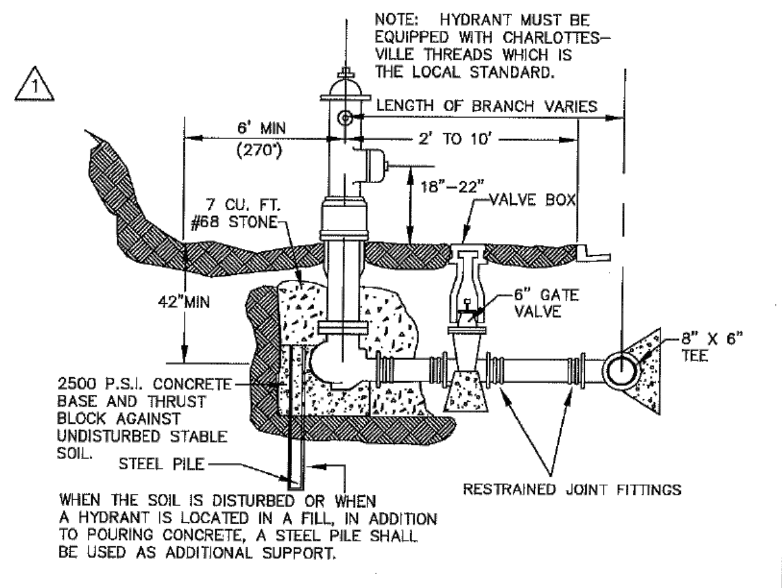

PLACE 5' GALVANIZED " WITNESS " POST WITH CAPPED ENDS PAINTED BLUE IN REMOTE AREAS AS DIRECTED. MARKER LOCATION MAY BE SUBJECT TO HIGHWAY DEPARTMENT APPROVAL.
4'-0"
FINISHED GRADE
1'-0"
ADJUSTABLE TRAFFIC RATED VALVE BOX W/ LID
24" MIN
42" MIN
M.J. GATE VALVE
WATER
LINE
2500 P.S.I. CONCRETE THRUST BLOCK
2'x 2' BEARING AREA.

NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

TD-9


1
NOTE: HYDRANT MUST BE EQUIPPED WITH CHARLOTTESVILLE THREADS WHICH IS THE LOCAL STANDARD.
LENGTH OF BRANCH VARIES
6' MIN (270°)
2' TO 10'
18"–22"
7 CU. FT. #68 STONE
VALVE BOX
42"MIN
6" GATE VALVE
8" X 6" TEE
2500 P.S.I. CONCRETE BASE AND THRUST BLOCK AGAINST UNDISTURBED STABLE SOIL.
STEEL PILE
RESTRAINED JOINT FITTINGS

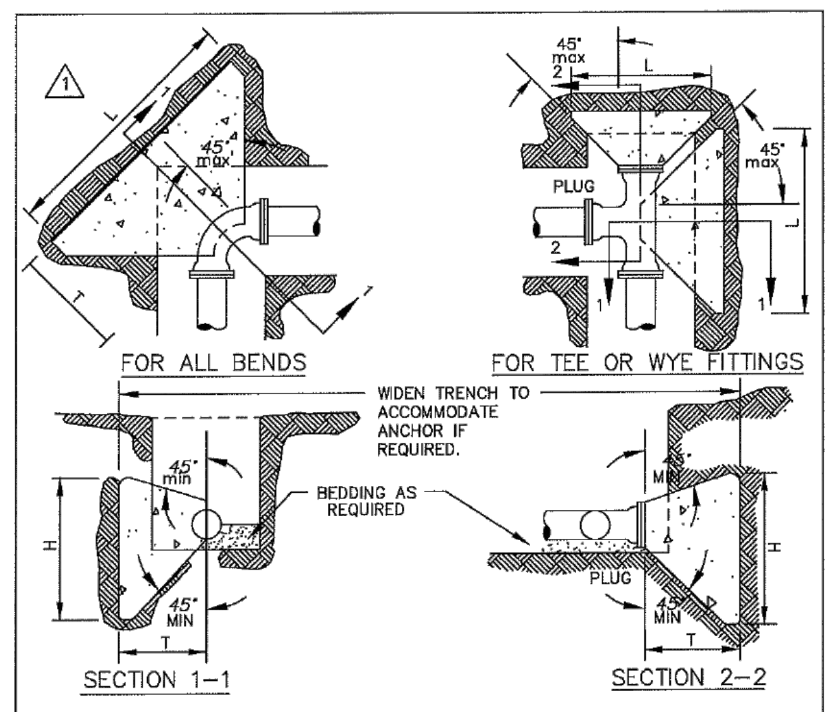
WHEN THE SOIL IS DISTURBED OR WHEN A HYDRANT IS LOCATED IN A FILL, IN ADDITION TO POURING CONCRETE, A STEEL PILE SHALL BE USED AS ADDITIONAL SUPPORT.

NOTE :
1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

N.T.S.
FIG. W-4

TD-8



PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET)			VOL. CU.YD.	TEE AND PLUGS (FEET)			VOL. CU.YD.
		L	H	T		L	H	T	
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.16	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.66	2.66	2.77	0.26				
	22 1/2	1.66	2.16	2.69	0.13				
	11 1/4	1.66	2.16	2.67	0.13				
10" & 12"	90	4.83	3.83	3.42	0.83	3.83	4.00	2.83	0.52
	45	3.33	3.58	2.95	0.43				
	22 1/2	2.33	2.58	2.86	0.24				
	11 1/4	1.83	2.33	2.84	0.18				

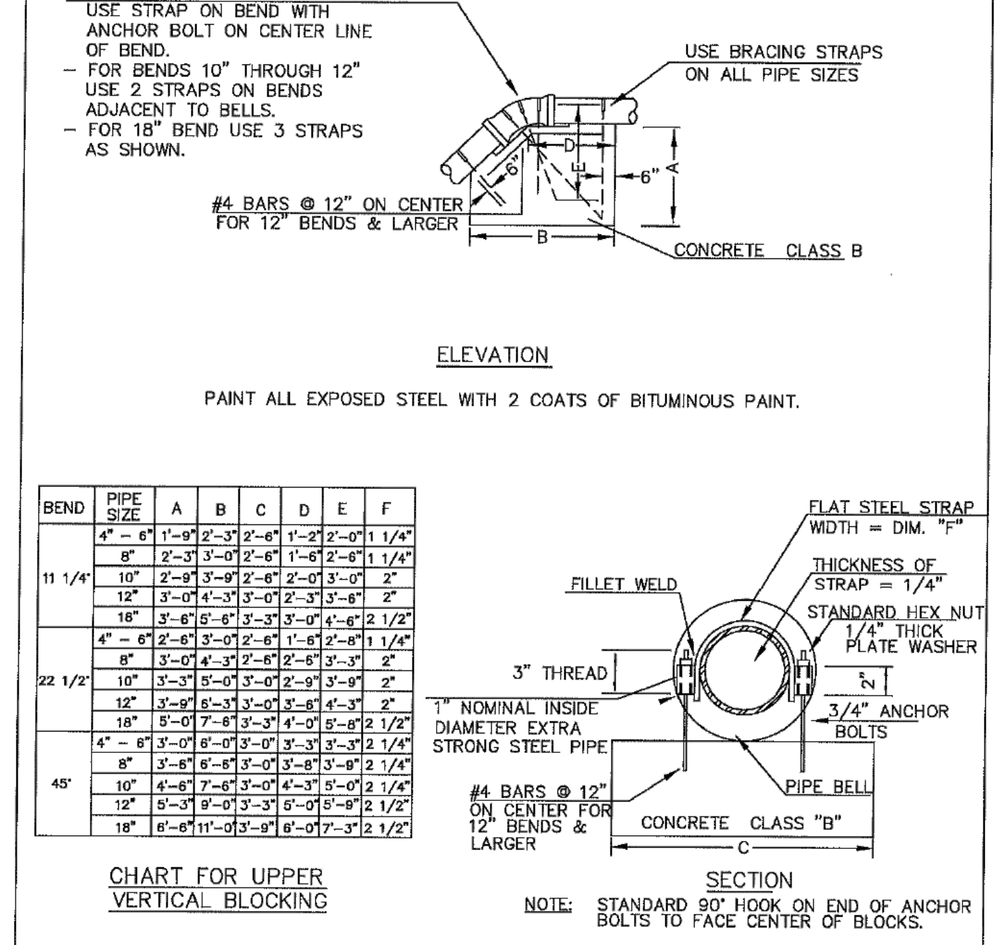
1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3

TD-3

- FOR BENDS 8" & SMALLER USE STRAP ON BEND WITH ANCHOR BOLT ON CENTER LINE OF BEND.
- FOR BENDS 10" THROUGH 12" USE 2 STRAPS ON BENDS ADJACENT TO BELLS.
- FOR 18" BEND USE 3 STRAPS AS SHOWN.


USE BRACING STRAPS ON ALL PIPE SIZES
#4 BARS @ 12" ON CENTER FOR 12" BENDS & LARGER
D
E
6"
6"
A
B
CONCRETE CLASS B
FLAT STEEL STRAP WIDTH = DIM. "F"
THICKNESS OF STRAP = 1/4"
FILLET WELD
STANDARD HEX NUT 1/4" THICK PLATE WASHER
3" THREAD
2"
1" NOMINAL INSIDE DIAMETER EXTRA STRONG STEEL PIPE
3/4" ANCHOR BOLTS
PIPE BELL
#4 BARS @ 12" ON CENTER FOR 12" BENDS & LARGER
CONCRETE CLASS "B"
C

ELEVATION

PAINT ALL EXPOSED STEEL WITH 2 COATS OF BITUMINOUS PAINT.

BEND	PIPE SIZE	A	B	C	D	E	F
11 1/4°	4" – 6"	1'–9"	2'–3"	2'–6"	1'–2"	2'–0"	1 1/4"
	8"	2'–3"	3'–0"	2'–6"	1'–6"	2'–6"	1 1/4"
	10"	2'–9"	3'–9"	2'–6"	2'–0"	3'–0"	2"
	12"	3'–0"	4'–3"	3'–0"	2'–3"	3'–6"	2"
	18"	3'–6"	5'–6"	3'–3"	3'–0"	4'–6"	2 1/2"
22 1/2°	4" – 6"	2'–6"	3'–0"	2'–6"	1'–6"	2'–8"	1 1/4"
	8"	3'–0"	4'–3"	2'–6"	2'–6"	3'–3"	2"
	10"	3'–3"	5'–0"	3'–0"	2'–9"	3'–9"	2"
	12"	3'–9"	6'–3"	3'–0"	3'–6"	4'–3"	2"
	18"	5'–0"	7'–6"	3'–3"	4'–0"	5'–8"	2 1/2"
45°	4" – 6"	3'–0"	6'–0"	3'–0"	3'–3"	3'–3"	2 1/4"
	8"	3'–6"	6'–6"	3'–0"	3'–8"	3'–9"	2 1/4"
	10"	4'–6"	7'–6"	3'–0"	4'–3"	5'–0"	2 1/4"
	12"	5'–3"	9'–0"	3'–3"	5'–0"	5'–9"	2 1/2"
	18"	6'–6"	11'–0"	3'–9"	6'–0"	7'–3"	2 1/2"

CHART FOR UPPER VERTICAL BLOCKING

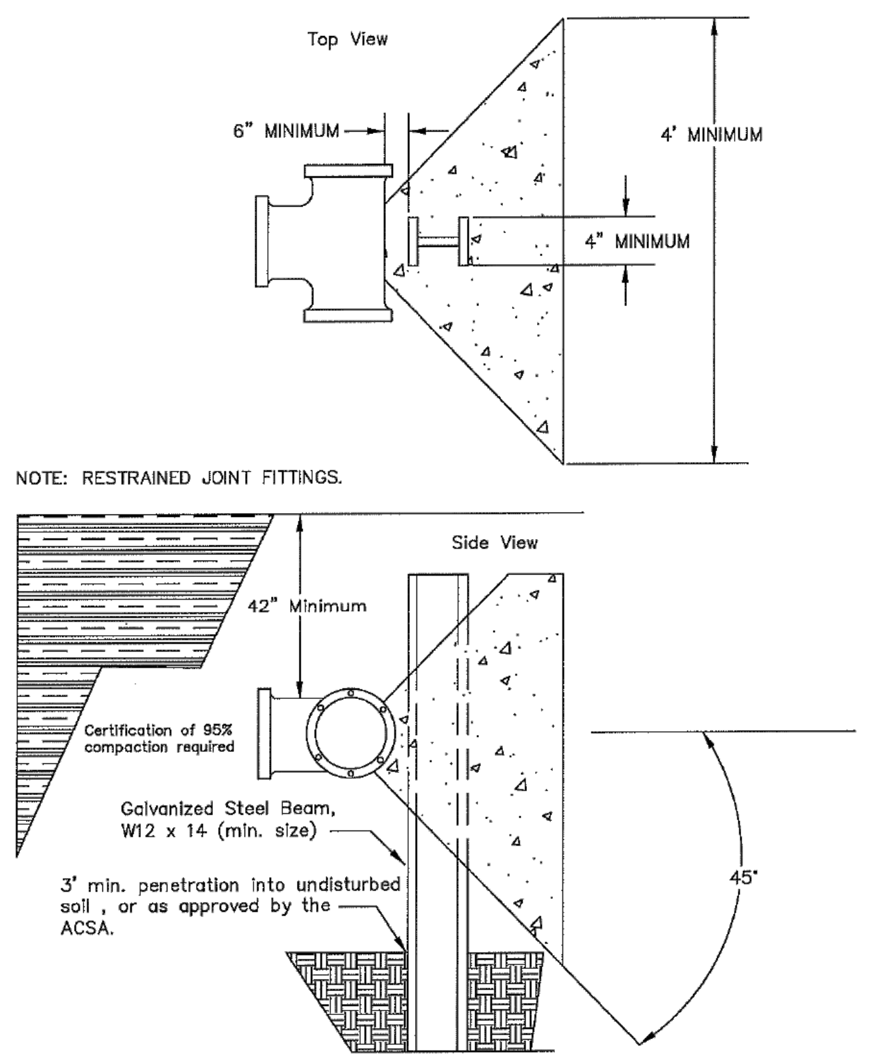
SECTION

NOTE: STANDARD 90° HOOK ON END OF ANCHOR BOLTS TO FACE CENTER OF BLOCKS.

CONCRETE BLOCKING FOR UPPER VERTICAL BENDS

N.T.S.
FIG. W-3A

TD-4

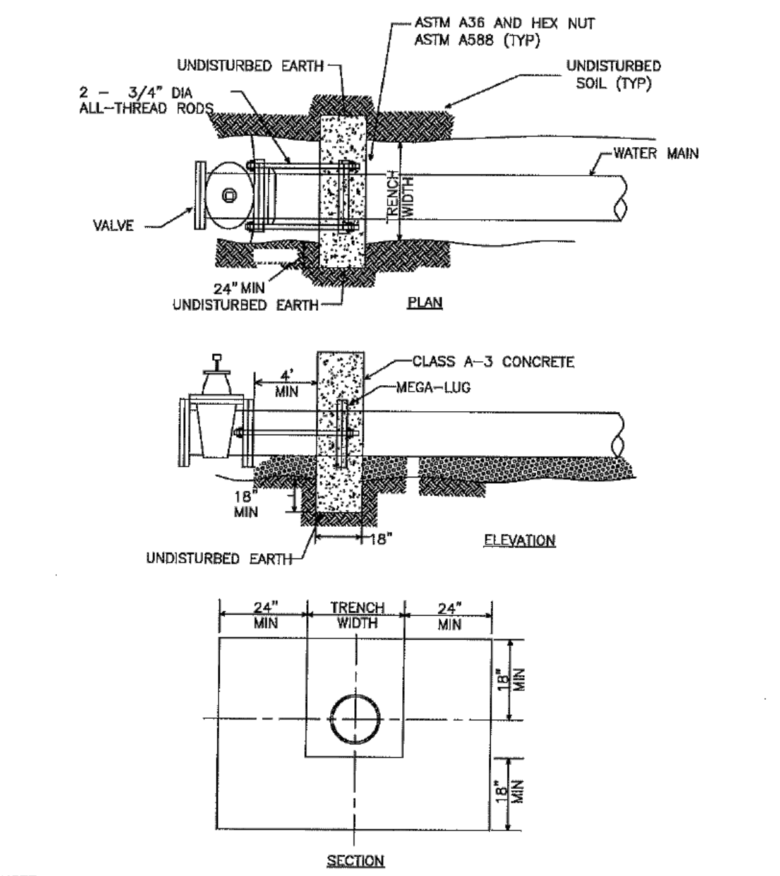

Top View
6" MINIMUM
4' MINIMUM
4" MINIMUM
Side View
42" Minimum
Certification of 95% compaction required
Galvanized Steel Beam, W12 x 14 (min. size)
3' min. penetration into undisturbed soil , or as approved by the ACSA.
45°

NOTE: RESTRAINED JOINT FITTINGS.

TYPICAL THRUST BLOCK IN FILL AREA

NTS
FIG. W-3B

TD-5



NOTE:

1. ALL RODS AND FASTENERS SHALL BE GIVEN TWO COATS OF ASPHALTIC PAINT AFTER ASSEMBLY.

2. CONTRACTOR SHALL ENSURE THAT THE COLLAR BEARS AGAINST UNDISTURBED SOIL FOR THE MINIMUM DIMENSION SHOWN.

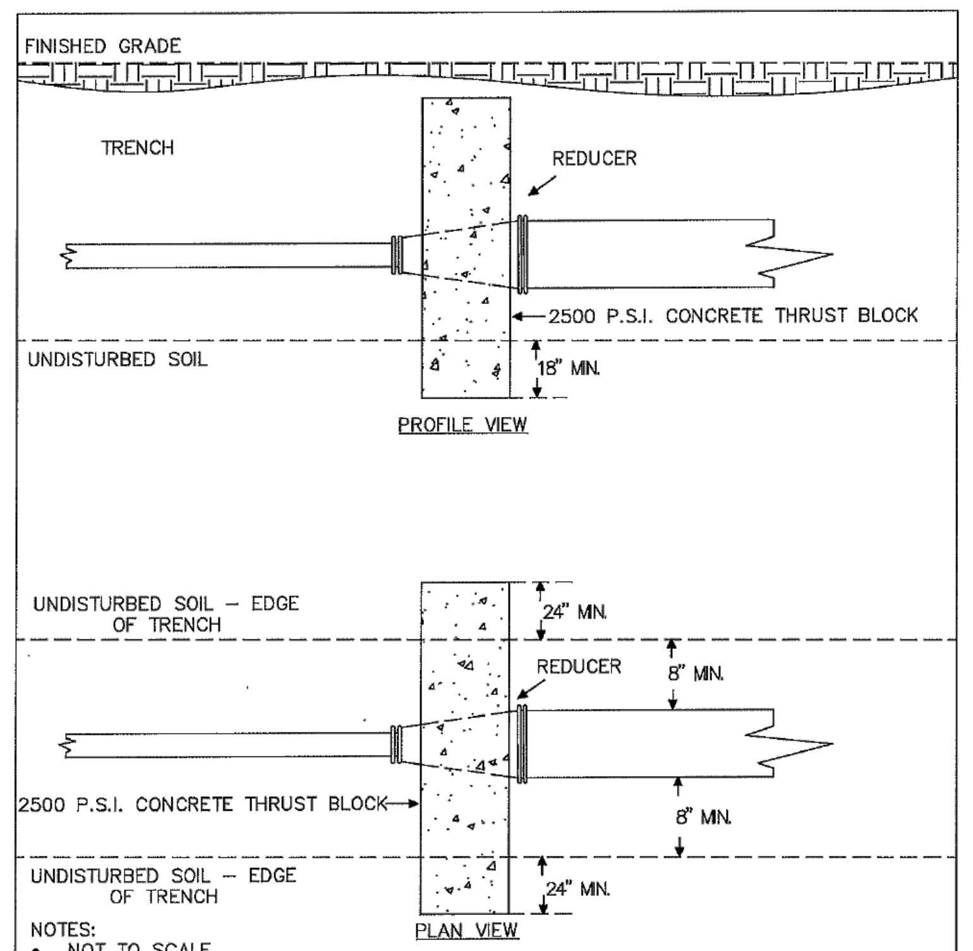
3. DIMENSIONS SHOWN BEYOND THE TRENCH WIDTH ARE ABSOLUTE MINIMUM. IF THE TRENCH WIDTH IS LARGER DURING CONSTRUCTION, THE COLLAR DIMENSIONS SHALL INCREASE ACCORDINGLY.

CROSS ANCHOR RESTRAINTS FOR VALVES

NTS

Fig. W-3C

TD-6


FINISHED GRADE
TRENCH
REDUCER
2500 P.S.I. CONCRETE THRUST BLOCK
UNDISTURBED SOIL
18" MIN.
PROFILE VIEW
UNDISTURBED SOIL – EDGE OF TRENCH
24" MIN.
REDUCER
8" MIN.
2500 P.S.I. CONCRETE THRUST BLOCK
8" MIN.
UNDISTURBED SOIL – EDGE OF TRENCH
24" MIN.
PLAN VIEW

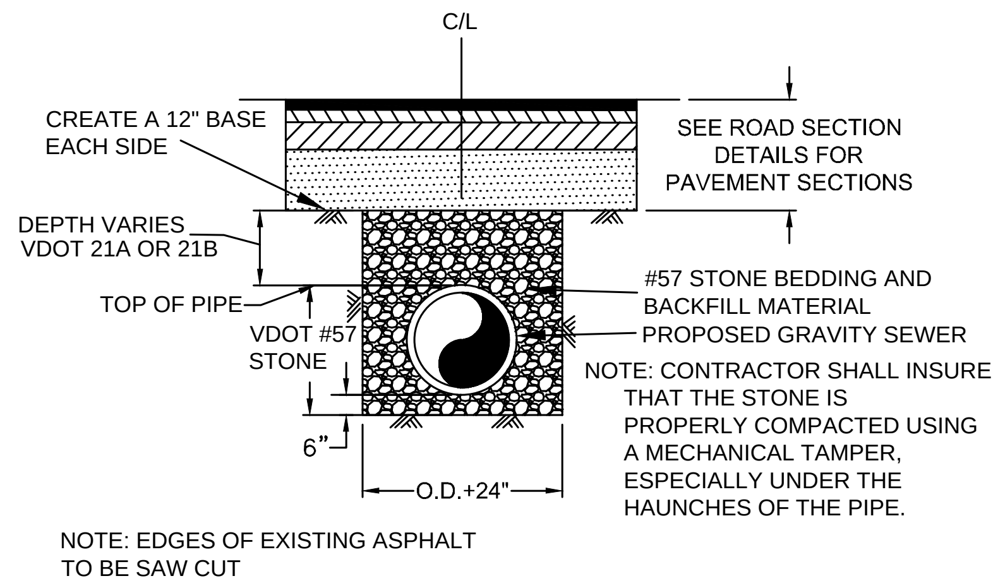
NOTES:
- NOT TO SCALE
- NO CONCRETE SHALL BE POURED ON ANY PART OF THE MECHANICAL JOINT. USE PLASTIC SHEETING AS PROTECTION FOR BOLTS.
- 3' MINIMUM HORIZONTAL PENETRATION INTO UNDISTURBED SOIL ON BOTH SIDES OF TRENCH, OR AS APPROVED BY THE ACSA.
- 3' MINIMUM VERTICAL PENETRATION INTO UNDISTURBED SOIL, OR AS APPROVED BY THE ACSA.
- CERTIFICATION OF 95% COMPACTION REQUIRED IN TRENCH.
- THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO VERIFY THE TYPE AND SIZE OF ALL THRUST BLOCKS.

TYPICAL REDUCER THRUST BLOCK

NTS

FIG. W-3D

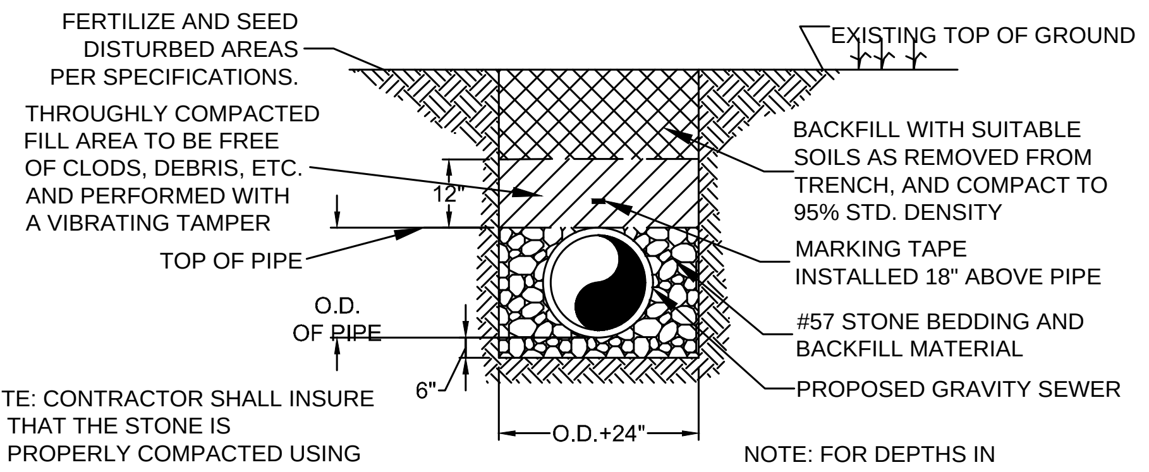
TD-7


C/L
CREATE A 12" BASE EACH SIDE
SEE ROAD SECTION DETAILS FOR PAVEMENT SECTIONS
DEPTH VARIES VDOT 21A OR 21B
TOP OF PIPE
#57 STONE BEDDING AND BACKFILL MATERIAL
VDOT #57 STONE
PROPOSED GRAVITY SEWER
6"
O.D.+24"

NOTE: CONTRACTOR SHALL INSURE THAT THE STONE IS PROPERLY COMPACTED USING A MECHANICAL TAMPER, ESPECIALLY UNDER THE HAUNCHES OF THE PIPE.

NOTE: EDGES OF EXISTING ASPHALT TO BE SAW CUT

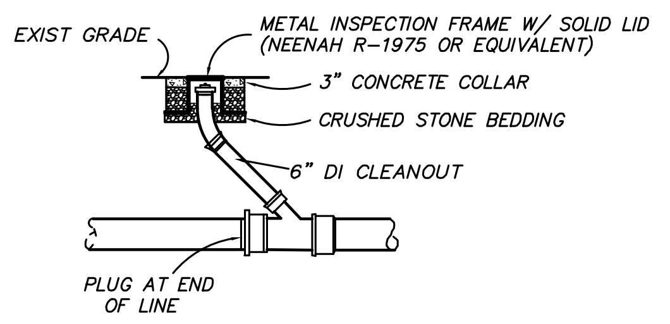
BEDDING & BACKFILL DETAIL FOR GRAVITY SANITARY SEWER PIPE
No Scale


FERTILIZE AND SEED DISTURBED AREAS PER SPECIFICATIONS.
EXISTING TOP OF GROUND
THROUGHLY COMPACTED FILL AREA TO BE FREE OF CLODS, DEBRIS, ETC. AND PERFORMED WITH A VIBRATING TAMPER
12"
BACKFILL WITH SUITABLE SOILS AS REMOVED FROM TRENCH, AND COMPACT TO 95% STD. DENSITY
TOP OF PIPE
MARKING TAPE INSTALLED 18" ABOVE PIPE
O.D. OF PIPE
#57 STONE BEDDING AND BACKFILL MATERIAL
6"
PROPOSED GRAVITY SEWER
O.D.+24"

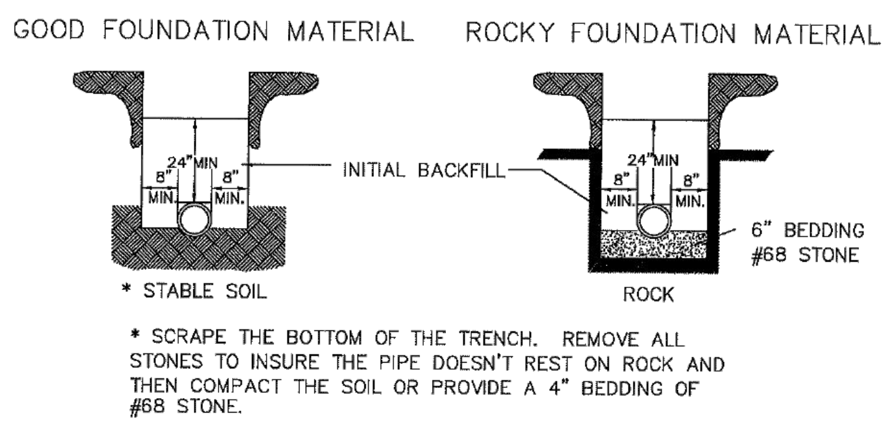
NOTE: CONTRACTOR SHALL INSURE THAT THE STONE IS PROPERLY COMPACTED USING A MECHANICAL TAMPER, ESPECIALLY UNDER THE HAUNCHES OF THE PIPE.

NOTE: FOR DEPTHS IN EXCESS OF 14', STONE SHALL EXTEND TO 12" ABOVE TOP OF PIPE.

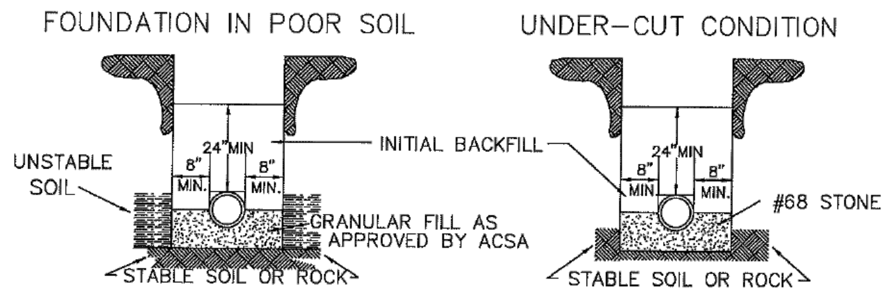
TYPICAL BEDDING (TO TOP OF PIPE) & BACKFILL DETAIL FOR GRAVITY SANITARY SEWER PIPE
No Scale



CLEANOUT DETAIL
No Scale



* SCRAPE THE BOTTOM OF THE TRENCH. REMOVE ALL STONES TO INSURE THE PIPE DOESN'T REST ON ROCK AND THEN COMPACT THE SOIL OR PROVIDE A 4" BEDDING OF #68 STONE.

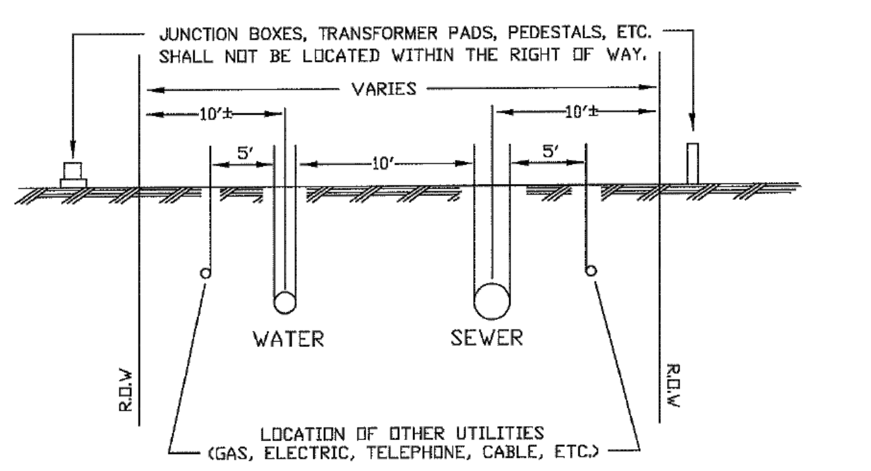


NOTE :
1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

TD-2


JUNCTION BOXES, TRANSFORMER PADS, PEDESTALS, ETC. SHALL NOT BE LOCATED WITHIN THE RIGHT OF WAY.
VARIES
10'±
10'±
5'
10'
5'
WATER
SEWER
R.O.W
R.O.W
LOCATION OF OTHER UTILITIES (GAS, ELECTRIC, TELEPHONE, CABLE, ETC.)

EASEMENT WIDTHS: WATER OR SEWER ONLY – 20' MINIMUM
WATER & SEWER ——— 30' MINIMUM

* SEE PART 3, PARAGRAPH D; SEPARATION OF WATER & SEWER SYSTEMS.

UTILITIES CROSSING A WATER OR SEWER EASEMENT SHOULD BE AT 90° TO THE RIGHT OF WAY.

UTILITY LOCATIONS & EASEMENT WIDTHS

NTS
FIG. W-1

TD-1

CLINT W. SHIFFLETT
Lic. No. 54380

NOT FOR CONSTRUCTION

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YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

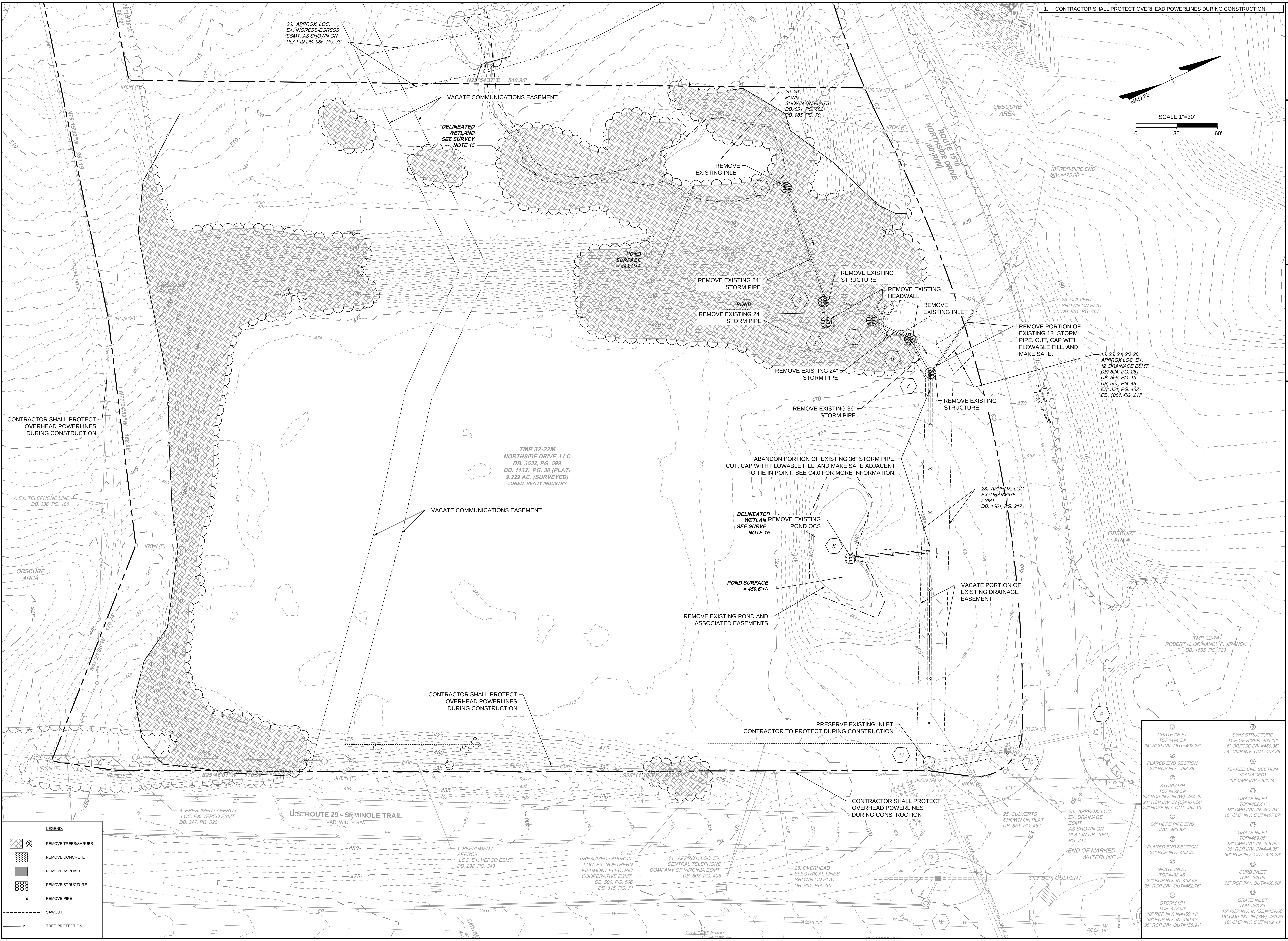
DATE
03/14/2025
DRAWN BY
C. TAYLOR
DESIGNED BY
T. BRIGHT
CHECKED BY
C. SHIFFLETT
SCALE

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
NOTES & DETAILS

JOB NO.
64375
SHEET NO.
C1.3

1. CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION


26. APPROX. LOC. EX. INGRESS-EGRESS ESMT. AS SHOWN ON PLAT IN DB. 985, PG. 79
N23°54'37"E 540.95'
VACATE COMMUNICATIONS EASEMENT
DELINEATED WETLAND SEE SURVEY NOTE 15
25, 26 POND SHOWN ON PLATS DB. 851, PG. 462 DB. 985, PG. 79
REMOVE EXISTING INLET
ROUTE 1510 NORTHSIDE DRIVE (60' R/W)
OBSCURE AREA
18" RCP PIPE END INV.=475.06'
POND SURFACE = 493.6'+/-
REMOVE EXISTING 24" STORM PIPE
REMOVE EXISTING STRUCTURE
REMOVE EXISTING HEADWALL
REMOVE EXISTING INLET
REMOVE PORTION OF EXISTING 18" STORM PIPE. CUT, CAP WITH FLOWABLE FILL, AND MAKE SAFE.
25. CULVERT SHOWN ON PLAT DB. 851, PG. 467
13, 23, 24, 25, 28. APPROX LOC. EX. 12' DRAINAGE ESMT. DB. 624, PG. 251 DB. 656, PG. 19 DB. 657, PG. 48 DB. 851, PG. 462 DB. 1061, PG. 217
REMOVE EXISTING 36" STORM PIPE
REMOVE EXISTING STRUCTURE
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
N76°15'32"W 261.19'
N71°13'59"W 186.90'
N42°21'06"W 170.34'
TMP 32-22M NORTHSIDE DRIVE, LLC DB. 3532, PG. 599 DB. 1132, PG. 30 (PLAT) 9.229 AC. (SURVEYED) ZONED: HEAVY INDUSTRY
ABANDON PORTION OF EXISTING 36" STORM PIPE. CUT, CAP WITH FLOWABLE FILL, AND MAKE SAFE ADJACENT TO TIE IN POINT. SEE C4.0 FOR MORE INFORMATION.
7. EX. TELEPHONE LINE DB. 336, PG. 185
VACATE COMMUNICATIONS EASEMENT
28. APPROX. LOC. EX. DRAINAGE ESMT. DB. 1061, PG. 217
DELINEATED WETLAND SEE SURVEY NOTE 15
REMOVE EXISTING POND OCS
POND SURFACE = 459.6'+/-
VACATE PORTION OF EXISTING DRAINAGE EASEMENT
REMOVE EXISTING POND AND ASSOCIATED EASEMENTS
TMP 32-74 ROBERT H. OR NANCY F. JIRANEK DB. 1555, PG. 723
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
PRESERVE EXISTING INLET CONTRACTOR TO PROTECT DURING CONSTRUCTION
IRON (F)
S25°46'01"W
S25°11'36"W
U.S. ROUTE 29 - SEMINOLE TRAIL VAR. WIDTH R/W
4. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 297, PG. 522
1. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 298, PG. 343
9, 12. PRESUMED / APPROX LOC. EX. NORTHERN PIEDMONT ELECTRIC COOPERATIVE ESMT. DB. 500, PG. 566 DB. 815, PG. 71
11. APPROX. LOC. EX. CENTRAL TELEPHONE COMPANY OF VIRGINIA ESMT. DB. 607, PG. 405
25. OVERHEAD ELECTRICAL LINES SHOWN ON PLAT DB. 851, PG. 467
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
25. CULVERTS SHOWN ON PLAT DB. 851, PG. 467
28. APPROX. LOC. EX. DRAINAGE ESMT. AS SHOWN ON PLAT IN DB. 1061, PG. 217
END OF MARKED WATERLINE
3'x3' BOX CULVERT
NAD 83
SCALE 1"=30'
0 30' 60'

LEGEND:

▨	REMOVE TREES/SHRUBS
▨	REMOVE CONCRETE
■	REMOVE ASPHALT
▨	REMOVE STRUCTURE
—x—	REMOVE PIPE
- - -	SAWCUT
—TP—	TREE PROTECTION

①
GRATE INLET
TOP=494.33'
24" RCP INV. OUT=492.23'

②
FLARED END SECTION
24" RCP INV.=463.88'

③
STORM MH
TOP=469.39'
24" RCP INV. IN (W)=464.29'
24" RCP INV. IN (E)=464.24'
24" HDPE INV. OUT=464.19'

④
24" HDPE PIPE END
INV.=463.68'

⑤
FLARED END SECTION
24" RCP INV.=463.32'

⑥
GRATE INLET
TOP=468.46'
24" RCP INV. IN=462.89'
36" RCP INV. OUT=462.76'

⑦
STORM MH
TOP=473.09'
18" RCP INV. IN=459.11'
36" RCP INV. IN=459.42'
36" RCP INV. OUT=458.94'

⑧
SWM STRUCTURE
TOP OF RISER=463.18'
6" ORIFICE INV.=460.36'
24" CMP INV. OUT=457.28'

⑨
FLARED END SECTION
(DAMAGED)
18" CMP INV.=461.44'

⑩
GRATE INLET
TOP=462.44'
18" CMP INV. IN=457.94'
18" CMP INV. OUT=457.87'

⑪
GRATE INLET
TOP=469.05'
18" CMP INV. IN=456.95'
36" RCP INV. IN=444.95'
36" RCP INV. OUT=444.29'

⑫
CURB INLET
TOP=465.65'
15" RCP INV. OUT=460.58'

⑬
GRATE INLET
TOP=463.38'
15" RCP INV. IN (SE)=459.60'
15" CMP INV. IN (SW)=459.58'
18" CMP INV. OUT=459.43'

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CLINT SHIFFLETT
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DATE	REVISION DESCRIPTION

DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1" = 30'

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA

EXISTING CONDITIONS AND DEMOLITION PLAN

JOB NO.
64375

SHEET NO.
C2.0

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
THIS PROJECT INCLUDES THE CONSTRUCTION OF AN INDUSTRIAL WAREHOUSE ALONG WITH ASSOCIATED UNDERGROUND UTILITIES, GRADING, STORMWATER FACILITITES, AND SITEWORK. THE LIMITS OF CLEARING AND GRADING ARE 7.03 AC

ADJACENT PROPERTY
THESE IMPROVEMENTS ARE BEING PROPOSED WITHIN THE PROPERTY BOUNDARY. THE PROPERTY IS BOUNDED BY NORTHSIDE DRIVE TO THE NORTH, ROUTE 29 TO THE EAST, RESIDENTIAL PROPERTY TO THE SOUTH, AND UNDEVELOPED INDUSTRIAL PROPERTY TO THE WEST.

EXISTING SITE CONDITIONS
THE EXISTING SITE IS UNDEVELOPED WITH MAINTAINED GRASS THROUGHOUT AND DENSE AREAS OF TREES AND SHRUBS DISTRIBUTED ACROSS THE SITE. THERE ARE TWO EXISTING DETENTION PONDS ONSITE, EACH CONNECTED TO EXISTING UNDERGROUND STORM INFRASTRUCTURE.

CRITICAL EROSION AREAS
THERE ARE STEEP SLOPES THROUGHOUT THE SITE, PRIMARILY ALONG THE SOUTH PERIMETER, SUBDIVIDING THE PROPERTY FROM THE NORTH TO THE SOUTH, AND AT EACH POND.

EROSION AND SEDIMENT CONTROL MEASURES
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CURRENT ADDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE BY LOCAL AUTHORITIES HAVING JURISDICTION.

STORMWATER RUNOFF CONSIDERATIONS

WATER QUANTITY: A LEVEL 1 WET POND WILL BE CONSTRUCTED ON-SITE TO MEET WATER QUANTITY REQUIREMENTS FOR THE SITE OUTFALL SHOWN ON THE PLANS. THE SITE OUTFALL HAS BEEN ALIGNED WITH THE POINTS OF ANALYSIS WHERE FEASIBLE AND THE ENERGY BALANCE CRITERIA FOR THE 1-YR 24-HR STORM EVENT HAS BEEN ANALYZED AND MET AT THE SITE OUTFALL. THE 10-YR POST-DEVELOPMENT FLOWS HAVE BEEN MAINTAINED TO THE 10-YR PRE-DEVELOPMENT FLOWS TO MEET FLOOD PROTECTION CRITERIA.

WATER QUALITY: A WET POND WILL BE CONSTRUCTED ON-SITE TO MEET WATER QUALITY REQUIREMENTS FOR A MINIMUM OF 75% OF THE PHOSPHOROUS LOAD REMOVAL REQUIREMENT ONSITE OF X LB/YR, IN CONJUNCTION WITH THE PURCHASE OF OFFSITE NUTRIENT CREDITS. X LB/YR WILL BE ACHIEVED THROUGH THE IMPLEMENTATION OF THE WET PONDS WITHIN PHASE I AND NUTRIENT CREDITS WILL BE PURCHASED FOR THE REMAINING X LB/YR. SEE THE STORMWATER QUALITY ANALYSIS FOR FURTHER BREAKDOWN OF THE MEASURES NOTED.

EROSION AND SEDIMENT CONTROL MAINTENANCE
SELF-INSPECTIONS SHALL TAKE PLACE BY THE RLD OR CONTRACTOR AND BE PERFORMED AT LEAST WEEKLY AND AFTER EVERY RUNOFF PRODUCING RAIN EVENT. ANY NECESSARY REPAIRS TO EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERFORMED IMMEDIATELY. REMOVAL OF SEDIMENT FROM SEDIMENT-CATCHING MEASURES MUST BE PERFORMED WHEN CAPACITY OF THOSE MEASURES IS REDUCED BY 50%.

PERMANENT STORMWATER BMP MAINTENANCE RESPONSIBILITY
IT SHALL BE THE RESPONSIBILITY OF THE THE PROPERTY OWNER TO MAINTAIN ANY/ALL PERMANENT STORMWATER BMP'S ONSITE PURSUANT TO THE STORMWATER MANAGEMENT MAINTENANCE AGREEMENT.

STRUCTURAL PRACTICES:
1. TEMPORARY CONSTRUCTION ENTRANCE - 3.02 A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT THE LOCATION INDICATED ON THE PLANS. IT IS IMPERATIVE THAT THIS MEASURE BE MAINTAINED THROUGHOUT CONSTRUCTION. ITS PURPOSE IS TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PAVED PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.
2. SILT FENCE BARRIER - 3.05 SILT FENCE SEDIMENT BARRIERS SHAL L BE INSTALLED DOWNSLOPE OF AREAS WITH MINIMAL GRADES TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW AS INDICATED. ITS PURPOSE IS TO INTERCEPT SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS AND PREVENT SEDIMENT FROM LEAVING THE SITE.
3. STORM DRAIN INLET PROTECTION - 3.07 STONE FILTERS SHALL BE PLACED AT THE INLET OF ALL DRAINAGE STRUCTURES AS INDICATED ON PLANS. ITS PURPOSE IS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION.
4. DIVERSION DIKE - 3.09 A TEMPORARY RIDGE OF COMPACTED SOIL TO DIVERT WATER FROM A CERTAIN AREA.
5. SEDIMENT BASIN - 3.14A TEMPORARY BARRIER OR DAM WITH A CONTROLLED STORMWATER RELEASE TO DETAIN SEDIMENT-LADEN RUNOFF FROM DISTURBED AREAS IN "WET" AND "DRY" STORAGE LONG ENOUGH FOR THE MAJORITY OF SEDIMENT TO SETTLE OUT.
   5.1. MAINTENANCE OF SEDIMENT BASIN - INSPECT BASIN EMBANKMENT WEEKLY TO ENSURE IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED DURING CONSTRUCTION ACTIVITIES. THE BASIN SHALL BE CHECKED AFTER EVERY RAINFALL EVENT. ONCE THE SEDIMENT HAS REACHED THE DESIGNATED CLEANOUT OUT LEVEL IT SHALL BE REMOVED AND PROPERLY DISPOSED OF.
6. ROCK CHECK DAM - 3.20 SMALL TEMPORARY STONE DAM CONSTRUCTED ACROSS A SWALE OR DITCH.
7. TREE PROTECTION - 3.38 PROTECTION OF DESIRABLE TREES FROM MECHANICAL AND OTHER INJURY DURING LAND DISTURBING AND CONSTRUCTION ACTIVITY.
8. DUST CONTROL - 3.39 DUST CONTROL IS TO BE USED THROUGH THE SITE IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT.

VEGETATIVE PRACTICES:
1. TOPSOIL (TEMPORARY STOCKPILE) - 3.30 TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER SPREADING. STOCKPILE LOCATIONS SHALL BE LOCATED ONSITE AND SHALL BE STABILIZED WITH TEMPORARY SILT FENCE AND VEGETATION.
2. TEMPORARY SEEDING - 3.31 ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR MORE THAN 30 DAYS SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING OF THOSE AREAS. SELECTION OF THE SEED MIXTURE SHALL DEPEND ON THE TIME OF YEAR IT IS APPLIED.
3. PERMANENT SEEDING - 3.32 FOLLOWING GRADING ACTIVITIES, ESTABLISH PERENNIAL VEGETATIVE COVER BY PLANTING SEED TO REDUCE EROSION, STABILIZE DISTURBED AREAS, AND ENHANCE NATURAL BEAUTY.
4. SOIL STABILIZATION BLANKETS & MATTING - 3.36 A PROTECTIVE COVERING BLANKET OR SOIL STABILIZATION MAT SHALL BE INSTALLED ON PREPARED PLANTING AREAS OF CHANNELS TO PROTECT AND PROMOTE VEGETATION ESTABLISHMENT AND REINFORCE ESTABLISHED TURF.

MANAGEMENT STRATEGIES
1. PROVIDE SEDIMENT TRAPPING MEASURES AS A FIRST STEP IN GRADING, SEED AND MULCH IMMEDIATELY FOLLOWING INSTALLATION.
2. PROVIDE TEMPORARY SEEDING OR OTHER STABILIZATION IMMEDIATELY AFTER GRADING.
3. ISOLATE TRENCHING FOR UTILITIES AND DRAINAGE FROM DOWNSTREAM CONVEYANCES IN ORDER TO MINIMIZE PERIMETER CONTROLS.
4. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED UNTIL THEY ARE NO LONGER REQUIRED TO COMPLY WITH THE CONTRACT DOCUMENTS OR STATE LAW.

PERMANENT STABILIZATION
ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISHED GRADING. SEEDING SHALL BE IN ACCORDANCE WITH STD. & SPEC. 3.32, PERMANENT SEEDING. SEED TYPE SHALL BE AS SPECIFIED FOR "MINIMUM CARE LAWNS" AND "GENERAL SLOPES" IN THE HANDBOOK FOR SLOPES LESS THAN 3:1. FOR SLOPES GREATER THAN 3:1, SEED TYPE SHALL BE AS SPECIFIED FOR "LOW MAINTENANCE SLOPES" IN TABLE 3.32-D OF THE HANDBOOK. FOR MULCH (STRAW OR FIBER) SHALL BE USED ON ALL SEEDED SURFACES. IN ALL SEEDING OPERATIONS SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO MULCHING.

SEQUENCE OF INSTALLATION
PHASE I (SEE SHEET C3.5)
1. A PRE-CONSTRUCTION MEETING IS REQUIRED WITH ALBEMARLE COUNTY E&S INSPECTOR, CONTRACTOR, OWNER, AND ENGINEER. THIS MEETING SHALL TAKE PLACE ON-SITE. CLEARING LIMITS MUST BE FLAGGED PRIOR TO THE MEETING WITH ONE (1) WEEK OF NOTICE.
2. NO LAND DISTURBANCE MAY OCCUR UNTIL THE INSTALLATION OF THE ESC MEASURES HAVE BEEN APPROVED BY THE ENVIRONMENTAL INSPECTOR.
3. CONTRACTOR SHALL PROTECT EXISTING OVERHEAD POWER LINES AND POLES THROUGHOUT THE ENTIRE DURATION OF CONSTRUCTION.
4. INSTALL PERIMETER MEASURES - CONSTRUCTION ENTRANCE, SILT FENCE, AND TREE PROTECTION - AS SHOWN ON SHEETS C3.5.
5. INSTALL INLET PROTECTION AT EXISTING INLETS AS SHOWN ON THE PLANS C3.5.
6. AFTER ALL PERIMETER MEASURES ARE IN PLACE, SITE WORK CAN BEGIN.
7. CONTRACTOR TO INSTALL GRASS CHANNEL AND OFFSITE STORM SEWER BYPASS INFRASTRUCTURE AS SHOWN ON SHEET C3.5. SLOPES SHALL BE STABILIZED IMMEDIATELY PER VESCH STANDARDS.
8. ONCE THE OFFSITE STORM SEWER BYPASS INFRASTRUCTURE AND GRASS CHANNEL ARE IN PLACE, SITE WORK MAY COMMENCE AND PROGRESS INTO PHASE II UPON APPROVAL.

PHASE II (SEE SHEET C3.6)
1. CONTRACTOR TO INSTALL SEDIMENT BASIN AND CONTROL STRUCTURES AS SHOWN ON SHEET C3.6. SEDIMENT BASIN SLOPES SHALL BE STABILIZED IMMEDIATELY.
2. INSTALL DIVERSION DIKES IMMEDIATELY AFTER THE SEDIMENT BASIN HAS BEEN INSTALLED. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TOWARDS THE SEDIMENT BASIN.
3. INSTALL PROPOSED STORM SEWER INFRASTRUCTURE AS SHOWN ON SHEET C3.6.
4. ALL STORM SEWER PIPING & STRUCTURES, INCLUDING DETENTION FACILITIES SHALL BE INSPECTED FOR SILT/SEDIMENT. IF PRESENT, SILT/SEDIMENT SHALL BE CLEANED OUT FOR THE SYSTEM TO THE SATISFACTION OF THE E&S INSPECTOR.
5. ROUGH GRADE THE SITE AS SHOWN ON SHEET C3.6.
6. APPLY PERMANENT OR TEMPORARY SOIL STABILIZATION AND MULCHING WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS ACHIEVED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO ANY DENUDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT LONGER THAN FOURTEEN (14) DAYS. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF VEGETATIVE COVER IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RE-SEEDED AS NEEDED. TOPSOIL WILL BE APPLIED PRIOR TO ANY PERMANENT SEEDING. INSTALL BLANKETS AND MATTING ON SLOPES GREATER THAN OR EQUAL TO 3:1.

PHASE III (SEE SHEET C3.7)
3. INSTALL UNDERGROUND UTILITIES - STORM SEWER, SANITARY SEWER, WATER, AND ALL ELSE AS SHOWN ON PLAN SHEET C3.7. INSTALL NEW INLET PROTECTION ACCORDINGLY. FLOWS TO THE SEDIMENT BASIN TO BE MAINTAINED DURING DAY-TO-DAY CONSTRUCTION OPERATIONS.
4. PERFORM ROUGH GRADING, REACHING SUBGRADE OF ALL ROADS, PARKING AREAS, AND BUILDING PAD, AS SHOWN ON SHEET C3.7.
5. VERTICAL CONSTRUCTION TO BEGIN AND ASSOCIATED SITE WORK, AS SHOWN ON SHEET C3.7.
6. SEED ALL DENUDED AREAS PER VESCH STANDARDS.

PHASE IV (SEE SHEET C3.8)
1. FINAL GRADE THE SITE, APPLY PERMANENT SOIL STABILIZATION TO THESE AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS ACHIEVED, APPLY SOIL STABILIZATION BLANKET TO ALL SLOPES GREATER THAN OR EQUAL TO 3:1.
2. CONTRACTOR TO COMPLETE REMAINING SITE WORK ASSOCIATED WITH UTILITIES, PAVING, AND PLANTING.
3. SILT FENCE AND BASINS MUST BE MAINTAINED THROUGH GRADING AND CONSTRUCTION. ONCE ALL UPSTREAM AREAS DRAINING TO THE TEMPORARY SEDIMENT BASIN ARE FULLY STABILIZED, CONTRACTOR TO BEGIN THE WET POND CONVERSION. CONTRACTOR SHALL FULLY DE-WATER THE SEDIMENT BASIN PRIOR TO THE LEVEL 1 WET POND CONVERSION, CLEANING OUT SEDIMENT.
4. ALL STORMWATER PIPING & STRUCTURES, INCLUDING DETENTION FACILITIES SHALL BE INSPECTED FOR SILT/SEDIMENT. IF PRESENT, SILT/SEDIMENT SHALL BE CLEANED OUT FOR THE SYSTEM TO THE SATISFACTION OF THE E&S INSPECTOR.
5. APPLY PERMANENT OR TEMPORARY SOIL STABILIZATION AND MULCHING WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS ACHIEVED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO ANY DENUDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT LONGER THAN FOURTEEN (14) DAYS. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF VEGETATIVE COVER IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RE-SEEDED AS NEEDED. TOPSOIL WILL BE APPLIED PRIOR TO ANY PERMANENT SEEDING. INSTALL BLANKETS AND MATTING ON SLOPES GREATER THAN OR EQUAL TO 3:1. PRIOR TO SEEDING COORDINATE WITH LANDSCAPE ARCHITECT FOR PREFERRED TIMING OF PERMANENT SEEDING OF MEADOW PLANTING AREAS ON SITE.
6. ONCE CONSTRUCTION IS COMPLETE AND ALL CONTRIBUTING AREAS ARE STABILIZED, EROSION CONTROL MEASURES CAN BE REMOVED UPON APPROVAL FROM THE E&S INSPECTOR.

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MINIMUM STANDARDS:

AN EROSION AND SEDIMENT CONTROL PROGRAM ADOPTED BY A DISTRICT OR LOCALITY MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

MS-1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 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 IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
MS-4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
MS-5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
MS-6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.
A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.
MS-7. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
MS-8. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS C CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
MS-9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
MS-10. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
MS-11. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
MS-12. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
MS-13. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
MS-14. ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.
MS-15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
MS-16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
C. EFFLUENT FROM DEWATERING 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. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
MS-17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT 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 LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
MS-19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE TO THE FOLLOWING STANDARDS AND CRITERIA.STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:

a. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.

b. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS 100 TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR

(2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS;

(b) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND

(c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.

c. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:

(1) IMPROVE THE CHANNELS TO A CONDITION WHERE A 10-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS;

(2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE 10-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;

(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A 10-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR

(4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.

d. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.

e. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.

f. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.

g. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.

h. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.

i. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.

j. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.

k. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

l. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT.

m. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES (I) ARE IN ACCORDANCE WITH PROVISIONS FOR TIME LIMITS ON APPLICABILITY OF APPROVED DESIGN CRITERIA IN 9VAC25-870-47 OR GRANDFATHERING IN 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATION, IN WHICH CASE THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT SHALL APPLY, OR (II) ARE EXEMPT PURSUANT TO § 62.1-44.15:34 C 7 OF THE ACT.

n. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATION SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF THIS SUBDIVISION 19.

GENERAL CONSTRUCTION NOTES FOR EROSION AND SEDIMENT CONTROL

1. 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.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA EROSION AND SEDIMENT CONTROL LAW AND REGULATIONS.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
4. INSTALL INLET PROTECTION AND CULVERT INLET PROTECTION TO EXISTING STRUCTURES.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
7. 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.
8. 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.
9. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
10. ALL FILL MATERIAL TO BE TAKEN FROM AN APPROVED, DESIGNATED BORROW AREA.
11. ALL WASTE MATERIALS SHALL BE TAKEN TO AN APPROVED WASTE AREA. EARTH FILL SHALL BE INERT MATERIALS ONLY, FREE OF ROOTS, STUMPS, WOOD, RUBBISH, AND OTHER DEBRIS.
12. BORROW OR WASTE AREAS ARE TO BE RECLAIMED WITHIN 7 DAYS OF COMPLETION.
13. ALL INERT MATERIALS SHALL BE TRANSPORTED IN COMPLIANCE WITH CHAPTER 38, ARTICLE II OF THE CODE OF LOUISA.
14. TEMPORARY STABILIZATION SHALL BE TEMPORARY SEEDING AND MULCHING. SEEDING IS TO BE AT 75 LBS/ACRE, AND IN THE MONTHS OF SEPTEMBER TO FEBRUARY TO CONSIST A 50/50 MIX OF ANNUAL RYEGRASS AND CEREAL WINTER RYE, OR IN MARCH AND APRIL TO CONSIST OF ANNUAL RYE, OR MAY THROUGH AUGUST TO CONSIST OF GERMAN MILLET. STRAW MULCH IS TO BE APPLIED AT 80LBS/100SF. ALTERNATIVES ARE SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
15. PERMANENT STABILIZATION SHALL BE LIME AND FERTILIZER, PERMANENT SEEDING, AND MULCH. AGRICULTURAL GRADE LIMESTONE SHALL BE APPLIED AT 90LBS/1000SF, INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. FERTILIZER SHALL BE APPLIED AT 1000LBS/ACRE AND CONSIST OF A 10-20-10 NUTRIENT MIX. PERMANENT SEEDING SHALL BE APPLIED AT 180LBS/ACRE AND CONSIST OF 95% KENTUCKY 31 OR TALL FESCUE AND 0-5% PERENNIAL RYEGRASS OR KENTUCKY BLUEGRASS. STRAW MULCH IS TO BE APPLIED AT 80LBS/100SF. ALTERNATIVES ARE SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.
16. MAINTENANCE: ALL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. ANY DAMAGE OR CLOGGING TO STRUCTURAL MEASURES SHALL BE REPAIRED IMMEDIATELY. SILT TRAPS SHALL BE CLEANED WHEN 50% OF THE WET STORAGE VOLUME IS FILLED WITH SEDIMENT. ALL SEEDED AREAS SHALL BE RESEEDED WHEN NECESSARY TO ACHIEVE A GOOD STAND OF GRASS. SILT FENCE AND DIVERSION DYKES WHICH COLLECT SEDIMENT TO HALF THEIR HEIGHT SHALL BE CLEANED AND REPAIRED IMMEDIATELY.
17. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF FINAL SITE STABILIZATION, WHEN MEASURES ARE NO LONGER NEEDED, SUBJECT TO APPROVAL BY THE COUNTY EROSION CONTROL INSPECTOR.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

ES-1: UNLESS OTHERWISE INDICATED, CONSTRUCT AND MAINTAIN ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA EROSION AND SEDIMENT CONTROL LAW.
ES-2: THE CONTROLLING EROSION AND SEDIMENT CONTROL AUTHORITY WILL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS AND EFFECTIVENESS OF THE EROSION CONTROL PLAN.
ES-3: PLACE ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO OR AS THE FIRST STEP IN CLEARING, GRADING, OR LAND DISTURBANCE.
ES-4: MAINTAIN A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN 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, OFFSITE BORROW OR WASTE AREA), SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE ARCHITECT/ENGINEER AND THE CONTROLLING EROSION AND SEDIMENT CONTROL AUTHORITY FOR REVIEW AND ACCEPTANCE.
ES-6: PROVIDE ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE LOCAL ENVIRONMENTAL INSPECTOR.
ES-7: ALL DISTURBED AREAS SHALL DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND-DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT.
ES-8: DURING DEWATERING OPERATIONS, PUMP WATER INTO AN APPROVED FILTERING DEVICE.
ES-9: INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF- PRODUCING RAINFALL EVENT. MAKE ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES IMMEDIATELY.

SOILS INFORMATION
2D-ALBEMARLE FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES, GROUP C
21B-CULPEPER FINE SANDY LOAM, 2 TO 7 PERCENT SLOPES, GROUP B
21C-CULPEPER FINE SINADY LOAM, 7 TO 15 PERCENT SLOPES, GROUP B
27B-ELIOAK LOAM, 2 TO 7 PERCENT SLOPES, GROUP B
29D-FAQUIER SILT LOAM, 15 TO 25 PERCENT SLOPES, GROUP C
34D-GLENELG LOAM, 15 TO 25 PERCENT SLOPES, GROUP B
36C-HAYESVILLE LOAM, 7 TO 15 PERCENT SLOPES, GROUP B
47C-PHILOMONT SANDY LOAM, 7 TO 15 PERCENT SLOPES, GROUP A
47D-PHILOMONT SANDY LOAM, 15 TO 25 PERCENT SLOPES, GROUP A
65B-FAIRVIEW SANDY LOAM, 2 TO 7 PERCENT SLOPES, GROUP B
65C-FAIRVIEW SANDY LOAM, 7 TO 15 PERCENT SLOPES, GROUP B
88-UDORTHENTS, LOAMY, 2 TO 25 PERCENT SLOPES

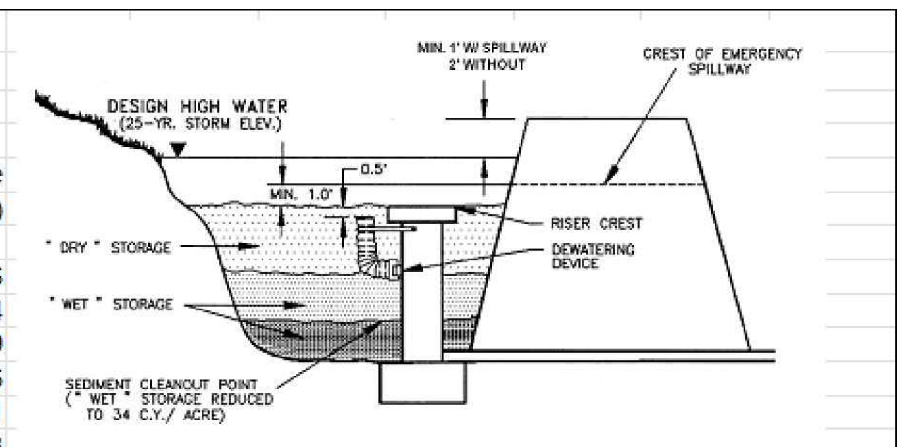
Sediment Basin Design

PII - IV

7.00
Drainage Area (acres)

Basin Volumes:

Elevation (ft)	Contour Area (sf)	Volume (cy)	Cumulative Volume (cy)
460	2,308.74		
461	3,177.46	101.6	101.6
462	4,155.38	135.8	237.4
463	5,216.52	173.6	410.9
464	6,430.20	215.7	626.6
465	7,688.73	261.5	888.1
466	9,036.09	309.7	1197.8
467	10,472.22	361.3	1559.1
468	11,981.15	415.8	1974.9
469	6,538.82	343.0	2317.8
470	4,865.89	211.2	2529.0
471	2,067.94	128.4	2657.4
	Total Volume (cy)	**2657.4**	


MIN. 1' W/ SPILLWAY
2' WITHOUT
CREST OF EMERGENCY SPILLWAY
DESIGN HIGH WATER (25-YR. STORM ELEV.)
0.5'
MIN. 1.0'
RISER CREST
DEWATERING DEVICE
" DRY " STORAGE
" WET " STORAGE
SEDIMENT CLEANOUT POINT (" WET " STORAGE REDUCED TO 34 C.Y./ ACRE)

Wet Storage:	
Wet Storage Required (cy) (67*DA)	469.0
Dewatering Orifice Elevation (ft)	464.0
Wet Storage Provided at this Elevation (cy)	626.6
Required Volume Before Cleanout (cy) (34*DA	238.0
Cleanout Elevation (ft)	462.5
Distance from Cleanout to Orifice (ft) (> 1')	1.5
Dry Storage:	
Dry Storage Required (cy) (67*DA)	469.0
Riser Crest Elevation (ft)	467.85
Dry Storage Provided at this Elevation (cy)	2030.8
Diameter of Dewatering Orifice (in)	3.0
Diameter of Flexible Tubing (in) (Orifice+2")	5.0
Principle Spillway:	
Freeboard (ft)	1.5
Diameter Riser (in)	60
Diameter Trash Rack (in)	60
Barrel Length (ft)	37.5
Diameter of Barrel (in)	24
Barrel Inv. Out Elevation (ft)	458.50

	Phase I
Design High Water Rational Method	
Ratinoal Method Runoff Volume 25 yr CY	
Design High Water SCS 25yr (controls)	469.46
Top of Dam (ft)	471.00
Top Width of Dam (ft)	8.0
Bottom of Basin (ft)	460.0
Approx. Bottom Dimensions:	126'x25'
Upstream Face Slope:	3:1
Downstream Face Slope:	3:1
Baffles:	Yes
Length of Flow, L (ft)	87
Effective Width, We (ft)	74
L / We (Baffles required if < 2)	1.177
Collars:	As required by geotech
Depth of Water at Spillway Crest (ft)	
Slope of Upstream Face (Z:1)	
Slope of Barrel (Sb)	
Length of Barrel in Saturated Zone (Ls)	
Number Collars Required	
Dimension of Collars	
Emergency Spillway:	Yes
Bottom Width (ft)	10
Slope of Exit Channel (ft/100ft)	4.24%
Length of Exit Channel (ft)	20
Crest of Spillway (ft)	469

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REVISION DESCRIPTION	DATE

TIMMONS GROUP

DATE
03/14/2025

DRAWN BY
C. TAYLOR

DESIGNED BY
T. BRIGHT

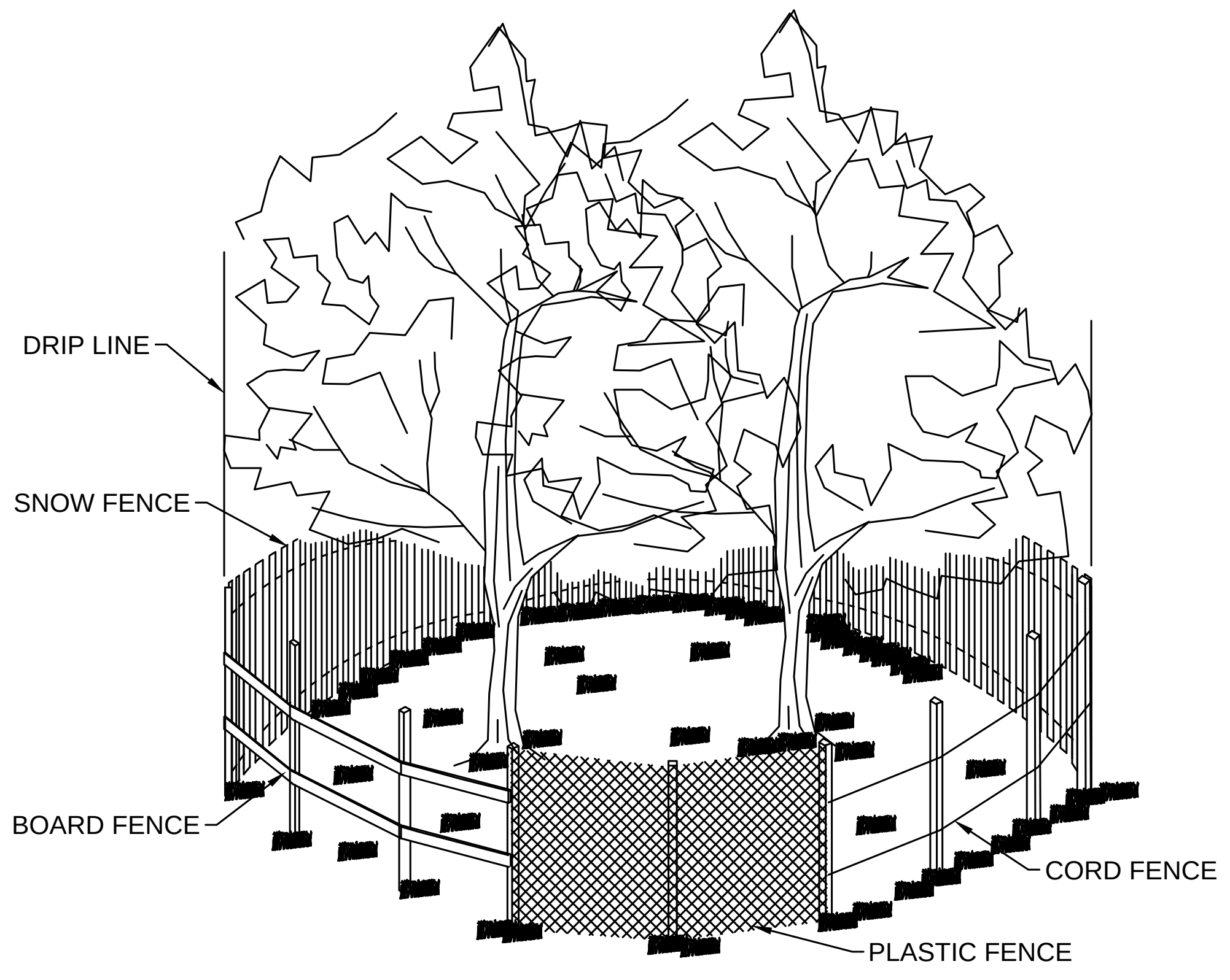
CHECKED BY
C. SHIFFLETT

SCALE
N/A

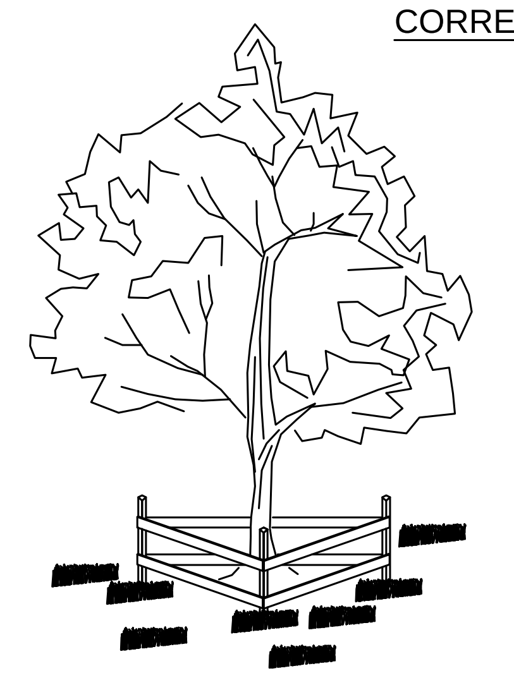
NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
ESC NOTES & DETAILS

JOB NO.
64375

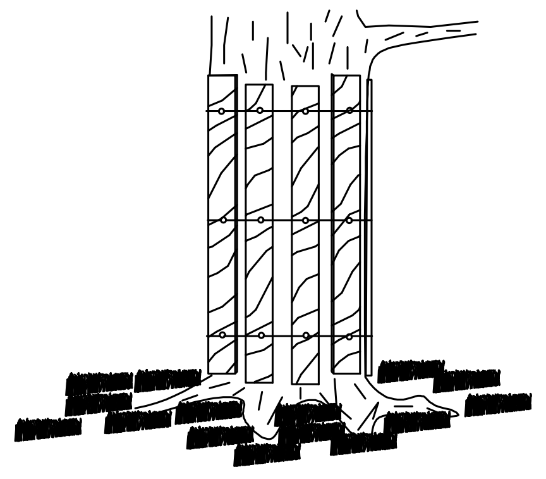
SHEET NO.
C3.0



CORRECT METHODS OF TREE FENCING



TRIANGULAR BOARD FENCE

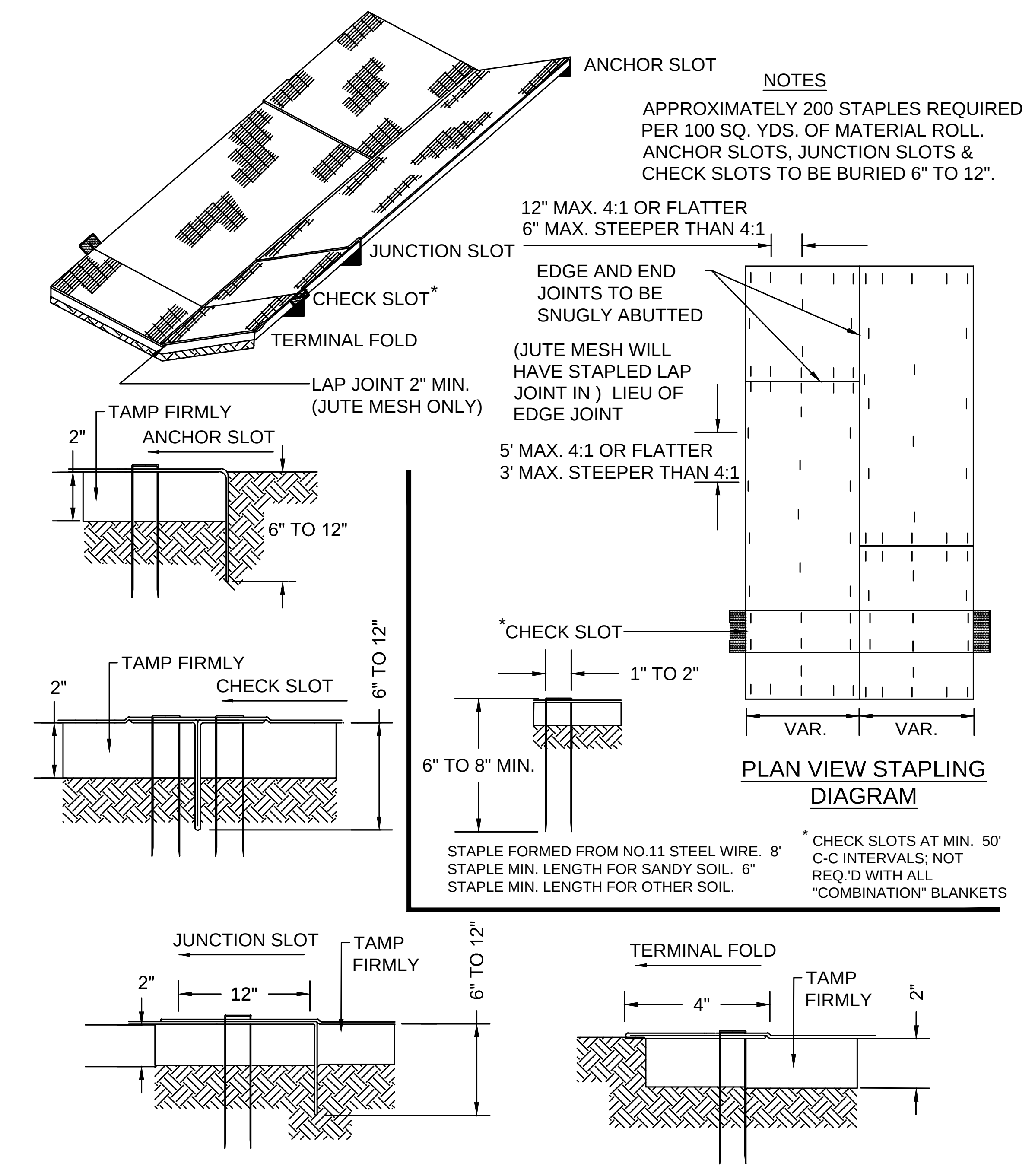


CORRECT TRUNK ARMORING

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

FENCING AND ARMORING

v1.1 SOURCE: VA. DSWC C-SSM-01-2



NOTES

APPROXIMATELY 200 STAPLES REQUIRED PER 100 SQ. YDS. OF MATERIAL ROLL. ANCHOR SLOTS, JUNCTION SLOTS & CHECK SLOTS TO BE BURIED 6" TO 12".

PLAN VIEW STAPLING DIAGRAM

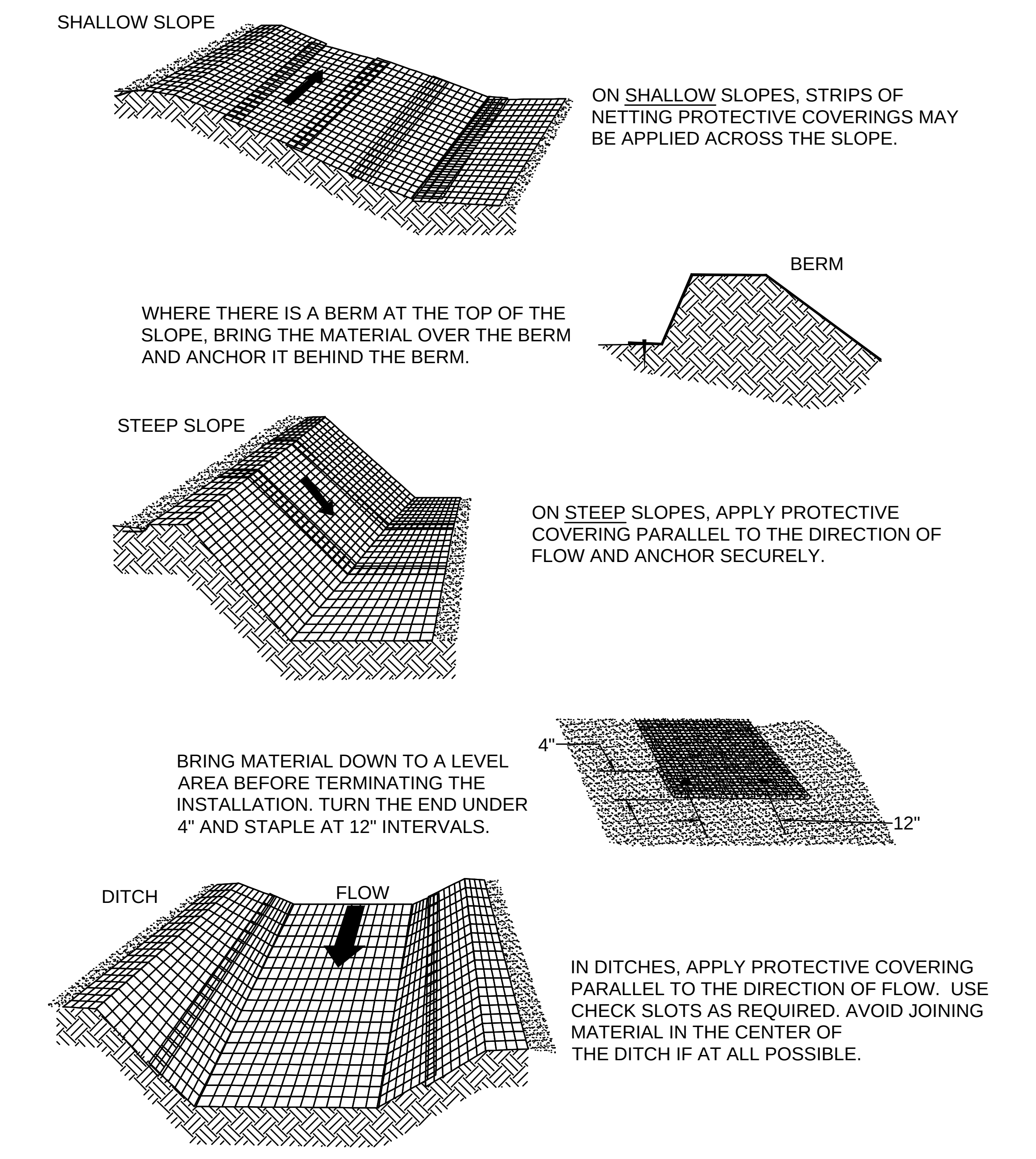
STAPLE FORMED FROM NO.11 STEEL WIRE. 8' STAPLE MIN. LENGTH FOR SANDY SOIL. 6" STAPLE MIN. LENGTH FOR OTHER SOIL.

* CHECK SLOTS AT MIN. 50' C-C INTERVALS; NOT REQ.'D WITH ALL "COMBINATION" BLANKETS

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TYPICAL TREATMENT - 1
(SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA

v1.1 SOURCE: VDOT ROAD & BRIDGE STDS. C-SSM-05-2



ON SHALLOW SLOPES, STRIPS OF NETTING PROTECTIVE COVERINGS MAY BE APPLIED ACROSS THE SLOPE.

WHERE THERE IS A BERM AT THE TOP OF THE SLOPE, BRING THE MATERIAL OVER THE BERM AND ANCHOR IT BEHIND THE BERM.

ON STEEP SLOPES, APPLY PROTECTIVE COVERING PARALLEL TO THE DIRECTION OF FLOW AND ANCHOR SECURELY.

BRING MATERIAL DOWN TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION. TURN THE END UNDER 4" AND STAPLE AT 12" INTERVALS.

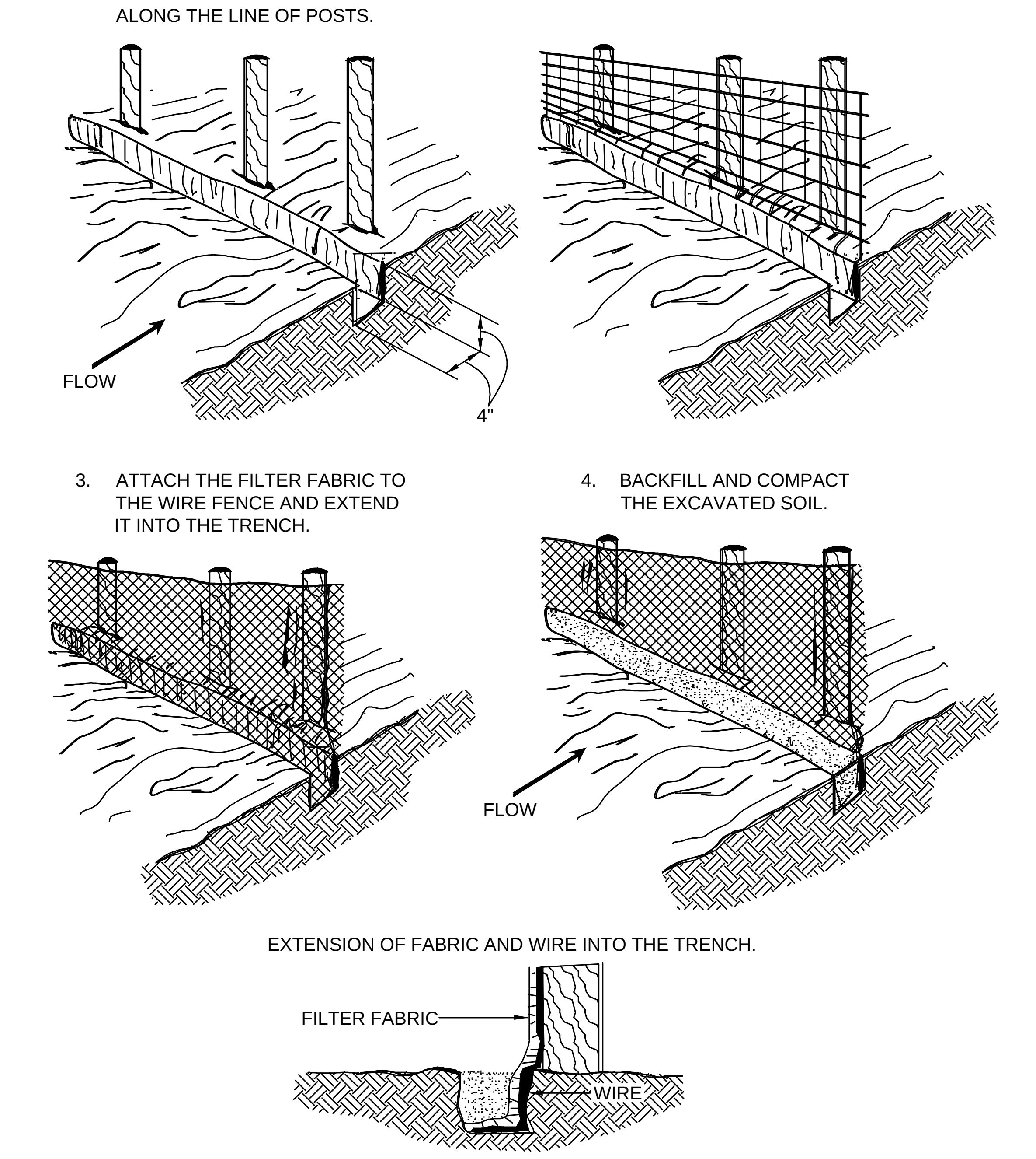
IN DITCHES, APPLY PROTECTIVE COVERING PARALLEL TO THE DIRECTION OF FLOW. USE CHECK SLOTS AS REQUIRED. AVOID JOINING MATERIAL IN THE CENTER OF THE DITCH IF AT ALL POSSIBLE.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TYPICAL ORIENTATION OF TREATMENT - 1
(SOIL STABILIZATION BLANKET)

v1.1 SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE C-SSM-05-1

1. SET POSTS AND EXCAVATE A 4"X4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
2. STAPLE WIRE FENCING TO THE POSTS.
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

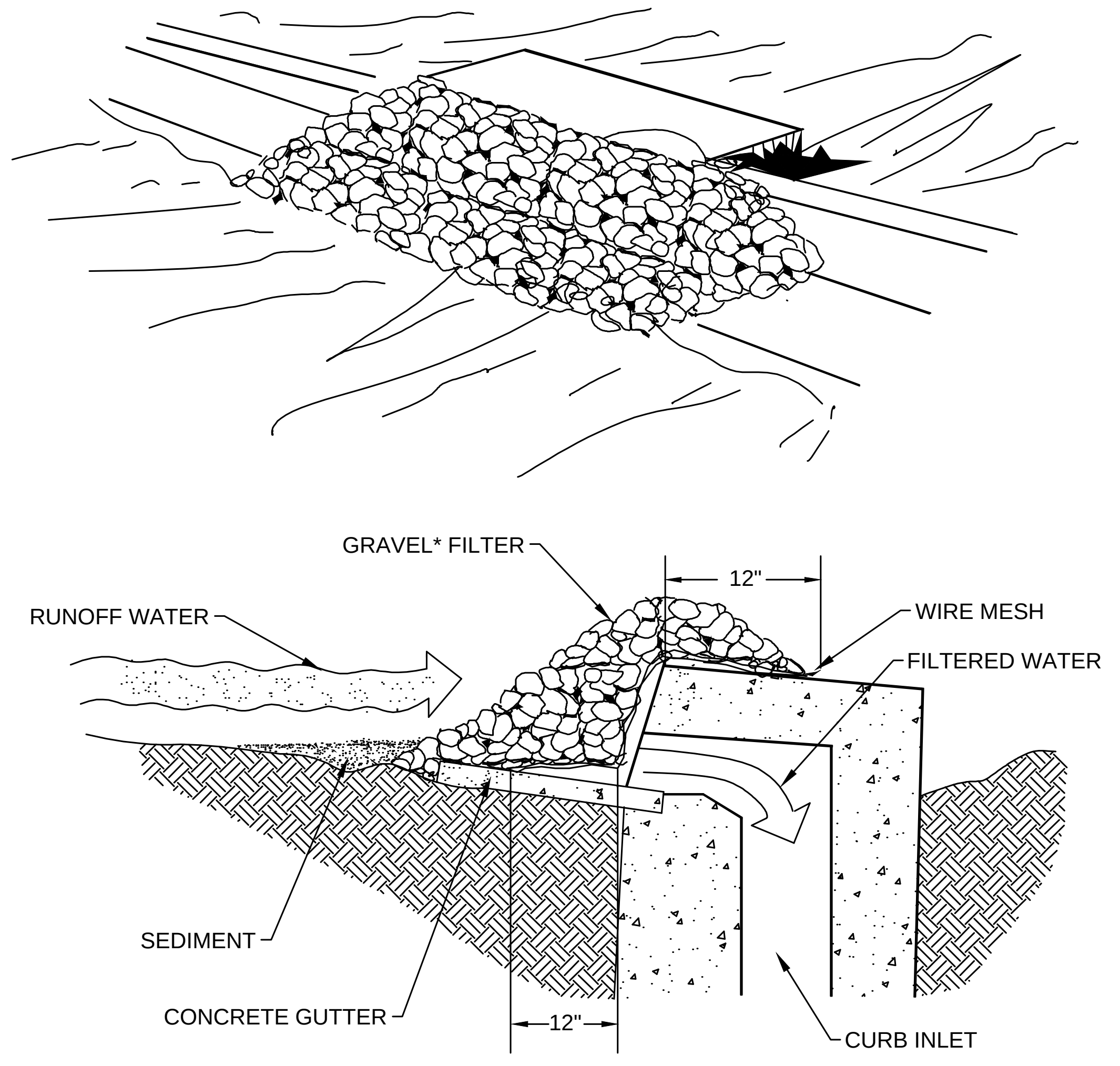


EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

CONSTRUCTION OF SILT FENCE WITH WIRE SUPPORT INSTALLATION

v1.1 SOURCE: ADAPTED FROM STRAW & FAB. BARRIERS, SHERWOOD & WYANT C-PCM-04-2



SPECIFIC APPLICATION

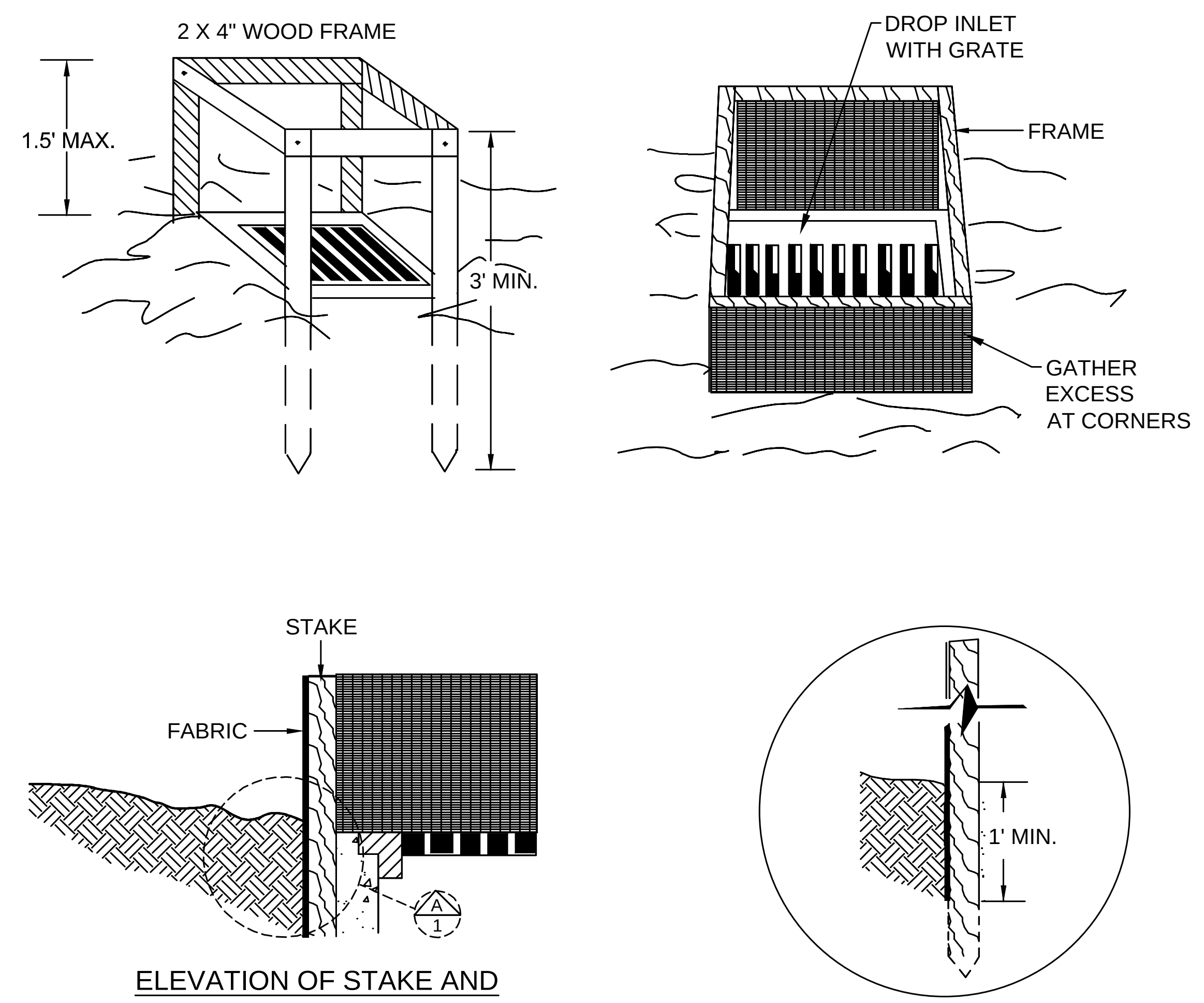
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR 5 COARSE AGGREGATE.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

GRAVEL CURB INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-5



ELEVATION OF STAKE AND FABRIC ORIENTATION

DETAIL A

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SILT FENCE DROP INLET PROTECTION

v1.1 SOURCE: NC ESC DESIGN MAN. C-SCM-04-1

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T. BRIGHT

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N/A

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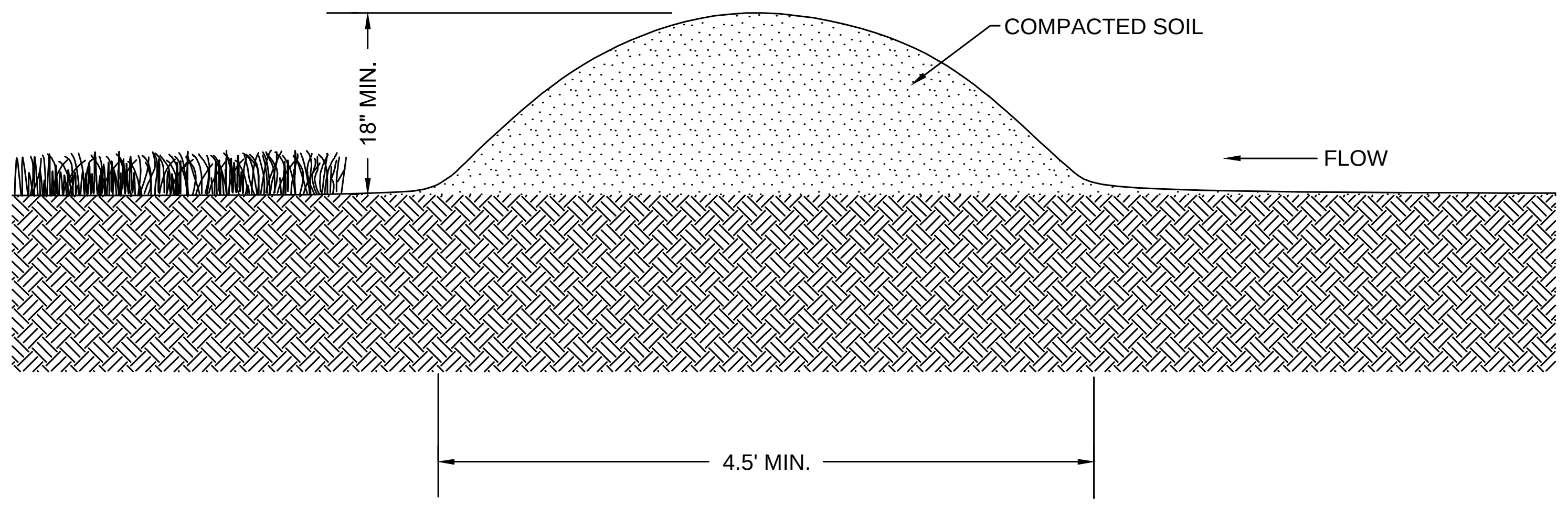
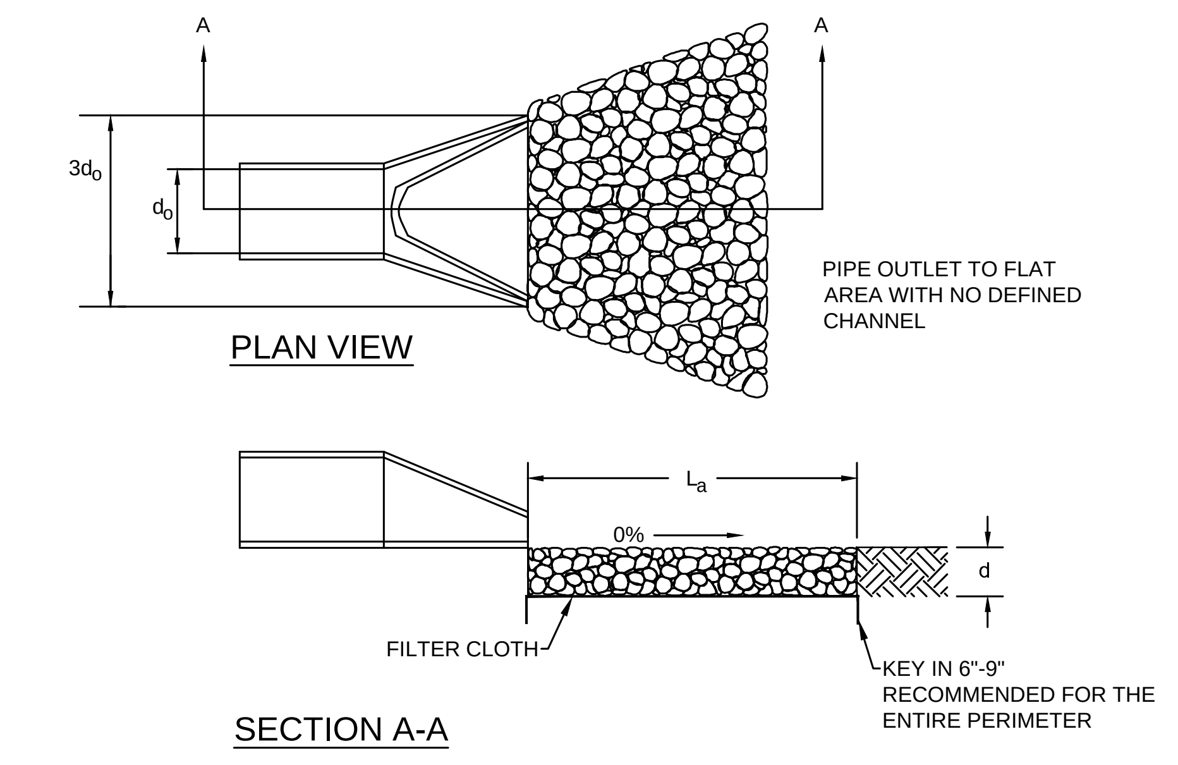
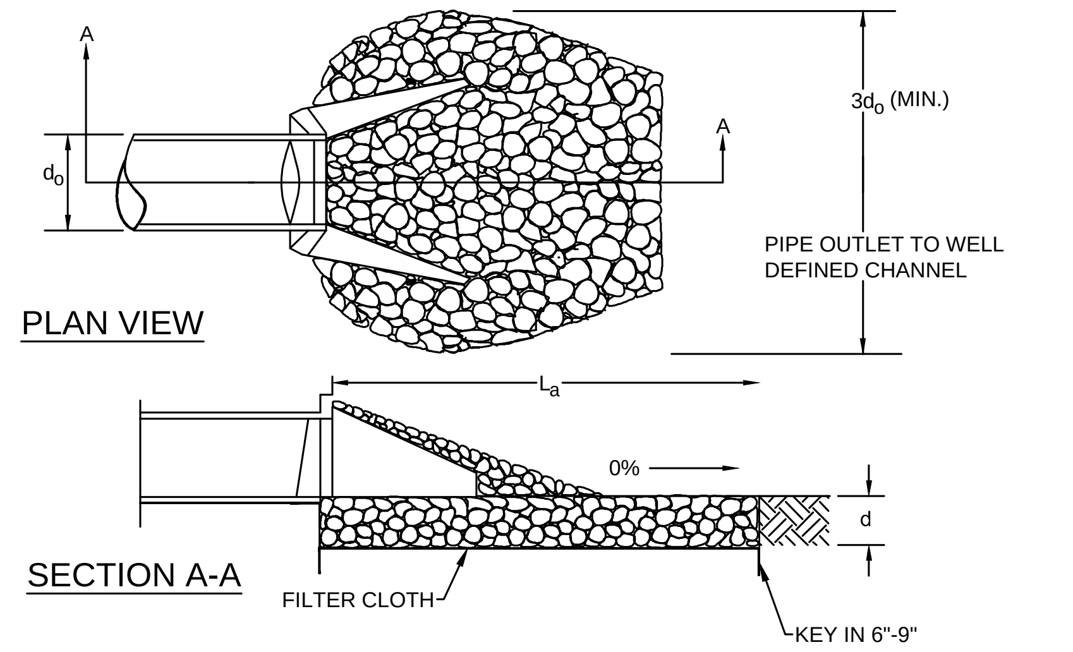


VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TEMPORARY DIVERSION DIKE

v1.1 | SOURCE: VA. DSWC | C-ECM-04-1


A
A
3do
do
PLAN VIEW
PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL
La
0%
d
FILTER CLOTH
KEY IN 6"-9" RECOMMENDED FOR THE ENTIRE PERIMETER
SECTION A-A

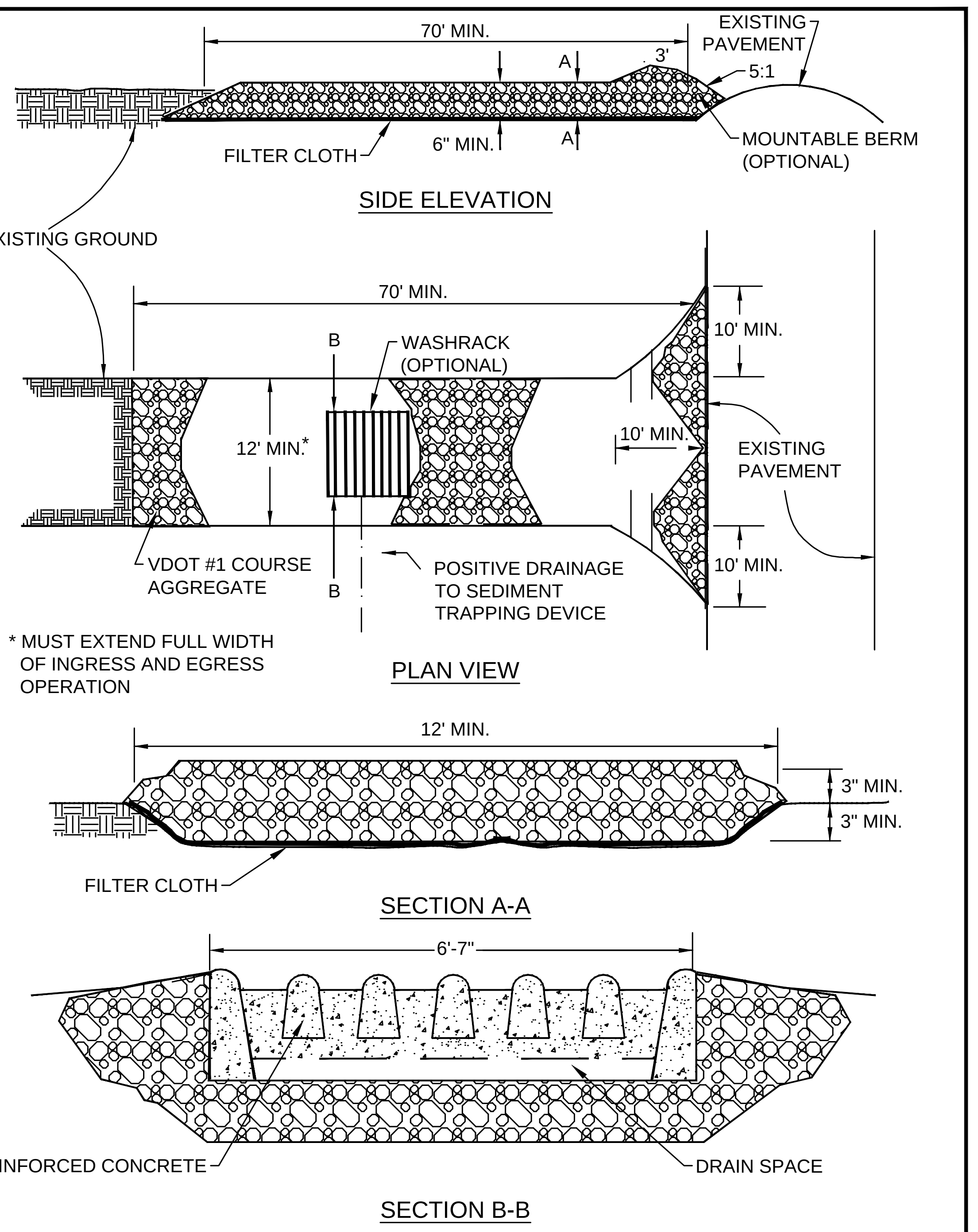

A
A
do
3do (MIN.)
PLAN VIEW
PIPE OUTLET TO WELL DEFINED CHANNEL
La
0%
d
SECTION A-A
FILTER CLOTH
KEY IN 6"-9" RECOMMENDED FOR THE ENTIRE PERIMETER

NOTES
1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING FIGURE C-ECM-15-3 AND FIGURE C-ECM-15-4
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NO LESS THAN 6 INCHES.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

PIPE OUTLET CONDITIONS

v1.1 | SOURCE: VA DSWC | C-ECM-15-1

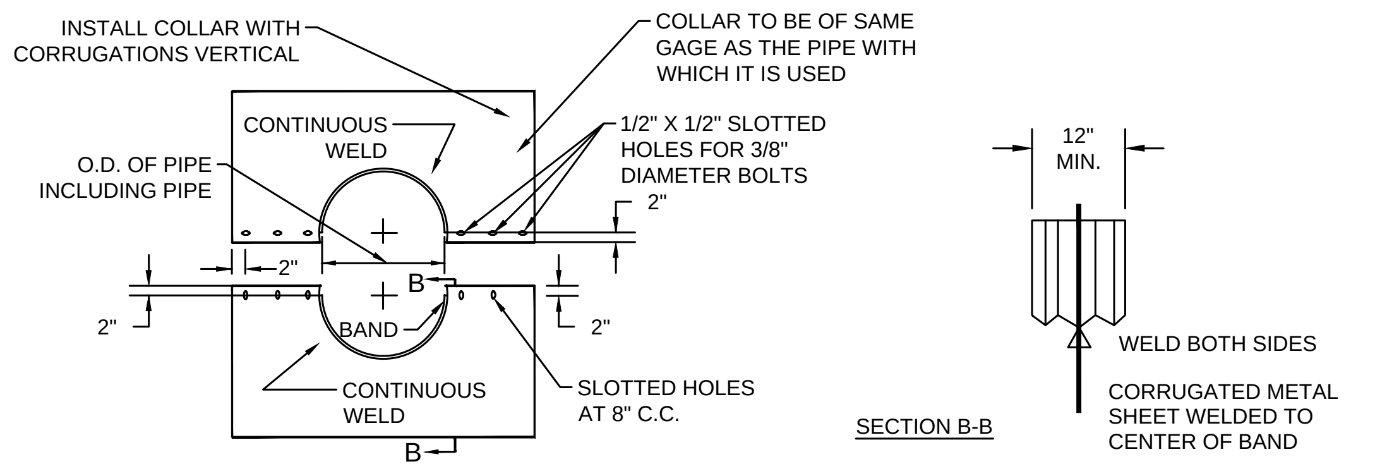


* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STONE CONSTRUCTION ENTRANCE

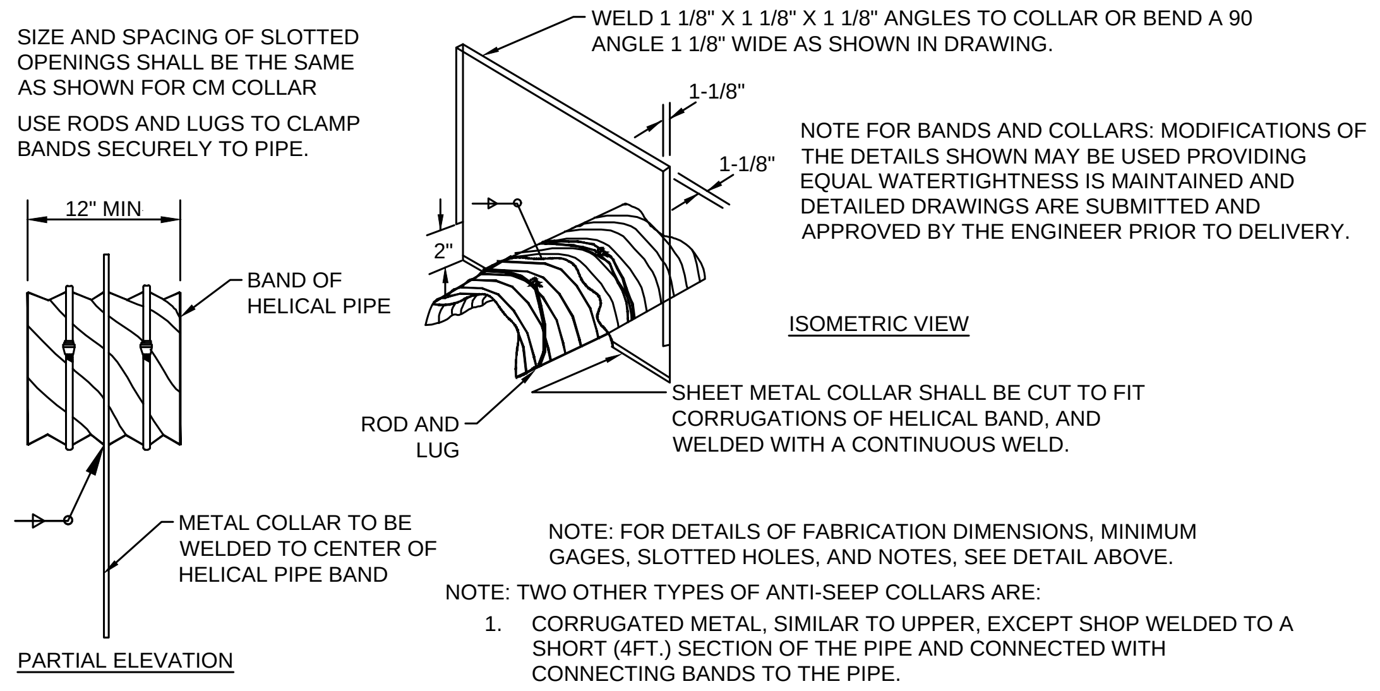
v1.1 | SOURCE: VA. DSWC, MD ESC STDS | C-SCM-03-1


INSTALL COLLAR WITH CORRUGATIONS VERTICAL
COLLAR TO BE OF SAME GAGE AS THE PIPE WITH WHICH IT IS USED
CONTINUOUS WELD
1/2" X 1/2" SLOTTED HOLES FOR 3/8" DIAMETER BOLTS
O.D. OF PIPE INCLUDING PIPE
2"
2"
B
2"
BAND
2"
CONTINUOUS WELD
SLOTTED HOLES AT 8" C.C.
B
12" MIN.
WELD BOTH SIDES
CORRUGATED METAL SHEET WELDED TO CENTER OF BAND
SECTION B-B

ELEVATION OF UNASSEMBLED COLLAR

NOTES FOR COLLARS:
1. ALL MATERIALS TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
2. WHEN SPECIFIED ON THE PLANS, COATING OF COLLARS SHALL BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
3. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
4. THE LAP BETWEEN THE TWO HALF SECTIONS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.
5. EACH COLLAR SHALL BE FURNISHED WITH TWO 1/2" DIAMETER RODS WITH STANDARD TANK LUGS FOR CONNECTING COLLARS TO PIPE.

DETAIL OF HELICAL PIPE ANTI-SEEP COLLAR


SIZE AND SPACING OF SLOTTED OPENINGS SHALL BE THE SAME AS SHOWN FOR CM COLLAR
USE RODS AND LUGS TO CLAMP BANDS SECURELY TO PIPE.
WELD 1 1/8" X 1 1/8" X 1 1/8" ANGLES TO COLLAR OR BEND A 90 ANGLE 1 1/8" WIDE AS SHOWN IN DRAWING.
1-1/8"
1-1/8"
12" MIN
BAND OF HELICAL PIPE
2"
ISOMETRIC VIEW
ROD AND LUG
SHEET METAL COLLAR SHALL BE CUT TO FIT CORRUGATIONS OF HELICAL BAND, AND WELDED WITH A CONTINUOUS WELD.
METAL COLLAR TO BE WELDED TO CENTER OF HELICAL PIPE BAND
PARTIAL ELEVATION

NOTE FOR BANDS AND COLLARS: MODIFICATIONS OF THE DETAILS SHOWN MAY BE USED PROVIDING EQUAL WATERTIGHTNESS IS MAINTAINED AND DETAILED DRAWINGS ARE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO DELIVERY.

REF: ENGR. FIELD MANUAL

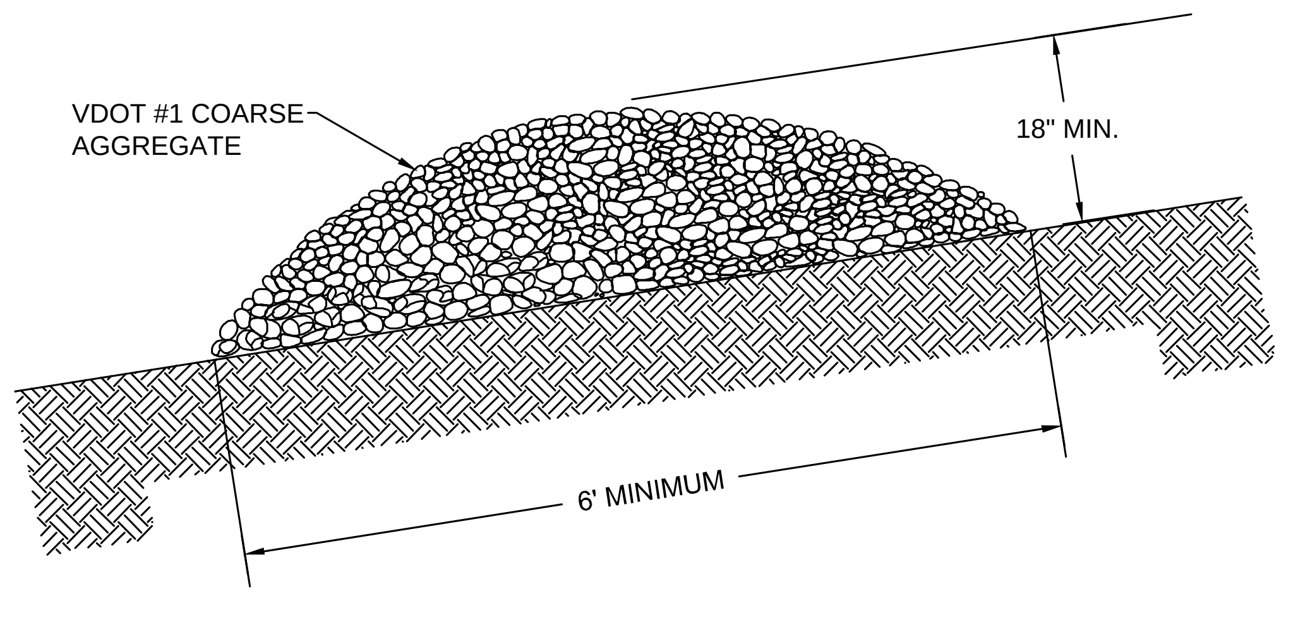
NOTE: FOR DETAILS OF FABRICATION DIMENSIONS, MINIMUM GAGES, SLOTTED HOLES, AND NOTES, SEE DETAIL ABOVE.

NOTE: TWO OTHER TYPES OF ANTI-SEEP COLLARS ARE:
1. CORRUGATED METAL, SIMILAR TO UPPER, EXCEPT SHOP WELDED TO A SHORT (4FT.) SECTION OF THE PIPE AND CONNECTED WITH CONNECTING BANDS TO THE PIPE.
2. CONCRETE, SIX INCHES THICK FORMED AROUND THE PIPE WITH #3 REBAR SPACED 15" HORIZONTALLY AND VERTICALLY.

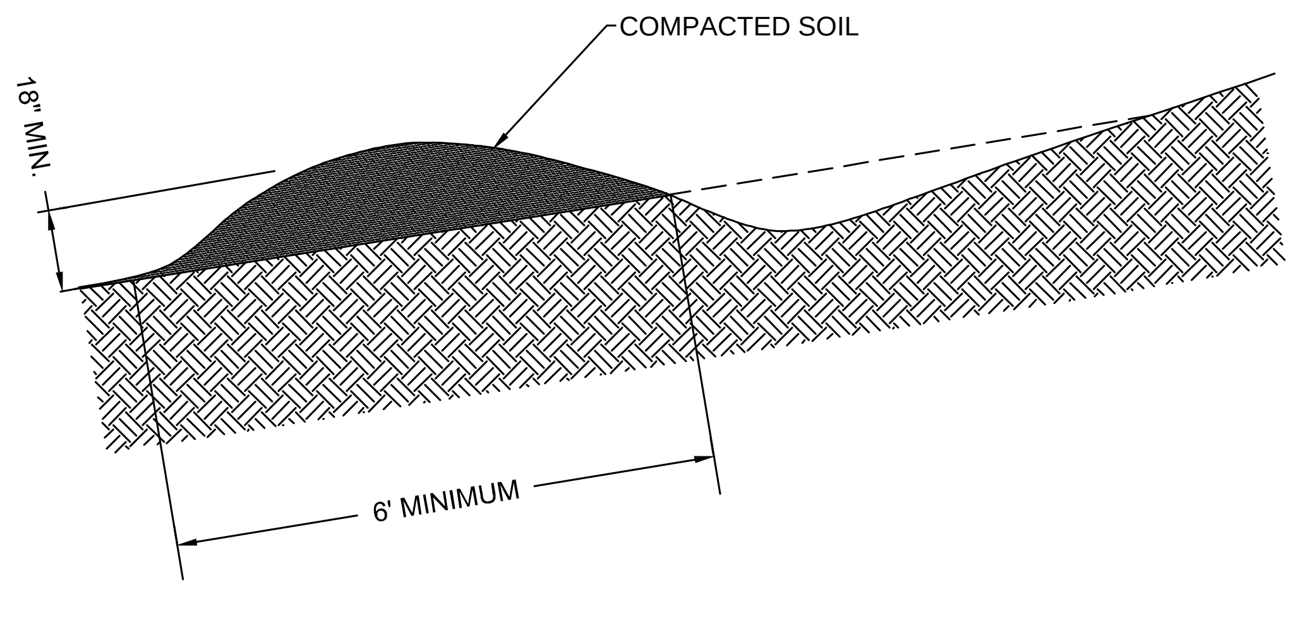
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR

v1.1 | SOURCE: USDA-SCS | C-SCM-12-13



%%uTYPICAL GRAVEL STRUCTURE



TYPICAL EARTHEN STRUCTURE

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TEMPORARY RIGHT-OF-WAY DIVERSIONS

v1.1 | SOURCE: VDEQ, 1992 | C-ECM-07-1

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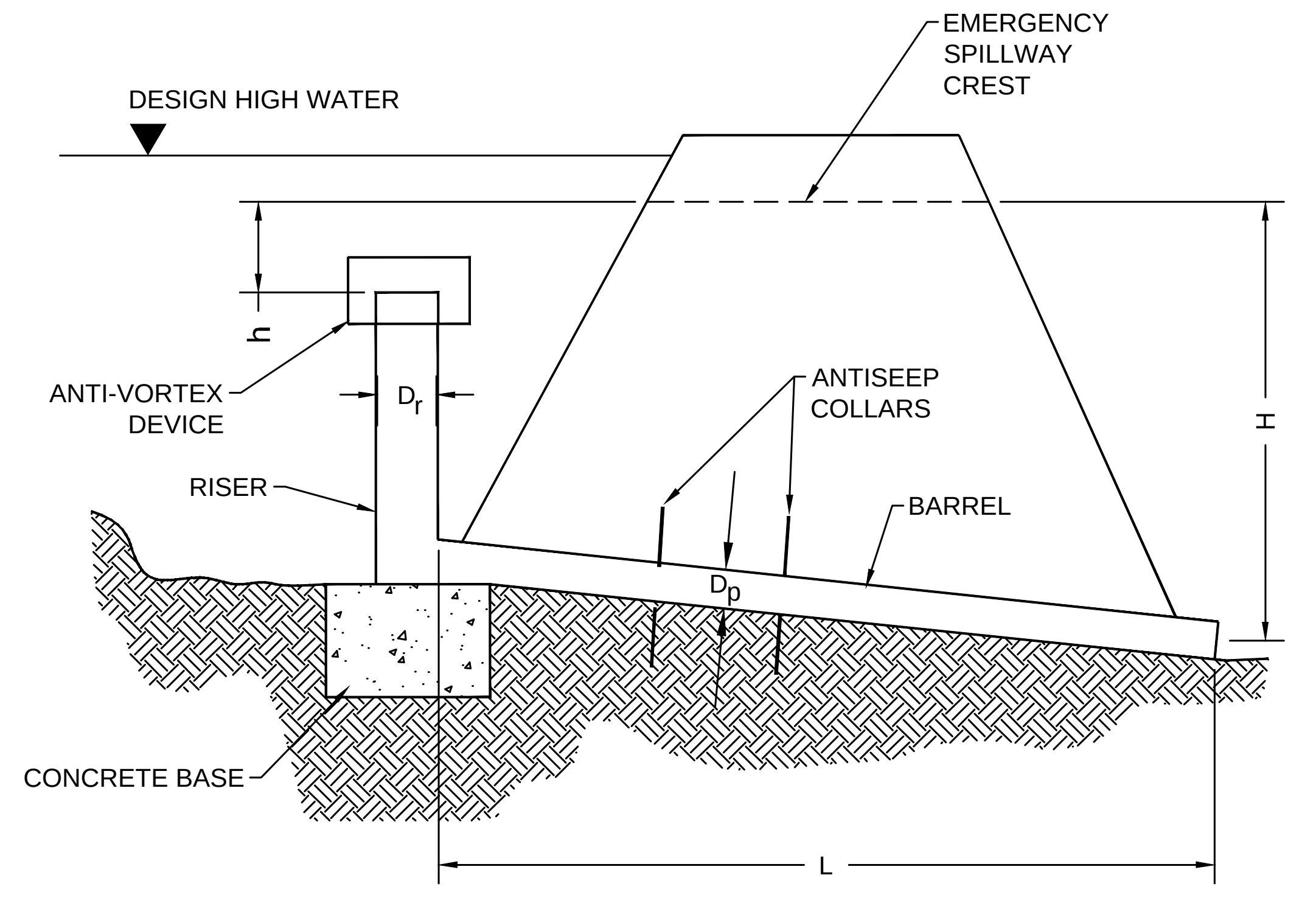
REVISION DESCRIPTION	DATE

DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	N/A

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
ESC NOTES & DETAILS

JOB NO. 64375
SHEET NO. C3.2



H = HEAD ON PIPE THROUGH EMBANKMENT

h = HEAD OVER RISER CREST

L = LENGTH OF PIPE THROUGH EMBANKMENT

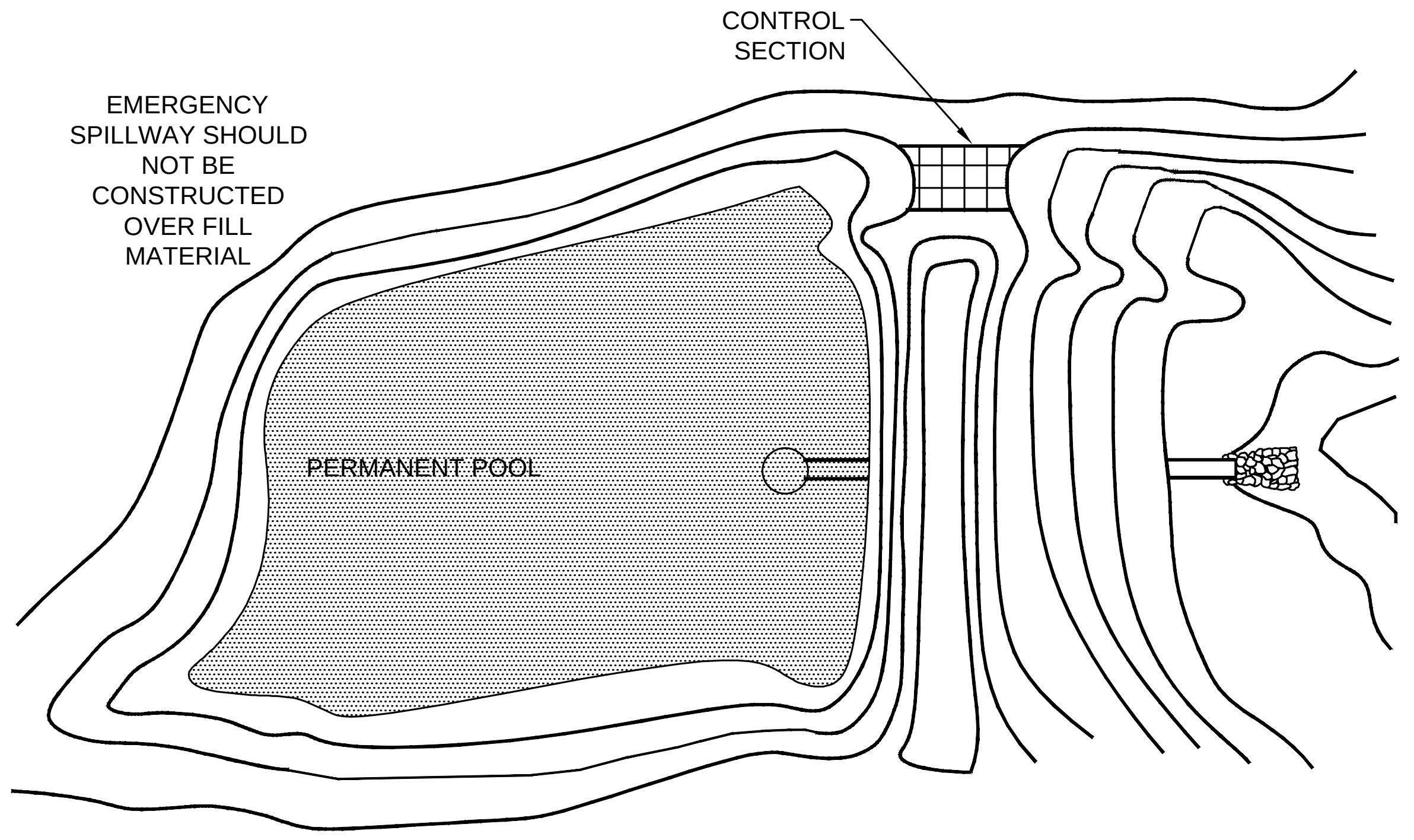
D_p = DIAMETER OF PIPE THROUGH EMBANKMENT

D_r = DIAMETER OF RISER

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ

PRINCIPLE SPILLWAY DESIGN

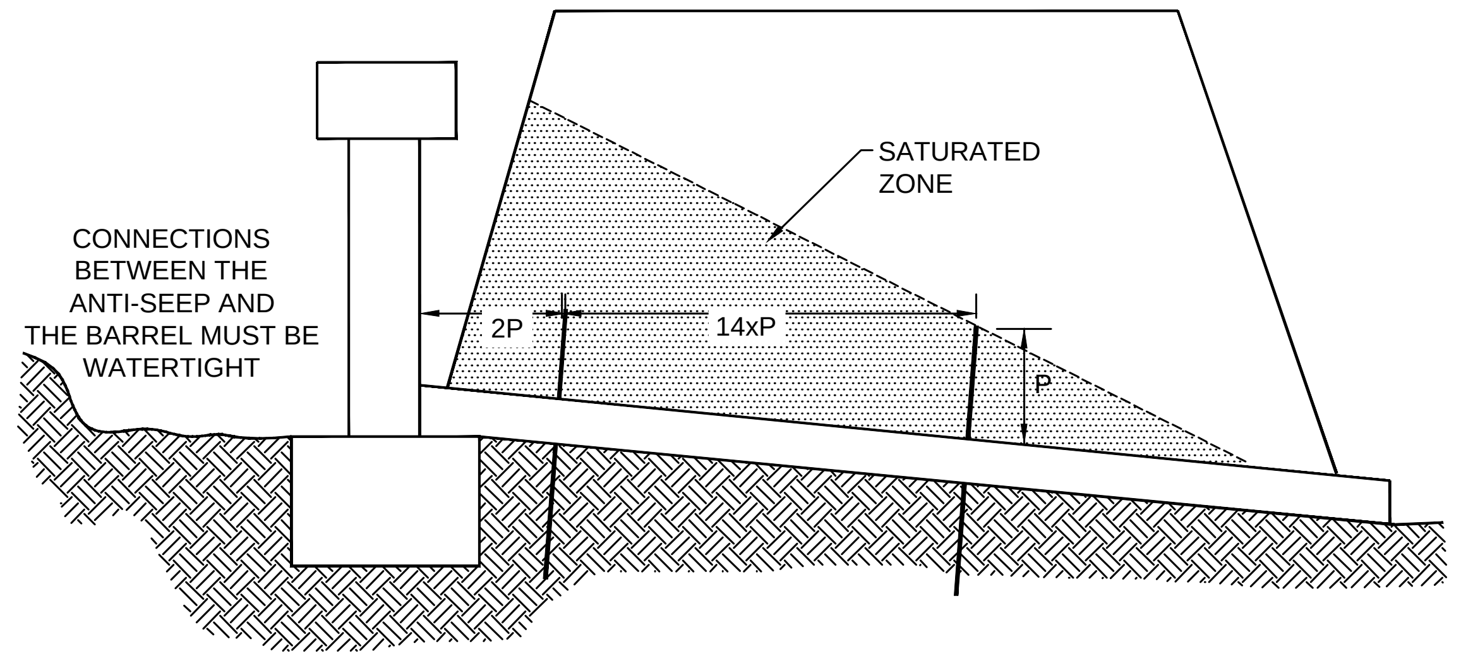
v1.1 SOURCE: VA. DSWC C-SCM-12-7


CONTROL SECTION
EMERGENCY SPILLWAY SHOULD NOT BE CONSTRUCTED OVER FILL MATERIAL
PERMANENT POOL

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ

EMERGENCY SPILLWAY

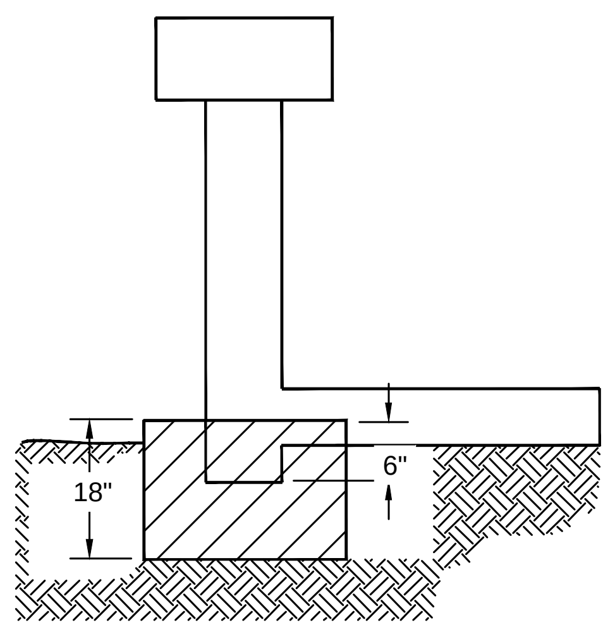
v1.1 SOURCE: VA. DSWC C-SCM-12-5


CONNECTIONS BETWEEN THE ANTI-SEEP AND THE BARREL MUST BE WATERTIGHT
SATURATED ZONE
2P
14xP
P

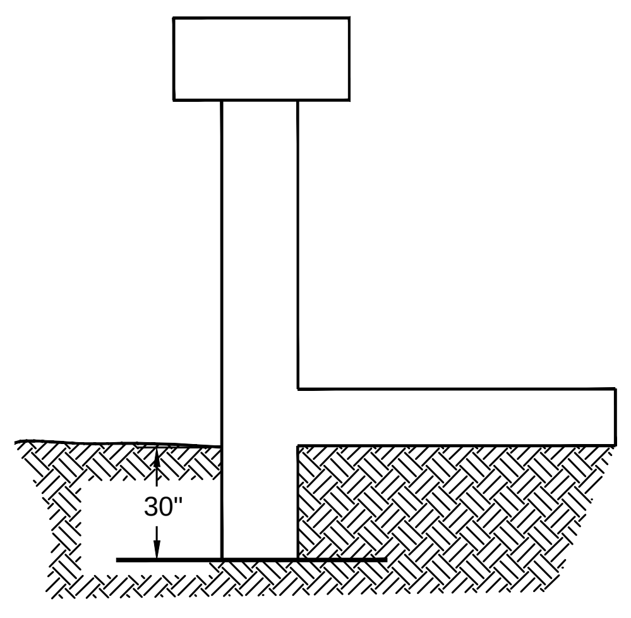
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ

ANTI-SEEP COLLAR

v1.1 SOURCE: VA. DSWC C-SCM-12-4



TYPICAL CONCRETE BASE

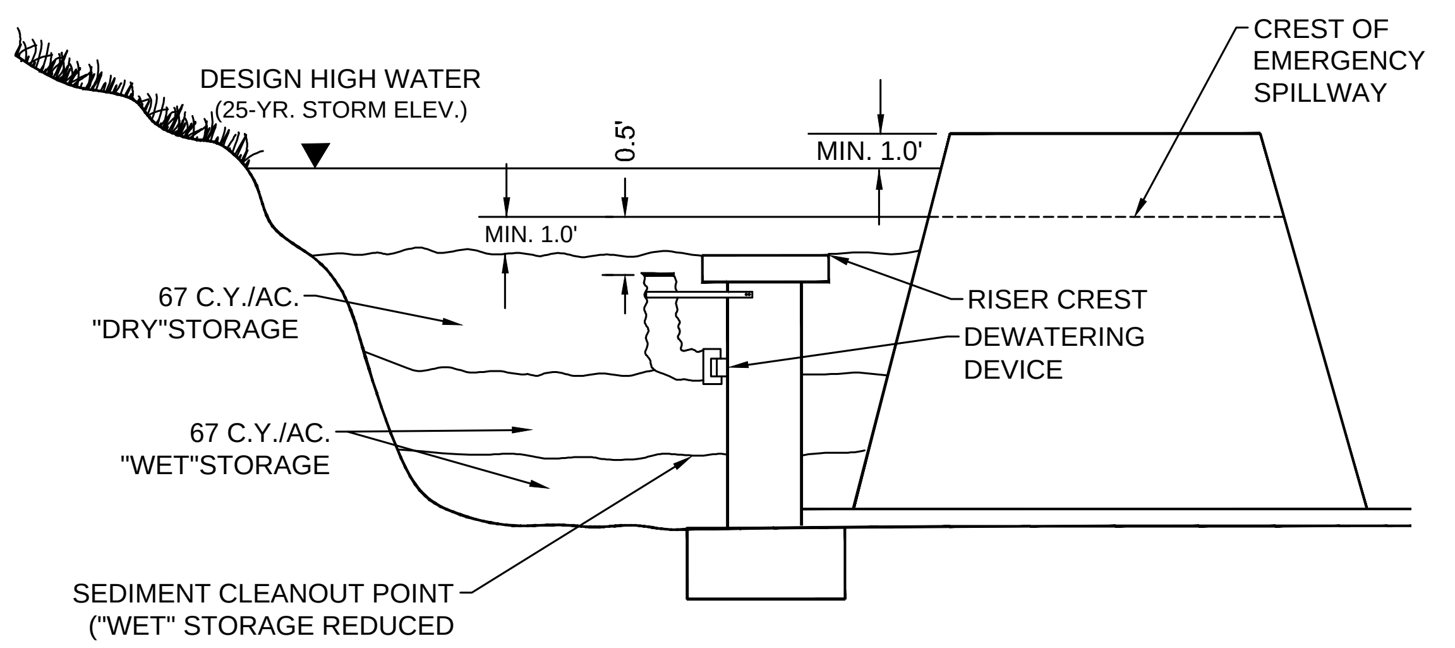


TYPICAL STEEL BASE

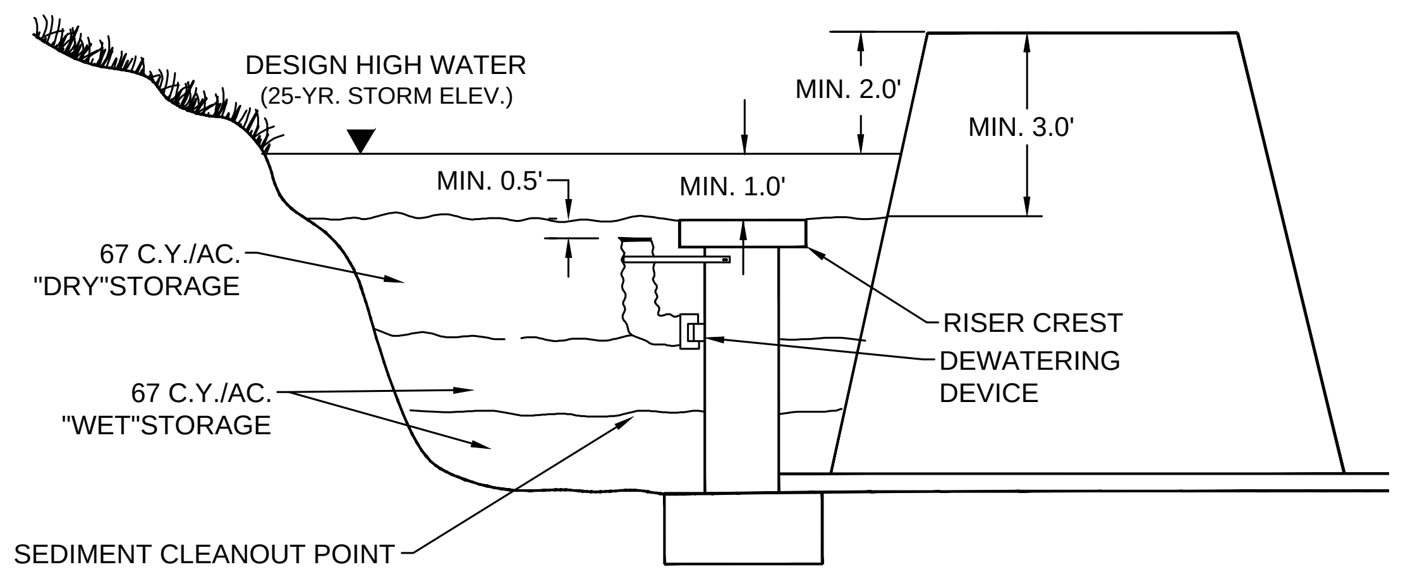
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ

RISER PIPE BASE CONDITIONS

v1.1 SOURCE: VA. DSWC C-SCM-12-3


CREST OF EMERGENCY SPILLWAY
DESIGN HIGH WATER (25-YR. STORM ELEV.)
0.5'
MIN. 1.0'
MIN. 1.0'
67 C.Y./AC. "DRY"STORAGE
RISER CREST
DEWATERING DEVICE
67 C.Y./AC. "WET"STORAGE
SEDIMENT CLEANOUT POINT ("WET" STORAGE REDUCED TO 34 C.Y./ACRE)

DESIGN ELEVATIONS WITH EMERGENCY SPILLWAY



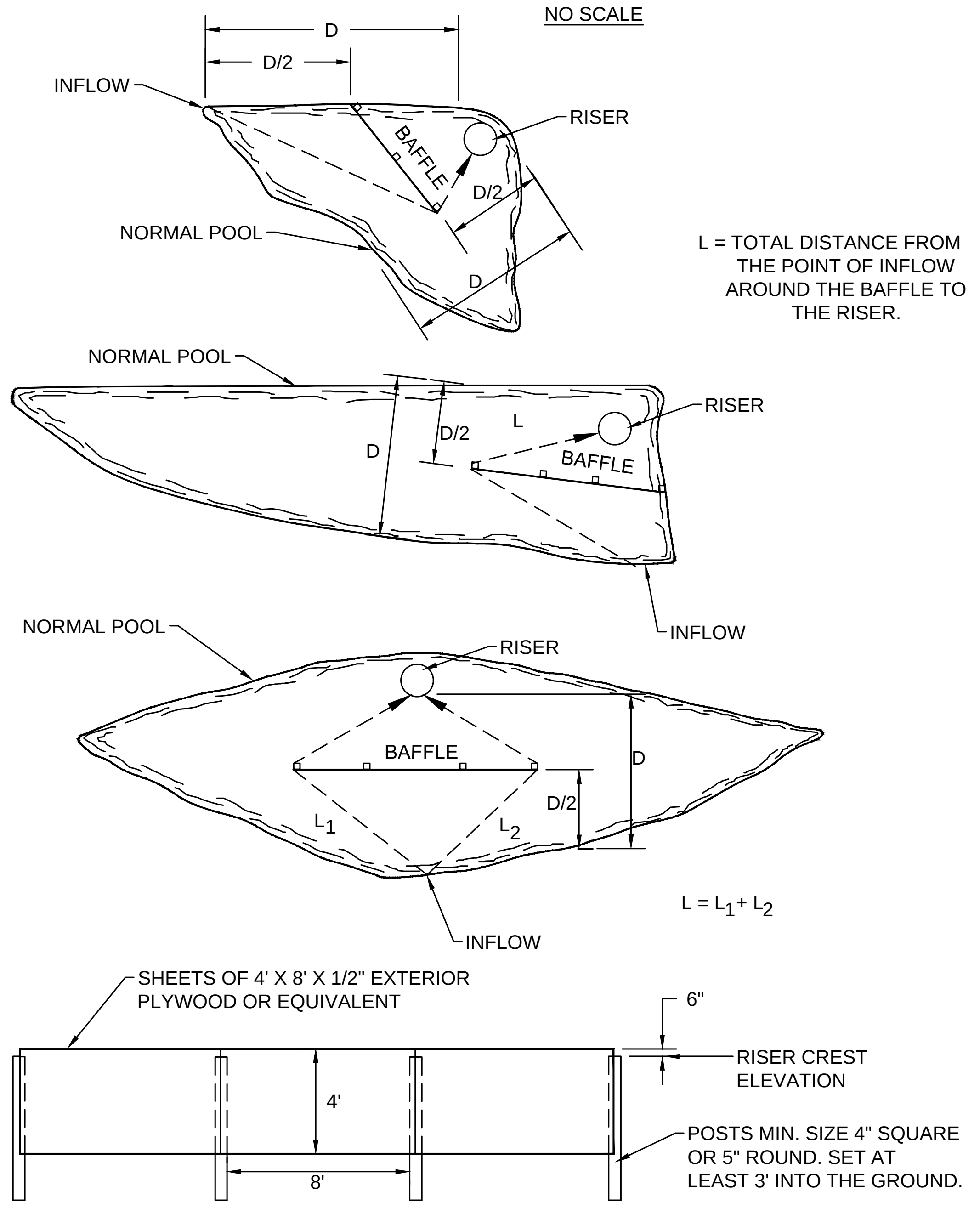
DESIGN ELEVATIONS WITHOUT EMERGENCY SPILLWAY
(RISER PASSES 25-YEAR EVENT)

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ

SEDIMENT BASIN SCHEMATIC ELEVATIONS

v1.1 SOURCE: VA. DSWC C-SCM-12-2

NO SCALE


D
D/2
INFLOW
RISER
BAFFLE
D/2
NORMAL POOL
D
L = TOTAL DISTANCE FROM THE POINT OF INFLOW AROUND THE BAFFLE TO THE RISER.
NORMAL POOL
RISER
D
D/2
L
BAFFLE
INFLOW
NORMAL POOL
RISER
BAFFLE
D
L1
L2
D/2
INFLOW
L = L1+ L2
SHEETS OF 4' X 8' X 1/2" EXTERIOR PLYWOOD OR EQUIVALENT
6"
RISER CREST ELEVATION
4'
8'
POSTS MIN. SIZE 4" SQUARE OR 5" ROUND. SET AT LEAST 3' INTO THE GROUND.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY DEQ

EXAMPLE PLAN VIEWS OF BAFFLE LOCATIONS IN SEDIMENT BASINS

v1.1 SOURCE: USDA-SCS C-SCM-12-6

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C. TAYLOR
DESIGNED BY
T. BRIGHT
CHECKED BY
C. SHIFFLETT
SCALE
N/A

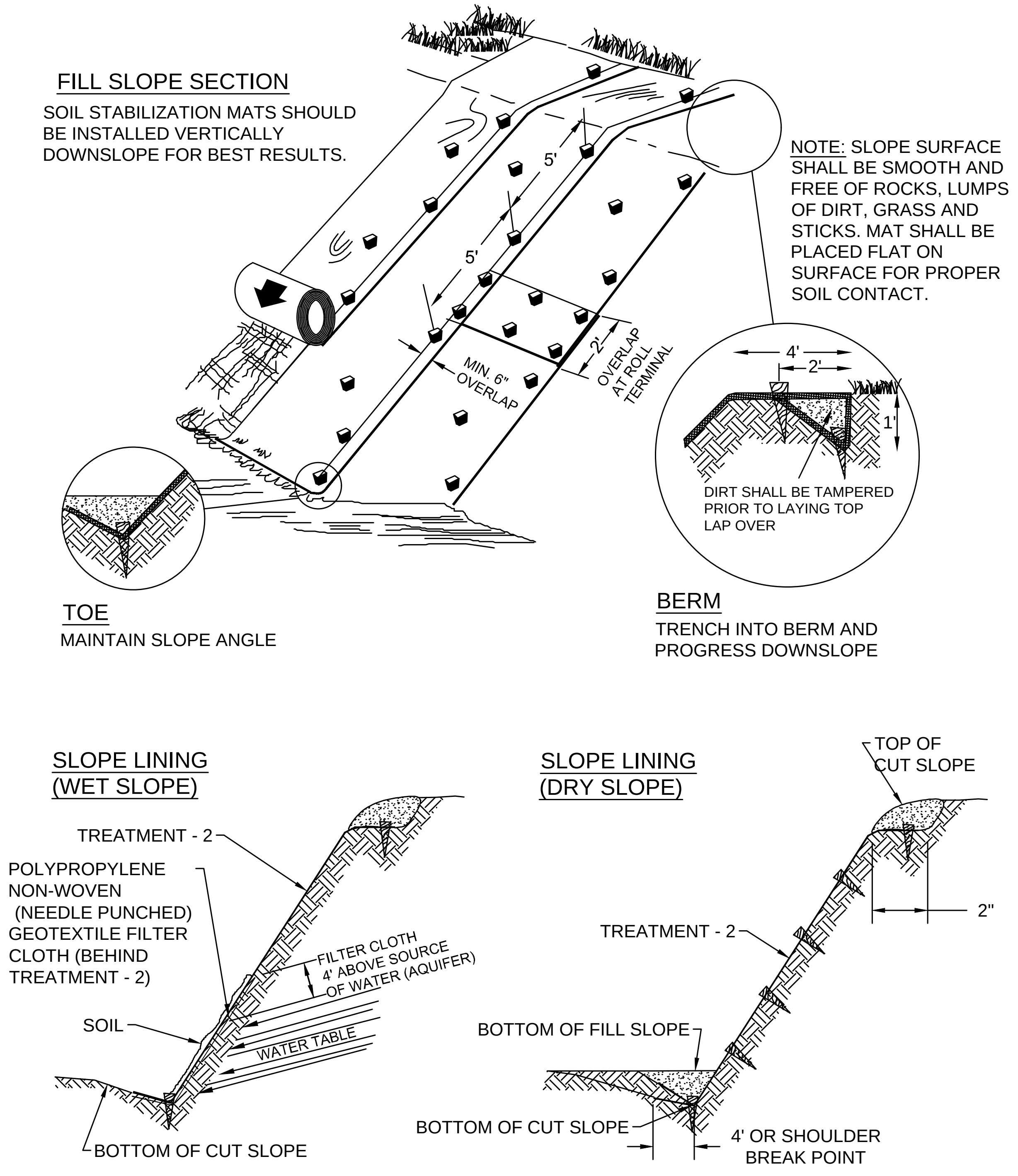
NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

ESC NOTES & DETAILS

JOB NO.
64375
SHEET NO.
C3.3

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C3.0-ESC NTDTS.dwg | Plotted on 3/14/2025 11:10 AM | by Tre Bright


FILL SLOPE SECTION
SOIL STABILIZATION MATS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE FOR BEST RESULTS.
5'
5'
MIN. 6" OVERLAP
2'
OVERLAP AT ROLL TERMINAL
NOTE: SLOPE SURFACE SHALL BE SMOOTH AND FREE OF ROCKS, LUMPS OF DIRT, GRASS AND STICKS. MAT SHALL BE PLACED FLAT ON SURFACE FOR PROPER SOIL CONTACT.
4'
2'
1'
DIRT SHALL BE TAMPERED PRIOR TO LAYING TOP LAP OVER
TOE
MAINTAIN SLOPE ANGLE
BERM
TRENCH INTO BERM AND PROGRESS DOWNSLOPE
SLOPE LINING (WET SLOPE)
TREATMENT - 2
POLYPROPYLENE NON-WOVEN (NEEDLE PUNCHED) GEOTEXTILE FILTER CLOTH (BEHIND TREATMENT - 2)
FILTER CLOTH 4' ABOVE SOURCE OF WATER (AQUIFER)
SOIL
WATER TABLE
BOTTOM OF CUT SLOPE
SLOPE LINING (DRY SLOPE)
TOP OF CUT SLOPE
2"
TREATMENT - 2
BOTTOM OF FILL SLOPE
BOTTOM OF CUT SLOPE
4' OR SHOULDER BREAK POINT

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TYPICAL TREATMENT - 2
SOIL STABILIZATION MATTING
SLOPE INSTALLATION

v1.1 SOURCE: VDOT ROAD & BRIDGE STDS.

C-SSM-05-5

Table C-SSM-10-7 Site-Specific Seeding Mixtures for Piedmont Area

Site Condition	Seed Mix		Application Rate (pounds per acre)
Minimum-Care Lawn Commercial or Residential	Turf-Type Tall Fescue	95-100%	150 – 200
	Improved Perennial Ryegrass	0-5%	
	Kentucky Bluegrass	0-5%	
High-Maintenance Lawn	Improved (VCIA) Turf-Type Tall Fescue	100%	150 – 200
General Slope (3H:1V or less)	Tall Fescue***		50 – 75
	Red Top or Red/Hard Fescue		10 – 20
	White Clover and/or Birdsfoot Trefoil**		10 – 20
	Seasonal Nurse Crop*		30 – 40
Low-Maintenance Slope (> 3:1) or Inaccessible Area***	Tall Fescue		50 – 75
	Red Top and/or Hard Fescue		5 – 10
	White Clover and/or Birdsfoot Trefoil**		15 – 20
	Annual Lespedeza**		10 – 15
	Seasonal Nurse/Cover Crop		20-30

* Use seasonal nurse crop in accordance with seeding dates as stated below: February 16 through April annual rye

February 16 through April – annual/cereal rye

May 1 through August 15 – foxtail/German millet

August 16 through February 15 – annual/cereal rye

** Use legume seed that is properly inoculated with specified Rhizobia. Legumes recommended unless periodic N fertilization is intended. Weeping lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10 to 20 lbs/acre in mixes.

*** Increase seeding rate if KY-31 is used rather than VCIA/VDOT improved varieties.

Bermudagrass can be added to substitute for Tall or Hard Fescue in the Low Maintenance mixes for the Southern Piedmont, particularly on sandy soils or hot (S and W) facing slopes. May through October, use hulled seed. All other seeding periods, use un-hulled seed.

Note: Seed mixes are suggested and subject to modification based on site-specific conditions by an agronomist or other qualified revegetation professionals. All seed rates expressed as PLS (Pure Live Seed; see Table C-SSM-10-9).

Table C-SSM-11-5 Organic Mulch Materials and Application Rates

Mulches	Rates		Notes
	Per Acre	Per 1,000 ft^2	
Straw or Hay	1.5 to 2 tons	70 to 90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand. Use a minimum of 2 tons per acre for winter cover.
Fiber Mulch	1,500 lbs.	35 lbs.	Do not use as mulch for winter cover or during hot, dry periods. Apply as slurry. When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2000 lbs./acre or 45 lbs./1,000 ft^2.
Corn Stalks	4 to 6 tons	185 to 275 lbs.	Cut or shredded in 4- to 6-inch lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.
Wood Chips	4 to 6 tons	185 to 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 to 70 cy	1 to 2 cy	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.

Source: Va. DSWC

Table C-SCM-01-1 Design Criteria for Dust Control

Approach	Notes on Proper Use
Vegetative Cover	In areas subject to little or no construction traffic, a vegetatively stabilized surface will reduce dust emissions. See Temporary Seeding (BMP C-SSM-09).
Mulch	When properly applied, mulch offers a fast, effective means of controlling dust. Mulch is not recommended for areas within heavy traffic pathways. Use binders or tackifiers to tack organic mulches. See Mulching (BMP C-SSM-11).
Tillage	This practice is designed to roughen the ground and bring clods to the surface. Use tillage as an emergency measure before wind erosion starts. Begin plowing on the windward side of the site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
Irrigation	Irrigation is the most used dust control practice. The site is sprinkled with water until the surface is wet. Repeat as needed. Irrigation offers fast protection for haul roads and other heavy traffic routes.
Spray-On Adhesives	Significant progress has been made in recent years in the development of spray-on adhesive products. Most are effective on "mineral" soils and are ineffective on "muck" soils. These adhesives are derived from a variety of compounds, both organic and synthetic based. Many of the adhesives will withstand heavy traffic loads. The organic compounds include derivatives from pine tar and vegetable gum; synthetic compounds may be acrylic- or petroleum-based. Table C-SCM-01-2 list adhesives and provides corresponding information on mixing and application.
Stone	Crushed stone or coarse gravel can be used to stabilize roads or other areas during construction. See Construction Road Stabilization (BMP C-SCM-02).
Barriers	A board fence, wind fence, sediment fence, or similar barrier can help to control air currents and blowing soil. Place barriers perpendicular to prevailing air currents at intervals of about 15 times the barrier height. Where dust is a known problem, existing windbreak vegetation should be preserved.
Calcium Chloride	Apply this chemical by mechanical spreader as loose, dry granules or flakes at a rate that keeps the surface moist but not so high as to cause water pollution or plant damage. Application rates should be strictly in accordance with suppliers' specified rates.

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DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	N/A

TIMMONS GROUP

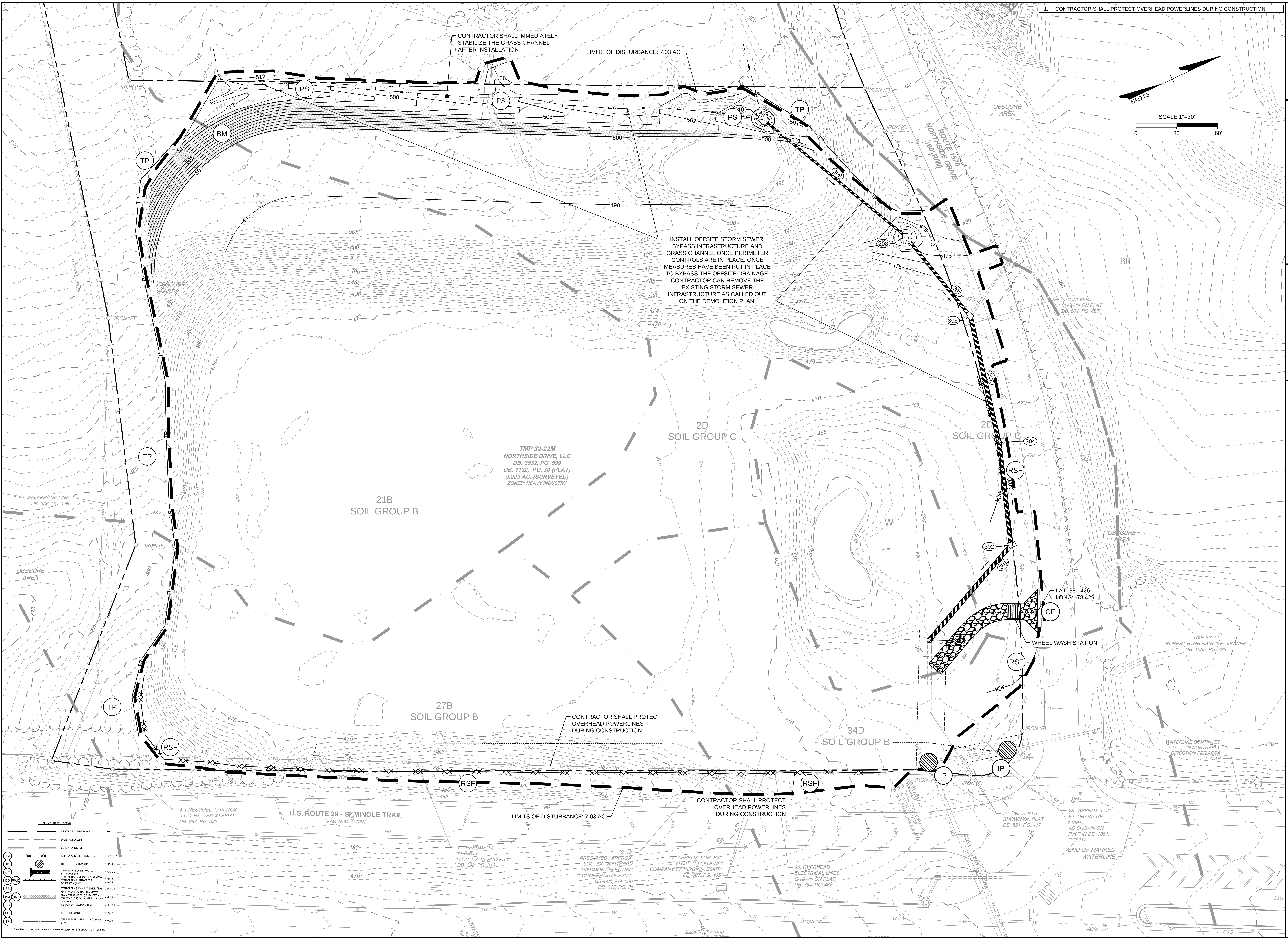
NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
ESC NOTES & DETAILS

JOB NO.
64375

SHEET NO.
C3.4

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C3.0-ESC NTDTS.dwg | Plotted on 3/14/2025 11:10 AM | by Tre Bright

1. CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION


CONTRACTOR SHALL IMMEDIATELY STABILIZE THE GRASS CHANNEL AFTER INSTALLATION
LIMITS OF DISTURBANCE: 7.03 AC
INSTALL OFFSITE STORM SEWER, BYPASS INFRASTRUCTURE AND GRASS CHANNEL ONCE PERIMETER CONTROLS ARE IN PLACE. ONCE MEASURES HAVE BEEN PUT IN PLACE TO BYPASS THE OFFSITE DRAINAGE, CONTRACTOR CAN REMOVE THE EXISTING STORM SEWER INFRASTRUCTURE AS CALLED OUT ON THE DEMOLITION PLAN.
NAD 83
SCALE 1"=30'
0
30'
60'
ROUTE 1570 NORTHSIDE DRIVE (60' R/W)
TMP 32-22M
NORTHSIDE DRIVE, LLC
DB. 3532, PG. 599
DB. 1132, PG. 30 (PLAT)
9.229 AC. (SURVEYED)
ZONED: HEAVY INDUSTRY
21B SOIL GROUP B
2D SOIL GROUP C
27B SOIL GROUP B
34D SOIL GROUP B
PS
BM
TP
RSF
IP
CE
LAT: 38.1426
LONG: -78.4291
WHEEL WASH STATION
TMP 32-74
ROBERT H. OR NANCY F. JIRANEK
DB. 1555, PG. 723
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
LIMITS OF DISTURBANCE: 7.03 AC
U.S. ROUTE 29 - SEMINOLE TRAIL
VAR. WIDTH R/W
7. EX. TELEPHONE LINE DB. 336, PG. 485
4. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 297, PG. 522
1. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 296, PG. 343
9, 12. PRESUMED / APPROX. LOC. EX. NORTHERN PIEDMONT ELECTRIC COOPERATIVE ESMT. DB. 586, PG. 586 DB. 815, PG. 76
11. APPROX. LOC. EX. CENTRAL TELEPHONE COMPANY OF VIRGINIA ESMT. DB. 607, PG. 405
25. OVERHEAD ELECTRICAL LINES SHOWN ON PLAT DB. 851, PG. 467
25. CULVERTS SHOWN ON PLAT DB. 851, PG. 467
25. CULVERT SHOWN ON PLAT DB. 851, PG. 467
28. APPROX. LOC. EX. DRAINAGE ESMT. AS SHOWN ON PLAT IN DB. 1061, PG. 217
END OF MARKED WATERLINE
WATERLINE CONTINUES IN NORTHERLY DIRECTION PER ACSA UTIL. MAP
OBSCURE AREA
IRON (F)
88
ACSA 18'
301
302
303
304
305
306
307
308
309
310

EROSION CONTROL LEGEND

		*
	LIMITS OF DISTURBANCE	---
	DRAINAGE DIVIDE	---
	SOIL AREA DIVIDE	---
RSF	REINFORCED SILT FENCE (RSF)	C-PCM-04-2
IP	INLET PROTECTION (IP)	C-SCM-04
CE	TEMP STONE CONSTRUCTION ENTRANCE (CE)	C-SCM-03
DD RWD	TEMPORARY DIVERSION DIKE (DD) TEMPORARY RIGHT-OF-WAY DIVERSION (RWD)	C-ECM-04 C-ECM-07
SB	TEMPORARY SEDIMENT BASIN (SB)	C-SCM-12
BM BM2	SOIL STABILIZATION BLANKETS (BM - TREATMENT 1) AND (BM2 - TREATMENT 2) ON SLOPES = 3:1 OR STEEPER	C-SSM-05
PS	PERMANENT SEEDING (PS)	C-SSM-10
MU	MULCHING (MU)	C-SSM-11
TP	TREE PRESERVATION & PROTECTION (TP)	C-SSM-01

* "VIRGINIA STORMWATER MANAGEMENT HANDBOOK" SPECIFICATION NUMBER

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C3.4-ERO1.dwg | Plotted on 3/14/2025 11:11 AM | by Tre Bright

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DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1"=30'

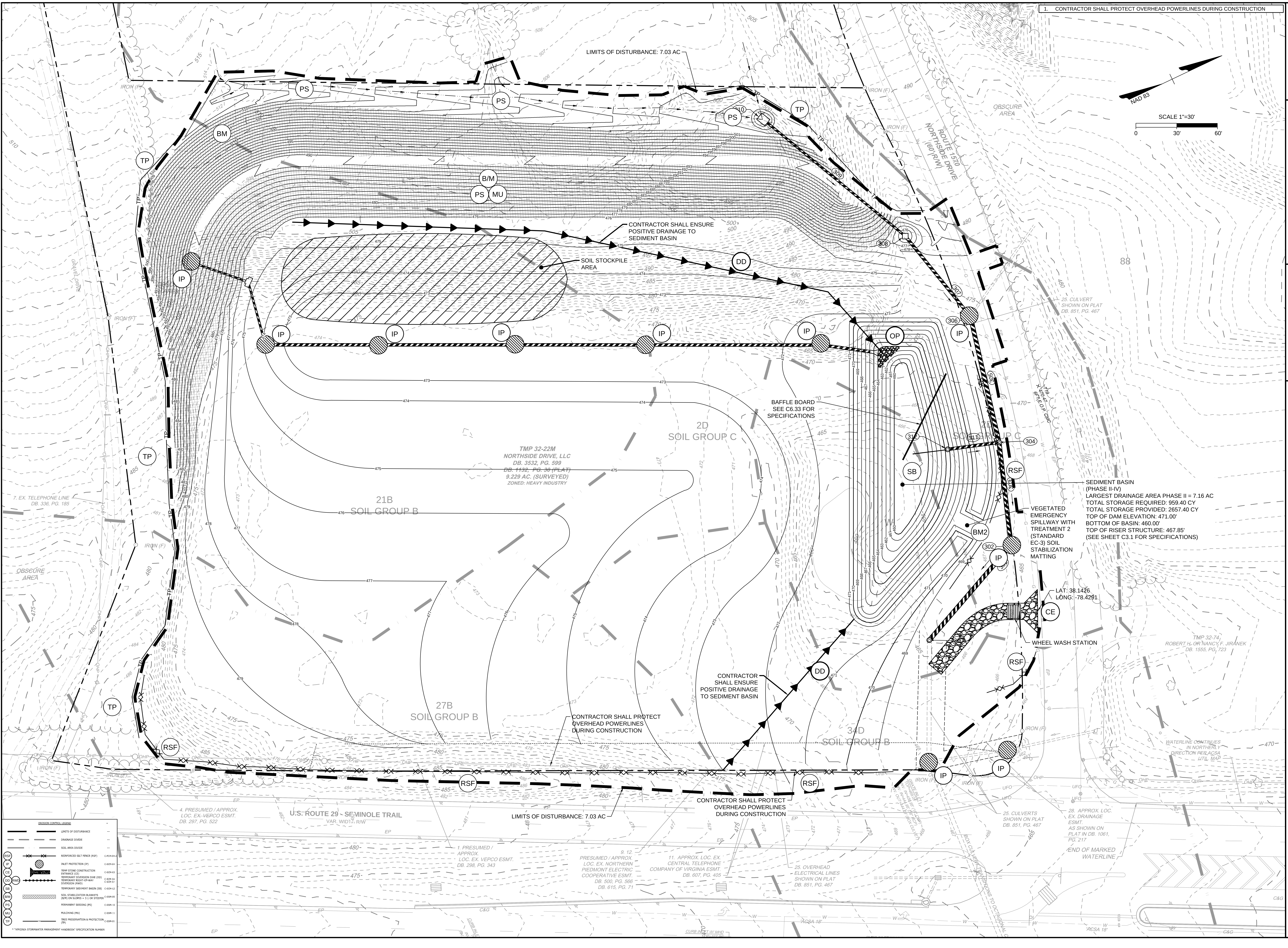
TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA

EROSION & SEDIMENT CONTROL PHASE 1

JOB NO.	64375
SHEET NO.	C3.5

1. CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION


NAD 83
SCALE 1"=30'
0
30'
60'
LIMITS OF DISTURBANCE: 7.03 AC
CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO SEDIMENT BASIN
SOIL STOCKPILE AREA
ROUTE 1570 NORTHSIDE DRIVE (60' R/W)
OBSCURE AREA
BAFFLE BOARD SEE C6.33 FOR SPECIFICATIONS
2D SOIL GROUP C
21B SOIL GROUP B
27B SOIL GROUP B
34D SOIL GROUP B
TMP 32-22M
NORTHSIDE DRIVE, LLC
DB. 3532, PG. 599
DB. 1132, PG. 30 (PLAT)
9.229 AC. (SURVEYED)
ZONED: HEAVY INDUSTRY
SEDIMENT BASIN
(PHASE II-IV)
LARGEST DRAINAGE AREA PHASE II = 7.16 AC
TOTAL STORAGE REQUIRED: 959.40 CY
TOTAL STORAGE PROVIDED: 2657.40 CY
TOP OF DAM ELEVATION: 471.00'
BOTTOM OF BASIN: 460.00'
TOP OF RISER STRUCTURE: 467.85'
(SEE SHEET C3.1 FOR SPECIFICATIONS)
VEGETATED EMERGENCY SPILLWAY WITH TREATMENT 2 (STANDARD EC-3) SOIL STABILIZATION MATTING
LAT: 38.1426
LONG: -78.4291
WHEEL WASH STATION
TMP 32-74
ROBERT H. OR NANCY F. JIRANEK
DB. 1555, PG. 723
CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO SEDIMENT BASIN
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
U.S. ROUTE 29 - SEMINOLE TRAIL
VAR. WIDTH R/W
4. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 297, PG. 522
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9. 12. PRESUMED / APPROX. LOC. EX. NORTHERN PIEDMONT ELECTRIC COOPERATIVE ESMT. DB. 500, PG. 566 DB. 615, PG. 71
11. APPROX. LOC. EX. CENTRAL TELEPHONE COMPANY OF VIRGINIA ESMT. DB. 607, PG. 405
25. OVERHEAD ELECTRICAL LINES SHOWN ON PLAT DB. 851, PG. 467
25. CULVERTS SHOWN ON PLAT DB. 851, PG. 467
28. APPROX. LOC. EX. DRAINAGE ESMT. AS SHOWN ON PLAT IN DB. 1061, PG. 217
END OF MARKED WATERLINE
WATERLINE CONTINUES IN NORTHERLY DIRECTION PER ACSA UTIL. MAP
BOX CULVERT TRANSITIONS TO OCTAGONAL
7. EX. TELEPHONE LINE DB. 336, PG. 185
25. CULVERT SHOWN ON PLAT DB. 851, PG. 467
TP
PS
BM
B/M
MU
IP
DD
OP
SB
BM2
CE
RSF
IRON (F)
88

EROSION CONTROL LEGEND

		*
	LIMITS OF DISTURBANCE	---
	DRAINAGE DIVIDE	---
	SOIL AREA DIVIDE	---
RSF	REINFORCED SILT FENCE (RSF)	C-PCM-04-2
IP	INLET PROTECTION (IP)	C-SCM-04
CE	TEMP STONE CONSTRUCTION ENTRANCE (CE)	C-SCM-03
DD RWD	TEMPORARY DIVERSION DIKE (DD) TEMPORARY RIGHT-OF-WAY DIVERSION (RWD)	C-ECM-04 C-ECM-07
SB	TEMPORARY SEDIMENT BASIN (SB)	C-SCM-12
B/M	SOIL STABILIZATION BLANKETS (B/M) ON SLOPES = 3:1 OR STEEPER	C-SSM-05
PS	PERMANENT SEEDING (PS)	C-SSM-10
MU	MULCHING (MU)	C-SSM-11
TP	TREE PRESERVATION & PROTECTION (TP)	C-SSM-01

* "VIRGINIA STORMWATER MANAGEMENT HANDBOOK" SPECIFICATION NUMBER

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DATE	REVISION DESCRIPTION

DATE
03/14/2025

DRAWN BY
C. TAYLOR

DESIGNED BY
T. BRIGHT

CHECKED BY
C. SHIFFLETT

SCALE
1"=30'

TIMMONS GROUP

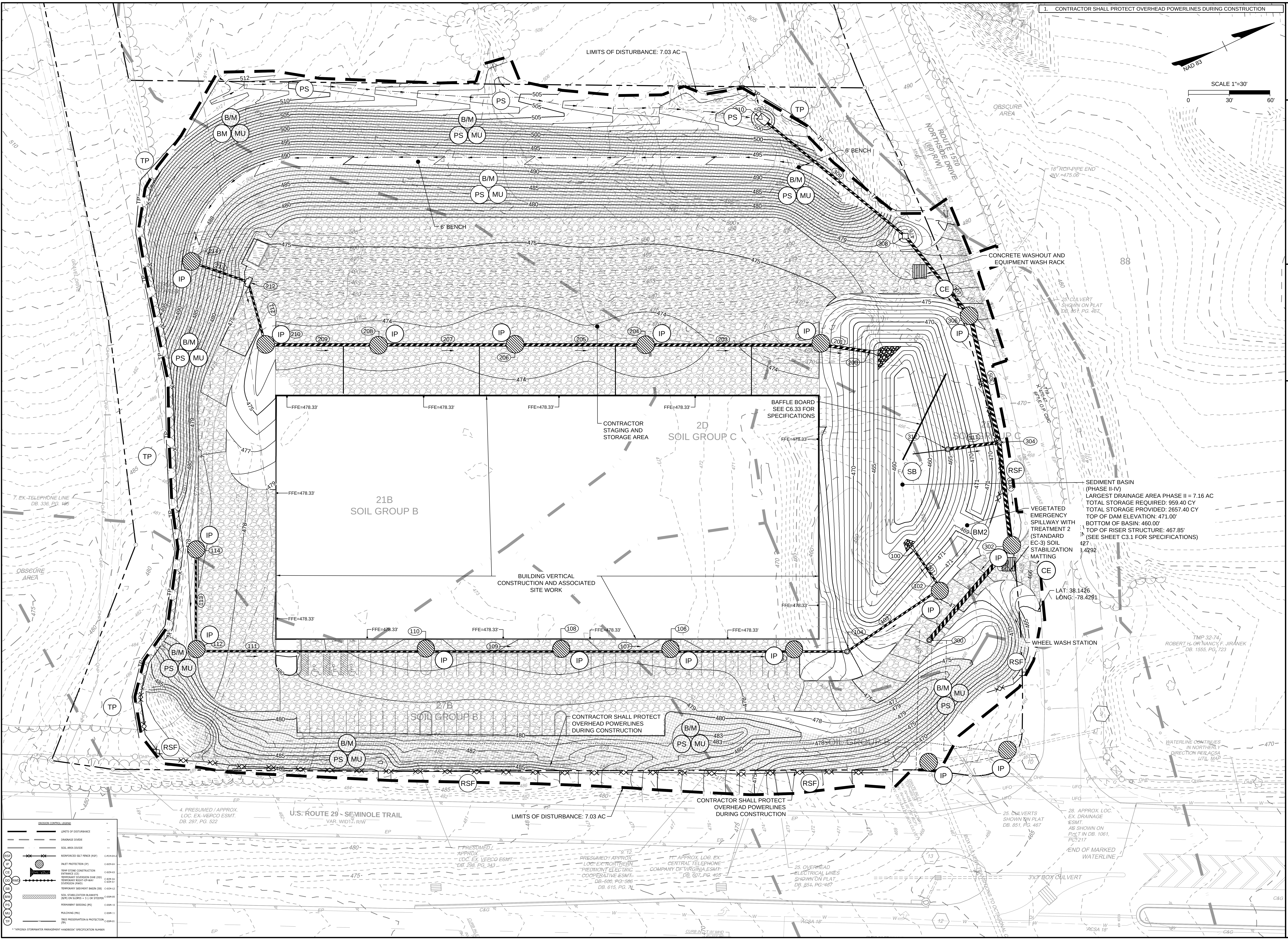
NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA

EROSION & SEDIMENT CONTROL PHASE 2

JOB NO.
64375

SHEET NO.
C3.6

1. CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION



LIMITS OF DISTURBANCE: 7.03 AC
NAD 83
SCALE 1"=30'
0
30'
60'
6' BENCH
6' BENCH
CONCRETE WASHOUT AND EQUIPMENT WASH RACK
BAFFLE BOARD SEE C6.33 FOR SPECIFICATIONS
CONTRACTOR STAGING AND STORAGE AREA
2D SOIL GROUP C
21B SOIL GROUP B
27B SOIL GROUP B
34D SOIL GROUP C
BUILDING VERTICAL CONSTRUCTION AND ASSOCIATED SITE WORK
FFE=478.33'
SEDIMENT BASIN (PHASE II-IV)
LARGEST DRAINAGE AREA PHASE II = 7.16 AC
TOTAL STORAGE REQUIRED: 959.40 CY
TOTAL STORAGE PROVIDED: 2657.40 CY
TOP OF DAM ELEVATION: 471.00'
BOTTOM OF BASIN: 460.00'
TOP OF RISER STRUCTURE: 467.85'
(SEE SHEET C3.1 FOR SPECIFICATIONS)
VEGETATED EMERGENCY SPILLWAY WITH TREATMENT 2 (STANDARD EC-3) SOIL STABILIZATION MATTING
LAT: 38.1426
LONG: -78.4291
WHEEL WASH STATION
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
ROUTE 1570 NORTHSIDE DRIVE (60' R/W)
U.S. ROUTE 29 - SEMINOLE TRAIL VAR. WIDTH R/W
OBSCURE AREA
TMP 32-74 ROBERT H. OR NANCY F. JIRANEK DB. 1555, PG. 723
WATERLINE CONTINUES IN NORTHERLY DIRECTION PER ACSA UTIL MAP
END OF MARKED WATERLINE
3'x3' BOX CULVERT
18" RCP PIPE END INV.=475.06'
7. EX. TELEPHONE LINE DB. 338, PG. 485
4. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 297, PG. 522
1. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 298, PG. 343
9, 12. PRESUMED / APPROX. LOC. EX. NORTHERN PIEDMONT ELECTRIC COOPERATIVE ESMT. DB. 596, PG. 586 DB. 815, PG. 70
11. APPROX. LOC. EX. CENTRAL TELEPHONE COMPANY OF VIRGINIA ESMT. DB. 607, PG. 405
25. OVERHEAD ELECTRICAL LINES SHOWN ON PLAT DB. 851, PG. 467
25. CULVERTS SHOWN ON PLAT DB. 851, PG. 467
28. APPROX. LOC. EX. DRAINAGE ESMT. AS SHOWN ON PLAT IN DB. 1061, PG. 217
88
SB
BM2
CE
RSF
IP
TP
PS
MU
B/M
BM

EROSION CONTROL LEGEND

			*
		LIMITS OF DISTURBANCE	---
		DRAINAGE DIVIDE	---
		SOIL AREA DIVIDE	---
RSF		REINFORCED SILT FENCE (RSF)	C-PCM-04-2
IP		INLET PROTECTION (IP)	C-SCM-04
CE		TEMP STONE CONSTRUCTION ENTRANCE (CE)	C-SCM-03
DD RWD		TEMPORARY DIVERSION DIKE (DD) TEMPORARY RIGHT-OF-WAY DIVERSION (RWD)	C-ECM-04 C-ECM-07
SB		TEMPORARY SEDIMENT BASIN (SB)	C-SCM-12
B/M		SOIL STABILIZATION BLANKETS (B/M) ON SLOPES = 3:1 OR STEEPER	C-SSM-05
PS		PERMANENT SEEDING (PS)	C-SSM-10
MU		MULCHING (MU)	C-SSM-11
TP	TP	TREE PRESERVATION & PROTECTION (TP)	C-SSM-01

* "VIRGINIA STORMWATER MANAGEMENT HANDBOOK" SPECIFICATION NUMBER

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DATE	03/14/2025
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DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1"=30'

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA

EROSION & SEDIMENT CONTROL PHASE 3

JOB NO.
64375

SHEET NO.
C3.7

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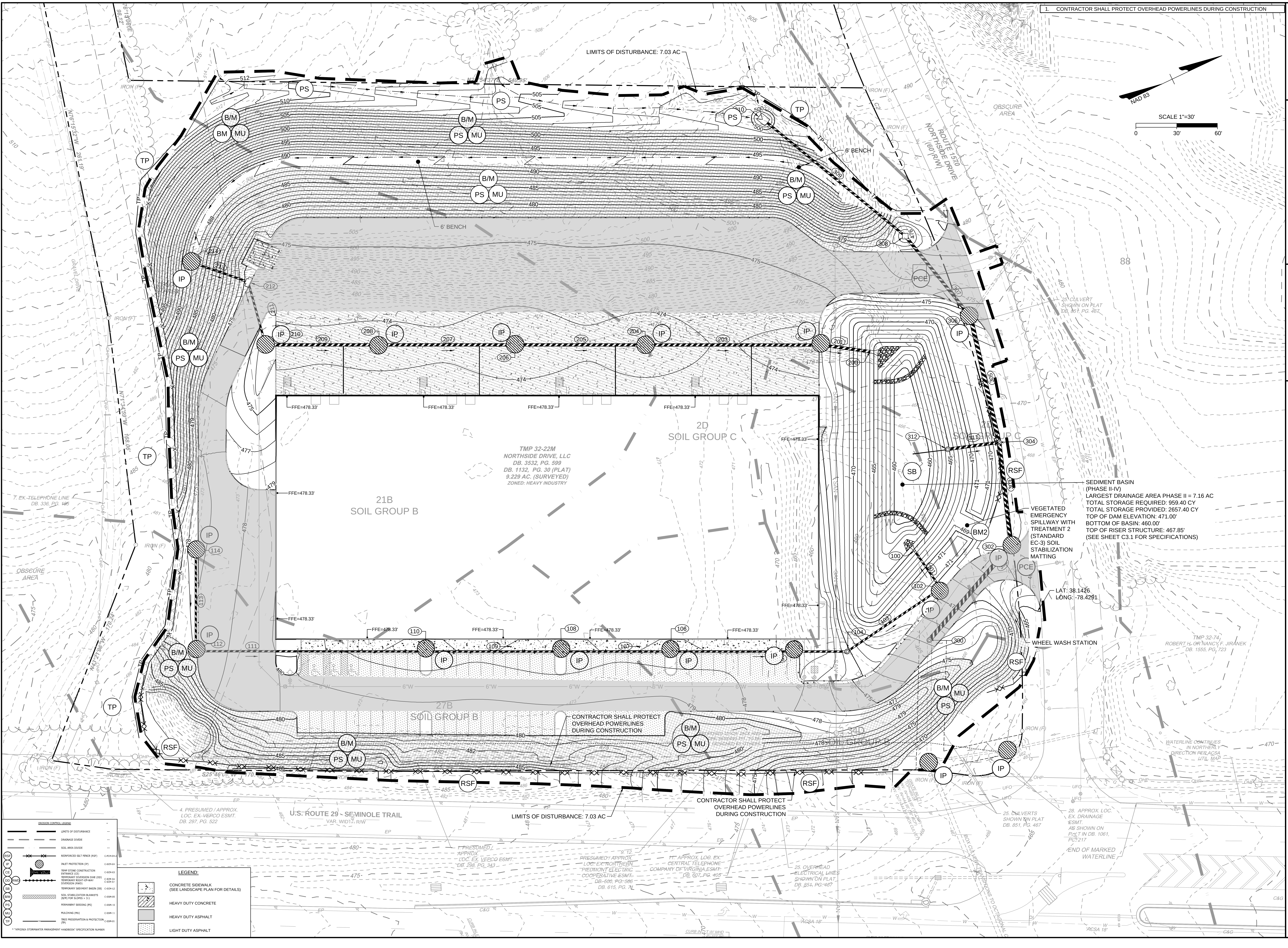
1. CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION


LIMITS OF DISTURBANCE: 7.03 AC
NAD 83
SCALE 1"=30'
0
30'
60'
6' BENCH
6' BENCH
ROUTE 1570 NORTHSIDE DRIVE (60' R/W)
OBSCURE AREA
88
25. CULVERT SHOWN ON PLAT DB. 851, PG. 467
TMP 32-22M
NORTHSIDE DRIVE, LLC
DB. 3532, PG. 599
DB. 1132, PG. 30 (PLAT)
9.229 AC. (SURVEYED)
ZONED: HEAVY INDUSTRY
2D
SOIL GROUP C
21B
SOIL GROUP B
27B
SOIL GROUP B
34D
SOIL GROUP B
FFE=478.33'
7. EX. TELEPHONE LINE DB. 338, PG. 485
IRON (F)
OBSCURE AREA
GRAVEL DRIVE
N76°15'52"W
N71°59'59"W
N41°21'00"W 170.24'
S25°46'52"E
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
CONTRACTOR SHALL PROTECT OVERHEAD POWERLINES DURING CONSTRUCTION
LIMITS OF DISTURBANCE: 7.03 AC
U.S. ROUTE 29 - SEMINOLE TRAIL
VAR. WIDTH R/W
4. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 297, PG. 522
1. PRESUMED / APPROX. LOC. EX. VEPCO ESMT. DB. 298, PG. 343
9. 12. PRESUMED / APPROX. LOC. EX. NORTHERN PIEDMONT ELECTRIC COOPERATIVE ESMT. DB. 500, PG. 586 DB. 815, PG. 70
11. APPROX. LOC. EX. CENTRAL TELEPHONE COMPANY OF VIRGINIA ESMT. DB. 607, PG. 405
25. OVERHEAD ELECTRICAL LINES SHOWN ON PLAT DB. 851, PG. 467
25. CULVERTS SHOWN ON PLAT DB. 851, PG. 467
28. APPROX. LOC. EX. DRAINAGE ESMT. AS SHOWN ON PLAT IN DB. 1061, PG. 217
END OF MARKED WATERLINE
WATERLINE CONTINUES IN NORTHERLY DIRECTION PER ACSA UTIL MAP
TMP 32-74
ROBERT H. OR NANCY F. JIRANEK
DB. 1555, PG. 723
SEDIMENT BASIN
(PHASE II-IV)
LARGEST DRAINAGE AREA PHASE II = 7.16 AC
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TOP OF RISER STRUCTURE: 467.85'
(SEE SHEET C3.1 FOR SPECIFICATIONS)
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LAT: 38.1426
LONG: -78.4291
WHEEL WASH STATION
SB
BM2
PCE
RSF
IP
TP
PS
MU
B/M
BM

EROSION CONTROL LEGEND

		*
	LIMITS OF DISTURBANCE	---
	DRAINAGE DIVIDE	---
	SOIL AREA DIVIDE	---
RSF	REINFORCED SILT FENCE (RSF)	C-PCM-04-2
IP	INLET PROTECTION (IP)	C-SCM-04
CE	TEMP STONE CONSTRUCTION ENTRANCE (CE)	C-SCM-03
DD RWD	TEMPORARY DIVERSION DIKE (DD) TEMPORARY RIGHT-OF-WAY DIVERSION (RWD)	C-ECM-04 C-ECM-07
SB	TEMPORARY SEDIMENT BASIN (SB)	C-SCM-12
B/M	SOIL STABILIZATION BLANKETS (B/M) FOR SLOPES > 3:1	C-SSM-05
PS	PERMANENT SEEDING (PS)	C-SSM-10
MU	MULCHING (MU)	C-SSM-11
TP	TREE PRESERVATION & PROTECTION (TP)	C-SSM-01

* "VIRGINIA STORMWATER MANAGEMENT HANDBOOK" SPECIFICATION NUMBER

LEGEND:

⁘	CONCRETE SIDEWALK (SEE LANDSCAPE PLAN FOR DETAILS)
▨	HEAVY DUTY CONCRETE
▩	HEAVY DUTY ASPHALT
⁘	LIGHT DUTY ASPHALT

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DATE	REVISION DESCRIPTION

DATE	03/14/2025
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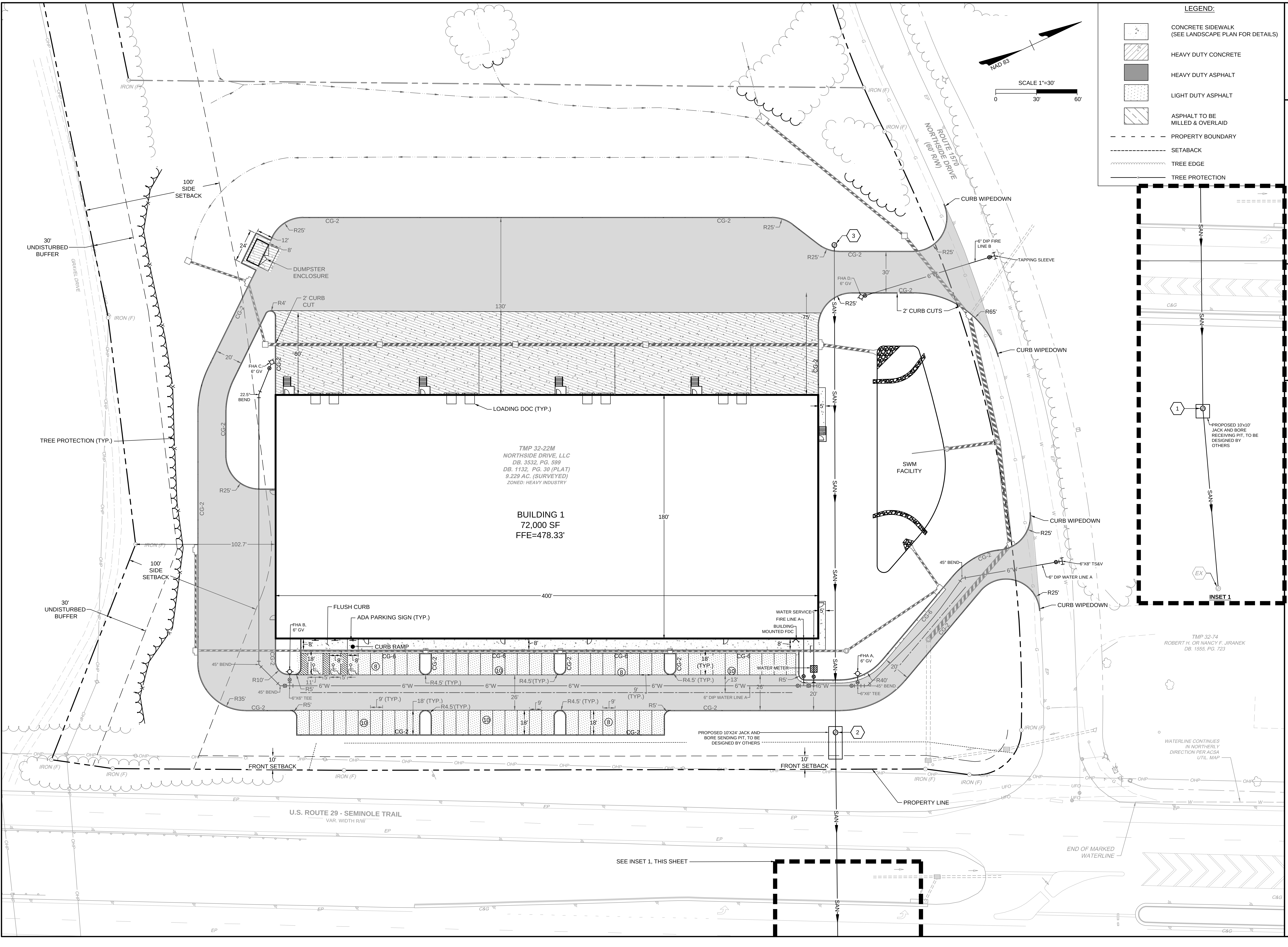
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1"=30'

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

EROSION & SEDIMENT CONTROL PHASE 4

JOB NO.	64375
SHEET NO.	C3.8



LEGEND:

◌	CONCRETE SIDEWALK (SEE LANDSCAPE PLAN FOR DETAILS)
▨	HEAVY DUTY CONCRETE
■	HEAVY DUTY ASPHALT
░	LIGHT DUTY ASPHALT
▧	ASPHALT TO BE MILLED & OVERLAID
— — —	PROPERTY BOUNDARY
- - - -	SETABACK
︵︵︵	TREE EDGE
—x—	TREE PROTECTION

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CHECKED BY	C. SHIFFLETT
SCALE	1" = 30'

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NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

LAYOUT & UTILITY PLAN

JOB NO.	64375
SHEET NO.	C4.0

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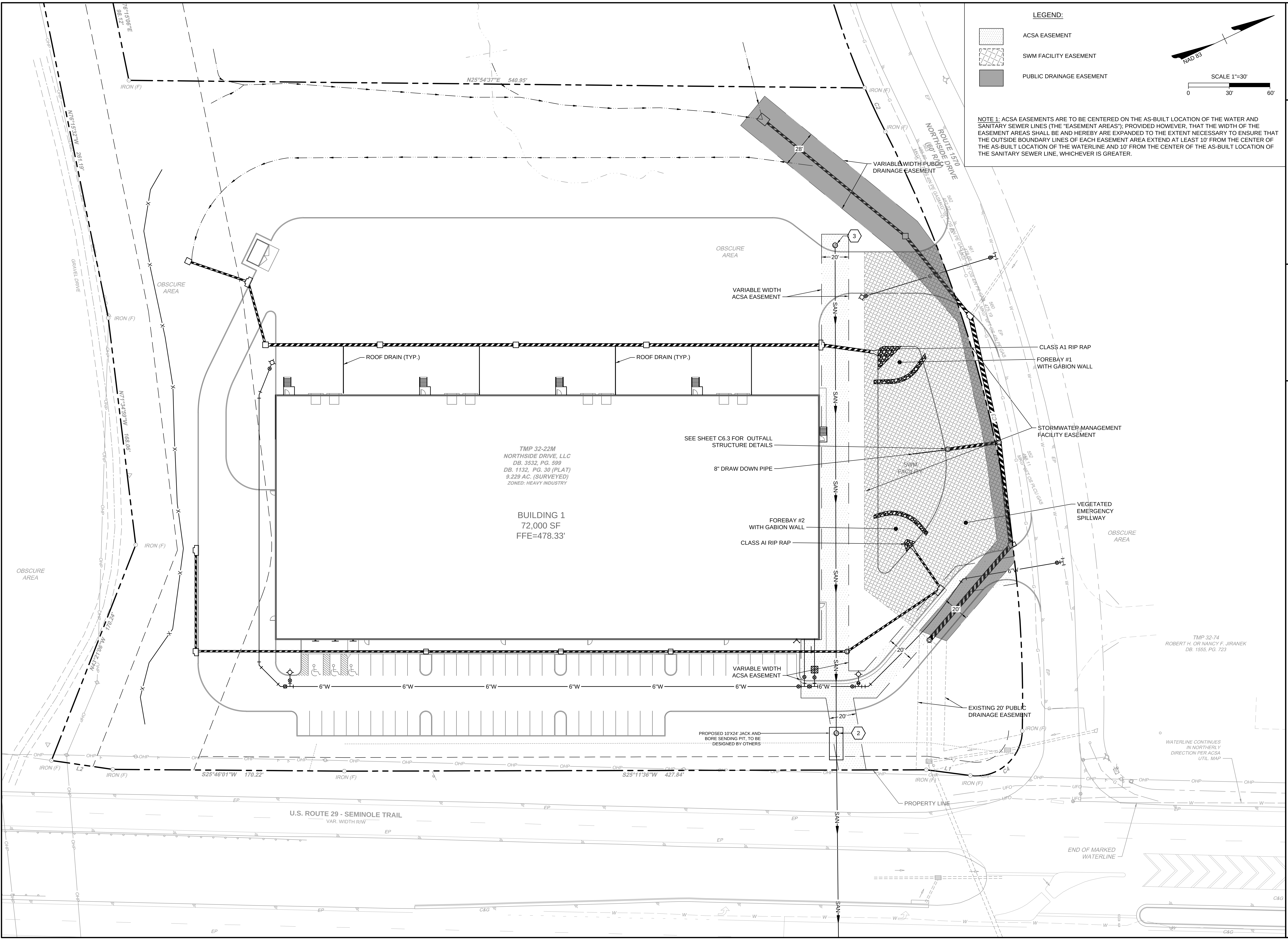

LEGEND:

░	ACSA EASEMENT
▨	SWM FACILITY EASEMENT
▩	PUBLIC DRAINAGE EASEMENT

NOTE 1: ACSA EASEMENTS ARE TO BE CENTERED ON THE AS-BUILT LOCATION OF THE WATER AND SANITARY SEWER LINES (THE "EASEMENT AREAS"); PROVIDED HOWEVER, THAT THE WIDTH OF THE EASEMENT AREAS SHALL BE AND HEREBY ARE EXPANDED TO THE EXTENT NECESSARY TO ENSURE THAT THE OUTSIDE BOUNDARY LINES OF EACH EASEMENT AREA EXTEND AT LEAST 10' FROM THE CENTER OF THE AS-BUILT LOCATION OF THE WATERLINE AND 10' FROM THE CENTER OF THE AS-BUILT LOCATION OF THE SANITARY SEWER LINE, WHICHEVER IS GREATER.

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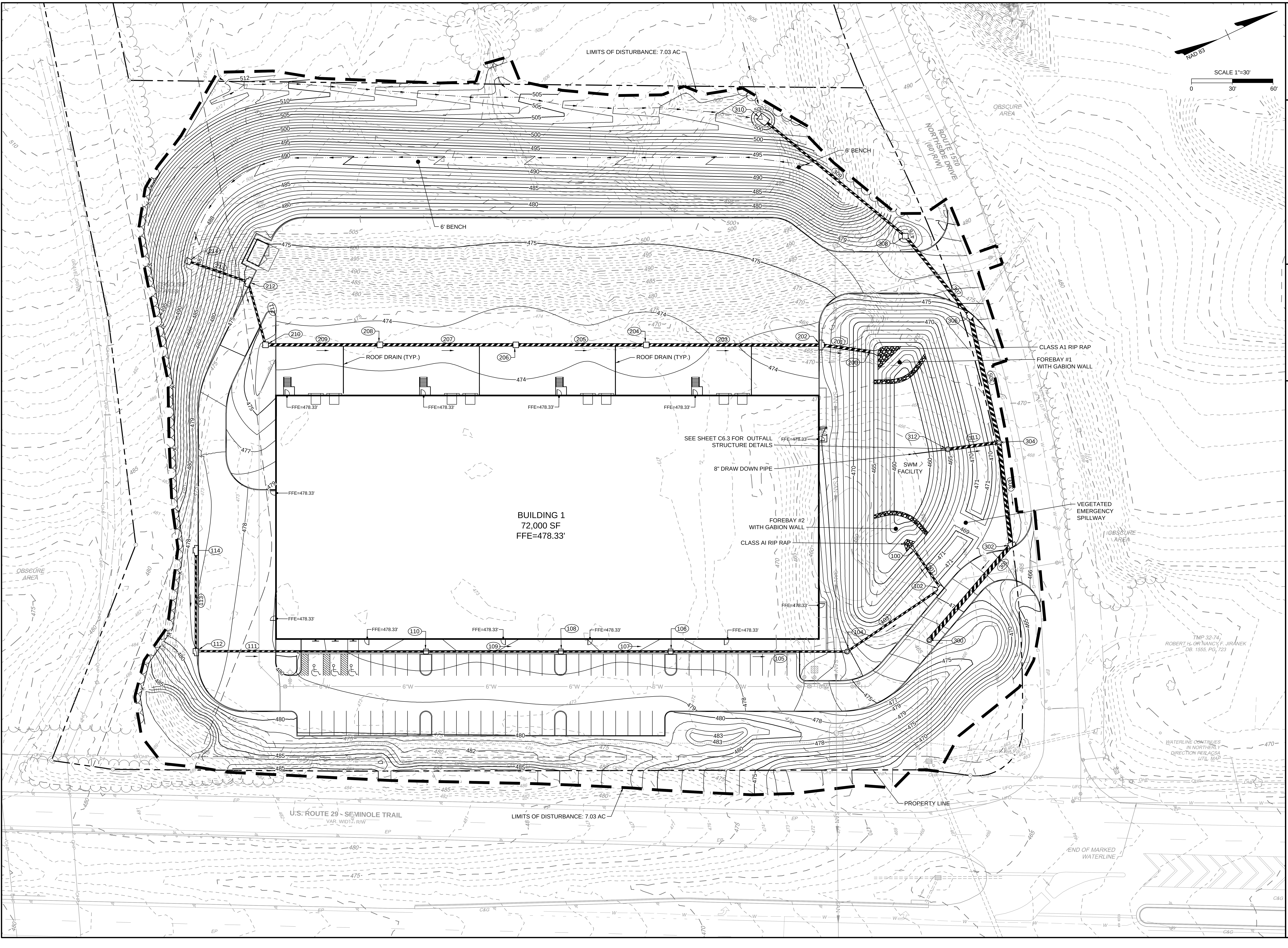
SCALE	1" = 30'
JOB NO.	64375
SHEET NO.	C4.1

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
LOT & EASEMENT PLAN



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DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1" = 30'

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

GRADING & DRAINAGE PLAN

JOB NO.	64375
SHEET NO.	C5.0

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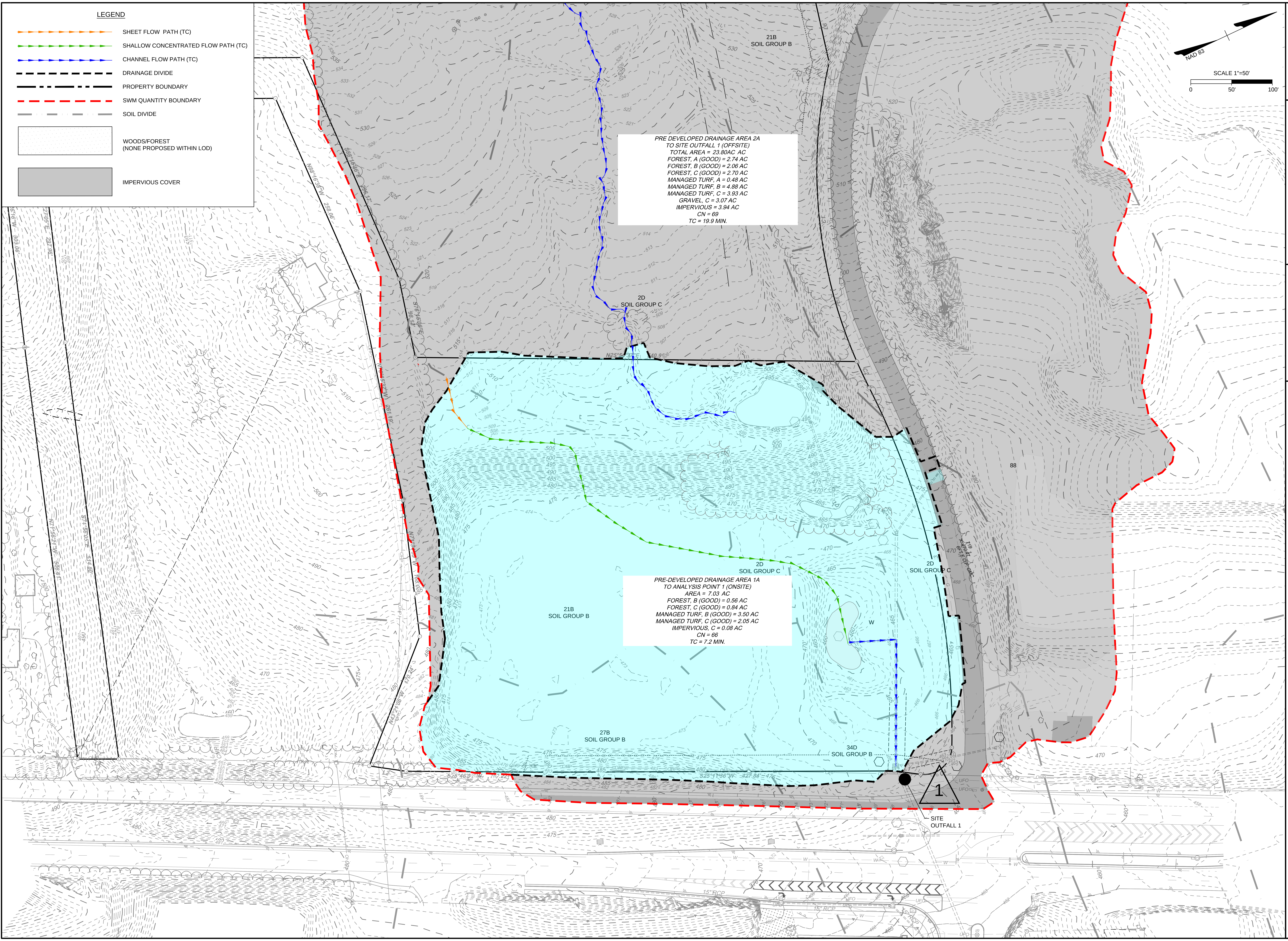

LEGEND	
▸▸▸ (orange)	SHEET FLOW PATH (TC)
▸▸▸ (green)	SHALLOW CONCENTRATED FLOW PATH (TC)
▸▸▸ (blue)	CHANNEL FLOW PATH (TC)
- - -	DRAINAGE DIVIDE
—·—·—	PROPERTY BOUNDARY
- - -	SWM QUANTITY BOUNDARY
—·—	SOIL DIVIDE
☐	WOODS/FOREST (NONE PROPOSED WITHIN LOD)
▨	IMPERVIOUS COVER

PRE DEVELOPED DRAINAGE AREA 2A
TO SITE OUTFALL 1 (OFFSITE)
TOTAL AREA = 23.80AC AC
FOREST, A (GOOD) = 2.74 AC
FOREST, B (GOOD) = 2.06 AC
FOREST, C (GOOD) = 2.70 AC
MANAGED TURF, A = 0.48 AC
MANAGED TURF, B = 4.88 AC
MANAGED TURF, C = 3.93 AC
GRAVEL, C = 3.07 AC
IMPERVIOUS = 3.94 AC
CN = 69
TC = 19.9 MIN.

PRE-DEVELOPED DRAINAGE AREA 1A
TO ANALYSIS POINT 1 (ONSITE)
AREA = 7.03 AC
FOREST, B (GOOD) = 0.56 AC
FOREST, C (GOOD) = 0.84 AC
MANAGED TURF, B (GOOD) = 3.50 AC
MANAGED TURF, C (GOOD) = 2.05 AC
IMPERVIOUS, C = 0.08 AC
CN = 66
TC = 7.2 MIN.

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DATE	REVISION DESCRIPTION

DATE
03/14/2025

DRAWN BY
C. TAYLOR

DESIGNED BY
T. BRIGHT

CHECKED BY
C. SHIFFLETT

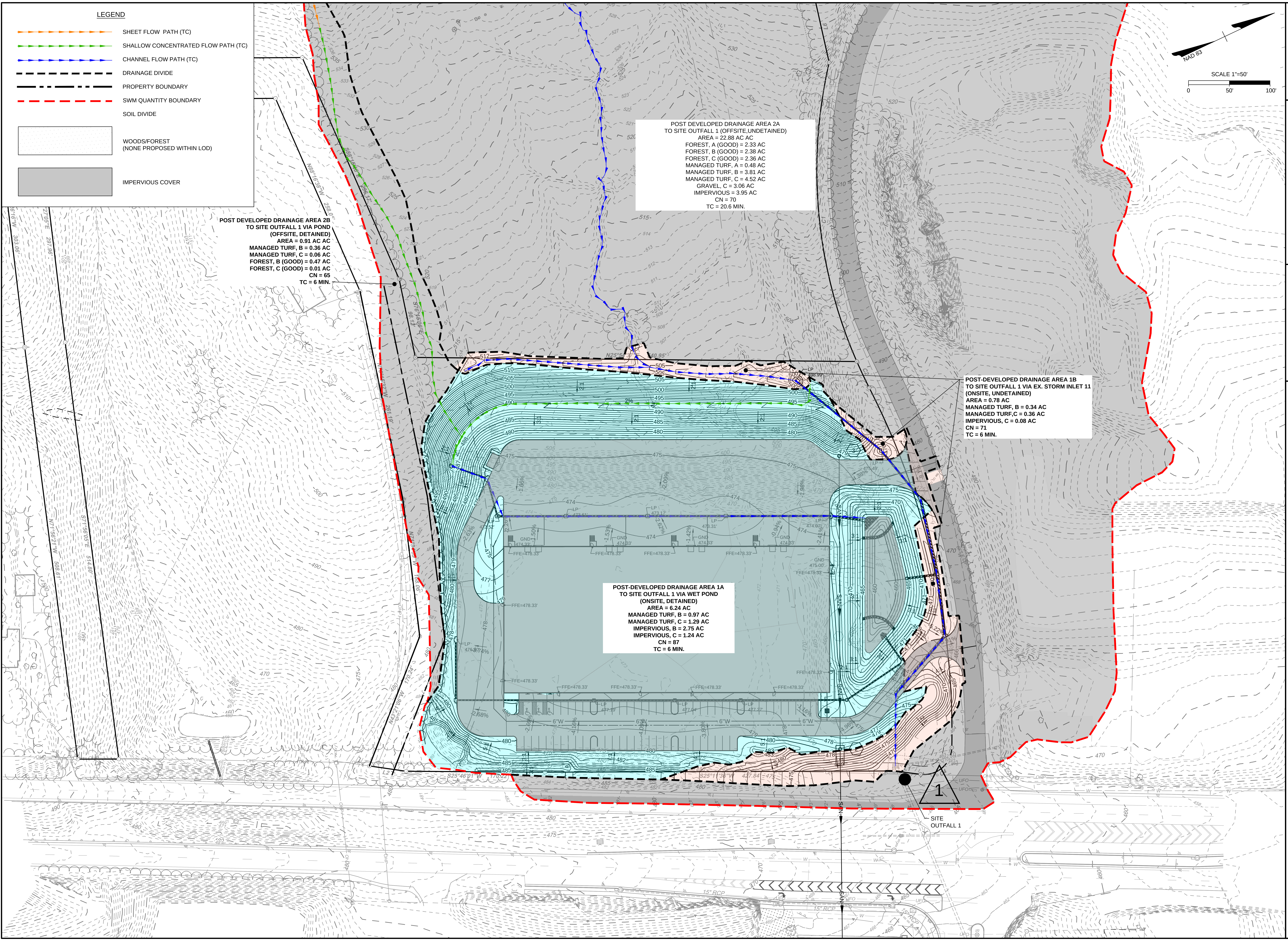
SCALE
1" = 50'

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA

PRE-DEVELOPED STORMWATER MANAGEMENT PLAN

JOB NO.
64375

SHEET NO.
C6.0



LEGEND

SHEET FLOW PATH (TC)
SHALLOW CONCENTRATED FLOW PATH (TC)
CHANNEL FLOW PATH (TC)
DRAINAGE DIVIDE
PROPERTY BOUNDARY
SWM QUANTITY BOUNDARY
SOIL DIVIDE
WOODS/FOREST
(NONE PROPOSED WITHIN LOD)
IMPERVIOUS COVER

POST DEVELOPED DRAINAGE AREA 2A
TO SITE OUTFALL 1 (OFFSITE,UNDETAINED)
AREA = 22.88 AC AC
FOREST, A (GOOD) = 2.33 AC
FOREST, B (GOOD) = 2.38 AC
FOREST, C (GOOD) = 2.36 AC
MANAGED TURF, A = 0.48 AC
MANAGED TURF, B = 3.81 AC
MANAGED TURF, C = 4.52 AC
GRAVEL, C = 3.06 AC
IMPERVIOUS = 3.95 AC
CN = 70
TC = 20.6 MIN.

POST DEVELOPED DRAINAGE AREA 2B
TO SITE OUTFALL 1 VIA POND
(OFFSITE, DETAINED)
AREA = 0.91 AC AC
MANAGED TURF, B = 0.36 AC
MANAGED TURF, C = 0.06 AC
FOREST, B (GOOD) = 0.47 AC
FOREST, C (GOOD) = 0.01 AC
CN = 65
TC = 6 MIN.

POST-DEVELOPED DRAINAGE AREA 1B
TO SITE OUTFALL 1 VIA EX. STORM INLET 11
(ONSITE, UNDETAINED)
AREA = 0.78 AC
MANAGED TURF, B = 0.34 AC
MANAGED TURF,C = 0.36 AC
IMPERVIOUS, C = 0.08 AC
CN = 71
TC = 6 MIN.

POST-DEVELOPED DRAINAGE AREA 1A
TO SITE OUTFALL 1 VIA WET POND
(ONSITE, DETAINED)
AREA = 6.24 AC
MANAGED TURF, B = 0.97 AC
MANAGED TURF, C = 1.29 AC
IMPERVIOUS, B = 2.75 AC
IMPERVIOUS, C = 1.24 AC
CN = 87
TC = 6 MIN.

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DATE	REVISION DESCRIPTION

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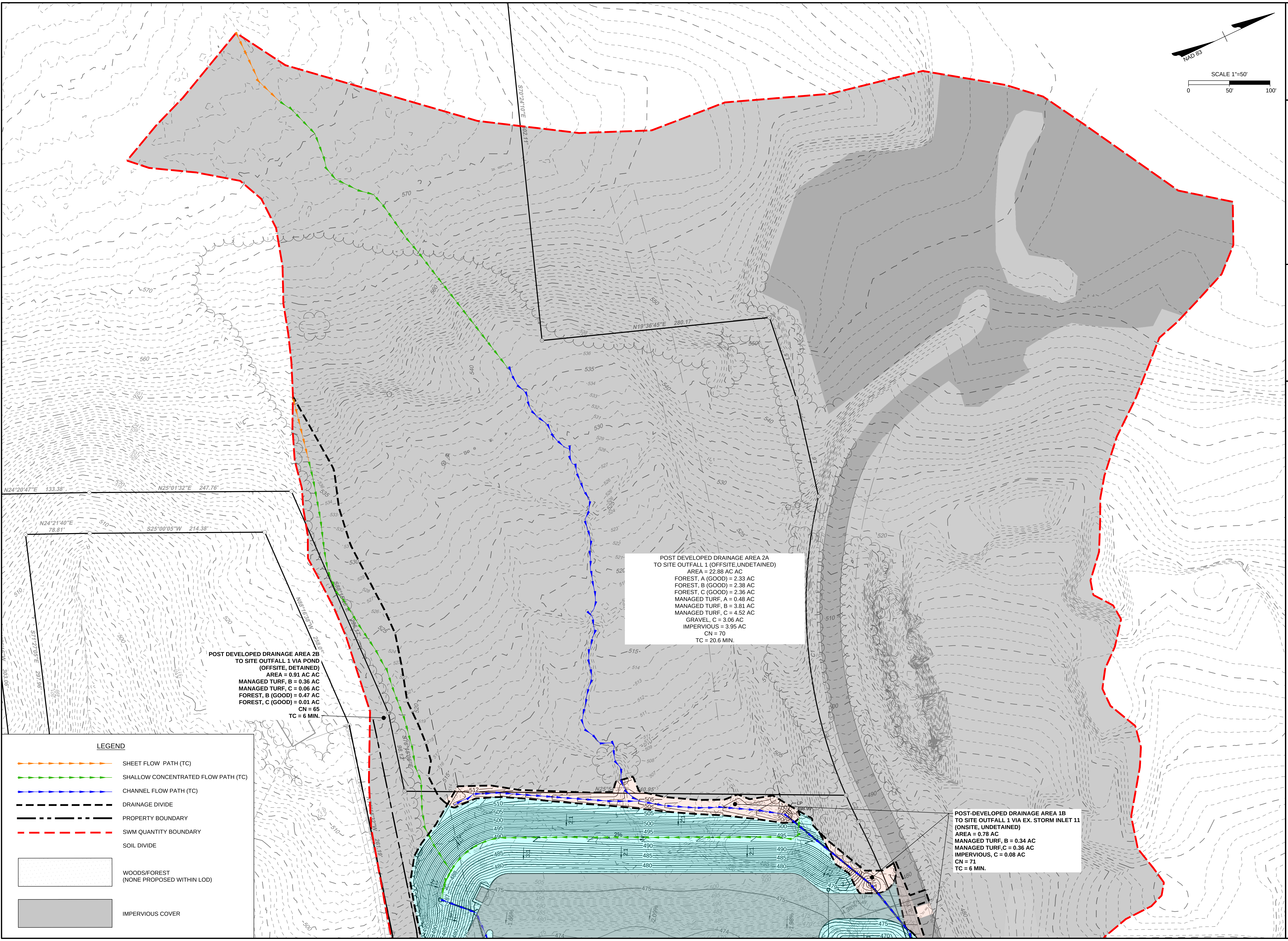
DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1" = 50'

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

POST-DEVELOPED STORMWATER MANAGEMENT PLAN

JOB NO.	64375
SHEET NO.	C6.1



POST DEVELOPED DRAINAGE AREA 2A
TO SITE OUTFALL 1 (OFFSITE,UNDETAINED)
AREA = 22.88 AC AC
FOREST, A (GOOD) = 2.33 AC
FOREST, B (GOOD) = 2.38 AC
FOREST, C (GOOD) = 2.36 AC
MANAGED TURF, A = 0.48 AC
MANAGED TURF, B = 3.81 AC
MANAGED TURF, C = 4.52 AC
GRAVEL, C = 3.06 AC
IMPERVIOUS = 3.95 AC
CN = 70
TC = 20.6 MIN.

POST DEVELOPED DRAINAGE AREA 2B
TO SITE OUTFALL 1 VIA POND
(OFFSITE, DETAINED)
AREA = 0.91 AC AC
MANAGED TURF, B = 0.36 AC
MANAGED TURF, C = 0.06 AC
FOREST, B (GOOD) = 0.47 AC
FOREST, C (GOOD) = 0.01 AC
CN = 65
TC = 6 MIN.

POST-DEVELOPED DRAINAGE AREA 1B
TO SITE OUTFALL 1 VIA EX. STORM INLET 11
(ONSITE, UNDETAINED)
AREA = 0.78 AC
MANAGED TURF, B = 0.34 AC
MANAGED TURF,C = 0.36 AC
IMPERVIOUS, C = 0.08 AC
CN = 71
TC = 6 MIN.

LEGEND

▸▸▸	SHEET FLOW PATH (TC)
▸▸▸	SHALLOW CONCENTRATED FLOW PATH (TC)
▸▸▸	CHANNEL FLOW PATH (TC)
— — —	DRAINAGE DIVIDE
—·—	PROPERTY BOUNDARY
— — —	SWM QUANTITY BOUNDARY
	SOIL DIVIDE
▨	WOODS/FOREST (NONE PROPOSED WITHIN LOD)
▨	IMPERVIOUS COVER

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TEL 434.295.5624 FAX 434.295.8317 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1" = 50'

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA

OFFSITE STORMWATER MANAGEMENT PLAN

JOB NO.	64375
SHEET NO.	C6.2

SWM QUANTITY NARRATIVE:

Site Description:

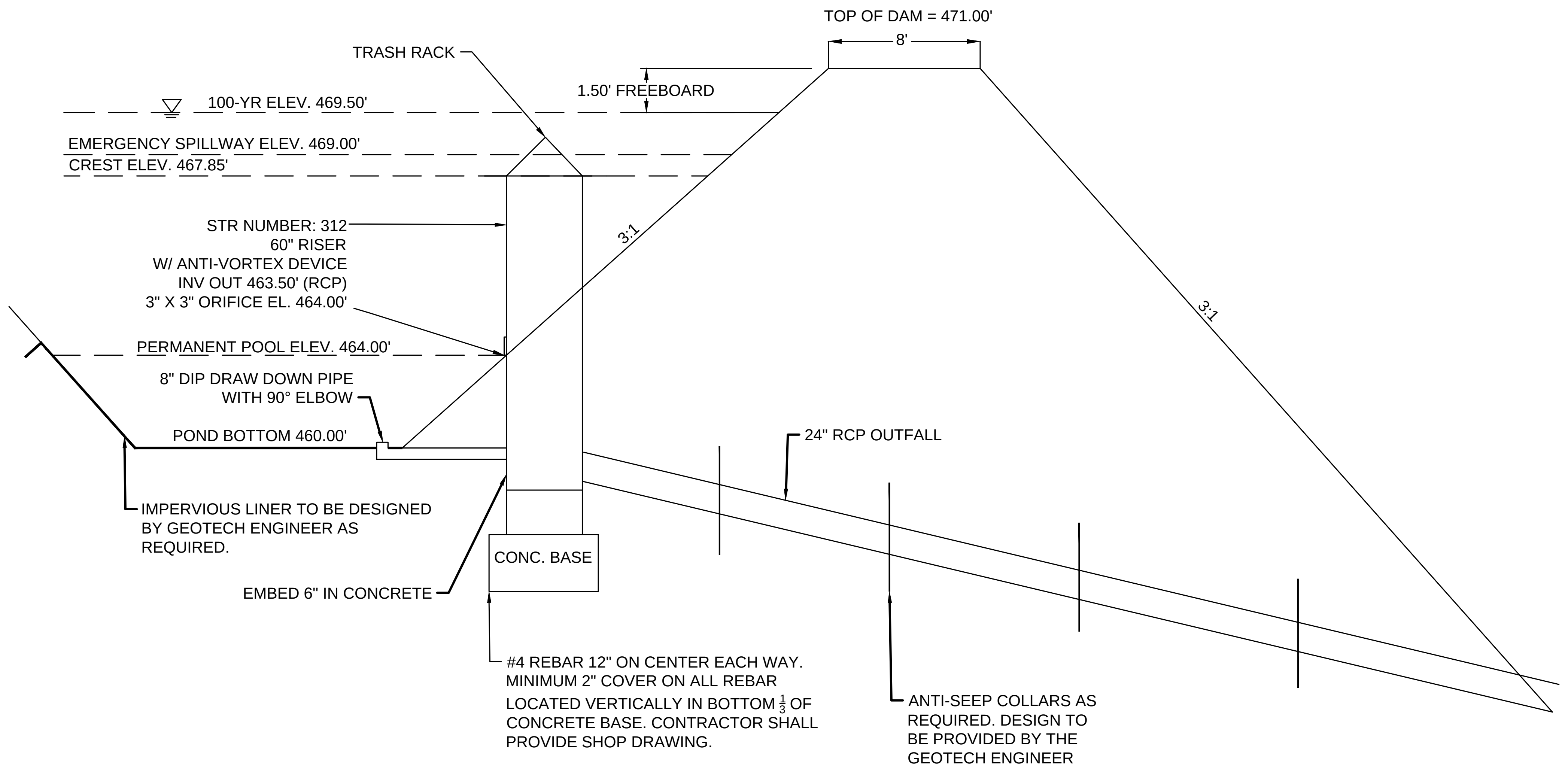
The proposed development associated with this VSMP plan is located on vacant commercial lots at TMP 32-22M and TMP 32-22 that consists of forest, and managed turf land cover. There exists two basins on these parcels in which our efforts to find record plans for their design have been exhausted. GIS aerial maps provide some context of the site's history. The site was fully forested in 2002, though sometime around the year 2007 was cleared and graded in which erosion and sediment control measures (such as sediment traps and basins) look to have been put in place. Over the years, light vegetation has re-established itself throughout the two parcels.

This plan proposes a light industrial use building, along with parking, utilities, and associated site work. Stormwater needs will be met with a level 1 wet pond, which have been demonstrated on the stormwater management plan and calculations document provided with this submission.

Site Outfall 1:

Stormwater management criteria per Virginia law chapter 875 have been analyzed at one site outfall, "Site Outfall 1". This site outfall is a 36" concrete pipe that routes east under route 29. It is our desire to preserve and protect the existing storm sewer conveyance system. We have provided computations on sheet C6.3 to illustrate regulatory compliance with the 1-yr energy balance and 10-yr flood protection criteria.

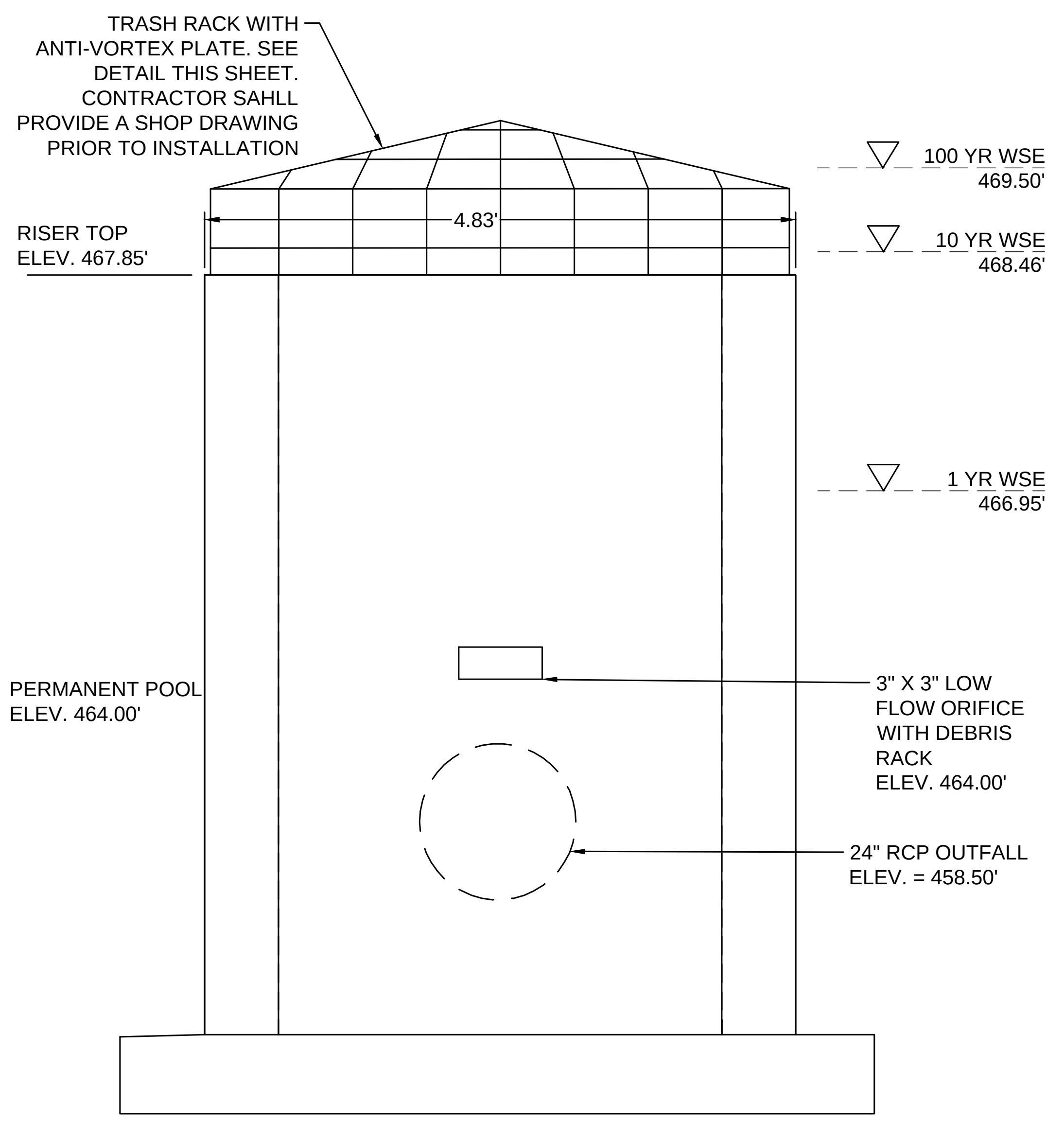
NOTE:
1. CONTRACTOR SHALL DOCUMENT INSTALLATION OF BMP PRACTICE SUCH AS LEVEL 1 WET POND. DETAILED DOCUMENTATION IS NECESSARY FOR FINAL AS-BUILT REQUIREMENTS. CONTRACTOR SHALL DOCUMENT MEASUREMENTS AND TAKE PHOTOGRAPHS THROUGHOUT INSTALLATION. A GENERAL CHECKLIST IS PROVIDED FOR GUIDANCE TO THE CONTRACTOR FOR THIS DOCUMENTATION. ALL DOCUMENTATION SHALL BE PROVIDED TO TIMMONS GROUP BY THE CONTRACTOR.
2. CONTRACTOR TO SUBMIT SHOP DRAWING FOR POND OUTFALL STRUCTURE PRIOR TO CONSTRUCTION.


TOP OF DAM = 471.00'
8'
TRASH RACK
1.50' FREEBOARD
100-YR ELEV. 469.50'
EMERGENCY SPILLWAY ELEV. 469.00'
CREST ELEV. 467.85'
STR NUMBER: 312
60" RISER
W/ ANTI-VORTEX DEVICE
INV OUT 463.50' (RCP)
3" X 3" ORIFICE EL. 464.00'
3:1
3:1
PERMANENT POOL ELEV. 464.00'
8" DIP DRAW DOWN PIPE
WITH 90° ELBOW
POND BOTTOM 460.00'
24" RCP OUTFALL
IMPERVIOUS LINER TO BE DESIGNED BY GEOTECH ENGINEER AS REQUIRED.
CONC. BASE
EMBED 6" IN CONCRETE
#4 REBAR 12" ON CENTER EACH WAY. MINIMUM 2" COVER ON ALL REBAR LOCATED VERTICALLY IN BOTTOM $\frac{1}{3}$ OF CONCRETE BASE. CONTRACTOR SHALL PROVIDE SHOP DRAWING.
ANTI-SEEP COLLARS AS REQUIRED. DESIGN TO BE PROVIDED BY THE GEOTECH ENGINEER

NOTES:
1. PROPERTY OWNER SHALL NOT PERMIT GROWTH OF TREES OR OTHER WOODY VEGETATION ON THE SIDES, CREST OR EMERGENCY SPILLWAY OF THE EMBANKMENT AND SHALL REMOVE SUCH VEGETATION WITHIN 25 FEET OF THE TOE OF THE EMBANKMENT PER VIRGINIA LAW 10.1-609.2
2. WARNING SIGNS PROHIBITING SWIMMING MUST BE POSTED.

LEVEL 1 WET POND

No Scale


TRASH RACK WITH ANTI-VORTEX PLATE. SEE DETAIL THIS SHEET. CONTRACTOR SAHLL PROVIDE A SHOP DRAWING PRIOR TO INSTALLATION
4.83'
RISER TOP ELEV. 467.85'
100 YR WSE 469.50'
10 YR WSE 468.46'
1 YR WSE 466.95'
PERMANENT POOL ELEV. 464.00'
3" X 3" LOW FLOW ORIFICE WITH DEBRIS RACK ELEV. 464.00'
24" RCP OUTFALL ELEV. = 458.50'

60" RISER STRUCTURE 312 DETAIL

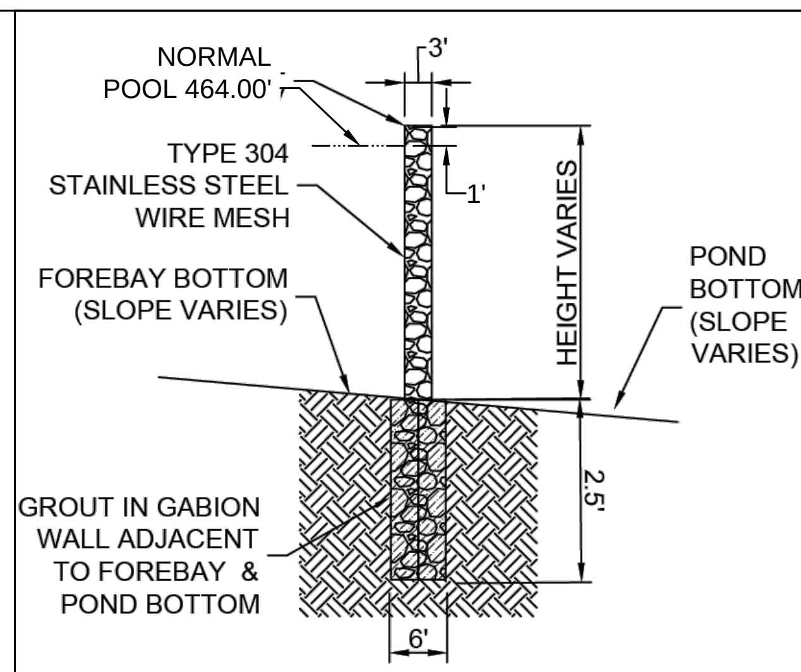
No Scale

WATER BALANCE CALCULATION

DP > ET + INF + RES - MP

48" > 8" + 7.2" + 24"

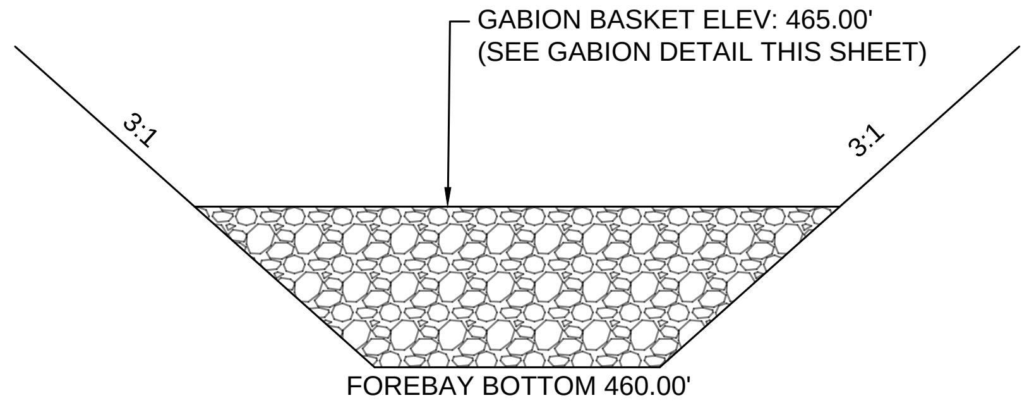
DP = AVERAGE DESIGN DEPTH OF PERMANENT POOL (INCHES)
ET = SUMMER EVAPO-TRANSPIRATION RATE (INCHES) (ASSUME 8 INCHES)
INF = MONTHLY INFILTRATION LOSS (ASSUME 7.2 @ 0.01 INCH/HOUR)
RES = RESERVOIR OF WATER FOR A FACTOR OF SAFETY (ASSUME 24 INCHES)
MB = MEASURED BASEFLOW RATE TO THE POND, IF ANY (CONVERT TO INCHES)


NORMAL POOL 464.00'
3'
1'
TYPE 304 STAINLESS STEEL WIRE MESH
FOREBAY BOTTOM (SLOPE VARIES)
HEIGHT VARIES
POND BOTTOM (SLOPE VARIES)
GROUT IN GABION WALL ADJACENT TO FOREBAY & POND BOTTOM
2.5'
6'

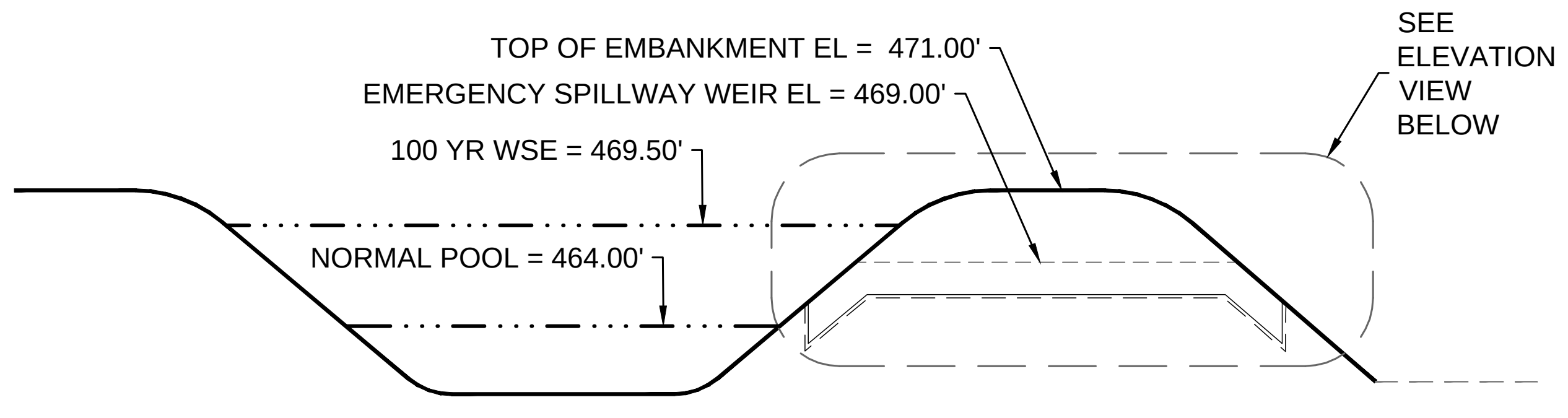
GABION BASKET DETAIL

N.T.S.

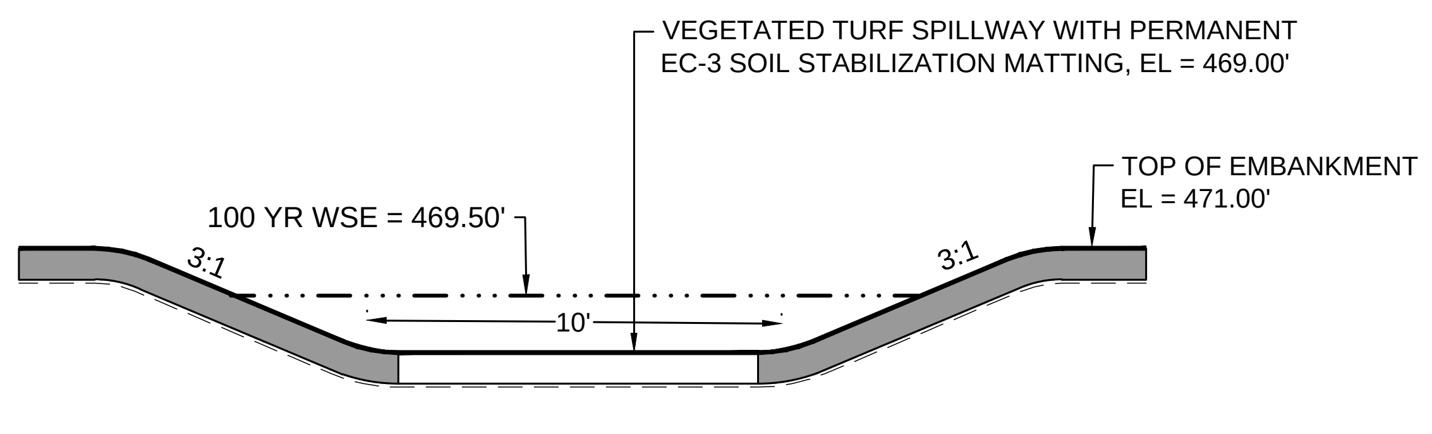
GABION BASKET NOTES:
1. INSTALL GABIONS IN ACCORDANCE W/ MANUFACTURER'S SPECIFICATIONS.
2. GABION BASKETS MUST MEET ASTM A974-97.
3. GABION BASKET WIRE MESH MUST BE TYPE 304 STAINLESS STEEL GAUGE 11 OR LOWER
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
5. FILL GABION BASKETS WITH 4" TO 8" STONE D50 = 6"



FOREBAY CROSS SECTION DETAIL


TOP OF EMBANKMENT EL = 471.00'
EMERGENCY SPILLWAY WEIR EL = 469.00'
100 YR WSE = 469.50'
NORMAL POOL = 464.00'
SEE ELEVATION VIEW BELOW

CROSS SECTION VIEW


VEGETATED TURF SPILLWAY WITH PERMANENT EC-3 SOIL STABILIZATION MATTING, EL = 469.00'
TOP OF EMBANKMENT EL = 471.00'
100 YR WSE = 469.50'
3:1
3:1
10'

ELEVATION VIEW

WET POND EMERGENCY SPILLWAY

No Scale

SITE OUTFALL PEAK FLOW ANALYSIS

DRAINAGE AREA NAME	TOTAL AREA (AC)	Tc (MIN)	CN	PEAK FLOW RATE (CFS) 1 YR	PEAK FLOW RATE (CFS) 10 YR	RUNOFF VOLUME, 1 YR (AC-FT)
PRE-DEVELOPMENT						
Pre-Developed Drainage Area 1A to SO1 (Onsite)	7.03	7.4	66	5.12	22.46	0.311
Pre-Developed Drainage Area 2A to SO1 (Offsite)	23.80	19.9	69	16.88	64.07	1.383
POST-DEVELOPMENT						
Post-Developed Drainage Area 1A to SO1 Via Wet Pond (Onsite, Detained)	6.26	6.0	87	17.94	40.02	0.838
Post-Developed Drainage Area 1B to SO1 (Onsite, Undetained)	0.77	6.0	71	0.95	3.18	0.045
Post-Developed Drainage Area 2A to SO1 (Offsite, Undetained)	22.89	20.6	70	14.72	56.65	1.354
Post-Developed Drainage Area 2B to SO1 Via Wet Pond (Offsite, Detained)	0.91	6.0	65	0.68	3.00	0.035
Level 1 Wet Pond Routing to SO1				1.26	21.33	0.917

ENERGY BALANCE IMPROVEMENT FACTOR
0.80

CHANNEL PROTECTION AND FLOOD PROTECTION CALCULATIONS - SITE OUTFALL 1

CHANNEL PROTECTION (ENERGY BALANCE) - 1 YR

$$Q_{1\,YR\,POST-DEV\,TOTAL} \leq \mathrm{IF} * ((Q_{1\,YR\,PRE-DEV} * RV_{1\,YR\,PRE-DEV})/RV_{1\,YR\,POST-DEV})$$

CFS ≤ 0.80 *((5.130 * 0.310)/ 0.880)

1.26 CFS ≤ 1.45 CFS

OK

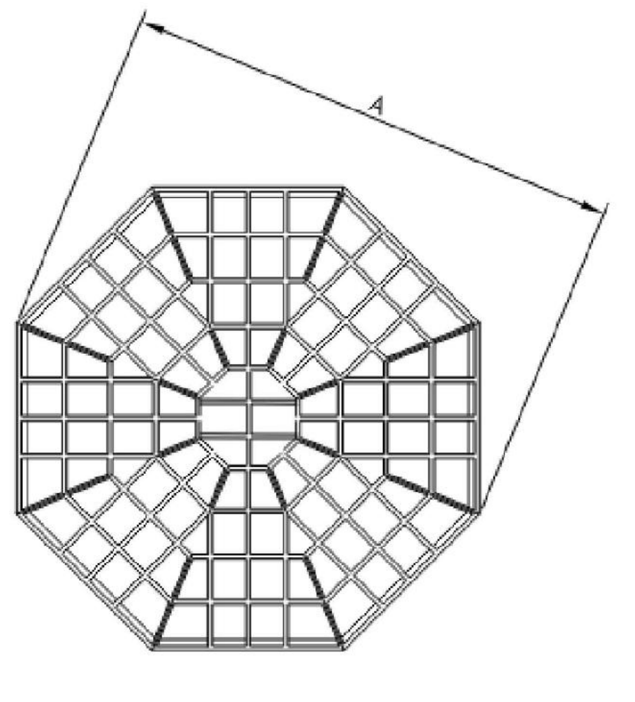
FLOOD PROTECTION - 10 YR

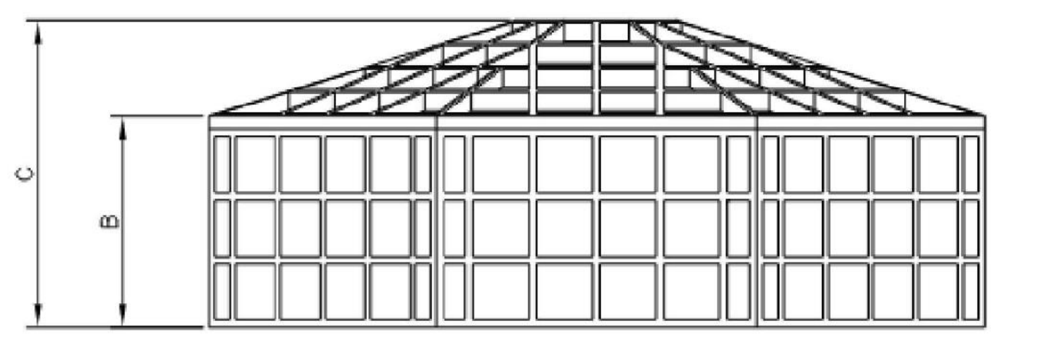
$$Q_{10\,YR\,POST-DEV\,TOTAL} \leq Q_{10\,YR\,PRE-DEV\,TOTAL} + Q_{OFFSITE\,DETAINED} - Q_{ONSITE\,UNDETAINED}$$

≤ 22.46 CFS

21.33 CFS ≤ 22.46

OK





PYRAMID STRUCTURES
(STANDARD SIZES)

DIMENSIONS IN INCHES TO THE NEAREST 1/4"

AS DISTRIBUTED BY CONTECH CONSTRUCTION PRODUCTS NATIONALLY

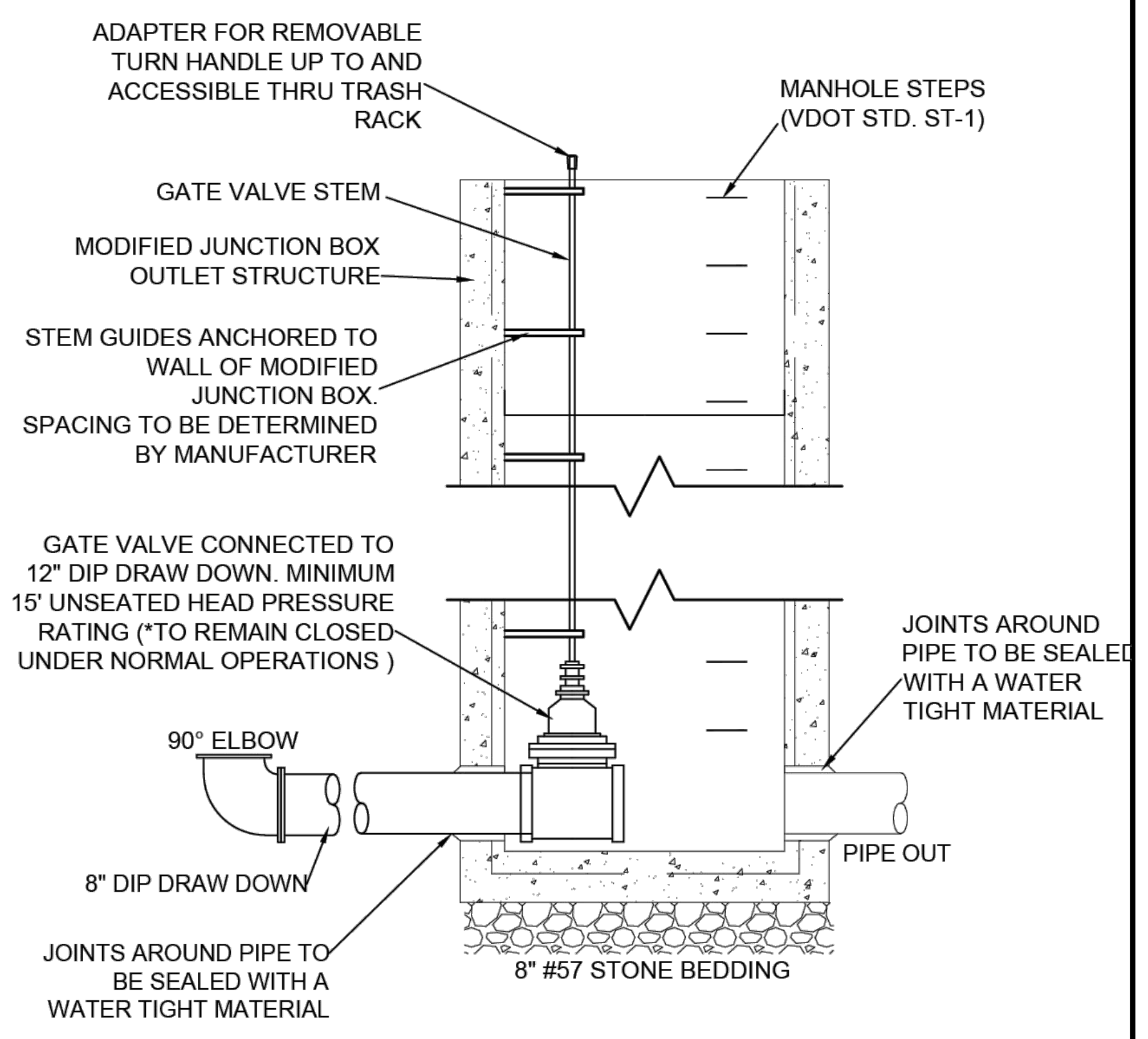
HOST STRUCTURE INSIDE DIMENSIONS
PART NUMBER:__________
TYPE OF PIPE MOUNTING TO:__________
INSIDE DIAMTER OF PIPE:__________

PYRAMID RACKS FOR CONCRETE PIPE

PART NO.	PIPE I.D."	PIPE O.D."	A"	B"	C"
PYD-24	24	30	33 1/2	12 1/2	15 3/4
PYD-36	36	44	43	12 1/2	19 1/4
PYD-48	48	58	57	12 1/2	20 1/4
PYD-60	60	72	68 1/2	12 1/2	20 1/2
PYD-72	72	86	84	18	27 1/2
PYD-84	84	100	94 1/2	18	32 1/2
PYD-96	96	114	113	23	39 1/2

PYRAMID RACKS FOR PLASTIC OR METAL PIPE
(PYDP RACKS HAVE A MINIMUM 3-GRID HIGH RISE TO ACCOMMODATE MOUNTING HDWE.)

PART NO.	CORRUGATED	HDPE	A"	B"	C"
PYDP-24	12,15,18	12,15,18	33 1/2	18	21 1/4
PYDP-36	21,24,27,30	24,30	43	18	24 3/4
PYDP-48	33,36,42	36,42	57	18	25 3/4
PYDP-60	48,54	48	68 1/2	18	26
PYDP-72	60,66	60	84	23 1/2	33
PYDP-84	72,78	N/A	94 1/2	23 1/2	38
PYDP-96	84,90,96	N/A	113	28 1/2	45


ADAPTER FOR REMOVABLE TURN HANDLE UP TO AND ACCESSIBLE THRU TRASH RACK
MANHOLE STEPS (VDOT STD. ST-1)
GATE VALVE STEM
MODIFIED JUNCTION BOX OUTLET STRUCTURE
STEM GUIDES ANCHORED TO WALL OF MODIFIED JUNCTION BOX. SPACING TO BE DETERMINED BY MANUFACTURER
GATE VALVE CONNECTED TO 12" DIP DRAW DOWN. MINIMUM 15' UNSEATED HEAD PRESSURE RATING (*TO REMAIN CLOSED UNDER NORMAL OPERATIONS)
JOINTS AROUND PIPE TO BE SEALED WITH A WATER TIGHT MATERIAL
90° ELBOW
PIPE OUT
8" DIP DRAW DOWN
JOINTS AROUND PIPE TO BE SEALED WITH A WATER TIGHT MATERIAL
8" #57 STONE BEDDING

WET POND DRAIN GATE VALVE IN OUTLET STRUCTURE

N.T.S.

CLINT W. SHIFFLETT
Lic. No. 54380

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DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	N/A

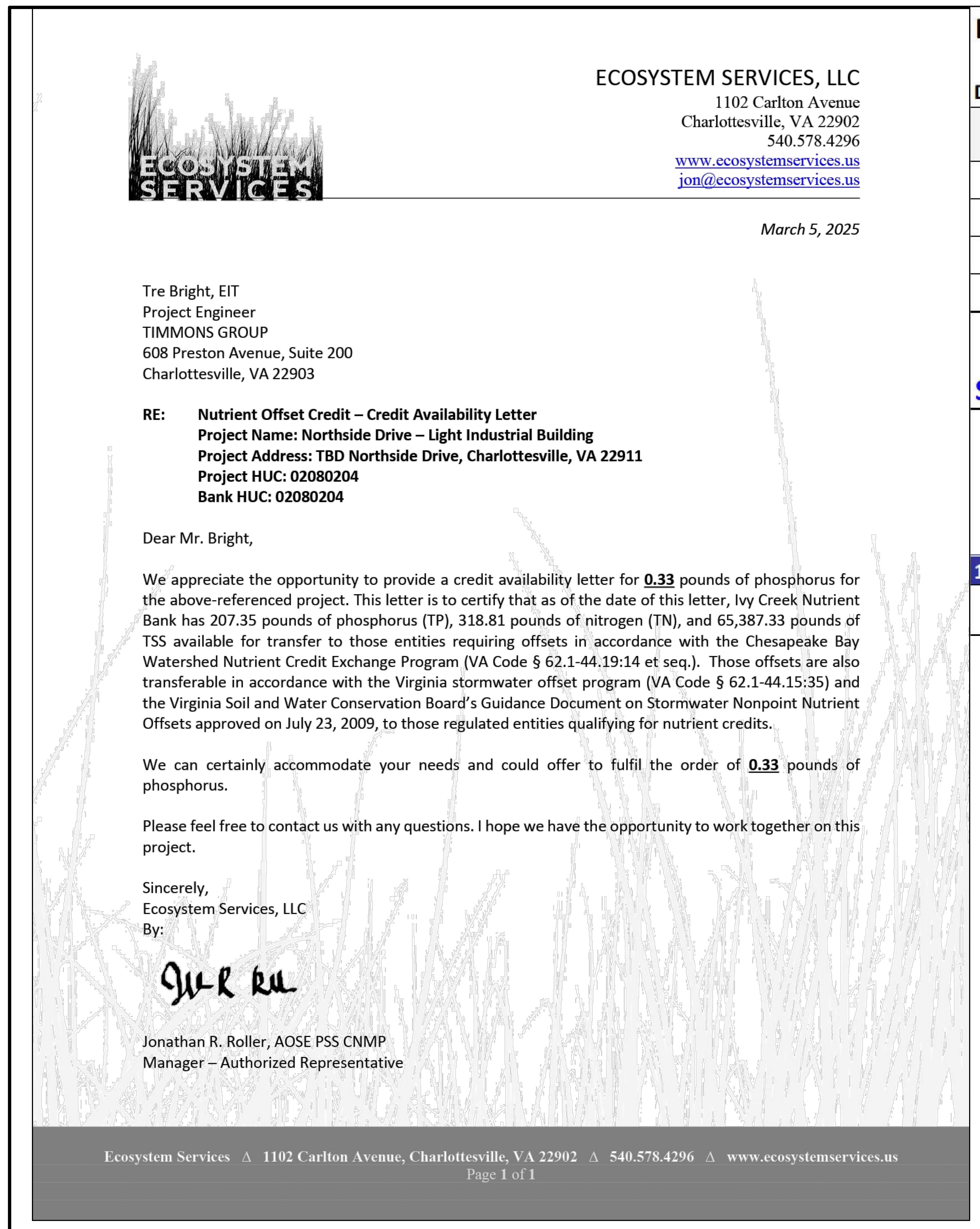
NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

STORMWATER CALCULATIONS AND DETAILS - QUANTITY

JOB NO.	64375
SHEET NO.	C6.3

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C6.0-FACILITY DETAILS.dwg | Plotted on 3/14/2025 11:18 AM | by Tre Bright



ECOSYSTEM SERVICES, LLC
1102 Carlton Avenue
Charlottesville, VA 22902
540.578.4296
www.ecosystemservices.us
jon@ecosystemservices.us

March 5, 2025

Tre Bright, EIT
Project Engineer
TIMMONS GROUP
608 Preston Avenue, Suite 200
Charlottesville, VA 22903

RE: Nutrient Offset Credit – Credit Availability Letter
Project Name: Northside Drive – Light Industrial Building
Project Address: TBD Northside Drive, Charlottesville, VA 22911
Project HUC: 02080204
Bank HUC: 02080204

Dear Mr. Bright,

We appreciate the opportunity to provide a credit availability letter for **0.33** pounds of phosphorus for the above-referenced project. This letter is to certify that as of the date of this letter, Ivy Creek Nutrient Bank has 207.35 pounds of phosphorus (TP), 318.81 pounds of nitrogen (TN), and 65,387.33 pounds of TSS available for transfer to those entities requiring offsets in accordance with the Chesapeake Bay Watershed Nutrient Credit Exchange Program (VA Code § 62.1-44.19:14 et seq.). Those offsets are also transferable in accordance with the Virginia stormwater offset program (VA Code § 62.1-44.15:35) and the Virginia Soil and Water Conservation Board's Guidance Document on Stormwater Nonpoint Nutrient Offsets approved on July 23, 2009, to those regulated entities qualifying for nutrient credits.

We can certainly accommodate your needs and could offer to fulfil the order of **0.33** pounds of phosphorus.

Please feel free to contact us with any questions. I hope we have the opportunity to work together on this project.

Sincerely,
Ecosystem Services, LLC
By:

Jonathan R. Roller, AOSE PSS CNMP
Manager – Authorized Representative

Drainage Area A

VRRM 4.1, 2024

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv	Composite Loading P
Forest (acres)					0.00	0.00	0.00
Mixed Open (acres)					0.00	0.00	0.00
Managed Turf (acres)		0.97	1.30		2.27	0.21	0.72
Impervious Cover (acres)		2.75	1.24		3.99	0.95	0.86
				Total	6.26		

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	5.05
Post Development Treatment Volume in D.A. A (ft^3)	15,502

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Mixed Open Credit Area (acres)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
15. Wet Ponds (no RR)														
15.a. Wet Pond #1 (P-BAS-02)	0		2.27	3.99	0	0	15,502	15,502	50	0.00	5.05	2.52	2.52	

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	5.61
TP LOAD REDUCTION REQUIRED (lb/yr)	2.85
TP LOAD REDUCTION ACHIEVED (lb/yr)	2.52
TP LOAD REMAINING (lb/yr):	3.08
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.33

QUALITY NARRATIVE:

IN THE PRE-DEVELOPED CONDITION THERE ARE 1.40 ACRES OF FOREST, 5.55 ACRES OF MANAGED TURF, AND 0.08 ACRES OF IMPERVIOUS COVER. IN THE POST-DEVELOPED CONDITION THERE ARE 2.96 ACRES OF MANAGED TURF AND 4.07 ACRES OF IMPERVIOUS COVER. PER THE DEQ VIRGINIA RUNOFF REDUCTION SPREADSHEET, THIS DEVELOPMENT REQUIRES 2.85 LBS OF PHOSPHOROUS REMOVAL PER YEAR. **THE TOTAL ON-SITE REDUCTION ACHIEVED VIA A LEVEL 1 WET POND IS 2.52 LBS/YEAR. THE REMAINING 0.33 LBS/ YEAR WILL BE MET BY THE PURCHASE OF AVAILABLE OFFSITE NUTRIENT CREDITS.**

BMP: LEVEL 1 WET POND 1

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Proposed Condition for TR-55

HSG	RCN	Area (ac)	%	RCNxArea
I (Impervious)	98	3.99	64%	391
B (Managed Turf)	61	2.27	36%	138
TOTALS		**6.26**		**62**
RCN =	**62**			

Site Rv

(Rv Coefficients x Land Cover %)

Managed Turf B Soils, Rv = 0.07
Impervious, Rv = 0.61
Rv = 0.68

Treatment Volume, Tv (Spec. No. 14, Table 14.3)

Tv = [{(1.0 in) x (Rv) x (A)} ÷ 12] - volume reduced by upstream BMP

Drainage Area, A =	272,686	sf	
Upstream Volume Treated =		cu ft	*per RRM 3.0 Column E
Treatment Volume, Tv =	**15,408**	**cu ft**	**Required**

Treatment Volume - Stage Storage for Tv

El	Area (sf)	Incr. Volume (cu ft)	Total Volume (cu ft)
460	2,319	0	0
461	3,189	2,742	2,742
462	4,167	3,667	6,410
463	5,229	4,688	11,098
464	6,441	5,824	16,922

Treatment Volume, Tv = 16,922 cu ft Provided

Forebay Volume

Forebay Volume = (0.10 - 0.25 inches per Impv. Acre)
Impervious Area to Wet Pond = 3.99 ac

	[0.10]	[0.25]		
Impervious Runoff / Impervious Acre =	**1,448**	**3,621**	**cu ft**	**Required Range**
Forebay Volume / Treatment Volume =	**2,467**	**15%**		**10%-15%**

Stage Storage for Forebay #1

El	Area (sf)	Incr. Volume (cu ft)	Total Volume (cu ft)
460	50	0	0
461	132	88	88
462	239	183	270
463	365	300	570
464	653	502	1,072

Stage Storage for Forebay #2

El	Area (sf)	Incr. Volume (cu ft)	Total Volume (cu ft)
460	54	0	0
461	146	96	96
462	292	215	311
463	488	386	697
464	931	698	1,395

Total Pond Volume

Pond Bottom Elev. = 460.0'

El	Depth (To Pond Bottom)	Area (sf)	Incr. Volume (cu ft)	Total Volume (cu ft)
464	4.0	6,441	0	0
465	5.0	7,700	7,061	7,061
466	6.0	9,048	8,365	15,426
467	7.0	10,484	9,757	25,183
468	8.0	11,994	11,231	36,414
469	9.0	13,543	12,761	49,174
470	10.0	15,155	14,341	63,516
471	11.0	16,830	15,985	79,501

Total Pond Volume = 79,501 cu ft Provided

Basin Length to Width Ratios

Length to Width Option = 2L:1W

L = Length from inlet to outlet (ft)	L =	107 ft
W = Average Width (ft)	W =	52 ft
L/W ≥ 2 [Required]	L/W ≥	2.1 ft

OK!, Basin L to W Ratio is 2.0 or greater

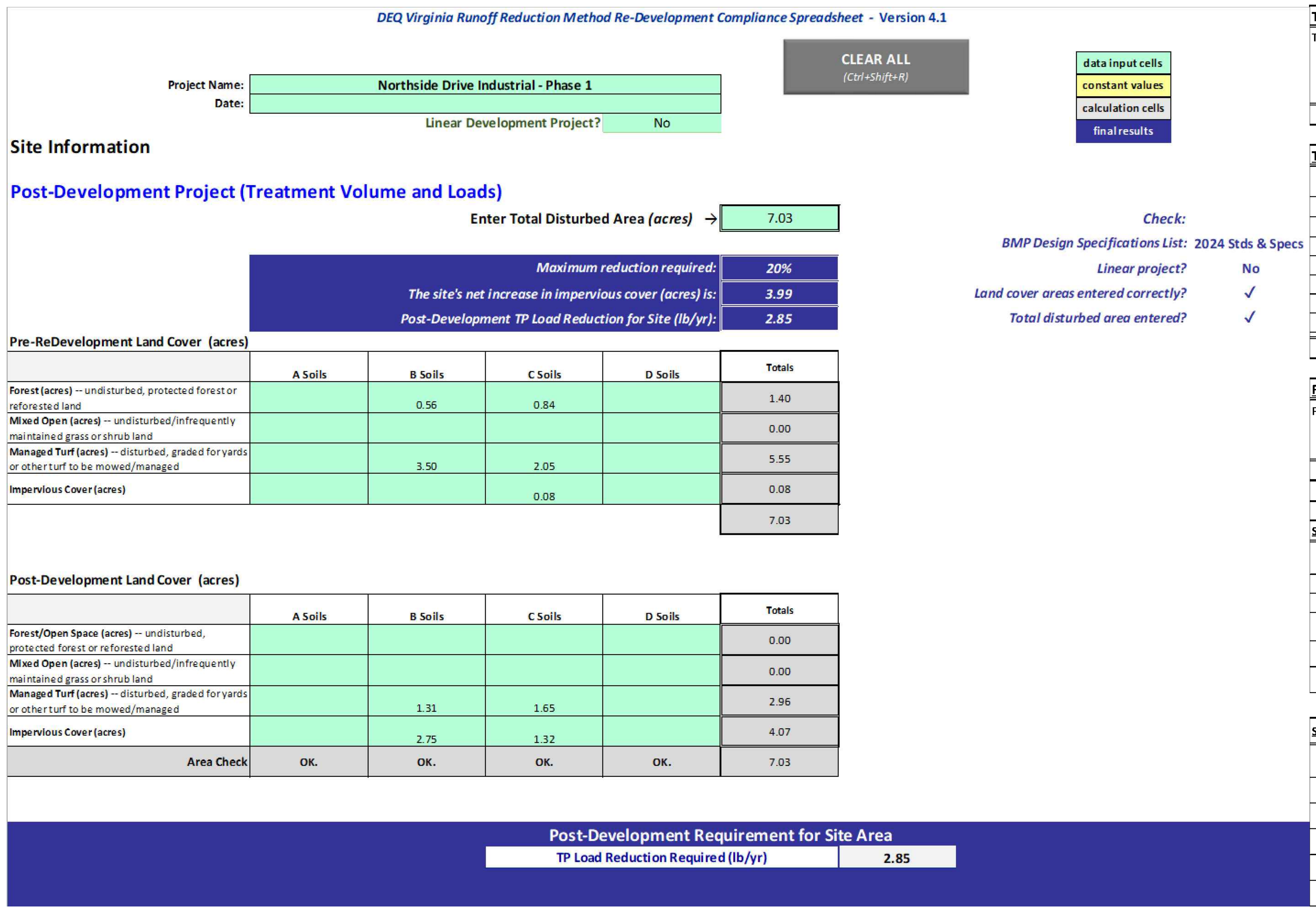
Water Balance Equation

DP > ET + INF + RES -MB

DP: Average design depth of the permanent pool (inches)
ET: Summer evapo-transpiration rate (inches) (assume 8 inches)
INF: Monthly infiltration loss (assume 7.2 @ 0.01 inch/hour)
RES: Reservoir of water for a factor of safety (assume 24 inches)
MB: Measured baseflow rate to the pond, if any (convert to inches)

DP > (8)+(7.2)+(24)-(0)

#REF! > 39.2



DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 4.1

Project Name: Northside Drive Industrial - Phase 1
Date:
Linear Development Project? No

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 7.03

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*3.99*
Post-Development TP Load Reduction for Site (lb/yr):	*2.85*

Check:
BMP Design Specifications List: 2024 Stds & Specs
Linear project? No
Land cover areas entered correctly? ✓
Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest (acres) -- undisturbed, protected forest or reforested land		0.56	0.84		1.40
Mixed Open (acres) -- undisturbed/infrequently maintained grass or shrub land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed		3.50	2.05		5.55
Impervious Cover (acres)			0.08		0.08
					7.03

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest or reforested land					0.00
Mixed Open (acres) -- undisturbed/infrequently maintained grass or shrub land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed		1.31	1.65		2.96
Impervious Cover (acres)		2.75	1.32		4.07
Area Check	**OK.**	**OK.**	**OK.**	**OK.**	7.03

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	2.85

CLINT W. SHIFFLETT
Lic. No. 54380

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DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	N/A

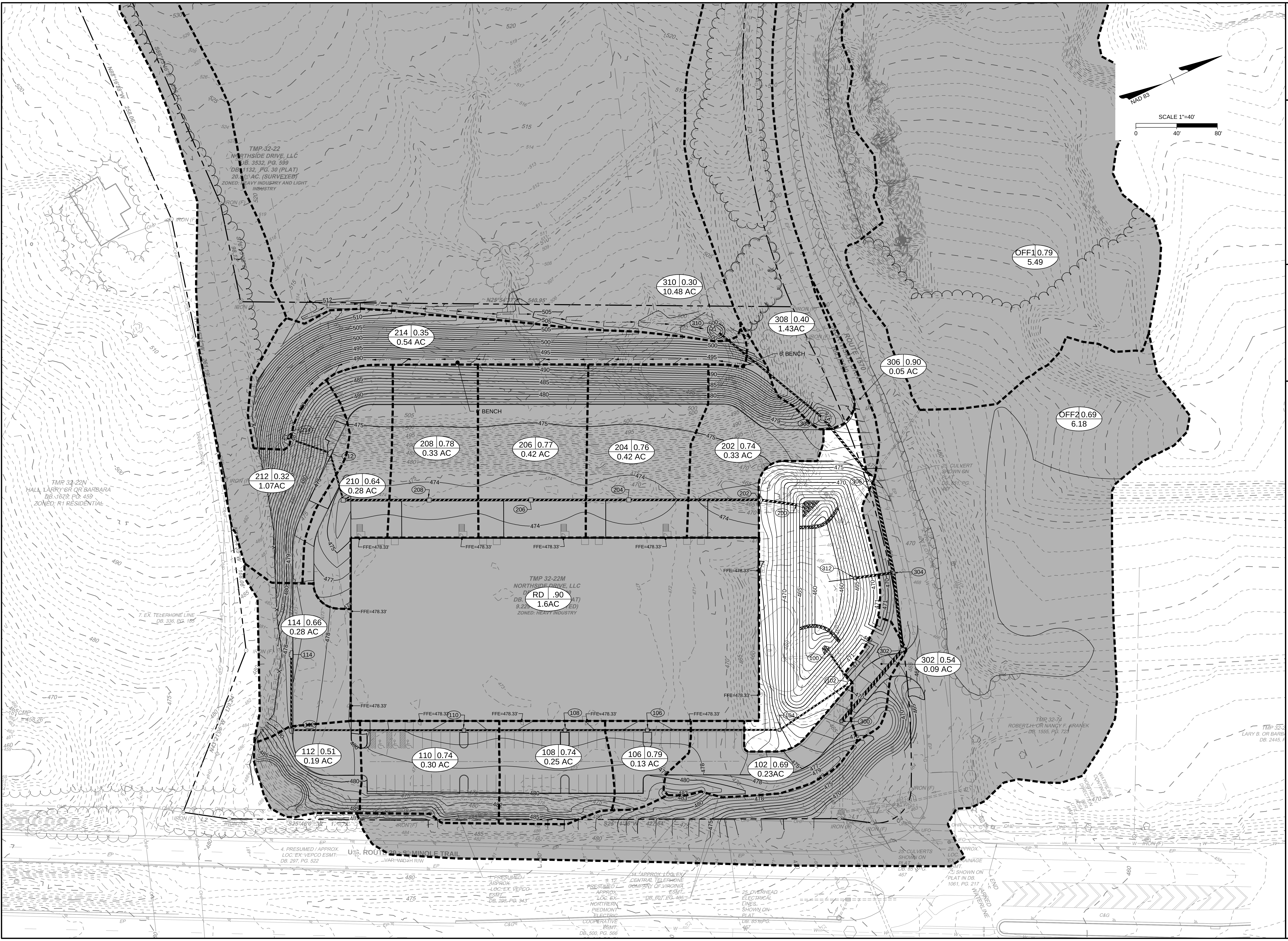
NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

STORMWATER CALCULATIONS AND DETAILS - QUALITY

JOB NO. 64375
SHEET NO. C6.4

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C6.0-SWM QUALITY.dwg | Plotted on 3/14/2025 11:18 AM | by Tre Bright



S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C6.0-HYDR.dwg | Plotted on 3/14/2025 11:19 AM | by Tre Bright

COMMONWEALTH OF VIRGINIA
CLINT SHIFFLETT
Lic. No. 54380
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

THIS DRAWING PREPARED AT THE
CHARLOTTESVILLE OFFICE
608 Preston Avenue, Suite 200 | Charlottesville, VA 22903
TEL 434.295.5624 FAX 434.295.8317 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE
03/14/2025

DRAWN BY
C. TAYLOR

DESIGNED BY
T. BRIGHT

CHECKED BY
C. SHIFFLETT

SCALE
1" = 40'

TIMMONS GROUP

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

INLET DRAINAGE AREA MAP

JOB NO.
64375

SHEET NO.
C6.5

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INLET CALCULATIONS

LD 204 **PROJECT** Route 29 Industrial Site

INLET																													Sag Inlets Only				
NUMBER	TYPE	LENGTH (FT; M)	DRAINAGE AREA (AC; HA)	C	CA	ΣCA	I (IN/HR; mm/HR)	Q INCR (CFS; CMS)	Qc CARRYOVER (CFS; CMS)	QT GUTTER FLOW (CFS; CMS)	S GUTTER SLOPE (FT/FT; M/M)	Sx CROSS SLOPE (FT/FT; M/M)	T (SPREAD) (FT; M)	W (GUTTER WIDTH) (FT; M)	W/T	Sw (GUTTER SLOPE) (FT/FT; M/M)	Sw/Sx	Eo (App. 9C-8)	a	S'w	Se	COMPUTED LENGTH L_T (FT; M)	L, SPECIFIED LENGTH (FT; M)	L/LT	E (App. 9C-18)	Q INTERCEPTED (CFS; CMS) or d/h	Qb CARRYOVER (CFS; CMS)	Depth at Curb (IN; MM)	Allowable Ponding Depth d (FT; M)	Height of Curb Opening h (FT; M)	d/h	Depth at Inlet (IN; MM)	T SPREAD @ SAG (FT; M)
102	DI-3A	6.000	0.071	0.90	0.0639																												
			0.157	0.35	0.05495																												
						0.119	4	0.476	0		0.0100	0.0181	4.047	2.000	0.49419	0.0613	3.38674		3.04														
						0	4	0	0																								
										0.476	0.0100												6			0.476		0.928	0.145	0.333	0.435435	2.928	4.274
106	DI-3A	6.000	0.051	0.90	0.0459																												
			0.021	0.35	0.00735																												
						0.053	4	0.212	0		0.0100	0.0219	1.616	6.000	3.71287	0.0833	3.80365		6.42														
						0	4	0	0																								
										0.212	0.0100												6			0.212		0.541	0.175	0.333	0.525526	2.541	2.060
108	DI-3A	6.000	0.094	0.90	0.0846																												
			0.052	0.35	0.0182																												
						0.103	4	0.412	0		0.0296	0.0435	1.692	2.000	1.18203	0.0833	1.91494		2.96														
						0	4	0	0																								
										0.412	0.0296												6			0.412		0.843	0.348	0.333	1.045045	2.843	1.615
110	DI-3A	6.000	0.150	0.90	0.135																												
			0.082	0.35	0.0287																												
						0.164	4	0.656	0		0.0129	0.0269	3.058	2.000	0.65402	0.0833	3.09665		3.35														
						0	4	0	0																								
										0.656	0.0129												6			0.656		1.150	0.215	0.333	0.645646	3.150	3.562
112	DI-3A	6.000	0.203	0.90	0.1827																												
						0.183	4	0.732	0		0.0050	0.0428	3.721	2.000	0.53749	0.0833	1.94626		2.97														
						0	4	0	0																								
										0.732	0.0050												6			0.732		1.237	0.342	0.333	1.027027	3.237	2.408
114	DI-3A	6.000	0.915	0.90	0.8235																												
						0.824	4	3.296	0	3.296	0.0100	0.0264	8.435	2.000	0.23711	0.0833	3.1553	0.622	3.37	0.1402	0.1137	11.393	6.000	0.527	0.740	2.438	0.858	4.038					
202	DI-3A	6.000	0.038	0.90	0.0342																												
			0.001	0.35	0.00035																												
						0.035	4	0.14	0		0.0186	0.0104	1.232	2.000	1.62338	0.0833	8.00962		3.75														
						0	4	0	0																								
										0.140	0.0186												6			0.140		0.410	0.083	0.333	0.249249	2.410	3.288
204	DI-1	2.000	0.449	0.90	0.4041																												
			0.009	0.25	0.00225																												
						0.406	4	1.624	0		0.001	0.0208	11.846	2.000	0.16883	0.0833	4.00481		3.50														
						0	4	0	0																								
										1.624	0.001			2.000									2			1.624		2.414	0.166			6.413	9.670
206	DI-1	2.000	0.716	0.90	0.6444																												
			0.001	0.35	0.00035																												
						0.645	4	2.58	0		0.001	0.0477	8.714	2.000	0.22952	0.0833	1.74633		2.85														
						0	4	0	0																								
										2.580	0.001			2.000									2			2.580		3.286	0.382			7.286	5.741
208	DI-1	2.000	0.335	0.90	0.3015																												
			0.111	0.35	0.03885																												
						0.34	4	1.36	0		0.0010	0.0506	6.505	2.000	0.30746	0.0833	1.64625		2.78														
						0	4	0	0																								
										1.360	0.0010			2.000									2			1.360		2.144	0.405			6.144	3.532
210	DI-1	2.000	0.082	0.35	0.0287																												
						0.029	4	0.116	0		0.0628	0.0521	0.914	2.000	2.18818	0.0833	1.59885		2.75														
						0	4	0	0																								
										0.116	0.0628			2.000									2			0.116		0.415	0.417			4.415	0.665
212	DI-1	2.000	1.191	0.35	0.41685																												
						0.417	4	1.668	0	1.668	0.0283	0.0208	5.119	2.000	0.3907	0.0833	4.00481	0.878	3.50	0.1458	0.1489	9.947	2.000	0.201	0.884	1.475	0.193	2.778					
214	DI-1	2.000	1.100	0.35	0.385																												
			0.254	0.20	0.0508																												
						0.436	4	1.744	0		0.0250	0.0070	10.472	2.000	0.19099	0.0833	11.9		3.83														
						0	4	0	0																								
										1.744	0.0250			2.000									2			1.744		2.858	0.056			6.858	34.028
216	DI-1	2.000	0.337	0.35	0.11795																												
			0.087	0.20	0.0174																												
						0.135	4	0.54	0		0.0289	0.0080	1.881	2.000	1.06326	0.0833	10.4125		3.81														
						0	4	0	0																								
										0.540	0.0289			2.000									2			0.540		1.308	0.064			5.307	13.627
218	DI-1	2.000	0.244	0.35	0.0854																												
						0.085	4	0.34	0		0.0010	0.0625	3.268	2.000	0.612	0.0833	1.3328		2.50														
						0	4	0	0																								
										0.340	0.0010			2.000									2			0.340		0.961	0.500			4.960	1.281
220	DI-1	2.000	0.233	0.35	0.08155																												
						0.082	4	0.328	0		0.0030	0.0625	2.510	2.000	0.79681	0.0833	1.3328		2.50														
						0	4	0	0																								
										0.328	0.0030			2.000									2			0.328		0.938	0.500			4.937	1.251
306	DI-1	2.000	1.718	0.90	1.5462																												
			0.322	0.35	0.1127																												
			1.400	0.20	0.28																												
						1.939	4	7.756	0		0.0080	0.0600	7.810	2.000	0.25608	0.0833	1.38833		2.56														
						0	4	0	0																								
										7.756	0.0080			2.000									2			7.756		7.730	0.480			11.730	10.737
308	DI-1	2.000	5.653	0.35	1.97855																												
			2.818	0.20	0.5636																												
						2.542	4	10.168	0		0.0200	0.0200	13.996	2.000	0.1429	0.0833	4.165		3.52														
						0	4	0	0																								
										10.168	0.0200			2.000									2			10.168		9.260	0.160			13.259	38.583
310	DI-1	2.000	1.499	0.35	0.52465																												
						0.525	4	2.1	0		0.0010	0.0208	13.882	2.000	0.14407	0.0300	1.44231		2.22														
						0	4	0	0																								
										2.100	0.0010			2.000									2			2.100		3.235	0.166			5.955	12.962
POND		2.000	0.448	0.35	0.1568																												
						0.157	4	0.628	0		0.001	0.0208	7.622	2.000	0.2624	0.0833	4.00481		3.50														
						0	4	0	0																								
										0.628	0.001			2.000									2			0.628		1.447	0.166			5.446	5.796

GRATE INLET CALCULATIONS

INLET	Inlet Type	DRAINAGE AREA (SF)	C	i	Q (cfs)	Total Q (cfs)	DEPTH OF WATER (ft)	DEPTH OF WATER (in)	SUMP DEPTH (in)
204	DI-1	0.42	0.76	6.00	1.90	1.90	0.19	2.3	9.84
206	DI-1	0.42	0.77	6.00	1.93	1.93	0.20	2.4	8.40
208	DI-1	0.33	0.78	6.00	1.55	1.55	0.18	2.1	2.88
210	DI-1	0.28	0.64	6.00	1.08	1.08	< 0.15	< 1.8	19.56
214	DI-1	0.54	0.35	6.00	1.13	1.13	< 0.15	< 1.8	1.32
308	DI-1	1.43	0.40	6.00	3.43	3.43	0.28	3.4	26.50
310	DI-12	10.48	0.30	4.45	13.99	13.99	0.80	9.6	24.00

PIPE CALCULATIONS

HYDRAULIC GRADE LINE ANALYSIS

PROJECT: Northside Drive

INCIDENCE PROBABILITY **10** **Year**

DESIGNED BY: CDT
CHECKED BY:
DATE PRINTED: 3/4/2025

INLET OR JUNCTION	OUTLET WATER SURFACE ELEV.	DIA. PIPE Do (In)	DESIGN DISCH. Qo (CFS)	LENGTH PIPE Lo (Ft)	FRICTION SLOPE, Sfo (FT/FT)	FRICTION LOSS Hf (Ft)	JUNCTION LOSS														FINAL H (Ft)	Inlet Water Surface Elevation	Rim Elev	Comments
							Vo	Ho (Ft)	Qi	Vi	QiVi	Vi*2/2g	Hi	Angle	HΔ	Ht	1.3 Ht	0.5 Ht				
102	465.00	15	4.83	33.52	0.0048	0.16	7.65	0.23	4.05	7.68	31.10	0.92	0.32	90.82	0.64	1.19	0	FALSE	1.35	466.35	470.16	OK -3.82
104	467.14	15	4.05	83.05	0.0034	0.28	7.68	0.23	4.11	5.94	24.45	0.55	0.19	33.97	0.19	0.61	0	TRUE	0.58	467.73	474.90	OK -7.18
106	468.90	15	4.11	129.74	0.0035	0.45	5.94	0.14	3.63	5.77	20.93	0.52	0.18	0.00	0.00	0.32	0	FALSE	0.77	469.67	477.30	OK -7.63
108	470.30	15	3.63	80.74	0.0027	0.22	5.77	0.13	2.71	5.35	14.48	0.44	0.16	0.00	0.00	0.28	0.3699	FALSE	0.59	470.89	477.07	OK -6.18
110	471.21	15	2.71	99.13	0.0015	0.15	5.35	0.11	1.58	4.16	6.57	0.27	0.09	0.00	0.00	0.21	0.26666	FALSE	0.41	471.62	477.22	OK -5.6
112	472.30	15	1.58	169.23	0.0005	0.09	4.16	0.07	1.05	3.71	3.90	0.21	0.07	90.10	0.15	0.29	0.37898	TRUE	0.28	472.57	477.98	OK -5.41
114	474.39	15	1.05	74.12	0.0002	0.02	3.71	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.06943	FALSE	0.09	474.48	477.30	OK -2.83
202	465.60	24	19.50	35.96	0.0063	0.23	11.26	0.49	18.25	8.56	156.28	1.14	0.40	7.69	0.14	1.03	0	TRUE	0.74	466.34	473.97	OK -7.63
204	466.40	24	18.25	128.81	0.0055	0.71	8.56	0.28	16.49	8.39	138.34	1.09	0.38	0.00	0.00	0.67	0	FALSE	1.38	467.78	473.29	OK -5.51
206	467.79	24	16.49	95.89	0.0045	0.43	8.39	0.27	14.68	8.16	119.77	1.03	0.36	0.00	0.00	0.63	0	TRUE	0.75	468.54	473.15	OK -4.61
208	468.85	24	14.68	99.96	0.0036	0.36	8.16	0.26	13.15	7.96	104.64	0.98	0.34	0.00	0.00	0.60	0	FALSE	0.96	469.81	473.61	OK -3.8
210	469.95	24	13.15	84.14	0.0029	0.24	7.96	0.25	3.27	5.62	18.35	0.49	0.17	74.62	0.28	0.70	0	TRUE	0.59	470.54	473.51	OK -2.97
212	470.94	15	3.27	48.03	0.0022	0.10	5.62	0.12	1.16	11.02	12.83	1.89	0.66	55.61	0.99	1.78	2.30762	TRUE	1.26	472.20	474.88	OK -2.69
214	472.57	15	1.16	46.55	0.0003	0.01	11.02	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.61294	TRUE	0.32	472.89	487.69	OK -14.8
302	458.28	36	69.82	92.26	0.0093	0.86	13.90	0.75	69.80	13.90	970.49	3.00	1.05	47.33	1.50	3.30	0	FALSE	4.16	462.44	467.08	OK -4.64
304	462.44	36	69.80	75.99	0.0093	0.71	13.90	0.75	49.67	14.38	714.48	3.21	1.12	88.96	1.98	3.86	0	TRUE	2.64	465.08	468.13	OK -3.05
306	465.08	36	49.67	94.95	0.0047	0.45	14.38	0.80	22.89	11.81	270.32	2.17	0.76	26.22	0.65	2.21	0	TRUE	1.55	466.63	474.51	OK -7.87
308	470.44	24	22.89	76.05	0.0087	0.66	11.81	0.54	18.62	23.94	445.63	8.90	3.11	11.56	1.16	4.81	0	TRUE	3.07	473.51	476.03	OK -2.52
310	473.51	18	18.62	135.13	0.0268	3.62	23.94	2.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.22	2.89162	TRUE	5.06	478.57	498.00	OK -19.43
312	465.08	24	19.68	38.06	0.0076	0.29	13.50	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0	TRUE	0.64	465.72	467.85	OK -2.13

STORM SEWER DESIGN COMPUTATIONS

PROJECT: Northside Drive
LOCATION:
COUNTY: Albemarle

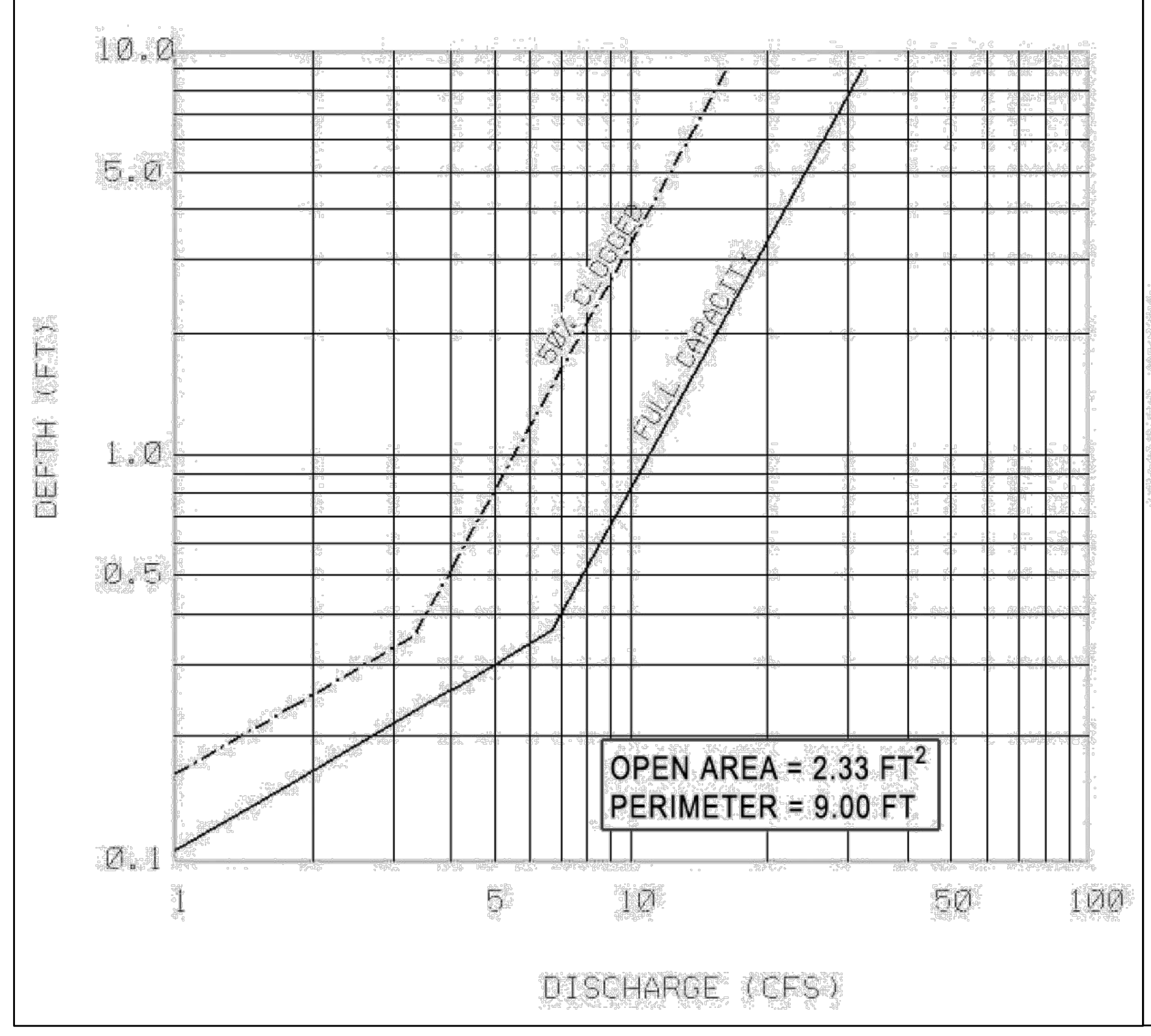
Designed by: CDT
Checked by:
Date Printed: 3/4/2025

STORM FREQUENCY 10-YR

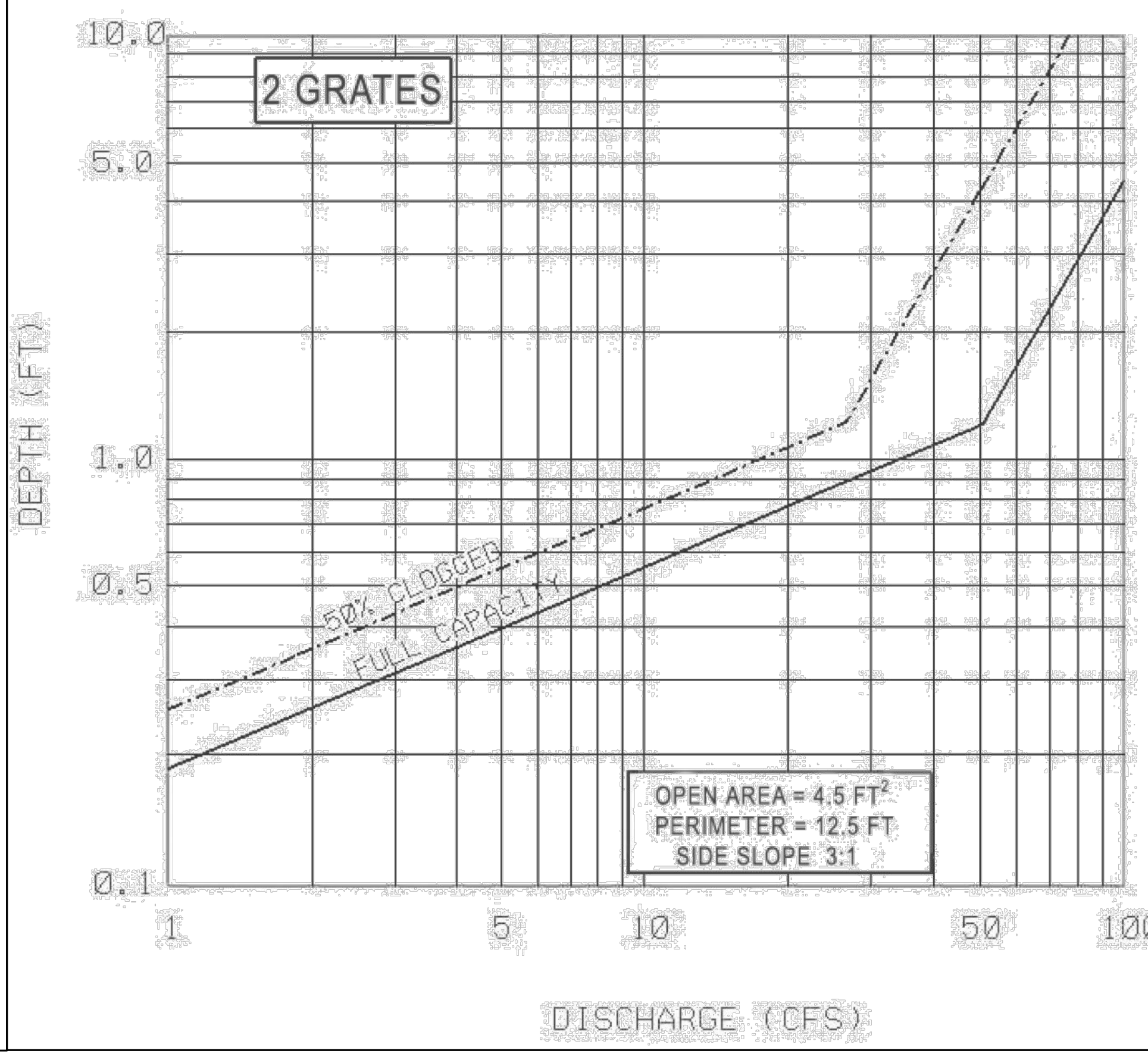
UNITS ENGLISH

PIPE NO	FROM POINT REFERENCE (1)	TO POINT REFERENCE (2)	DRAIN. AREA "A" Acre (3)	RUNOFF COEFF. "C" (4)	CA			TOTAL INLET TIME Minutes (7)	RAIN FALL In/Hr (8)	RUNOFF Q CFS (9)	INVERT ELEVATIONS		LENGTH of Pipe Ft. (12)	SLOPE Ft./Ft. (13)	SIZE (Dia. Or Span/Rise) In. (14)	SHAPE	Capacity CFS (15)	Friction Slope Ft./Ft.	VEL Vn Ft/Sec (16)	FLOW TIME Min. (17)	REMARKS (18)
					INCRE-MENT (5)	ADDTL CA	ACCUM-ULATED (6)				UPPER END (10)	LOWER END (11)									
113	114	112	0.284	0.660	0.187	0.000	0.187	6.000	5.608	1.050	473.946	473.390	74.121	0.008	15.000	Circular	6.059	0.000	3.709	0.333	
111	112	110	0.194	0.510	0.099	0.000	0.286	6.333	5.522	1.579	472.567	471.298	169.225	0.008	15.000	Circular	6.059	0.001	4.161	0.678	
109	110	108	0.296	0.740	0.219	0.000	0.505	7.011	5.356	2.707	471.198	470.206	99.134	0.010	15.000	Circular	6.996	0.001	5.348	0.309	
107	108	106	0.245	0.740	0.182	0.000	0.687	7.320	5.284	3.630	470.106	469.299	80.744	0.010	15.000	Circular	6.996	0.003	5.767	0.233	
105	106	104	0.126	0.790	0.099	0.000	0.786	7.553	5.231	4.114	469.199	467.901	129.743	0.010	15.000	Circular	6.996	0.003	5.944	0.364	
103	104	102	0.000	0.000	0.000	0.000	0.786	7.917	5.151	4.051	467.801	466.140	83.047	0.020	15.000	Circular	9.894	0.003	7.677	0.180	
101	102	100	0.228	0.690	0.157	0.000	0.944	8.097	5.113	4.825	464.590	464.000	33.521	0.018	15.000	Circular	9.282	0.005	7.654	0.073	
213	214	212	0.540	0.350	0.189	0.000	0.189	6.000	6.160	1.164	478.552	471.569	46.552	0.150	15.000	Circular	27.096	0.000	11.021	0.070	
211	212	210	1.067	0.320	0.341	0.000	0.530	6.070	6.160	3.267	470.420	469.940	48.033	0.010	15.000	Circular	6.996	0.002	5.616	0.143	
209	210	208	0.284	0.640	0.182	1.440	2.152	6.213	6.112	13.154	469.187	468.346	84.144	0.010	24.000	Circular	24.505	0.003	7.955	0.176	+ Roof Drain
207	208	206	0.332	0.780	0.259	0.000	2.411	6.389	6.088	14.678	468.246	467.246	99.961	0.010	24.000	Circular	24.505	0.004	8.160	0.204	
205	206	204	0.416	0.770	0.320	0.000	2.731	6.593	6.040	16.494	467.146	466.188	95.885	0.010	24.000	Circular	24.505	0.005	8.387	0.191	
203	204	202	0.415	0.760	0.316	0.000	3.047	6.784	5.992	18.255	466.088	464.799	128.810	0.010	24.000	Circular	24.505	0.006	8.561	0.251	
201	202	200	0.334	0.740	0.247	0.000	3.294	7.035	5.920	19.498	464.700	464.000	35.963	0.019	24.000	Circular	34.188	0.006	11.263	0.053	
309	310	308	10.482	0.300	3.145	0.000	3.145	19.900	5.920	18.617	491.927	471.657	135.134	0.150	18.000	Circular	44.064	0.027	23.937	0.094	
307	308	306	1.427	0.400	0.571	0.000	3.715	6.000	6.160	22.887	470.362	468.841	76.050	0.020	24.000	Circular	34.655	0.009	11.811	0.107	
305	306	304	0.048	0.900	0.043	4.337	8.095	6.107	6.136	49.674	464.279	462.380	94.947	0.020	36.000	Circular	102.187	0.005	14.384	0.110	+ Offsite Area 1
311	312	304	0.000	0.000	0.000	3.325	3.325	0.000	5.920	19.684	459.900	458.500	38.059	0.037	24.000	Circular	43.383	0.008	13.502	0.047	+ Pond Routing
303	304	302	0.000	0.000	0.000	0.000	11.420	6.217	6.112	69.802	458.500	457.360	75.994	0.015	36.000	Circular	88.497	0.009	13.904	0.091	
301	302	300	0.088	0.540	0.048	0.000	11.468	6.308	6.088	69.818	457.260	455.876	92.262	0.015	36.000	Circular	88.497	0.009	13.904	0.111	

Appendix 9C-13 **Performance Curve DI-1 in a Sump**



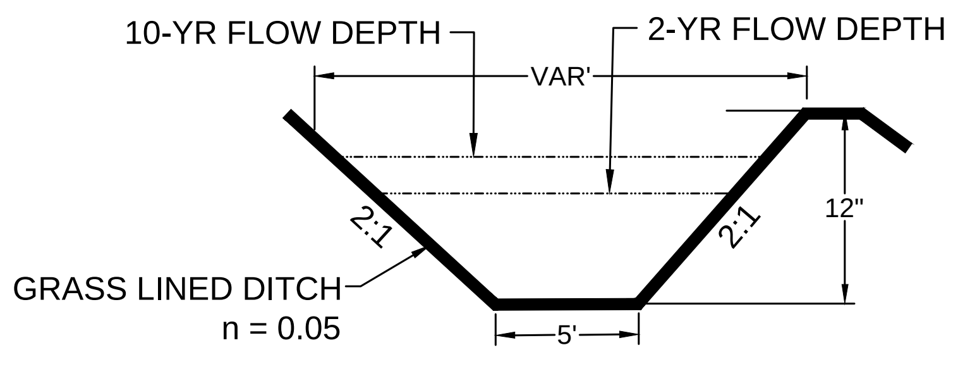
Appendix 9C-15 **Performance Curve DI-12 in a Sump (Side Slope 3:1)**



GRASS CHANNEL CALCULATIONS

DRAINAGE AREA = 10.48 AC C= 0.30
Tc= 19.9 MIN S = 2.7%
I(2) = 3.34 IN/HR Q(2) = 10.50 CFS
I(10) = 4.45 IN/HR Q(10) = 13.99 CFS

V(2) = 2.95 FT/S
V(10) = 3.23 FT/S
D(10) = 8.2" NORMAL DEPTH



TYPICAL SECTION

GRASS CHANNEL - SECTION A

No Scale

COMMONWEALTH OF VIRGINIA
CLINT SHIFFLETT
Lic. No. 54380
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

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REVISION DESCRIPTION

DATE

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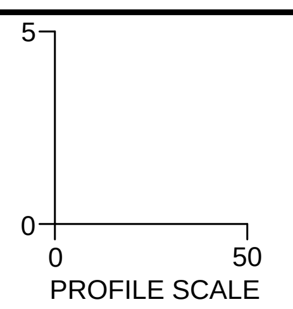
TIMMONS GROUP

DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	
JOB NO.	64375
SHEET NO.	C1.0

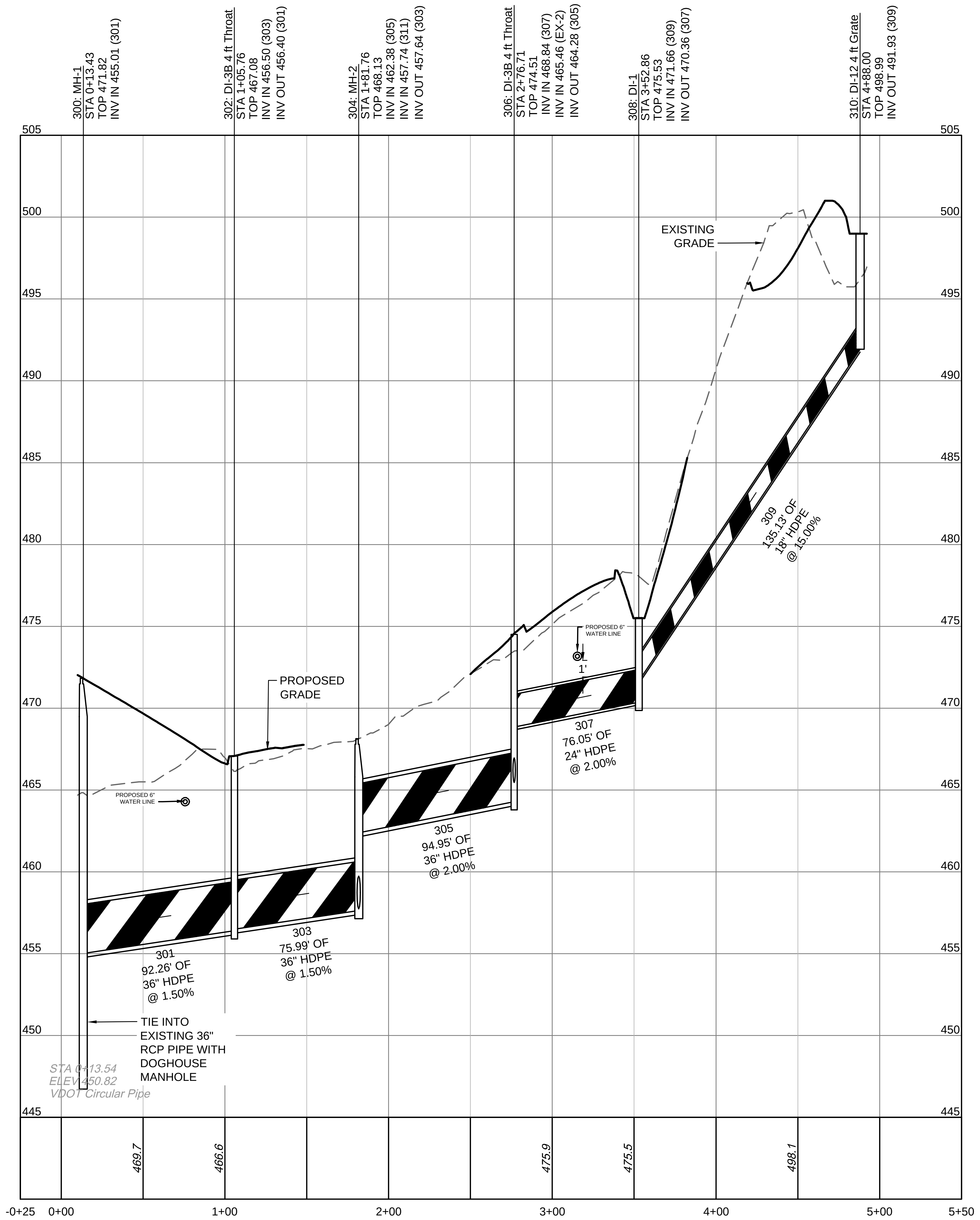
NORTHSIDE DRIVE INDUSTRIAL
COUNTY OF ALBEMARLE, VIRGINIA
NOTES & DETAILS

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C6.6-STRM CALCS.dwg | Plotted on 3/14/2025 11:19 AM | by Tre Bright



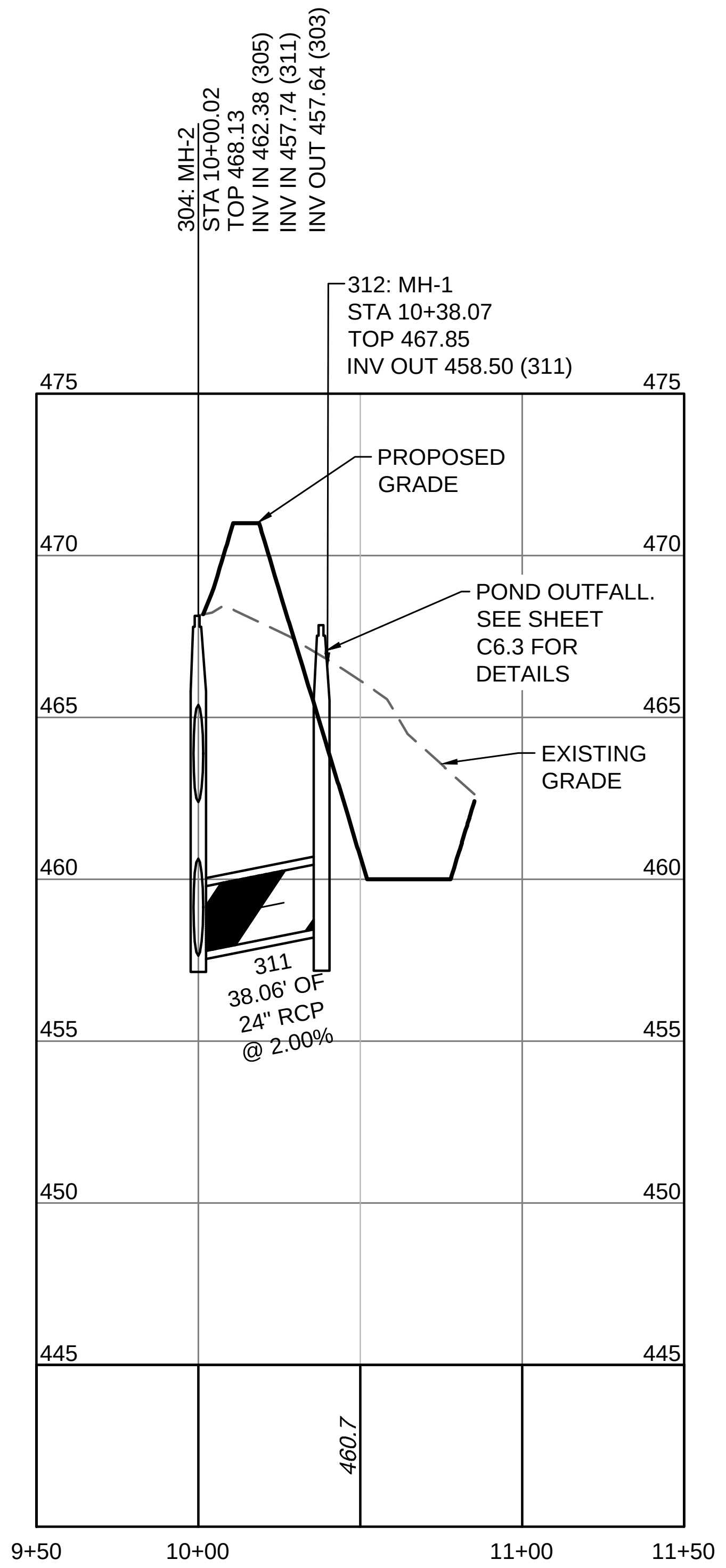
PROFILE SCALE

NOTES:
1. A ½" STEEL PLATE SHALL BE INSTALLED IN THE BOTTOM OF ALL DROP MANHOLES WITH A DROP OF 4' OR GREATER.
2. PROVIDE SAFETY SLABS FOR ALL MANHOLE STRUCTURES WITH HEIGHTS GREATER THAN 12'.
3. CONTRACTOR SHALL PROVIDE VDOT SL-1 AS REQUIRED PER VDOT SPECIFICATIONS. MANHOLES, JUNCTION BOXES, OR DROP INLETS WITH HEIGHTS GREATER THAN 12 FEET SHALL BE CONSIDERED BY THE CONTRACTOR FOR SAFETY SLABS SHALL BE INCLUDED WITH STRUCTURE SUBMITTALS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO ORDER OR FABRICATION.



STRM 300 - 310

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



Pond Outfall

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

CLINT W. SHIFFLETT
Lic. No. 54380

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REVISION DESCRIPTION	DATE

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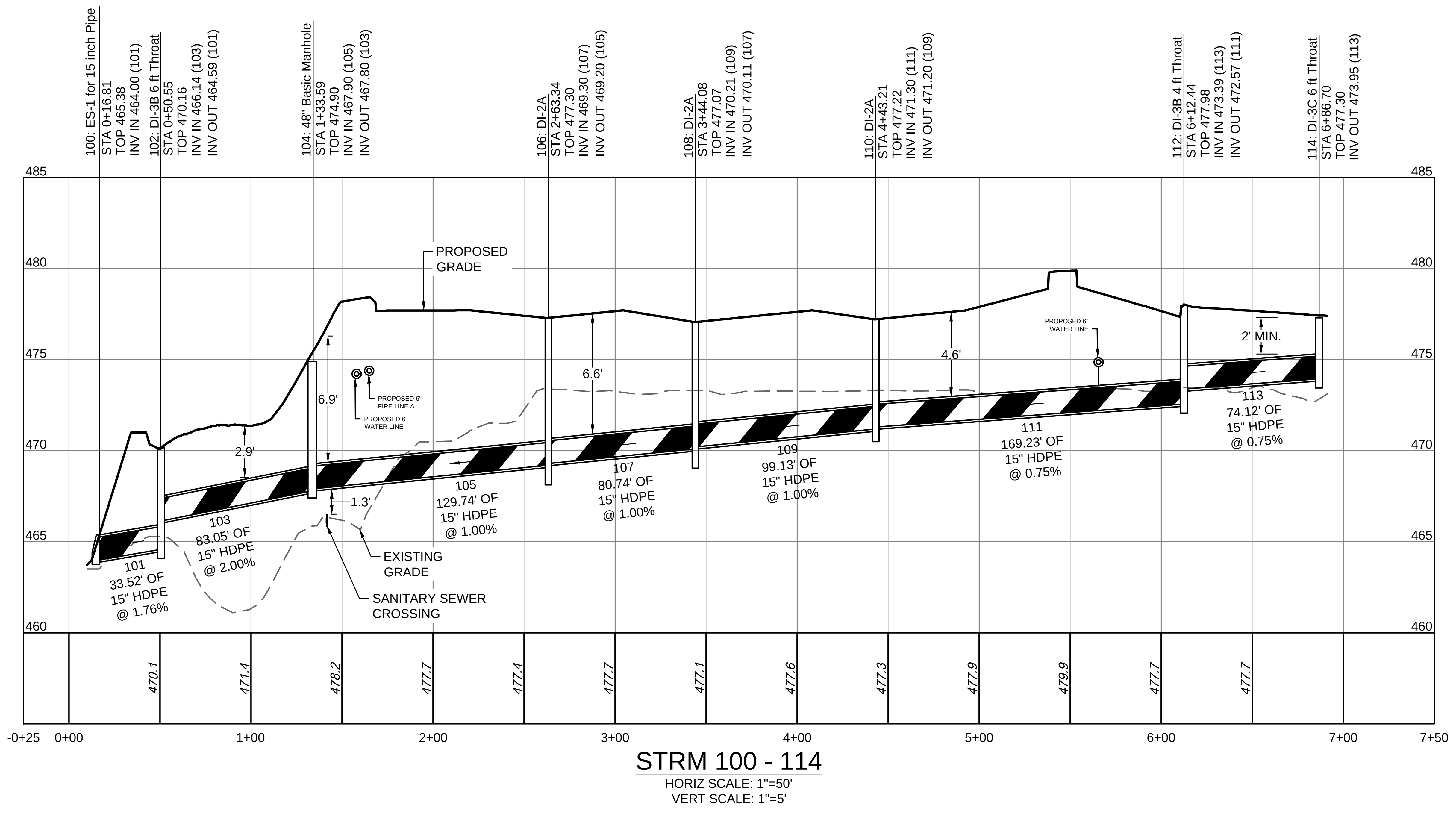
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1" = 30'

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

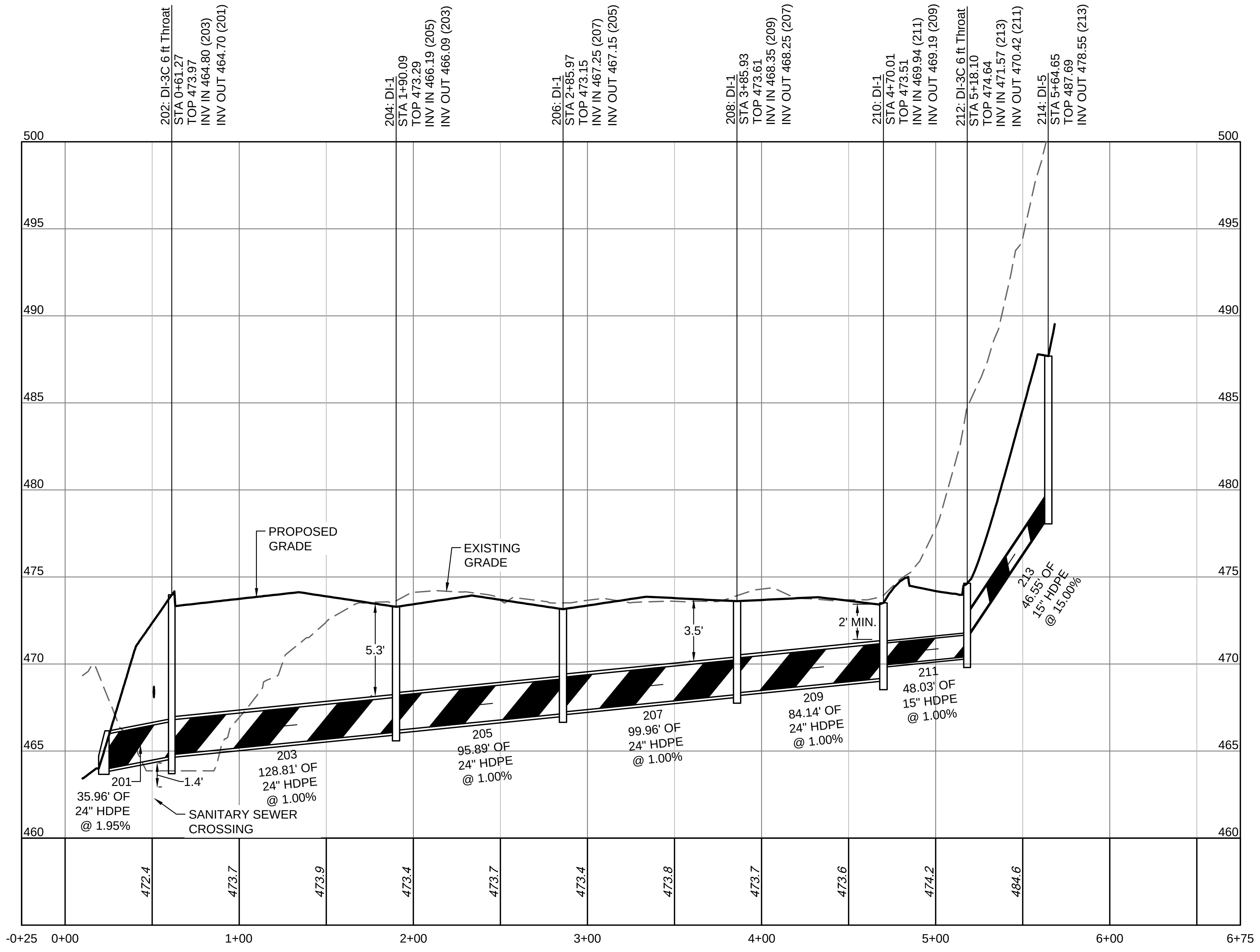
STORM PROFILES

JOB NO.	64375
SHEET NO.	C7.0



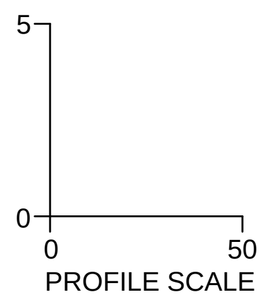
STRM 100 - 114

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



STRM 200 - 214

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



NOTES:

1. A ½" STEEL PLATE SHALL BE INSTALLED IN THE BOTTOM OF ALL DROP MANHOLES WITH A DROP OF 4' OR GREATER.
2. PROVIDE SAFETY SLABS FOR ALL MANHOLE STRUCTURES WITH HEIGHTS GREATER THAN 12'.
3. CONTRACTOR SHALL PROVIDE VDOT SL-1 AS REQUIRED PER VDOT SPECIFICATIONS. MANHOLES, JUNCTION BOXES, OR DROP INLETS WITH HEIGHTS GREATER THAN 12 FEET SHALL BE CONSIDERED BY THE CONTRACTOR FOR SAFETY SLABS SHALL BE INCLUDED WITH STRUCTURE SUBMITTALS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO ORDER OR FABRICATION.

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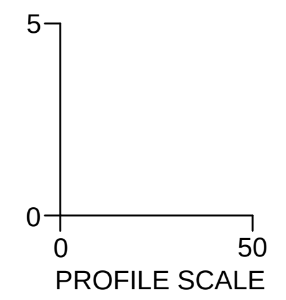
NORTHSIDE DRIVE INDUSTRIAL

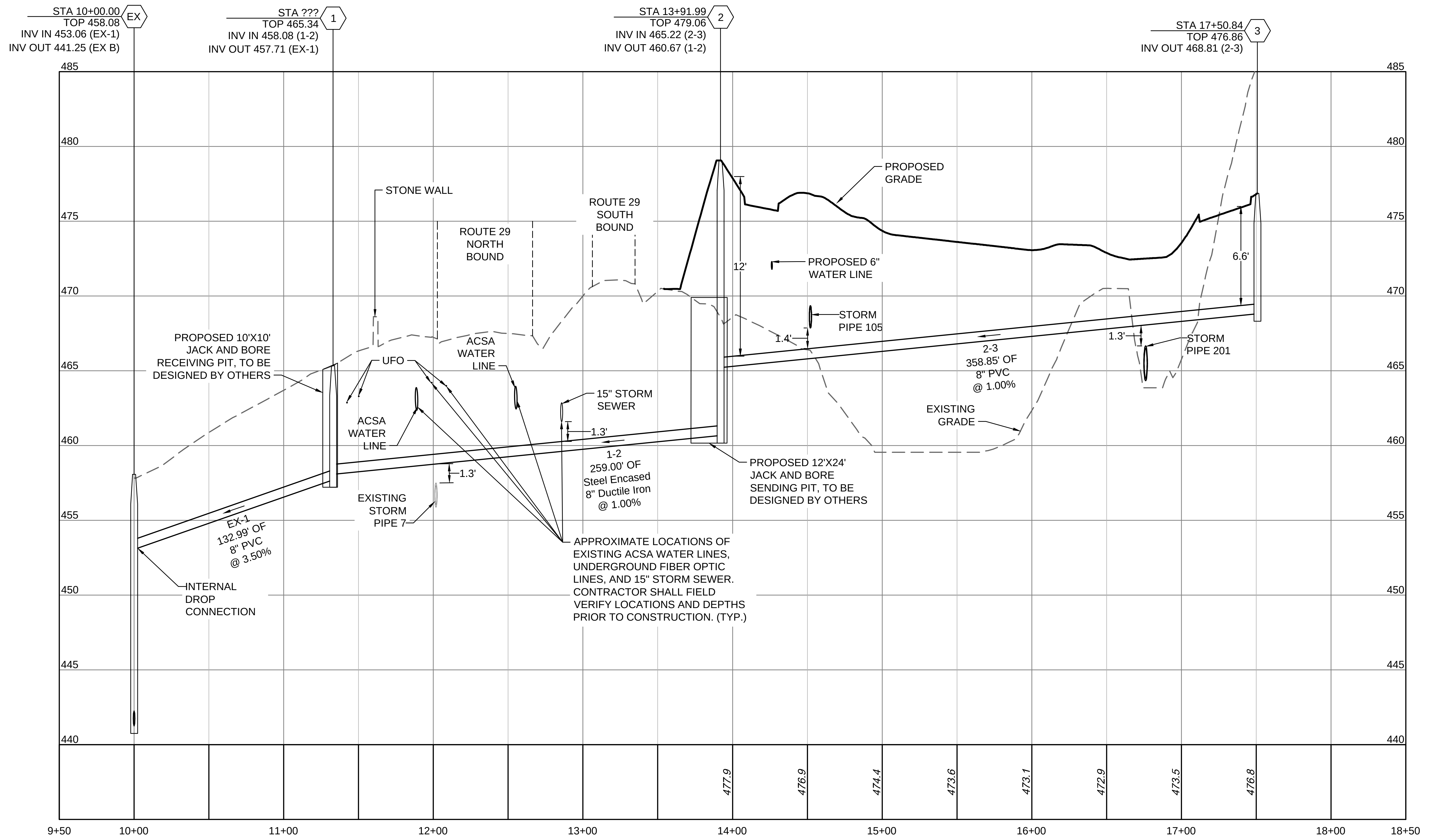
COUNTY OF ALBEMARLE, VIRGINIA

STORM PROFILES

DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	1" = 30'
JOB NO.	64375
SHEET NO.	C7.0

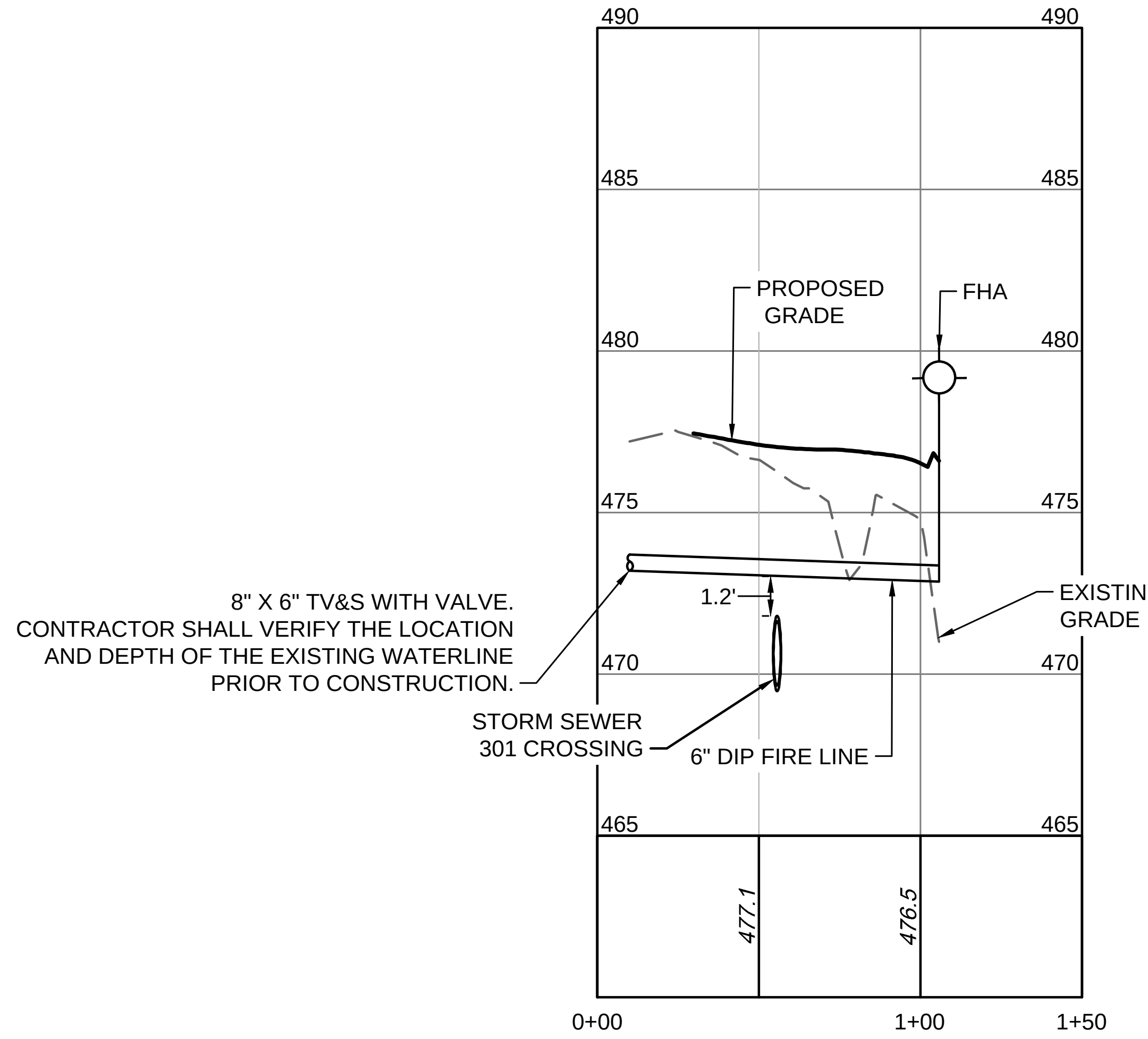
NOTES:
1. PROVIDE SAFETY SLABS FOR ALL MANHOLE STRUCTURES WITH HEIGHTS GREATER THAN 12'.
2. CONTRACTOR SHALL PROVIDE VDOT SL-1 AS REQUIRED PER VDOT SPECIFICATIONS. MANHOLES, JUNCTION BOXES, OR DROP INLETS WITH HEIGHTS GREATER THAN 12 FEET SHALL BE CONSIDERED BY THE CONTRACTOR FOR SAFETY SLABS SHAALL BE INCLUDED WITH STRUCTURE SUBMITTALS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO ORDER OR FABRICATION.
3. ALL HORIZONTAL AND VERTICAL BENDS IN WATER MAIN AND FITTINGS SHALL BE RESTRAINED PER ACSA SPECIFICATIONS.





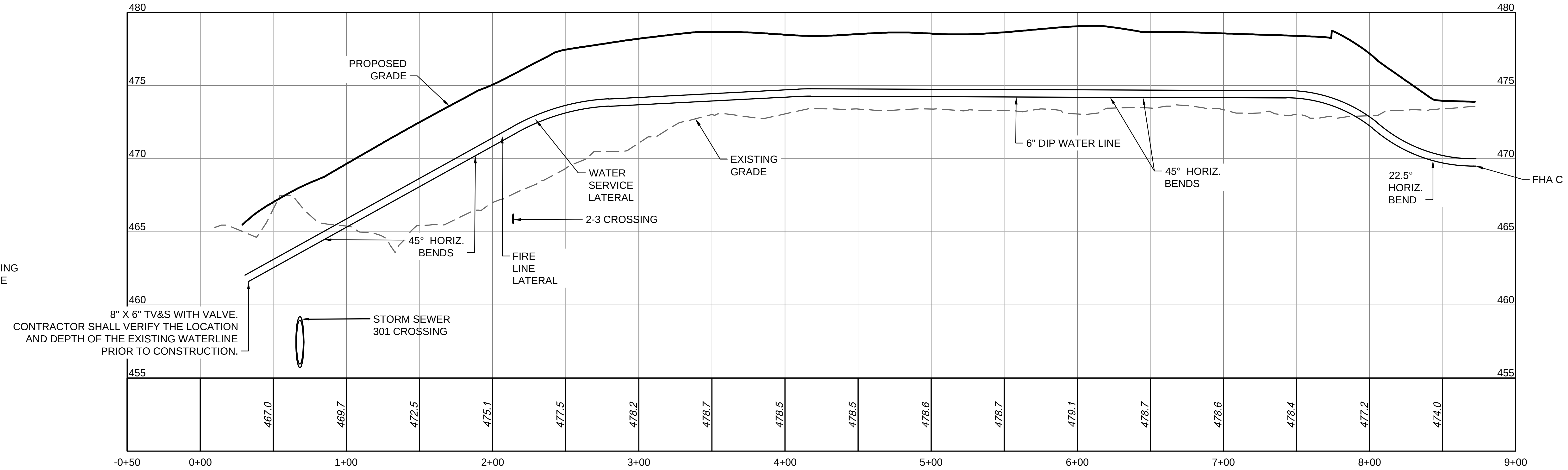
SANITARY SEWER PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'


490
485
480
475
470
465
PROPOSED GRADE
FHA
8" X 6" TV&S WITH VALVE. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE EXISTING WATERLINE PRIOR TO CONSTRUCTION.
1.2'
EXISTING GRADE
STORM SEWER 301 CROSSING
6" DIP FIRE LINE
477.1
476.5
0+00
1+00
1+50

WATR-2 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



WATR-1 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

COMMONWEALTH OF VIRGINIA
CLINT W. SHIFFLETT
Lic. No. 54380
PROFESSIONAL ENGINEER
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DATE	03/14/2025
DRAWN BY	C. TAYLOR
DESIGNED BY	T. BRIGHT
CHECKED BY	C. SHIFFLETT
SCALE	AS SHOWN

NORTHSIDE DRIVE INDUSTRIAL

COUNTY OF ALBEMARLE, VIRGINIA

UTILITY PROFILES

JOB NO.
64375

SHEET NO.
C7.2

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-C7.3-UTPR.dwg | Plotted on 3/14/2025 11:20 AM | by Tre Bright

CONCEPT PLANT KEY

CANOPY TREE- BUFFER
ACER RUBRUM / RED MAPLE
ACER RUBRUM 'OCTOBER GLORY' / OCTOBER GLORY RED MAPLE
BETULA NIGRA `DURAHEAT` / DURAHEAT RIVER BIRCH
GYMNOCLADUS DIOICA 'ESPRESSO' / KENTUCKY COFFEETREE
QUERCUS PALUSTRIS / PIN OAK

CANOPY TREES- PARKING
NYSSA SYLVATICA 'WILDFIRE' / WILDFIRE TUPELO
QUERCUS COCCINEA / SCARLET OAK
QUERCUS PHELLOS / WILLOW OAK
TILIA AMERICANA `REDMOND` / REDMOND AMERICAN LINDEN
ULMUS AMERICANA 'JEFFERSON' / JEFFERSON AMERICAN ELM

UNDERSTORY TREE
AMELANCHIER CANADENSIS 'GLENNFORM' / RAINBOW PILLAR® CANADIAN SERVICEBERRY
CERCIS CANADENSIS 'FOREST PANSY' / FOREST PANSY EASTERN REDBUD
CORNUS FLORIDA 'CHEROKEE BRAVE' / CHEROKEE BRAVE DOGWOOD
CRATAEGUS VIRIDIS 'WINTER KING' / WINTER KING HAWTHORN
MAGNOLIA VIRGINIANA 'MOON GLOW' / SWEET BAY

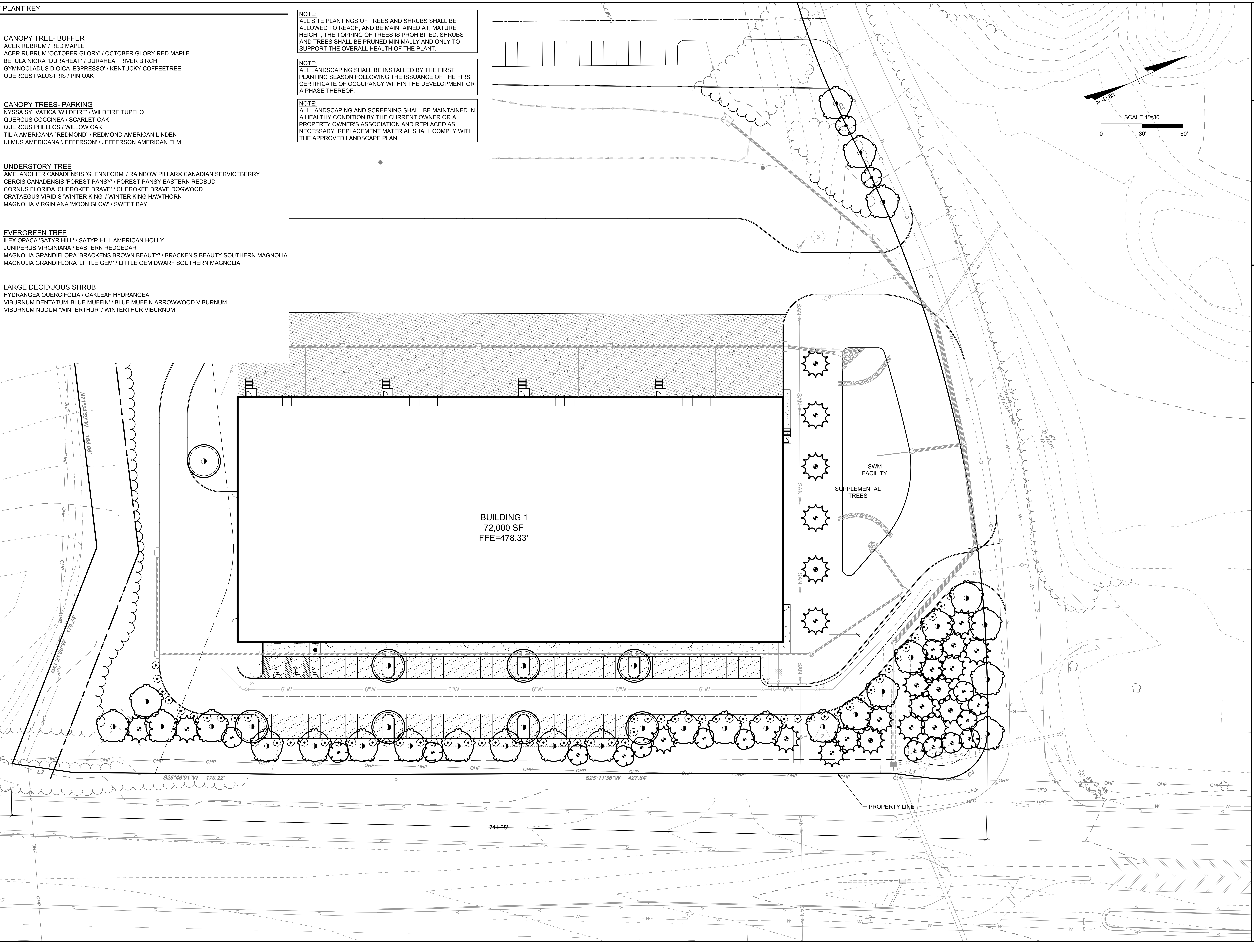
EVERGREEN TREE
ILEX OPACA 'SATYR HILL' / SATYR HILL AMERICAN HOLLY
JUNIPERUS VIRGINIANA / EASTERN REDCEDAR
MAGNOLIA GRANDIFLORA 'BRACKENS BROWN BEAUTY' / BRACKEN'S BEAUTY SOUTHERN MAGNOLIA
MAGNOLIA GRANDIFLORA 'LITTLE GEM' / LITTLE GEM DWARF SOUTHERN MAGNOLIA

LARGE DECIDUOUS SHRUB
HYDRANGEA QUERCIFOLIA / OAKLEAF HYDRANGEA
VIBURNUM DENTATUM 'BLUE MUFFIN' / BLUE MUFFIN ARROWWOOD VIBURNUM
VIBURNUM NUDUM 'WINTERTHUR' / WINTERTHUR VIBURNUM

NOTE:
ALL SITE PLANTINGS OF TREES AND SHRUBS SHALL BE ALLOWED TO REACH, AND BE MAINTAINED AT, MATURE HEIGHT; THE TOPPING OF TREES IS PROHIBITED. SHRUBS AND TREES SHALL BE PRUNED MINIMALLY AND ONLY TO SUPPORT THE OVERALL HEALTH OF THE PLANT.

NOTE:
ALL LANDSCAPING SHALL BE INSTALLED BY THE FIRST PLANTING SEASON FOLLOWING THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY WITHIN THE DEVELOPMENT OR A PHASE THEREOF.

NOTE:
ALL LANDSCAPING AND SCREENING SHALL BE MAINTAINED IN A HEALTHY CONDITION BY THE CURRENT OWNER OR A PROPERTY OWNER'S ASSOCIATION AND REPLACED AS NECESSARY. REPLACEMENT MATERIAL SHALL COMPLY WITH THE APPROVED LANDSCAPE PLAN.



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DATE	REVISION DESCRIPTION

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E. ESPINO
DESIGNED BY
E. ESPINO
CHECKED BY
C. OLDAKER
SCALE

TIMMONS GROUP

ROUTE 29 INDUSTRIAL SITE

COUNTY OF ALBEMARLE, VIRGINIA

LANDSCAPE PLAN

JOB NO.
64375
SHEET NO.
L1.0

CONCEPT PLANT SCHEDULE

<u>CANOPY TREE- BUFFER</u>	29	
ACER RUBRUM / RED MAPLE		2.5" CAL., B&B, BUFFER PLANTINGS
ACER RUBRUM 'OCTOBER GLORY' / OCTOBER GLORY RED MAPLE		2.5" CAL., B&B
BETULA NIGRA `DURAHEAT` / DURAHEAT RIVER BIRCH		6` HT., B&B OR CONTAINER
GYMNOCLADUS DIOICA 'ESPRESSO' / KENTUCKY COFFEETREE		2.5" CAL., B&B
QUERCUS PALUSTRIS / PIN OAK		2.5" CAL., B&B
<u>CANOPY TREES- PARKING</u>	7	
NYSSA SYLVATICA 'WILDFIRE' / WILDFIRE TUPELO		2.5" CAL., B&B
QUERCUS COCCINEA / SCARLET OAK		2.5" CAL., B&B
QUERCUS PHELLOS / WILLOW OAK		2.5" CAL., B&B
TILIA AMERICANA `REDMOND` / REDMOND AMERICAN LINDEN		2.5" CAL., B&B
ULMUS AMERICANA 'JEFFERSON' / JEFFERSON AMERICAN ELM		2.5" CAL., B&B
<u>UNDERSTORY TREE</u>	16	
AMELANCHIER CANADENSIS 'GLENNFORM' / RAINBOW PILLAR® CANADIAN SERVICEBERRY		6` HT., B&B OR CONTAINER
CERCIS CANADENSIS 'FOREST PANSY' / FOREST PANSY EASTERN REDBUD		1.5" CAL., B&B OR CONTAINER
CORNUS FLORIDA 'CHEROKEE BRAVE' / CHEROKEE BRAVE DOGWOOD		2" CAL., B&B OR CONTAINER
CRATAEGUS VIRIDIS 'WINTER KING' / WINTER KING HAWTHORN		2" CAL., B&B
MAGNOLIA VIRGINIANA 'MOON GLOW' / SWEET BAY		2" CAL., B&B
<u>EVERGREEN TREE</u>	16	
ILEX OPACA 'SATYR HILL' / SATYR HILL AMERICAN HOLLY		6` HT., B&B OR CONTAINER
JUNIPERUS VIRGINIANA / EASTERN REDCEDAR		6` HT., B&B OR CONTAINER
MAGNOLIA GRANDIFLORA 'BRACKENS BROWN BEAUTY' / BRACKEN'S BEAUTY SOUTHERN MAGNOLIA		6` HT., B&B
MAGNOLIA GRANDIFLORA 'LITTLE GEM' / LITTLE GEM DWARF SOUTHERN MAGNOLIA		6` HT., B&B
<u>LARGE DECIDUOUS SHRUB</u>	63	
HYDRANGEA QUERCIFOLIA / OAKLEAF HYDRANGEA		24" HT./SPRD., CONTAINER
VIBURNUM DENTATUM 'BLUE MUFFIN' / BLUE MUFFIN ARROWWOOD VIBURNUM		24" HT./SPRD., CONTAINER
VIBURNUM NUDUM 'WINTERTHUR' / WINTERTHUR VIBURNUM		24" HT./SPRD., CONTAINER

LANDSCAPING ALONG THE FRONTAGE OF E.C. STREETS

*** PER ALBEMARLE COUNTY ARB DESIGN GUIDELINES**

STREET	LENGTH	REQUIREMENTS	CALCULATIONS	REQUIRED	PROVIDED
U.S. ROUTE 29 - SEMINOLE TRAIL	714.69 LF	1 LG TREE PER 35 LF WITH INTERSPERSED FLOWERING TREES	660/35 = 20.42	21 TREES	<u>21 LRG. SHADE TREES</u> <u>2 FLOWERING ORNAMENTAL TREES</u>

LANDSCAPING ALONG THE INTERIOR OF STREETS

*** PER ALBEMARLE COUNTY ARB DESIGN GUIDELINES 34(a)**

STREET	FRONTAGE	REQUIREMENTS	CALCULATIONS	REQUIRED	PROVIDED	SUPPLEMENTAL TREES
ROUTE 1570 NORTHSIDE DR.	492.32 LF - EGRESS = <u>419.54 LF</u>	1 LARGE SHADE TREE PER 40 LF OF STREET FRONTAGE	418.32LF/ 40LF = 10.48 = <u>11 TREES</u>	11 LRG. SHADE TREES	<u>6</u> LRG. SHADE TREES <u>3</u> FLOWERING ORNAMENTAL TREES	<u>6</u> EVERGREEN TREES PROVIDED IN PLACE OF 5 LARGE SHADE TREES DUE TO UTILITY AND STORM INFRASTRUCTURE CONFLICTS

LANDSCAPING OF PARKING AREAS

*** PER ALBEMARLE COUNTY ARB DESIGN GUIDELINES 35(a)**

REQUIREMENTS	PARKING SPACES	CALCULATIONS	REQUIRED	PROVIDED	
1 LARGE SHADE TREE PER FOR EVERY<u>10</u> PARKING SPACES	68 SPACES	68 ÷ 10 = 6.8	<u>7</u> LRG. SHADE TREES	<u>6</u> LRG. SHADE TREES	-1 LARGE SHADE TREES DUE TO UTILITY AND STORM INFRASTRUCTURE CONFLICTS

<u>NOTE:</u>
ALL SITE PLANTINGS OF TREES AND SHRUBS SHALL BE ALLOWED TO REACH, AND BE MAINTAINED AT, MATURE HEIGHT; THE TOPPING OF TREES IS PROHIBITED. SHRUBS AND TREES SHALL BE PRUNED MINIMALLY AND ONLY TO SUPPORT THE OVERALL HEALTH OF THE PLANT.

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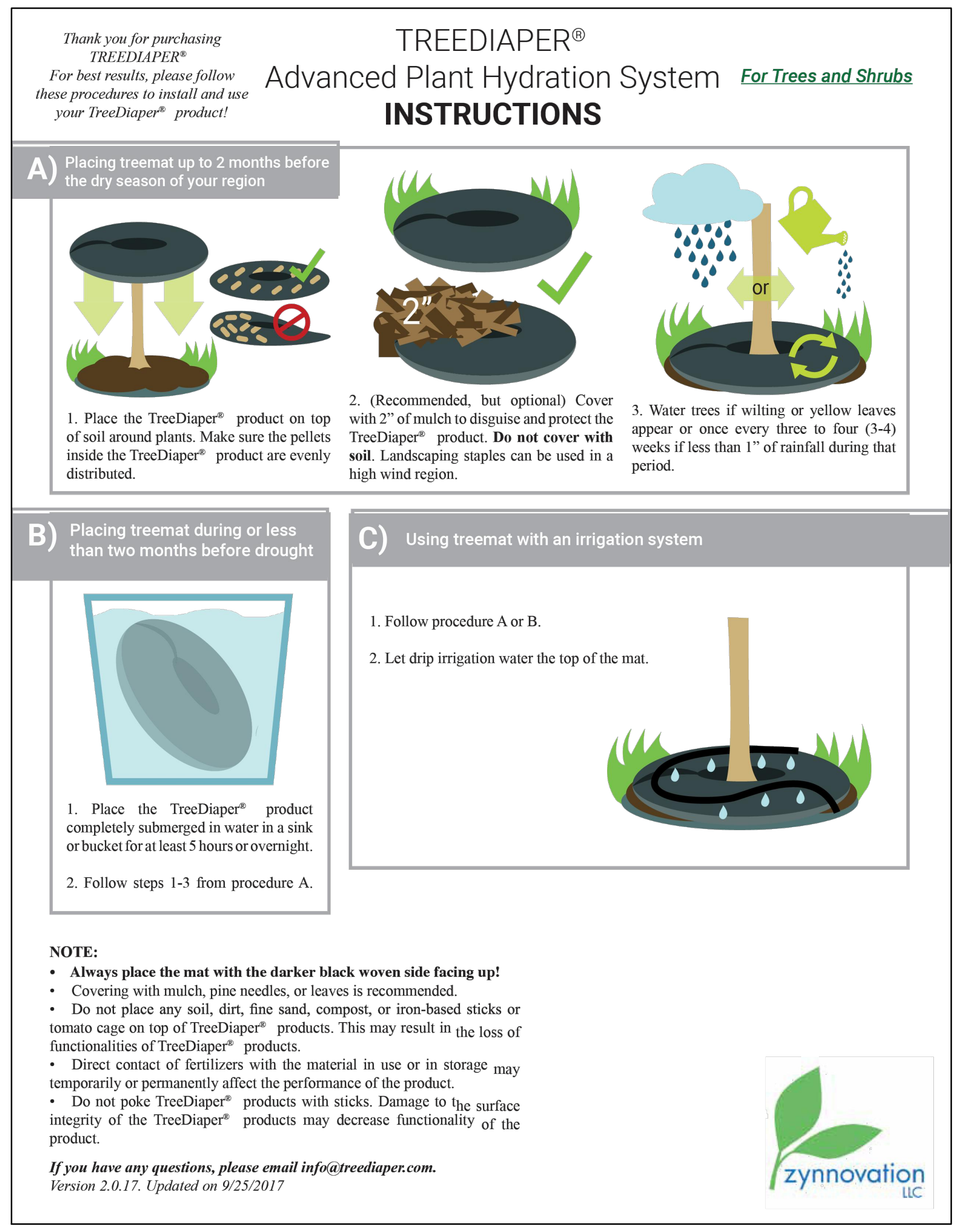


Thank you for purchasing TREEDIAPER® For best results, please follow these procedures to install and use your TreeDiaper® product!

TREEDIAPER®
Advanced Plant Hydration System
INSTRUCTIONS

For Trees and Shrubs

A) Placing treemat up to 2 months before the dry season of your region

1. Place the TreeDiaper® product on top of soil around plants. Make sure the pellets inside the TreeDiaper® product are evenly distributed.
2. (Recommended, but optional) Cover with 2" of mulch to disguise and protect the TreeDiaper® product. **Do not cover with soil**. Landscaping staples can be used in a high wind region.
3. Water trees if wilting or yellow leaves appear or once every three to four (3-4) weeks if less than 1" of rainfall during that period.

B) Placing treemat during or less than two months before drought

1. Place the TreeDiaper® product completely submerged in water in a sink or bucket for at least 5 hours or overnight.
2. Follow steps 1-3 from procedure A.

C) Using treemat with an irrigation system

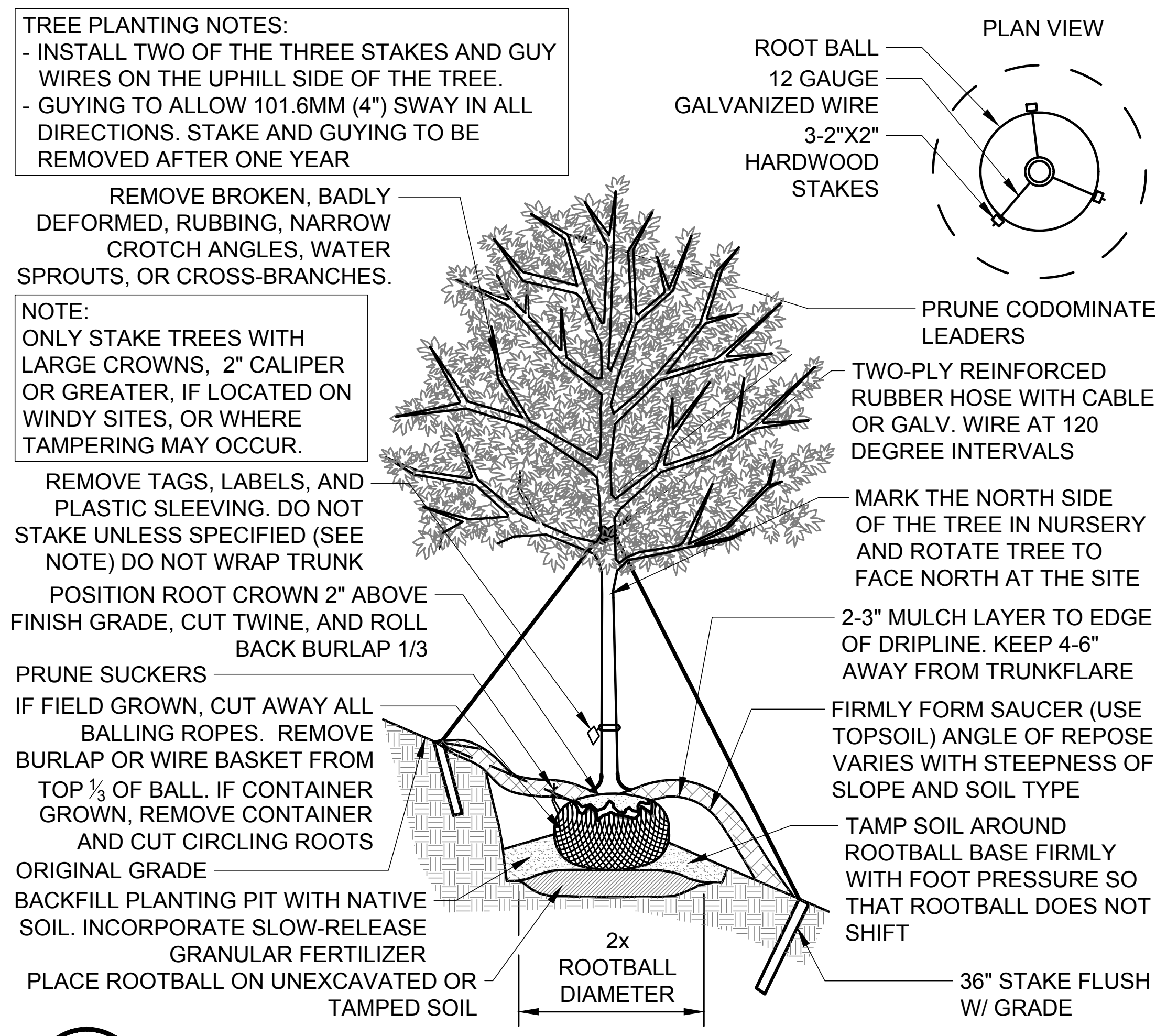
1. Follow procedure A or B.
2. Let drip irrigation water the top of the mat.

NOTE:
- **Always place the mat with the darker black woven side facing up!**
- Covering with mulch, pine needles, or leaves is recommended.
- Do not place any soil, dirt, fine sand, compost, or iron-based sticks or tomato cage on top of TreeDiaper® products. This may result in the loss of functionalities of TreeDiaper® products.
- Direct contact of fertilizers with the material in use or in storage may temporarily or permanently affect the performance of the product.
- Do not poke TreeDiaper® products with sticks. Damage to the surface integrity of the TreeDiaper® products may decrease functionality of the product.

If you have any questions, please email info@treediaper.com.
Version 2.0.17. Updated on 9/25/2017

7 TREE DIAPER WATERING DETAIL

3/4" = 1'-0"



TREE PLANTING NOTES:
- INSTALL TWO OF THE THREE STAKES AND GUY WIRES ON THE UPHILL SIDE OF THE TREE.
- GUYING TO ALLOW 101.6MM (4") SWAY IN ALL DIRECTIONS. STAKE AND GUYING TO BE REMOVED AFTER ONE YEAR

NOTE:
ONLY STAKE TREES WITH LARGE CROWNS, 2" CALIPER OR GREATER, IF LOCATED ON WINDY SITES, OR WHERE TAMPERING MAY OCCUR.

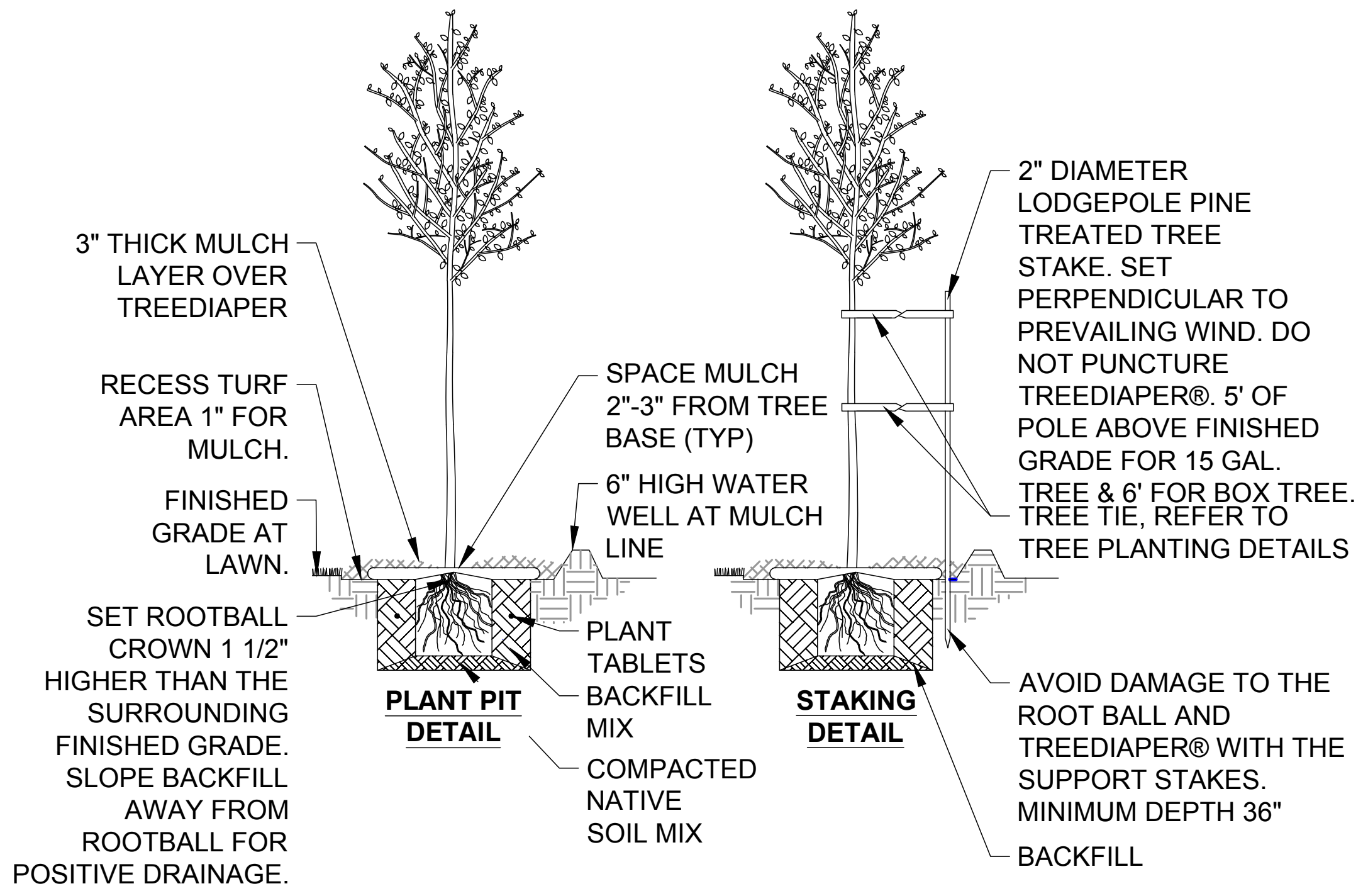
PLAN VIEW
ROOT BALL
12 GAUGE GALVANIZED WIRE
3-2"X2" HARDWOOD STAKES
REMOVE BROKEN, BADLY DEFORMED, RUBBING, NARROW CROTCH ANGLES, WATER SPROUTS, OR CROSS-BRANCHES.
PRUNE CODOMINATE LEADERS
TWO-PLY REINFORCED RUBBER HOSE WITH CABLE OR GALV. WIRE AT 120 DEGREE INTERVALS
REMOVE TAGS, LABELS, AND PLASTIC SLEEVING. DO NOT STAKE UNLESS SPECIFIED (SEE NOTE) DO NOT WRAP TRUNK
MARK THE NORTH SIDE OF THE TREE IN NURSERY AND ROTATE TREE TO FACE NORTH AT THE SITE
POSITION ROOT CROWN 2" ABOVE FINISH GRADE, CUT TWINE, AND ROLL BACK BURLAP 1/3
2-3" MULCH LAYER TO EDGE OF DRIPLINE. KEEP 4-6" AWAY FROM TRUNKFLARE
PRUNE SUCKERS
IF FIELD GROWN, CUT AWAY ALL BALLING ROPES. REMOVE BURLAP OR WIRE BASKET FROM TOP ⅓ OF BALL. IF CONTAINER GROWN, REMOVE CONTAINER AND CUT CIRCLING ROOTS
FIRMLY FORM SAUCER (USE TOPSOIL) ANGLE OF REPOSE VARIES WITH STEEPNESS OF SLOPE AND SOIL TYPE
TAMP SOIL AROUND ROOTBALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOTBALL DOES NOT SHIFT
ORIGINAL GRADE
BACKFILL PLANTING PIT WITH NATIVE SOIL. INCORPORATE SLOW-RELEASE GRANULAR FERTILIZER
PLACE ROOTBALL ON UNEXCAVATED OR TAMPED SOIL
2x ROOTBALL DIAMETER
36" STAKE FLUSH W/ GRADE

4 TREE PLANTING WITH GUYS ON SLOPE DETAIL

NTS

<u>NOTES:</u>

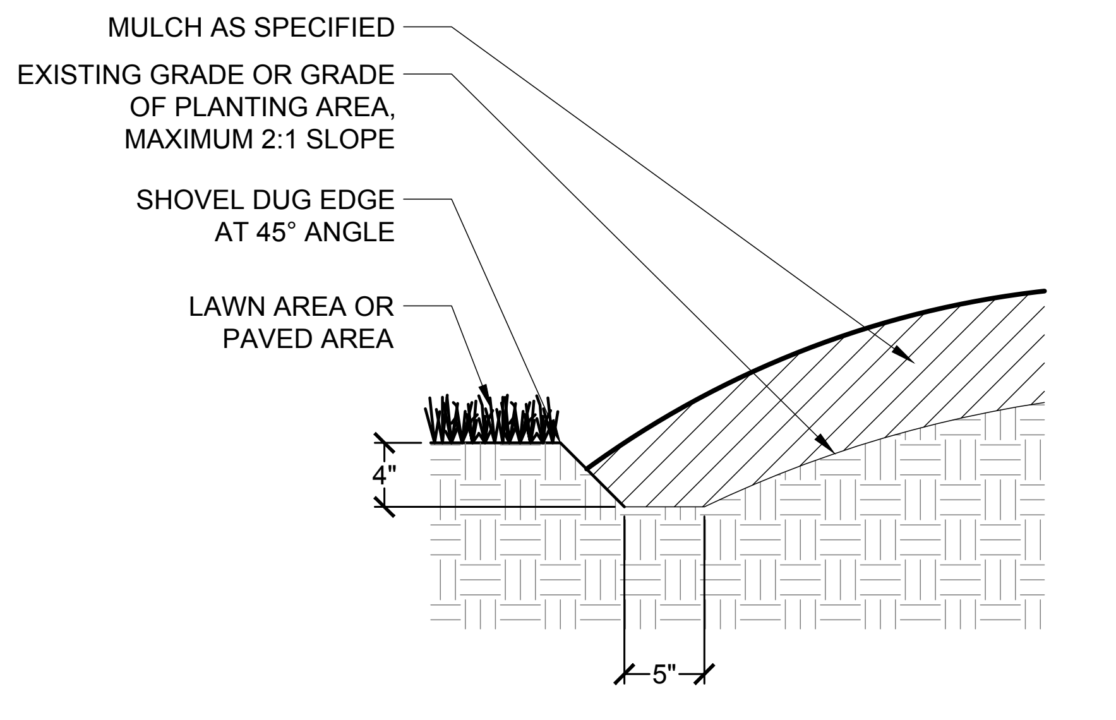
INSTALL:	ROOTBALL PIT DEPTH:	ROOTBALL PIT WIDTH:
15 GAL.	20"	32"
24" BOX	22"	48"
30" BOX	26"	60"
36" BOX	30"	72"



3" THICK MULCH LAYER OVER TREEDIAPER
RECESS TURF AREA 1" FOR MULCH.
FINISHED GRADE AT LAWN.
SET ROOTBALL CROWN 1 1/2" HIGHER THAN THE SURROUNDING FINISHED GRADE. SLOPE BACKFILL AWAY FROM ROOTBALL FOR POSITIVE DRAINAGE.
SPACE MULCH 2"-3" FROM TREE BASE (TYP)
6" HIGH WATER WELL AT MULCH LINE
PLANT TABLETS
BACKFILL MIX
COMPACTED NATIVE SOIL MIX
PLANT PIT DETAIL
STAKING DETAIL
2" DIAMETER LODGEPOLE PINE TREATED TREE STAKE. SET PERPENDICULAR TO PREVAILING WIND. DO NOT PUNCTURE TREEDIAPER®. 5' OF POLE ABOVE FINISHED GRADE FOR 15 GAL. TREE & 6' FOR BOX TREE.
TREE TIE, REFER TO TREE PLANTING DETAILS
AVOID DAMAGE TO THE ROOT BALL AND TREEDIAPER® WITH THE SUPPORT STAKES. MINIMUM DEPTH 36"
BACKFILL

5 TREE DIAPER

1" = 30'

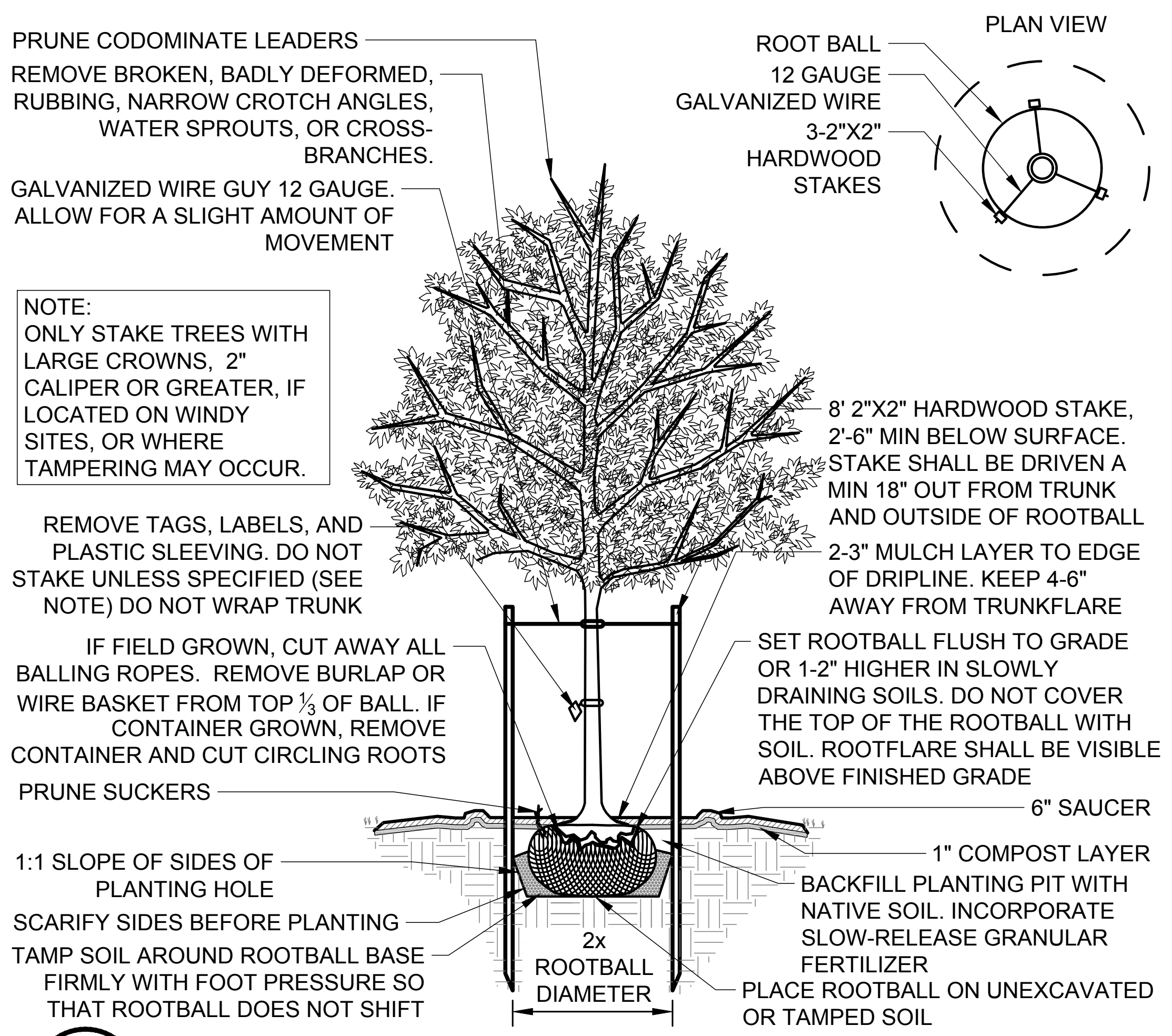


MULCH AS SPECIFIED
EXISTING GRADE OR GRADE OF PLANTING AREA, MAXIMUM 2:1 SLOPE
SHOVEL DUG EDGE AT 45° ANGLE
LAWN AREA OR PAVED AREA
4"
5"

<u>NOTE:</u>
1. TRENCH EDGE DETAIL SHALL BE USED AT ALL LAWN EDGES & AT EDGES OF MULCHED AREA (FOR CONTAINMENT).
2. TRENCH EDGE SHALL CREATE A CLEAN SEPARATION BETWEEN AREAS & SHALL CREATE SMOOTH & EVEN LINES (AS INDICATED ON THE PLANS).

6 TRENCH EDGE

1" = 1'-0"

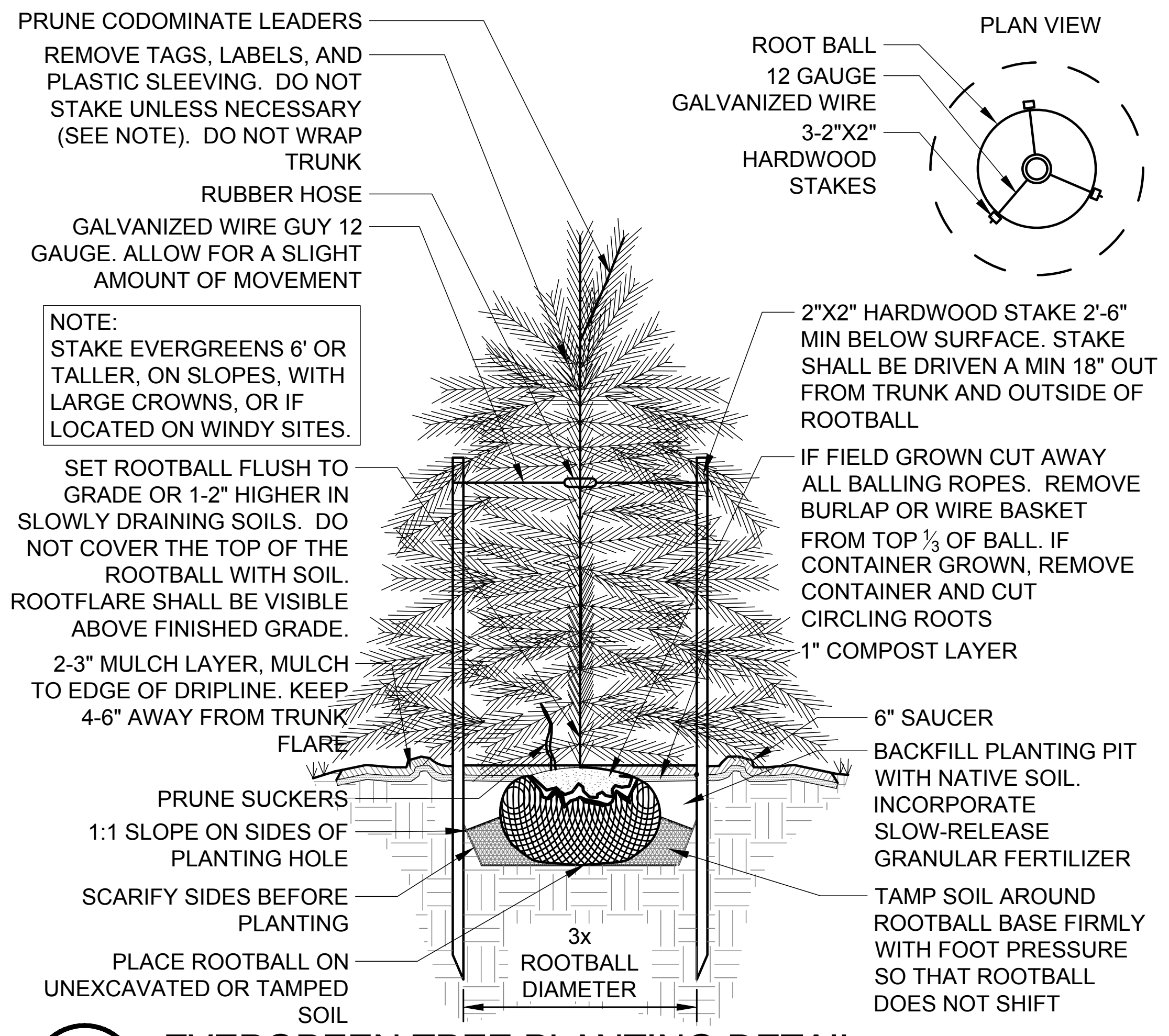


NOTE:
ONLY STAKE TREES WITH LARGE CROWNS, 2" CALIPER OR GREATER, IF LOCATED ON WINDY SITES, OR WHERE TAMPERING MAY OCCUR.

PLAN VIEW
ROOT BALL
12 GAUGE GALVANIZED WIRE
3-2"X2" HARDWOOD STAKES
PRUNE CODOMINATE LEADERS
REMOVE BROKEN, BADLY DEFORMED, RUBBING, NARROW CROTCH ANGLES, WATER SPROUTS, OR CROSS-BRANCHES.
GALVANIZED WIRE GUY 12 GAUGE. ALLOW FOR A SLIGHT AMOUNT OF MOVEMENT
8' 2"X2" HARDWOOD STAKE, 2'-6" MIN BELOW SURFACE. STAKE SHALL BE DRIVEN A MIN 18" OUT FROM TRUNK AND OUTSIDE OF ROOTBALL
REMOVE TAGS, LABELS, AND PLASTIC SLEEVING. DO NOT STAKE UNLESS SPECIFIED (SEE NOTE) DO NOT WRAP TRUNK
2-3" MULCH LAYER TO EDGE OF DRIPLINE. KEEP 4-6" AWAY FROM TRUNKFLARE
IF FIELD GROWN, CUT AWAY ALL BALLING ROPES. REMOVE BURLAP OR WIRE BASKET FROM TOP ⅓ OF BALL. IF CONTAINER GROWN, REMOVE CONTAINER AND CUT CIRCLING ROOTS
SET ROOTBALL FLUSH TO GRADE OR 1-2" HIGHER IN SLOWLY DRAINING SOILS. DO NOT COVER THE TOP OF THE ROOTBALL WITH SOIL. ROOTFLARE SHALL BE VISIBLE ABOVE FINISHED GRADE
PRUNE SUCKERS
6" SAUCER
1" COMPOST LAYER
1:1 SLOPE OF SIDES OF PLANTING HOLE
BACKFILL PLANTING PIT WITH NATIVE SOIL. INCORPORATE SLOW-RELEASE GRANULAR FERTILIZER
SCARIFY SIDES BEFORE PLANTING
TAMP SOIL AROUND ROOTBALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOTBALL DOES NOT SHIFT
2x ROOTBALL DIAMETER
PLACE ROOTBALL ON UNEXCAVATED OR TAMPED SOIL

1 DECIDUOUS TREE PLANTING DETAIL

NTS

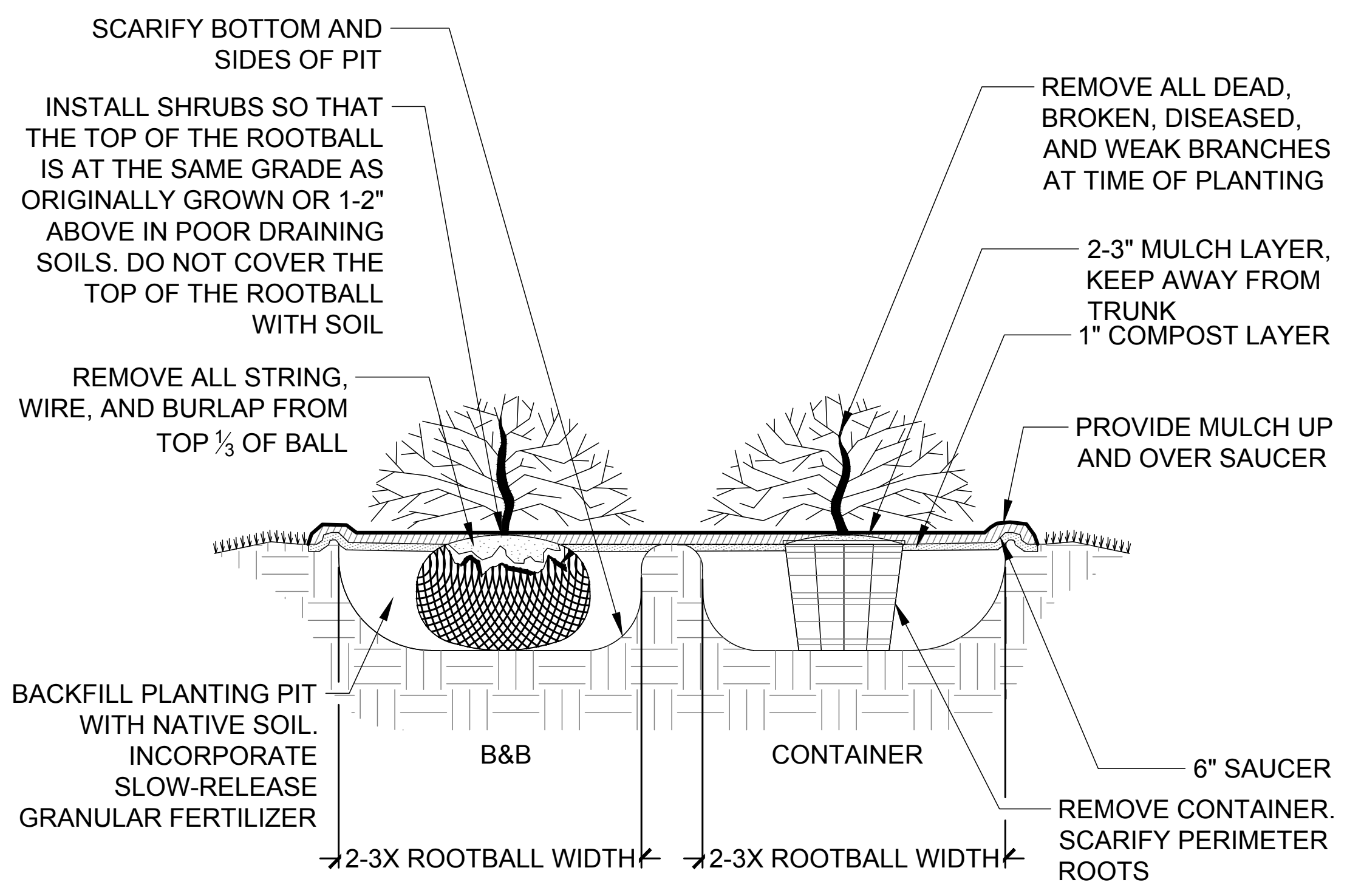


NOTE:
STAKE EVERGREENS 6' OR TALLER, ON SLOPES, WITH LARGE CROWNS, OR IF LOCATED ON WINDY SITES.

PLAN VIEW
ROOT BALL
12 GAUGE GALVANIZED WIRE
3-2"X2" HARDWOOD STAKES
PRUNE CODOMINATE LEADERS
REMOVE TAGS, LABELS, AND PLASTIC SLEEVING. DO NOT STAKE UNLESS NECESSARY (SEE NOTE). DO NOT WRAP TRUNK
RUBBER HOSE
GALVANIZED WIRE GUY 12 GAUGE. ALLOW FOR A SLIGHT AMOUNT OF MOVEMENT
2"X2" HARDWOOD STAKE 2'-6" MIN BELOW SURFACE. STAKE SHALL BE DRIVEN A MIN 18" OUT FROM TRUNK AND OUTSIDE OF ROOTBALL
SET ROOTBALL FLUSH TO GRADE OR 1-2" HIGHER IN SLOWLY DRAINING SOILS. DO NOT COVER THE TOP OF THE ROOTBALL WITH SOIL. ROOTFLARE SHALL BE VISIBLE ABOVE FINISHED GRADE.
IF FIELD GROWN CUT AWAY ALL BALLING ROPES. REMOVE BURLAP OR WIRE BASKET FROM TOP ⅓ OF BALL. IF CONTAINER GROWN, REMOVE CONTAINER AND CUT CIRCLING ROOTS
2-3" MULCH LAYER, MULCH TO EDGE OF DRIPLINE. KEEP 4-6" AWAY FROM TRUNK FLARE
1" COMPOST LAYER
6" SAUCER
PRUNE SUCKERS
BACKFILL PLANTING PIT WITH NATIVE SOIL. INCORPORATE SLOW-RELEASE GRANULAR FERTILIZER
1:1 SLOPE ON SIDES OF PLANTING HOLE
SCARIFY SIDES BEFORE PLANTING
TAMP SOIL AROUND ROOTBALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOTBALL DOES NOT SHIFT
PLACE ROOTBALL ON UNEXCAVATED OR TAMPED SOIL
3x ROOTBALL DIAMETER

2 EVERGREEN TREE PLANTING DETAIL

NTS



SCARIFY BOTTOM AND SIDES OF PIT
INSTALL SHRUBS SO THAT THE TOP OF THE ROOTBALL IS AT THE SAME GRADE AS ORIGINALLY GROWN OR 1-2" ABOVE IN POOR DRAINING SOILS. DO NOT COVER THE TOP OF THE ROOTBALL WITH SOIL
REMOVE ALL STRING, WIRE, AND BURLAP FROM TOP ⅓ OF BALL
REMOVE ALL DEAD, BROKEN, DISEASED, AND WEAK BRANCHES AT TIME OF PLANTING
2-3" MULCH LAYER, KEEP AWAY FROM TRUNK
1" COMPOST LAYER
PROVIDE MULCH UP AND OVER SAUCER
BACKFILL PLANTING PIT WITH NATIVE SOIL. INCORPORATE SLOW-RELEASE GRANULAR FERTILIZER
B&B
CONTAINER
6" SAUCER
REMOVE CONTAINER. SCARIFY PERIMETER ROOTS
2-3X ROOTBALL WIDTH
2-3X ROOTBALL WIDTH

3 SHRUB PLANTING DETAIL

NTS

NOT FOR CONSTRUCTION

THIS DRAWING PREPARED AT THE
CHARLOTTESVILLE OFFICE
608 Preston Avenue, Suite 200 | Charlottesville, VA 22903
TEL 434.295.5624 FAX 434.295.8317 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP

REVISION DESCRIPTION	DATE

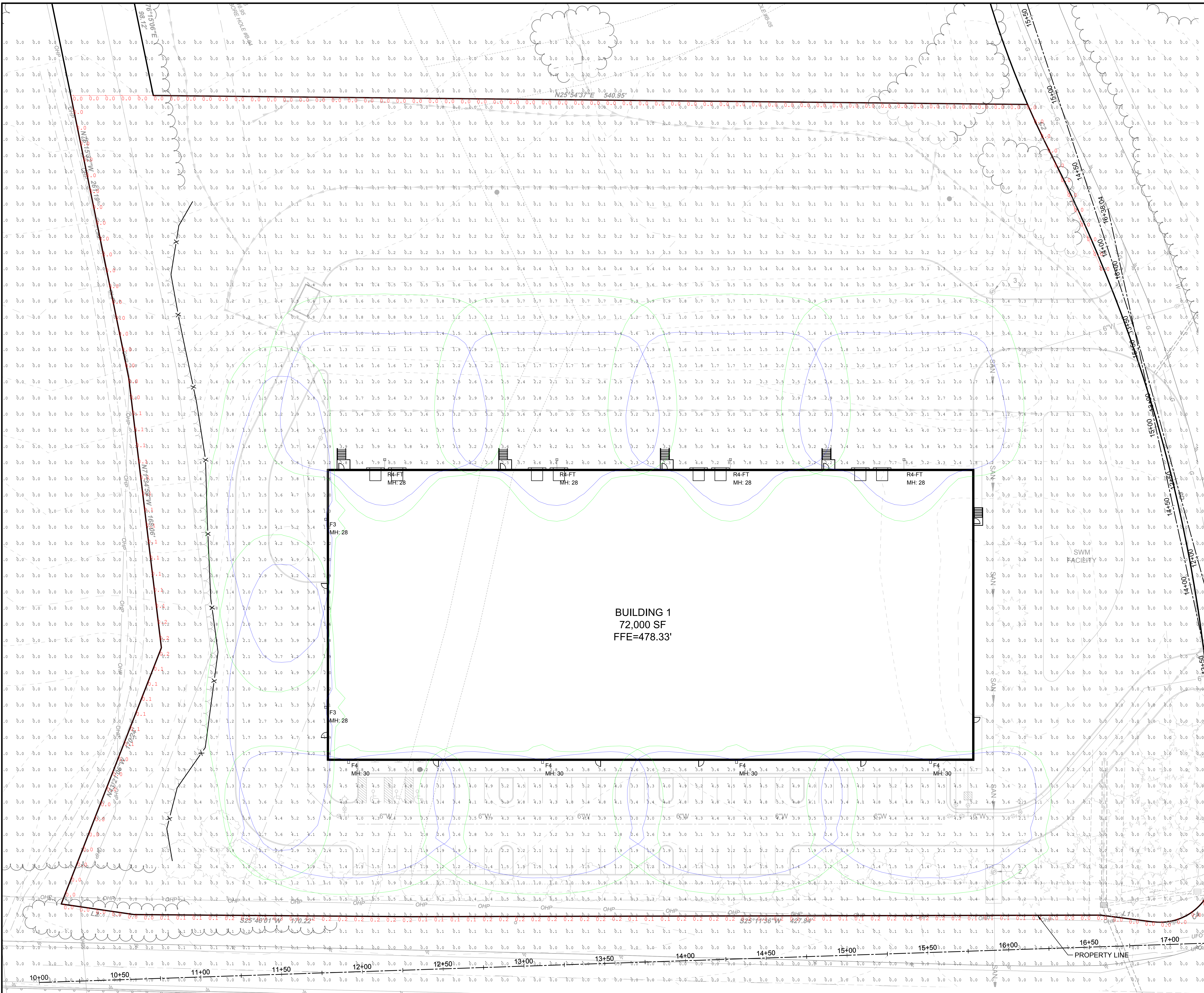
DATE	*11/11/2024*
DRAWN BY	*E. ESPINO*
DESIGNED BY	*E. ESPINO*
CHECKED BY	*C. OLDAKER*
SCALE	

ROUTE 29 INDUSTRIAL SITE
COUNTY OF ALBEMARLE, VIRGINIA
LANDSCAPE NOTES & DETAILS

JOB NO.
64375

SHEET NO.
L2.0

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-L2.0-NTDT.dwg | Plotted on 3/13/2025 11:14 AM | by Edwin Espino



Prepared by:
LIGHTING VIRGINIA CENTRAL
400G-2 Southlake Blvd.
Richmond, VA 23236
Tel: 804-379-7777
www.lightingvirginia.com

MH = MOUNTING HEIGHT IN FEET

NOTES:

1. NO ALTERATIONS OR MODIFICATIONS SHALL BE MADE TO THIS PLAN WITHOUT THE PERMISSION OF LIGHTING VIRGINIA CENTRAL, ADAMS PARNELL, LLC.

2. THE OUTPUT ON THIS PHOTOMETRIC LAYOUT IS SPECIFIC TO THE MANUFACTURER AND CATALOG NUMBERS LISTED IN THE LUMINAIRE SCHEDULE. SUBSTITUTIONS OR DEVIATIONS FROM THIS PLAN MAY INCUR SIGNIFICANTLY DIFFERENT RESULTS. ANY SUBSTITUTIONS MUST RECEIVE ENGINEER AND ARCHITECT APPROVAL. REVIEW COSTS, REWORKED PHOTOMETRIC LAYOUTS, PRODUCT SUBMITTALS AND A FULL SET OF ITL REPORTS WILL SOLELY BE THE RESPONSIBILITY OF ANY CONTRACTING FIRM MAKING A SUBSTITUTION, AND MUST COMPLY WITH DESIGN CRITERIA AND WITH ANY APPLICABLE JURISDICTIONAL CODES.

3. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.

4. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS AND SUPPLIED BY OTHERS TO LIGHTING VIRGINIA. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.

5. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

6. CHECK GRAPHIC SCALE. DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY OCCUR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.

NOTE:
EACH OUTDOOR LUMINAIRE EQUIPPED WITH A LAMP THAT EMITS 3,000 OR MORE INITIAL LUMENS SHALL BE A FULL CUTOFF LUMINAIRE AND SHALL BE ARRANGED OR SHIELDED TO REFLECT LIGHT AWAY FROM ADJOINING RESIDENTIAL DISTRICTS AND AWAY FROM ADJACENT ROADS. THE SPILLOVER OF LIGHTING FROM LUMINAIRES ONTO PUBLIC ROADS AND PROPERTY IN RESIDENTIAL OR RURAL AREAS ZONING DISTRICTS SHALL NOT EXCEED ONE-HALF FOOT-CANDLE.

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PROPERTY LINE	Illuminance	Fc	0.06	0.3	0.0	N.A.	N.A.
ACCESS ROAD	Illuminance	Fc	3.30	7.5	1.1	3.00	6.82
FRONT LOT	Illuminance	Fc	2.89	5.4	0.0	N.A.	N.A.
REAR LOT	Illuminance	Fc	2.10	8.6	0.0	N.A.	N.A.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Catalog Number	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Man ufacturer
☐	2	F3	Single	RZR-PLED-III-W-80LED-1400mA-30K-HS	1.000	28474	366.2	732.4	U.S. ARCHITECTURAL LIGHTING
☐	4	F4	Single	RZR-PLED-IV-80LED-1400mA-30K-HS	1.000	30046	366.2	1464.8	U.S. ARCHITECTURAL LIGHTING
—☐	4	R4-FT	Single	RZR-PLED-IV-FT-80LED-1400mA-30K	1.000	36167	366.2	1464.8	U.S. ARCHITECTURAL LIGHTING

NAD 83

SCALE 1"=30'
0 30' 60'

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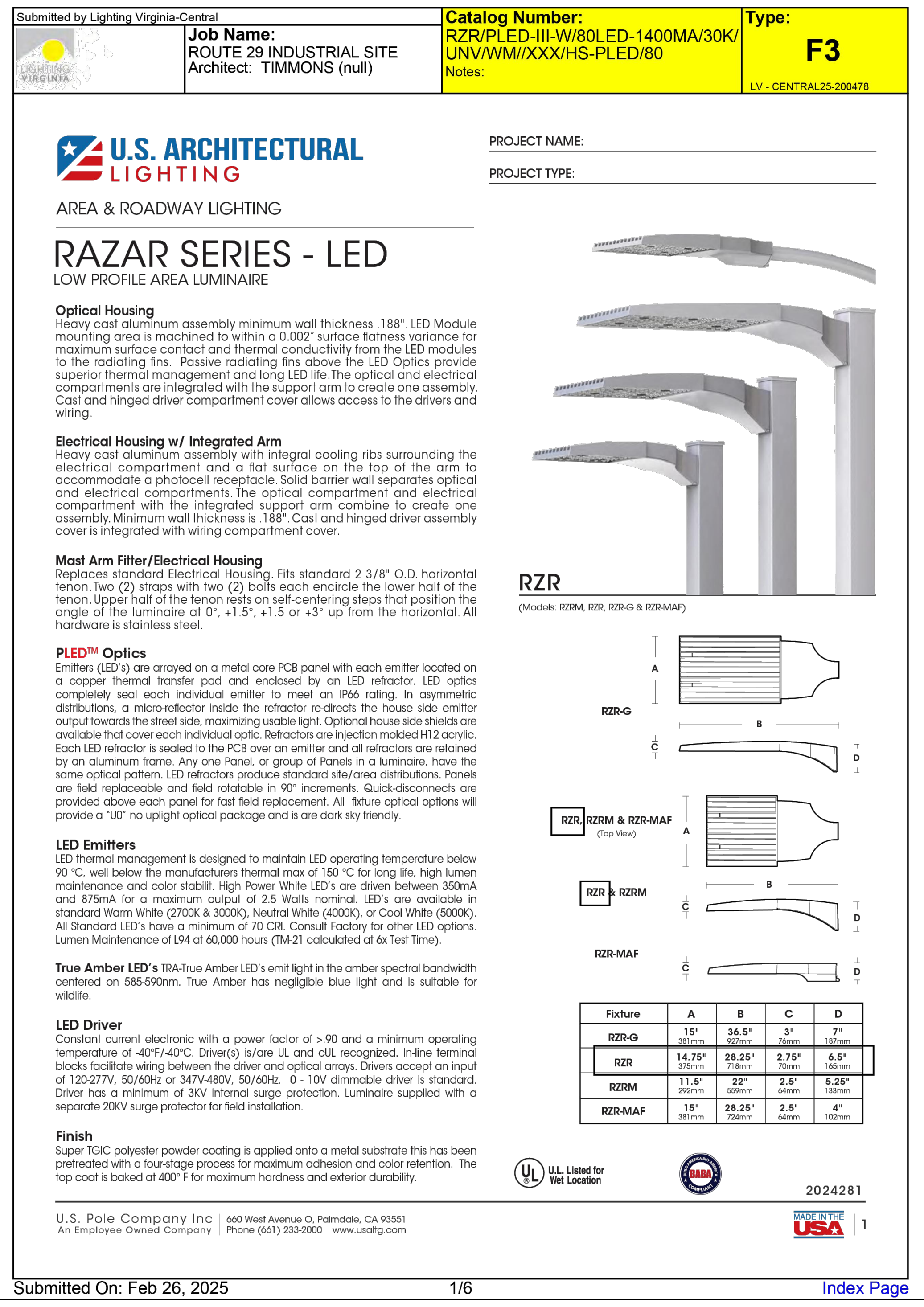
TIMMONS GROUP

DATE	REVISION DESCRIPTION

DATE
11/11/2024
DRAWN BY
E. ESPINO
DESIGNED BY
E. ESPINO
CHECKED BY
C. OLDAKER
SCALE

ROUTE 29 INDUSTRIAL SITE
COUNTY OF ALBEMARLE, VIRGINIA
PHOTOMETRIC PLAN

JOB NO.
64375
SHEET NO.
L3.0



Submitted by Lighting Virginia-Central

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-III-W/80LED-1400MA/30K/
UNV/WM//XXX/HS-PLED/80
Notes:

Type: F3
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

PROJECT NAME:

PROJECT TYPE:

AREA & ROADWAY LIGHTING

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

Optical Housing
Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life. The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm
Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing
Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics
Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters
LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver
Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish
Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.

RZR
(Models: RZRM, RZR, RZR-G & RZR-MAF)

RZR-G

RZR, RZRM & RZR-MAF (Top View)

RZR & RZRM

RZR-MAF

Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

U.L. Listed for Wet Location

BABA COMPLIANT

2024281

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MADE IN THE USA | 1

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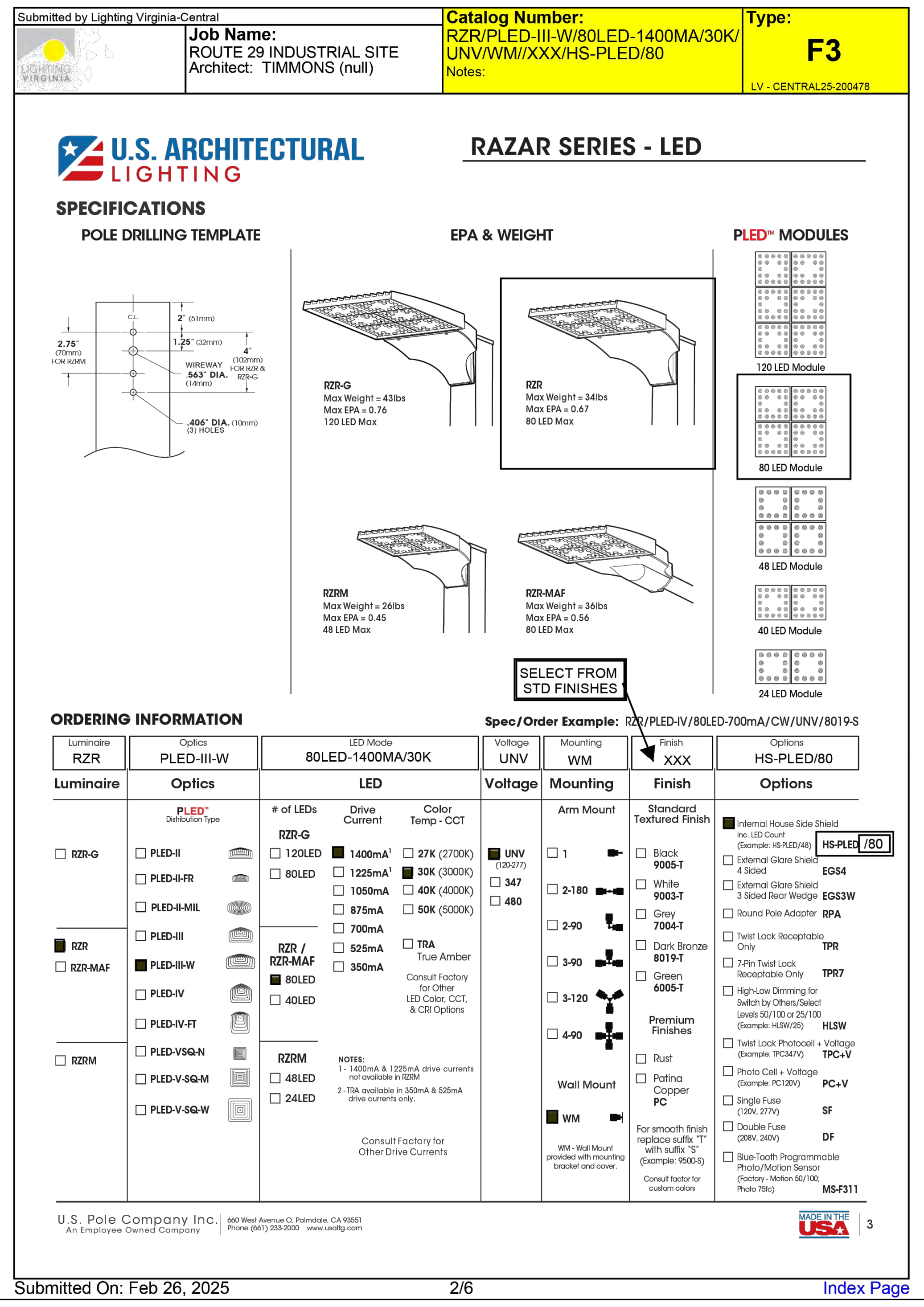

Submitted by Lighting Virginia-Central

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ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-III-W/80LED-1400MA/30K/
UNV/WM//XXX/HS-PLED/80
Notes:

Type: F3
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

SPECIFICATIONS

POLE DRILLING TEMPLATE

EPA & WEIGHT

RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

PLED™ MODULES

120 LED Module

80 LED Module

48 LED Module

40 LED Module

24 LED Module

SELECT FROM STD FINISHES

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
RZR	PLED-III-W	80LED-1400MA/30K	UNV	WM	XXX	HS-PLED/80

Luminaire
☐ RZR-G
■ RZR
☐ RZR-MAF

Optics – PLED™ Distribution Type
☐ PLED-II
☐ PLED-II-FR
☐ PLED-II-MIL
☐ PLED-III
■ PLED-III-W

LED – # of LEDs
RZR-G
☐ 120LED
☐ 80LED
RZR / RZR-MAF

Drive Current
■ 1400mA[1]
☐ 1225mA[1]
☐ 1050mA
☐ 875mA
☐ 700mA
☐ 525mA

Color Temp - CCT
☐ 27K (2700K)
■ 30K (3000K)
☐ 40K (4000K)
☐ 50K (5000K)
☐ TRA True Amber

Voltage
■ UNV (120-277)
☐ 347
☐ 480

Mounting – Arm Mount
☐ 1
☐ 2-180
☐ 2-90
☐ 3-90

Finish – Standard Textured Finish
☐ Black 9005-T
☐ White 9003-T
☐ Grey 7004-T
☐ Dark Bronze 8019-T

Options
■ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) HS-PLED /80
☐ External Glare Shield 4 Sided EGS4
☐ External Glare Shield 3 Sided Rear Wedge EGS3W
☐ Round Pole Adapter RPA
☐ Twist Lock Receptable Only TPR

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MADE IN THE USA | 3

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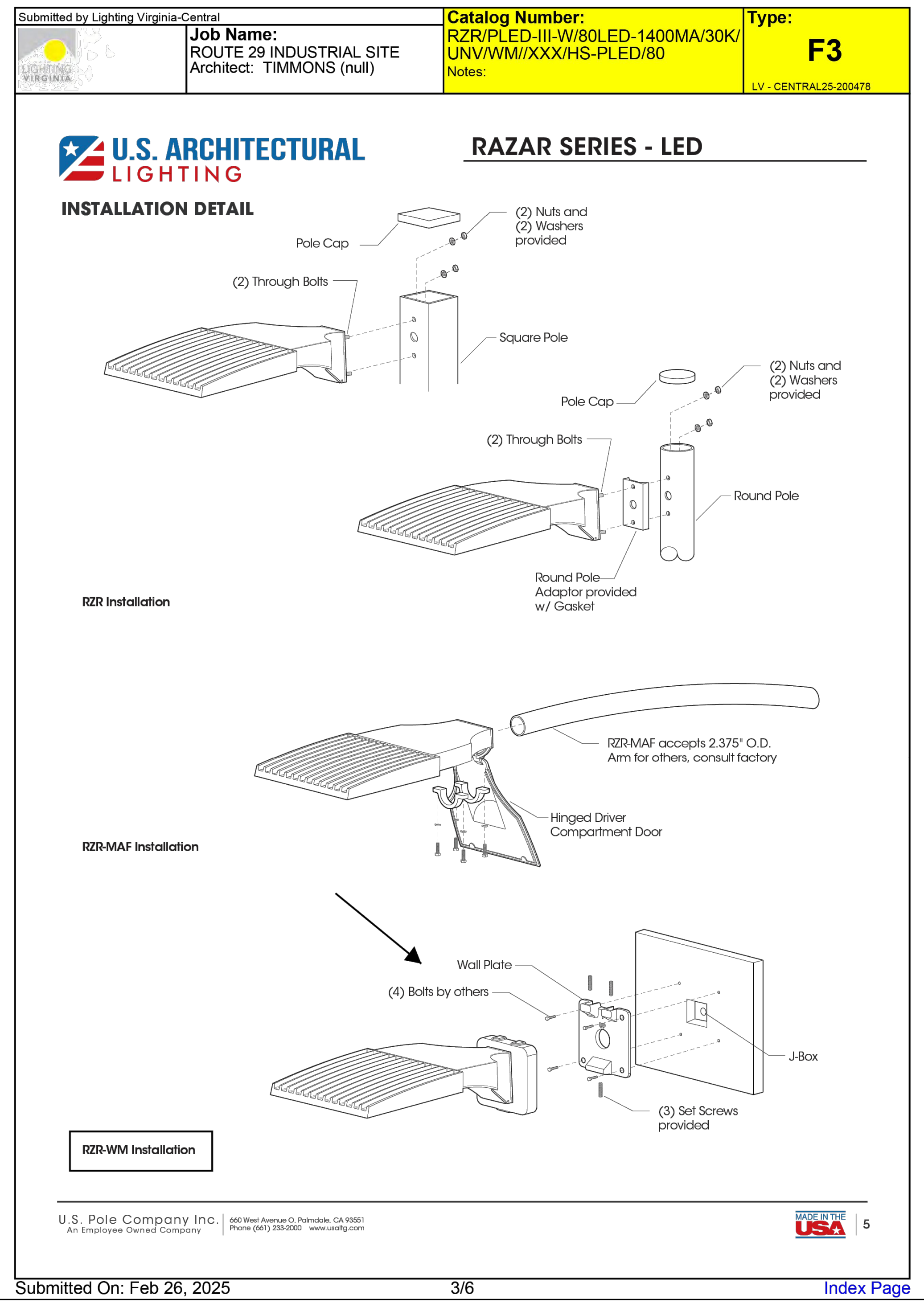

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Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-III-W/80LED-1400MA/30K/
UNV/WM//XXX/HS-PLED/80
Notes:

Type: F3
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

INSTALLATION DETAIL

Pole Cap
(2) Nuts and (2) Washers provided
(2) Through Bolts
Square Pole
Pole Cap
(2) Nuts and (2) Washers provided
(2) Through Bolts
Round Pole
Round Pole Adaptor provided w/ Gasket
RZR Installation
RZR-MAF accepts 2.375" O.D. Arm for others, consult factory
Hinged Driver Compartment Door
RZR-MAF Installation
Wall Plate
(4) Bolts by others
J-Box
(3) Set Screws provided
RZR-WM Installation

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MADE IN THE USA | 5

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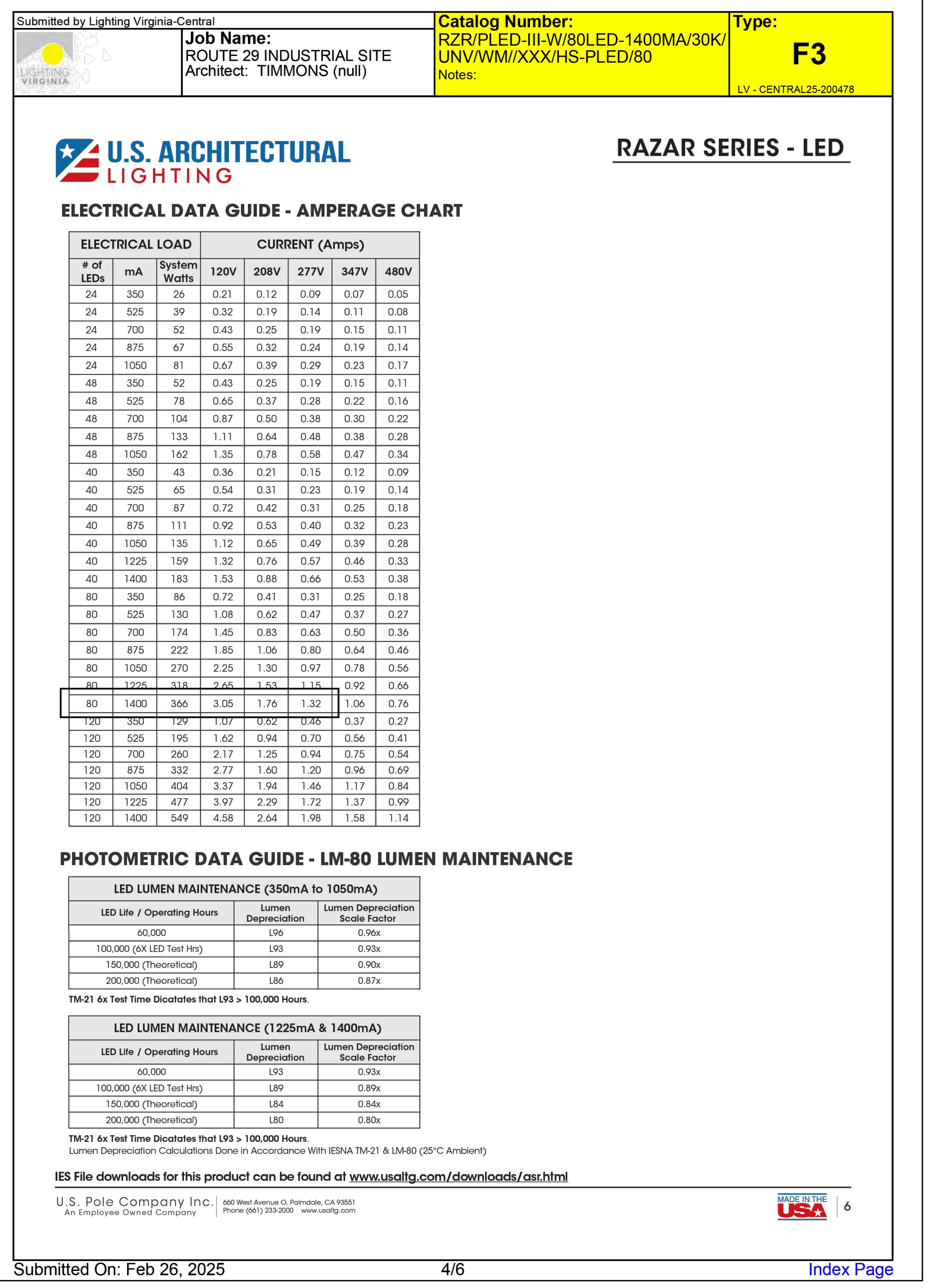

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Notes:

Type: F3
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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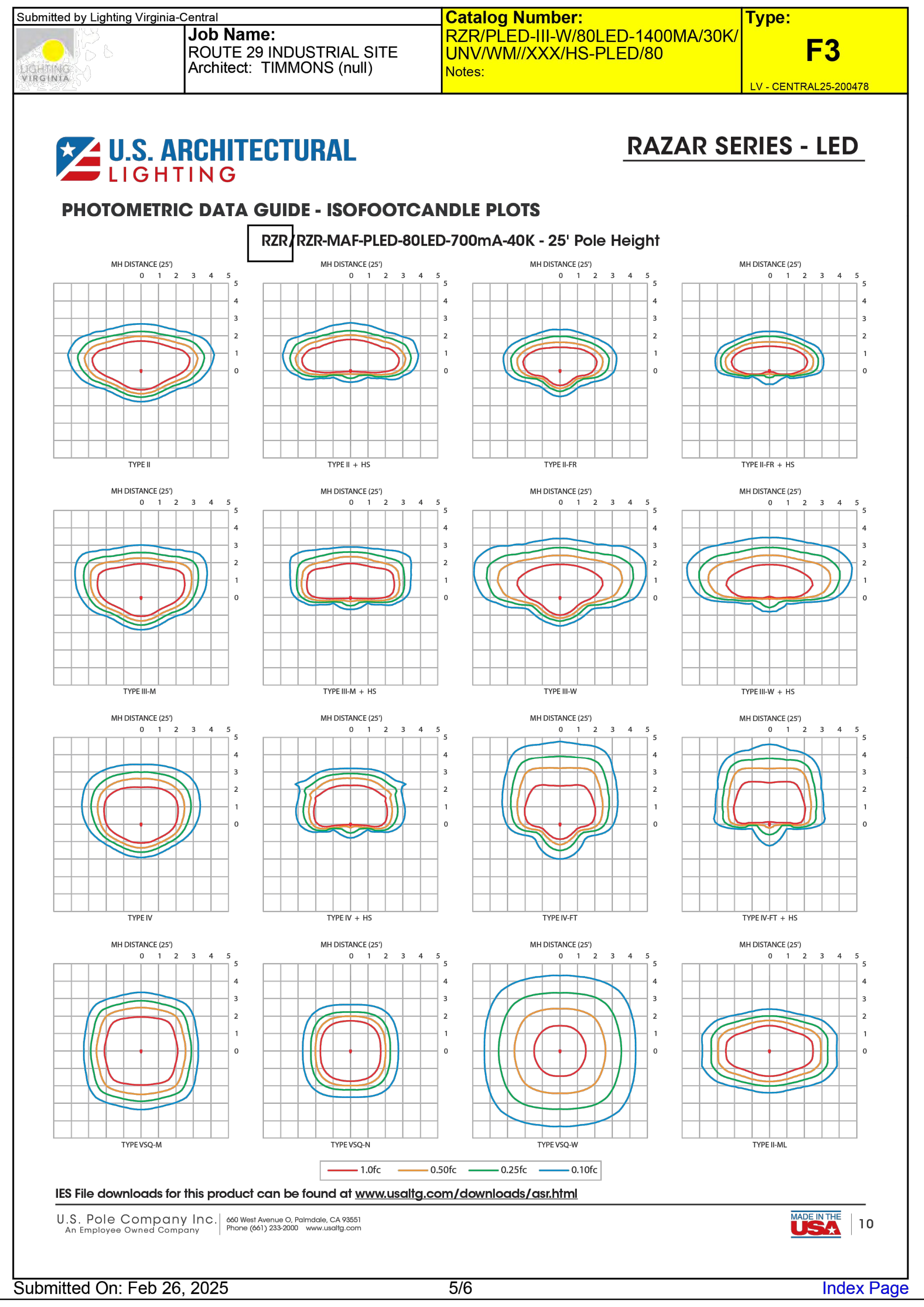

Submitted by Lighting Virginia-Central

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-III-W/80LED-1400MA/30K/
UNV/WM//XXX/HS-PLED/80
Notes:

Type: F3
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE PLOTS

RZR RZR-MAF-PLED-80LED-700mA-40K - 25' Pole Height

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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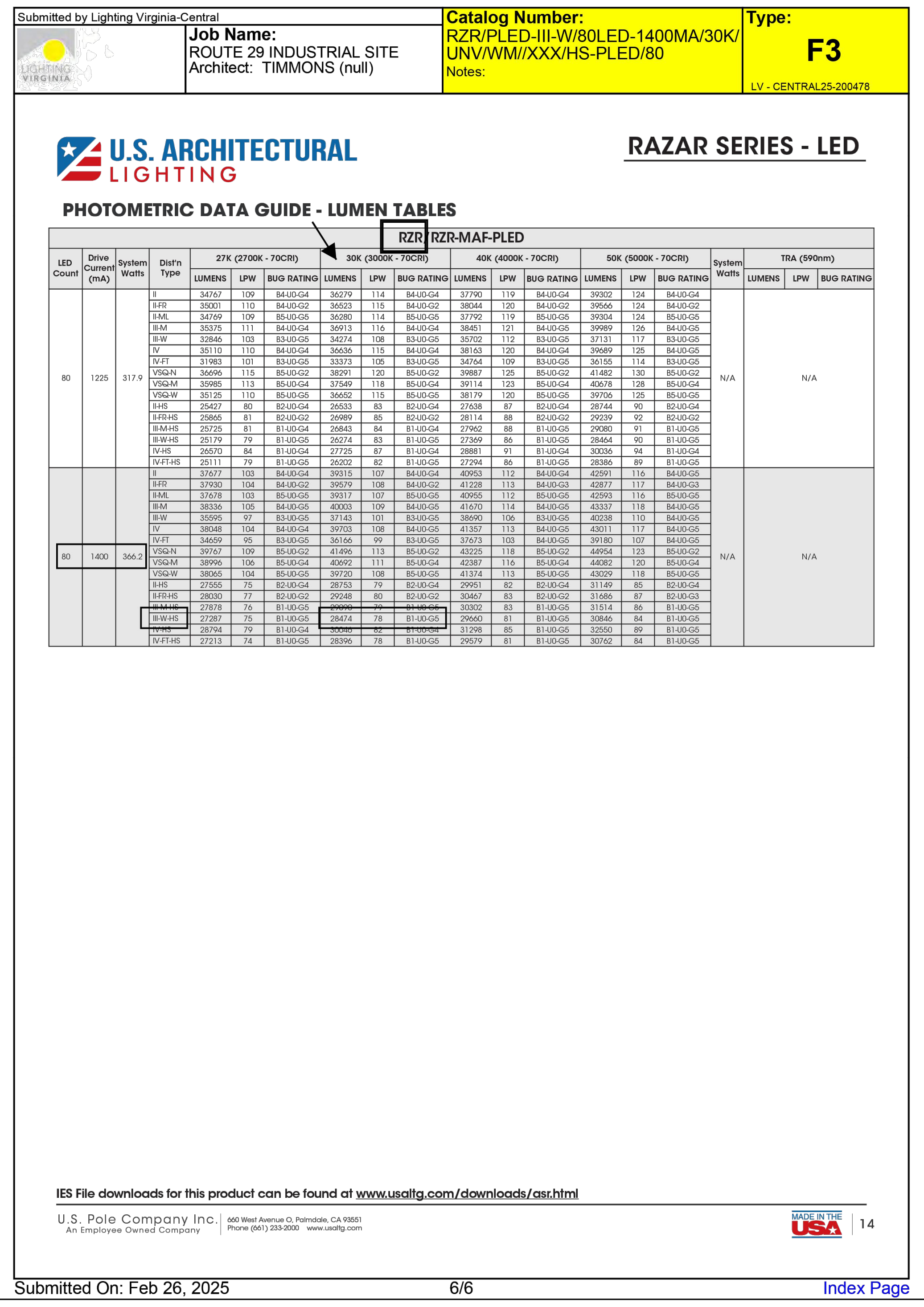

Submitted by Lighting Virginia-Central

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-III-W/80LED-1400MA/30K/
UNV/WM//XXX/HS-PLED/80
Notes:

Type: F3
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

PHOTOMETRIC DATA GUIDE - LUMEN TABLES

RZR RZR-MAF-PLED

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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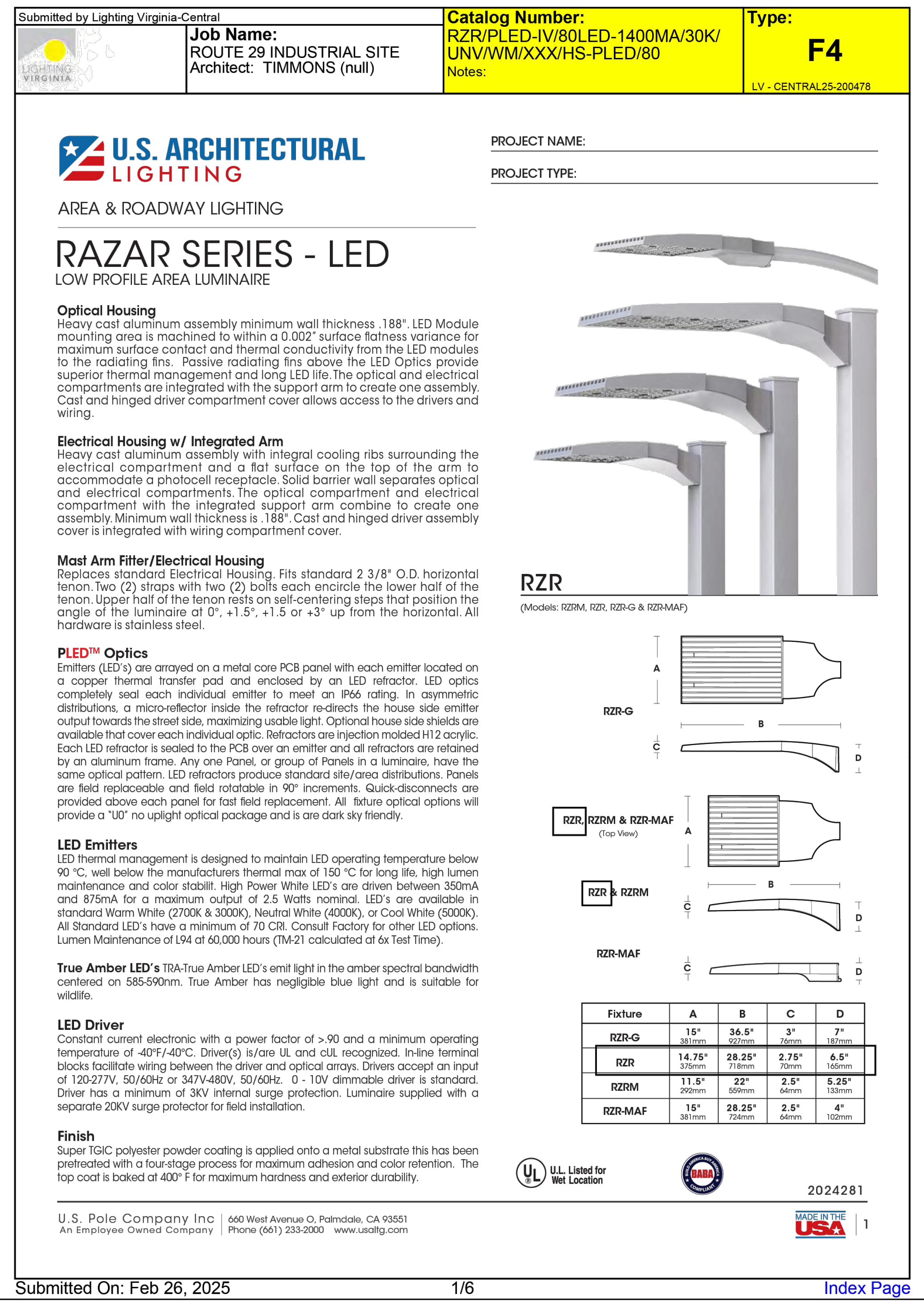

Submitted by Lighting Virginia-Central

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-IV/80LED-1400MA/30K/
UNV/WM/XXX/HS-PLED/80
Notes:

Type: F4
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

PROJECT NAME:

PROJECT TYPE:

AREA & ROADWAY LIGHTING

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

Optical Housing
Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life. The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm
Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing
Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics
Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters
LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver
Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish
Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.

RZR
(Models: RZRM, RZR, RZR-G & RZR-MAF)

U.L. Listed for Wet Location

2024281

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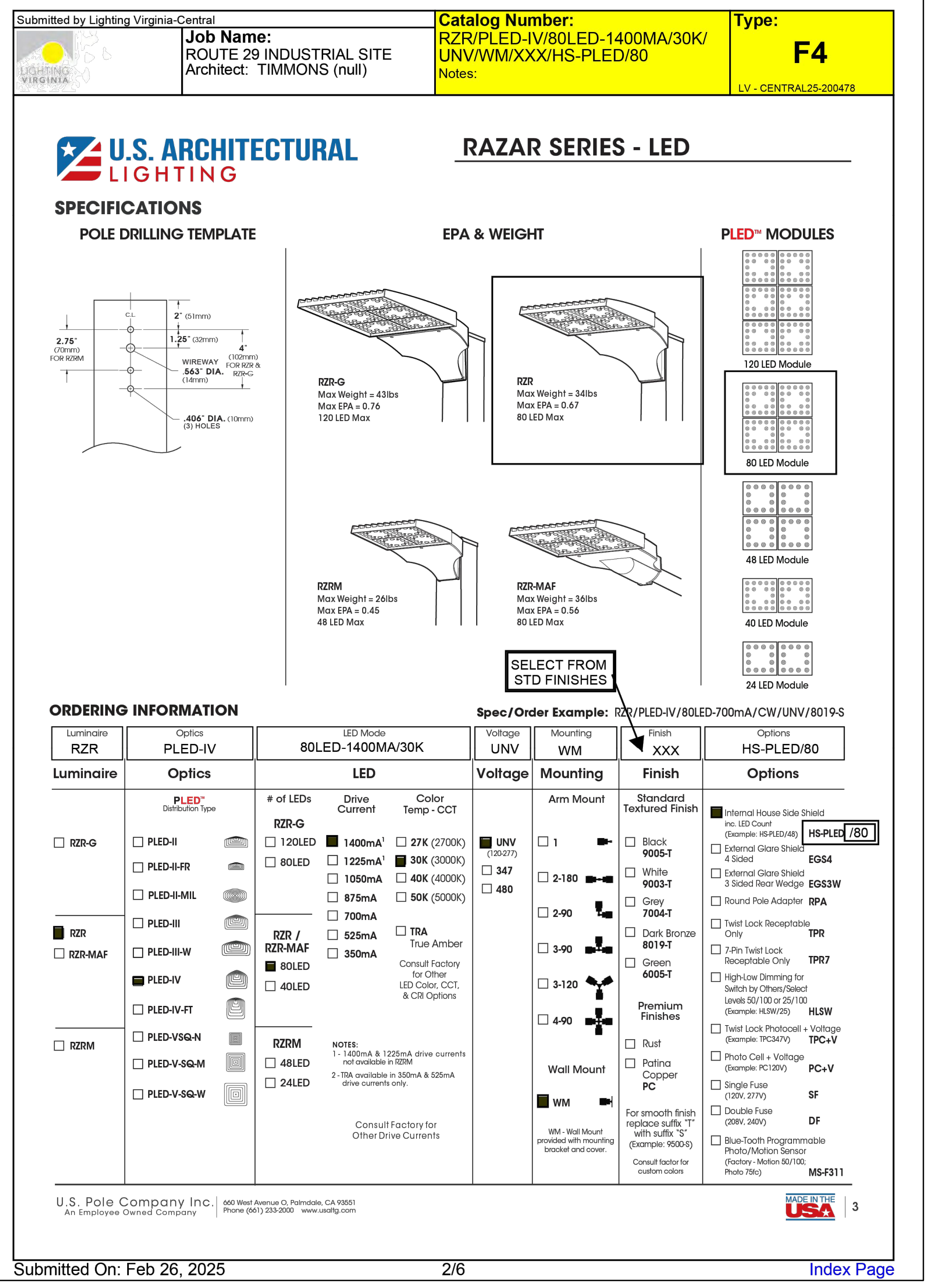

Submitted by Lighting Virginia-Central

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-IV/80LED-1400MA/30K/
UNV/WM/XXX/HS-PLED/80
Notes:

Type: F4
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

SPECIFICATIONS

POLE DRILLING TEMPLATE

EPA & WEIGHT

PLED™ MODULES

SELECT FROM STD FINISHES

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
RZR	PLED-IV	80LED-1400MA/30K	UNV	WM	XXX	HS-PLED/80

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CHARLOTTESVILLE OFFICE
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TEL 434.295.5624 FAX 434.295.8317 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE	11/11/2024
DRAWN BY	E. ESPINO
DESIGNED BY	E. ESPINO
CHECKED BY	C. OLDAKER
SCALE	

TIMMONS GROUP

ROUTE 29 INDUSTRIAL SITE

COUNTY OF ALBEMARLE, VIRGINIA

LIGHTING CUTSHEETS

JOB NO. 64375

SHEET NO. L4.0

S:\103\64375-Route_29_Industrial_Site\DWG\Sheet\CD\Phase 1\64375-103-L4.0-LUMN-NTDT.dwg | Plotted on 3/13/2025 11:18 AM | by Edwin Espino

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

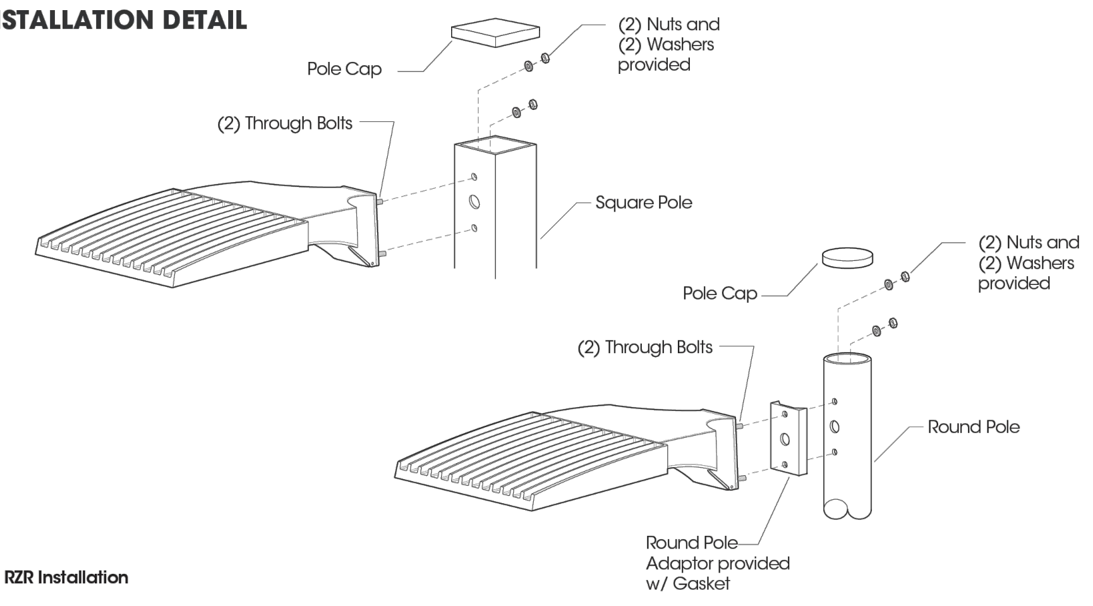
Catalog Number:
RZR/PLED-IV/80LED-1400MA/30K/UNV/WM/XXX/HS-PLED/80
Notes:

Type: **F4**
LV - CENTRAL25-200478

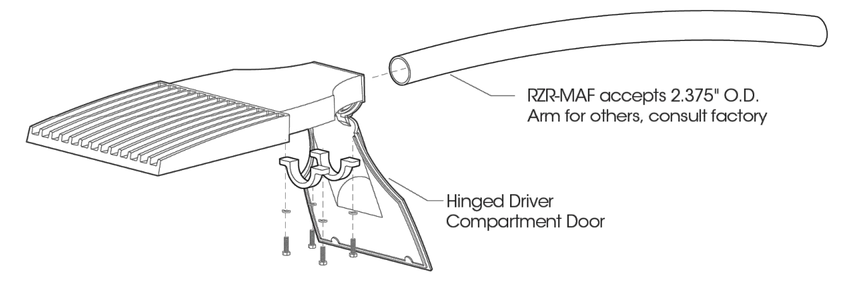
U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

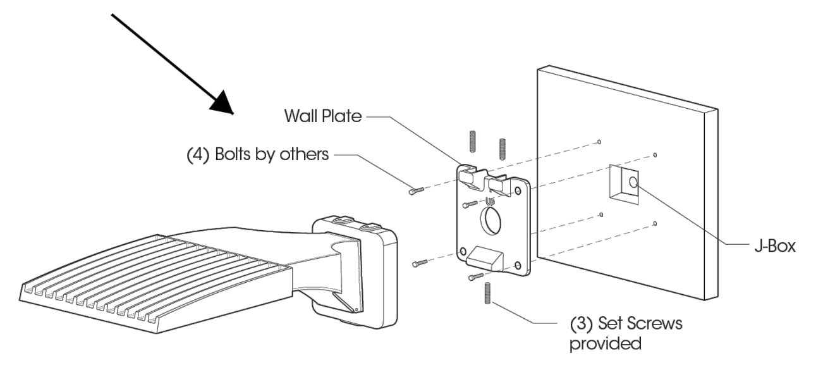
INSTALLATION DETAIL



RZR Installation



RZR-MAF Installation



RZR-WM Installation

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-IV/80LED-1400MA/30K/UNV/WM/XXX/HS-PLED/80
Notes:

Type: **F4**
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-IV/80LED-1400MA/30K/UNV/WM/XXX/HS-PLED/80
Notes:

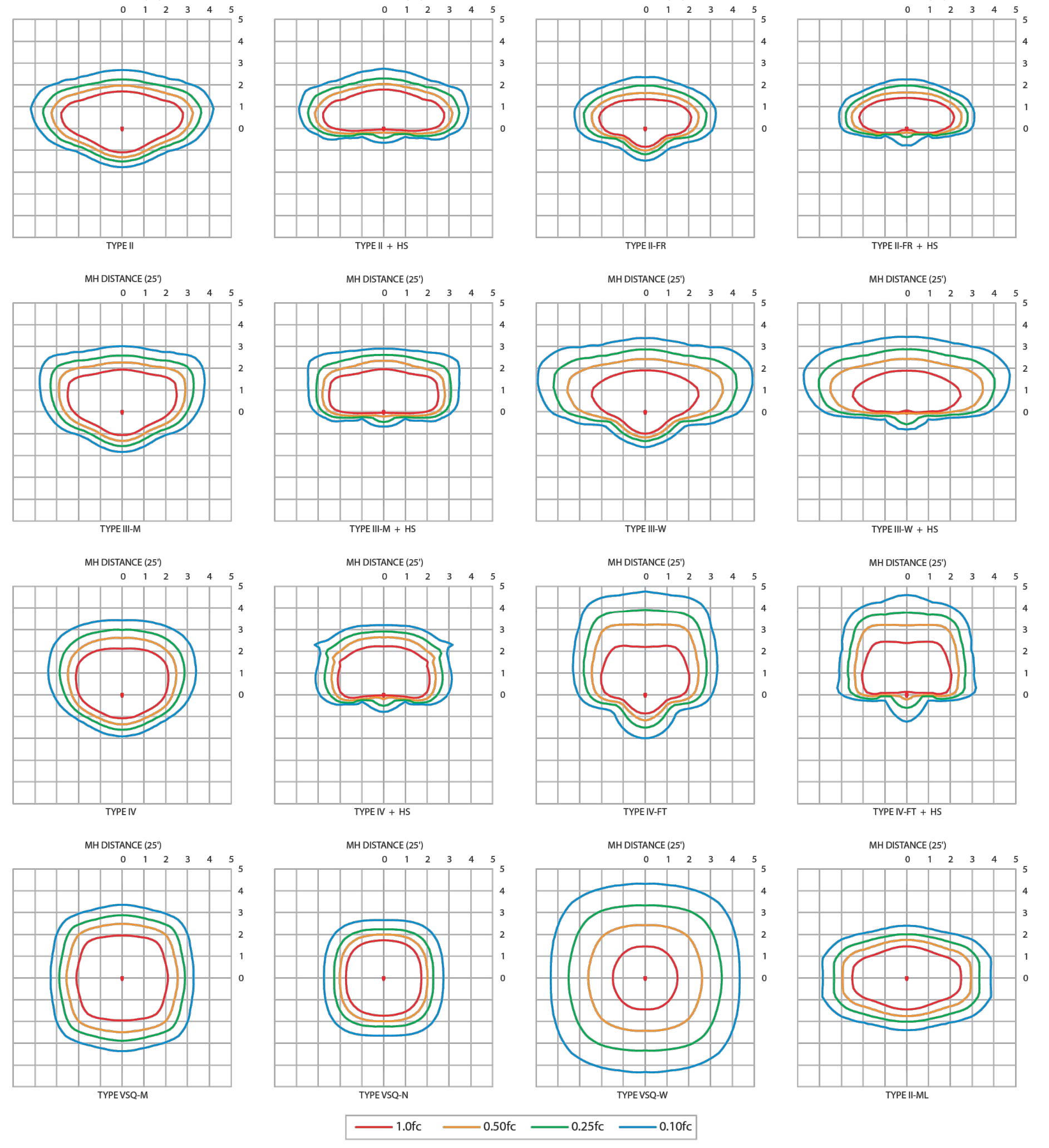
Type: **F4**
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE PLOTS

RZR/RZR-MAF-PLED-80LED-700mA-40K - 25' Pole Height



IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR/PLED-IV/80LED-1400MA/30K/UNV/WM/XXX/HS-PLED/80
Notes:

Type: **F4**
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

PHOTOMETRIC DATA GUIDE - LUMEN TABLES

RZR/RZR-MAF-PLED																		
LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)		
				LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING		LUMENS	LPW	BUG RATING
80	1225	317.9	II	34767	109	B4-U0-G4	36279	114	B4-U0-G4	37790	119	B4-U0-G4	39302	124	B4-U0-G4	N/A	N/A		
			II-FR	35001	110	B4-U0-G2	36523	115	B4-U0-G2	38044	120	B4-U0-G2	39566	124	B4-U0-G2				
			II-ML	34769	109	B5-U0-G5	36280	114	B5-U0-G5	37792	119	B5-U0-G5	39304	124	B5-U0-G5				
			III-M	35375	111	B4-U0-G4	36913	116	B4-U0-G4	38451	121	B4-U0-G5	39989	126	B4-U0-G5				
			III-W	32846	103	B3-U0-G5	34274	108	B3-U0-G5	35702	112	B3-U0-G5	37131	117	B3-U0-G5				
			IV	35110	110	B4-U0-G4	36636	115	B4-U0-G4	38163	120	B4-U0-G4	39689	125	B4-U0-G5				
			IV-FT	31983	101	B3-U0-G5	33373	105	B3-U0-G5	34764	109	B3-U0-G5	36155	114	B3-U0-G5				
			VSQ-N	36696	115	B5-U0-G2	38291	120	B5-U0-G2	39887	125	B5-U0-G2	41482	130	B5-U0-G2				
			VSQ-M	35985	113	B5-U0-G4	37549	118	B5-U0-G4	39114	123	B5-U0-G4	40678	128	B5-U0-G4				
			VSQ-W	35125	110	B5-U0-G5	36652	115	B5-U0-G5	38179	120	B5-U0-G5	39706	125	B5-U0-G5				
			II-HS	25427	80	B2-U0-G4	26533	83	B2-U0-G4	27638	87	B2-U0-G4	28744	90	B2-U0-G4				
			II-FR-HS	25865	81	B2-U0-G2	26989	85	B2-U0-G2	28114	88	B2-U0-G2	29239	92	B2-U0-G2				
			III-M-HS	25725	81	B1-U0-G4	26843	84	B1-U0-G4	27962	88	B1-U0-G5	29080	91	B1-U0-G5				
			III-W-HS	25179	79	B1-U0-G5	26274	83	B1-U0-G5	27369	86	B1-U0-G5	28464	90	B1-U0-G5				
			IV-HS	26570	84	B1-U0-G4	27725	87	B1-U0-G4	28881	91	B1-U0-G4	30036	94	B1-U0-G4				
			IV-FT-HS	25111	79	B1-U0-G5	26202	82	B1-U0-G5	27294	86	B1-U0-G5	28386	89	B1-U0-G5				
80	1400	366.2	II	37677	103	B4-U0-G4	39315	107	B4-U0-G4	40953	112	B4-U0-G4	42591	116	B4-U0-G5	N/A	N/A		
			II-FR	37930	104	B4-U0-G2	39579	108	B4-U0-G2	41228	113	B4-U0-G3	42877	117	B4-U0-G3				
			II-ML	37678	103	B5-U0-G5	39317	107	B5-U0-G5	40955	112	B5-U0-G5	42593	116	B5-U0-G5				
			III-M	38336	105	B4-U0-G5	40003	109	B4-U0-G5	41670	114	B4-U0-G5	43337	118	B4-U0-G5				
			III-W	35595	97	B3-U0-G5	37143	101	B3-U0-G5	38690	106	B3-U0-G5	40238	110	B4-U0-G5				
			IV	38048	104	B4-U0-G4	39703	108	B4-U0-G5	41357	113	B4-U0-G5	43011	117	B4-U0-G5				
			IV-FT	34659	95	B3-U0-G5	36166	99	B3-U0-G5	37673	103	B4-U0-G5	39180	107	B4-U0-G5				
			VSQ-N	39767	109	B5-U0-G2	41496	113	B5-U0-G2	43225	118	B5-U0-G2	44954	123	B5-U0-G2				
			VSQ-M	38996	106	B5-U0-G4	40692	111	B5-U0-G4	42387	116	B5-U0-G4	44082	120	B5-U0-G4				
			VSQ-W	38065	104	B5-U0-G5	39720	108	B5-U0-G5	41374	113	B5-U0-G5	43029	118	B5-U0-G5				
			II-HS	27555	75	B2-U0-G4	28753	79	B2-U0-G4	29951	82	B2-U0-G4	31149	85	B2-U0-G4				
			II-FR-HS	28030	77	B2-U0-G2	29248	80	B2-U0-G2	30467	83	B2-U0-G2	31686	87	B2-U0-G3				
			III-M-HS	27878	76	B1-U0-G5	29090	79	B1-U0-G5	30302	83	B1-U0-G5	31514	86	B1-U0-G5				
			III-W-HS	27287	75	B1-U0-G5	28474	78	B1-U0-G5	29660	81	B1-U0-G5	30846	84	B1-U0-G5				
			IV-HS	28794	79	B1-U0-G4	30046	82	B1-U0-G4	31298	85	B1-U0-G5	32550	89	B1-U0-G5				
			IV-FT-HS	27213	74	B1-U0-G5	28396	78	B1-U0-G5	29579	81	B1-U0-G5	30762	84	B1-U0-G5				

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR-MAF/PLED-IV-FT/80LED-1400MA/30K/UNV/1/XXX
Notes:

Type: **R4-FT**
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

PROJECT NAME:
PROJECT TYPE:

AREA & ROADWAY LIGHTING

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

Optical Housing
Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life. The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm
Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing
Replaces standard Electrical Housing Fits standard 2 3/8" O.D. horizontal tenon. ~~Two (2) straps with two (2) bolts each encircle the lower half of the tenon.~~ Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics
Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters
LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

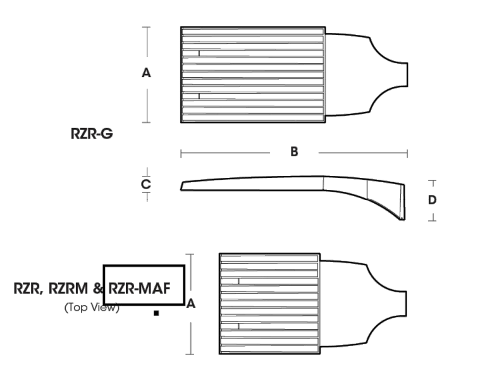
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver
Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish
Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

U.L. Listed for Wet Location

2024281

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR-MAF/PLED-IV-FT/80LED-1400MA/30K/UNV/1/XXX
Notes:

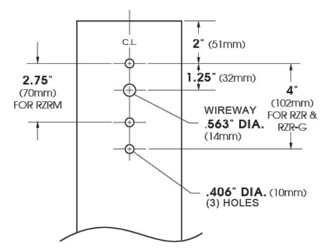
Type: **R4-FT**
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

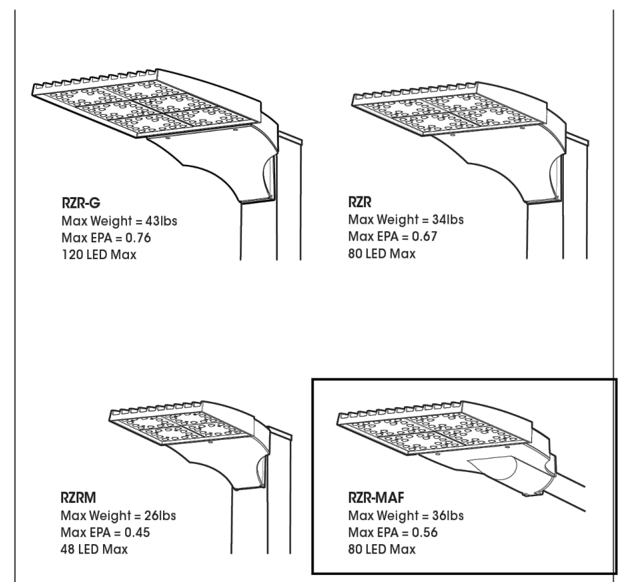
RAZAR SERIES - LED

SPECIFICATIONS

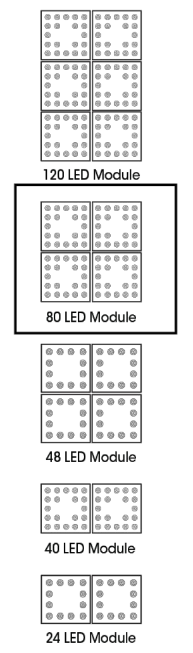
POLE DRILLING TEMPLATE


C.L.
2" (51mm)
1.25" (32mm)
2.75" (70mm) FOR RZRM
4" (102mm) FOR RZR & RZR-G
WIREWAY .563" DIA. (14mm)
.406" DIA. (10mm) (3) HOLES

EPA & WEIGHT



PLED™ MODULES



SELECT FROM STD FINISHES

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
RZR-MAF	PLED-IV-FT	80LED-1400MA/30K	UNV	1	XXX	

Luminaire
- ☐ RZR-G
- ☐ RZR
- ☒ RZR-MAF
- ☐ RZRM

Optics — PLED™ Distribution Type
- ☐ PLED-II
- ☐ PLED-II-FR
- ☐ PLED-II-MIL
- ☐ PLED-III
- ☐ PLED-III-W
- ☐ PLED-IV
- ☒ PLED-IV-FT
- ☐ PLED-VSQ-N
- ☐ PLED-V-SQ-M
- ☐ PLED-V-SQ-W

LED

# of LEDs
- RZR-G
  - ☐ 120LED
  - ☐ 80LED
- RZR / RZR-MAF
  - ☒ 80LED
  - ☐ 40LED
- RZRM
  - ☐ 48LED
  - ☐ 24LED

Drive Current
- ☒ 1400mA[1]
- ☐ 1225mA[1]
- ☐ 1050mA
- ☐ 875mA
- ☐ 700mA
- ☐ 525mA
- ☐ 350mA

Consult Factory for Other Drive Currents

Color Temp - CCT
- ☐ 27K (2700K)
- ☒ 30K (3000K)
- ☐ 40K (4000K)
- ☐ 50K (5000K)
- ☐ TRA True Amber

Consult Factory for Other LED Color, CCT, & CRI Options

NOTES:
1 - 1400mA & 1225mA drive currents not available in RZRM
2 - TRA available in 350mA & 525mA drive currents only.

Voltage
- ☒ UNV (120-277)
- ☐ 347
- ☐ 480

Mounting

Arm Mount
- ☒ 1
- ☐ 2-180
- ☐ 2-90
- ☐ 3-90
- ☐ 3-120
- ☐ 4-90

Wall Mount
- ☐ WM

WM - Wall Mount provided with mounting bracket and cover.

Finish

Standard Textured Finish
- ☐ Black 9005-T
- ☐ White 9003-T
- ☐ Grey 7004-T
- ☐ Dark Bronze 8019-T
- ☐ Green 6005-T

Premium Finishes
- ☐ Rust
- ☐ Patina Copper PC

For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S)

Consult factor for custom colors

Options
- ☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED**
- ☐ External Glare Shield 4 Sided **EGS4**
- ☐ External Glare Shield 3 Sided Rear Wedge **EGS3W**
- ☐ Round Pole Adapter **RPA**
- ☐ Twist Lock Receptable Only **TPR**
- ☐ 7-Pin Twist Lock Receptable Only **TPR7**
- ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW**
- ☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V**
- ☐ Photo Cell + Voltage (Example: PC120V) **PC+V**
- ☐ Single Fuse (120V, 277V) **SF**
- ☐ Double Fuse (208V, 240V) **DF**
- ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

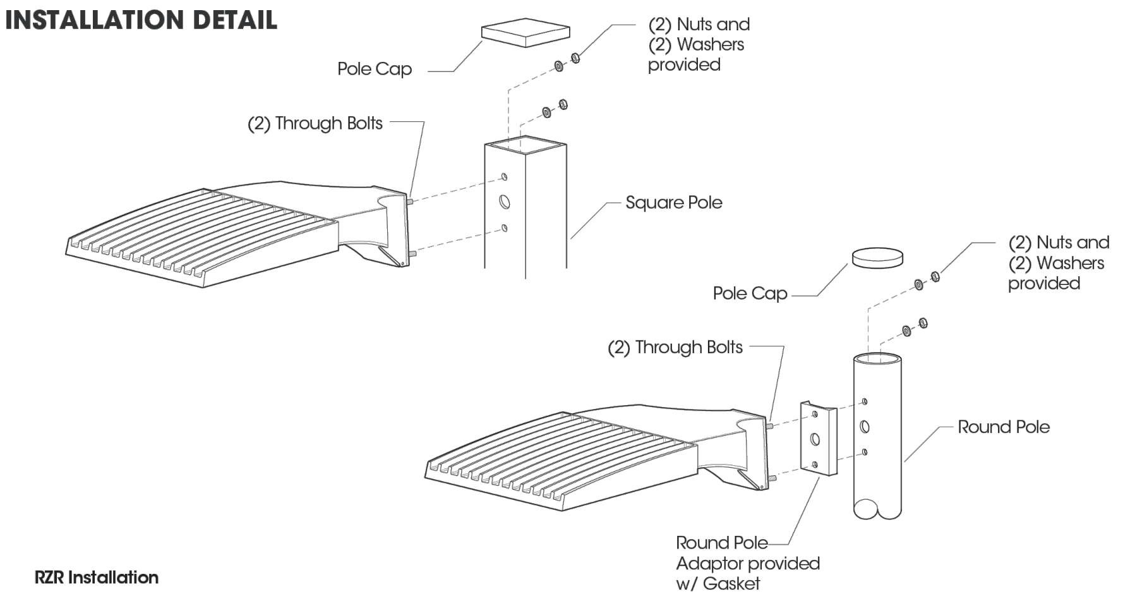
Catalog Number:
RZR-MAF/PLED-IV-FT/80LED-1400MA/30K/UNV/1/XXX
Notes:

Type: **R4-FT**
LV - CENTRAL25-200478

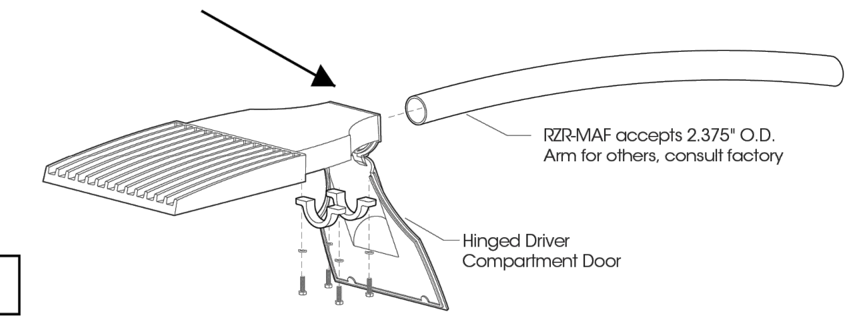
U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

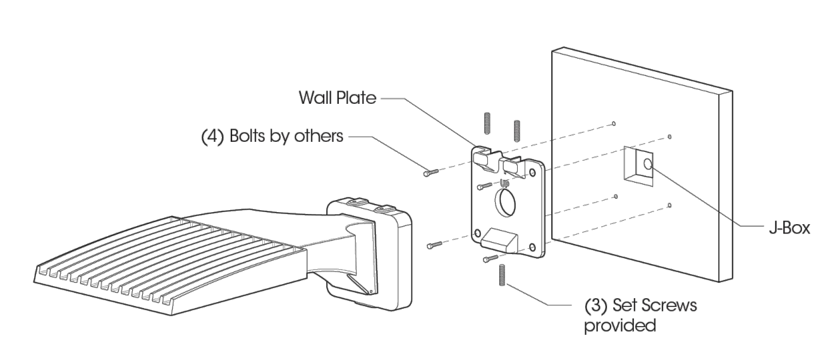
INSTALLATION DETAIL



RZR Installation



RZR-MAF Installation



RZR-WM Installation

Job Name:
ROUTE 29 INDUSTRIAL SITE
Architect: TIMMONS (null)

Catalog Number:
RZR-MAF/PLED-IV-FT/80LED-1400MA/30K/UNV/1/XXX
Notes:

Type: **R4-FT**
LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

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NOT FOR CONSTRUCTION

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YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE: 11/11/2024
DRAWN BY: E. ESPINO
DESIGNED BY: E. ESPINO
CHECKED BY: C. OLDAKER
SCALE:

TIMMONS GROUP

ROUTE 29 INDUSTRIAL SITE
COUNTY OF ALBEMARLE, VIRGINIA
LIGHTING CUTSHEETS

JOB NO. 64375
SHEET NO. L4.1

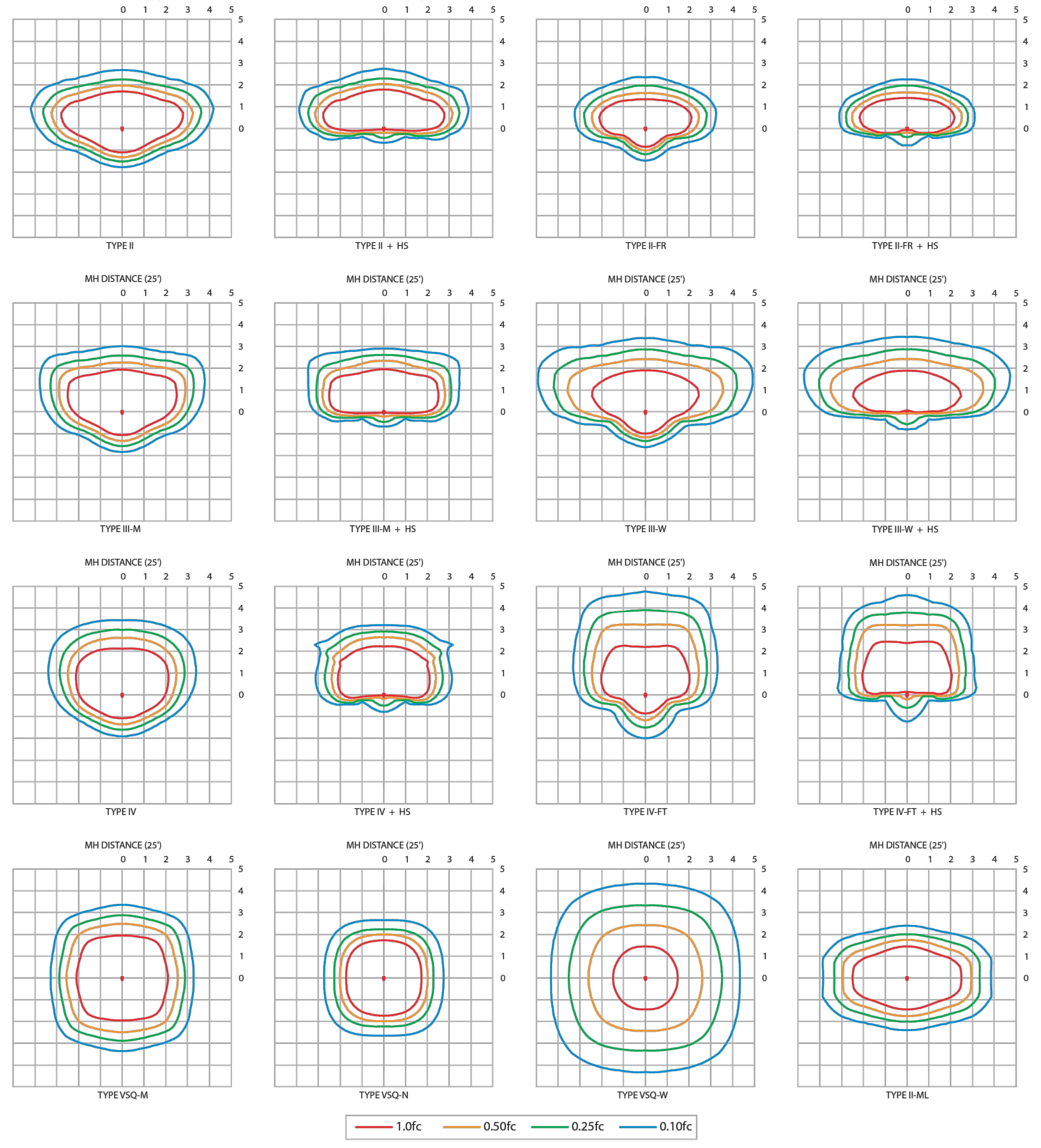
Submitted by Lighting Virginia-Central	**Job Name:** ROUTE 29 INDUSTRIAL SITE Architect: TIMMONS (null)	**Catalog Number:** RZR-MAF/PLED-IV-FT/80LED-1400MA/30K/UNV/1/XXX Notes:	**Type:** **R4-FT** LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE PLOTS

RZR/RZR-MAF-PLED-80LED-700mA-40K - 25' Pole Height



IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

U.S. Pole Company Inc.
An Employee Owned Company
660 West Avenue O, Palmdale, CA 93551
Phone (661) 233-2000 www.usaltg.com

MADE IN THE USA

Submitted by Lighting Virginia-Central	**Job Name:** ROUTE 29 INDUSTRIAL SITE Architect: TIMMONS (null)	**Catalog Number:** RZR-MAF/PLED-IV-FT/80LED-1400MA/30K/UNV/1/XXX Notes:	**Type:** **R4-FT** LV - CENTRAL25-200478

U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES - LED

PHOTOMETRIC DATA GUIDE - LUMEN TABLES

RZR/RZR-MAF-PLED

LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)		
				LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING		LUMENS	LPW	BUG RATING
80	1225	317.9	II	34767	109	B4-U0-G4	36279	114	B4-U0-G4	37790	119	B4-U0-G4	39302	124	B4-U0-G4	N/A	N/A		
			II-FR	35001	110	B4-U0-G2	36523	115	B4-U0-G2	38044	120	B4-U0-G2	39566	124	B4-U0-G2				
			II-ML	34769	109	B5-U0-G5	36280	114	B5-U0-G5	37792	119	B5-U0-G5	39304	124	B5-U0-G5				
			III-M	35375	111	B4-U0-G4	36913	116	B4-U0-G4	38451	121	B4-U0-G5	39989	126	B4-U0-G5				
			III-W	32846	103	B3-U0-G5	34274	108	B3-U0-G5	35702	112	B3-U0-G5	37131	117	B3-U0-G5				
			IV	35110	110	B4-U0-G4	36636	115	B4-U0-G4	38163	120	B4-U0-G4	39689	125	B4-U0-G5				
			IV-FT	31983	101	B3-U0-G5	33373	105	B3-U0-G5	34764	109	B3-U0-G5	36155	114	B3-U0-G5				
			VSQ-N	36696	115	B5-U0-G2	38291	120	B5-U0-G2	39887	125	B5-U0-G2	41482	130	B5-U0-G2				
			VSQ-M	35985	113	B5-U0-G4	37549	118	B5-U0-G4	39114	123	B5-U0-G4	40678	128	B5-U0-G4				
			VSQ-W	35125	110	B5-U0-G5	36652	115	B5-U0-G5	38179	120	B5-U0-G5	39706	125	B5-U0-G5				
			II-HS	25427	80	B2-U0-G4	26533	83	B2-U0-G4	27638	87	B2-U0-G4	28744	90	B2-U0-G4				
			II-FR-HS	25865	81	B2-U0-G2	26989	85	B2-U0-G2	28114	88	B2-U0-G2	29239	92	B2-U0-G2				
			III-M-HS	25725	81	B1-U0-G4	26843	84	B1-U0-G4	27962	88	B1-U0-G5	29080	91	B1-U0-G5				
			III-W-HS	25179	79	B1-U0-G5	26274	83	B1-U0-G5	27369	86	B1-U0-G5	28464	90	B1-U0-G5				
			IV-HS	26570	84	B1-U0-G4	27725	87	B1-U0-G4	28881	91	B1-U0-G4	30036	94	B1-U0-G4				
			IV-FT-HS	25111	79	B1-U0-G5	26202	82	B1-U0-G5	27294	86	B1-U0-G5	28386	89	B1-U0-G5				
80	1400	366.2	II	37677	103	B4-U0-G4	39315	107	B4-U0-G4	40953	112	B4-U0-G4	42591	116	B4-U0-G5	N/A	N/A		
			II-FR	37930	104	B4-U0-G2	39579	108	B4-U0-G2	41228	113	B4-U0-G3	42877	117	B4-U0-G3				
			II-ML	37678	103	B5-U0-G5	39317	107	B5-U0-G5	40955	112	B5-U0-G5	42593	116	B5-U0-G5				
			III-M	38336	105	B4-U0-G5	40003	109	B4-U0-G5	41670	114	B4-U0-G5	43337	118	B4-U0-G5				
			III-W	35595	97	B3-U0-G5	37143	101	B3-U0-G5	38690	106	B3-U0-G5	40238	110	B4-U0-G5				
			IV	38048	104	B4-U0-G4	39703	108	B4-U0-G5	41357	113	B4-U0-G5	43011	117	B4-U0-G5				
			IV-FT	34659	95	B3-U0-G5	36166	99	B3-U0-G5	37673	103	B4-U0-G5	39180	107	B4-U0-G5				
			VSQ-N	39767	109	B5-U0-G2	41496	113	B5-U0-G2	43225	118	B5-U0-G2	44954	123	B5-U0-G2				
			VSQ-M	38996	106	B5-U0-G4	40692	111	B5-U0-G4	42387	116	B5-U0-G4	44082	120	B5-U0-G4				
			VSQ-W	38065	104	B5-U0-G5	39720	108	B5-U0-G5	41374	113	B5-U0-G5	43029	118	B5-U0-G5				
			II-HS	27555	75	B2-U0-G4	28753	79	B2-U0-G4	29951	82	B2-U0-G4	31149	85	B2-U0-G4				
			II-FR-HS	28030	77	B2-U0-G2	29248	80	B2-U0-G2	30467	83	B2-U0-G2	31686	87	B2-U0-G3				
			III-M-HS	27878	76	B1-U0-G5	29090	79	B1-U0-G5	30302	83	B1-U0-G5	31514	86	B1-U0-G5				
			III-W-HS	27287	75	B1-U0-G5	28474	78	B1-U0-G5	29660	81	B1-U0-G5	30846	84	B1-U0-G5				
			IV-HS	28794	79	B1-U0-G4	30046	82	B1-U0-G4	31298	85	B1-U0-G5	32550	89	B1-U0-G5				
			IV-FT-HS	27213	74	B1-U0-G5	28396	78	B1-U0-G5	29579	81	B1-U0-G5	30762	84	B1-U0-G5				

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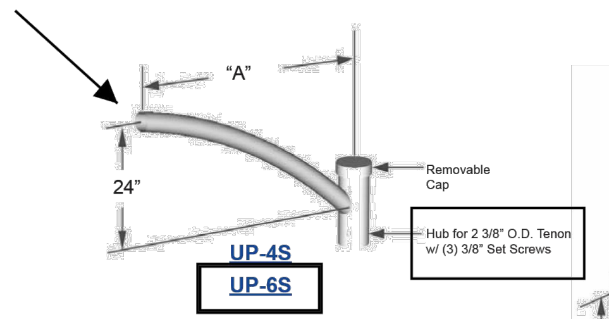
U.S. Pole Company Inc.
An Employee Owned Company
660 West Avenue O, Palmdale, CA 93551
Phone (661) 233-2000 www.usaltg.com

MADE IN THE USA

Submitted by Lighting Virginia-Central	**Job Name:** ROUTE 29 INDUSTRIAL SITE Architect: TIMMONS (null)	**Catalog Number:** UP-6S-XXX Notes:	**Type:** **6' MAST ARMS** LV - CENTRAL25-200478

Accessories - Upsweep Arms



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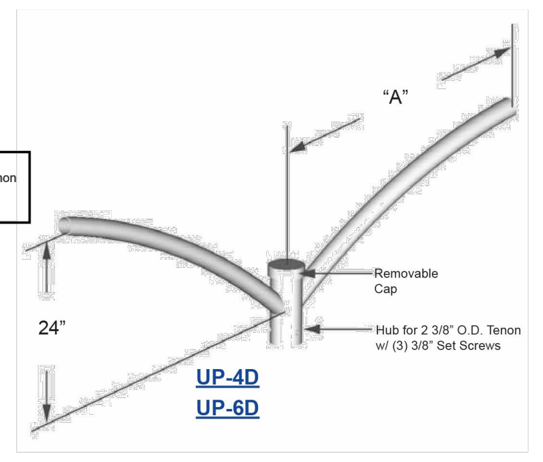

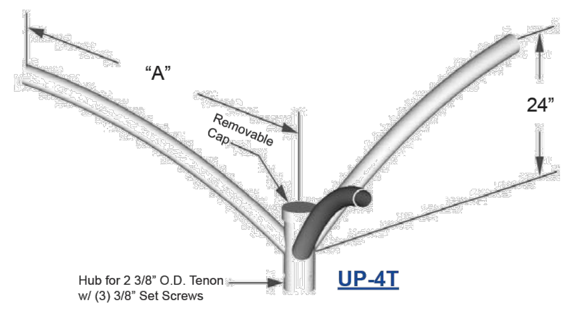

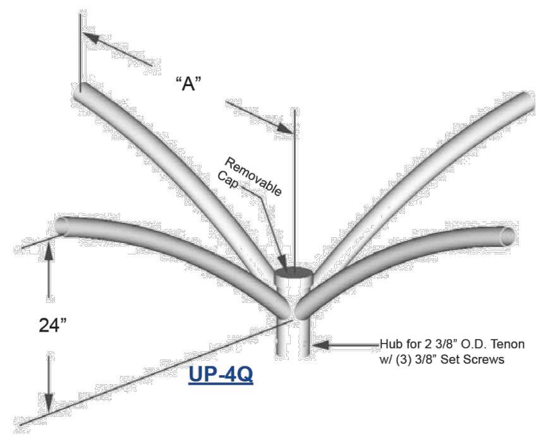

Catalog Number	Arms	"A" Span (ft)	Weight (lbs)	EPA (ft²)
UP-4S	1	4	22	1.1
UP-6S	1	6	29	1.5
UP-4D	2@180°	4	40	2.1
UP-6D	2@180°	6	54	2.8
UP-4T	3@120°	4	57	1.8
UP-4Q	4@90°	4	75	2.8

ALP AMERICAN LITEPOLE

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LIGHTING CUTSHEETS

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