PROJECT MANAGER DAVID LE (703) 746-4058 (CITY OF ALEXANDRIA)
SURVEYED BY, DATE CITY OF ALEXANDRIA - (4/4/20 TO 6/5/20)
DESIGN BY ELI GOLDMAN (703) 766-0286 (CHRISTOPHER CONSULTANTS)
SUBSURFACE UTILITY BY, DATE

FOR INDEX OF SHEETS SEE SHEET C001 & BELOW

STATE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.			U000-100-814 SEE TABULATIONS BELOW FOR SECTION NUMBERS	C000

FHWA-534-45028

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING DESIGN PACKAGE (GEOPAK).
GEOPAK Computer Identification No. (UPC #105563)

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED
BIKE FACILITY
& SHARED USE PATH

CITY OF ALEXANDRIA, N. BEAUREGARD STREET
FROM: FILLMORE AVENUE
TO: BERKELEY STREET

60% SUBMISSION
MARCH 10, 2022

SHEET INDEX

THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY AS AWARDED, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE GENERAL NOTES.

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2020 ROAD AND BRIDGE SPECIFICATIONS, 2016 ROAD AND BRIDGE STANDARDS, 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY.

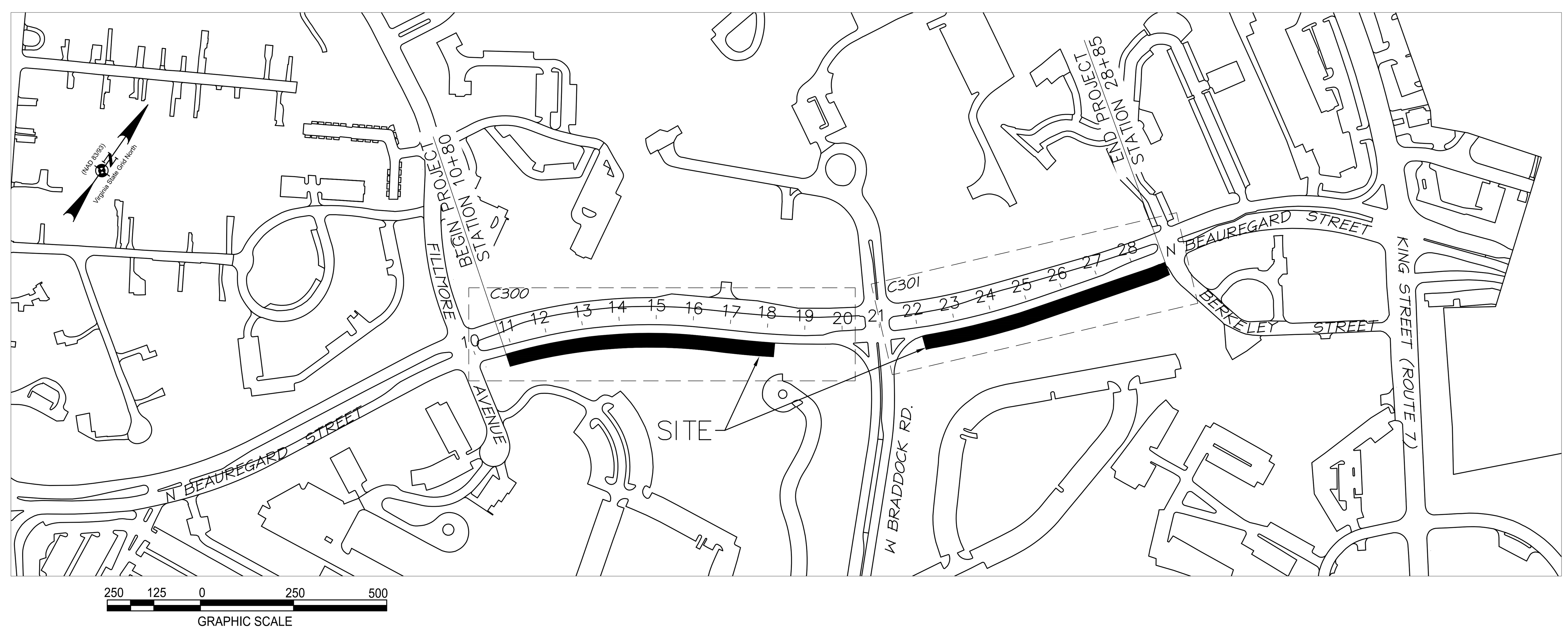
ALL CURVES ARE TO BE SUPERELEVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD TC-5.11U, EXCEPT WHERE OTHERWISE NOTED.

THE ORIGINAL APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, IS FILED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
DROP INLET
UNFENCED PROPERTY LINE
HEAVY WOODS
WATER LINE
SANITARY SEWER LINE
TELE. UNDERGROUND CABLE
ELECTRIC UNDERGROUND CABLE
TRAVELED WAY
RETAINING WALL
BASE OR SURVEY LINE

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA	
	Fr: FILLMORE AVENUE (UR-3E) To: KING STREET (ROUTE 7)
ADT (1996)	15000
ADT (2018)	21000
DHV	N.A.
D (%) (design hour)	N.A.
T (%) (design hour)	N.A.
V (MPH)	45 (DESIGN), 35 (POSTED)



TIER 1 PROJECT

LOCALLY ADMINISTERED PROJECTS	
NAME OF LOCALITY	
(SIGNATURE)	
NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICAL (TYPED)	
RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
DATE	TITLE OF POSITION
(SIGNATURE)	
NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICAL (TYPED)	
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
DATE	TITLE OF POSITION

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION

DISTRICT PLANNING AND INVESTMENT MANAGER

DISTRICT PROJECT DEVELOPMENT ENGINEER

APPROVED FOR RIGHT OF WAY ACQUISITION

DISTRICT ENGINEER/ADMINISTRATOR

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

DISTRICT PLANNING AND INVESTMENT MANAGER

DISTRICT PROJECT DEVELOPMENT ENGINEER

APPROVED FOR CONSTRUCTION

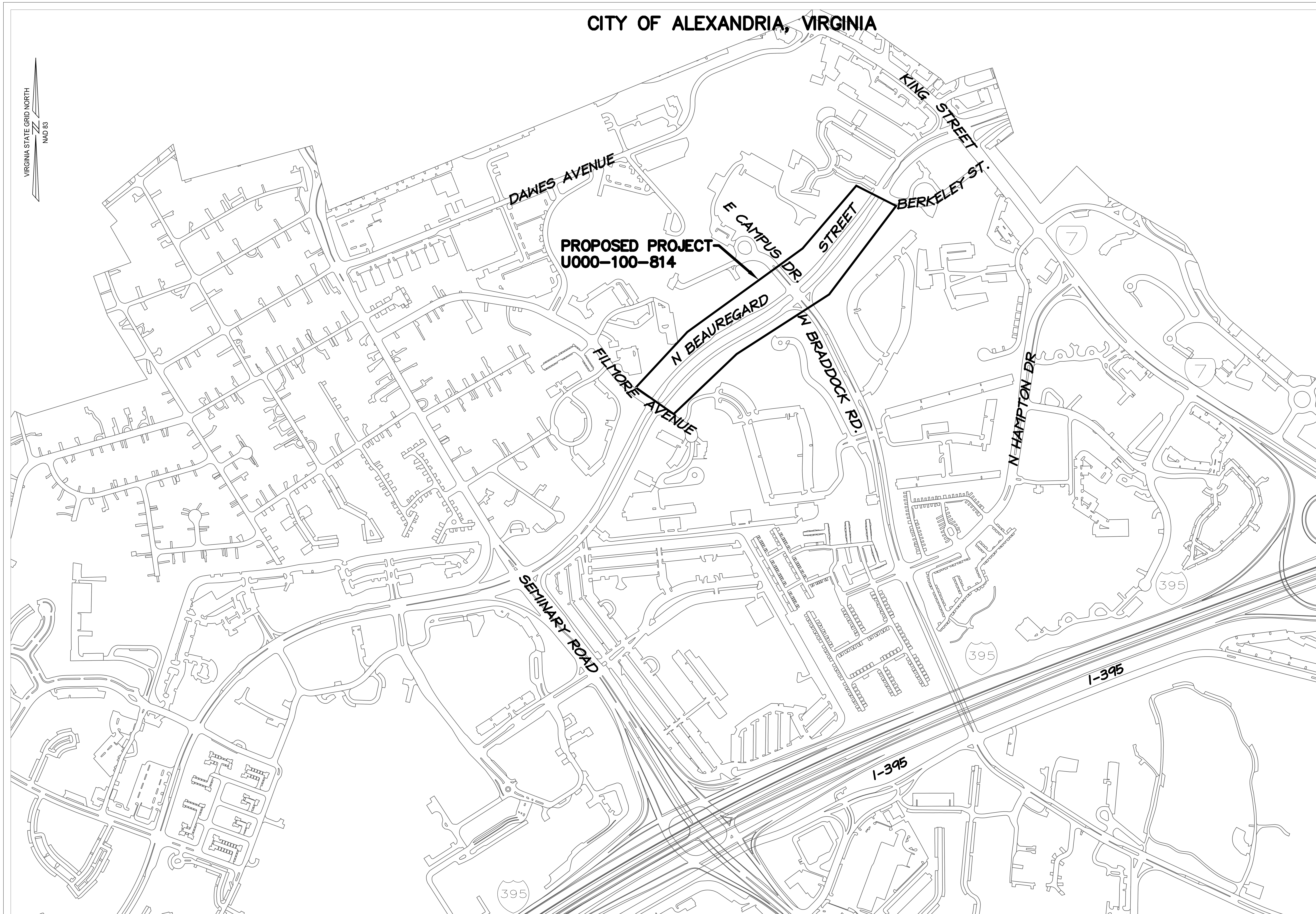
DISTRICT ENGINEER/ADMINISTRATOR

POPULATION OF 159,467 FOR THE CITY OF ALEXANDRIA, VIRGINIA (2020 CENSUS)

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	UPC NO.	PPMS NO.	LENGTH INCLUDING BRIDGE(S) FEET	LENGTH INCLUDING BRIDGE(S) MILES	LENGTH EXCLUDING BRIDGE(S) FEET	LENGTH EXCLUDING BRIDGE(S) MILES	TYPE PROJECT	DESCRIPTION
U000-100-814		CMAQ-5B01(105)		105563		N/A	N/A	1400	0.265	PRELIM. ENGINEERING	SHARED USE PATH

NOTE: PROJECT LENGTH BASED ON CONSTRUCTION BASELINE

LOCATION MAP



300 150 0 300 600
GRAPHIC SCALE
1" = 300'

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

LOCATION MAP

C001

P:\Projects\21266\00100\111333 - 60%\C001 LOCATION MAP.dwg PLOTTED: 3/10/2022 8:18:13 AM BY FERAS ALNATOUR

RIGHT OF WAY DATA SHEET

PARCEL NO.	LANDOWNER	SHEET NO.	AREA																
			TOTAL	FEE TAKING		PRESCRIPTIVE R/W		FEE REMAINDER		EASEMENTS									PROFFERS
										PERMANENT		UTILITY		TEMPORARY		TEMPORARY (ENTRANCES)			
			ACRES OR SQUARE FEET	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/OR SQ. METERS		YES / NO
001	NEWPORT VILLAGE LLC	C400/C401	17,699 SF											17,699 SF					

60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE | BY | DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-0008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MO DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

RIGHT OF WAY TABLE

C002

P:\Projects\21266\00100\111333 - 60%\C002 RIGHT OF WAY TABLE.dwg PLOTTED: 3/10/2022 8:18:17 AM BY FERAS ALNATOUR

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH
60% CONSTRUCTION DOCUMENTS
CITY OF ALEXANDRIA, VIRGINIA

PROJECT NUMBERS
STATE PROJECT # - U000-100-814
FEDERAL JOB # - P101 FEDERAL #CMAQ-5B01(105)
UPC# - 105563
RFQU # - 912
CCL# - 21266.001.00

NARRATIVE DESCRIPTION OF THE PROJECT

THIS PROJECT CONSISTS OF APPROXIMATELY 1,400 LINEAR FEET OF A 10' WIDE SHARED USE PATH ALONG THE SOUTH SIDE OF NORTH BEAUREGARD STREET BETWEEN FILLMORE AVENUE AND BERKELEY STREET. THIS TRAIL IS DESIGNED TO BE LEVEL 1 PERMEABLE PAVEMENT AND WILL REQUIRE THREE RETAINING WALLS TO ACCOMMODATE THE EXPANDED WIDTH OF THE SHARED USE PATH.

PERMEABLE PAVEMENT TO BE MAINTAINED BY THE CITY OF ALEXANDRIA.

NOTES:

1. THIS SITE IS LOCATED IN A RESOURCE PROTECTION AREA (RPA). A FIELD INVESTIGATION TO LOCATE THE EXTENTS OF THE RPA WAS PERFORMED ON OCTOBER 11, 2021 BY ANNA OEHSER (WSSI). THE RPA LINE IDENTIFIED ON THIS PLAN IS PER WSSI FIELD INVESTIGATION.
2. THIS PROJECT CONTAINS STEEP SLOPES ALONG THE SOUTH SIDE OF THE PROJECT LIMITS.
3. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO AREAS ON-SITE CONTAINING CONTAMINATED SOILS OR CONTAMINATED GROUNDWATER.
4. IN ACCORDANCE WITH THE CITY OF ALEXANDRIA'S MARINE CLAY AREAS MAP DATED NOVEMBER 1976, THERE ARE NO AREAS OF MARINE CLAY LOCATED IN THE VICINITY OF THIS SITE.
5. THIS PROJECT IS NOT LOCATED WITHIN A COMBINED SEWER AREA.

UTILITY CONTACTS:

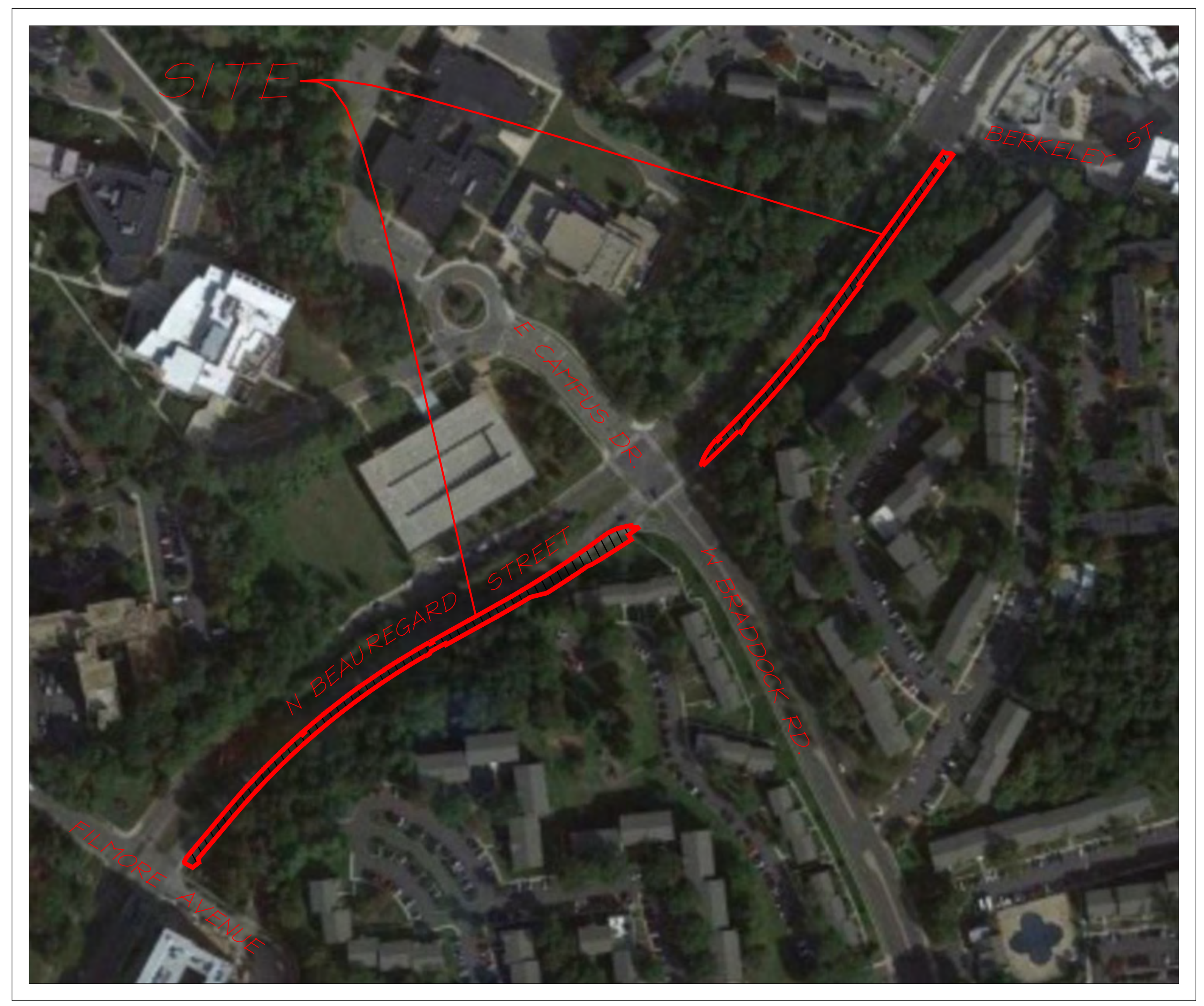
DOMINION VIRGINIA POWER
MR. KEN HOLMES
907 WEST GLEBE ROAD.
ALEXANDRIA, VA 22305
(703) 838-2478

COMCAST CABLE
MR. GUSTAVO CATELLON
2707 WILSON BLVD.
ARLINGTON, VA 22201
(703) 926-0534

VERIZON
MR. STEVE H PURYEAR, SUPERVISOR-ENGINEERING
2980 FAIRVIEW PARK DRIVE, 6TH FLOOR
FALLS CHURCH, VA 22042
(703) 204-5072

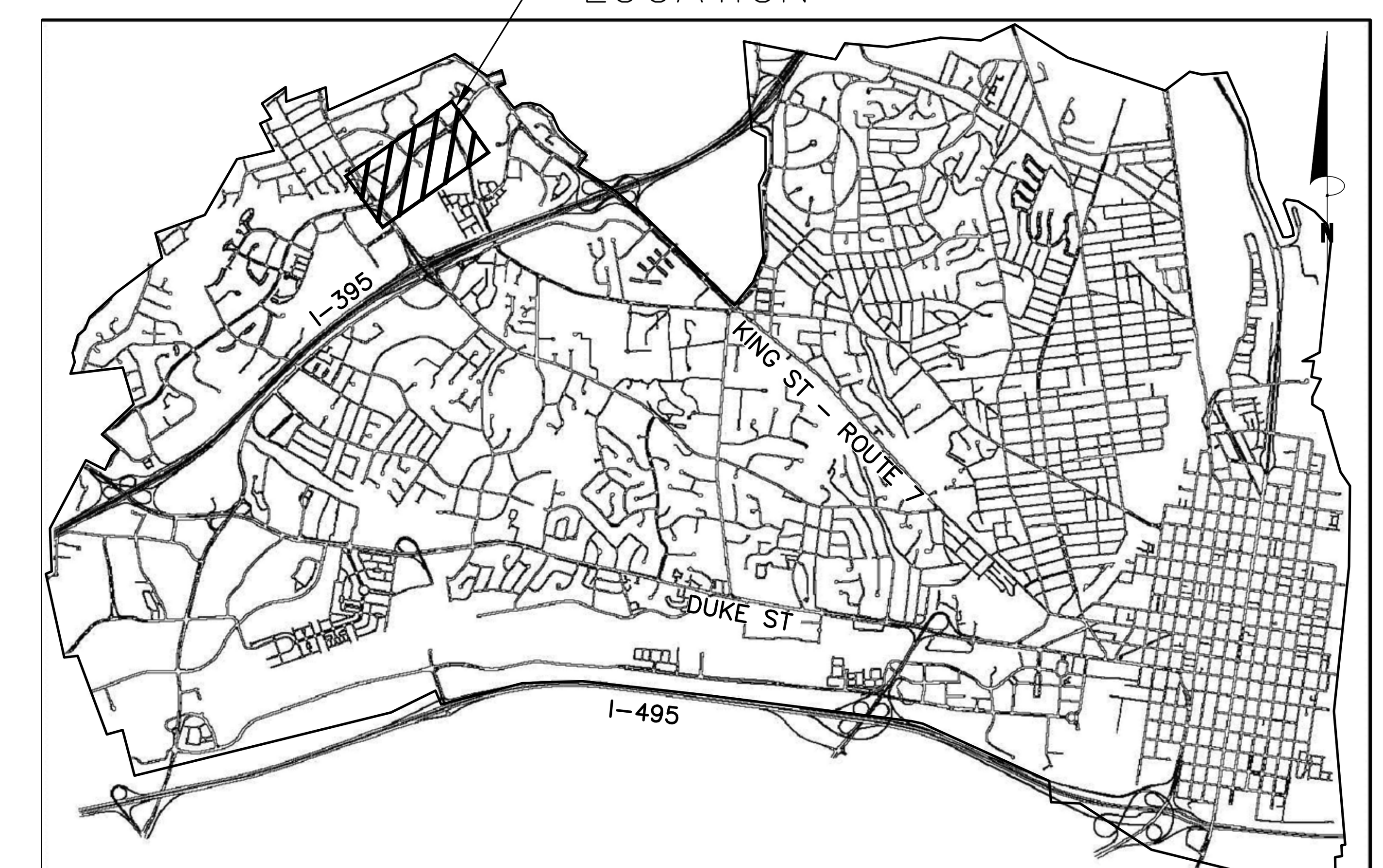
CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
301 KING STREET, ROOM 4100
ALEXANDRIA, VA 22314
(703) 746-4025

VIRGINIA STATE GRID NORTH
NAD 83



AREA MAP
SCALE 1" = 200'

SITE LOCATION



VICINITY MAP
SCALE 1" = 4000'

SHEET INDEX

CIVIL	
C000	VDOT COVER SHEET
C001	LOCATION MAP
C002	RIGHT OF WAY TABLE
C003	CITY COVER SHEET
C100-C101	GENERAL NOTES
C200-C202	SITE DETAILS
C300-C301	EXISTING CONDITIONS PLAN
C302-C303	DEMOLITION PLAN
C400-C401	SITE PLAN
C500-C501	GRADING PLAN
C502	TYPICAL TRAIL SECTION
C503	SIGNAGE PLAN
C504-C505	PERMEABLE PAVEMENT PLAN
C506-C507	TRAIL MARKING PLAN
C510-C511	RETAINING WALL PLAN AND PROFILE
C550-C553	TRAIL PLAN AND PROFILE
C600-C601	BMP WATER QUALITY
C602	PRE BMP MAP
C603	POST BMP MAP
C604	BMP CALCULATIONS AND MAINTENANCE SCHEDULE
C605	STORMWATER MANAGEMENT - WATER QUANTITY
C606-C608	PRE AND POST HYDROGRAPH
C609	OUTLET CONTROL DETAIL
C610-C611	DITCH SECTIONS AND CALCULATIONS
C650	STORM SEWER COMPS
C651-C652	STORM SEWER PROFILES
C700	TRAFFIC MANAGEMENT PLAN (TMP)
C701-C702	TRAFFIC CONTROL PLAN
C710-C711	TEST PIT LOCATION PLAN
C800	EROSION & SEDIMENT CONTROL PLAN - PHASE 1
C801	EROSION & SEDIMENT CONTROL PLAN - PHASE 2
C802	EROSION & SEDIMENT CONTROL NOTES
C803	EROSION & SEDIMENT CONTROL DETAILS
C950-C951	LIGHTING PLAN
C952	LIGHTING DETAILS
LANDSCAPE	
L100	COVERT SHEET
L200-L201	TREE PRESERVATION PLAN
L202	TREE PRESERVATION INVENTORY
L203	TREE PRESERVATION SCHEDULE AND NOTES
L300-L301	LANDSCAPE PLAN
L302	LANDSCAPE SCHEDULE
L303	LANDSCAPE NOTES AND DETAILS

OWNER/APPLICANT
CITY OF ALEXANDRIA
301 KING STREET
ALEXANDRIA, VA 22314
(703) 746-4045

CIVIL ENGINEER
christopher consultants, ltd.
9900 MAIN STREET
SUITE 400
FAIRFAX, VIRGINIA 22031
(703) 273-6820

COST ESTIMATOR
PROCON CONSULTING
1005 N. GLEBE
SUITE 325
ARLINGTON, VA 22201
(703) 527-7059

ENVIRONMENTAL ENGINEER
WETLAND STUDIES AND SOLUTIONS, INC.
5300 WELLINGTON BRANCH DRIVE
SUITE 100
GAINESVILLE, VIRGINIA 20155
(703) 679-5600

GEOTECHNICAL ENGINEER
DULLES GEOTECHNICAL
14155 SULLYFIELD CIRCLE
SUITE H
CHANTILLY, VA 20151
(703) 999-3207

ROW/EASEMENT ACQUISITION SPECIALIST
ERM AND ASSOCIATES
49 CULPEPPER STREET
WARRENTON, VA 20186
(540) 347-5547

va811.com
Dig With CARE
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
DIAL 811 IN VIRGINIA OR
1-800-552-7001

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF APPROXIMATELY 1,400 LINEAR FEET OF A 10' WIDE SHARED USE PATH ALONG THE SOUTH SIDE OF NORTH BEAUREGARD STREET BETWEEN FILLMORE AVENUE AND BERKELEY STREET. THIS TRAIL IS DESIGNED TO BE LEVEL 1 PERMEABLE PAVEMENT AND WILL REQUIRE THREE RETAINING WALLS TO ACCOMMODATE THE EXPANDED WIDTH OF THE SHARED USE PATH.

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES.

APPROVED
X DATE:
DIRECTOR

RECOMMENDED FOR APPROVAL
X DATE:
DEPUTY DIRECTOR OF OPERATIONS

RECOMMENDED FOR APPROVAL
X DATE:
DEPUTY DIRECTOR OF INFRASTRUCTURE & ENVIRONMENTAL QUALITY

RECOMMENDED FOR APPROVAL
X DATE:
DEPUTY DIRECTOR OF RIGHT-OF-WAY & DEVELOPMENT SERVICES

RECOMMENDED FOR APPROVAL
X DATE:
DEPUTY DIRECTOR OF TRANSPORTATION

DEPARTMENT OF PROJECT IMPLEMENTATION

APPROVED
X DATE:
DIRECTOR

RECOMMENDED FOR APPROVAL
X DATE:
DIVISION CHIEF

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY COVER SHEET

C003

P:\Projects\21266\00100\111333 - 60%\C000 COVER SHEET.dwg PLOTTED: 3/10/2022 8:18:19 AM BY FERAS ALNATOUR

CITY STANDARD GENERAL NOTES

1. THE SUBJECT SITE IS LOCATED IN CITY OF ALEXANDRIA RIGHT-OF-WAY.
2. OWNER: CITY OF ALEXANDRIA
3. APPLICANT: CITY OF ALEXANDRIA, DEPARTMENT OF PROJECT IMPLEMENTATION
4. THE TOPOGRAPHIC SURVEY SHOWN WAS RECEIVED FROM THE CITY OF ALEXANDRIA AND THE FIELD WORK WAS COMPLETED BETWEEN 4/4/20 TO 6/5/20. THE VERTICAL DATUM IS NAVD 88 (1' CONTOURS) AND THE HORIZONTAL DATUM IS NAD 83.
5. THE SITE CONTAINS SASSAFRAS-MARUMSCO COMPLEX AND URBAN LAND - KINGSTOWNE COMPLEX PER THE USDA SOIL SURVEY. A GEOTECHNICAL REPORT WILL BE PROVIDED WITH SUBSEQUENT SUBMISSIONS.
6. THE SITE IS LOCATED IN THE FOUR MILE RUN (WEST) WATERSHED.
7. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) STANDARDS AND SPECIFICATIONS, AS APPLICABLE.
8. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED, TO STREETS, ALLEYWAYS, DRIVEWAY APRONS, SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
9. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.
10. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS AND/OR PRIVATE PROPERTY, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) AND/OR PROPERTY OWNER.
11. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL CONSTRUCTION AND MITIGATION WORK. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMP GENERAL PERMIT CAN BE FOUND ONLINE AT: http://www.dcr.virgina.gov/soil_and_water/vsmp.shtml.
12. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ) AND TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703)-746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
13. ALL CONSTRUCTION IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
14. TO THE BEST KNOWLEDGE OF THE ENGINEER, THERE ARE NO GRAVES OR BURIAL SITES FOUND ON THIS PROPERTY.
15. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
16. IN THE EVENT THE PROPOSED SITE GRADING ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON PUBLIC RIGHT OF WAY OR PRIVATE PROPERTY THEN THE APPLICANT SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO SITE GRADING TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
17. THE EXISTING SIDEWALKS SHALL REMAIN OPEN DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
18. CONTRACTOR SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
19. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
20. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DEPARTMENT OF PROJECT IMPLEMENTATION INSPECTOR.
21. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALEXANDRIA NOISE CONTROL CODE TITLE II, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 9:00 AM - 3:30 PM
   SATURDAYS FROM 9:00 AM TO 3:30 PM
   NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS

TRAIL SPEED NOTE:

1. THE MINIMUM SPEED OF THE TRAIL IS 20 MPH.

SITE ASSESSMENT:

1. THERE ARE NO TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS OR WETLANDS LOCATED ON THIS SITE. THERE ARE NO WETLANDS PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. THIS PROJECT IS LOCATED IN A RPA AND HAS STEEP SLOPES.
2. THIS PROJECT IS NOT LOCATED WITHIN A 100-YR FLOOD PLAIN.
3. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, DIVISION OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, AND SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE AND CITY REGULATIONS.
4. IF REQUIRED, ALL WELLS TO BE DEMOLISHED ON THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH STATE WELL REGULATION. CONTACT THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4996.

MISS UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF, DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE LOCATIONS SHOWN ON THE PLANS, HE/SHE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND PROPERTY OWNERS AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
2. THE DEPTHS AND LOCATIONS OF ANY UNDERGROUND ELECTRIC, WATER, TELEPHONE, GAS MAINS OR OTHER UTILITIES THAT CANNOT BE FIELD SURVEYED, CALL MISS UTILITY (1-800-257-7777) 48 HOURS PRIOR TO EXCAVATING TO LOCATE THE UNDERGROUND UTILITIES.

ARCHAEOLOGY NOTES:

1. THE FINAL SITE PLAN, GRADING PLAN, OR ANY OTHER PERMITS INVOLVING GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) SHALL NOT BE RELEASED UNTIL THE CITY ARCHAEOLOGIST CONFIRMS THAT ALL ARCHAEOLOGICAL FIELD WORK HAS BEEN COMPLETED OR THAT AN APPROVED RESOURCE MANAGEMENT PLAN IS IN PLACE TO RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT (703) 746-4399.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR THE CITY ARCHAEOLOGISTS CAN BE ARRANGED.
3. THE APPLICANT / DEVELOPER SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT / DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

RODENT ABATEMENT NOTE:

1. PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION THAT WILL OUTLINE STEPS WHAT STEPS HAVE AND WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION AT (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION. PLEASE BE ADVISED ONCE ANY DEMOLITION HAS BEEN COMPLETED ANY ABOVE GRADE BAIT BOXES MUST BE RELOCATED TO WITHIN 50 FEET OF A STRUCTURE IN KEEPING EXA REGULATIONS. IF THIS IS NOT POSSIBLE, THEY SHALL BE REMOVED AND REGULAR INSPECTIONS OF THE SITE CONDUCTED BY A VIRGINIA LICENSED PEST EXTERMINATOR TO ENSURE THE SITE REMAINS RODENT FREE.

MOSQUITO CONTROL NOTES:

1. SINCE STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THAN 5 DAYS BETWEEN THE MONTHS OF MAY AND OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS; THEREFORE, SUCH BMPS SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.
2. SINCE EXCESSIVE VEGETATION IN EXISTING BMPS ALSO INCREASES THE POTENTIAL FOR MOSQUITO PROBLEMS; THEREFORE VEGETATION SHALL BE CONTROLLED AND CUT TO REDUCE MOSQUITO BREEDING.
3. CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703-838-4910) FOR QUESTIONS OR TREATMENT ASSISTANCE.

UTILITY NOTES:

1. SANITARY AND STORM SEWERS ARE MAINTAINED BY THE CITY OF ALEXANDRIA.
2. ELECTRIC LINES ARE OWNED AND MAINTAINED BY DOMINION VIRGINIA POWER.
3. TELEPHONE/COMMUNICATION LINES ARE OWNED AND MAINTAINED BY VERIZON.
4. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. ALL EXCAVATED MATERIAL TO BE REPLACED INTO THE TRENCH SHALL BE STOCKPILED ON THE HIGH SIDE OF THE TRENCH. IF ANY TRENCH WORK WILL REMAIN OPEN AFTER THE END OF THE WORKDAY ALL NEEDED EROSION AND SEDIMENT CONTROLS SHALL BE EMPLOYED. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS AND DETERMINED BY THE CITY OF ALEXANDRIA.

CONSTRUCTION NOTES:

1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.
2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL CLEAN THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC. WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.
6. THE DEVELOPER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
7. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OF OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
8. EXISTING SEPTIC FIELDS, IF APPLICABLE, SHALL BE ABANDONED IN ACCORDANCE WITH VIRGINIA HEALTH DEPARTMENT STANDARDS AND SPECIFICATIONS.
9. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
10. PRIOR TO BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSIONS, DETAILS AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
11. THE CONTRACTOR IS TO VERIFY INVERT, SIZE AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.
12. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONTRACTOR.
13. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
14. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
15. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
16. THE DESIGN, CONSTRUCTION, FIELD PRACTICES AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR PERMITS SHALL BE DEEMED A VIOLATION.
17. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
18. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
19. THE CONTRACTOR IS REFERRED TO STRUCTURAL, GEOTECHNICAL, MECHANICAL AND ARCHITECTURAL PLANS FOR FOUNDATION TREATMENT INCLUDING, BUT NOT LIMITED TO, SHEETING AND SHORING FOR BUILDING EXCAVATION, WATERPROOFING FOR EXCAVATION, LOCATION OF MECHANICAL EQUIPMENT, AND CONNECTIONS AT THE FACES OF BUILDINGS.
20. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
22. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. THE CONTRACTOR WILL REVISE THE PAVEMENT DESIGN BASED ON THE FIELD DETERMINED CBR. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL /LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
23. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATA BOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
24. EMERGENCY VEHICLE EASEMENTS (EVE) AND AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKINGS PER THE CITY OF ALEXANDRIA STANDARD SIGNAGE AND AMERICAN WITH DISABILITIES (ADA) REQUIREMENTS.
25. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
26. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS.
27. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
28. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE THERMOPLASTIC LADDER STYLE/STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS AT THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR,TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE DESIGN OF LADDER STYLE OR STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18, PEDESTRIAN CROSSWALKS, JULY 13, 2006. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM YON LAMBERT, BICYCLE AND PEDESTRIAN COORDINATOR/TRANSPORTATION PLANNER, TELEPHONE (703) 746-4081.
29. THE APPLICANT SHALL WORK WITH THE CITY FOR RECYCLING AND/OR REUSE OF THE EXISTING BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS, INCLUDING LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS.
30. APPLICANT/CONTRACTOR SHALL IMPLEMENT A WASTE AND REFUSE CONTROL PROGRAM DURING THE CONSTRUCTION PHASE OF THIS DEVELOPMENT. THIS PROGRAM SHALL CONTROL WASTES SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER OR TRASH, TRASH GENERATED BY CONSTRUCTION WORKER OR MOBILE FOOD VENDOR BUSINESSES SERVING THEM, AND ALL SANITARY WASTE AT THE CONSTRUCTION SITE AND PREVENT OFFSITE MIGRATION THAT MAY CAUSE ADVERSE IMPACTS TO NEIGHBORING PROPERTIES OR TO THE ENVIRONMENT TO THE SATISFACTION OF DIRECTORS OF T&ES AND CODE ADMINISTRATION. ALL WASTES SHALL BE PROPERLY DISPOSED OFFSITE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS.

ABBREVIATIONS

&	AND
∠	ANGLE
@	AT
℄	CENTER LINE
∅	DIAMETER
Δ	DELTA
℘	PROPERTY LINE
W/	WITH
A	
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	ACRE
AC-FT	ACRE-FEET
AD	AREA DRAIN
ADJ	ADJACENT
AGGR	AGGREGATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
B	
BF	BASEMENT FLOOR
BLDG	BUILDING
BM	BENCHMARK
BOC	BACK OF CURB
BOV	BLOW OF VALVE
BSMT	BASEMENT
BW	BOTTOM OF WALL
C	
C/O	CLEAN OUT
C	RUNOFF COEFFICIENT
C&G	CURB AND GUTTER
CB	CATCH BASIN
CBR	CALIFORNIA BEARING RATIO
C-C	CENTER TO CENTER
CF	CUBIC FOOT
CFS	CUBIC FEET PER SECOND
CIP	CAST-IN-PLACE
CIR	CIRCLE
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONT	CONTINUOUS OR CONTINUE
CONC	CONCRETE
CONST	CONSTRUCTION
CONTR	CONTRACTOR
CORR	CORRUGATED
CY	CUBIC YARD
D	
D	DEPTH
DA	DRAINAGE AREA
DEMO	DEMOLITION
DEPT	DEPARTMENT
DI	DROP INLET / DUCTILE IRON
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DOM	DOMESTIC
DN	DOWN
DS	DOWN SPOUT
DTL	DETAIL
DWG	DRAWING
E	
E/W	EACH WAY
EA	EACH
EC	EROSION CONTROL
EG	EDGE OF GRAVEL
EGL	ENERGY GRADE LINE
ELEC	ELECTRIC
ELEV	ELEVATION
ENGR	ENGINEER
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
ES	END SECTION
ESMT	EASEMENT
EQ	EQUAL
EW	END WALL
EX	EXISTING
EXP	EXPANSION
F	
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
FDN	FOUNDATION
FO	FIBER OPTIC
FOC	FACE OF CURB
FP	FLOOD PLAIN
FT	FEET/FOOT
G	
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GFA	GROSS FLOOR AREA
GIS	GEOGRAPHICAL INFOORMATION SYSTEM
GM	GAS METER
GPM	GALLONS PER MINUTE
GR	GUARD RAIL
GV	GAS VALVE
GW	GUY WIRE
H	
HC	HANDICAP COMPLIANT
HB	HORIZONTAL BEND
HDPE	HIGH DENSITY POLY ETHYLENE
HGL	HYDRAULIC GRADE LINE
HORZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HR	HANDRAIL
HT	HEIGHT
HW	HEADWATER
I	
I	RAINFALL INTENSITY
ID	INSIDE DIAMETER
IN	INCH
INV	INVERT
IP	IRON PIPE
IPF	IRON PIPE FOUND
IPS	IRON PIPE SET
J	
JB	JUNCTION BOX
JT	JOINT
K	
Ke	CULVERT ENTRANCE LOSS COEFFICIENT
L	
L	LENGTH
LAT	LATERAL
LL	LOWER LEVEL
LP	LOW POINT
LT	LEFT
M	
M.E.	MATCH EXISTING
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MPH	MILE PER HOUR
MSL	MEAN SEA LEVEL
MW	MONITORING WELL
N	
N/A	NOT APPLICABLE
NFA	NET FLOOR AREA
NO.	NUMBER
NOM.	NOMINAL
O	
OC	ON CENTER
OD	OUTSIDE DIAMETER
O/H	OVERHEAD
OHC	OVERHEAD CABLE
OHE	OVERHEAD ELECTRIC
OHT	OVERHEAD TELEPHONE
P	
P	PERIMETER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PIP	POURED IN PLACE
PPF	PINCHED PIPE FOUND
PRC	POINT OF REVERSE CURVATURE
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
Q	
Q	FLOW RATE
QTY	QUANTITY
R	
R	RISER
RAD	RADIUS
R/W	RIGHT OF WAY
RCN	RUNOFF CURVE NUMBER
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REINF	REINFORCED/REINFORCING
REQD	REQUIRED
REV	REVISION
RPA	RESOURCE PROTECTION AREA
RR	RAILROAD
RT	RIGHT
RTE	ROUTE
S	
SAN	SANITARY
SCH	SCHEDULE
SDF	SPILLWAY DESIGN FLOOD
SEC	SECTION
SEW	SEWER
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
STM	STORM
SVC	SERVICE
S/W	SIDEWALK
SWM	STORM WATER MANAGEMENT
T	
T	TREAD
TBR	TO BE REMOVED
TBRL	TO BE RELOCATED
TELE	TELEPHONE
TEMP	TEMPORARY
TH	TEST HOLE
THR	THROAT
TOB	TOP OF BANK
TOC	TOP OF CURB
TP	TEST PIT
TS	TOP OF STAIRS
TW	TOP OF WALL
TYP	TYPICAL
U	
UD	UNDERDRAIN
UG	UNDERGROUND
UGC	UNDERGROUND CABLE
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
USGS	UNITED STATES GEOLOGICAL SURVEY
V	
VB	VERTICAL BEND
VC	VERTICAL CURVE
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
VEL	VELOCITY
VERT	VERTICAL
VIF	VERIFY IN FIELD
VSMP	VIRGINIA STORMWATER MANAGEMENT PROGRAM
VOL	VOLUME
W	
W	WIDE/WIDTH
WL	WATER LINE
WM	WATER METER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
X	
XING	CROSSING
Y	
YD	YARD
YI	YARD INLET
YR	YEAR
Z	
Z	SIDE SLOPES
ZO	ZONING ORDINANCE

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

GENERAL NOTES

C100

DEMOLITION NOTES:

1. A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.

2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO, ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.

4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.

6. PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).

8. THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

10. THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

UTILITY WORKS NOTES:

UNDERGROND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 4VAC50-30-40 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONAL APPLICABLE PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:

A. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT OF WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS/CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.

B. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.

D. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

E. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

F. 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.

G. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

H. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1551) COMPACTION IN ALL TRENCH BACKFILL.

I. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).

J. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

K. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.

L. A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.

M. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH CLEAN SOIL.

N. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.

O. ALL NEW INSTALLATIONS AND/OR REINSTALLATION OF UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES INCLUDING WATER AND SEWER LATERALS BOTH ON PRIVATE PROPERTY AND IN THE PUBLIC RIGHT OF WAY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH 3" AND 6" WIDE MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPES (DUWT). THE 3" DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" AND 6" WIDE AT A DEPTH OF 24" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. THE FOLLOWING ARE THE APWA COLOR CODES:

RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTING CABLES
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES AND FORCE MAIN

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

GENERAL NOTES

C101

LIGHTING | STREET POLE

02

Purpose
The street pole light shall be used to illuminate portions of the park system, including streets, park roads and trails.

General Information
Light fixtures shall be installed as a street or park road light in areas not guided by historic light fixture requirements or small area plan requirements.

Lighting in Public Open Space zoned properties requires a Special Use Permit.

The standard light fixture is Hadco, Inc., R53, or City approved equal.

Materials and Finish
The globe/post top shall be Type V, clear stabilized acrylic with a Victorian style roof.

The pole and fixture shall be finished with a black UV-resistant catalyzed urethane coating.

Lights shall be mounted on fiberglass, fluted and tapered decorative poles for post top lights.

Light poles/fixtures/luminaires shall be 14 feet total height from finished grade and installed with an anchor base.

The ornamental base cover shall be designed to cover the anchor bolts in one or two pieces, be vandal resistant and finished to match the post.

Lamps shall be LED.

Features
Light fixtures that require separate ballast boxes are not permitted.

Post tops shall include full top reflectors and may include a house side shield if warranted by the pole location.

Color temperature shall be between 3,000K and 4,000K.

Installation
Light poles shall be located so as not to be in conflict with tree vegetation or plantings.

Lights shall be located a minimum of 3 feet clear from the edge of all shared-use paths or pedestrian walkways.

Top of light pole foundations shall be flush to finished grade. Top of footing shall be sloped to shed water.

Connections installed beneath paving shall be sleeved. Install ground fault protection at each pole.

Installation work shall be performed in conformity with USBC.

Lights shall be installed on a GFCI circuit.

Lights shall have photocell and time clock activation.

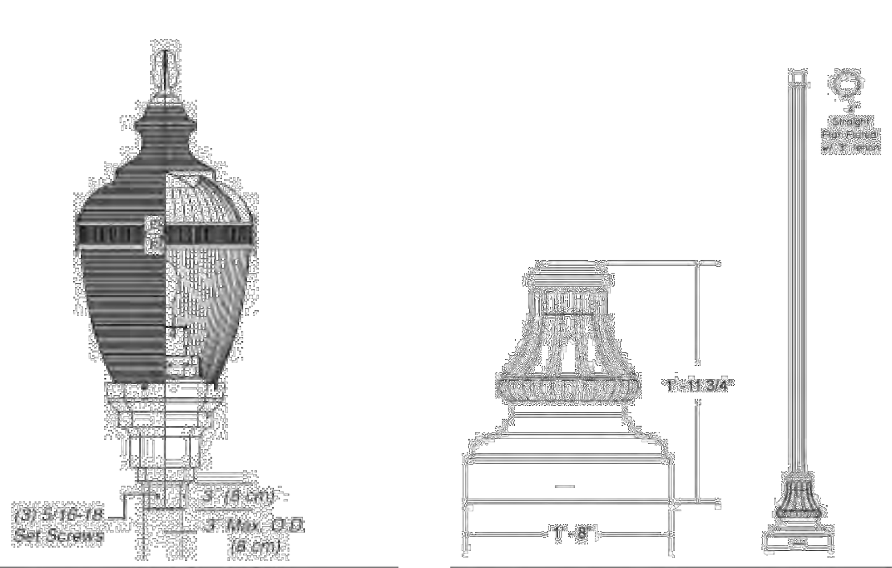
Life Cycle Expectations
A 5 year minimum warranty is required on street pole light fixtures.

A 3 year minimum warranty is required on poles.

Lights are anticipated to require replacement after 20 years of normal and ordinary use.

Fiberglass fluted base

LIGHTING | STREET POLE



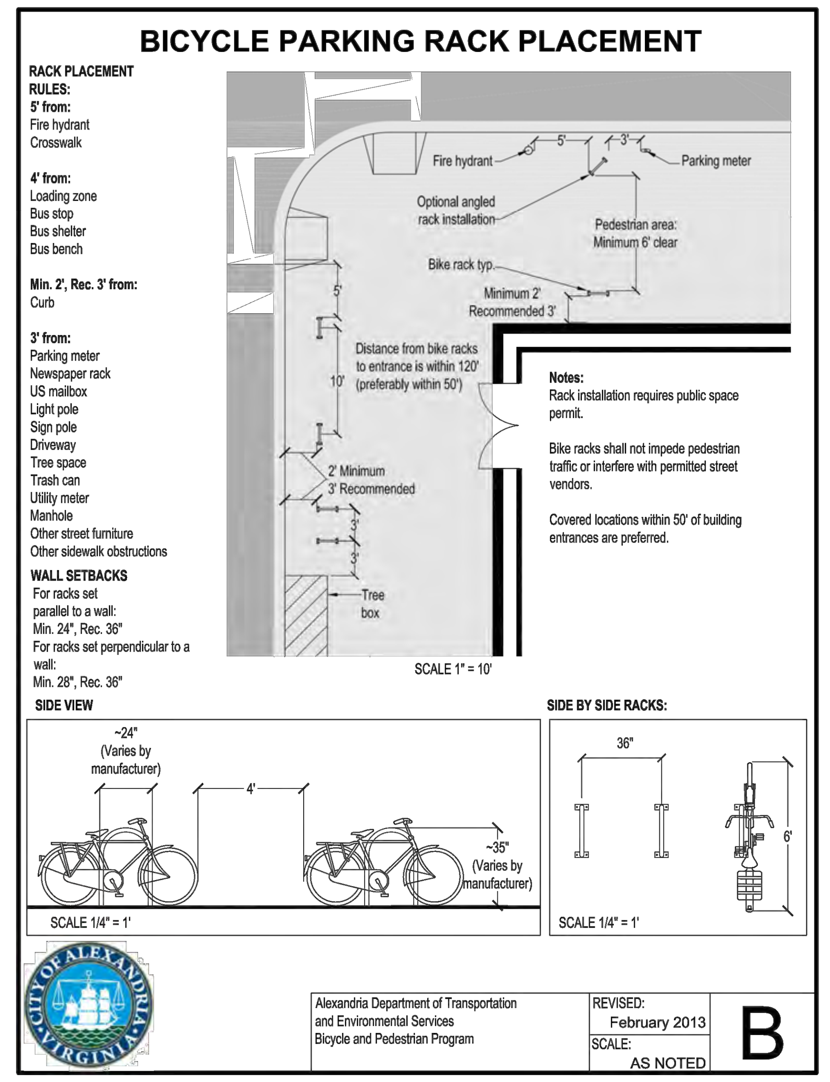
Street light fixture

Virginia Dominion Power - Fiberglass fluted street pole

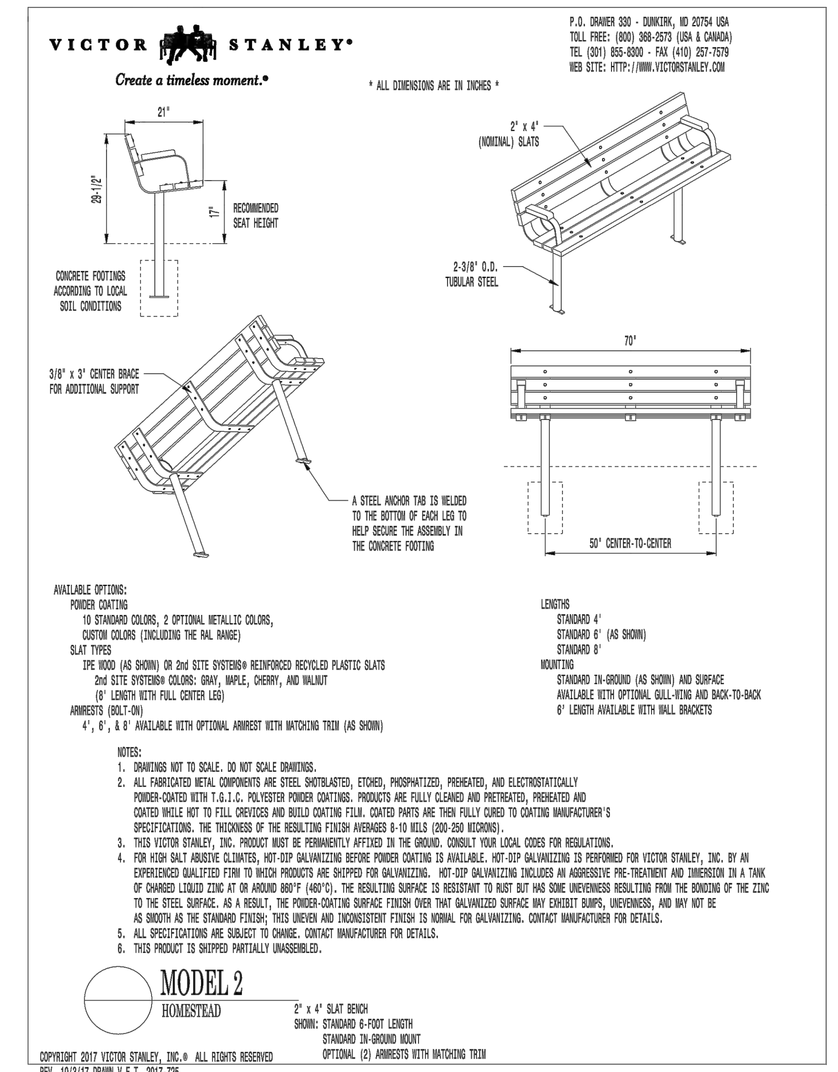
LIGHTING NOTES:
1. REFER TO PHOTOMETRICS PLAN AND CALCULATIONS ON SHEETS C950-C951.
2. REFER TO SHEET C952 FOR LIGHTING SPECS.

Image Footnotes
(1) http://www.hadco.com

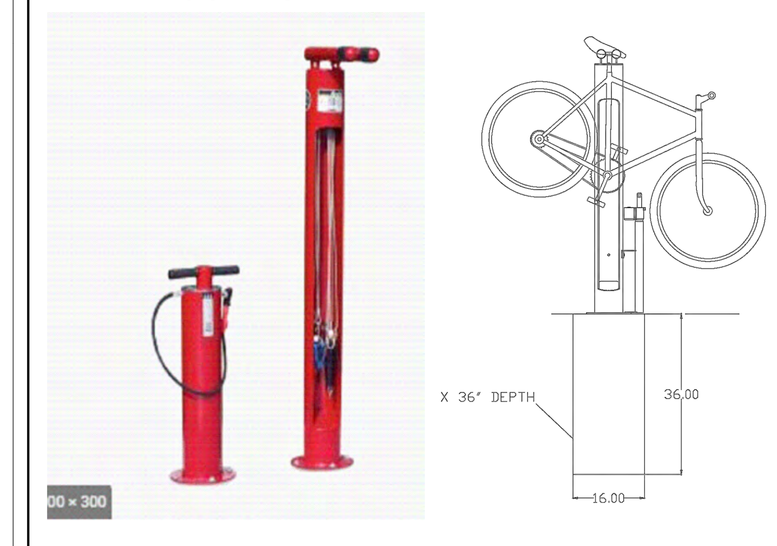
BICYCLE PARKING RACK PLACEMENT



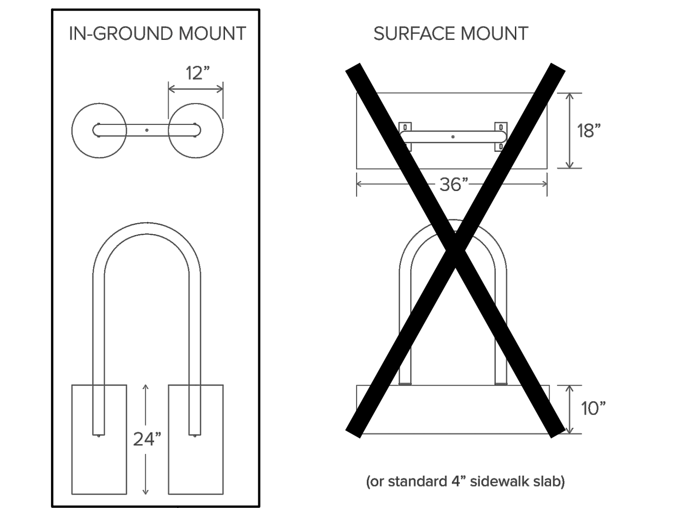
BENCH DETAIL (OR EQUIVALENT)



FIXIT STATION WITH CONCRETE FOOTING DETAIL



DERO Hoop Rack Heavy Duty Installation Footing Diagrams



DETAIL OF INVERTED U BIKE RACK WITH FOOTING

SOIL LINER DETAIL (OR APPROVED EQUIVALENT)

EPI SOLUTIONS
The Liner Company
ENVIRONMENTAL PROTECTION, INC.

1567 W. South Airport Rd.
Traverse City, Michigan 49686

Phone | 800-OK-LINER
Fax | 231-943-2270

www.geomembrane.com

10 mil PVC Geomembrane Specifications

TYPICAL APPLICATIONS:
- Reservoirs
- Canals
- Farm Ponds
- Water Features
- Irrigation Ponds
- Golf Course Ponds
- Decorative Ponds
- Oil Well Drilling Pits
- Oil Reserve Pit Closures

PVC liners fabricated by EPI are a single-ply construction with Polyvinyl Chloride as the principle polymer. Only first quality virgin resins are used and all materials meet or exceed the requirements of ASTM D7176 Standard Specification for PVC geomembranes used in buried applications.

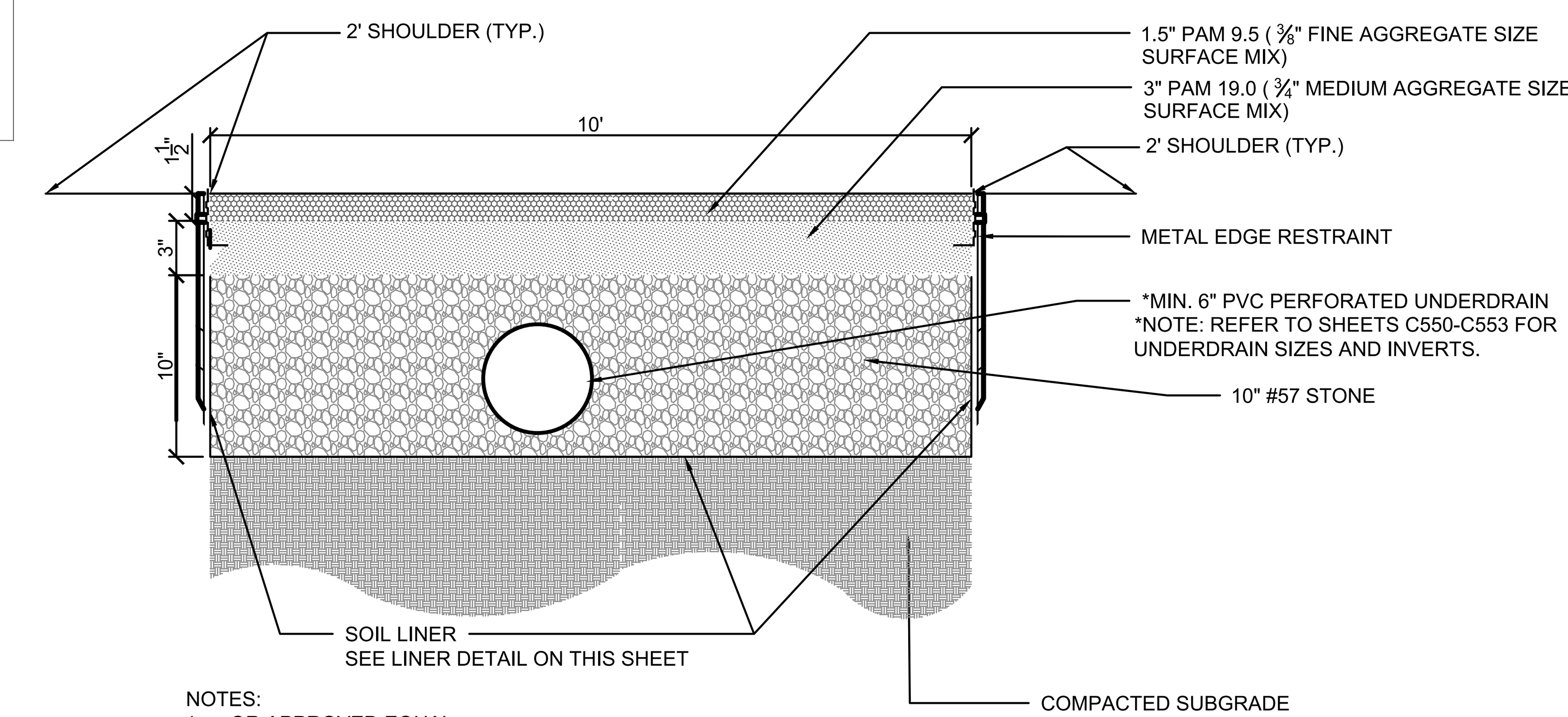
EPI utilizes statistical process control (SPC) to ensure the integrity of each panel produced. Samples from actual factory seams are removed during the welding process for a rigorous, proven testing procedure that assures you of the highest quality factory-fabricated PVC geomembranes available.

PVC Liners are fabricated by EPI in panels, accordion-folded in both directions, and packaged for shipment to your site for quick, easy installation to save you time and money.

Thickness ± 5%	ASTM D-5199	.010"
Specific Gravity (min)	ASTM D-792	1.20
Tensile (lb/in-width, min)	ASTM D-882	24
Elongation at Break (% min)	ASTM D-882	250
Modulus (lb/in-width, min)	ASTM D-882	10
Tear Resistance (lb/in, min)	ASTM D-1004	2.5
Resistance to Soil Burial (% change, max)	ASTM G-160	
1. Breaking Factor		5
2. Elongation At Break		20
3. Modulus at 100% Elongation		20
Impact Cold Crack (°C)	ASTM D-1790	-23
Dimensional Stability (% change, max)	ASTM D-1204 (212°F/15 min.)	4
Water Extraction (%,max)	ASTM D-1239	0.15
Volatile Loss (%, max)	ASTM D-1203(A)	1.5
Hydrostatic Resistance (psi, min)	ASTM D-751(A)	42
Plasticizer Min Ave Molec Wt	ASTM 2124	400
Factory Fabricated Seams:		
Peel Strength (lbs/in, min)	ASTM D-7408	10/FTB
Shear Strength (lbs/in, min)	ASTM D-7408	20

These data are based on tests believed to be reliable. However, these are laboratory tests that may not simulate actual use conditions. They are provided for your informational purposes only. No warranty, express or implied, including any other further warranty of fitness for a particular purpose or merchantability, is made by this promotional literature

Preserving water resources for future generations



NOTES:
1. OR APPROVED EQUAL.
2. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
3. REFER TO SHEET C502 FOR TYPICAL SECTION OF THE TRAIL.
4. TRAIL TO BE MAINTAINED BY CITY OF ALEXANDRIA.

NOTE: GEOTEXTILE FILTER FABRIC SHALL BE IN CONFORMANCE WITH TABLE 7.6 OF THE 2013 DRAFT OF THE VIRGINIA DEQ STORMWATER DESIGN SPECIFICATION No. 7. SEE TABLE 7.6 ON THIS SHEET.

PERMEABLE PAVEMENT DETAIL
SECTION 1 1/2" = 1'-0"

Table 7.6. Material Specifications for Underneath the Pavement Surface

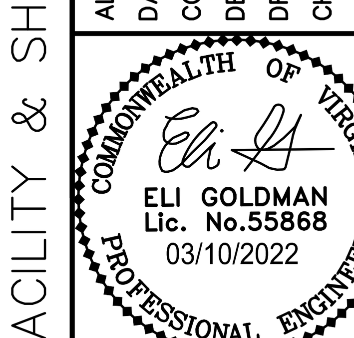
Material	Specification	Notes
Bedding Layer	PC: None PA: 2 in. of No. 57 stone IP: 2 in. of No. 8 stone over 4 inches of No. 57 stone	ASTM D448 size No. 8 stone (e.g. 3/8 to 3/16 inch in size). Should be washed and clean and free of all fines.
Reservoir Layer	PC: No. 57 stone PA: No. 2 stone IP: No. 2, 3, or 4 stone	ASTM D448 size No. 57 stone (e.g. 1 1/2 to 1/2 inch in size); No. 2 Stone (e.g. 3 inch to 3/4 inch in size). Depth is based on the pavement structural and hydraulic requirements. Should be washed and clean and free of all fines.
Underdrain	Use 4 to 6 inch diameter perforated PVC (AASHTO M 252) pipe, with 3/8-inch perforations at 6 inches on center; each underdrain installed at a minimum 0.5% slope located 20 feet or less from the next pipe (or equivalent corrugated HDPE may be used for smaller load-bearing applications). Perforated pipe installed for the full length of the permeable pavement cell, and non-perforated pipe, as needed, is used to connect with the storm drain system. T's and Y's installed as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the Ts and Ys.	
Filter Layer	The underlying native soils should be separated from the stone reservoir by a thin, 2 to 4 inch layer of choker stone (e.g. No. 8) covered by a 6 to 8 inch layer of coarse sand (e.g. ASTM C 33, gradation).	The sand should be placed between the stone reservoir and the choker stone, which should be placed on top of the underlying native soils.
Filter Fabric (optional)	Use an appropriate filter fabric for the particular application based on AASHTO M288-06 Filter Fabric should have a Flow Rate greater than 125 gpm/sq. ft. (ASTM D4491), and an Apparent Opening Size (AOS) equivalent to a US # 70 or # 80 sieve (ASTM D4751). The geotextile AOS selection is based on the percent passing the No. 200 sieve in "A" Soil subgrade, using FHWA or AASHTO selection criteria.	
Impermeable Liner	Use a thirty mil (minimum) PVC Geomembrane liner covered by 8 to 12 oz./sq. yd.2 non-woven geotextile. NOTE: THIS IS USED ONLY FOR KARST REGIONS.	
Observation Well	Use a perforated 4 to 6 inch vertical PVC pipe (AASHTO M 252) with a lockable cap, installed flush with the surface.	

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE:
DRAWN BY: MQ DATE:
CHECKED BY: AG DATE:
APPROVED BY: DL DATE:

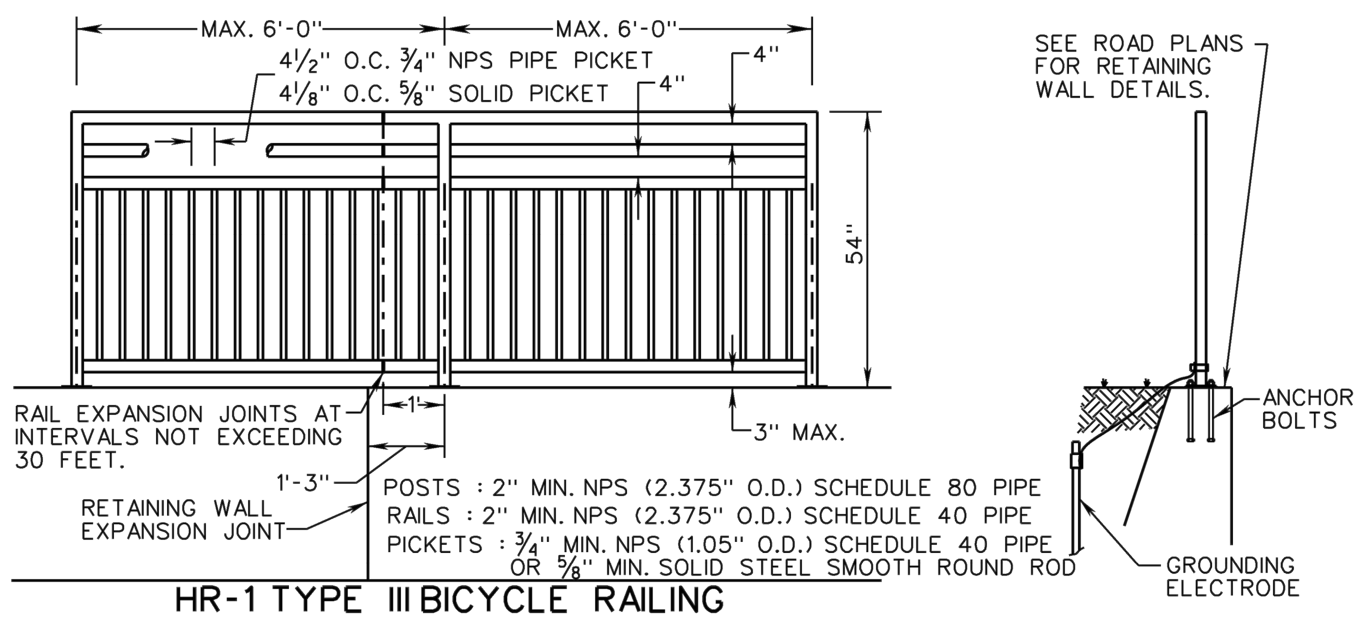


VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SITE DETAILS

C200

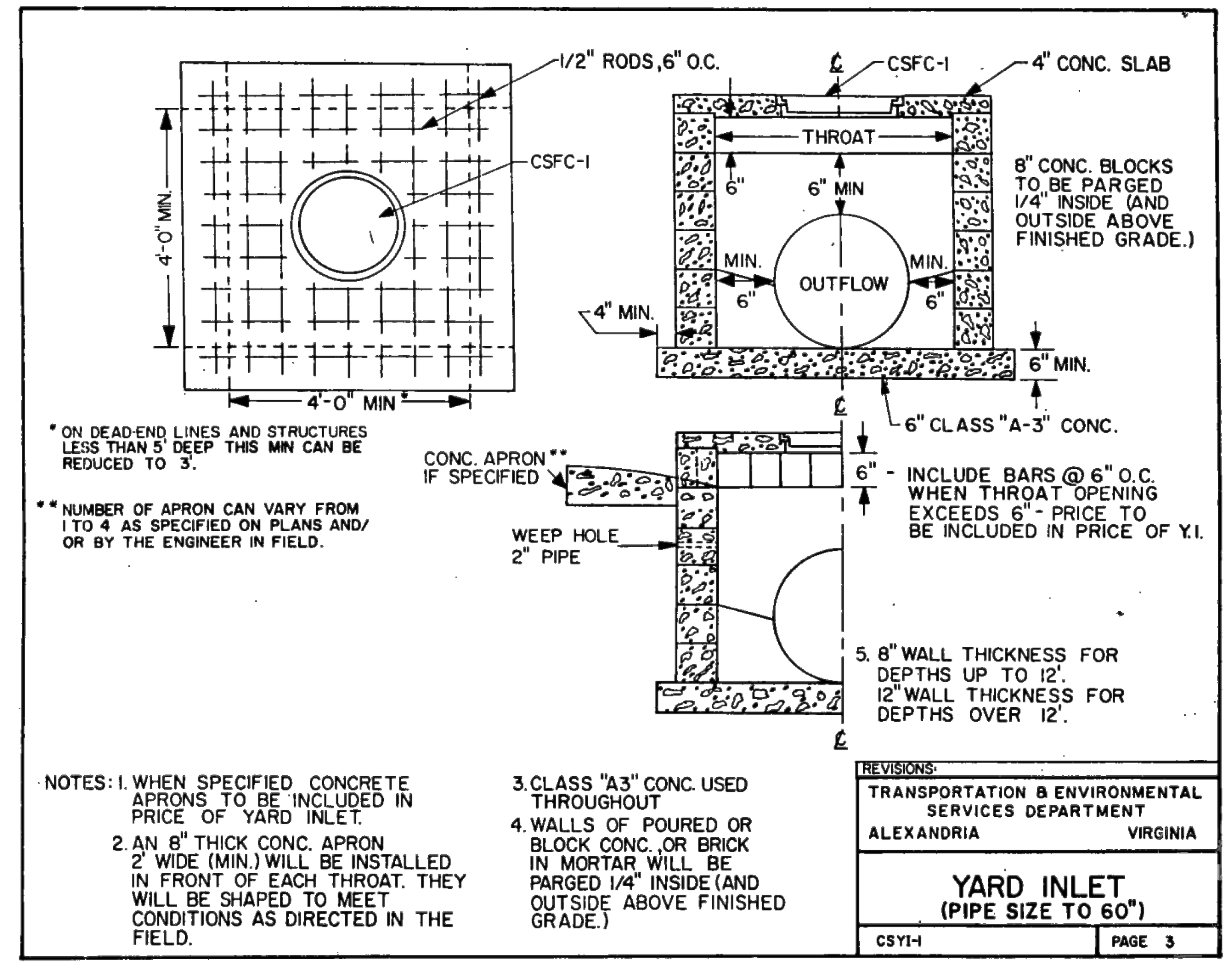
RETAINING WALL HANDRAIL DETAIL (OR APPROVED EQUIVALENT)



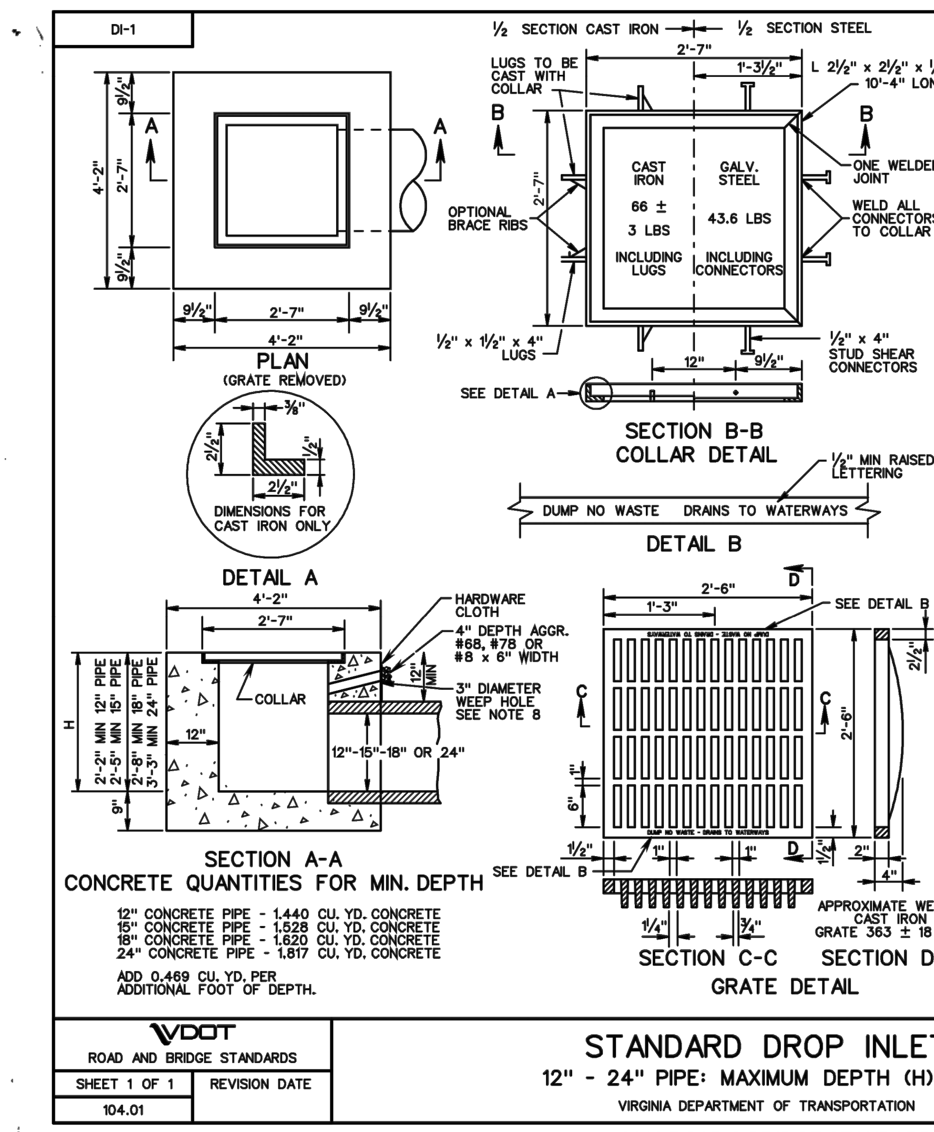
HR-1 TYPE III BICYCLE RAILING
(FOR USE ALONG SHARED USE PATHS)

NOTES

1. THE CONTRATOR SHALL SUBMIT DRAWINGS DETAILING ALL ASPECTS OF FABRICATION AND INSTALLATION OF RAILING, INCLUDING CONCRETE FOUNDATIONS FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFFESSIONAL ENGINEER, HOLDING A VALID LICENSE TO PRACTICE ENGINEERING IN THE COMMONWEALTH OF VIRGINIA.
2. ALL RAILING COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE CURRENT ROAD AND BRIDGE SPECIFICATIONS. TO ACHIEVE A UNIFORM COATING ON ALL SURFACES VENTING AND DRAINAGE HOLES FOR GALVANIZING SHALL BE INCLUDED IN THE SHOP DRAWINGS.
3. ALL FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A307, ASTM A563, AND ASTM F844. ALL ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH AASHTO M314, GRADE 36.
4. A CHEMICAL ANCHOR SYSTEM FROM VDOT'S APPROVED MATERIAL LIST MAY BE USED IN LIEU OF CAST IN PLACE ANCHORS AND SHALL BE INCLUDED IN THE SHOP DRAWINGS.
5. ~~POSTS SHALL BE MITERED TO MATCH GRADE OF RAMPS, SIDEWALKS, AND STEPS.~~
6. ~~HANDRAILS SHALL MATCH GRADE OF RAMPS SIDEWALKS AND STEPS.~~
7. ALL POSTS AND PICKETS SHALL BE SET PLUMB.
8. RAILINGS SHALL BE GROUNDED AND EFFECTIVELY BONDED. GROUNDING MATERIALS INSTALLATION TO BE IN ACCORDANCE WITH ST'D. FE-6.
9. COMMERCIALLY AVAILABLE RAILING SYSTEMS MAY BE USED IN LIEU OF DESIGNING AND FABRICATING THE RAILING. DOCUMENTATION FROM THE MANUFACTURER VERIFYING THAT PROJECT REQUIREMENTS ARE MET WITH THE RAILING SYSTEM SHALL BE SUBMITTED WITH THE INSTALLATION DRAWINGS AND APPROVED BY THE ENGINEER IN ACCORDANCE WITH NOTE 1.
10. HANDRAIL TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
11. THIS HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO ANY VEHICULAR IMPACT. FOR VEHICULAR PROTECTION STANDARD GUARDRAIL SHOULD BE USED.



2016 ROAD & BRIDGE STANDARDS



NOTES

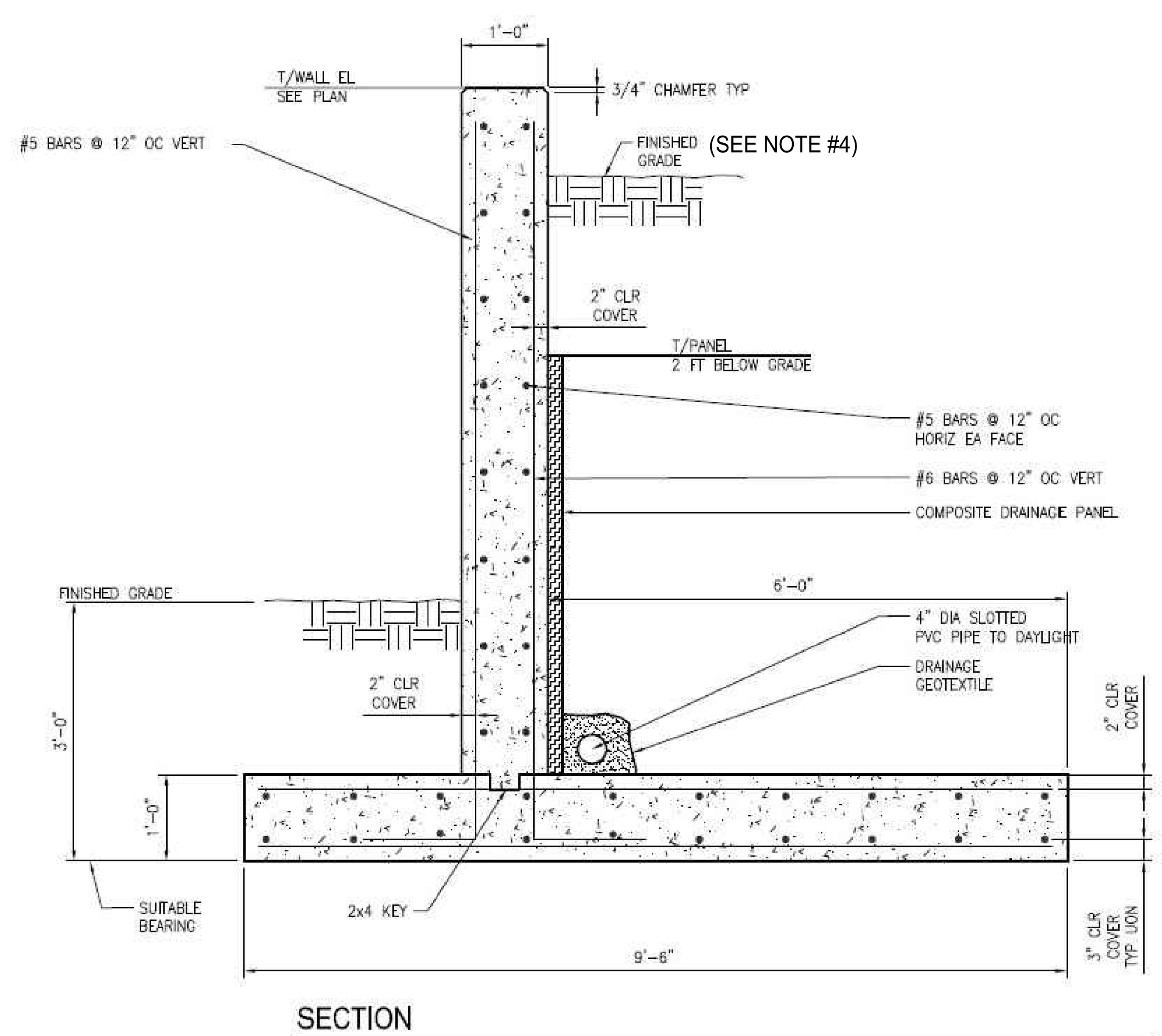
1. DEPTH OF INLET (H) TO BE SHOWN ON PLANS. FOR DEPTH GREATER THAN 10' USE STANDARD DI-1A
2. THE "H" DIMENSION SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF THE OUTFALL PIPE TO THE TOP OF THE STRUCTURE. PLAN "H" DIMENSIONS ARE APPROXIMATE ONLY FOR ESTIMATING PURPOSES AND THE ACTUAL DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FROM FIELD CONDITIONS.
3. WHEN SPECIFIED ON THE PLANS THE INVERT IS TO BE SHAPED IN ACCORDANCE WITH STANDARD IS-1. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
4. IN THE EVENT THE INVERT OF THE OUTFALL PIPE IS HIGHER THAN THE BOTTOM OF THE STRUCTURE, THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO INLET SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
5. STEPS ARE TO BE PROVIDED WHEN H IS 4'-0" OR GREATER. FOR DETAILS SEE STANDARD ST-1.
6. THIS ITEM MAY BE PRECAST OR CAST-IN-PLACE.
7. #4 X 8" SMOOTH DOWELS AT APPROXIMATELY 12" C-C TO BE PLACED IN ALL AREAS ADJACENT TO ABUTTING CONCRETE TO PREVENT SETTLEMENT. IN LIEU OF DOWELS A 2"X4" NOTCH MAY BE PROVIDED. SEE STANDARD T-DI-3, 4 FOR ALTERNATE DESIGN.
8. 3" DIAMETER WEEP HOLE WITH 12"X12" PLASTIC HARDWARE CLOTH 1/4" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03", NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO THE OUTSIDE OF THE STRUCTURE.
9. CAST IN PLACE CONCRETE IS TO BE CLASS A3 (3000 PSI). PRECAST CONCRETE IS TO BE 4000 PSI.
10. ANY ALTERNATE METHODS OF ANCHORAGE MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE CAST IRON LUGS AS SHOWN HEREON.
11. DUMP NO WASTE DRAINS TO WATERWAY LETTERING IS REQUIRED ON ALL DI-1 GRATES. LOCATION OF LETTERING MAY VARY BY MANUFACTURER.

STANDARD DROP INLET
12" - 24" PIPE: MAXIMUM DEPTH (H) - 10'
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
233
302

2016 ROAD & BRIDGE STANDARDS

CAST-IN-PLACE CONCRETE RETAINING WALL DETAIL



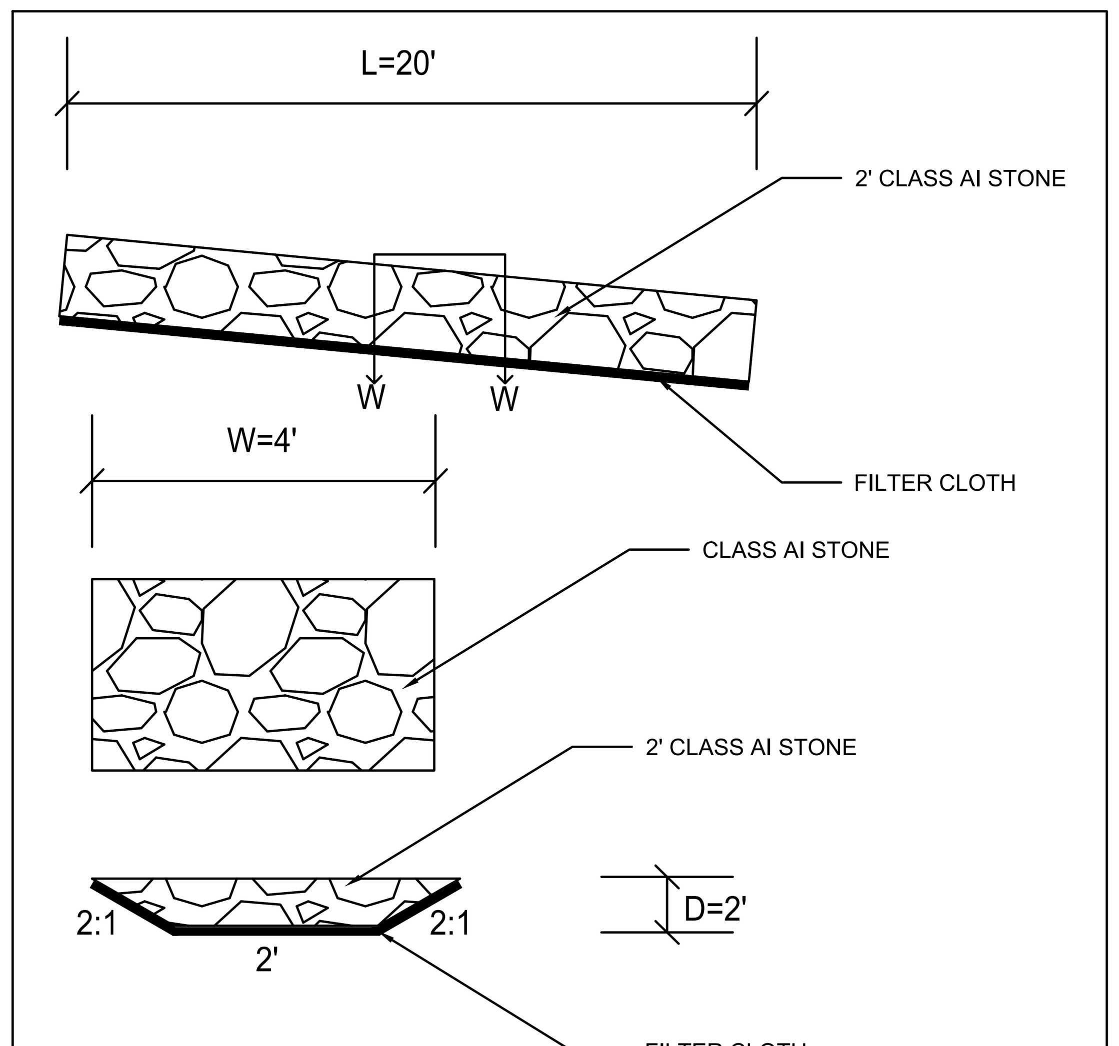
SECTION

SCALE: 3/4" = 1'-0"

RETAINING WALL NOTES:

1. RETAINING WALL HEIGHTS RANGE FROM 0.5' TO 6.0'.
2. ALL RETAINING WALLS TO BE REINFORCED CONCRETE UNLESS STATED OTHERWISE.
3. PRIOR TO CONSTRUCTION, ALL RETAINING WALLS DESIGN AND SECTIONS TO BE REVIEWED BY A STRUCTURAL & GEOTECHNICAL ENGINEER (LICENSED IN THE COMMONWEALTH OF VIRGINIA).
4. SEE GRADING PLAN SHEETS C500 AND C501 FOR FINAL GRADE BEHIND RETAINING WALL. THERE IS A PROPOSED CLAY DITCH AT THE TOP OF THE RETAINING WALL THAT WILL CONVEY THE STORMWATER.

CLASS AI RIPRAP DETAIL



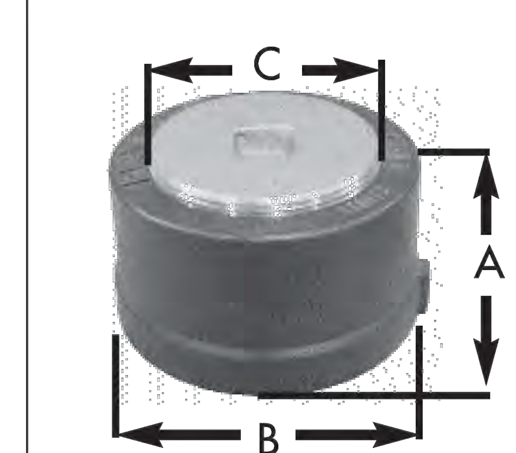
RIPRAP NOTES:

1. STONE CLASS AI WITH STONE DIAMETER 0.9'.
2. MINIMUM RIPRAP THICKNESS SHALL BE 2 TIMES THE MAXIMUM STONE DIAMETER.
3. RIPRAP SIZING PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK PLATE 3.18-3

TYPICAL 6" CLEAN OUT DETAIL (OR APPROVED EQUIVALENT)

SPECIFICATION SUBMITTAL SHEET

CAST IRON PUSH-ON CLEANOUT



features and benefits:

- Meets ASTM A74-98 and ASME A112.36.2M-91
- Cut pipe to desired level, lube gasket and push on pipe, tap with lead hammer to seat, then install plug
- Schedule 40 unit fits plastic and extra heavy cast iron pipe
- Brass plug

PART NO.	HEIGHT A	ID B	PIPE SIZE C	PLUG STYLE D
LESS GASKET				
❑ C36-003	3"	4"	3" SV	Raised Head
❑ C36-013	3"	4"	3" SV	Countersunk
❑ C36-004	3"	5"	4" SV	Raised Head
❑ C36-014	3"	5"	4" SV	Countersunk
❑ C36-024	3"	5 3/8"	4" Sch. 40	Raised Head
❑ C36-034	3"	5 3/8"	4" Sch. 40	Countersunk
❑ C36-006	2 3/4"	7 3/16"	6" SV	Raised Head
❑ C36-016	2 3/4"	7 3/16"	6" SV	Countersunk
WITH GASKET				
❑ C36-104	3 1/4"	3 7/8"	4" SV	Raised Head
❑ C36-114	3 1/4"	3 7/8"	4" SV	Countersunk
❑ C36-124	3 1/4"	4 1/4"	4" Sch. 40	Raised Head
❑ C36-134	3 1/4"	4 1/4"	4" Sch. 40	Countersunk
❑ C36-106	3"	5 3/4"	6" SV	Raised Head
❑ C36-116	3"	5 3/4"	6" SV	Countersunk

CIRCLE MANUFACTURING CO.

NO HUB CLEANOUT

DIMENSIONS

SIZE	PIPE SIZE A	PLUG SIZE B	HEIGHT C
2"	2"	1 1/2" IPS	2 7/8"
3"	3"	2 1/2" IPS	3 1/8"
4"	4"	3" IPS	3 1/4"
4B"	4"	3 1/2" IPS	3"
5"	5"	4" IPS	3 1/2"
6"	6"	5" IPS	4"
8"	8"	6" IPS	4 1/2"
10"	10"	6" IPS	4 1/2"

CAULK-COMPRESSION GASKET CONNECTION

CODE NO.	SIZE	TAPPING
C-702	2"	1 1/2"
C-702CS	2"	1 1/2"
C-703	3"	2 1/2"
C-703CS	3"	2 1/2"
C-704	4"	3"
C-704CS	4"	3"
C-704B	4"	3 1/2"
C-704BCS	4"	3 1/2"
C-706	6"	5"
C-706CS	6"	5"
C-708	8"	6"
C-708CS	8"	6"
C-710	10"	6"
C-710CS	10"	6"

PANELLA CLEANOUTS & GASKET

CODE NO.	SIZE
CP-711	3"
CP-711CS	3"
CP-712	4"
CP-712CS	4"
CP-712G	4"
CP-713	6"
CP-713CS	6"
CP-713G	6"

RAISED HOLLOW HEX HEAD CAST IRON PLUGS

CODE NO.	SIZE
PC904	2"
PC906	3"
PC907	3 1/2 "
PC908	4"
PC910	5"
PC912	6"

BRASS PLUGS

COUNTERSUING BRASS PLUG RANCH

CODE NO.	SIZE
C703BR	3"
C703BRC	3"
C704BR	3 1/2"
C704BRC	3 1/2"
C705BR	4"
C705BRC	4"
C706BR	5"
C706BRC	5"
C708BR	6"
C708BRC	6"
C709BR	8"
C709BRC	8"
C710BR	10"
C710BRC	10"

995 Griffin Pond Road, Clarks Summit, PA 18411. Phone: (570) 585-2138, Fax: (570) 585-2141.
Email – sales@circlemfg.com Website – www.circlemfg.com

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

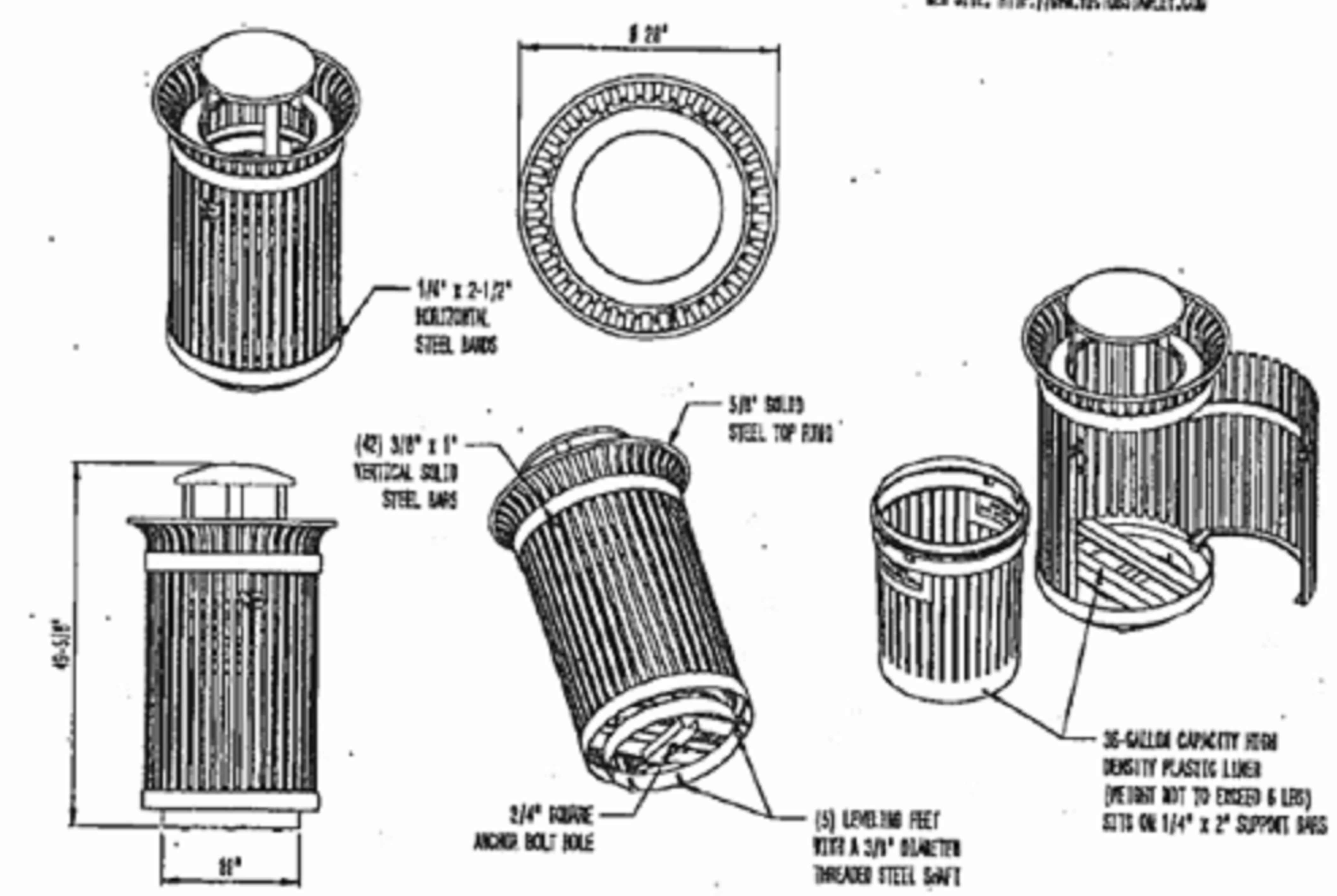
ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

SITE DETAILS

C201

VICTOR STANLEY TRASH AND RECYCLING DETAILS


VICTOR STANLEY, INC.®
-Manufacturers of Quality Site Furnishings since 1962-

P.O. DRAWER 330 - DUNKIRK, MD 20754 USA
TOLL FREE: (800) 368-2573 (USA & CANADA)
TEL (301) 855-8300 - FAX (410) 257-7579
WEB SITE: HTTP://WWW.VICTORSTANLEY.COM

AVAILABLE OPTIONS
POWDER COATING
11 STANDARD COLORS, CUSTOM COLORS (INCLUDING THE RAL RANGE).
CUSTOM PLAQUES & DECALS
AVAILABLE WITH STEEL PLAQUES IN VARIOUS SIZES AND PRESSURE SENSITIVE VINYL OUTDOOR DECALS.

LIDS
STANDARD TAPERED FORMED LID. AVAILABLE WITH OPTIONAL DOME LID (AS SHOWN), DOME LID WITH ASHTRAY, RAIN BONNET LID, RAIN BONNET LID WITH ASHTRAY, CONVEX LID AND CONVEX LID WITH SELF CLOSING DOOR.
SECURITY
SHOWN WITH STANDARD LOCKABLE LATCH AVAILABLE WITH OPTIONAL KEYED LOCK BOX. LID RIVETED IN PLACE. AVAILABLE WITH OPTIONAL MOUNT WITH 3 IN-LINE ANCHOR HOLES AND OPTIONAL BOTTOM PLATE COVER.

NOTES:
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD FILM COATING. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. OIL IMPREGNATED BRONZE BUSHINGS AND STAINLESS STEEL PIVOT PINS FOR DOOR MOVEMENT, STANDARD 3/16" SOLID STEEL LATCH ASSEMBLY OR OPTIONAL PATENTED STAINLESS STEEL KEYED LOCK ASSEMBLY.
4. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
5. VICTOR STANLEY, INC., PLASTIC INNER LINERS ARE MOLDED ON TOOLING DESIGNED FOR AND OWNED BY VICTOR STANLEY, INC. THEY OFFER MAXIMUM CAPACITY AND STRENGTH WITH LIGHTWEIGHT CONSTRUCTION USING CRITICAL MOLDED RIBS, INTEGRAL HANDHOLDS, AND HIGH-STRENGTH MATERIALS. THIS MINIMIZES HANDLING DIFFICULTY AND FACILITATES EASY EMPTYING AND STORAGE WHILE AFFORDING LONG SERVICE LIFE.
6. ANCHOR BOLT NOT PROVIDED BY VICTOR STANLEY, INC.
7. FOR HIGH SALT ABUSIVE CLIMATES, HOT DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. SEE WRITTEN SPECIFICATIONS FOR DETAILS.
8. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE. CONTACT MANUFACTURER FOR DETAILS.
9. THIS PRODUCT IS SHIPPED FULLY ASSEMBLED.

SD-42
IRONSITES® SERIES
36-GALLON SIDE-DOOR-OPENING LITTER RECEPTACLE
SHOWN: OPTIONAL DOME LID

REV. 12/1/09 DRAWN J.D.R. 2008-458

VICTOR STANLEY™
Create a timeless moment.™

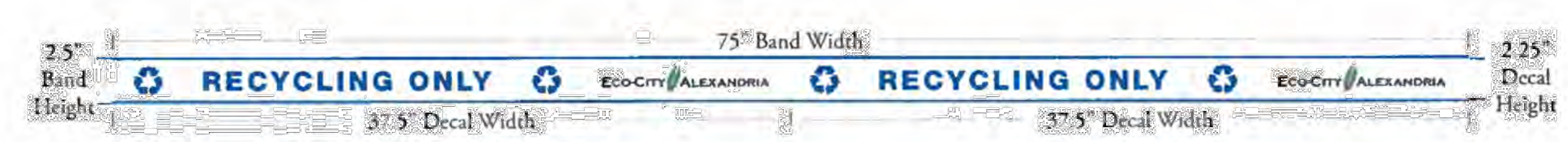
P.O. Drawer 330, Dunkirk, Maryland 20754 USA
301.855.8300 Fax: 410.257.7579 Toll Free: 800.368.2573
sales@victorstanley.com
www.victorstanley.com

Drawn By: AVP
Rev: 11/20/2013
Layout ID: 4088-01e

Client Layout for SD-42 Band Decal
Client: City of Alexandria

Customer Approval
Date: 11 / 20 / 13

Graphics Application:	The graphics will be digitally printed onto a pressure sensitive vinyl and applied to the top steel band of the receptacle.
Product Color:	Blue
Decal Size:	37.5" x 2.25" (2 decals per band)
Decal Material Color:	White
Image Color:	Pantone 295 (dark blue), black and green



Approximate Size of text on decal

Specifications are subject to change at manufacturer's discretion to ensure proper fit and/or optimum output.

VICTOR STANLEY, INC.®
-Manufacturers of Quality Site Furnishings since 1962-
Toll Free: 800.368.2573

P.O. Drawer 330, Dunkirk, Maryland 20754 USA
301.855.8300 | Fax: 410.257.7579
sales@victorstanley.com
www.victorstanley.com

Drawn By: CLB
Rev: 06/11/2013
Layout ID: 4088-02a

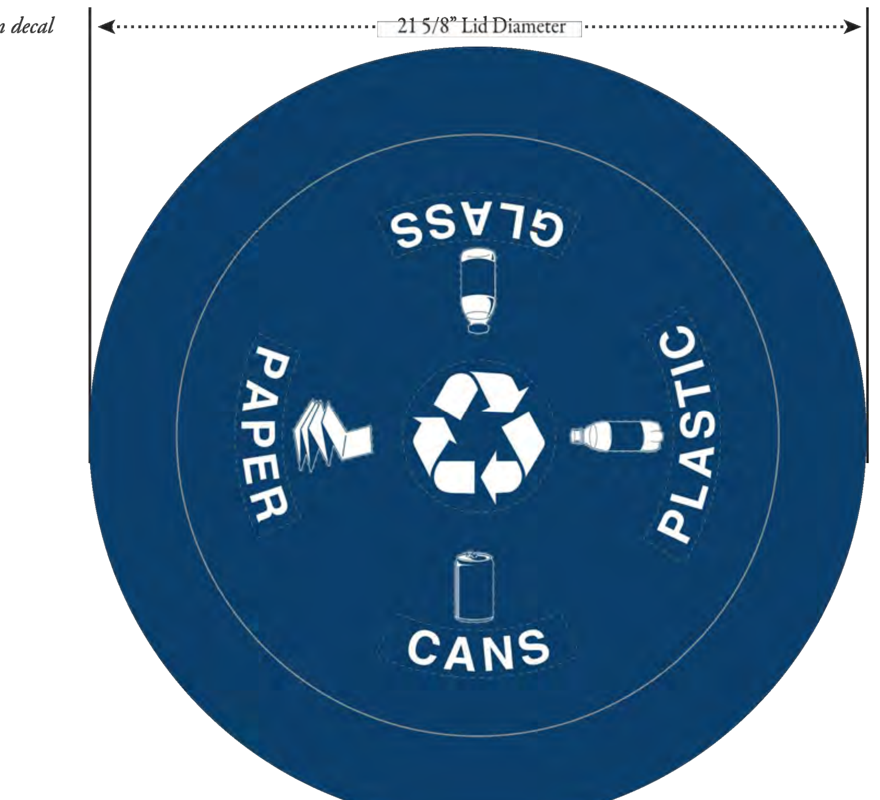
Client Layout for VSI SD-42 Dome Lid Decal
Client: City of Alexandria

Customer Approval
Date:____/____/____

Graphics Application:	The graphics will be digitally printed onto a pressure sensitive vinyl decal and applied to the lid.
Lid Size:	21 5/8"
Lid Color:	Blue
Decal Size:	Approx. 13 1/2" Outer Diameter
Decal Material Color:	Clear
Image Color:	White

Approximate size of text on decal

21 5/8" Lid Diameter



Specifications are subject to change at manufacturer's discretion to ensure proper fit and/or optimum output.

60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

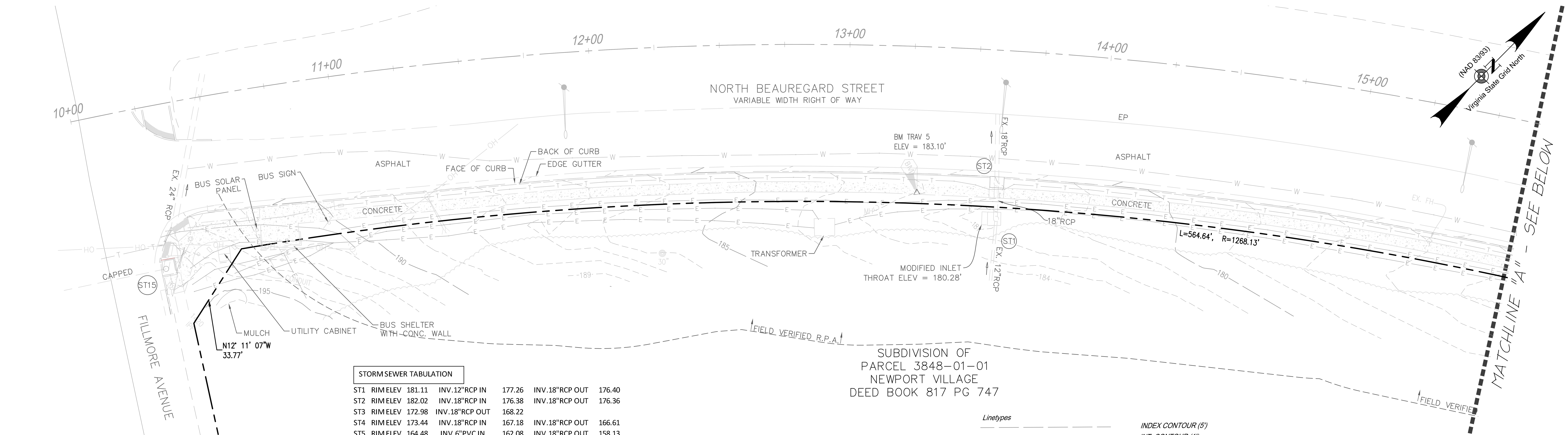
REVISIONS
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

SITE DETAILS

C202



STORM SEWER TABULATION

ST1	RIM ELEV	181.11	INV.12"RCP IN	177.26	INV.18"RCP OUT	176.40		
ST2	RIM ELEV	182.02	INV.18"RCP IN	176.38	INV.18"RCP OUT	176.36		
ST3	RIM ELEV	172.98	INV.18"RCP OUT	168.22				
ST4	RIM ELEV	173.44	INV.18"RCP IN	167.18	INV.18"RCP OUT	166.61		
ST5	RIM ELEV	164.48	INV.6"PVC IN	162.08	INV.18"RCP OUT	158.13		
ST6	RIM ELEV	164.44	INV.18"RCP IN	157.67	INV.18"RCP OUT	157.49		
ST7	RIM ELEV	161.38	INV.18"RCP OUT	154.78				
ST8	RIM ELEV	158.42	INV.18"RCP IN SW	153.52	INV.24"RCP IN SE	152.53	INV.30"RCP OUT	151.30
ST9	RIM ELEV	155.63	INV.18"RCP IN	151.93	INV.18"RCP OUT	151.39		
ST10	RIM ELEV	155.42	INV.18"RCP IN	151.22	INV.18"RCP OUT	151.19		
ST11	RIM ELEV	150.57	INV.4"CPUD IN	147.31	INV.18"RCP OUT	144.20		
ST12	RIM ELEV	150.31	INV.18"RCP IN	144.19	INV.18"RCP OUT	143.88		
ST13	RIM ELEV	147.92	INV.18"RCP IN E	141.06	INV.18"RCP IN NE	142.35	INV.18"RCP OUT	141.06
ST14	RIM ELEV	147.45	INV.18"RCP OUT	142.52				
ST15	RIM ELEV	193.71	INV. 24" RCP OUT	186.44	INV IN: CAPPED			

SANITARY SEWER TABULATION

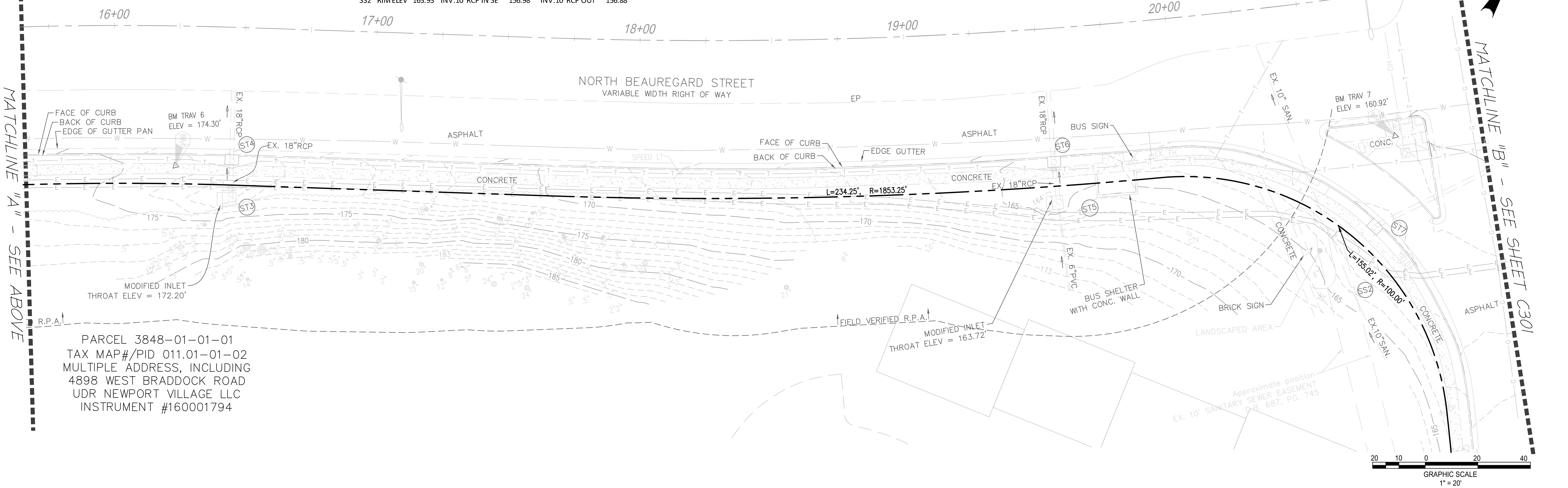
SS1	RIM ELEV	153.77	INV.10"RCP IN E	150.36	INV.10"RCP IN S	150.38	INV.10"RCP OUT	147.78
SS2	RIM ELEV	163.93	INV.10"RCP IN SE	156.98	INV.10"RCP OUT	156.88		

Benchmark Table

Benchmark #	Easting	Northing	Elevation (ft)
#5	11877896	6991083	183.1
#6	11878123	6991254	174.3
#7	11878515	6991502	160.92
#8	11878827	6991826	150.2

Linetypes

- INDEX CONTOUR (5')
- INT. CONTOUR (1')
- OVERHEAD UTILITY WIRE
- SANITARY PIPE
- STORM PIPE
- WATER LINE
- ELECTRIC
- COMMUNICATION
- PROPERTY LINE
- ADJOINER LINE
- ROAD CENTERLINE



P:\Projects\21266\0010\111333 – 60%\C300 EXISTING CONDITIONS PLAN.dwg PLOTTED: 3/10/2022 8:18:56 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

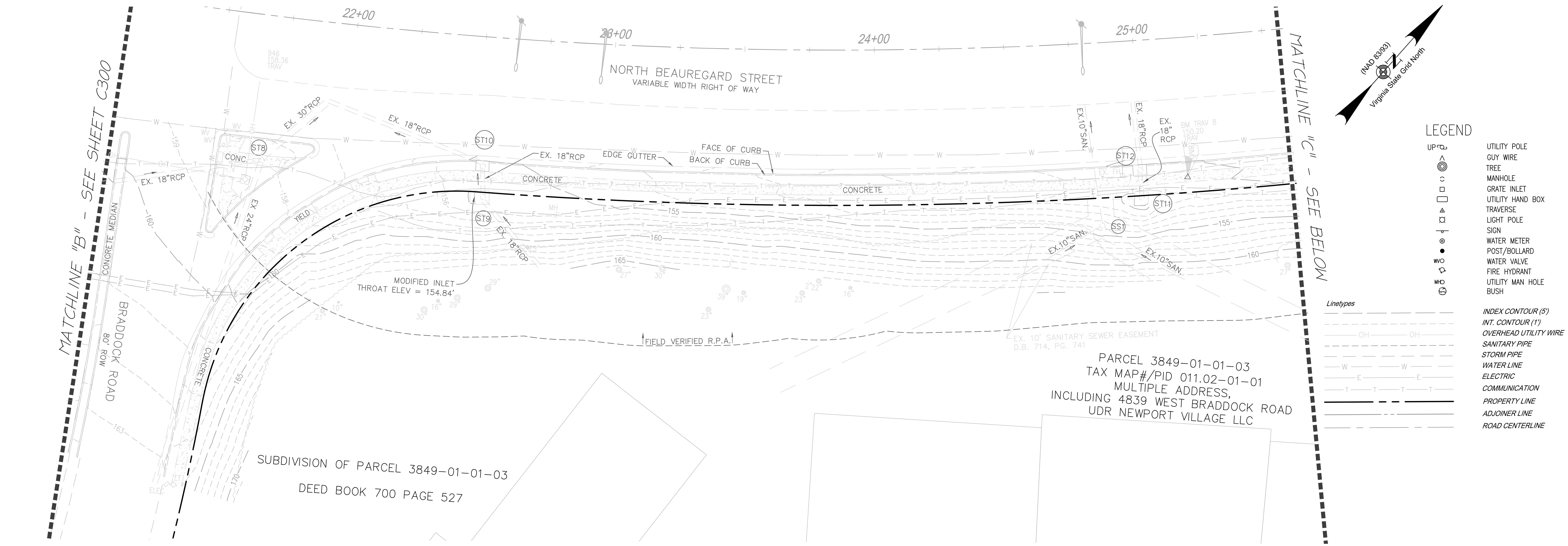
ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

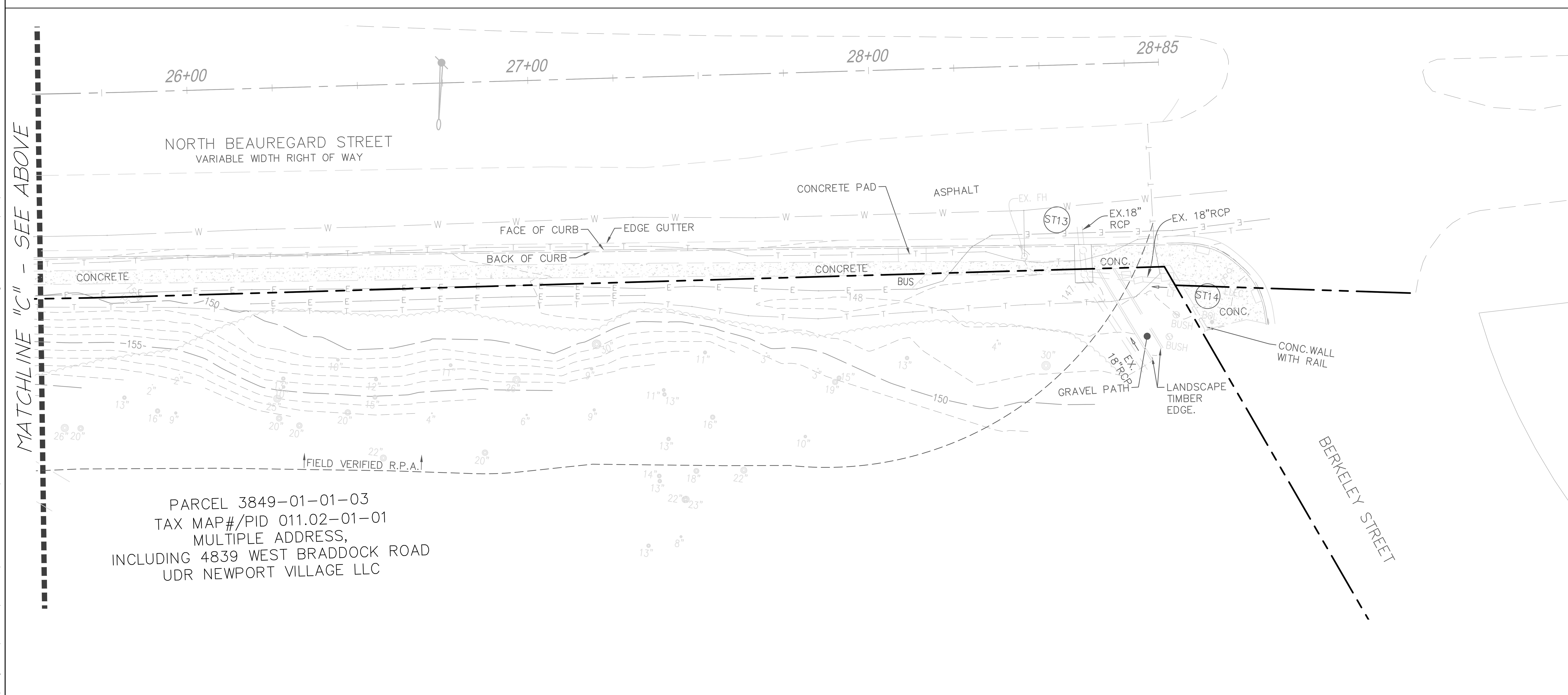
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

EXISTING CONDITIONS PLAN

C300





Benchmark Table			
Benchmark #	Easting	Northing	Elevation (ft)
#5	11877896	6991083	183.1
#6	11878123	6991254	174.3
#7	11878515	6991502	160.92
#8	11878827	6991826	150.2

STORM SEWER TABULATION

ST1	RIM ELEV	181.11	INV.12"RCP IN	177.26	INV.18"RCP OUT	176.40		
ST2	RIM ELEV	182.02	INV.18"RCP IN	176.38	INV.18"RCP OUT	176.36		
ST3	RIM ELEV	172.98	INV.18"RCP OUT	168.22				
ST4	RIM ELEV	173.44	INV.18"RCP IN	167.18	INV.18"RCP OUT	166.61		
ST5	RIM ELEV	164.48	INV.6"PVC IN	162.08	INV.18"RCP OUT	158.13		
ST6	RIM ELEV	164.44	INV.18"RCP IN	157.67	INV.18"RCP OUT	157.49		
ST7	RIM ELEV	161.38	INV.18"RCP OUT	154.78				
ST8	RIM ELEV	158.42	INV.18"RCP IN SW	153.52	INV.24"RCP IN SE	152.53	INV.30"RCP OUT	151.30
ST9	RIM ELEV	155.63	INV.18"RCP IN	151.93	INV.18"RCP OUT	151.39		
ST10	RIM ELEV	155.42	INV.18"RCP IN	151.22	INV.18"RCP OUT	151.19		
ST11	RIM ELEV	150.57	INV.4"CPUD IN	147.31	INV.18"RCP OUT	144.20		
ST12	RIM ELEV	150.31	INV.18"RCP IN	144.19	INV.18"RCP OUT	143.88		
ST13	RIM ELEV	147.92	INV.18"RCP IN E	141.06	INV.18"RCP IN NE	142.35	INV.18"RCP OUT	141.06
ST14	RIM ELEV	147.45	INV.18"RCP OUT	142.52				
ST15	RIM ELEV	193.71	INV. 24" RCP OUT	186.44	INV IN: CAPPED			

SANITARY SEWER TABULATION

SS1	RIM ELEV	153.77	INV.10"RCP IN E	150.36	INV.10"RCP IN S	150.38	INV.10"RCP OUT	147.78
SS2	RIM ELEV	163.93	INV.10"RCP IN SE	156.98	INV.10"RCP OUT	156.88		

30 15 0 30 60
GRAPHIC SCALE
1" = 30'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

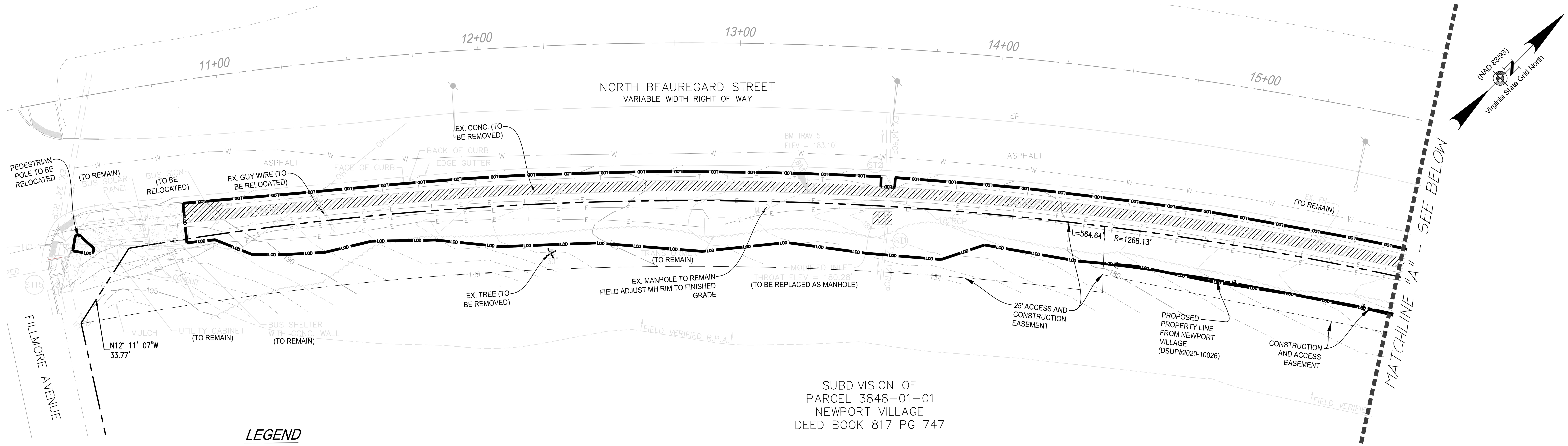
ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

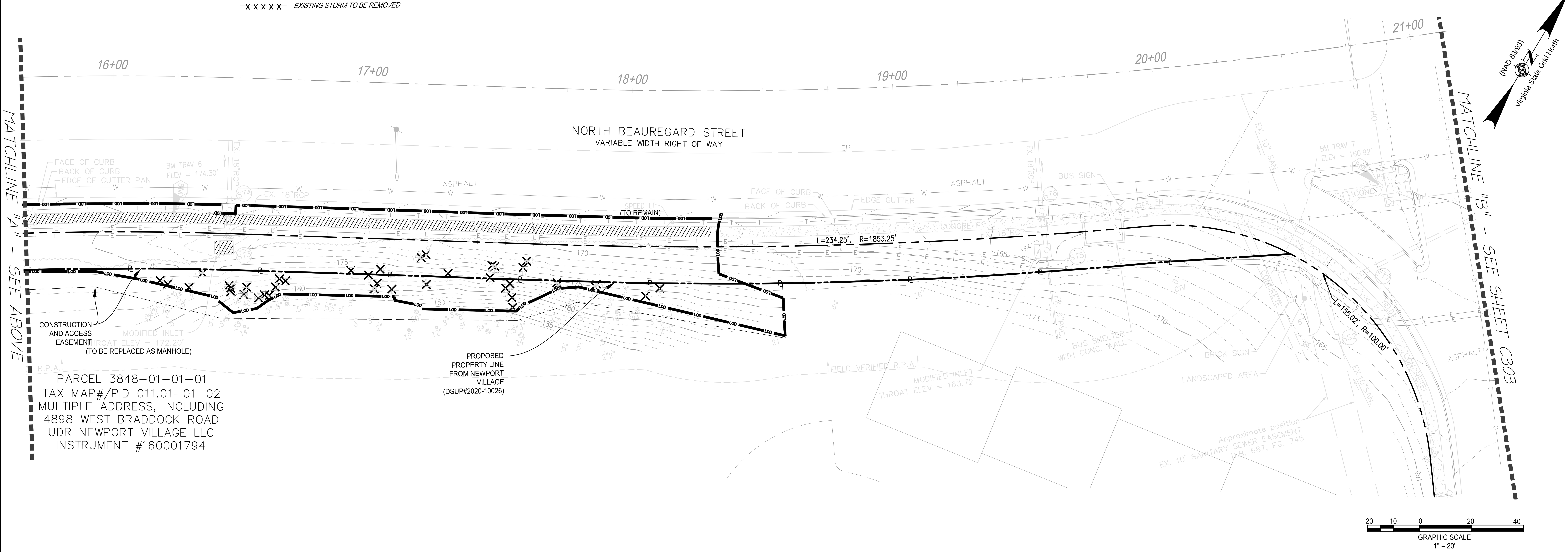
EXISTING CONDITIONS PLAN

C301



LEGEND

30"	*EXISTING TREE TO BE REMOVED*
	EXISTING CONRETE TO BE REMOVED
LOD	*PROPOSED LIMITS OF DISTURBANCE*
X X X X X	*EXISTING STORM TO BE REMOVED*



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

DATE	REVISIONS BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

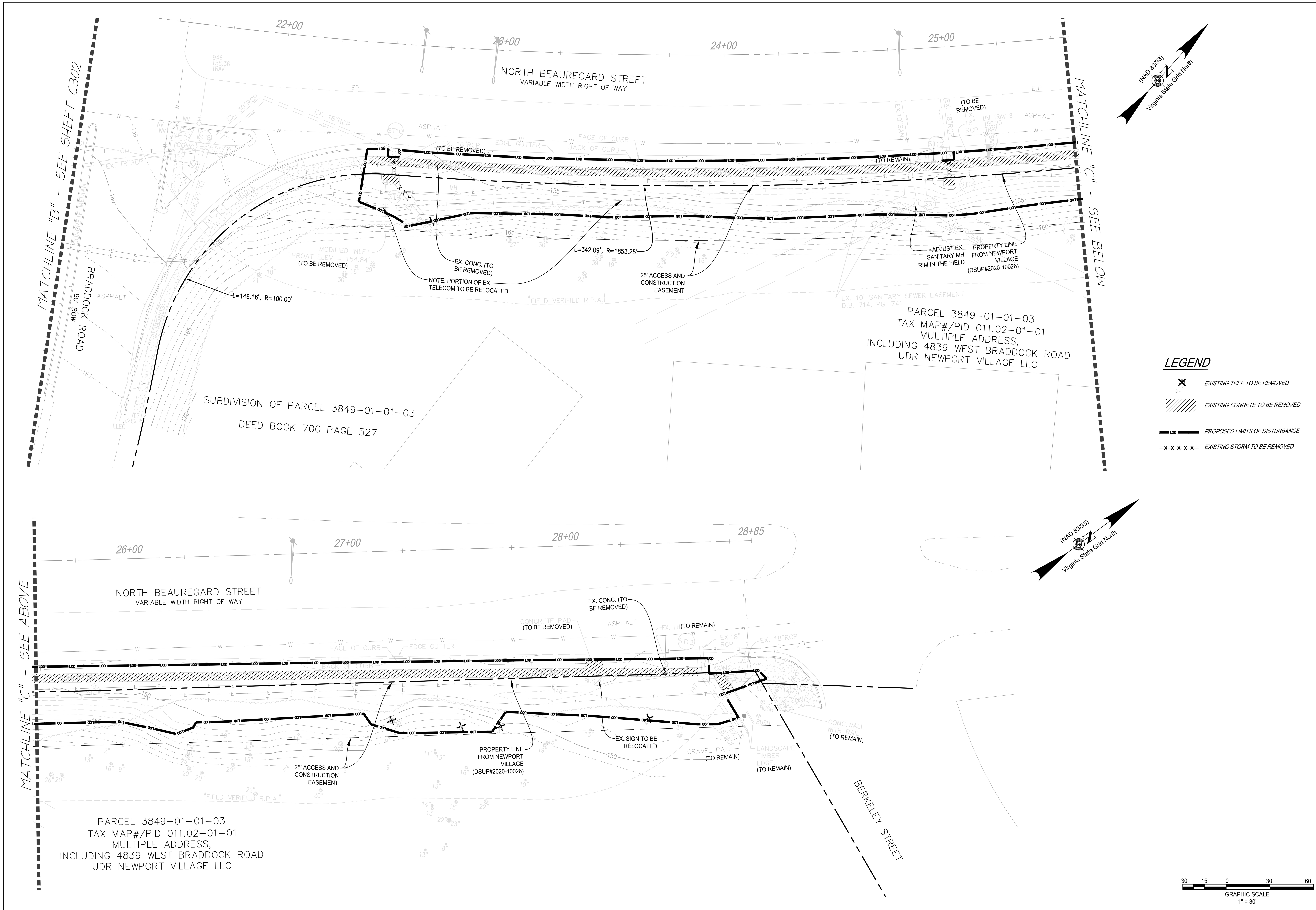
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

DEMOLITION PLAN

C302

P:\Projects\21266\00100\111333 – 60%\C303 DEMOLITION PLAN.dwg PLOTTED: 3/10/2022 8:19:07 AM BY FERAS ALNATOUR



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

DATE	REVISIONS BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

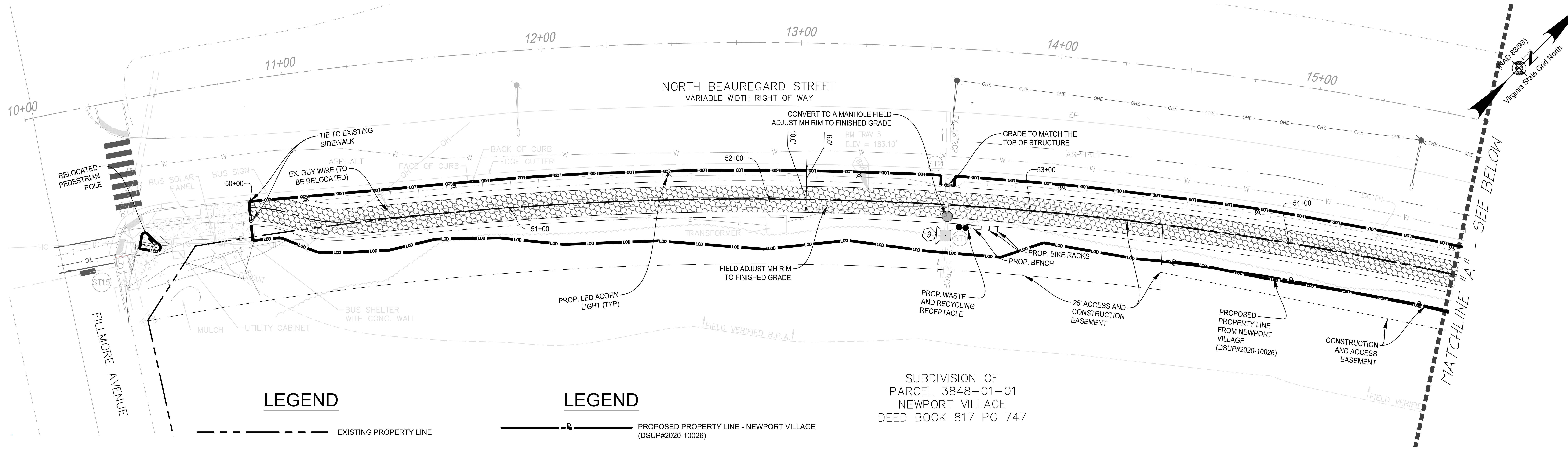
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

DEMOLITION PLAN

C303

P:\Projects\21266\00100\111333 - 60%\C303 DEMOLITION PLAN.dwg PLOTTED: 3/10/2022 8:19:09 AM BY FERAS ALNATOUR



LEGEND

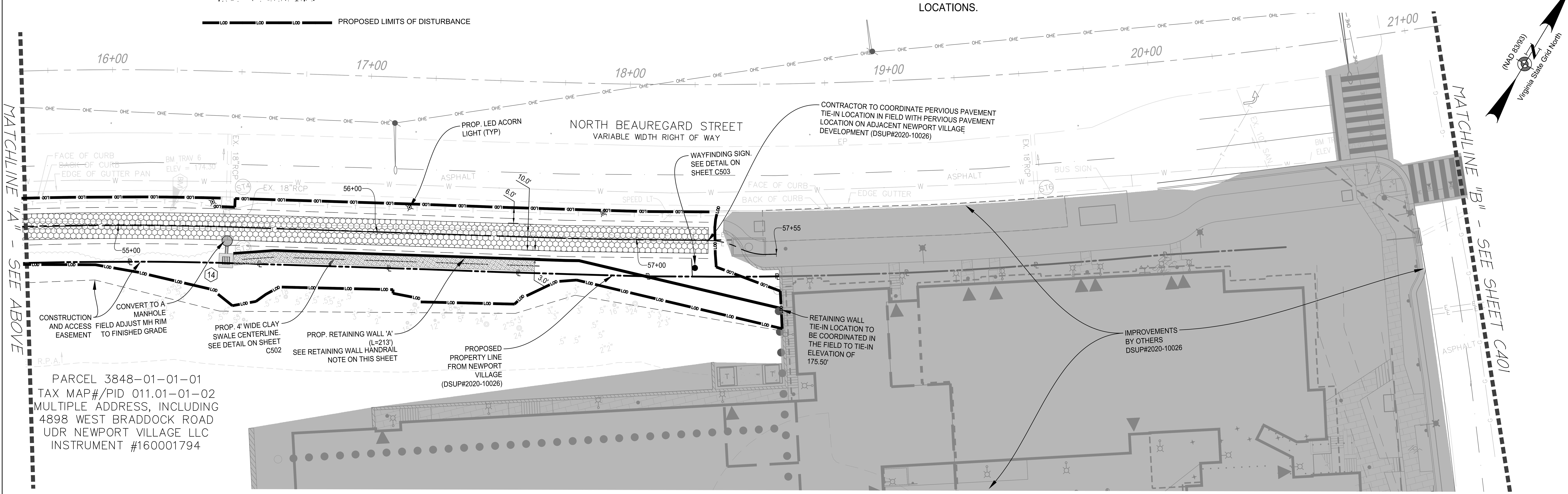
- EXISTING PROPERTY LINE
- PROPOSED STORM
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED CONCRETE
- PROPOSED LIMITS OF DISTURBANCE

LEGEND

- PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED 2' GRADED SHOULDER (TYP.)

PEDESTRIAN SIGNAL POLE NOTE:
1- CONTRACTOR TO FIELD INVESTIGATE TO CONFIRM NO CONFLICTS WITH RELOCATED PEDESTRIAN SIGNAL LOCAITON.
2- IF CONFLICTS ARE IDENTIFIED IN THE FIELD, CONTACT ENGINEER OR RECORD TO DETERMINE ALTERNATE LOCATIONS.

RETAINING WALL HANDRAIL NOTE:
1- HANDRAILS TO BE PROVIDED FOR RETAINING WALLS GREATER THAN 30" IN HEIGHT.
2- REFER TO SHEET C201 FOR HANDRAIL TYPICAL DETAIL.



GRAPHIC SCALE 1" = 20'

P:\Projects\21266\00100\111333 - 60%\C400 SITE PLAN.dwg PLOTTED: 3/10/2022 8:19:43 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

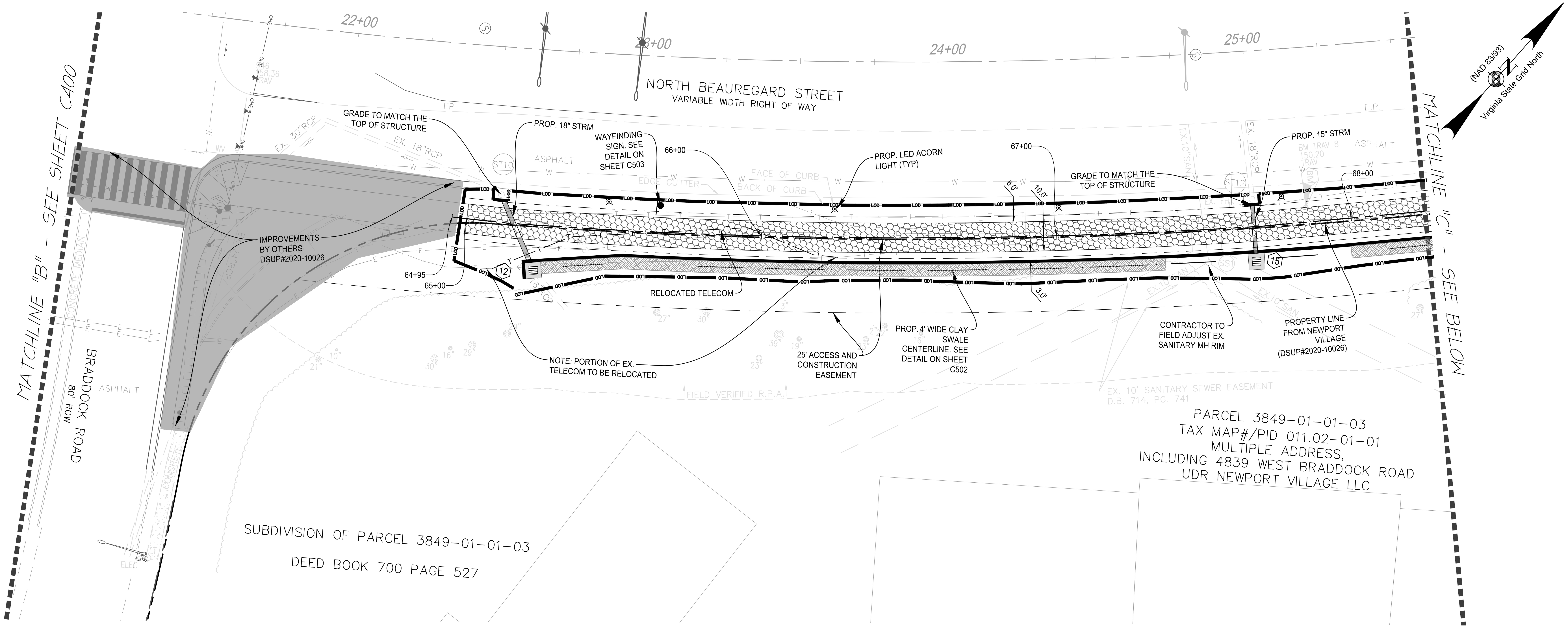
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

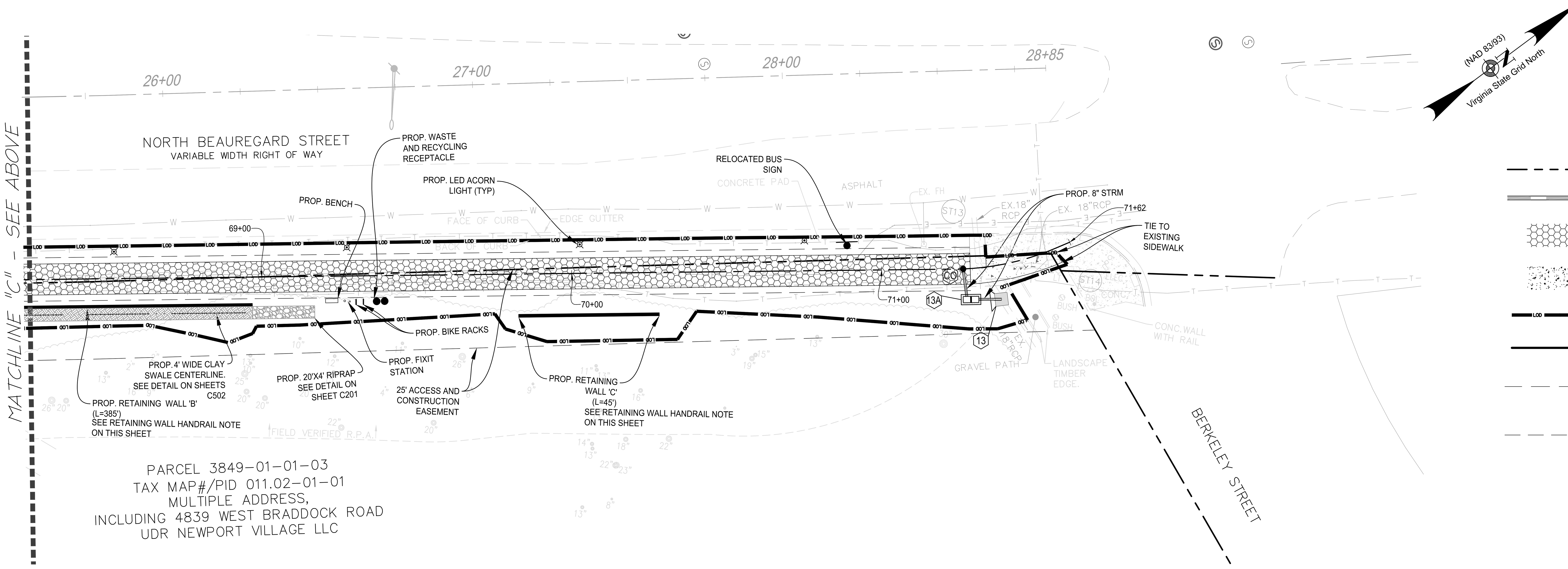
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SITE PLAN

C400



RETAINING WALL HANDRAIL NOTE:
1- HANDRAILS TO BE PROVIDED FOR RETAINING WALLS GREATER THAN 30" IN HEIGHT.
2- REFER TO SHEET C201 FOR HANDRAIL TYPICAL DETAIL.



LEGEND

	EXISTING PROPERTY LINE
	PROPOSED STORM
	PROPOSED PERMEABLE PAVEMENT
	PROPOSED CONCRETE
	PROPOSED LIMITS OF DISTURBANCE
	PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
	PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)
	PROPOSED 2' GRADED SHOULDER (TYP.)

20 10 0 20 40
GRAPHIC SCALE
1" = 20'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

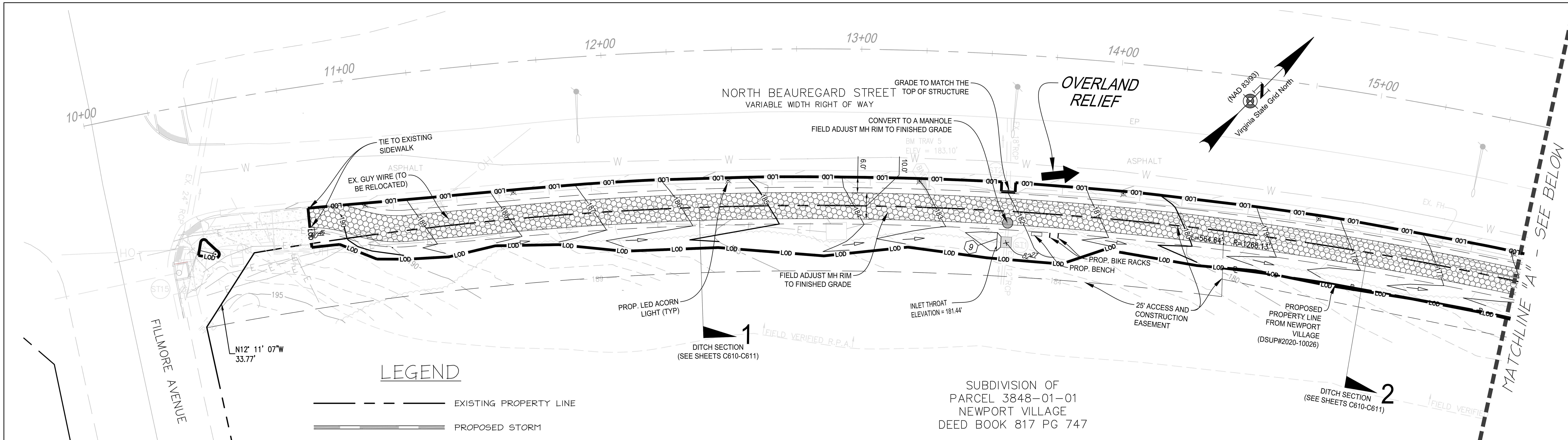
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SITE PLAN

C401

P:\Projects\21266\00100\111333 - 60%\C400 SITE PLAN.dwg PLOTTED: 3/10/2022 8:19:52 AM BY FERAS ALNATOUR



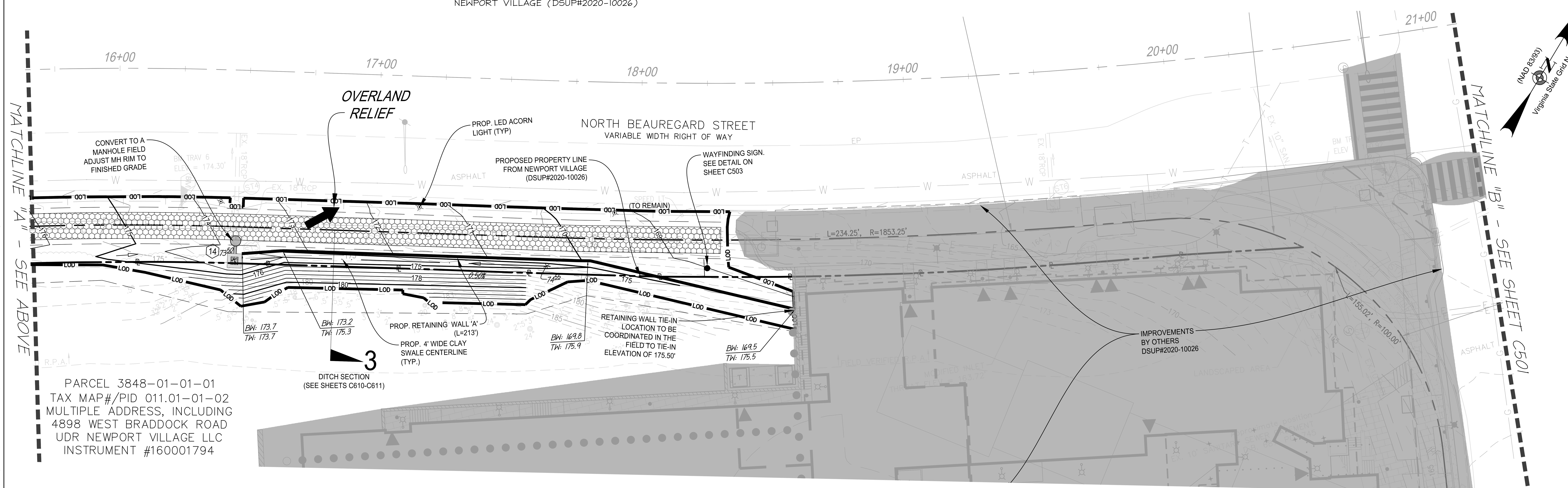
LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STORM
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED CONCRETE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)

LEGEND

- PROPOSED SPOT SHOT
- PROPOSED CONTOUR
- PROPOSED 2' GRADED SHOULDER (TYP)

20 10 0 20 40
GRAPHIC SCALE
1" = 20'



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-0008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

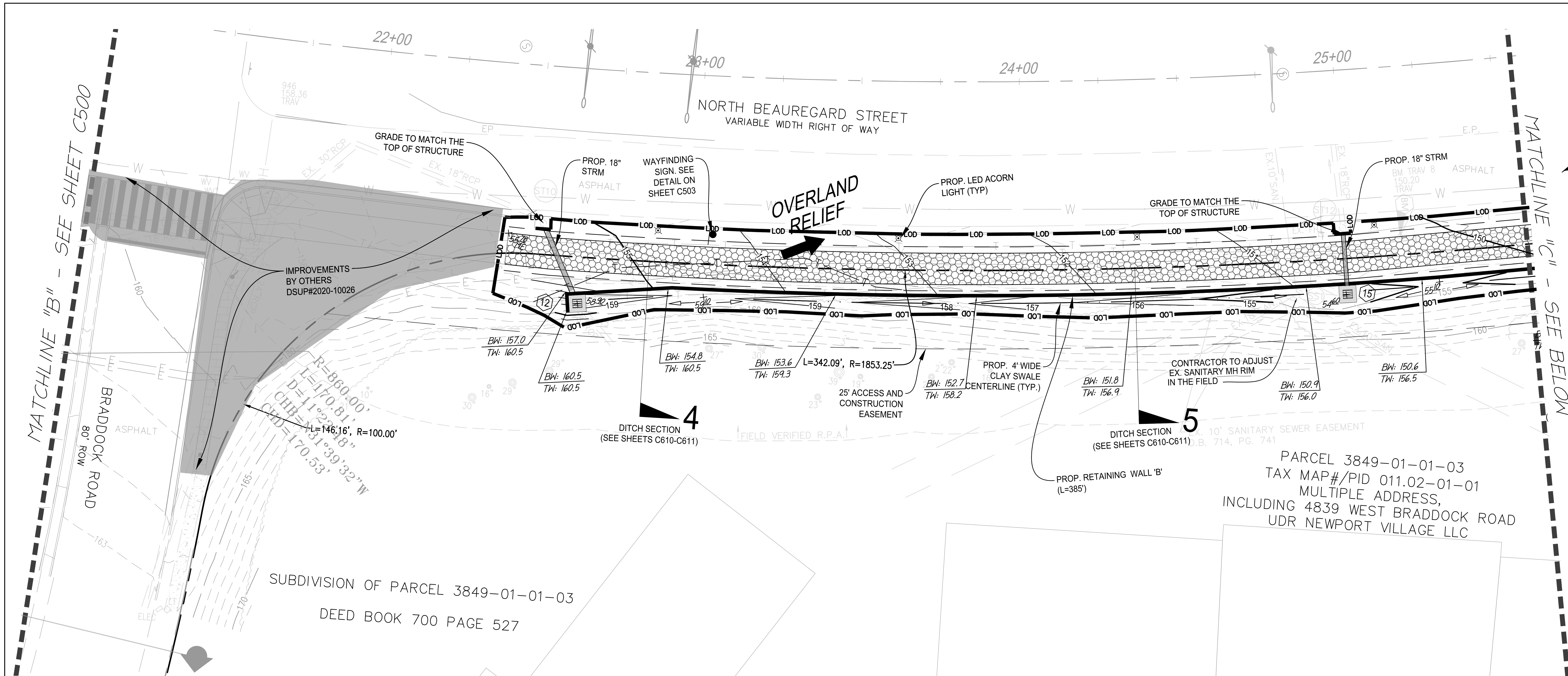
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

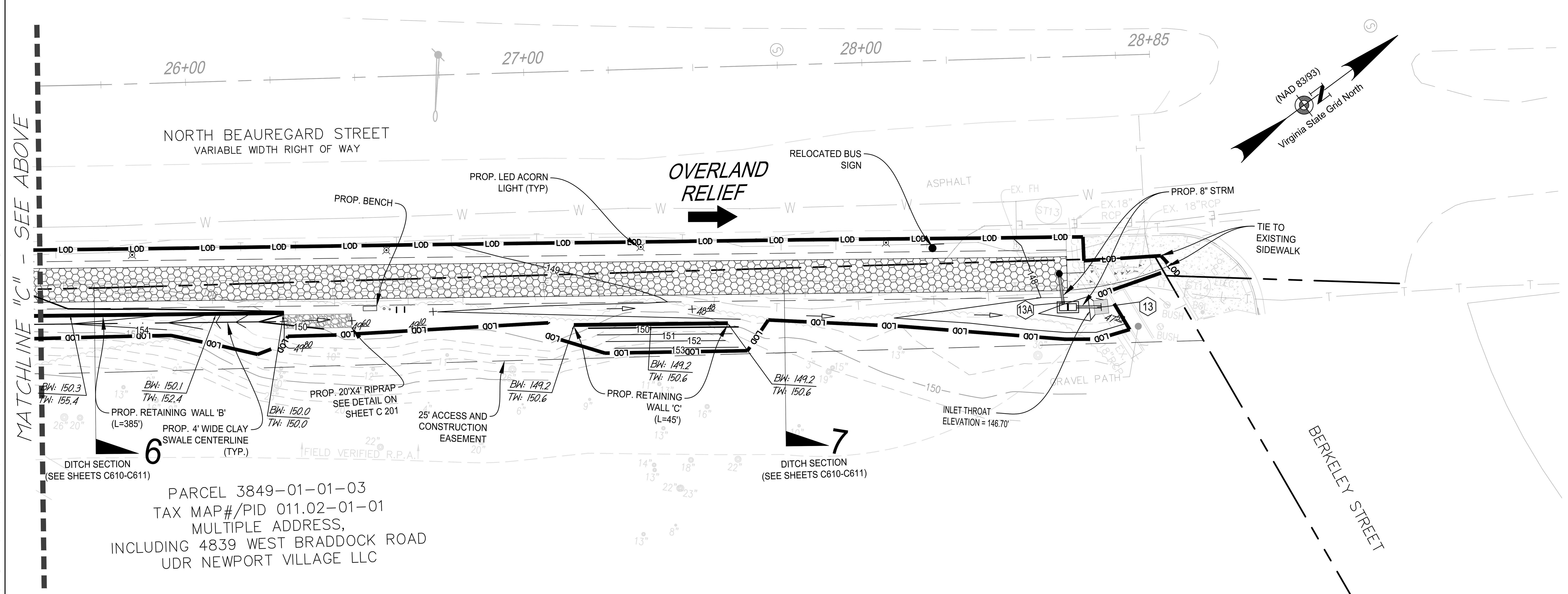
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

GRADING PLAN

C500

P:\Projects\21266\0010\111333 - 60%\C501 GRADING PLAN.dwg PLOTTED: 3/10/2022 8:20:30 AM BY FERAS ALNATOUR





LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STORM
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED CONCRETE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED SPOT SHOT
- PROPOSED CONTOUR
- PROPOSED 2' GRADED SHOULDER (TYP)

GRAPHIC SCALE 1" = 20'

P:\Projects\21266\00100\111333 – 60%\C501 GRADING PLAN.dwg PLOTTED: 3/10/2022 8:20:37 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

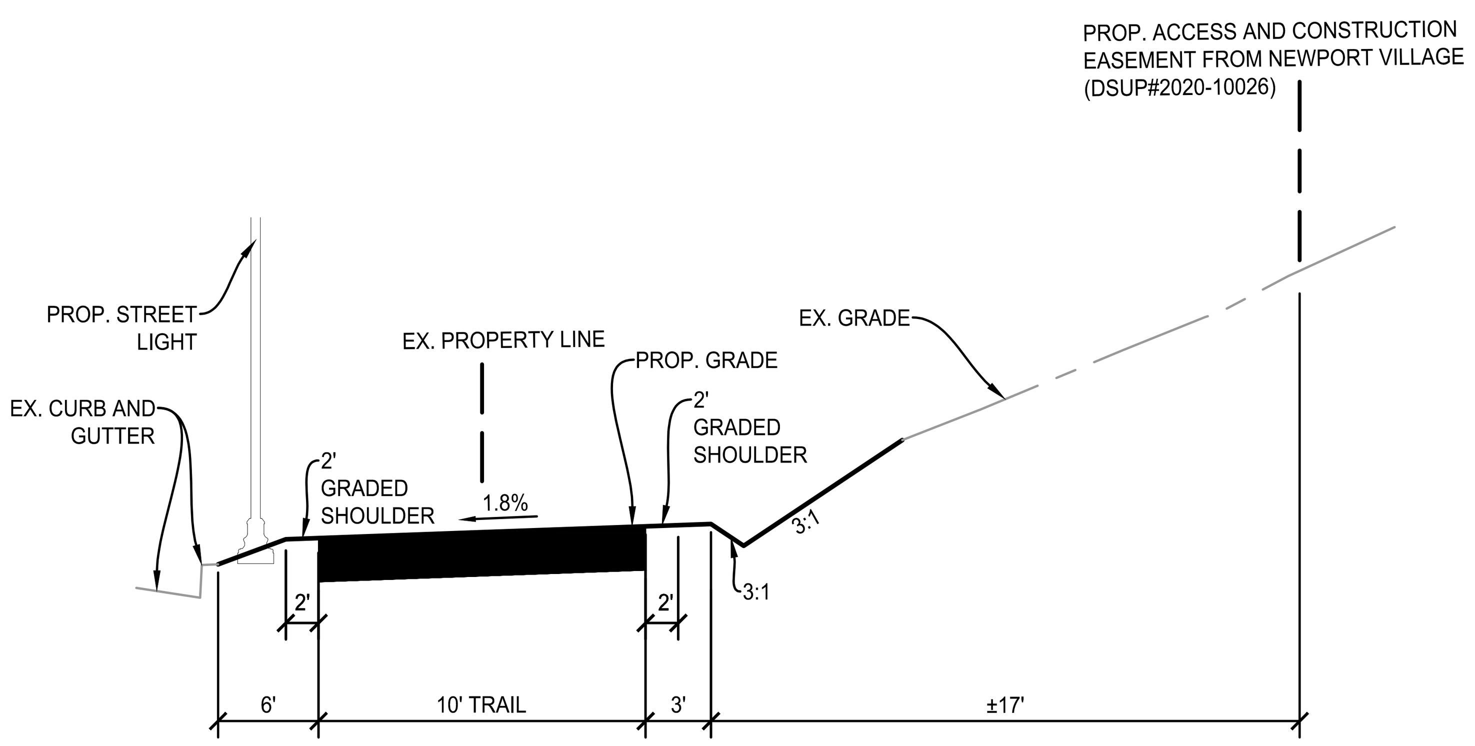
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

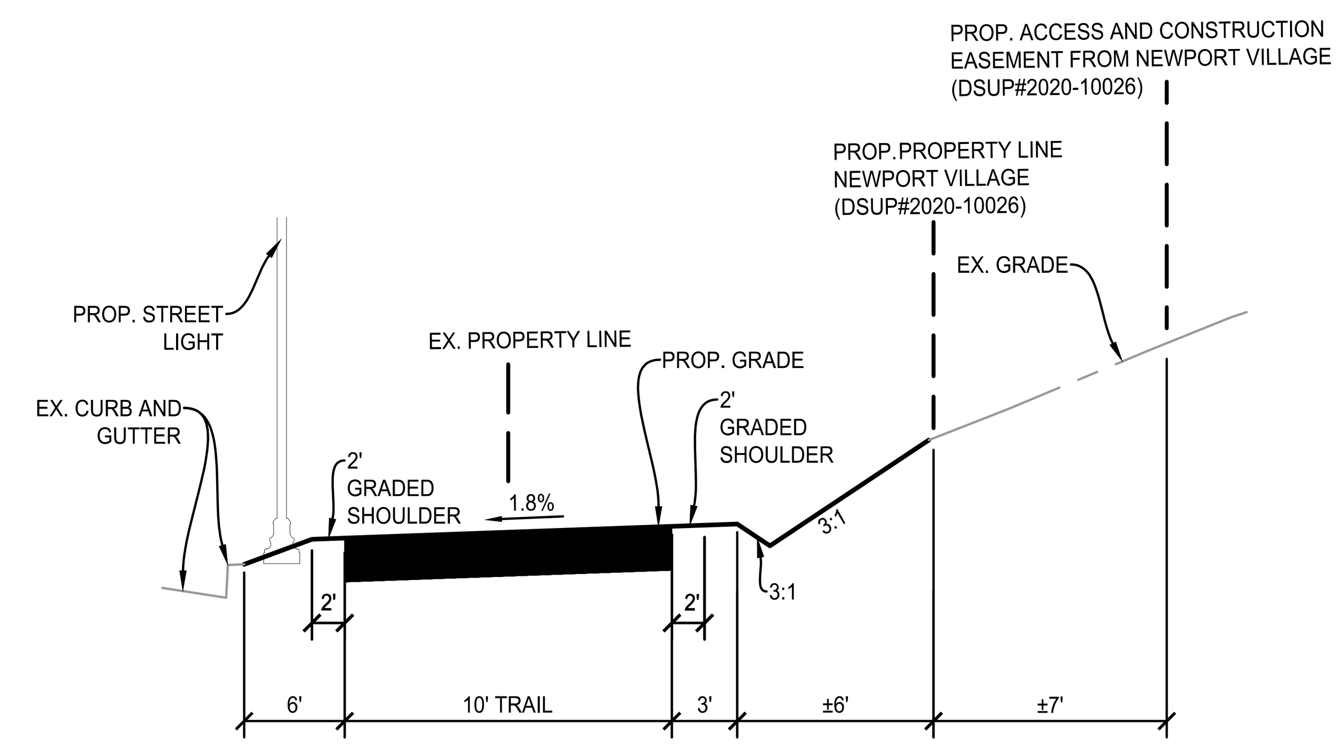
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

GRADING PLAN

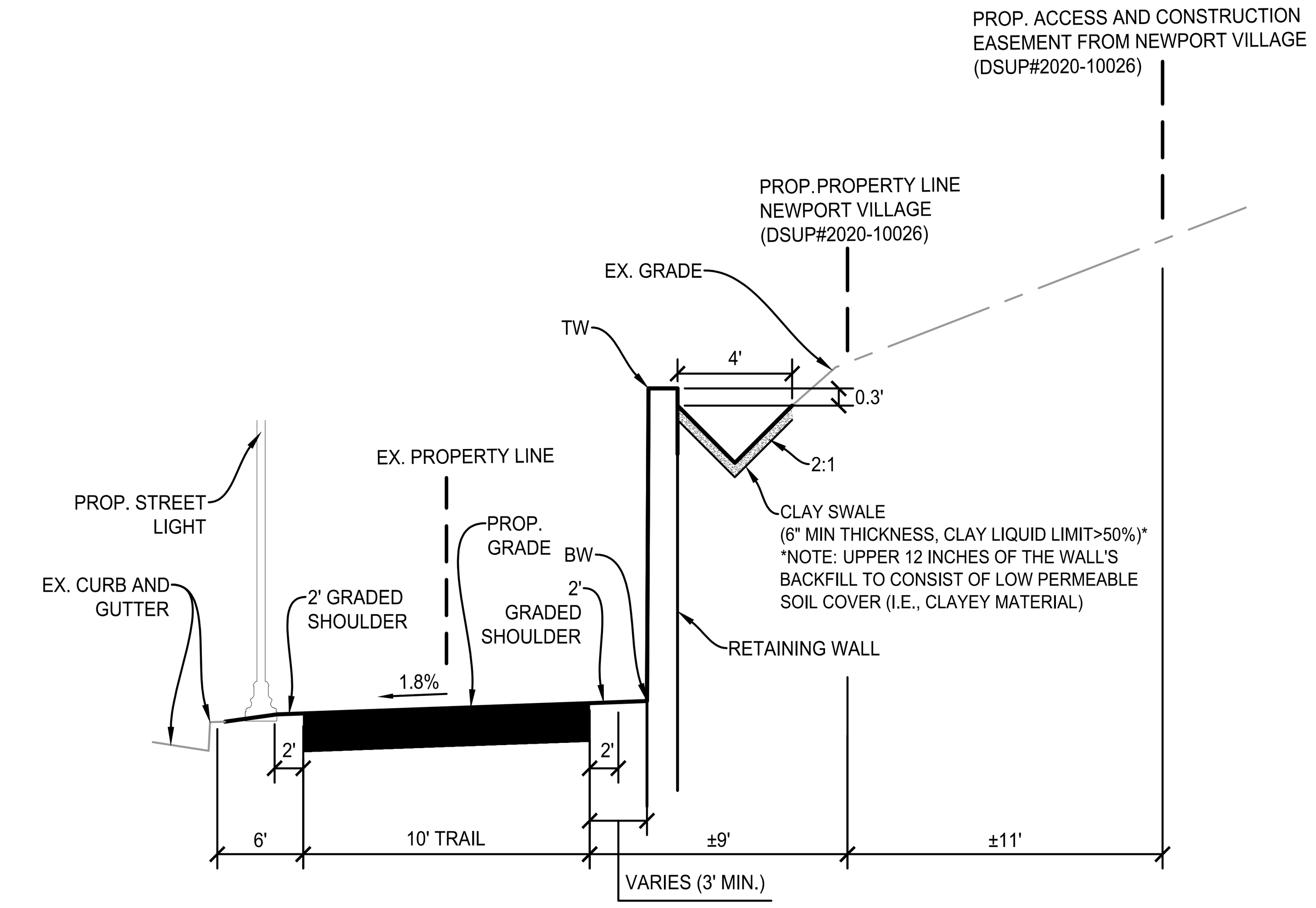
C501



TYPICAL TRAIL SECTION
NOT TO SCALE
FOR STATIONS 10+80 TO 14+46

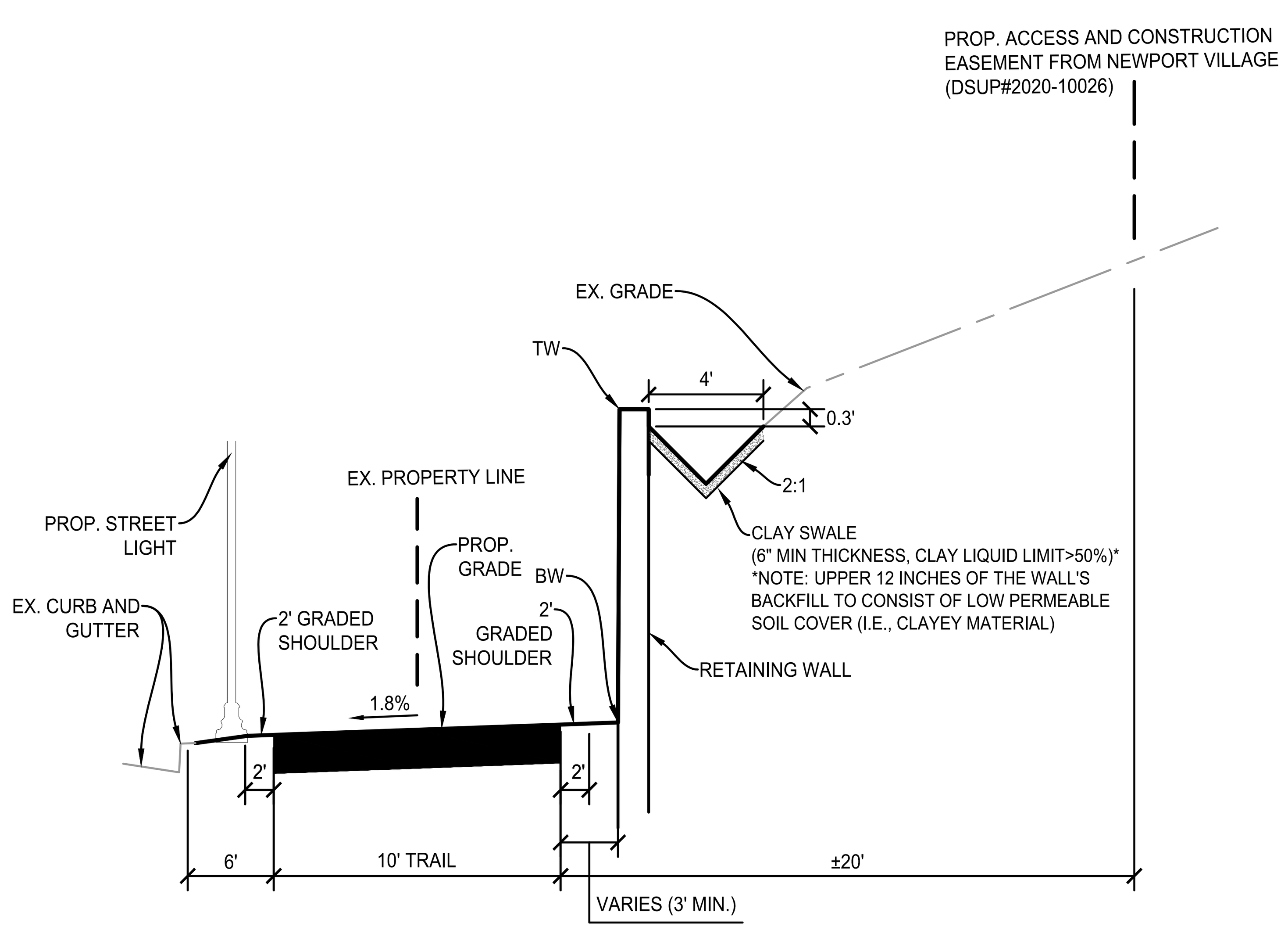


TYPICAL TRAIL SECTION
NOT TO SCALE
FOR STATIONS 14+46 TO 16+47



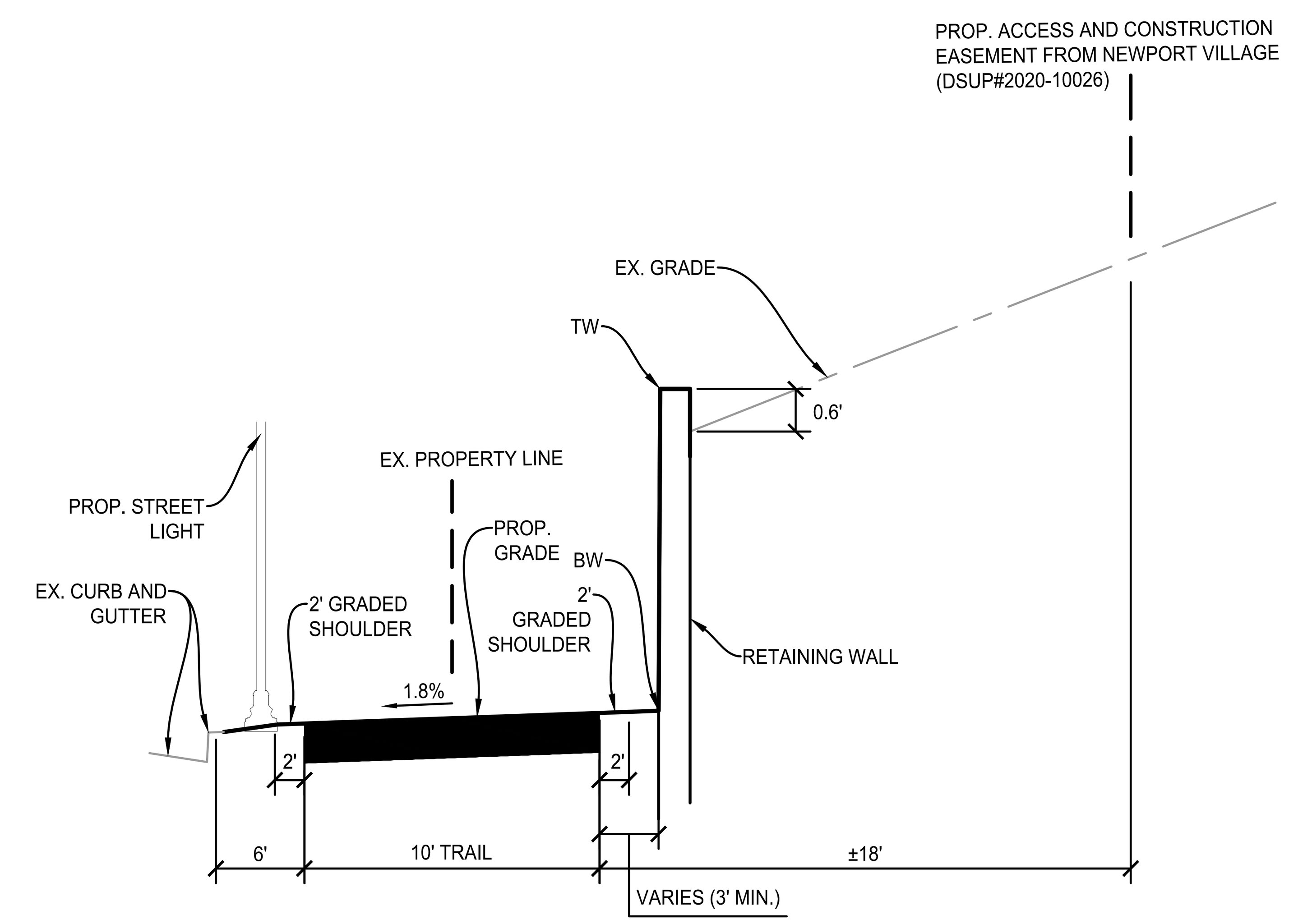
TYPICAL TRAIL SECTION
NOT TO SCALE
FOR STATIONS 16+47 TO 18+30

NOTE: REFER TO SHEETS C500 AND C501 FOR TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS. THIS SECTION IDENTIFIES WHERE THE TW AND BW ARE LOCATED IN RELATION TO THE WALL.



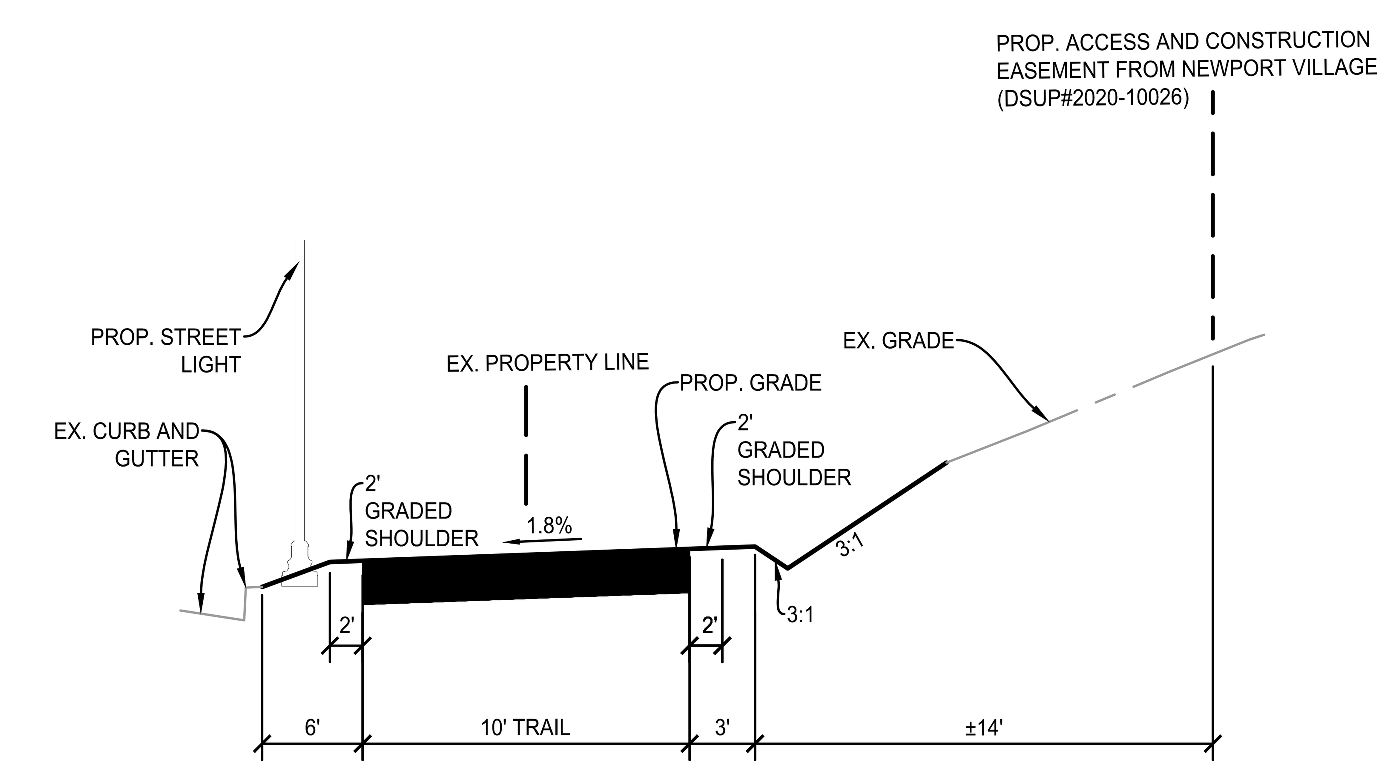
TYPICAL TRAIL SECTION
NOT TO SCALE
FOR STATIONS 22+60 TO 26+27

NOTE: REFER TO SHEETS C500 AND C501 FOR TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS. THIS SECTION IDENTIFIES WHERE THE TW AND BW ARE LOCATED IN RELATION TO THE WALL.



TYPICAL TRAIL SECTION
NOT TO SCALE
FOR STATIONS 27+13 TO 27+58

NOTE: REFER TO SHEETS C500 AND C501 FOR TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS. THIS SECTION IDENTIFIES WHERE THE TW AND BW ARE LOCATED IN RELATION TO THE WALL.



TYPICAL TRAIL SECTION
NOT TO SCALE
FOR STATIONS 22+42 TO 22+60
STATIONS 26+27 TO 27+13
STATIONS 27+58 TO 28+59

LIGHT POLE BASE NOTE:
CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AND GRADING TO AVOID PONDING OF WATER AT BASE OF LIGHT POLES.

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

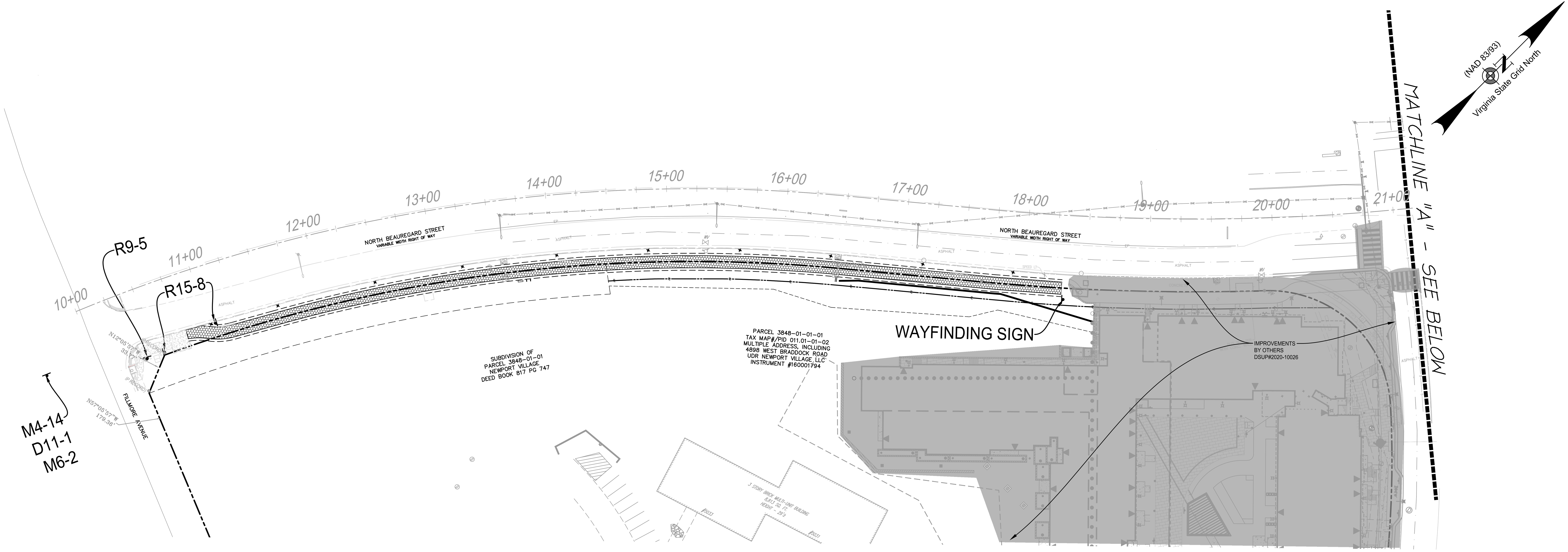
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

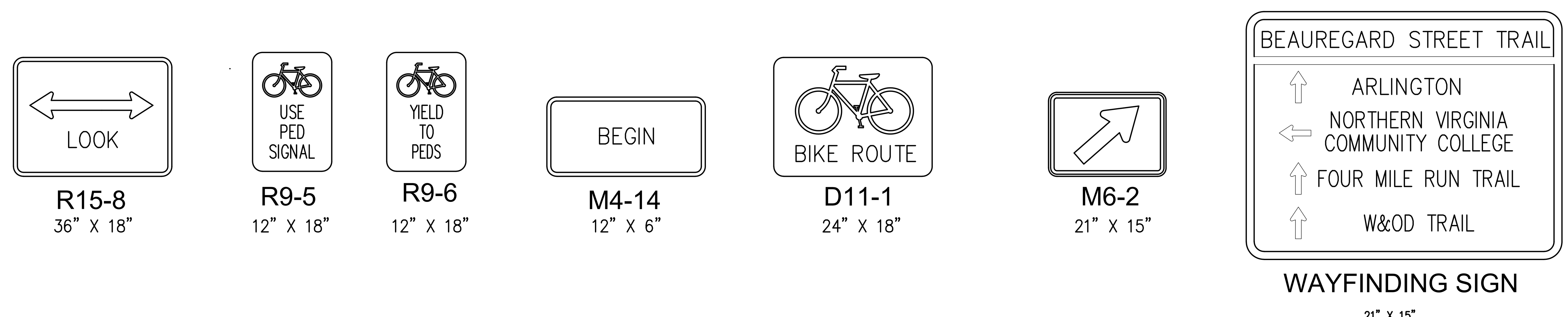
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

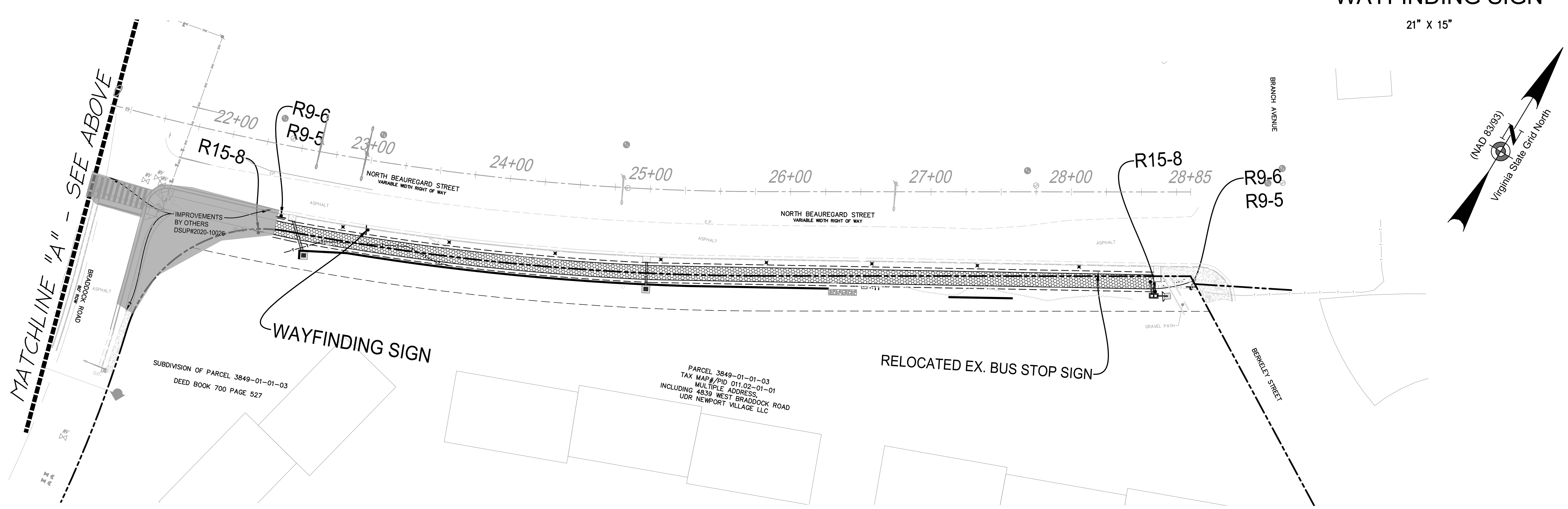
TYPICAL TRAIL SECTION

C502

P:\Projects\21266\00100\111333 – 60%\C502 TYPICAL TRAIL SECTION.dwg PLOTTED: 3/10/2022 8:20:50 AM BY FERAS ALNATOUR







60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

DATE	BY	REVISIONS DESCRIPTION

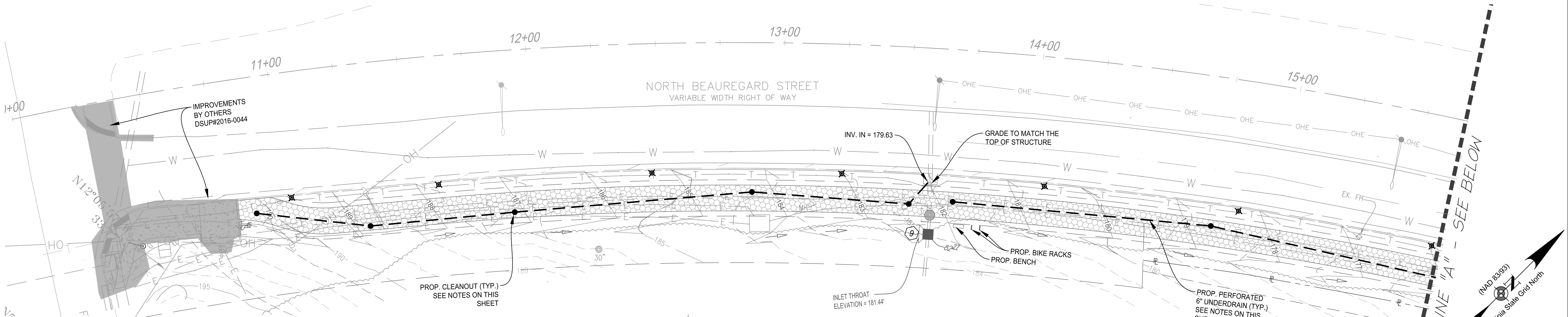
ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

SIGNAGE PLAN

C503

P:\Projects\21266\00100\111333 - 60%\C503 CONCEPTUAL SIGNAGE PLAN.dwg PLOTTED: 3/10/2022 8:21:11 AM BY FERAS ALNATOUR



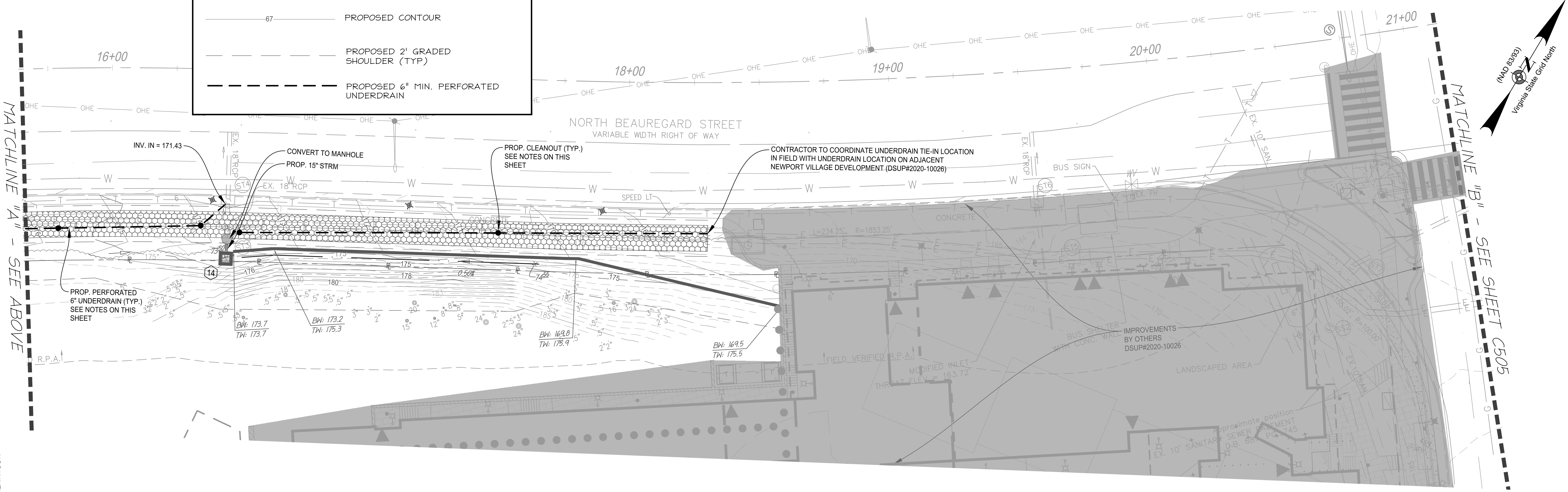
LEGEND

	EXISTING PROPERTY LINE
	PROPOSED STORM
	PROPOSED PERMEABLE PAVEMENT
	PROPOSED CONCRETE
	PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
	PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)
54.29	PROPOSED SPOT SHOT
67	PROPOSED CONTOUR
	PROPOSED 2' GRADED SHOULDER (TYP)
	PROPOSED 6" MIN. PERFORATED UNDERDRAIN

NOTES:

1) PERMEABLE PAVEMENT AND ASSOCIATED UNDERDRAINS TO BE INSTALLED PER 'CITY OF ALEXANDRIA FINAL GREEN STREETS AND SIDEWALKS STORMWATER DESIGN GUIDLINES'
2) REFER TO DETAIL 'PERMEABLE PAVEMENT DETAIL' AND DESIGN NOTES ON SHEET C200.
3) PROP. UNDERDRAINS ARE 6" MIN. PERFORATED PVC SCHEDULE 40 OR HDPE.
4) MAXIMUM SPACING BETWEEN CLEANOUTS SPACING ON A CONTINUOUS SECTION WILL BE 100'.

GRAPHIC SCALE
1" = 20'



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

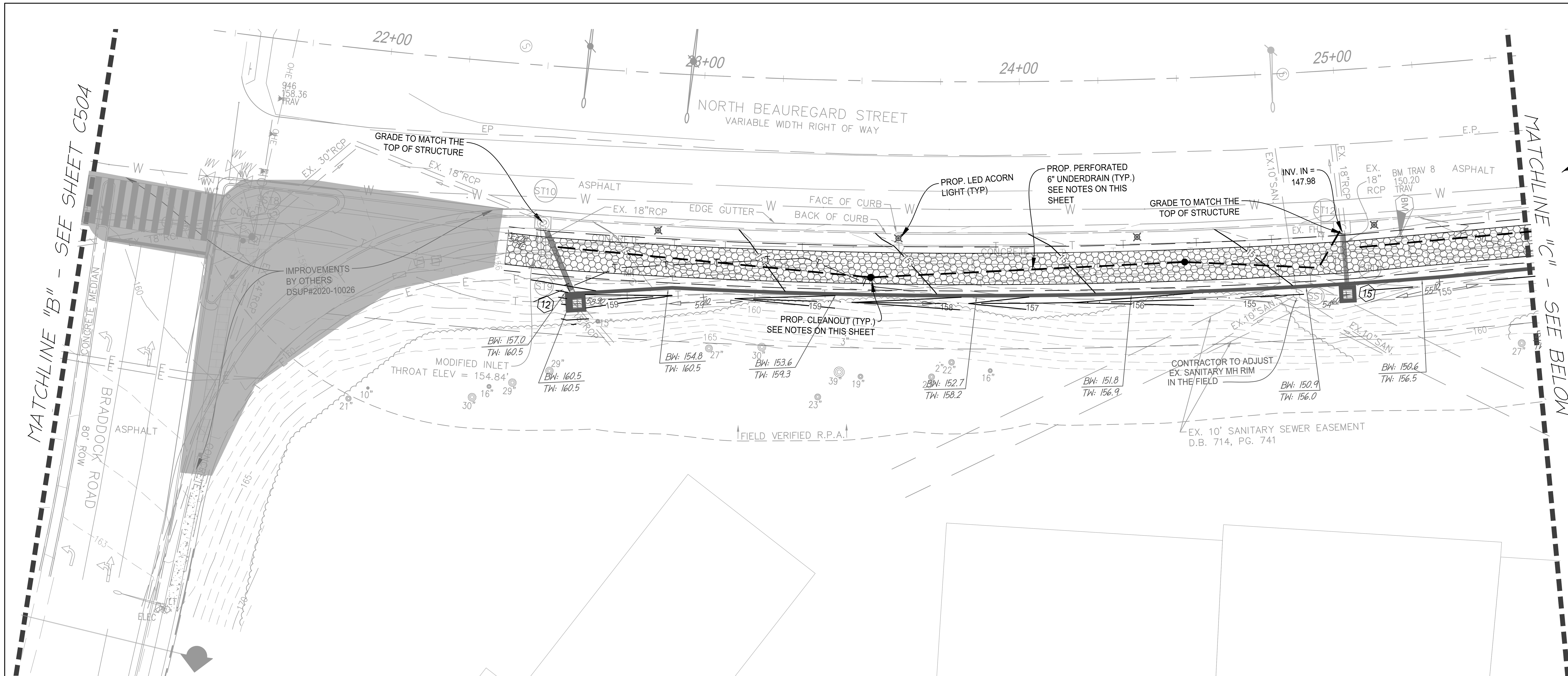
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

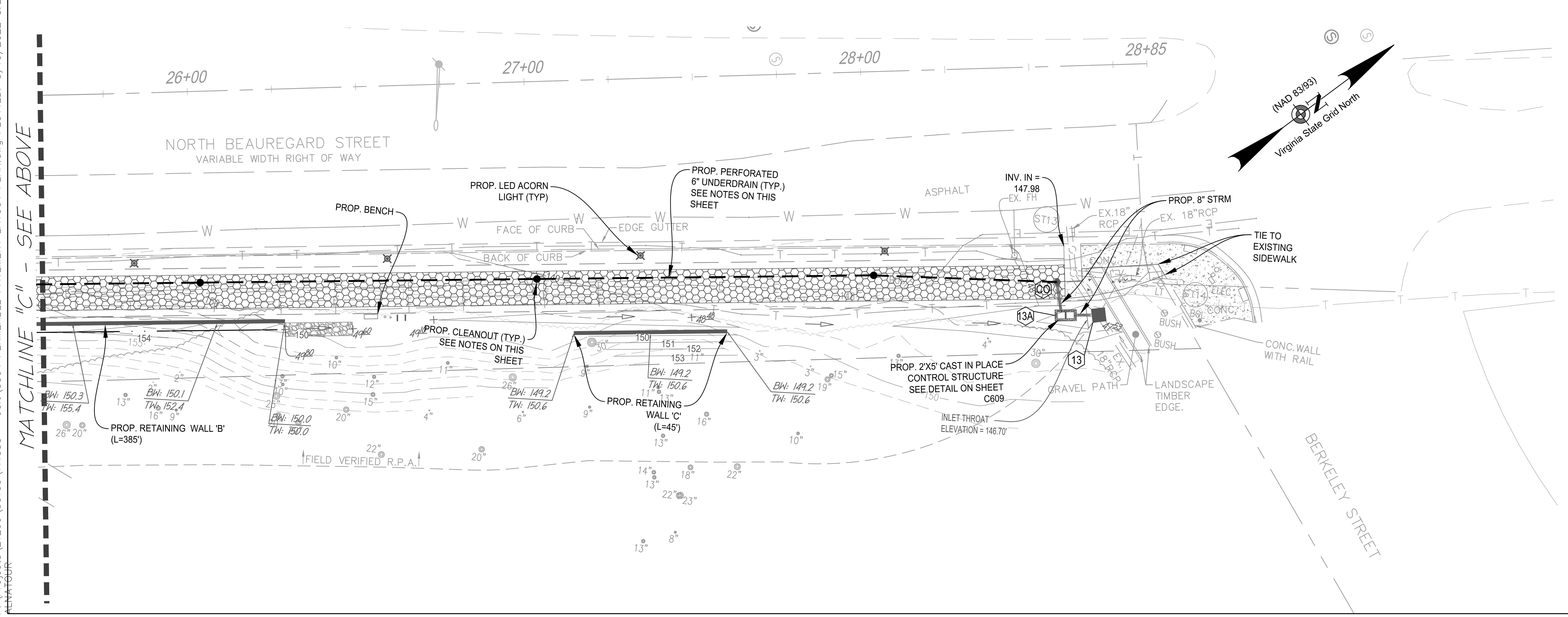
PERMEABLE PAVEMENT PLAN

C504



NOTES:

1) PERMEABLE PAVEMENT AND ASSOCIATED UNDERDRAINS TO BE INSTALLED PER 'CITY OF ALEXANDRIA FINAL GREEN STREETS AND SIDEWALKS STORMWATER DESIGN GUIDLINES'
2) REFER TO DETAIL 'PERMEABLE PAVEMENT DETAIL' AND DESIGN NOTES ON SHEET C200.
3) PROP. UNDERDRAINS ARE 6" MIN. PERFORATED PVC SCHEDULE 40 OR HDPE.
4) MAXIMUM SPACING BETWEEN CLEANOUTS SPACING ON A CONTINUOUS SECTION WILL BE 100'.



LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STORM
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED SPOT SHOT
- PROPOSED CONTOUR
- PROPOSED 2' GRADED SHOULDER (TYP)
- PROPOSED 6" MIN. PERFORATED UNDERDRAIN

30 15 0 30 60
GRAPHIC SCALE
1" = 30'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

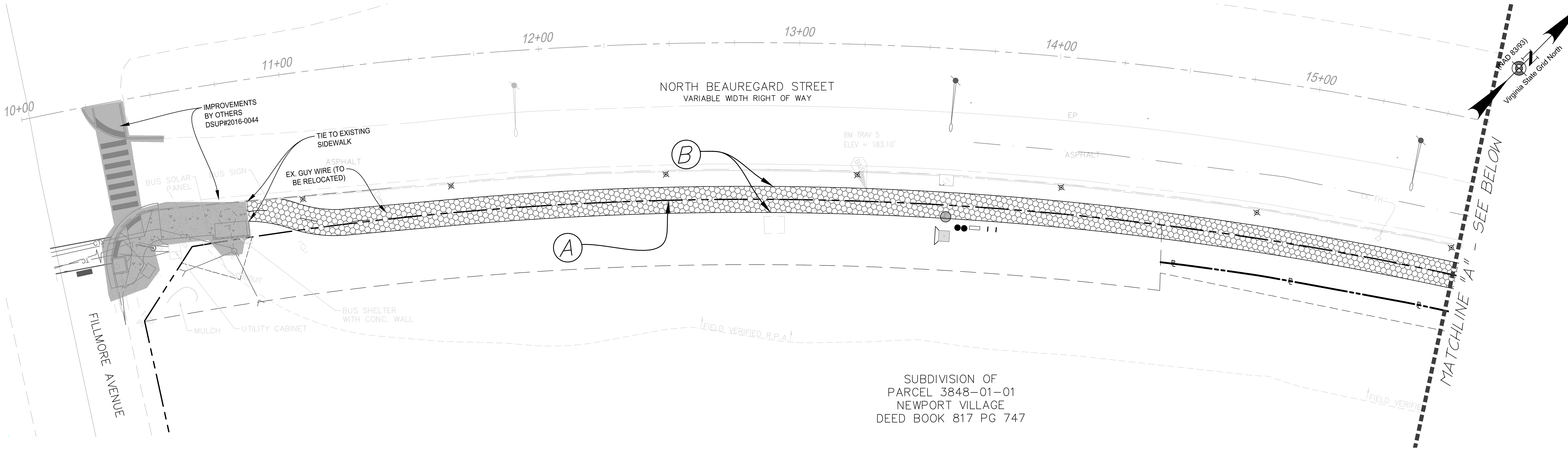
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

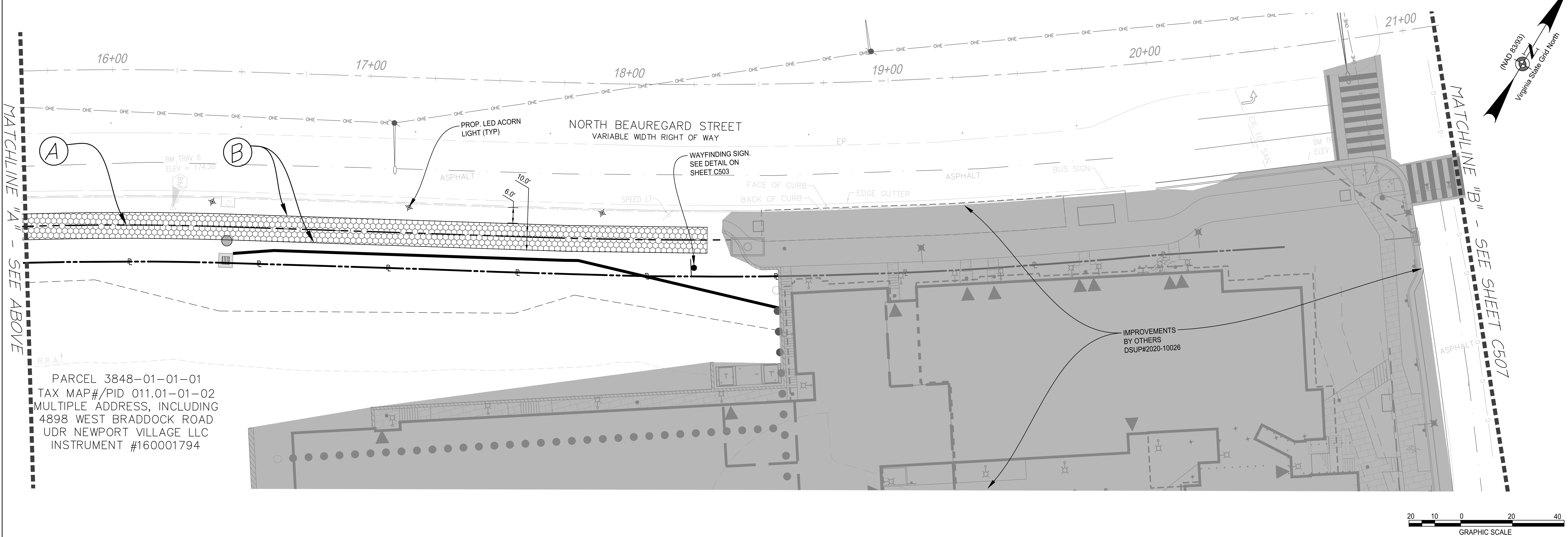
PERMEABLE PAVEMENT PLAN

C505

P:\Projects\21266\00100\111333 - 60%\C504 PERMEABLE PAVEMENT LAYOUT PLAN.dwg PLOTTED: 3/10/2022 8:21:46 AM BY FERAS ALNATOUR



PAVEMENT MARKING NOTE:
1- SEE SHEET C507 FOR PAVEMENT MARKING NOTES AND LEGEND.



P:\Projects\21266\00100\111333 - 60%\C506 TRAIL MARKINGS PLAN.dwg PLOTTED: 3/10/2022 8:22:17 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

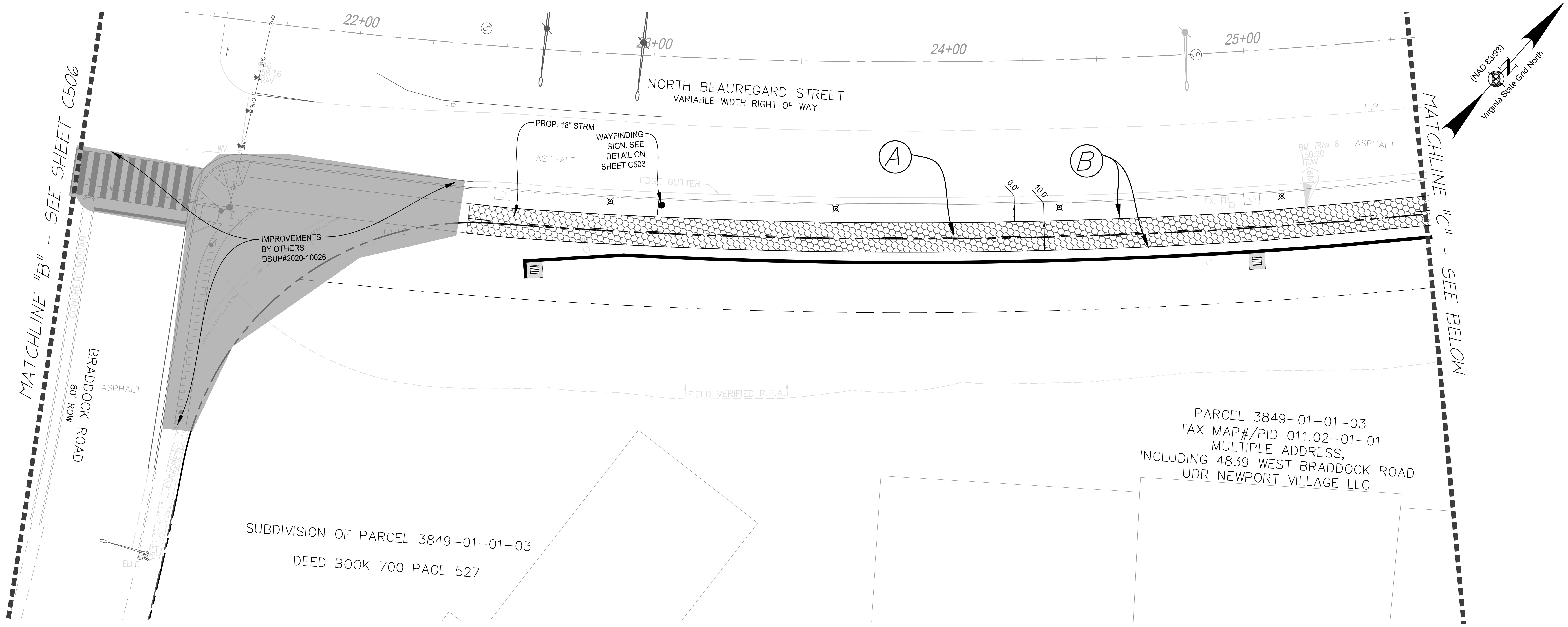
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

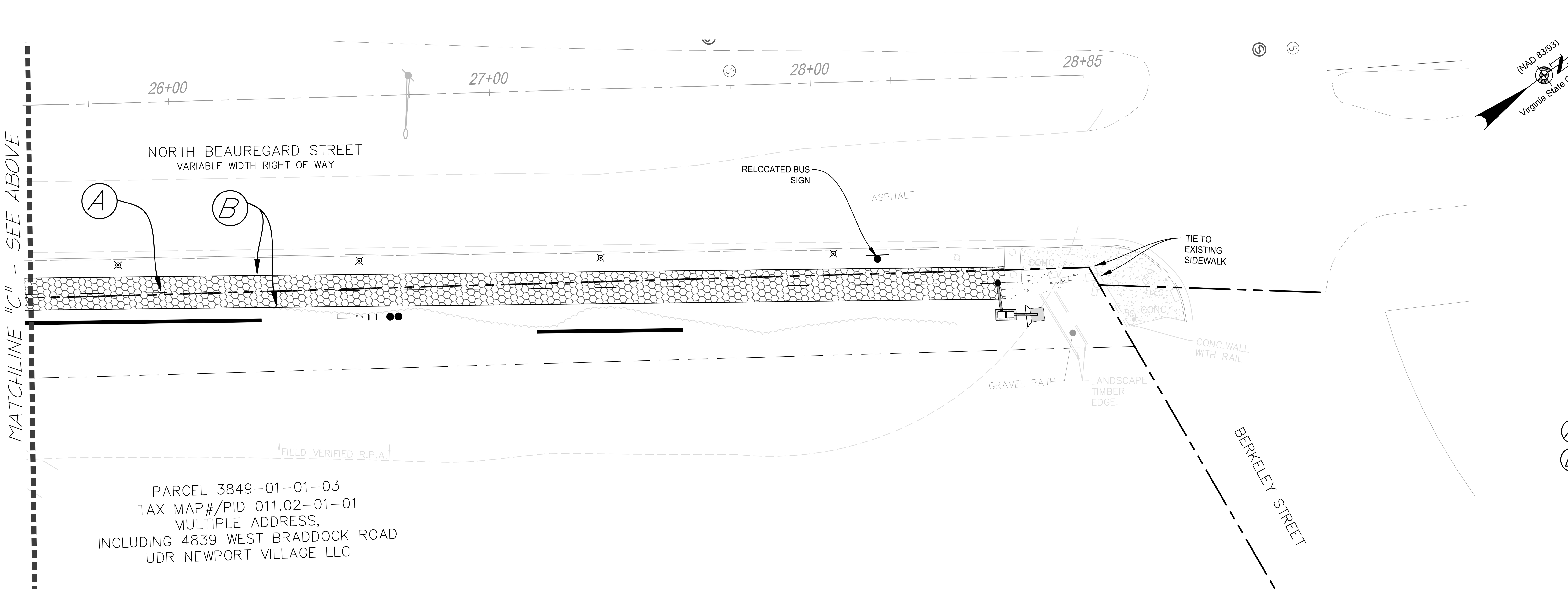
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TRAIL MARKING PLAN

C506





PAVEMENT MARKING NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF EACH OF THE FOLLOWING AND ANY REVISION THERETO:
   A. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
   B. THE VIRGINIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   C. THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS SHALL BE THERMO PLASTIC.

RETAINING WALL HANDRAIL NOTE:

1- HANDRAILS TO BE PROVIDED FOR RETAINING WALLS GREATER THAN 30" IN HEIGHT.
2- REFER TO SHEET C201 FOR HANDRAIL TYPICAL DETAIL.

PAVEMENT MARKING LEGEND

A TYPE B, CLASS 1, SINGLE BROKEN YELLOW, 4" WIDTH, 3' STRIPE SPACED 9'

B TYPE B, CLASS 1, WHITE, 4" WIDTH

20 10 0 20 40
GRAPHIC SCALE
1" = 20'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

DATE	BY	REVISIONS DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

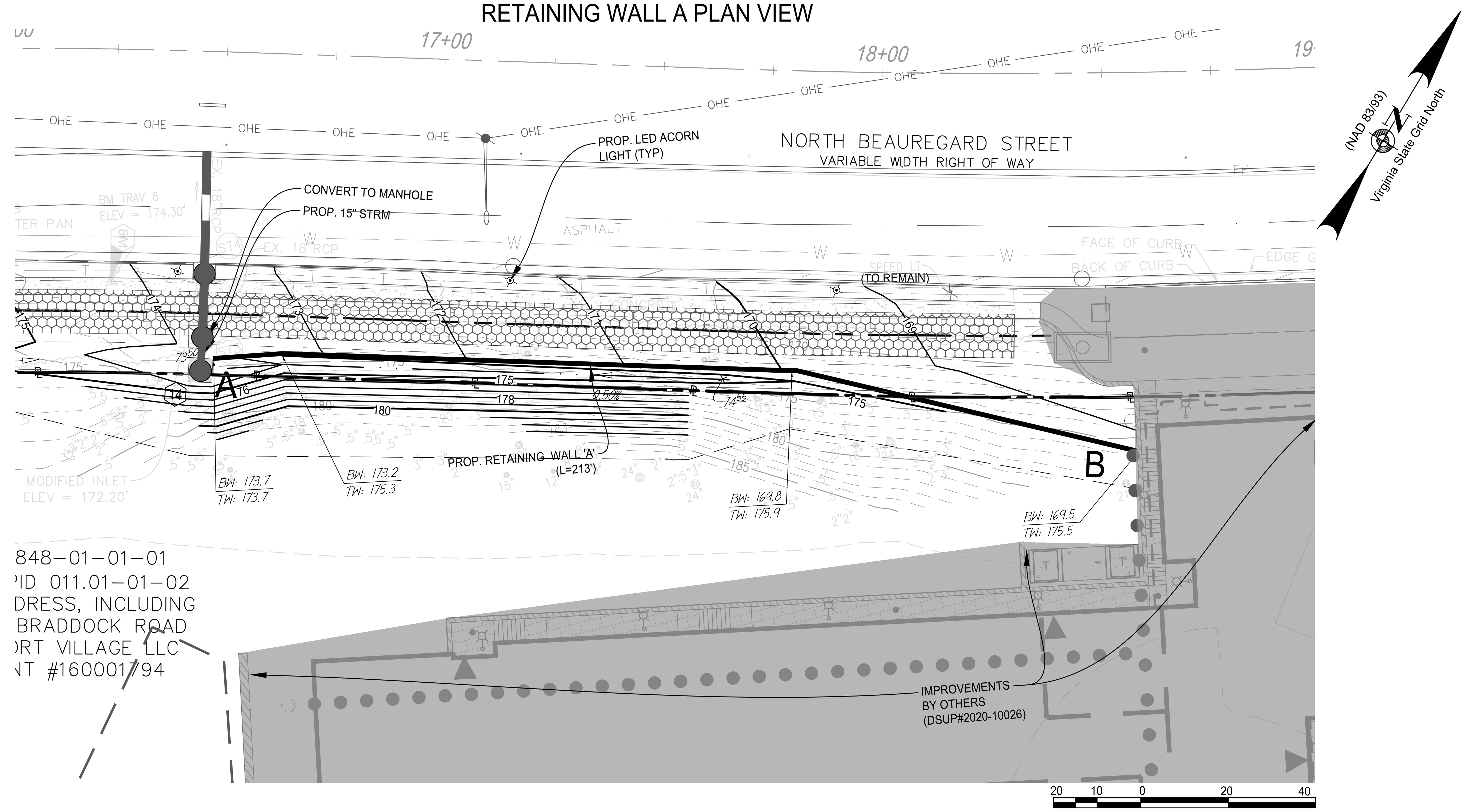
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TRAIL MARKING PLAN

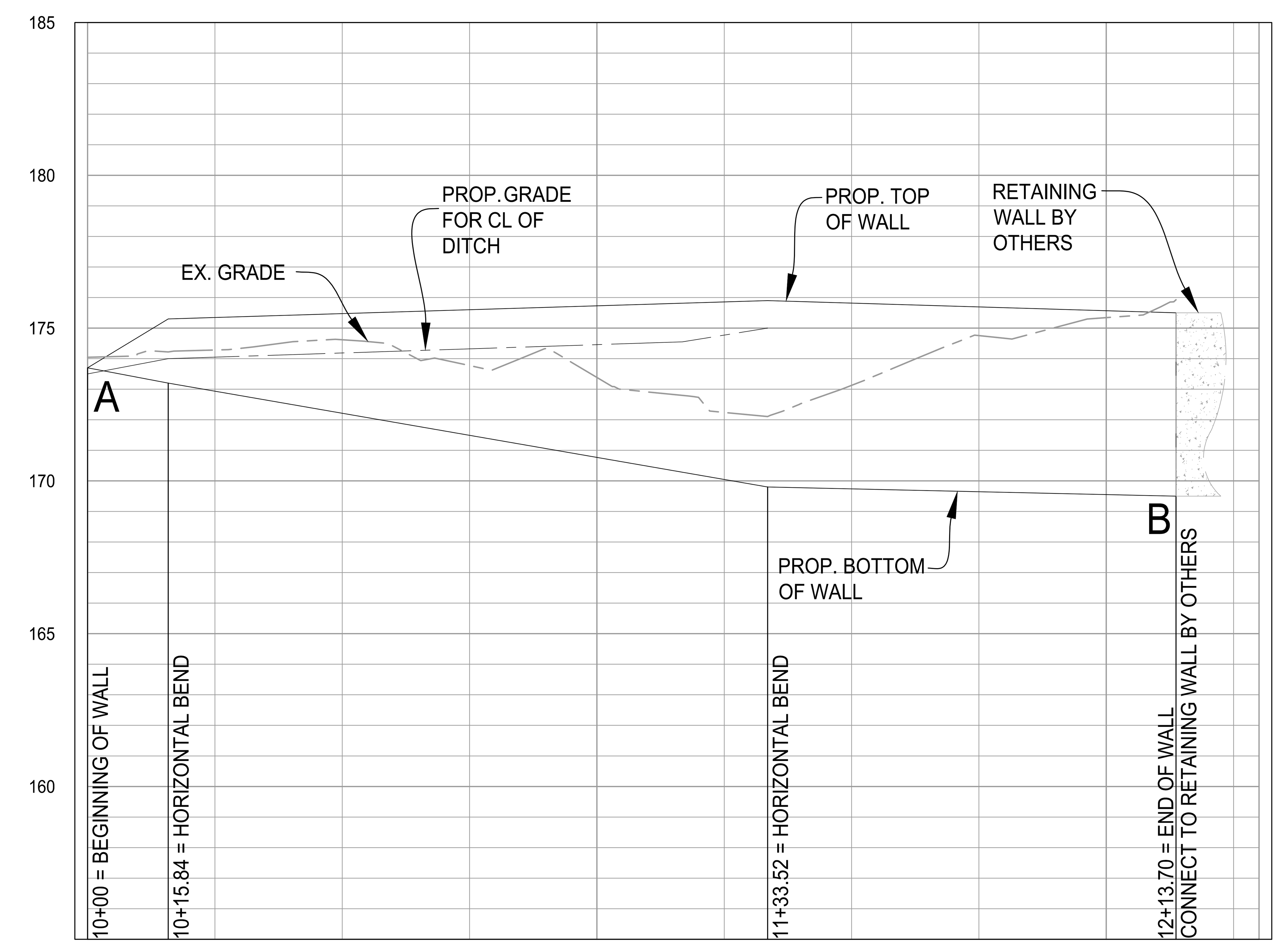
C507

P:\Projects\21266\00100\111333 - 60%\C506 TRAIL MARKINGS PLAN.dwg PLOTTED: 3/10/2022 8:22:20 AM BY FERAS ALNATOUR

RETAINING WALL A PLAN VIEW



RETAINING WALL A ELEVATION



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

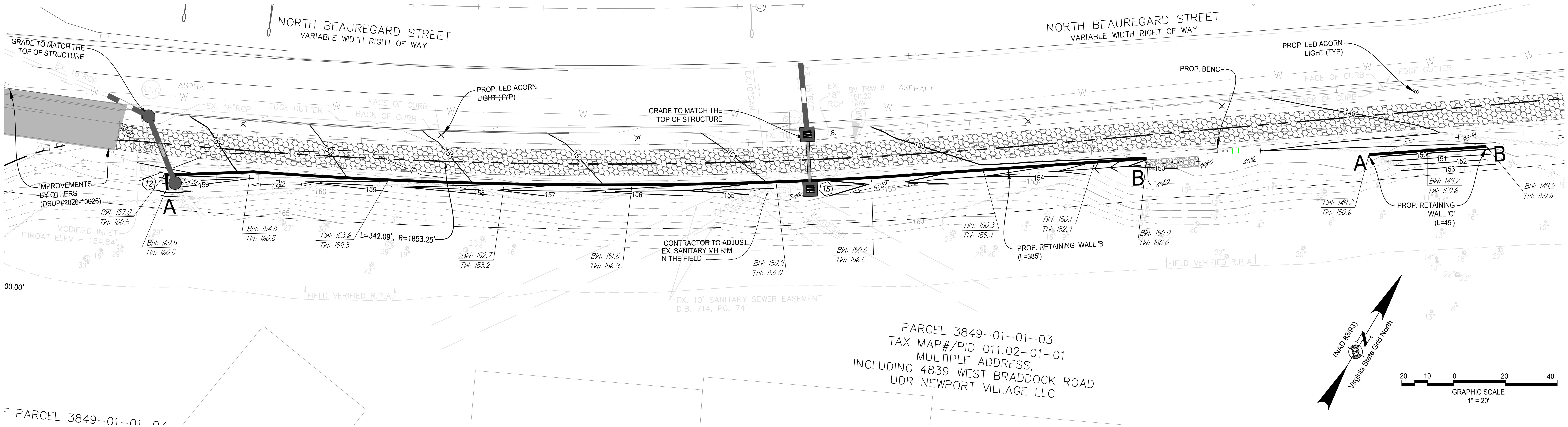
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

RETAINING WALL PLAN AND PROFILE

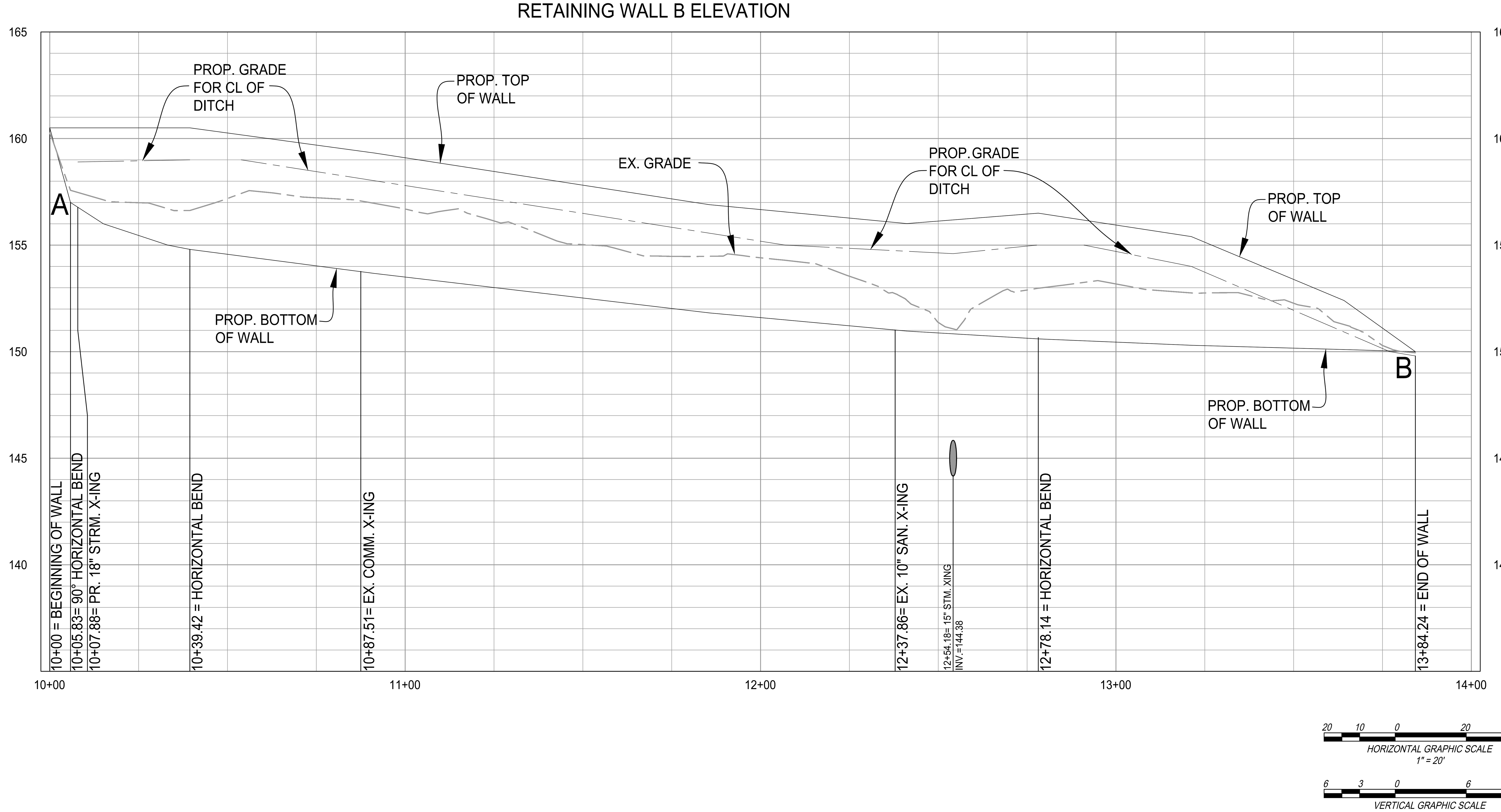
C510

P:\Projects\21266\00100\111333 - 60%\C510 RETAINING WALL PROFILES.dwg PLOTTED: 3/10/2022 8:22:54 AM BY FERAS ALNATOUR

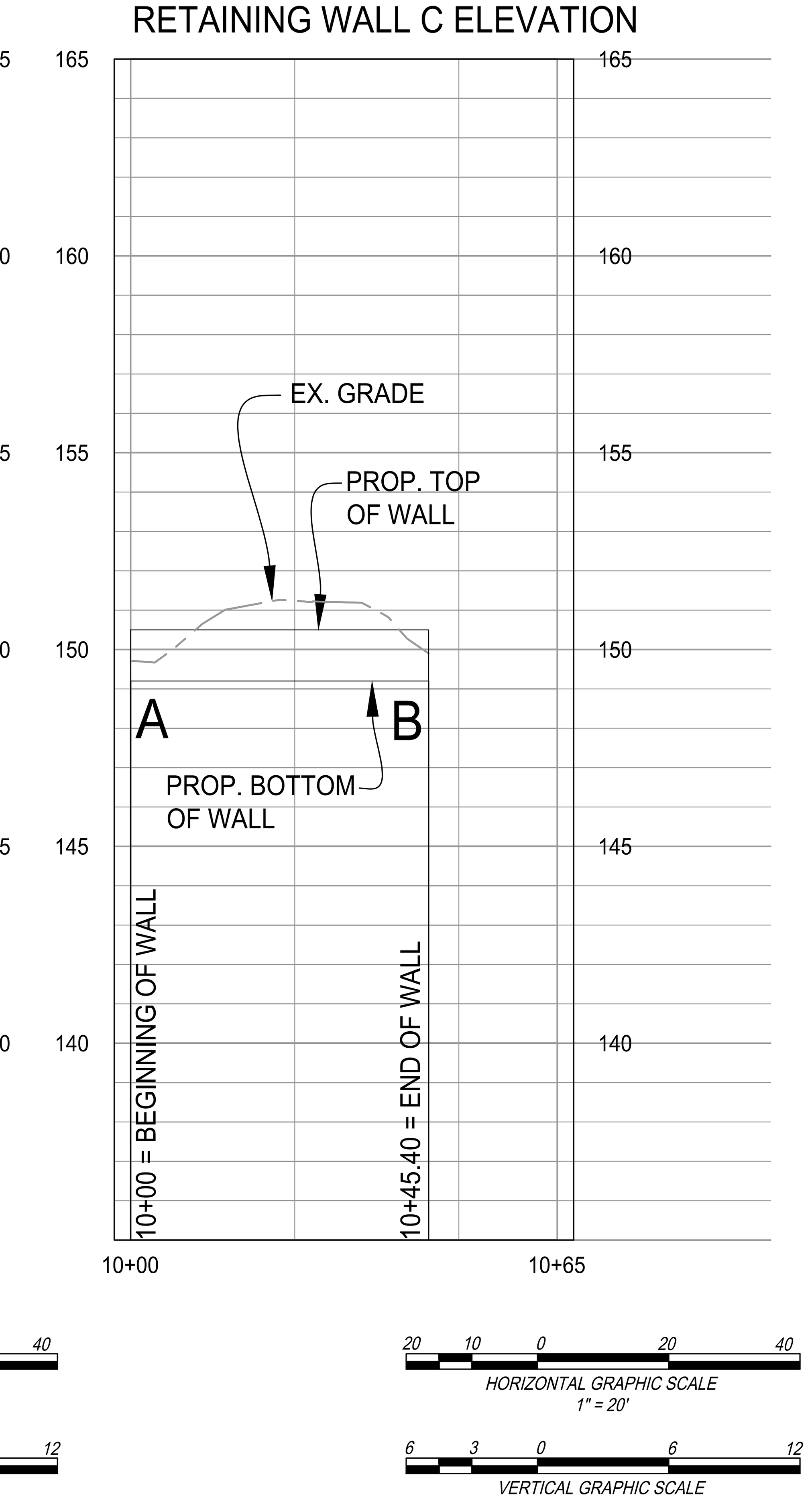
RETAINING WALLS B & C PLAN VIEW



RETAINING WALL B ELEVATION



RETAINING WALL C ELEVATION



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

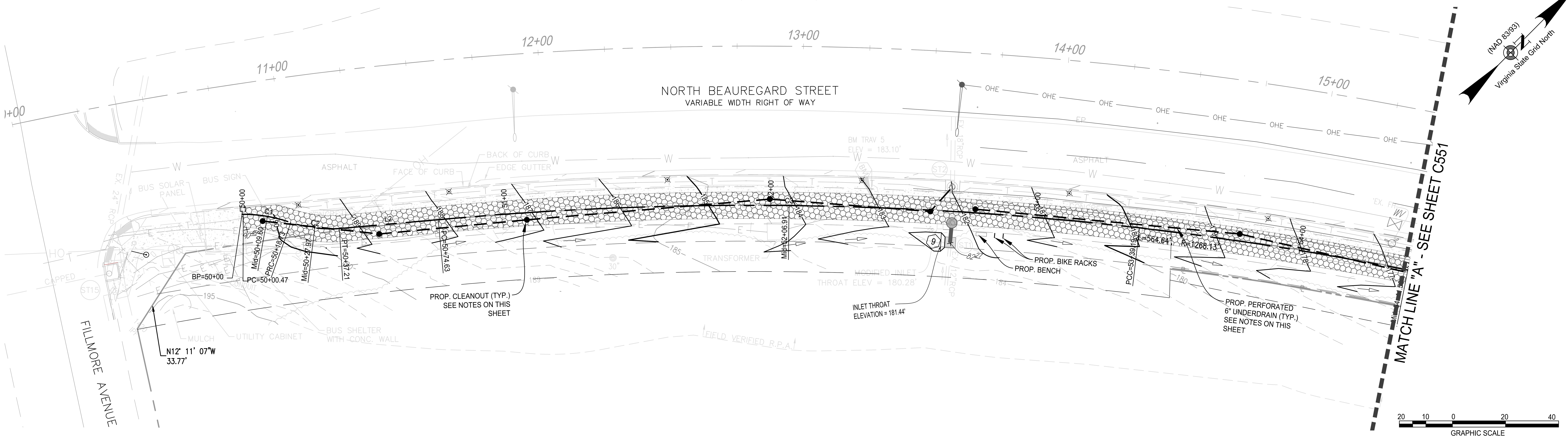
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

RETAINING WALL PLAN AND PROFILE

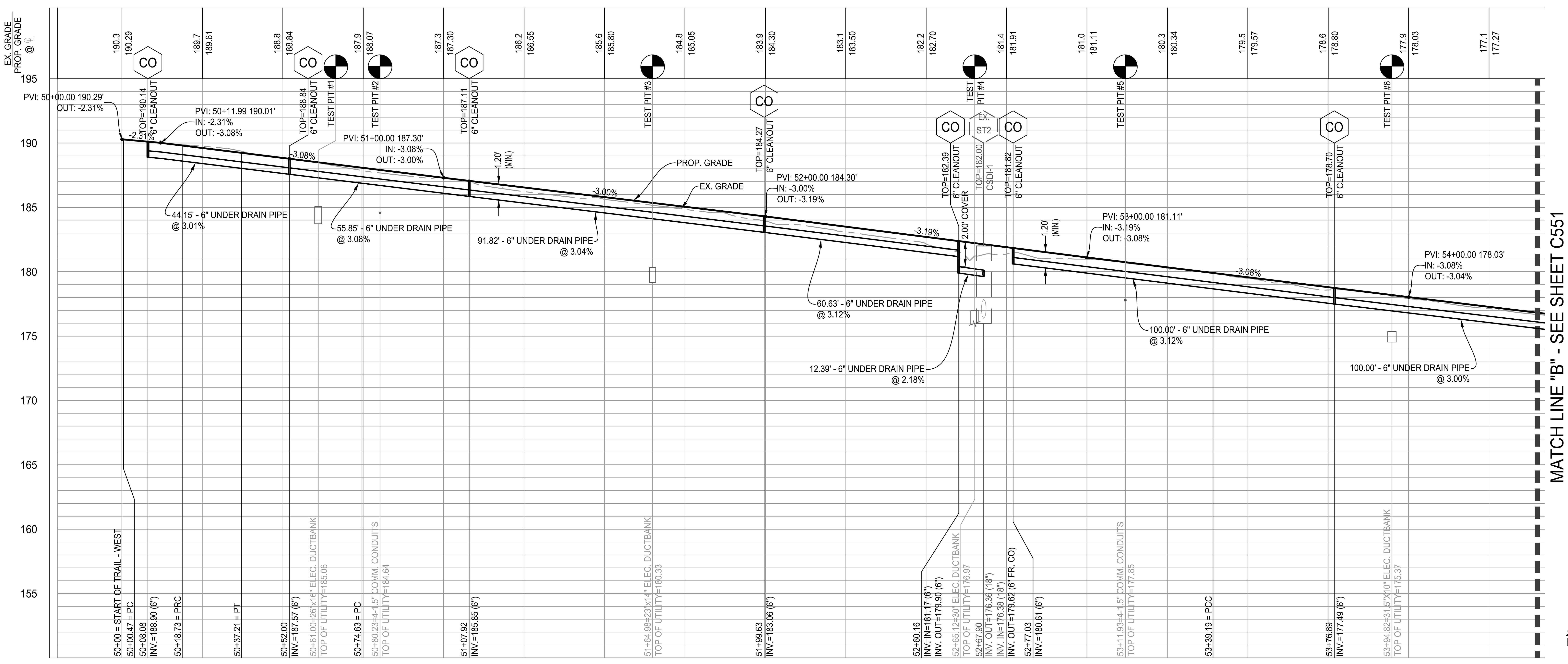
C511

P:\Projects\21266\00100\111333 - 60%\C510 RETAINING WALL PROFILES.dwg PLOTTED: 3/10/2022 8:23:04 AM BY FERAS ALNATOUR

TRAIL - WEST (PLAN VIEW)



TRAIL - WEST (PROFILE VIEW)



Line Table: Alignments		
LINE #	LENGTH	BEARING
L1	0.47	N45° 26' 15.27"E
L2	37.42	N40° 00' 51.38"E
L3	129.06	N60° 59' 15.42"E
L4	54.91	N59° 49' 19.99"E

CURVE TABLE					
CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C1	53.95	18.26	9.22'	18.17	N55°07'55"E
C2	49.09	18.49	9.35'	18.38	N52°12'42"E
C3	1270.40	264.57	132.76'	264.09	N45°51'03"E
C4	1307.89	204.68	102.55'	204.47	N56°21'28"E
C5	26.83	11.84	6.02'	11.74	N72°29'49"E
C6	23.36	10.46	5.32'	10.38	N74°11'00"E
C7	535.25	4.86	2.43'	4.86	N57°28'30"E

NOTE:
1. SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C200 FOR TRAIL SURFACING.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

HORIZONTAL GRAPHIC SCALE 1" = 20'

VERTICAL GRAPHIC SCALE 1" = 5'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

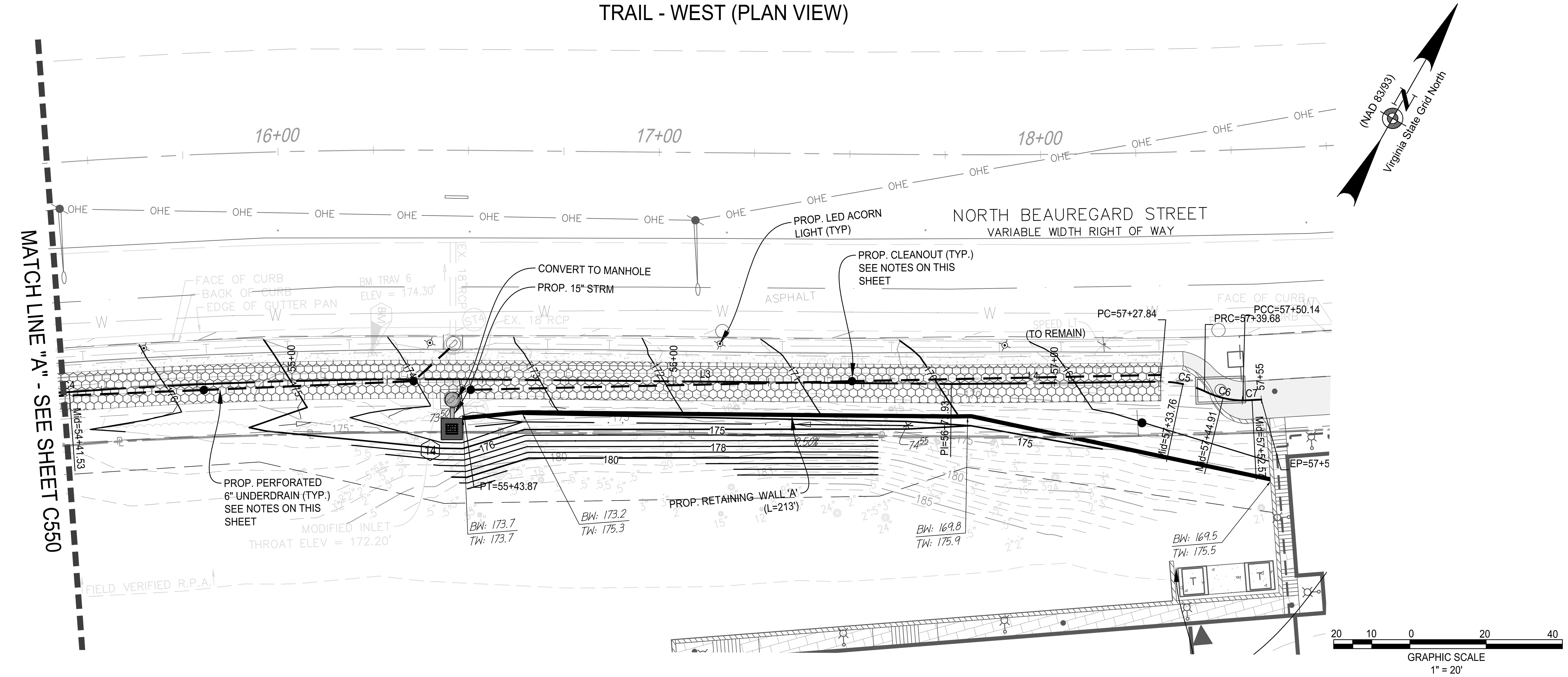
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

SHEET TITLE
TRAIL PLAN AND PROFILE

SHEET NO.
C550

SCALE: SEE DWGS.

TRAIL - WEST (PLAN VIEW)

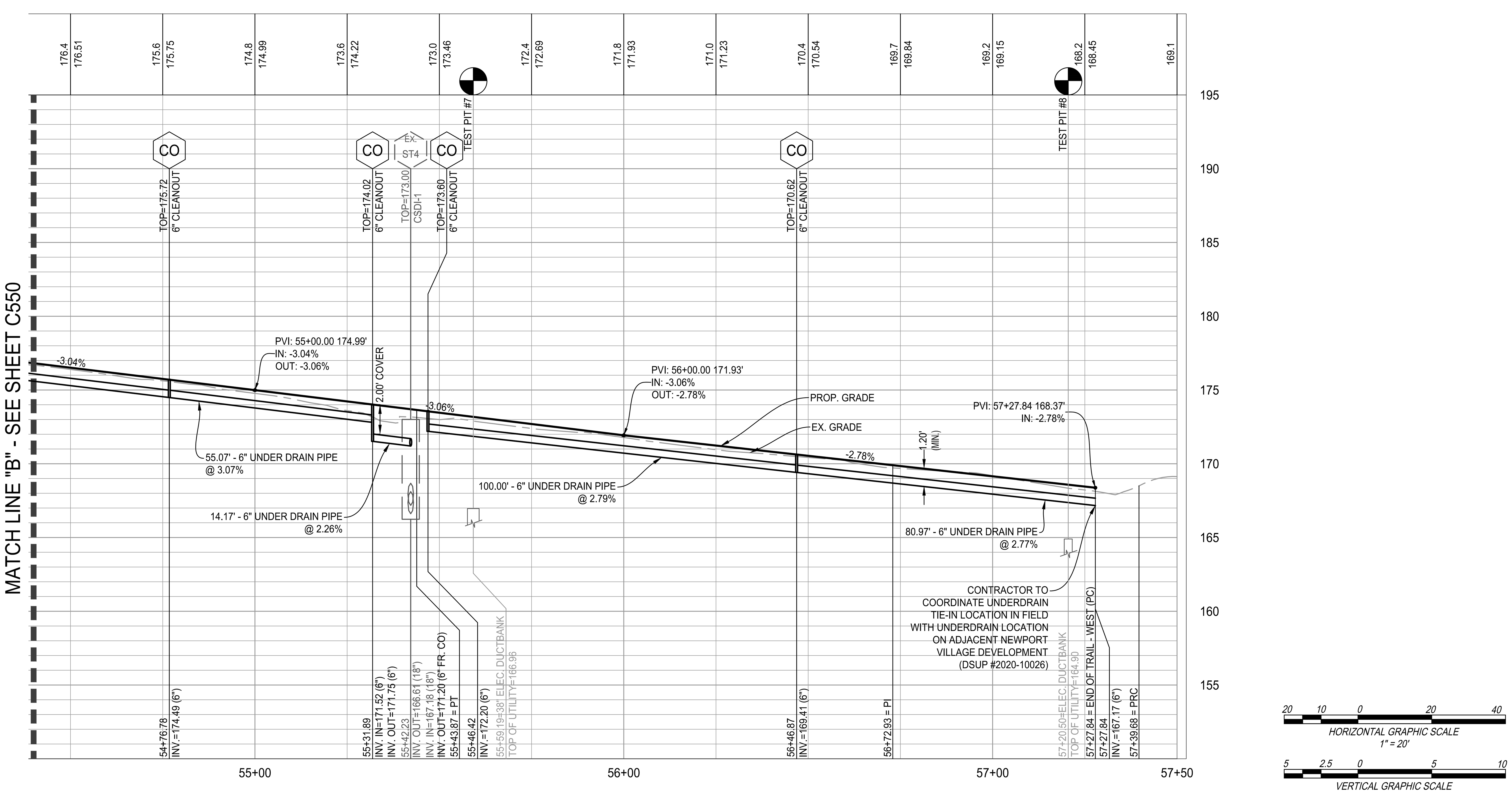


Line Table: Alignments		
LINE #	LENGTH	BEARING
L1	0.47	N45° 26' 15.27"E
L2	37.42	N40° 00' 51.38"E
L3	129.06	N60° 59' 15.42"E
L4	54.91	N59° 49' 19.99"E

CURVE TABLE					
CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C1	53.95	18.26	9.22'	18.17	N55°07'55"E
C2	49.09	18.49	9.35'	18.38	N52°12'42"E
C3	1270.40	264.57	132.76'	264.09	N45°51'03"E
C4	1307.89	204.68	102.55'	204.47	N56°21'28"E
C5	26.83	11.84	6.02'	11.74	N72°29'49"E
C6	23.36	10.46	5.32'	10.38	N74°11'00"E
C7	535.25	4.86	2.43'	4.86	N57°28'30"E

NOTE:
1. SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C200 FOR TRAIL SURFACING.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

TRAIL - WEST (PROFILE VIEW)



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

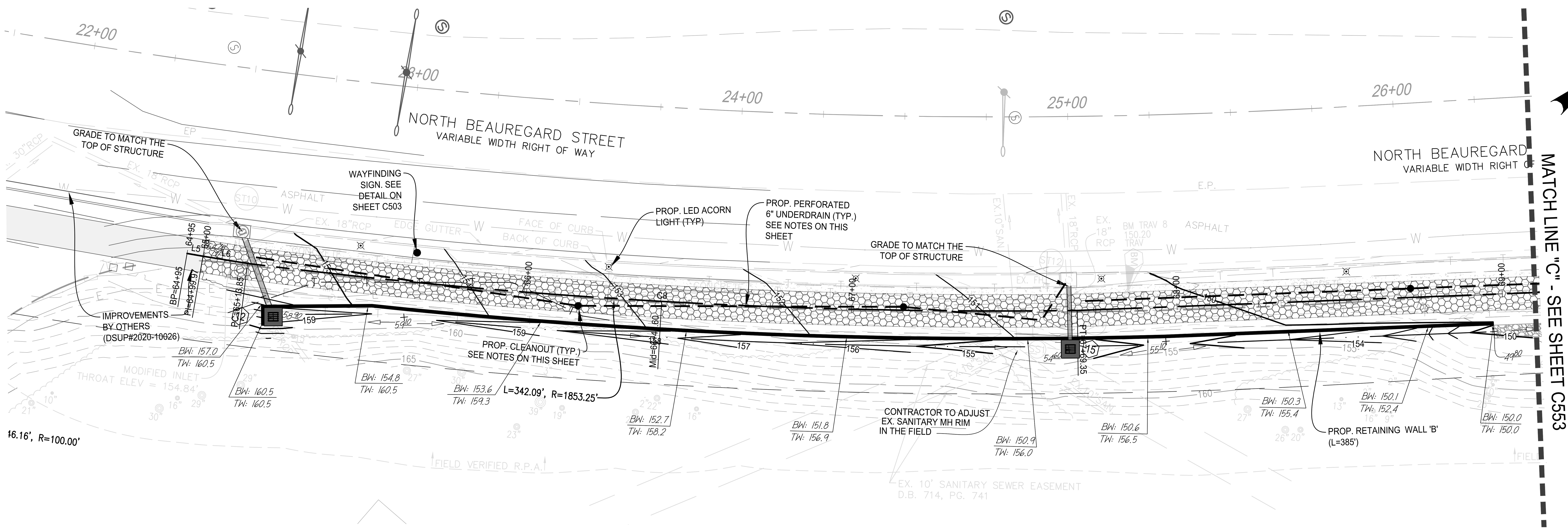
SHEET TITLE
TRAIL PLAN AND PROFILE

SHEET NO.
C551

SCALE: SEE DWGS.

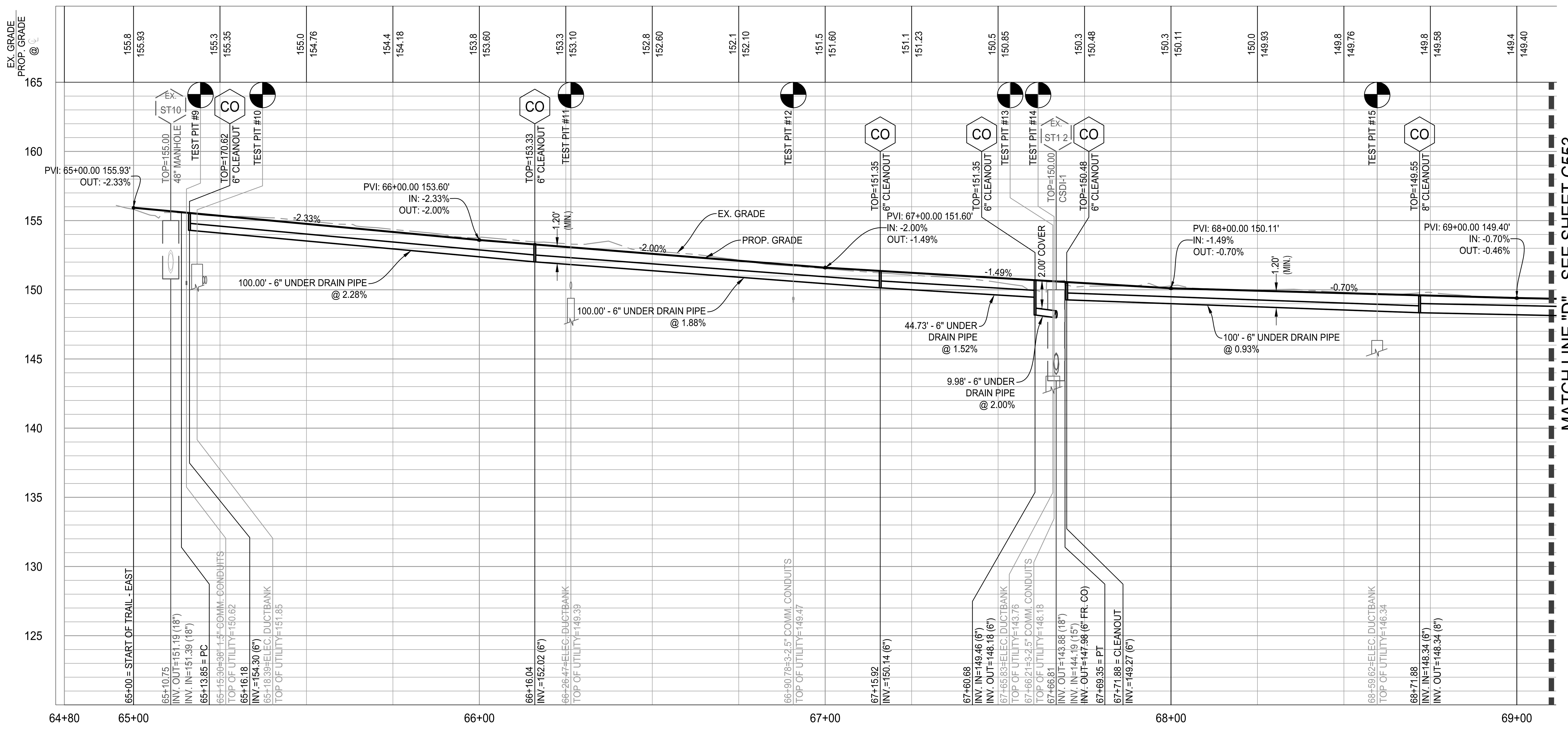
P:\Projects\21266\0010\111333 – 60%\C550 TRAIL PLAN AND PROFILE.dwg PLOTTED: 3/10/2022 8:23:54 AM BY FERAS ALNATOUR

TRAIL - WEST (PLAN VIEW)



GRAPHIC SCALE
1" = 20'

TRAIL - WEST (PROFILE VIEW)



HORIZONTAL GRAPHIC SCALE
1" = 20'

VERTICAL GRAPHIC SCALE
1" = 5'

Line Table: Alignments		
LINE #	LENGTH	BEARING
L5	4.97	N48° 05' 38.91"E
L6	13.88	N47° 26' 22.97"E
L7	353.29	N36° 00' 04.92"E
L8	4.83	N13° 33' 51.10"E

CURVE TABLE					
CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C8	1836.14	255.50	127.96'	255.29	N41°28'59"E
C9	84.80	34.53	17.51'	34.30	N25°13'52"E

NOTE:
1. SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C200 FOR TRAIL SURFACING.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE | BY | DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

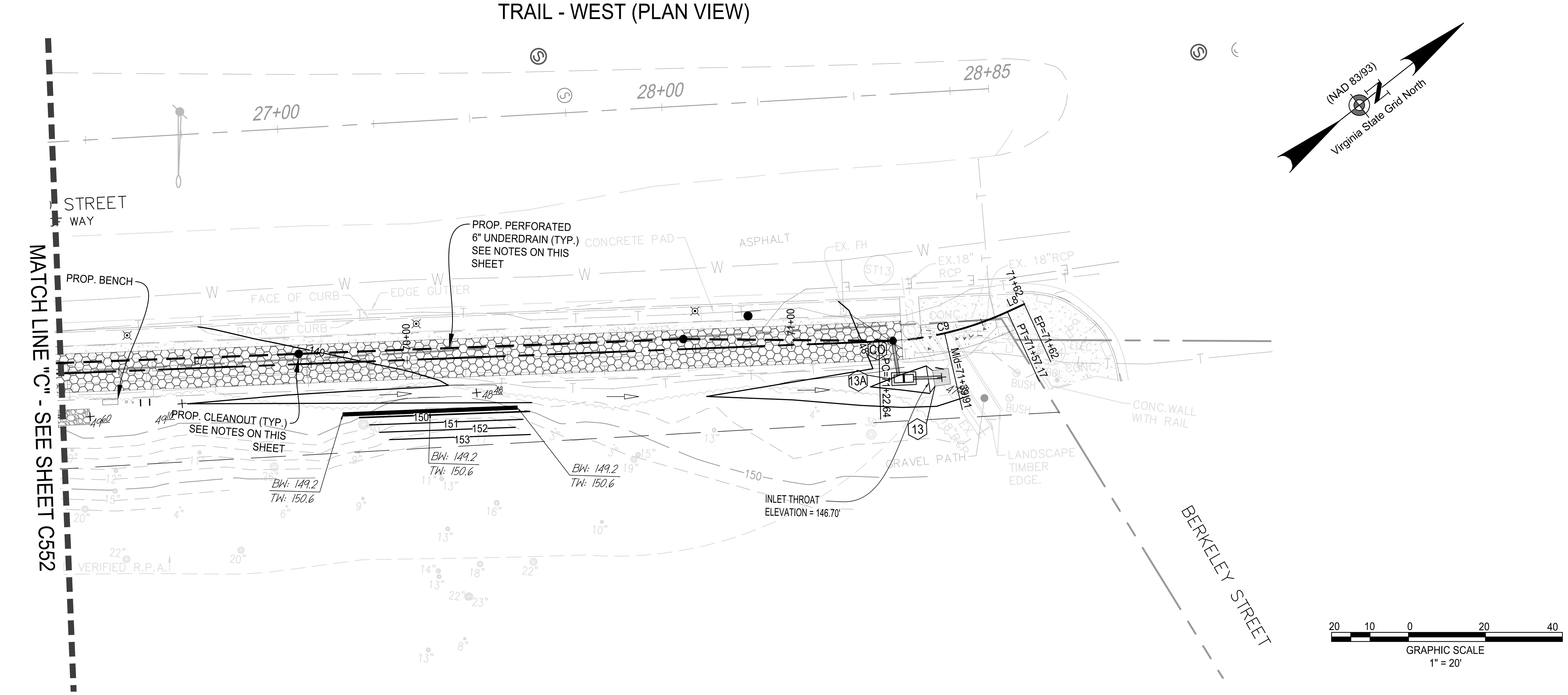
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SHEET TITLE
TRAIL PLAN AND PROFILE

SHEET NO.
C552

SCALE: SEE DWGS.

TRAIL - WEST (PLAN VIEW)



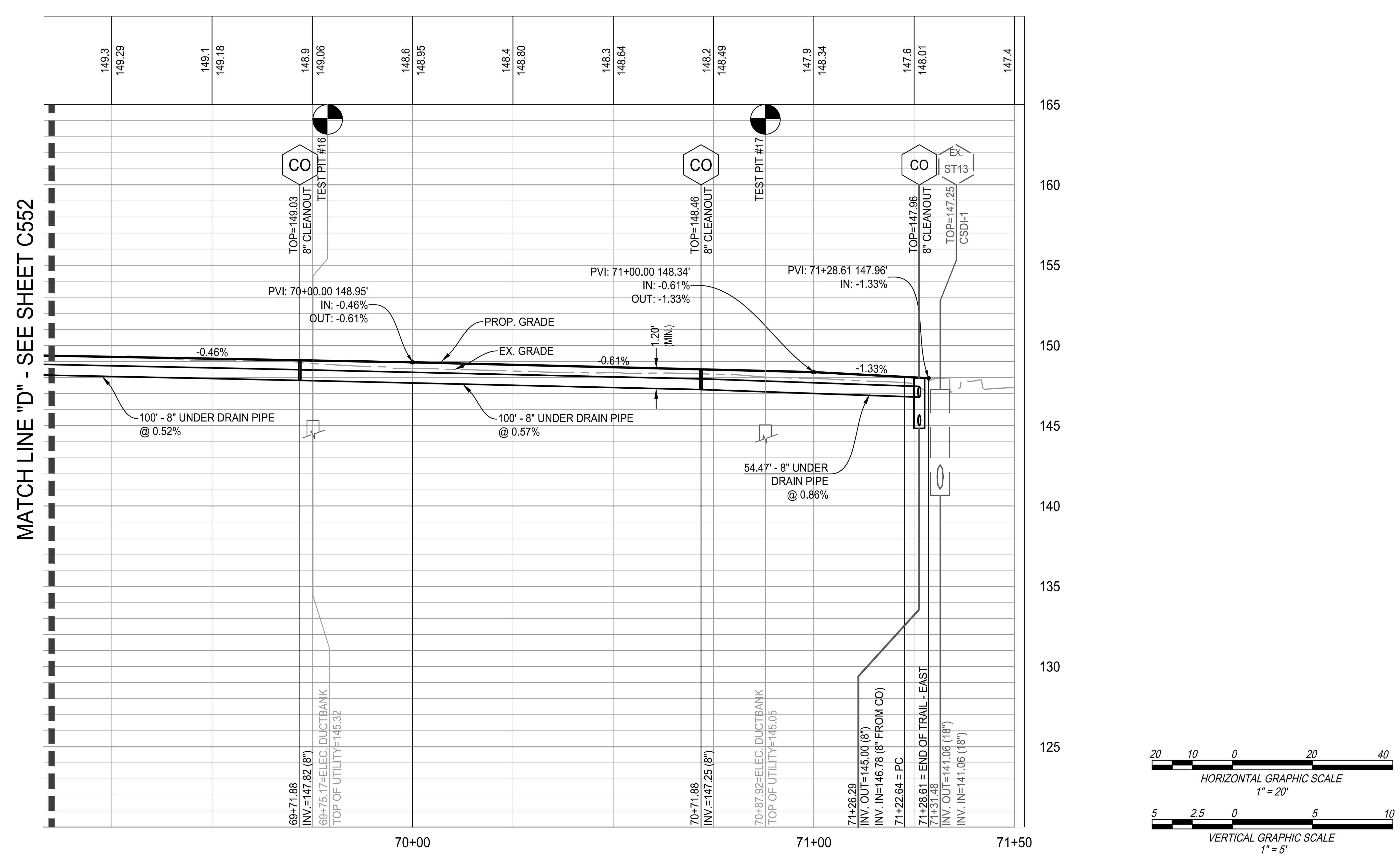
Line Table: Alignments		
LINE #	LENGTH	BEARING
L5	4.97	N48° 05' 38.91"E
L6	13.88	N47° 26' 22.97"E
L7	353.29	N36° 00' 04.92"E
L8	4.83	N13° 33' 51.10"E

CURVE TABLE

CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C8	1836.14	255.50	127.96'	255.29	N41°28'59"E
C9	84.80	34.53	17.51'	34.30	N25°13'52"E

NOTE:
1. SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C200 FOR TRAIL SURFACING.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. MINIMUM DESIGN SPEED OF TRAIL IS 20 MPH

TRAIL - WEST (PROFILE VIEW)



P:\Projects\21266\00100\111333 - 60%\C550 TRAIL PLAN AND PROFILE.dwg PLOTTED: 3/10/2022 8:24:19 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: 0P2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SHEET TITLE
TRAIL PLAN AND PROFILE

SHEET NO.
C553

SCALE: SEE DWGS.

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

○ 2011 BMP Standards and Specifications ◉ 2013 Draft BMP Standards and Specificati

Project Name:	Beauregard Trail
Date:	1/19/2022
Linear Development Project?	No

CLEAR ALL

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 0.89

Maximum reduction required:	*10%*
The site's net increase in impervious cover (acres) is:	*0.21*
Post-Development TP Load Reduction for Site (lb/yr):	*0.43*

Check:
BMP Design Specifications List: 2013 Draft 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/Open Space (acres) -- undisturbed, protected forest/open space or reforested land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed				0.75	0.75
Impervious Cover (acres)				0.14	0.14
					0.89

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed				0.54	0.54
Impervious Cover (acres)				0.35	0.35
Area Check	OK.	OK.	OK.	OK.	0.89

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre

Pre-ReDevelopment	Listed	Adjusted[1]
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	0.75	0.54
Weighted Rv(turf)	0.25	0.25
% Managed Turf	84%	79%
Impervious Cover (acres)	0.14	0.14
Rv(impervious)	0.95	0.95
% Impervious	16%	21%
Total Site Area (acres)	**0.89**	**0.68**
Site Rv	**0.36**	**0.39**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0267	0.0223
Pre-ReDevelopment Treatment Volume (cubic feet)	1,163	973
Pre-ReDevelopment TP Load (lb/yr)	**0.73**	**0.61**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.82	0.90
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.28*

[1] Adjusted Land Cover Summary:
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)

Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.54
Weighted Rv (turf)	0.25
% Managed Turf	61%
Impervious Cover (acres)	0.35
Rv(impervious)	0.95
% Impervious	39%
Final Site Area (acres)	**0.89**
Final Post Dev Site Rv	**0.53**

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.54
Weighted Rv (turf)	0.25
% Managed Turf	79%
ReDev. Impervious Cover (acres)	0.14
Rv(impervious)	0.95
% Impervious	21%
Total ReDev. Site Area (acres)	**0.68**
ReDev Site Rv	**0.39**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	0.21
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0390
Final Post-Development Treatment Volume (cubic feet)	1,697
Final Post-Development TP Load (lb/yr)	**1.07**
Final Post-Development TP Load per acre (lb/acre/yr)	1.20

Post-ReDevelopment Treatment Volume (acre-ft)	0.0223
Post-ReDevelopment Treatment Volume (cubic feet)	973
Post-ReDevelopment Load (TP) (lb/yr)*	0.61
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.90
Max. Reduction Required (Below Pre-ReDevelopment Load)	10%
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.06**

Post-Development Treatment Volume (acre-ft)	0.0166
Post-Development Treatment Volume (cubic feet)	724
Post-Development TP Load (lb/yr)	0.46
TP Load Reduction Required for New Impervious Area (lb/yr)	**0.37**

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.43

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	5.23	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	7.63

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.35	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.35	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 1,679

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	543	0	0	0	0	543
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.76	0.00	0.00	0.00	0.00	0.76
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.45	0.00	0.00	0.00	0.00	0.45
TP LOAD REMAINING (lb/yr)	0.31	0.00	0.00	0.00	0.00	0.31
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	3.18	0.00	0.00	0.00	0.00	3.18

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	1.05
TP LOAD REDUCTION REQUIRED (lb/yr)	0.43
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.45
TP LOAD REMAINING (lb/yr):	0.61
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

** TARGET TP REDUCTION EXCEEDED BY 0.02 LB/YEAR **

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	7.55
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	3.18
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	4.36

BMP VRRM Drainage Area Breakdown

Drainage Area 'A'

BMP Device	Total Area Treated	Impervious Area Treated	Pervious Area Treated	TP Removed	TP Removed (nonproprietary)	Notes
3.a. Permeable Pavement #1 (Spec #7)	0.35	0.35	0.00	0.45	0.45	
Total Treated	**0.35**	**0.35**	**0.00**	**0.45**	**0.45**	
Untreated	0.00	0.00	0.00			
Total	**0.35**	**0.35**	**0.00**			
Grand Total Phosphorus Removed				**0.45**	**0.45**	
Total Phosphorus Requirement				0.43	0.28	

Phosphorus Load Reduction Requirements

DA	Area (ac.)	Pre - Imp	Pre - Perv	Post - Imp (2)	Post - Perv	TP Reduction Required	TP Reduction Required with nonproprietary BMPs (1)
BMP Limits	**0.89**	**0.14**	**0.75**	**0.35**	0.54	0.43	0.28

Notes:
(1) Per City's memo-to-industry 01-18, 65% of the total phosphorus removal required by the VRRM must be achieved through nonproprietary BMPs (green infrastructure).
(2) City's WQIF requirement that 100% of the site's impervious area be treated or pay a fee in lieu of ($2/sf) for any untreated impervious area. The impervious area in the Right-Of-Way is excluded from this requirement

BMP MAINTENANCE NOTE:

THE PERMEABLE PAVEMENT FACILITY IS TO BE MAINTAINED BY CITY OF ALEXANDRIA.

BMP MAINTENANCE AGREEMENT NOTE:

THE APPLICANT SHALL EXECUTE A MAINTENANCE SERVICE CONTRACT WITH A PRIVATE CONTRACTOR FOR A MINIMUM OF THREE YEARS. A COPY OF THE CONTRACT SHALL BE PLACED IN THE BMP OPERATION AND MAINTENANCE MANUAL. PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, A COPY OF THE CONTRACT SHALL BE SUBMITTED TO THE CITY. THE APPLICANT SHALL PREPARE AN OWNER'S OPERATION AND MAINTENANCE MANUAL FOR ALL THE BEST MANAGEMENT PRACTICES (BMPS) USED ON SITE. THE MANUAL SHALL INCLUDE AT A MINIMUM: AN EXPLANATION OF THE FUNCTIONS AND OPERATIONS OF THE BMP(S); DRAWINGS AND DIAGRAMS OF THE BMP(S) AND ANY SUPPORTING UTILITIES; CATALOG CUTS ON MAINTENANCE REQUIREMENTS; MANUFACTURER CONTACT NAMES AND PHONE NUMBERS; A COPY OF THE EXECUTED MAINTENANCE SERVICE CONTRACT; AND A COPY OF THE MAINTENANCE AGREEMENT WITH THE CITY. PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, A COPY OF THE OPERATION AND MAINTENANCE MANUAL SHALL BE SUBMITTED TO THE CITY ON A DIGITAL MEDIA.

DESIGN PROFESSIONAL INSPECTION NOTE

THE STORMWATER BEST MANAGEMENT PRACTICES (BMPS) REQUIRED FOR THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF THE DESIGN PROFESSIONAL OR HIS DESIGNATED REPRESENTATIVE. PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, THE DESIGN PROFESSIONAL SHALL SUBMIT A WRITTEN CERTIFICATION TO THE DIRECTOR OF T&ES THAT THE BMPS ARE:
A. CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED FINAL SITE PLAN.
B. CLEAN AND FREE OF DEBRIS, SOIL AND LITTER BY EITHER HAVING BEEN INSTALLED OR BROUGHT INTO SERVICE AFTER SITE WAS STABILIZED.

EXISTING CONDITION SITE NARRATIVE

THIS SITE IS 0.89 ACRES CITY RIGHT-OF-WAY AND IS AN EXISTING SIDEWALK. THE SITE IS LOCATED SOUTH OF NORTHERN VIRGINIA COMMUNITY COLLEGE ALEXANDRIA CAMPUS ON THE SOUTH SIDE OF NORTH BEAUREGARD STREET BETWEEN FILLMORE AVENUE AND BERKELEY STREET. THE SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET; TO THE SOUTH BY EXISTING RESIDENTIAL APARTMENTS (#4898 & $4899 W BRADDOCK ROAD); TO THE EAST BY BERKELEY STREET; AND TO THE WEST BY FILLMORE AVENUE.

REVIEW OF EXISTING TOPOGRAPHY INDICATES THAT THE PROPERTY DRAINS FROM THE SOUTHWEST TO NORTHEAST. THE SITE DRAINS TO AN EXISTING STORM SYSTEM THAT RUNS NORTH DOWN N BEAUREGARD STREET.

THERE ARE RESOURCE PROTECTION AREAS ON THIS SITE.

PROPOSED CONDITION SITE NARRATIVE

THIS PROJECT PROPOSES A 10' WIDE SHARED USE PATH ALONG THE SOUTH SIDE OF NORTH BEAUREGARD STREET BETWEEN FILLMORE AVENUE AND BERKELEY STREET. THREE RETAINING WALLS WILL BE REQUIRED TO ACCOMMODATE THE EXPANDED WIDTH OF THE SHARED USE PATH.

WATER QUALITY TREATMENT (BMP) NARRATIVE

TO COMPLY WITH THE CHESAPEAKE BAY ACT (CBA) AND ARTICLE XIII OF THE ZONING ORDINANCE, THE PROJECT WILL PROVIDE WATER QUALITY TREATMENT THROUGH THE USE OF LEVEL I PERVIOUS PAVEMENT AND STORMFILTER.

THE PERVIOUS PAVEMENT WILL TREAT APPROXIMATELY 0.35 ACRE RUNOFF FROM THE SIDEWALKS.

SITE AREA
FOR THE BMP/SWM CALCULATIONS, THE LIMITS OF DISTURBANCE WILL ACT AS THE SITE AREA AND IS 0.89 ACRES. THIS VALUE WILL BE USED FOR THE WQVD CALCULATIONS.

WQV TREATMENT
THE WQV TO BE TREATED AS PER THE CITY OF ALEXANDRIA SUPPLEMENT TO THE NORTHERN VIRGINIA BMP HANDBOOK IS 1816 CU FT/ ACRE OF IMPERVIOUS SURFACE.

THEREFORE WQV REQUIRED = 0.35 x 1816 = 636 CU FT. SEE WQV CALCULATIONS ON THIS SHEET.

MEMO TO INDUSTRY 01-18 REQUIREMENT:

THIS CITY REQUIREMENT IF FOR THE TREATMENT OF 65% OF THE STATE'S REQUIREMENT BY NON-PROPRIETARY BMP FACILITIES. THIS REQUIRES A TOTAL OF 0.43 LBS OF PHOSPHORUS BE REMOVED PER YEAR. THIS REQUIREMENT IS MET WITH PERMEABLE PAVEMENT. THESE BMP PRACTICES REMOVE 0.45 LBS OF PHOSPHORUS A YEAR.

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)					0.00	0.00
Impervious Cover (acres)				0.35	0.35	0.95
				Total	0.35	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	0.76
Post Development Treatment Volume in D.A. A (ft^3)	1,207

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	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
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		0.35	0	543	664	1,207	25	0.00	0.76	0.45	0.31	

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.70	3.20	5.20

Use NOAA Atlas 14 (http://hdsc.nws.noaa.gov/hdsc/pfds/)

***Notes (see below):**

[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.

[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.

[3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths ($RV_{Developed}$) are computed with and without reduction practices.

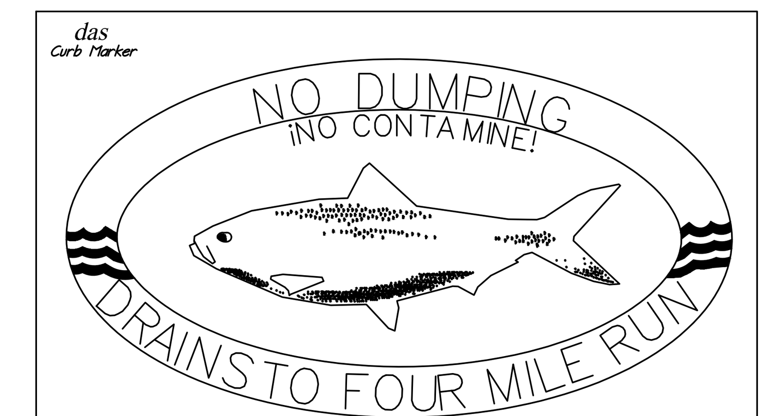
Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.35
	CN	98	98	98	98

Total Area (acres):	0.35
Runoff Reduction Volume (ft^3):	543

$CN_{(D.A.\ A)}$: 98

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	2.47	2.97	4.96
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	2.04	2.54	4.54
Adjusted CN*	94	94	94

See Notes above



CITY STANDARD BMP/SWM MARKER

WQVD CALCULATIONS

REQUIRED = (1816 CU FT/ACRE) * (0.35 ACRES) = 636 CU FT

PROVIDED (ON-SITE) = (1816 CU FT/ACRE) * (0.35 ACRES) = 636 CU FT

TOTAL WQVD REMAINING = 636 CU FT - 636 CU FT = 0 CU FT

IMPERVIOUS AREA COVERAGE

TOTAL IMPERVIOUS AREA = 0.35 ACRES

TOTAL IMPERVIOUS TREATED (ON-SITE) = 0.35 ACRES

TOTAL IMPERVIOUS AREA UNTREATED = 0.35 AC - 0.35 AC = 0.00 AC.

Project Description

Development — Redevelopment

Drainage Area	Impervious	Pervious	Total
Site Area	0.35	0.52	0.89
On-Site Treated	0.35	0.00	0.35
Off-Site Treated	0.00	0.00	0.00
Total Treated	0.35	0.00	0.35

Miscellaneous Information

- Total WQV treated — yes no
- Detention on Site — yes no
- Project is within which watershed? FOUR MILE RUN
- Project Discharges to which body of water? FOUR MILE RUN

Water Treatment On-Site

BMP Type	Total Area Treated by BMP (acres)	Impervious Area treated by BMP (acres)	Phosphorus Removal Efficiency (%)	Phosphorus Removed by BMP (lbs)
Permeable Pavement	0.35	0.35	25	0.45

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

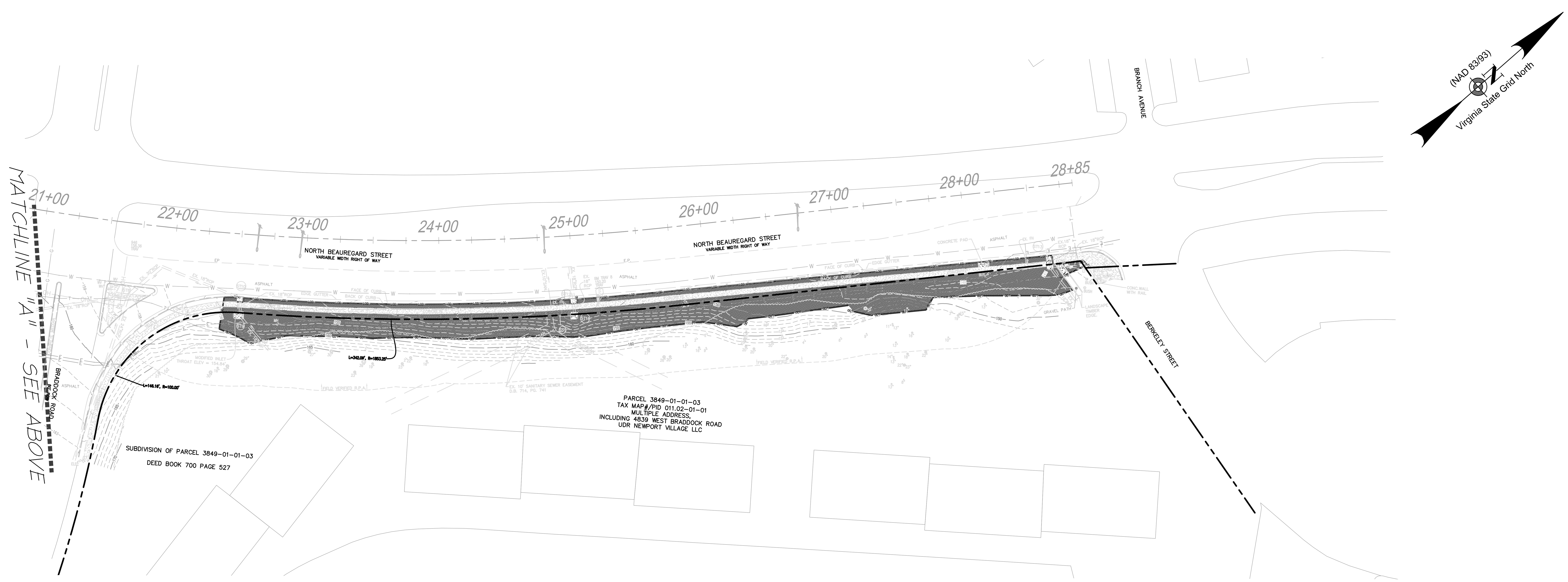
BMP WATER QUALITY

C601

P:\Projects\21266\00100\111333 - 60%\C602 BMP WATER QUALITY.dwg PLOTTED: 3/10/2022 8:24:34 AM BY FERAS ALNATOUR

PRE BMP MAP LEGEND

LOD	: BMP LIMITS (AREA = 0.89 AC.)
	: PROPERTY LINE
	: MANAGED TURF (AREA = 0.75 AC.)
	: CONCRETE / IMPERVIOUS (AREA = 0.14 AC.)



50 25 0 50 100
GRAPHIC SCALE
1" = 50'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

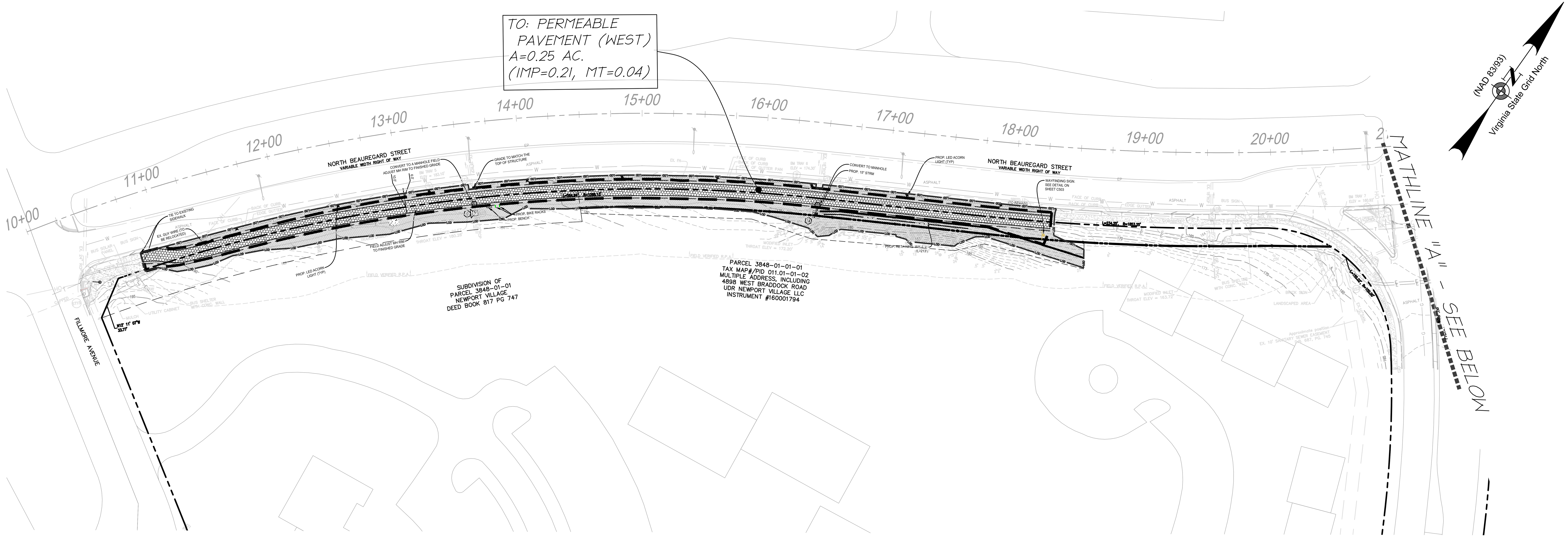
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

PRE BMP MAP

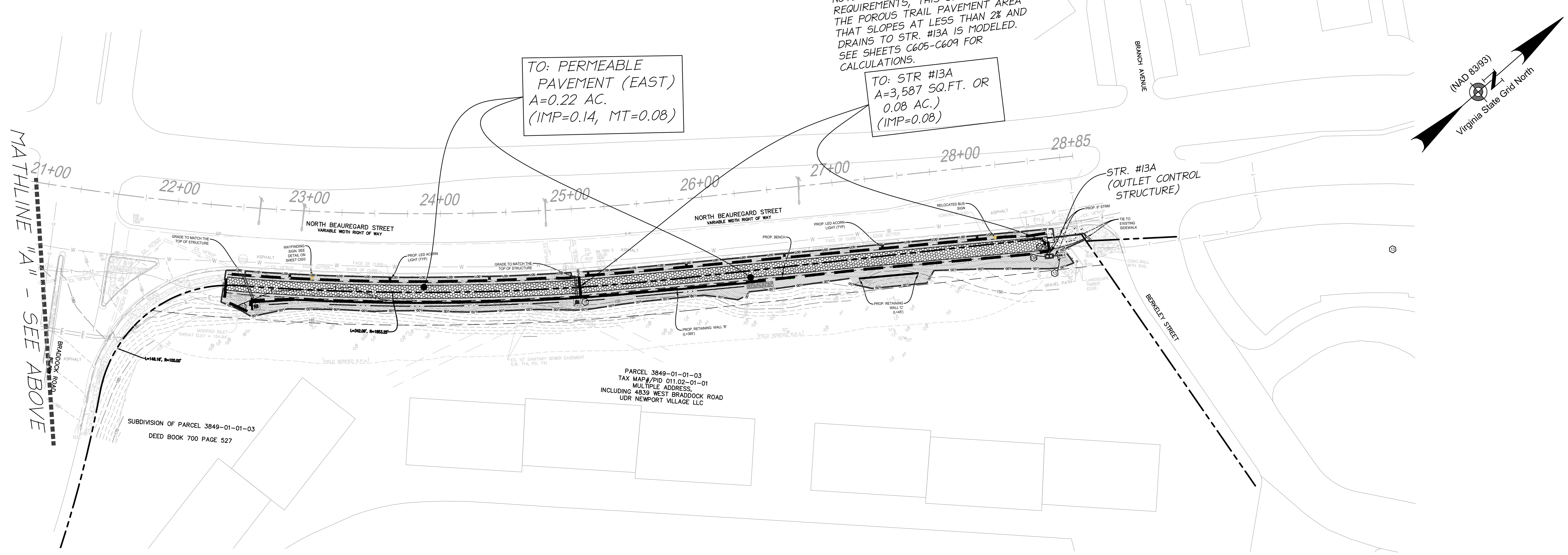
C602



POST BMP MAP LEGEND

(line)	: BMP LIMITS (AREA = 0.89 AC.)
(line)	: DRAINAGE DIVIDES
(line)	: PROPERTY LINE
(hatch)	: MANAGED TURF (AREA = 0.54 AC.)
(hatch)	: CONCRETE / IMPERVIOUS (AREA = 0.04 AC.)
(hatch)	: PERMEABLE PAVEMENT (AREA = 0.31 AC.)

NOTE: TOTAL IMPERVIOUS AREA = 0.35 AC



50 25 0 50 100
GRAPHIC SCALE
1" = 50'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

POST BMP MAP

C603

Construction Inspection Checklist: Permeable Pavement

Project Name: ______________________ Address: ______________________

DSP/DSUP/GRD #: ______________________ Construction Start Date: ______________________

Contractor: ______________________ Telephone: ______________________

Certifying Professional: ______________________ Telephone: ______________________

BMP ID and General Location: ______________________

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
☐		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
☐		A pre-construction meeting with the contractor designated to install the permeable pavement, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
☐		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	
☐		The sequence for building of permeable pavement has been determined. Measures for protection and surface cleaning have been reviewed.	

BMP Construction Preparation			
Complete	Photo	Description	Date
☐		The contributing drainage areas are stabilized and not eroding.	
☐		Runoff is diverted around the excavation area to a stabilized conveyance.	

Excavation			
Complete	Photo	Description	Date
☐		The permeable pavement area is marked, and the size and location conform to the approved plan.	
☐	☐	The excavation has achieved proper grades and the required geometry and elevations.	
☐		If the excavation is used as a sediment trap, verify that the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	

Excavation (continued)			
☐	☐	The subgrade surface is free of rocks and roots, and large voids. Any voids should be refilled with the base aggregate to create a level surface for the placement of aggregates and underdrain (if required).	
☐		Ensure the bottom of the excavation is scarified or tilled to a depth of 3-4 inches prior to placement of stone.	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device and the design consultant has been notified.	

Filter Layer, Underdrain, Stone Reservoir, and Bedding Layer Placement			
Complete	Photo	Description	Date
☐	☐	Sides of the excavation are covered with filter fabric prior to placing stone reservoir aggregate; no tears or holes, or excessive wrinkles are present.	
☐	☐	All aggregates, including, as required, the filter layer, the reservoir layer, and bedding layer conform to the approved plan/design specifications.	
☐	☐	The filter layer and initial layer of reservoir layer are spread (not dumped) to avoid aggregate segregation. Depth of filter layer ___________ft.	
☐	☐	The aggregate layer for the installation of the underdrain system is installed per the approved plan/design specifications. Depth of aggregate layer________ ft. Size of aggregate layer__________	
☐	☐	Underdrain size and perforations meet the approved plan/design specifications. (if applicable) Underdrain Diameter ________ inches Underdrain Material ________ Underdrain Spacing ________ ft. Perforation Size & Spacing ____________inches. Number of Cleanouts________	
☐		The placement of underdrains, observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
☐	☐	The stone reservoir layer, aggregate placement, compaction, and thickness, are per the approved plan/design specifications. Depth of reservoir layer aggregate ________ inches	

Permeable Material Installation			
Complete	Photo	Description	Date
☐		The pavement surface is even and runoff spreads evenly across surface.	
☐		Concrete curbs and plastic/metal edge restraints are installed.	
☐		For porous asphalt and pervious concrete pavement, the full permeability of paved surface has been properly tested (clean water applied at a min. rate of 5 gpm over the entire surface), and all water infiltrated directly without puddle formation or surface runoff.	
☐	☐	Provide a photo of the completed BMP after completion of construction.	

Construction Inspection Checklist: Permeable Pavement

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform to the approved plans and specifications (or deviations as noted above).

Signature: ______________________ Date: ______________________

Certifying Professional's License Number (or Seal): ______________________

Construction Inspection Checklist: Permeable Pavement

DEQ SPECIFICATION N0. 7 DESIGN CALCULATIONS
PERMEABLE PAVEMENT

Equation 7.1

$$d_{stone} = \frac{(P \times A_I \times Rv_I) + (P \times A_P)}{\eta_r \times A_P}$$

Where:

d_{stone} = Depth of the stone reservoir layer (ft.)

P = The rainfall depth (in feet) for the Treatment Volume (Level 1 = 1 inch (0.08 ft); Level 2 = 1.1 inch (0.09 ft)), or other design storm

A_I = Contributing impervious drainage area, (ft^2)

Rv_I = Volumetric runoff coefficient for impervious cover = 0.95

A_P = Area of permeable pavement (ft^2)

η_r = Porosity of reservoir layer (0.4)

Equation 7.2

$$d_{stone-max} = \frac{1/2\, i \times t_d}{\eta_r \times 12}$$

Where:

$d_{stone-max}$ = The maximum depth of the infiltration reservoir or the infiltration sump (ft.)

i = The field-verified infiltration rate for the native soils (in./hr.)

t_d = The maximum allowable time to drain the reservoir layer or sump, 48hours

η_r = Porosity of reservoir layer

1. Depth of Stone (Equation 7.1):

P = 1 inch

A_1 = 15246 sq.ft. or 0.35 ac.

Rv1 = 0.95

Ap = 13453.5 sq.ft.

ηr = 0.4

dstone = 0.43 ft.

dstone (provided) = 10 in.

Actual Storage Volume Provided

= dstone x ηr x Ap

= 4484.5 cu.ft. > 1207 cu.ft. (VRRM Treatment Volume)

2. Ratio of Contributing Drainage Area tio Area of Permeable Pavement:

Ratio = 15246 / 13453.5

= 1.13 < 2.5

SEE DETAIL ON SHEET C200 FOR THE PROPOSED SECTION OF THE PERMEABLE PAVEMENT. THE ACTUAL STORAGE VOLUME PROVIDED IS GREATER THAN THE STORAGE VOLUME REQUIRED.

VIRGINIA DEQ STORMWATER DESIGN SPECIFICATION NO. 7
PERMEABLE PAVEMENT
CONSTRUCTION AND MAINTENANCE

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management regulations (9 VAC 25-870) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is neglected, notification to the local program upon transfer of ownership, and right-of-entry for local program personnel.

- The regulations require that all post-construction BMPs, including Permeable Pavement installations, must be covered by a long term maintenance agreement and drainage easement to allow inspection and maintenance.
- The maintenance agreements should note which conventional parking lot maintenance tasks must be *avoided* (see **Section 9.2** below). Signs should be posted on larger parking lots to indicate their stormwater function and special maintenance requirements. When micro-scale or small-scale permeable pavement are installed on private residential lots, homeowners should be provided a simple document that explains the purpose of the Permeable Pavement and outlines (1) the routine maintenance needs, (2) the long-term maintenance plan, and (3) the basic parameters of the deed restriction, drainage easement or other mechanism enforceable by the VSMP Authority to help ensure that the permeable pavement system is maintained and functioning.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

9.2. Maintenance Tasks

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. Most installations work reasonably well year after year with little or no maintenance, whereas some have problems right from the start.

The following tasks **must be avoided** on all permeable pavements:

- sanding
- re-sealing
- re-surfacing
- power washing
- storage of snow piles containing sand
- storage of mulch or soil materials
- construction staging on unprotected pavement

A preventative maintenance task for large-scale applications involves regenerative air vacuum sweeping on a frequency consistent with the use and loadings encountered in the parking lot. Many consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Vacuum settings for large-scale interlocking paver applications should be calibrated so they *do not* pick up the small stones between pavement blocks.

Table 7.8. Recommended Maintenance Tasks for Permeable Pavement Practices

Maintenance Task	Frequency[1]
• For the first 6 months following construction, the practice and contributing drainage area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization.	After installation
• Mow grass in grid paver applications	At least 1 time every 1-2 months during the growing season
• Stabilize the CDA to prevent erosion • Remove any soil or sediment deposited on pavement. • Replace or repair any necessary pavement surface areas that are degenerating or spalling	As needed
• Vacuum pavement with a standard street sweeper to prevent clogging	2-4 times per year (depending on use)
• Conduct a maintenance inspection • Spot weeding of grass applications	Annually
• Remove any accumulated sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Conduct maintenance using a regenerative street sweeper • Replace any necessary joint material	If clogged
[1] Required frequency of maintenance will depend on pavement use, traffic loads, and surrounding land use.	

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each permeable pavement site, particularly at large-scale applications.

Maintenance of permeable pavement is driven by annual inspections that evaluate the condition and performance of the practice. Any permeable pavement installation that captures external drainage area (run-on) should be inspected more frequently during the first year (four seasons) to ensure that there are no unexpected loads of sediment or pavement particulates from the contributing area. If so, the property owner should assess ways to limit the contributions, or the maintenance schedule should be adjusted to ensure the pavement does not become clogged.

The following are suggested routine annual maintenance inspection points for permeable pavements:

- The drawdown rate should be measured at the observation well for three (3) days following a storm event in excess of 1/2-inch in depth. If standing water is still observed in the well after three days, this is a clear sign that clogging is a problem.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Then, test sections by pouring water from a five gallon bucket to ensure they work.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Check inlets, pretreatment cells and any flow diversion structures for sediment buildup and structural damage. Note if any sediment needs to be removed.
- Inspect the condition of the observation well and make sure it is still capped.
- Generally inspect any contributing drainage area for any controllable sources of sediment or erosion.

An example maintenance inspection checklist for permeable pavement can be accessed in **Appendix 9-C** of **Chapter 9** of the *Virginia Stormwater Management Handbook* (2nd edition, 2013). Based on inspection results, specific maintenance tasks will be triggered and scheduled to keep the facility in operating condition.

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

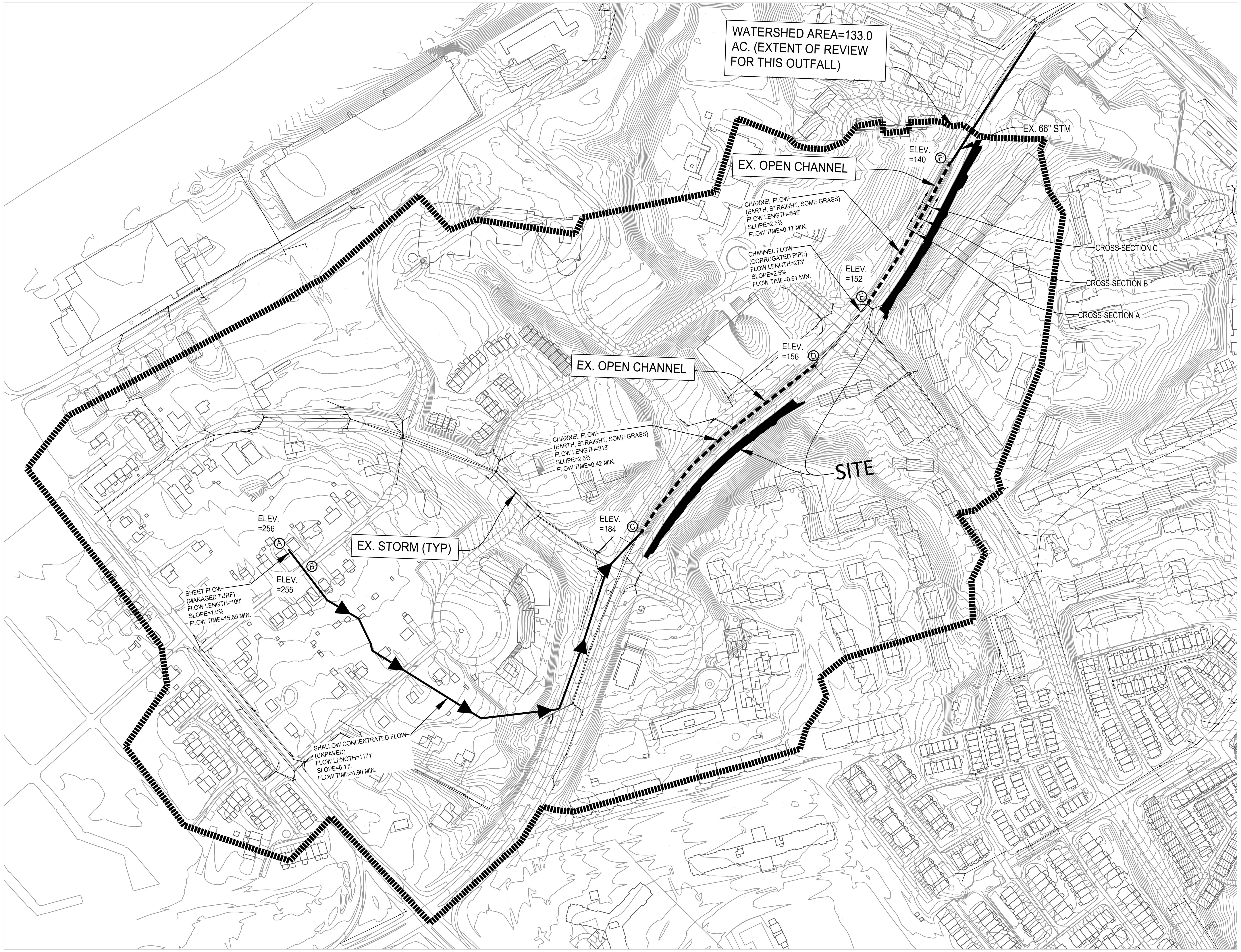
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

BMP CALCULATIONS AND MAINTENANCE SCHEDULE

C604

P:\Projects\21266\00100\111333 — 60%\C604 BMP CALCULATIONS AND MAINTENANCE SCHEDULE.dwg PLOTTED: 3/10/2022 8:25:19 AM BY FERAS ALNATOUR



(NAD 83/93) Virginia State Grid North

STORM WATER MANAGEMENT NARRATIVE

THIS SITE DRAINS TO A 66" STORM PIPE ON THE NORTH EAST EDGE OF THE SITE. THIS OUTFALL PIPE FLOWS TO THE NORTHEAST AND ULTIMATELY DRAINS TO FOUR MILE RUN.

CHANNEL PROTECTION - NO EROSION OCCURS FROM THE 2-YEAR 24 HOUR STORM FOR THIS OUTFALL BECAUSE THE ENTIRE DOWNSTREAM STORMWATER CONVEYANCE SYSTEM IS PIPED FOR THE EXTENT OF THE REVIEW, MEETING 13-109-F-1-a-i.

FLOOD PROTECTION - BASED ON THE PERMEABLE PAVEMENT, THE POST-DEVELOPED RUNOFF FOR THE 10-YEAR 24-HOUR STORM WILL BE LESS THAN THE PRE-DEVELOPED RUNOFF FOR THIS OUTFALL, MEETING13-109-F-2-a-i. THE PRE-DEVELOPED PEAK RUNOFF FOR THE 10-YEAR 24-HOUR STORM WAS 4.936 CFS AND THE POST-DEVELOPED RUNOFF RATE IS 4.610 CFS.

IN ADDITION TO MEETING THE DOWNSTREAM FLOOD PROTECTION REQUIREMENTS, WE ANALYZED A PORTION OF THE EXISTING STREAM AT THE POINT THE LAST STORM PIPE FROM THE PROJECT SITE THAT TIES TO THE STREAM AND 150' DOWNSTREAM OF THAT POINT. THE PEAK FLOW RATES TO EACH CROSS-SECTION ARE CALCULATED USING THE TR-55 METHODOLOGY AND CITY OF ALEXANDRIA RAINFALL DATA. THE 10-YEAR 24-HOUR STORM EVENT CROSS SECTION CALCULATION IS LOCATED ON THIS SHEET AND THE WATER SURFACE ELEVATION FOR THE STORM EVENT IS LOCATED WITHIN THE CROSS SECTIONS DISPLAYED ON THIS SHEET.

EXTENT OF REVIEW - THE EXTENT OF REVIEW FOR THIS OUTFALL IS TO THE POINT IN WHICH IT REACHES 1% OF THE WATERSHED. THE SITE AREA IS 0.85 ACRES, SO THE ANALYSIS MUST EXCEED A TOTAL WATERSHED AREA OF 85 ACRES. THE TOTAL WATERSHED SHOWN FOR THE EXTENT OF THIS REVIEW ON THE MAP ON THIS SHEET IS APPROXIMATELY 133.00 ACRES.

DUE TO THE POST-DEVELOPED RUNOFF BEING DECREASED (SEE SHEET C606-C608) AND OUR ANALYSIS OF THE EXISTING STREAM, IT IS OUR OPINION THAT THE OUTFALL FOR THIS DEVELOPMENT IS ADEQUATE.

100-YR STORM ANALYSIS NARRATIVE:

THE PRE-DEVELOPED PEAK RUNOFF FOR THE 100-YEAR 24-HOUR STORM IS 8.467 CFS AND THE POST-DEVELOPED RUNOFF RATE IS 7.744 CFS. SINCE THIS SITE LIES WITHIN THE FOUR MILE RUN WATERSHED, THE POST-DEVELOPED RUNOFF FOR THE 100-YEAR STORM SHALL NOT BE INCREASED FROM THE PRE-DEVELOPED CONDITION TO THE POST-DEVELOPED CONDITION. THIS IS COMPLIED WITH BY DETAINING A PORTION OF THE RUNOFF USING A CONTROL STRUCTURE WHAT CAUSED THE RUNOFF RATE GO FROM 8.277 CFS TO 7.744 CFS.

STORM WATER MANAGEMENT POND NARRATIVE:

THIS PROJECT IS A LINEAR PROJECT TO CONSTRUCT A 10 FT WIDE SHARED USE PATH. THE NATURE OF THE PROJECT LIMITS THE AVAILABLE RIGHT OF WAY THUS MAKING THE DESIGN OF SWM POND NOT FEASIBLE. TO MEET THE SWM REQUIREMENTS, PERMEABLE PAVEMENT IS UTILIZED.

Hydrograph Report

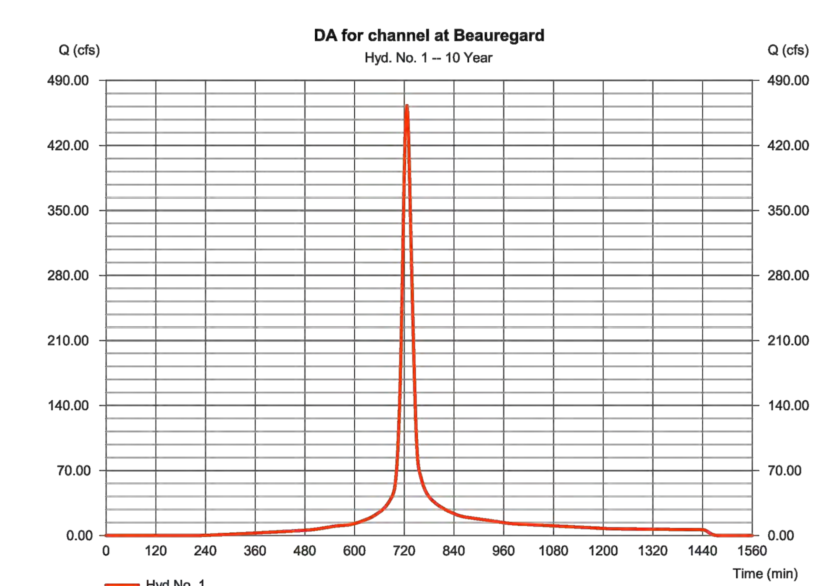
7

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Wednesday, 02 / 23 / 2022

Hyd. No. 1

DA for channel at Beauregard

Hydrograph type	= SCS Runoff	Peak discharge	= 462.90 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 1,650,853 cuft
Drainage area	= 133.000 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 21.69 min
Total precip.	= 4.25 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

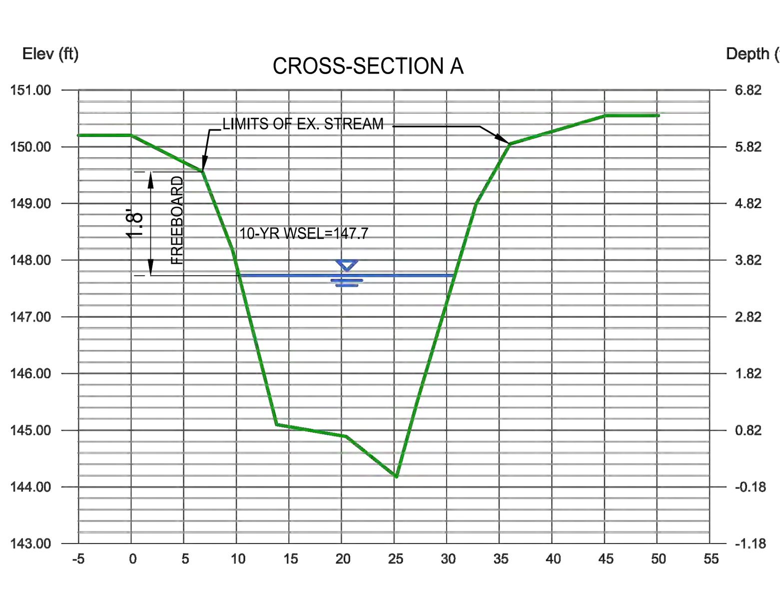
5

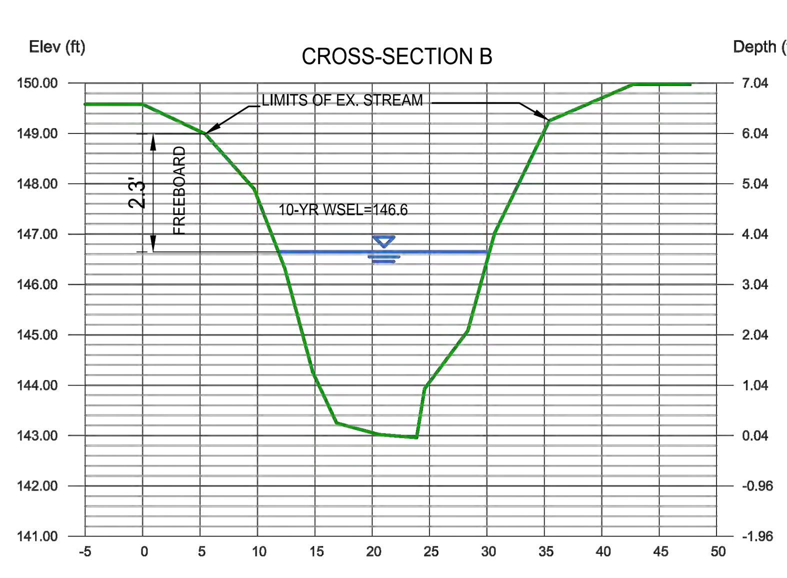
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

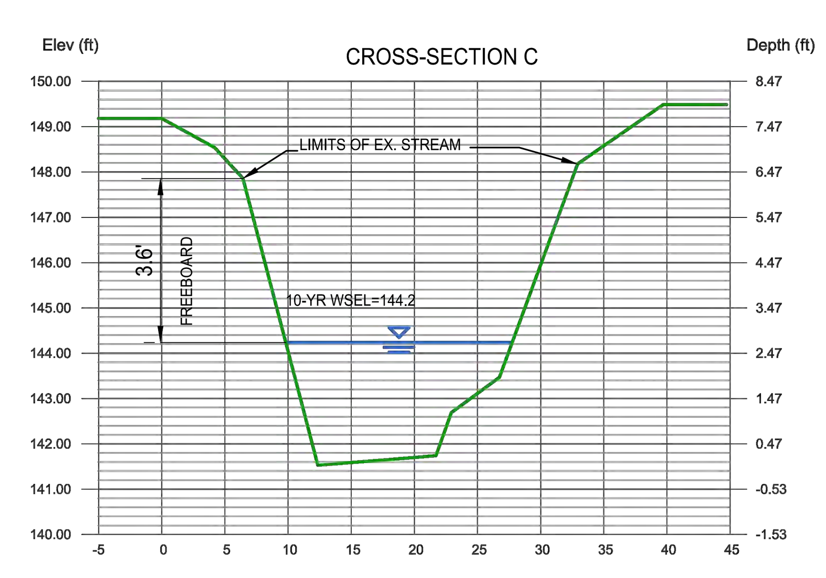
Hyd. No. 1

DA for channel at Beauregard

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.150	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.20	0.00	0.00	
Land slope (%)	= 1.00	0.00	0.00	
Travel Time (min)	**= 15.59 +**	**0.00 +**	**0.00 =**	**15.59**
Shallow Concentrated Flow				
Flow length (ft)	= 1171.00	0.00	0.00	
Watercourse slope (%)	= 6.10	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=3.98	0.00	0.00	
Travel Time (min)	**= 4.90 +**	**0.00 +**	**0.00 =**	**4.90**
Channel Flow				
X sectional flow area (sqft)	= 286.00	23.75	286.00	
Wetted perimeter (ft)	= 45.00	34.00	45.00	
Channel slope (%)	= 2.50	2.50	2.50	
Manning's n-value	= 0.025	0.025	0.015	
Velocity (ft/s)	=32.53	7.41	54.22	
Flow length (ft)	({0})818.0	273.0	546.0	
Travel Time (min)	**= 0.42 +**	**0.61 +**	**0.17 =**	**1.20**
Total Travel Time, Tc				**21.69 min**







NOTE

INFORMATION SHOWN ON THIS MAP IS FROM AVAILABLE CITY GIS.

200 100 0 200 400
GRAPHIC SCALE
1" = 200'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

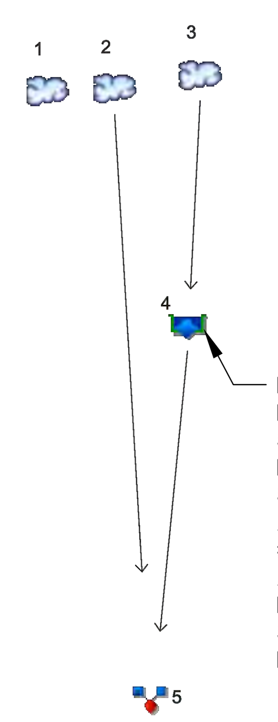
STORMWATER MANAGEMENT - WATER QUANTITY

C605

P:\Projects\21266\00100\111333 - 60%\C605 STORMWATER MANAGEMENT - WATER QUANTITY.dwg PLOTTED: 3/10/2022 8:25:28 AM BY FERAS ALNATOUR

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022



NOTE: TO COMPLY WITH SWM REQUIREMENTS, THIS SECTION OF THE PERMEABLE PAVEMENT TRAIL THAT SLOPES AT LESS THAN 2% AND DRAINS TO STRUCTURE #13A IS MODELED IN THIS ANALYSIS. SEE SHEET C603 FOR FOR LOCATION OF THIS SECTION OF THE PERMEABLE PAVEMENT TRAIL.

Legend

Hyd.	Origin	Description
1	SCS Runoff	Pre (LOD)
2	SCS Runoff	Post - unctrolled (PP CN of 94)
3	SCS Runoff	Post-controlled (PP CN of 94)
4	Reservoir	Permeable PVMT - node
5	Combine	Combined

Project: U:\Hydrographs - Beauregard.gpw | Monday, 02 / 7 / 2022

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs) 1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	Hydrograph Description
1	SCS Runoff	------	1.780	2.359	-------	-------	4.825	-------	-------	-------	Pre (LOD)
2	SCS Runoff	------	1.784	2.331	-------	-------	4.595	-------	-------	-------	Post - unctrolled (PP CN of 94)
3	SCS Runoff	------	0.263	0.320	-------	-------	0.546	-------	-------	-------	Post-controlled (PP CN of 94)
4	Reservoir	3	0.012	0.014	-------	-------	0.019	-------	-------	-------	Permeable PVMT - node
5	Combine	2, 4	1.793	2.342	-------	-------	4.610	-------	-------	-------	Combined

Proj. file: U:\Hydrographs - Beauregard.gpw | Monday, 02 / 7 / 2022

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.780	2	718	3,580	------	------	------	Pre (LOD)
2	SCS Runoff	1.784	2	716	3,602	------	------	------	Post - unctrolled (PP CN of 94)
3	SCS Runoff	0.263	2	716	561	------	------	------	Post-controlled (PP CN of 94)
4	Reservoir	0.012	2	780	556	3	145.01	306	Permeable PVMT - node
5	Combine	1.793	2	716	4,158	2, 4	------	------	Combined

U:\Hydrographs - Beauregard.gpw | Return Period: 1 Year | Monday, 02 / 7 / 2022

Hydrograph Report

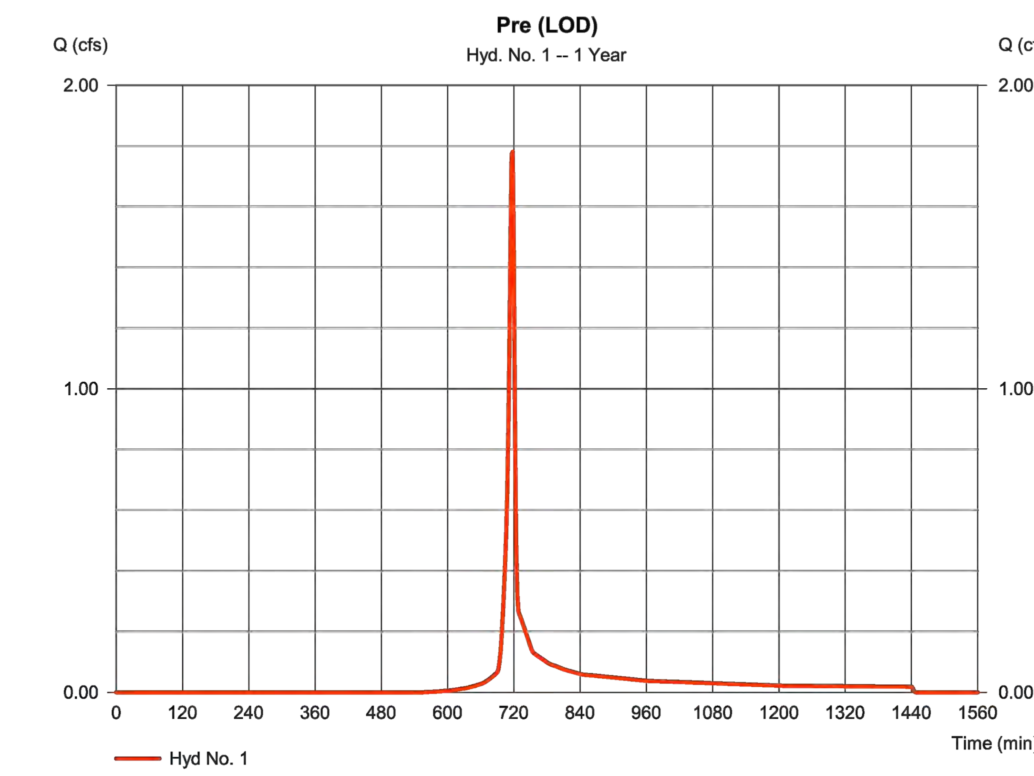
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 02 / 7 / 2022

Hyd. No. 1

Pre (LOD)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.780 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 3,580 cuft
Drainage area	= 0.870 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.70 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.730 x 80) + (0.140 x 98)] / 0.870



Hydrograph Report

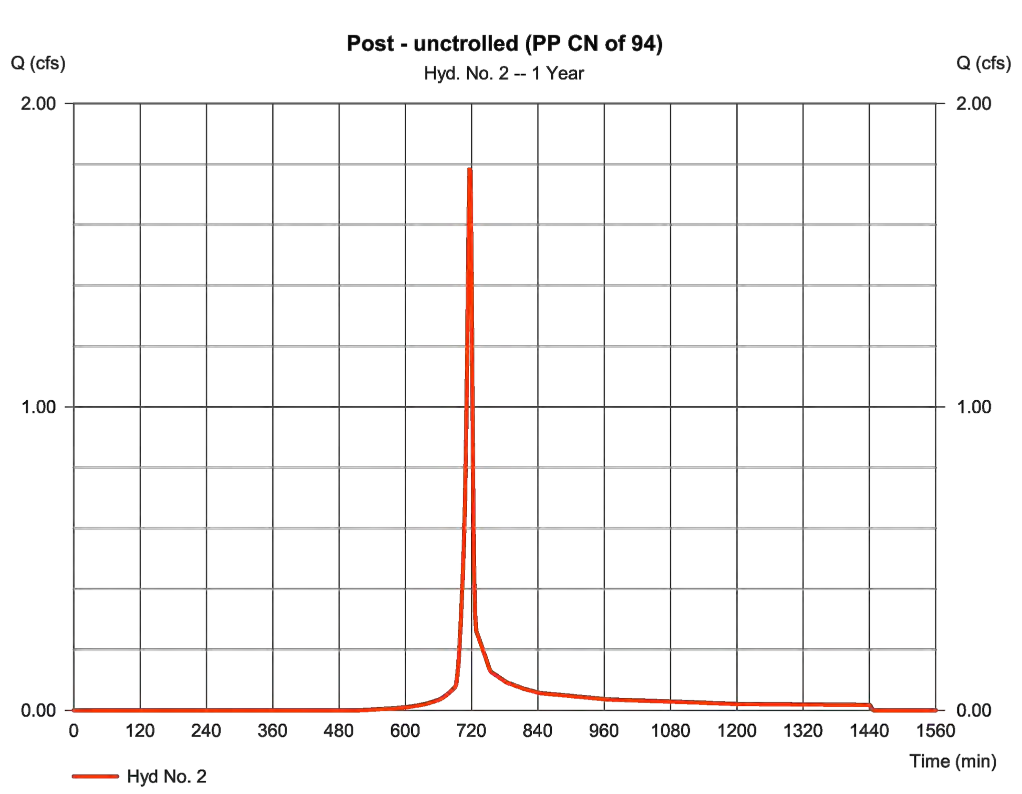
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 02 / 7 / 2022

Hyd. No. 2

Post - unctrolled (PP CN of 94)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.784 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 3,602 cuft
Drainage area	= 0.790 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.70 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.520 x 80) + (0.270 x 94)] / 0.790



Hydrograph Report

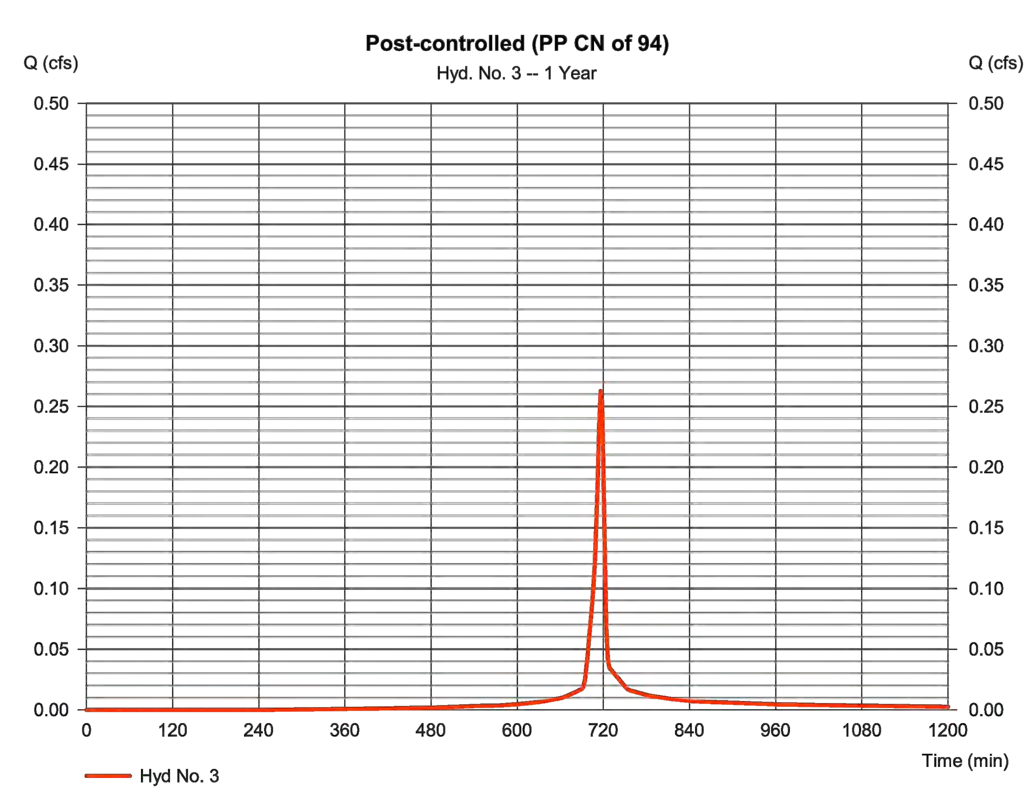
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 02 / 7 / 2022

Hyd. No. 3

Post-controlled (PP CN of 94)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.263 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 561 cuft
Drainage area	= 0.080 ac	Curve number	= 94*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.70 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 94)] / 0.080



Hydrograph Report

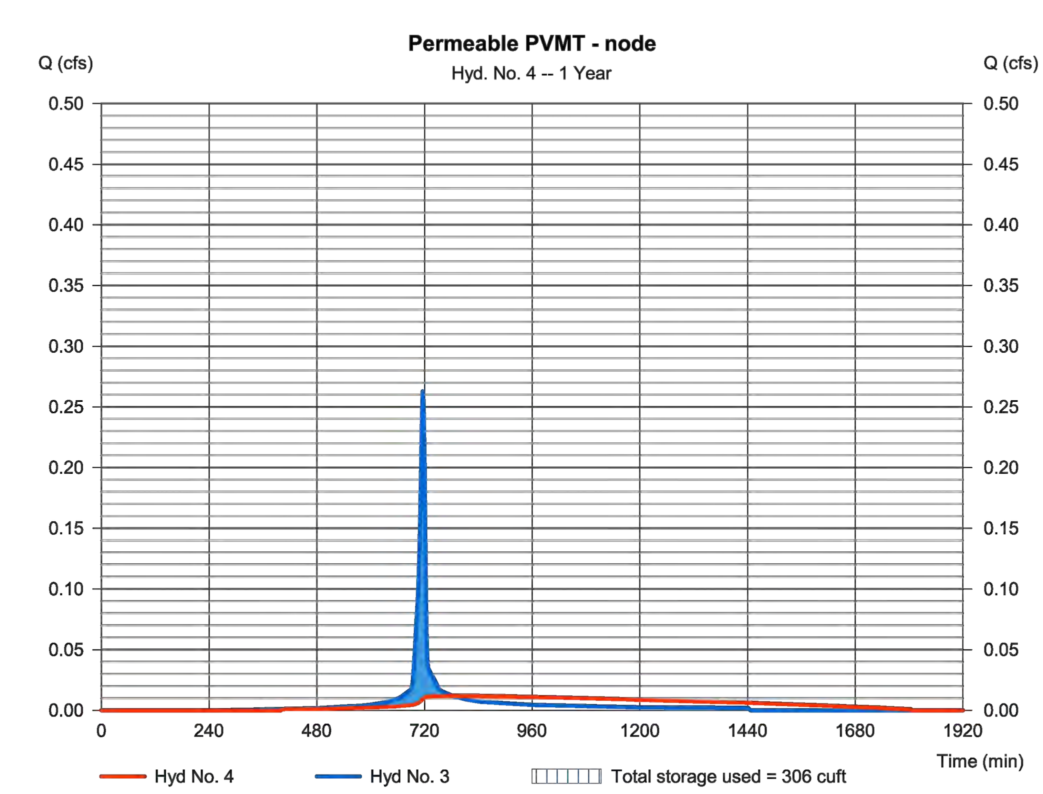
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 02 / 7 / 2022

Hyd. No. 4

Permeable PVMT - node

Hydrograph type	= Reservoir	Peak discharge	= 0.012 cfs
Storm frequency	= 1 yrs	Time to peak	= 780 min
Time interval	= 2 min	Hyd. volume	= 556 cuft
Inflow hyd. No.	= 3 - Post-controlled (PP CN of 94)	Max. Elevation	= 145.01 ft
Reservoir name	= Permeable Pavement	Max. Storage	= 306 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 02 / 7 / 2022

Pond No. 1 - Permeable Pavement

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	144.80	n/a	0	0
0.08	144.88	n/a	120	120
0.17	144.97	n/a	120	239
0.25	145.05	n/a	120	359
0.33	145.13	n/a	120	478
0.42	145.22	n/a	120	598
0.50	145.30	n/a	120	717
0.58	145.38	n/a	120	837
0.67	145.47	n/a	120	956
0.75	145.55	n/a	120	1,076
0.83	145.63	n/a	120	1,195
0.92	145.72	n/a	75	1,270
1.00	145.80	n/a	75	1,344
1.08	145.88	n/a	75	1,419

Culvert / Orifice Structures

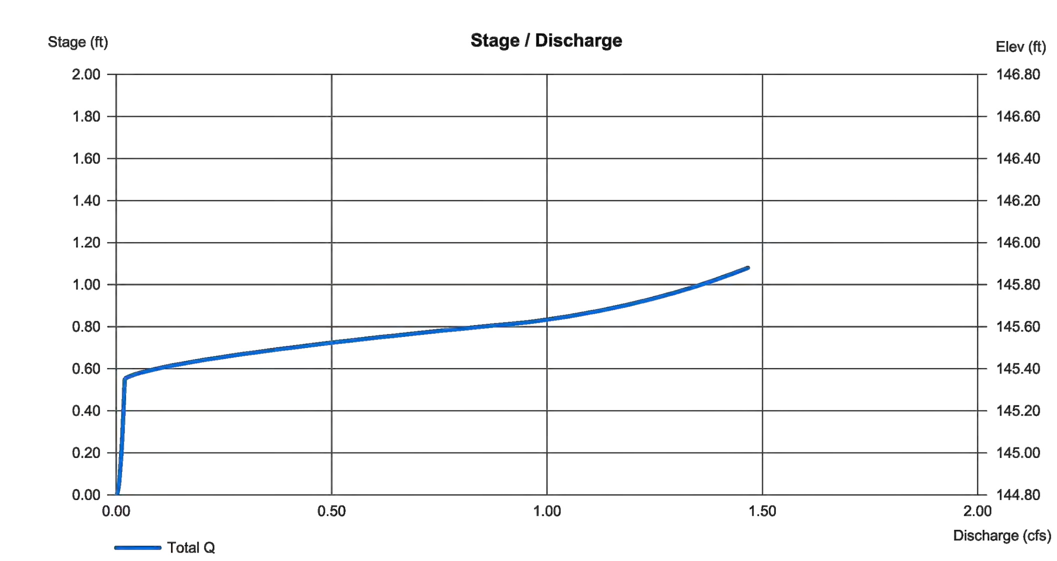
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 8.00	1.00	Inactive	Inactive
Span (in)	= 8.00	1.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 144.70	144.70	0.00	0.00
Length (ft)	= 10.89	0.00	0.00	0.00
Slope (%)	= 2.75	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 2.00	0.00	0.00	0.00
Crest El. (ft)	= 145.35	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

PRE AND POST HYDROGRAPH

C606

P:\Projects\21266\00100\111333 — 60%\C608 PRE AND POST HYDROGRAPH.dwg PLOTTED: 3/10/2022 8:25:36 AM BY FERAS ALNATOUR

Hydrograph Report

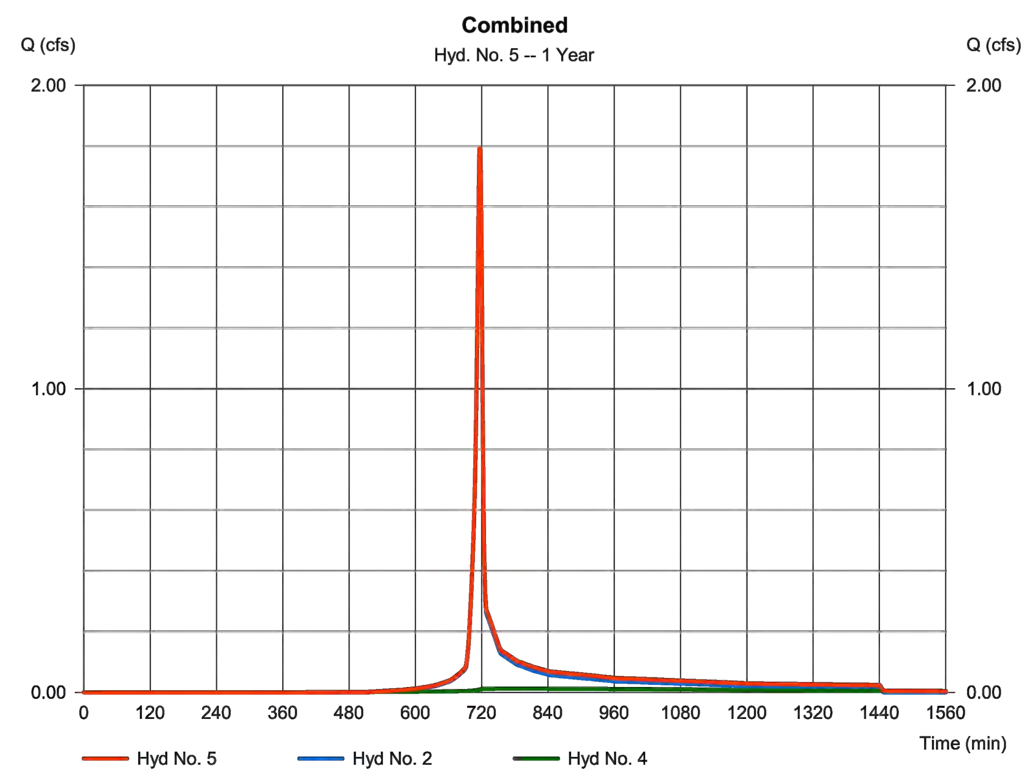
9

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 5

Combined

Hydrograph type	= Combine	Peak discharge	= 1.793 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,158 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 0.790 ac



Hydrograph Summary Report

10

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.359	2	716	4,764	------	------	------	Pre (LOD)
2	SCS Runoff	2.331	2	716	4,725	------	------	------	Post - unctrolled (PP CN of 94)
3	SCS Runoff	0.320	2	716	693	------	------	------	Post-controlled (PP CN of 94)
4	Reservoir	0.014	2	788	687	3	145.07	387	Permeable PVMT - node
5	Combine	2.342	2	716	5,413	2, 4	------	------	Combined

U:\Hydrographs - Beauregard.gpw | Return Period: 2 Year | Monday, 02 / 7 / 2022

Hydrograph Report

11

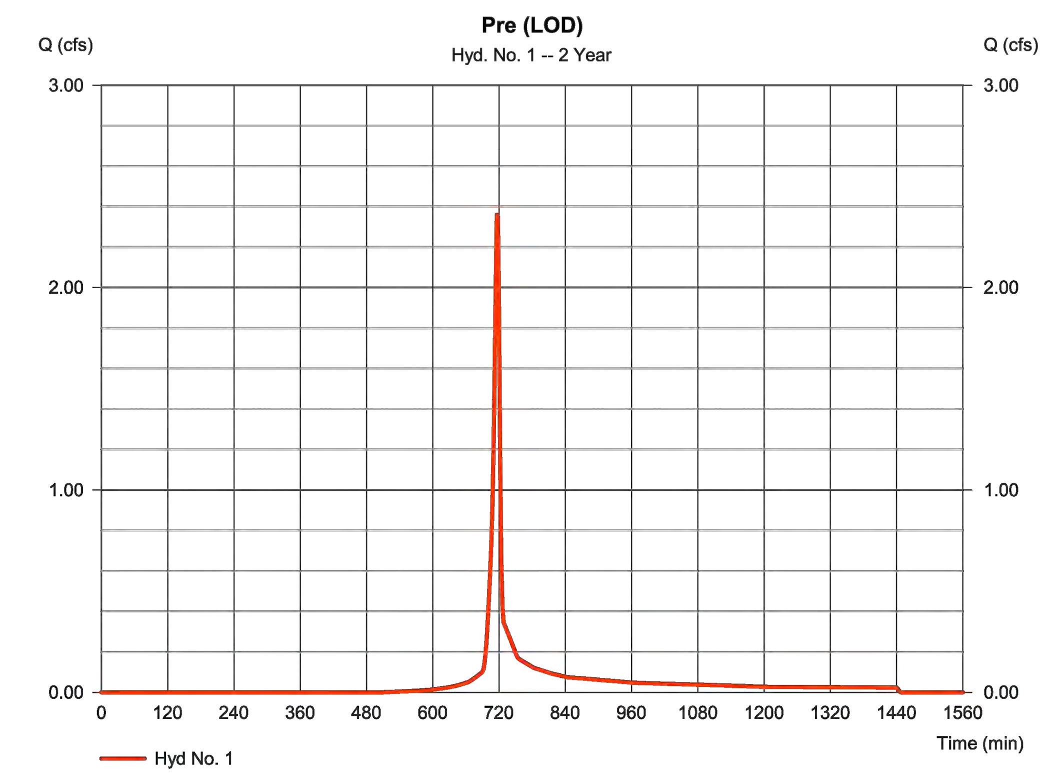
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 1

Pre (LOD)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.359 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,764 cuft
Drainage area	= 0.870 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.730 x 80) + (0.140 x 98)] / 0.870



Hydrograph Report

12

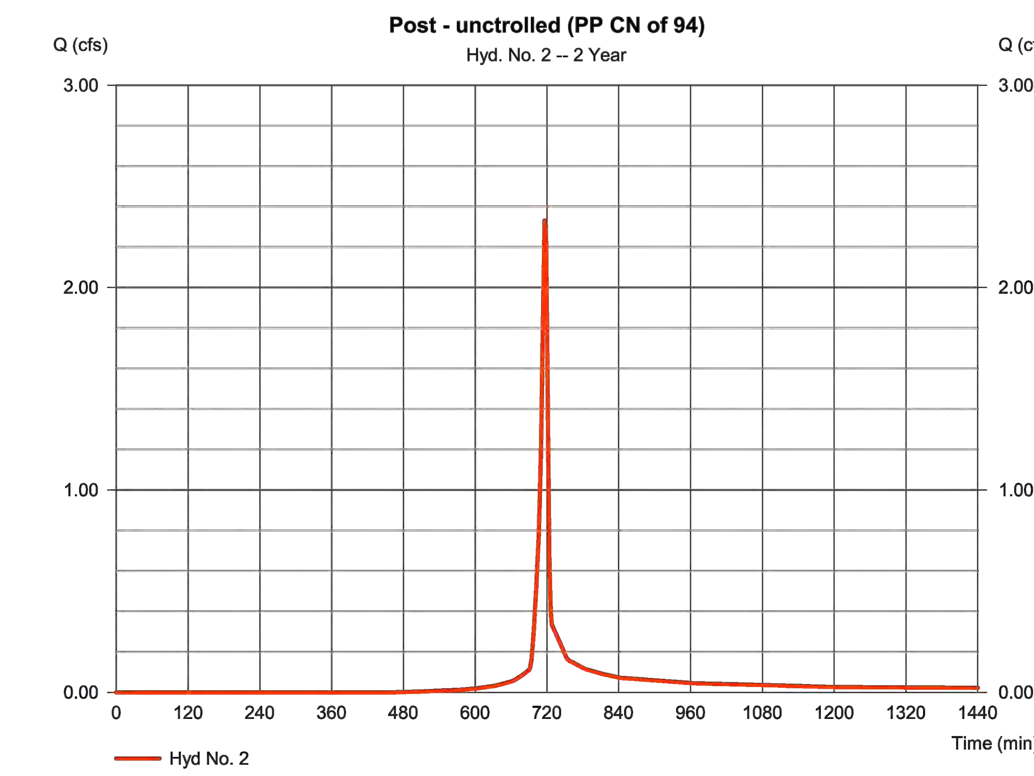
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 2

Post - uncrolled (PP CN of 94)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.331 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,725 cuft
Drainage area	= 0.790 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.520 x 80) + (0.270 x 94)] / 0.790



Hydrograph Report

13

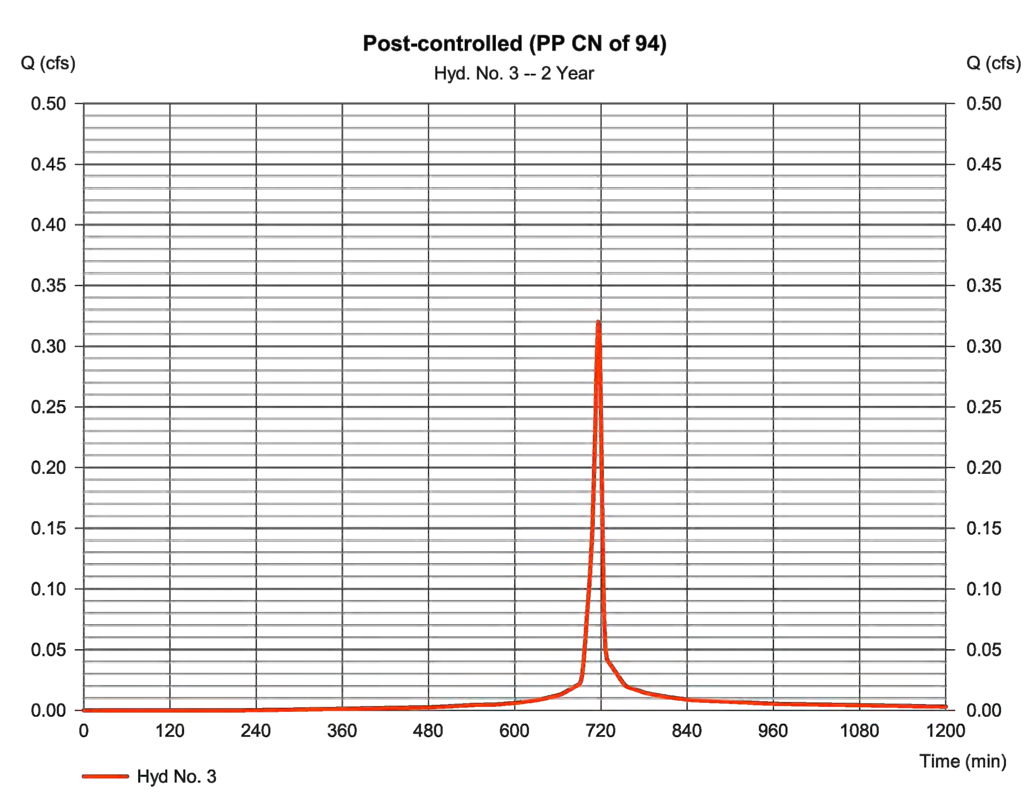
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 3

Post-controlled (PP CN of 94)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.320 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 693 cuft
Drainage area	= 0.080 ac	Curve number	= 94*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 94)] / 0.080



Hydrograph Report

14

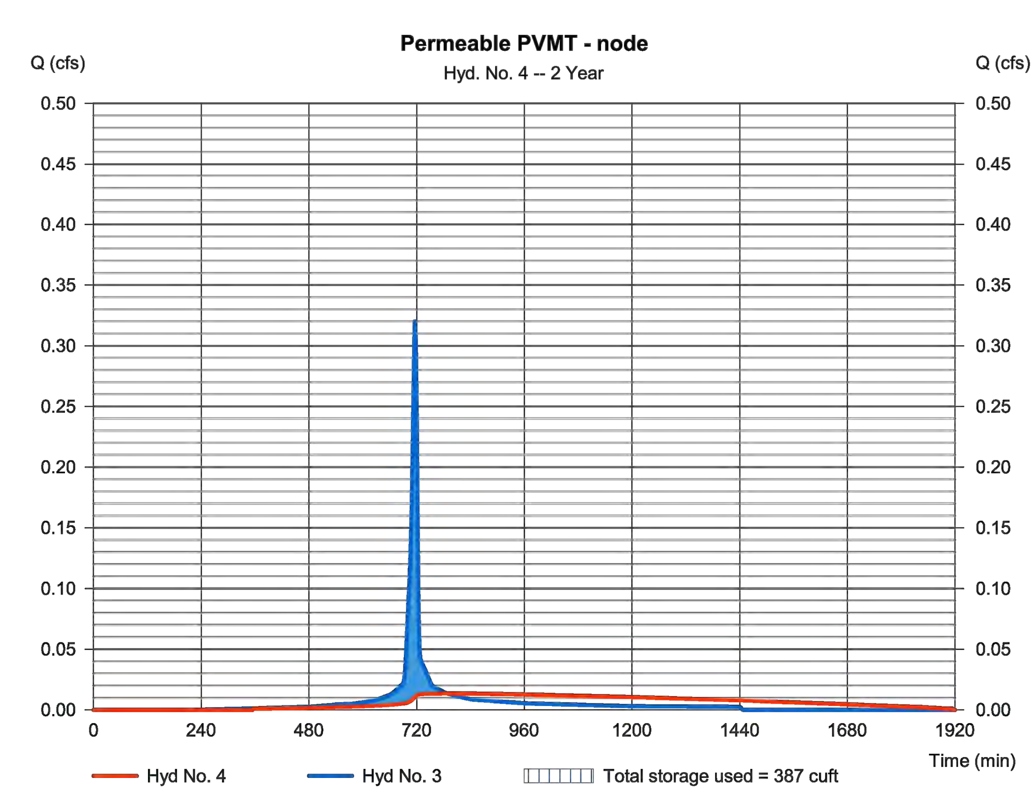
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 4

Permeable PVMT - node

Hydrograph type	= Reservoir	Peak discharge	= 0.014 cfs
Storm frequency	= 2 yrs	Time to peak	= 788 min
Time interval	= 2 min	Hyd. volume	= 687 cuft
Inflow hyd. No.	= 3 - Post-controlled (PP CN of 94)	Max. Elevation	= 145.07 ft
Reservoir name	= Permeable Pavement	Max. Storage	= 387 cuft

Storage Indication method used.



Hydrograph Report

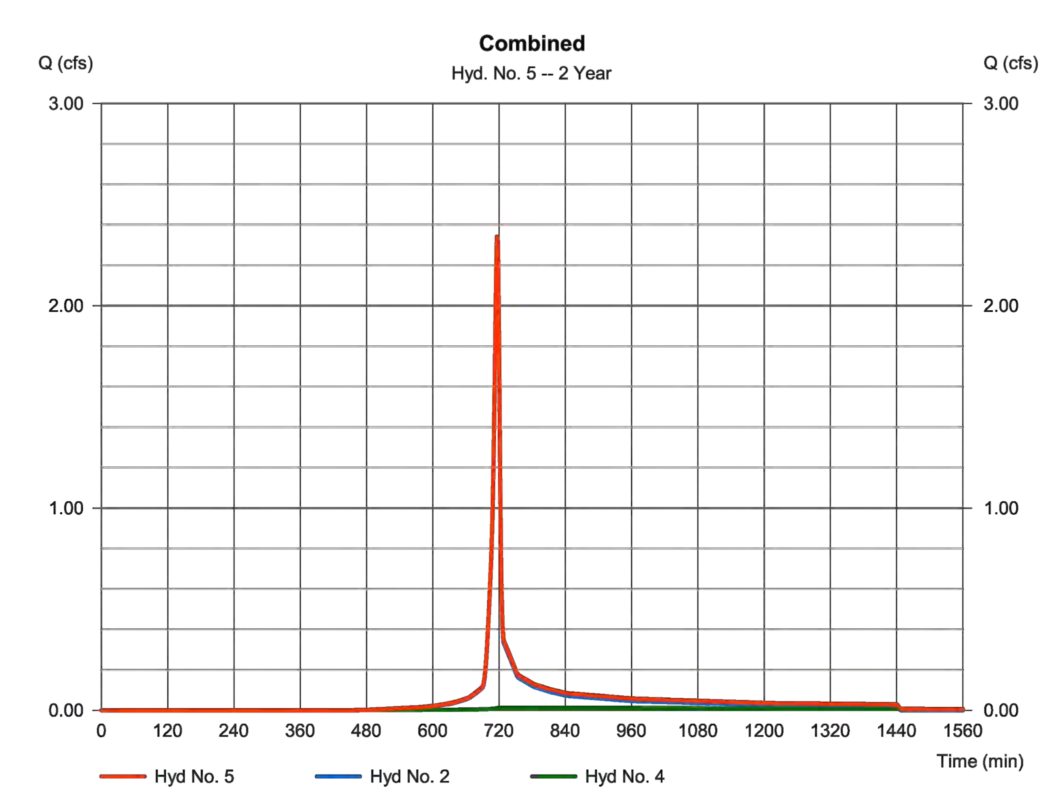
15

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 5

Combined

Hydrograph type	= Combine	Peak discharge	= 2.342 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 5,413 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 0.790 ac



Hydrograph Summary Report

16

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.825	2	716	9,935	------	------	------	Pre (LOD)
2	SCS Runoff	4.595	2	716	9,553	------	------	------	Post - unctrolled (PP CN of 94)
3	SCS Runoff	0.546	2	716	1,227	------	------	------	Post-controlled (PP CN of 94)
4	Reservoir	0.019	2	810	1,221	3	145.31	726	Permeable PVMT - node
5	Combine	4.610	2	716	10,775	2, 4	------	------	Combined

U:\Hydrographs - Beauregard.gpw | Return Period: 10 Year | Monday, 02 / 7 / 2022

P:\Projects\21266\00100\111333 – 60%\C608 PRE AND POST HYDROGRAPH.dwg PLOTTED: 3/10/2022 8:25:41 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

PRE AND POST HYDROGRAPH

C607

Hydrograph Report

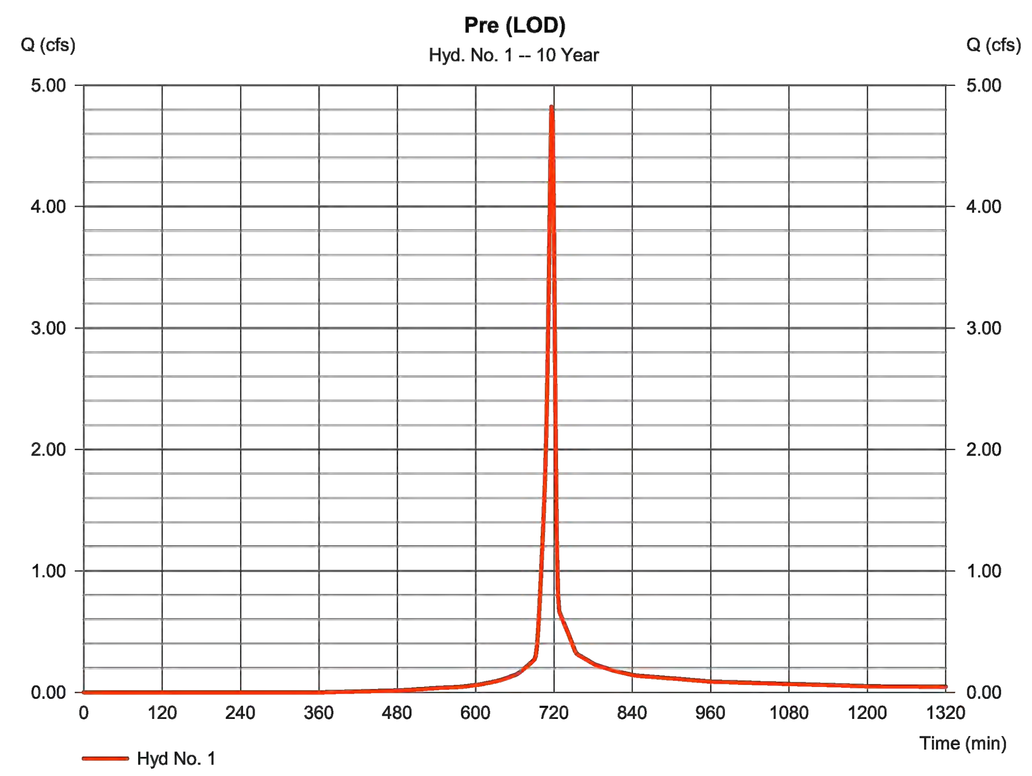
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 1

Pre (LOD)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.825 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 9,935 cuft
Drainage area	= 0.870 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.730 x 80) + (0.140 x 98)] / 0.870



Hydrograph Report

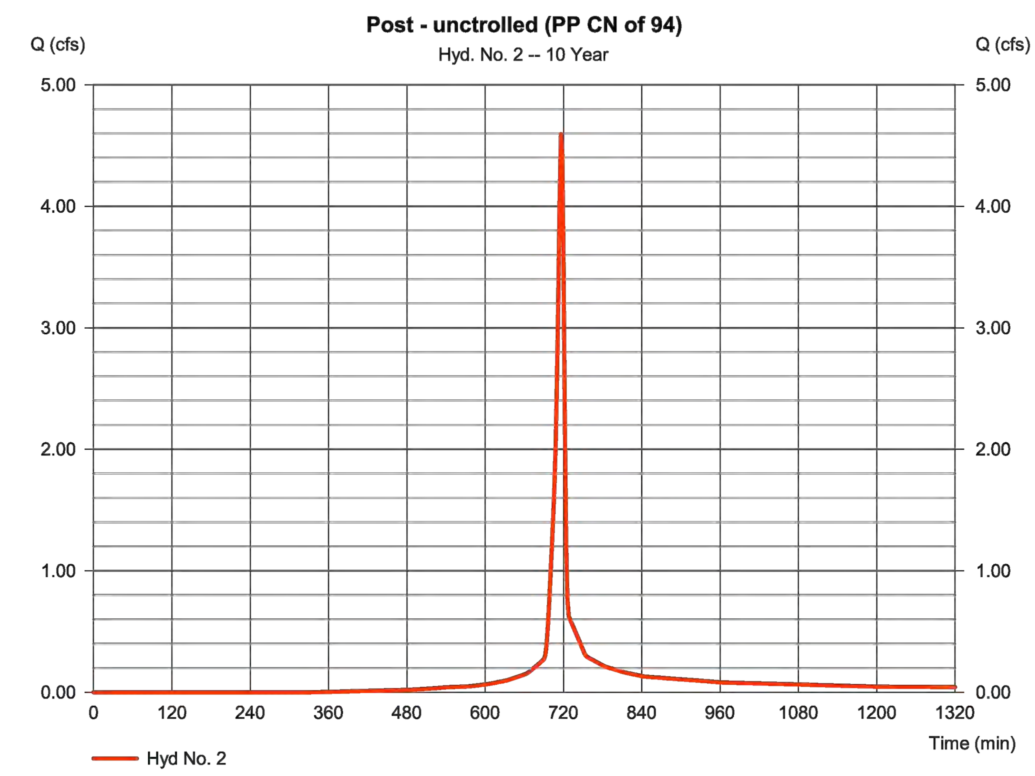
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 2

Post - unctrolled (PP CN of 94)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.595 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 9,553 cuft
Drainage area	= 0.790 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.520 x 80) + (0.270 x 94)] / 0.790



Hydrograph Report

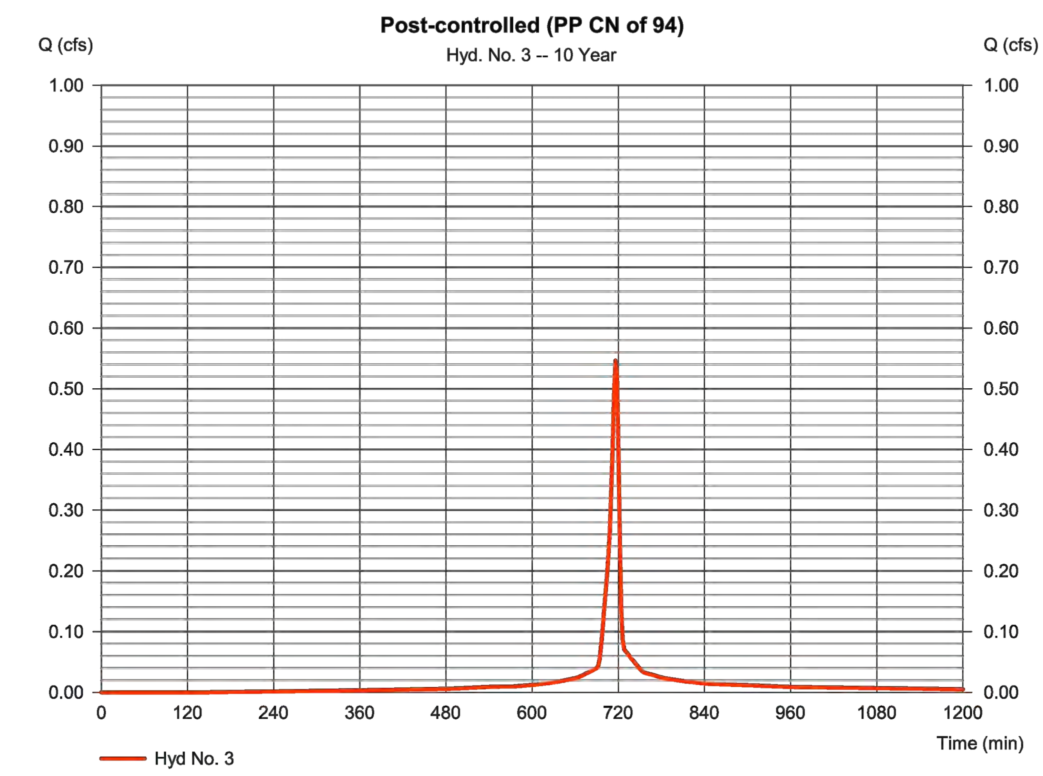
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 3

Post-controlled (PP CN of 94)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.546 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 1,227 cuft
Drainage area	= 0.080 ac	Curve number	= 94*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 94)] / 0.080



Hydrograph Report

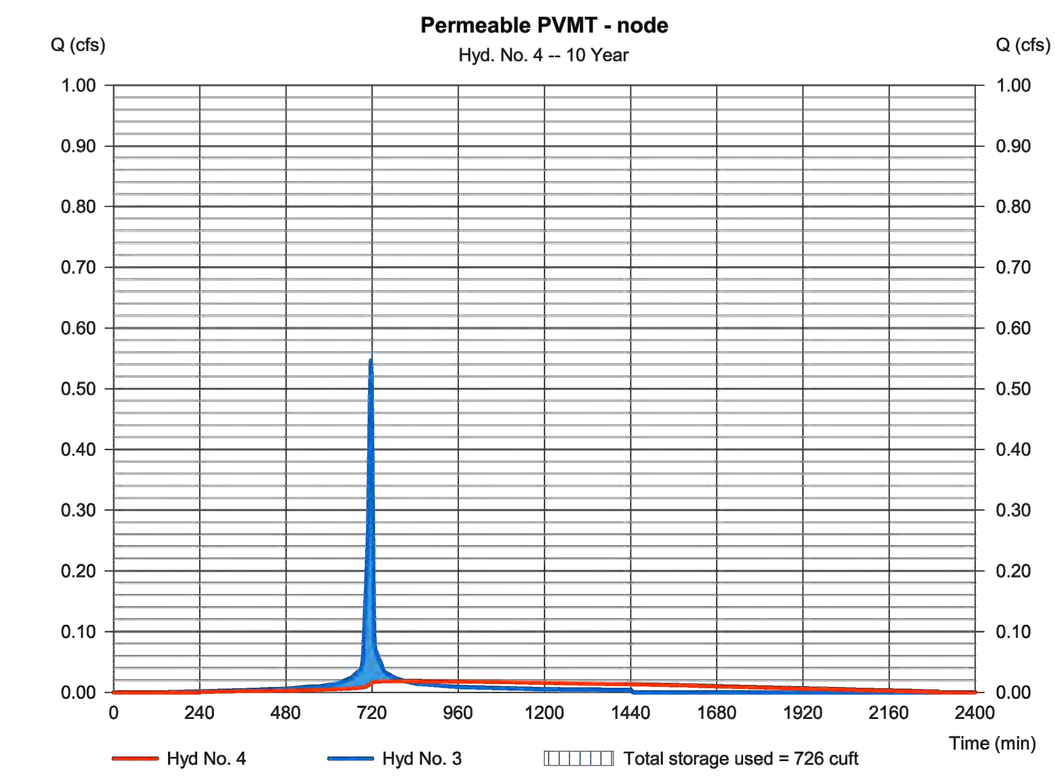
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 4

Permeable PVMT - node

Hydrograph type	= Reservoir	Peak discharge	= 0.019 cfs
Storm frequency	= 10 yrs	Time to peak	= 810 min
Time interval	= 2 min	Hyd. volume	= 1,221 cuft
Inflow hyd. No.	= 3 - Post-controlled (PP CN of 94)	Max. Elevation	= 145.31 ft
Reservoir name	= Permeable Pavement	Max. Storage	= 726 cuft

Storage Indication method used.



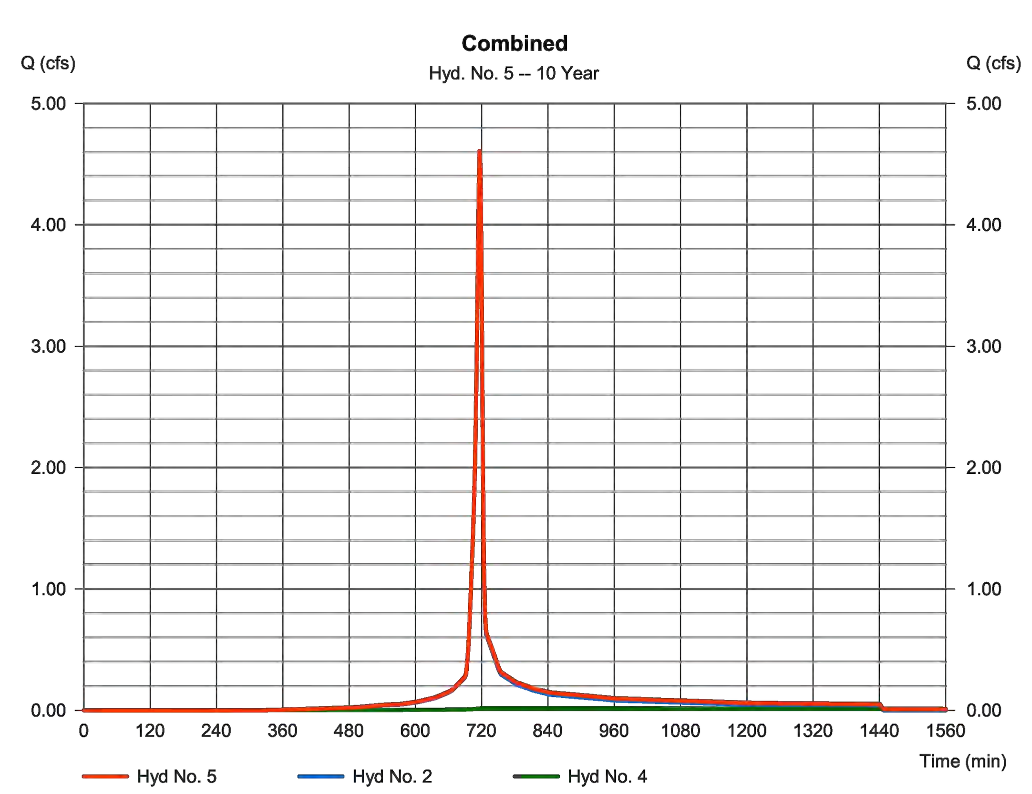
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Hyd. No. 5

Combined

Hydrograph type	= Combine	Peak discharge	= 4.610 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 10,775 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 0.790 ac



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Monday, 02 / 7 / 2022

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	69.8703	13.1000	0.8658	--------
3	0.0000	0.0000	0.0000	--------
5	79.2597	14.6000	0.8369	--------
10	88.2351	15.5000	0.8279	--------
25	102.6072	16.5000	0.8217	--------
50	114.8193	17.2000	0.8199	--------
100	127.1596	17.8000	0.8186	--------

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.70	3.20	0.00	3.30	5.20	5.77	6.80	7.95
SCS 6-Hr	0.00	1.80	0.00	0.00	2.60	0.00	0.00	4.00
Huff-1st	0.00	1.55	0.00	2.75	4.00	5.38	6.50	8.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	1.75	0.00	2.80	3.90	5.25	6.00	7.10

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

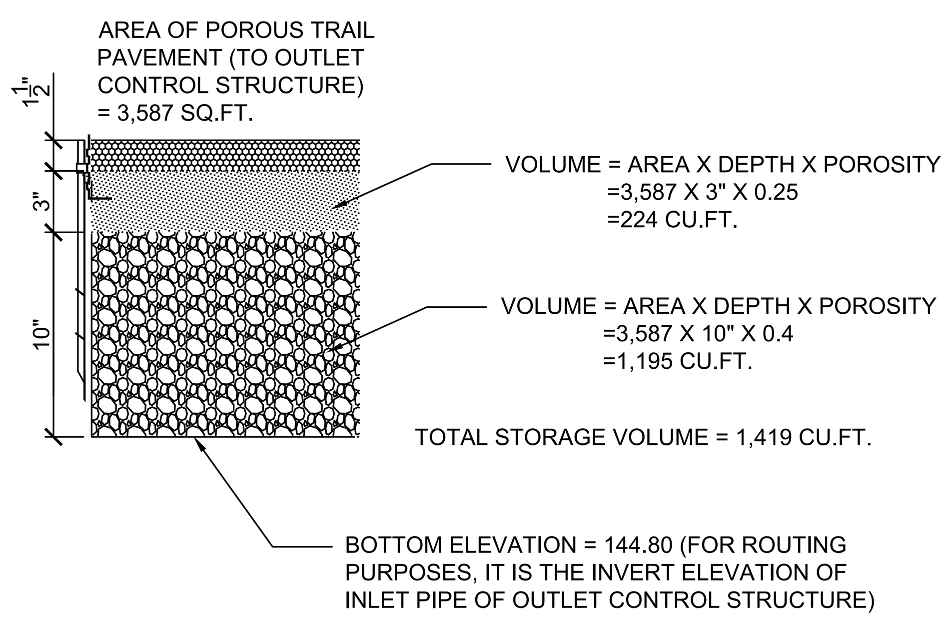
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

PRE AND POST HYDROGRAPH

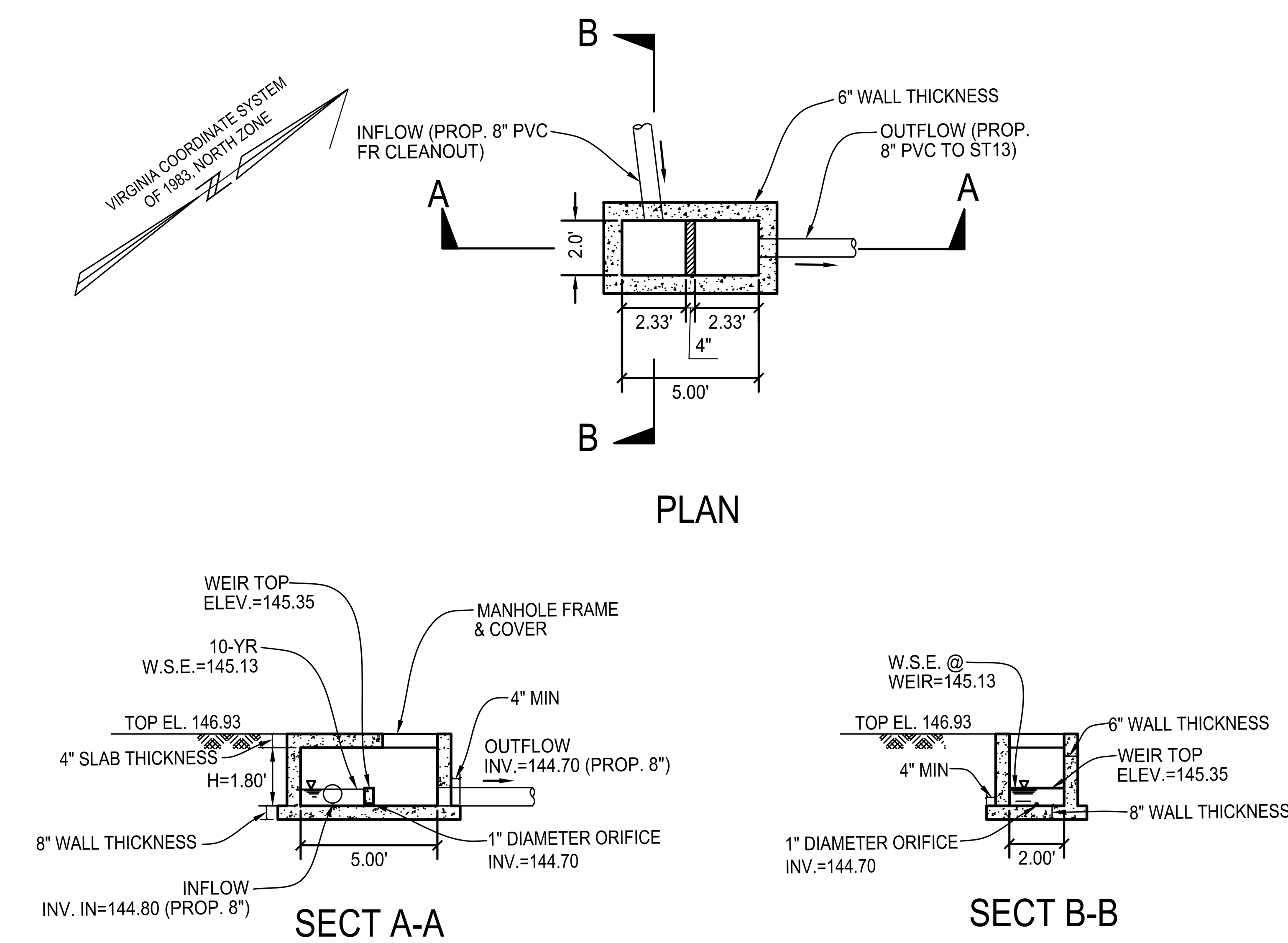
C608



SECTION OF POROUS TRAIL PAVEMENT
(NOT TO SCALE)

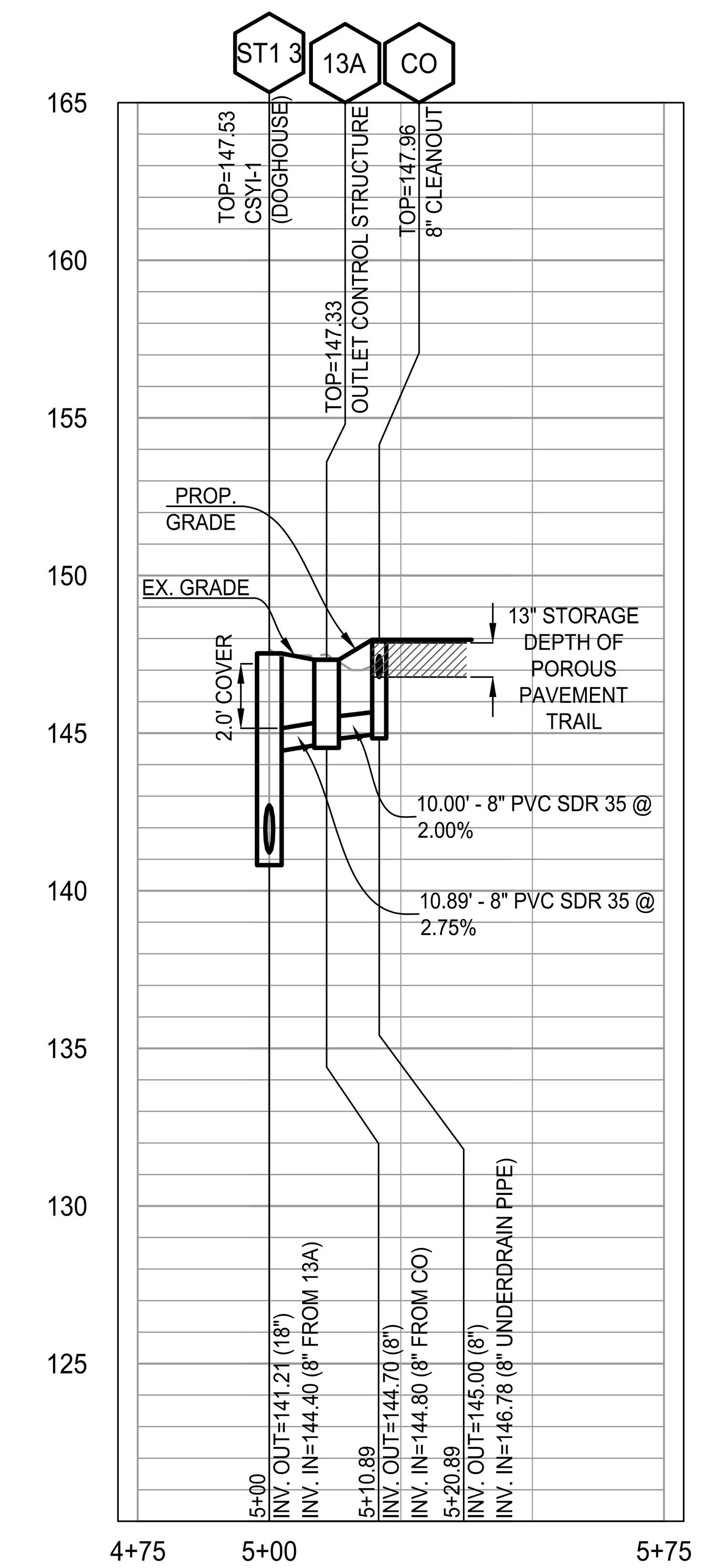
STORAGE VOLUME TABULATION:

ELEV.	DEPTH (inch)	DEPTH (feet)	INCREMENTAL VOLUME (CU.FT)	CUMMULATIVE VOLUME (CU.FT.)
144.80	0	0.00	0.0	0.0
144.88	1	0.08	119.5	119.5
144.97	2	0.17	119.5	239.0
145.05	3	0.25	119.5	358.5
145.13	4	0.33	119.5	478.0
145.22	5	0.42	119.5	597.5
145.30	6	0.50	119.5	717.0
145.38	7	0.58	119.5	836.5
145.47	8	0.67	119.5	956.0
145.55	9	0.75	119.5	1075.5
145.63	10	0.83	119.5	1195.0
145.72	11	0.92	74.7	1269.7
145.80	12	1.00	74.7	1344.3
145.88	13	1.08	74.7	1419.0
TOTAL			1419.0	



OUTLET CONTROL STRUCTURE (STRUCTURE #13A)
SCALE: 1"=5'

ST13 - CO STORM PROFILE
HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



GRAPHIC SCALE
1" = 30'

VERTICAL GRAPHIC SCALE
1" = 5'

60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE BY DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

OUTLET CONTROL DETAIL

C609

P:\Projects\21266\00100\111333 - 60%\C609 OUTLET CONTROL DETAIL.dwg PLOTTED: 3/10/2022 8:25:55 AM BY FERAS ALNATOUR

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Feb 23 2022

Section - 1 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 185.30	Depth (ft)	= 0.13
Slope (%)	= 3.00	Q (cfs)	= 0.790
N-Value	= 0.026	Area (sqft)	= 0.46
		Velocity (ft/s)	= 1.71
Calculations		Wetted Perim (ft)	= 6.31
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.14
Known Q (cfs)	= 0.79	Top Width (ft)	= 6.30
		EGL (ft)	= 0.18

(Sta, El, n)-(Sta, El, n)...
(0.00, 185.80)-(5.00, 185.89, 0.026)-(7.00, 185.85, 0.026)-(10.00, 185.40, 0.026)-(14.07, 185.30, 0.026)-(16.26, 185.44, 0.026)-(25.35, 186.37, 0.026)

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Feb 23 2022

Section - 2 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 177.46	Depth (ft)	= 0.17
Slope (%)	= 3.00	Q (cfs)	= 1.400
N-Value	= 0.026	Area (sqft)	= 0.59
		Velocity (ft/s)	= 2.38
Calculations		Wetted Perim (ft)	= 4.92
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.19
Known Q (cfs)	= 1.40	Top Width (ft)	= 4.90
		EGL (ft)	= 0.26

(Sta, El, n)-(Sta, El, n)...
(0.00, 177.82)-(5.00, 177.91, 0.026)-(7.00, 177.90, 0.026)-(10.00, 177.46, 0.026)-(12.01, 177.46, 0.026)-(32.08, 179.43, 0.026)

Channel Report

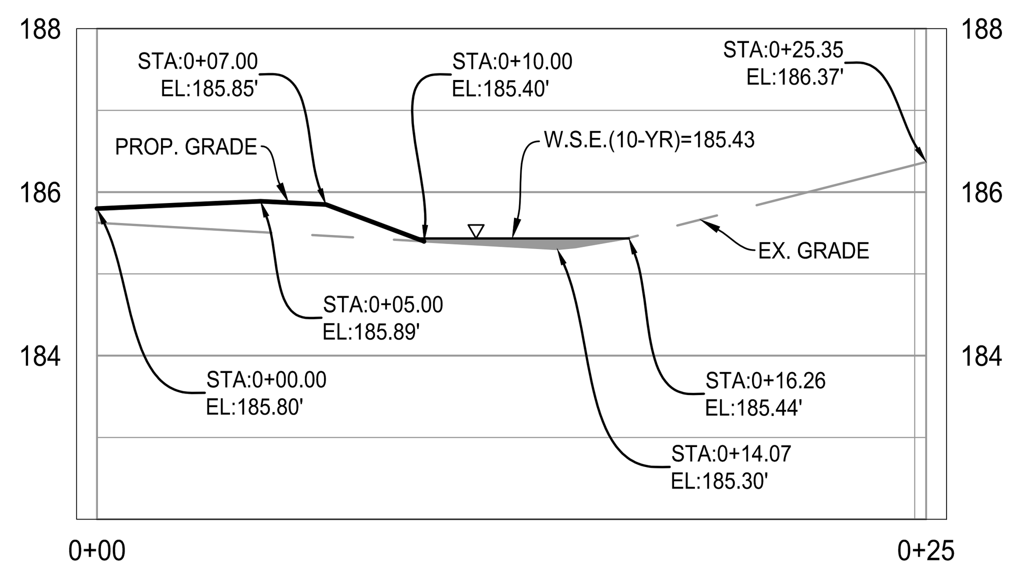
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Feb 23 2022

Section - 4 (10-yr)

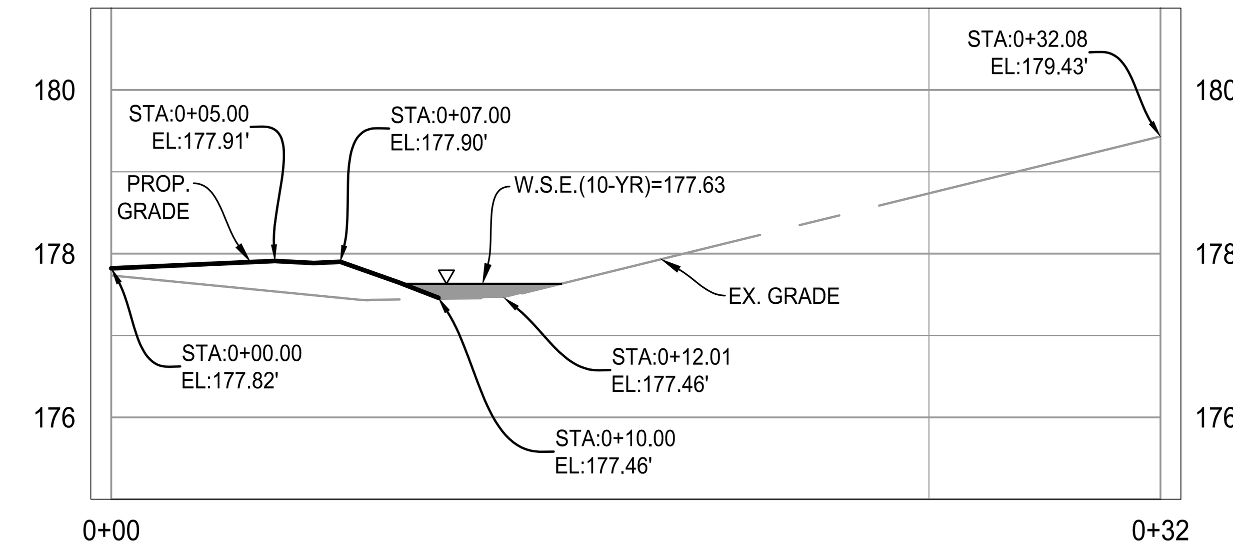
User-defined		Highlighted	
Invert Elev (ft)	= 158.90	Depth (ft)	= 0.27
Slope (%)	= 0.50	Q (cfs)	= 0.140
N-Value	= 0.026	Area (sqft)	= 0.15
		Velocity (ft/s)	= 0.96
Calculations		Wetted Perim (ft)	= 1.21
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.20
Known Q (cfs)	= 0.14	Top Width (ft)	= 1.09
		EGL (ft)	= 0.28

(Sta, El, n)-(Sta, El, n)...
(8.89, 160.20)-(9.89, 160.20, 0.026)-(9.89, 159.90, 0.026)-(11.90, 158.90, 0.026)-(13.91, 159.90, 0.026)-(16.56, 160.00, 0.026)-(27.84, 164.85, 0.026)

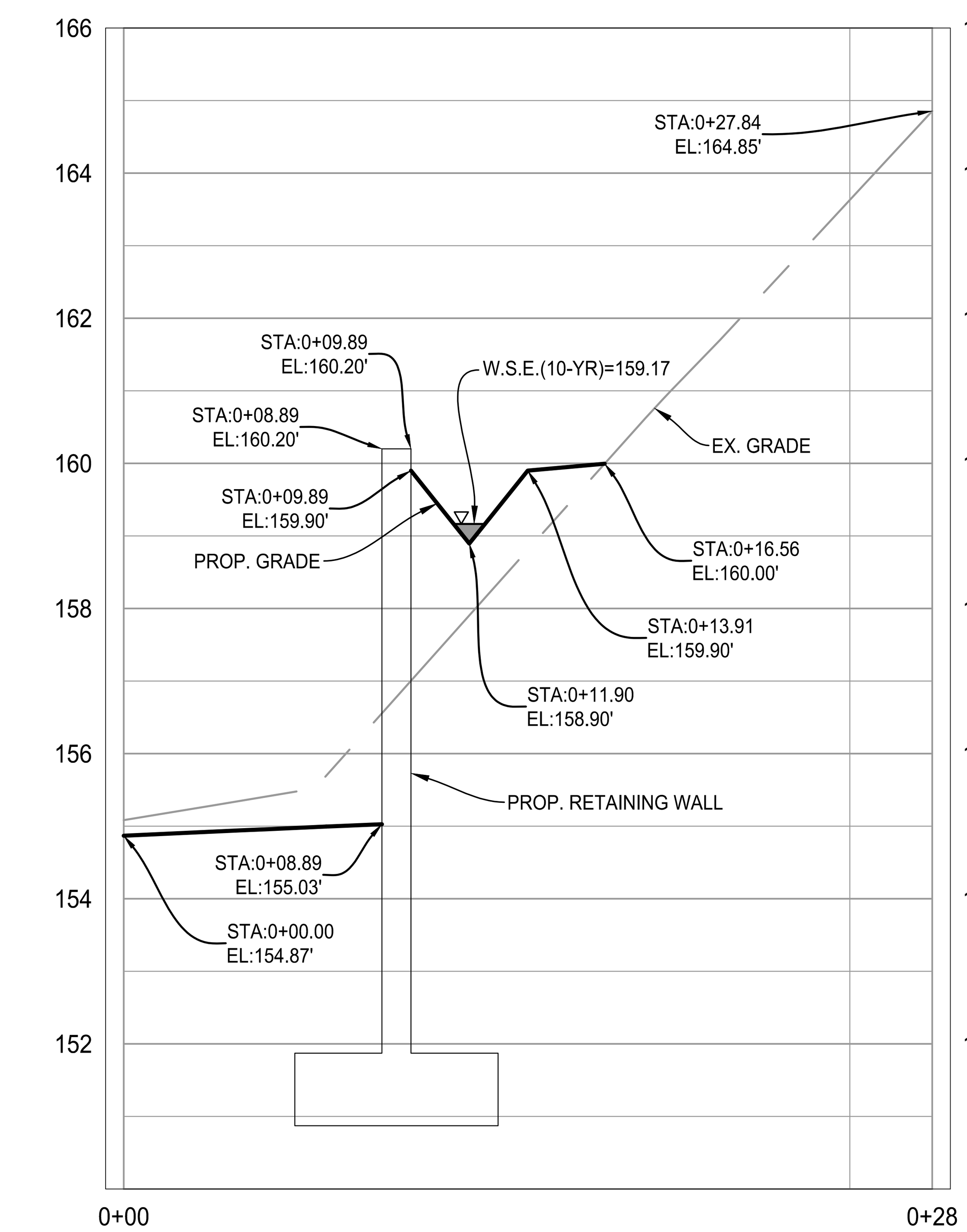
SECTION-1
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'

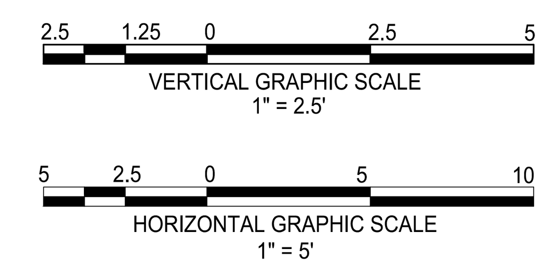


SECTION-2
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'

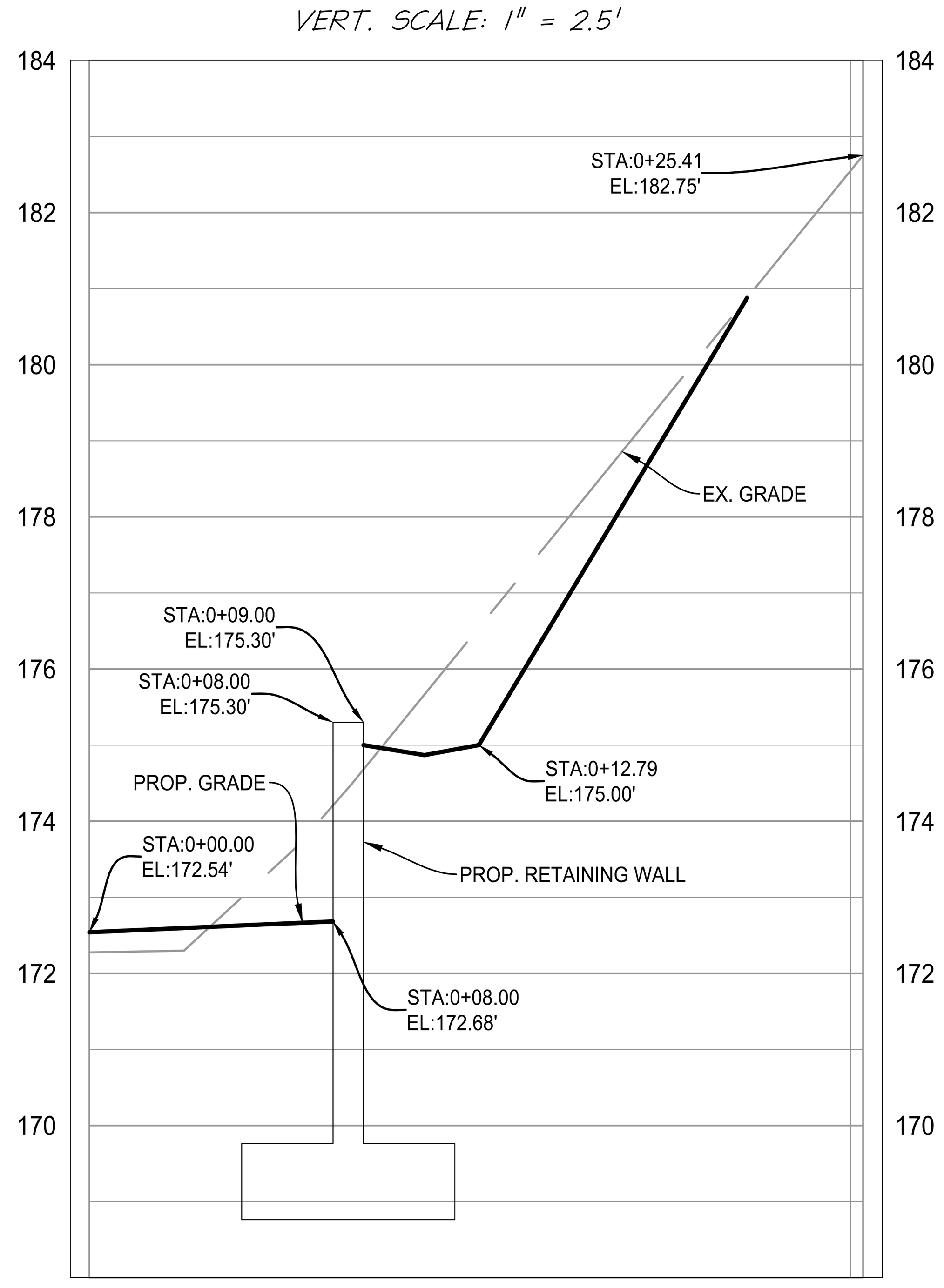


SECTION-4
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'

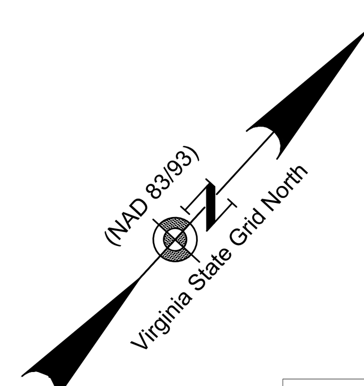


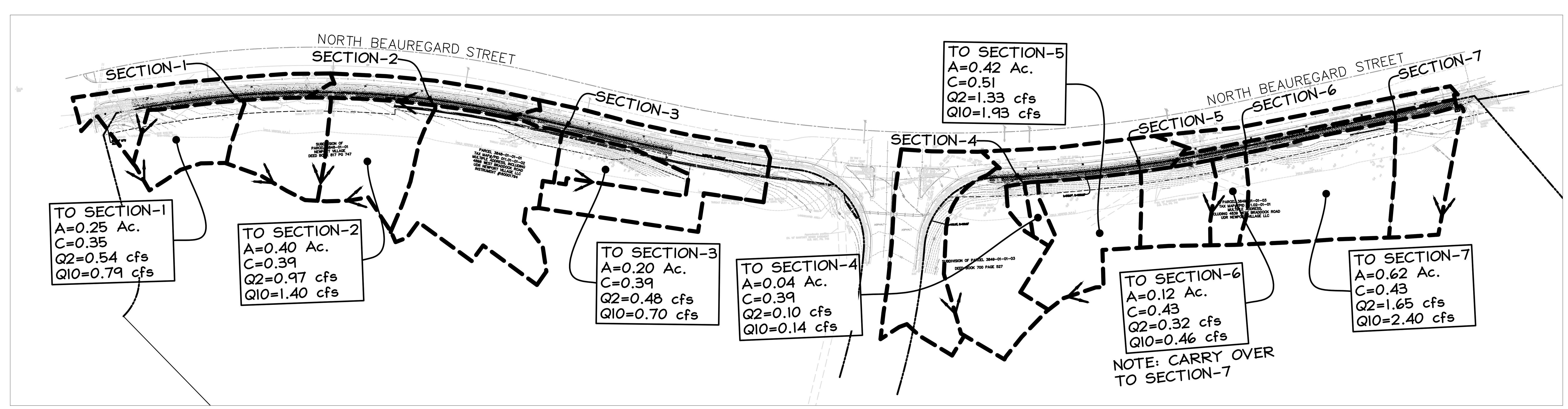


SECTION-3
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'



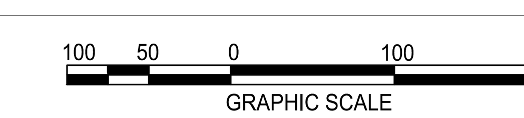
NOTE: NO DITCH IN THIS SECTION, ONLY SHEET FLOW ALONG THE RETAINING WALL.





NOTE: SEE SHEETS C500-C501 FOR THE LOCATION OF SECTIONS.

OVERALL DRAINAGE DIVIDES PER CROSS-SECTION
SCALE: 1" = 100'



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

DITCH SECTONS AND CALCULATIONS

C610

P:\Projects\21266\00100\111333 - 60%\C610 DITCH SECTONS AND CALCULATIONS.dwg PLOTTED: 3/10/2022 8:26:29 AM BY FERAS ALNATOUR

Channel Report

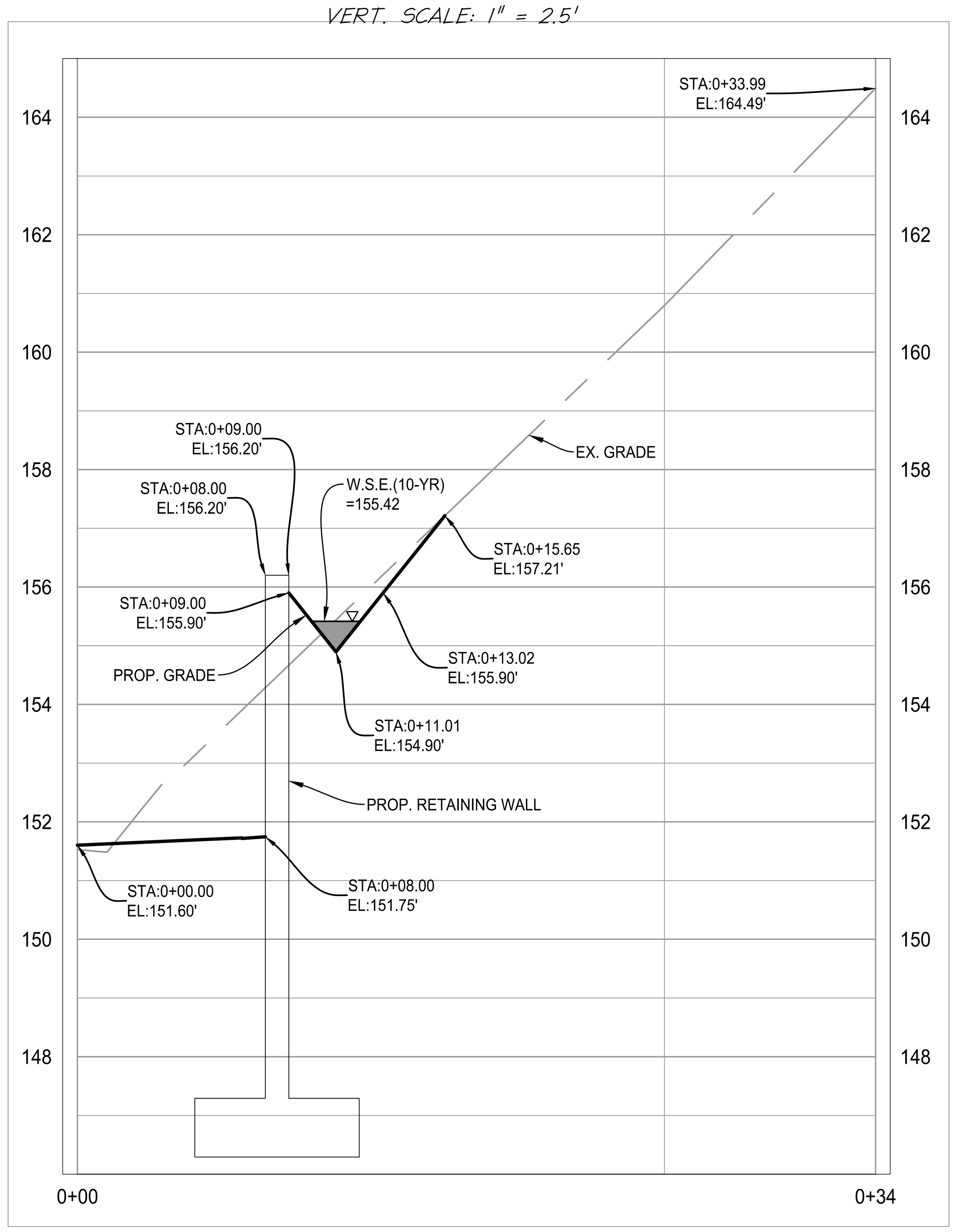
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Feb 23 2022

Section - 5 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 154.90	Depth (ft)	= 0.52
Slope (%)	= 2.80	Q (cfs)	= 1.930
N-Value	= 0.026	Area (sqft)	= 0.54
		Velocity (ft/s)	= 3.55
Calculations		Wetted Perim (ft)	= 2.33
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.57
Known Q (cfs)	= 1.93	Top Width (ft)	= 2.09
		EGL (ft)	= 0.72

(Sta, El, n)-(Sta, El, n)...
(8.00, 156.20)-(9.00, 156.20, 0.026)-(9.00, 155.90, 0.026)-(11.01, 154.90, 0.026)-(13.02, 155.90, 0.026)-(15.65, 157.21, 0.026)-(33.99, 164.49, 0.026)

SECTION-5
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'



Channel Report

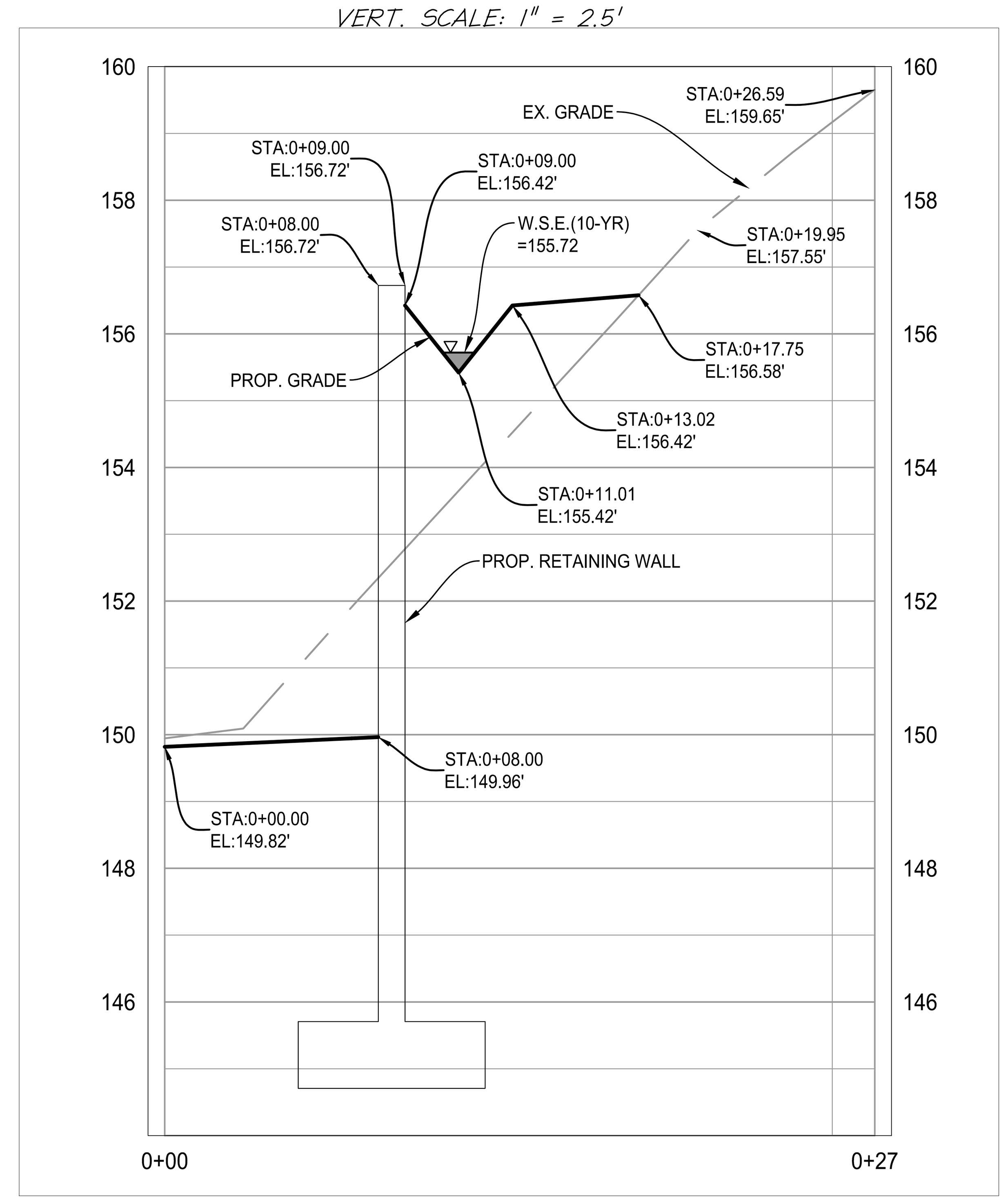
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Feb 23 2022

Section - 6 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 155.42	Depth (ft)	= 0.30
Slope (%)	= 2.90	Q (cfs)	= 0.460
N-Value	= 0.026	Area (sqft)	= 0.18
		Velocity (ft/s)	= 2.54
Calculations		Wetted Perim (ft)	= 1.35
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.32
Known Q (cfs)	= 0.46	Top Width (ft)	= 1.21
		EGL (ft)	= 0.40

(Sta, El, n)-(Sta, El, n)...
(8.00, 156.72)-(9.00, 156.72, 0.026)-(9.00, 156.42, 0.026)-(11.01, 155.42, 0.026)-(13.02, 156.42, 0.026)-(19.95, 157.55, 0.026)-(26.59, 159.65, 0.026)

SECTION-6
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'



Channel Report

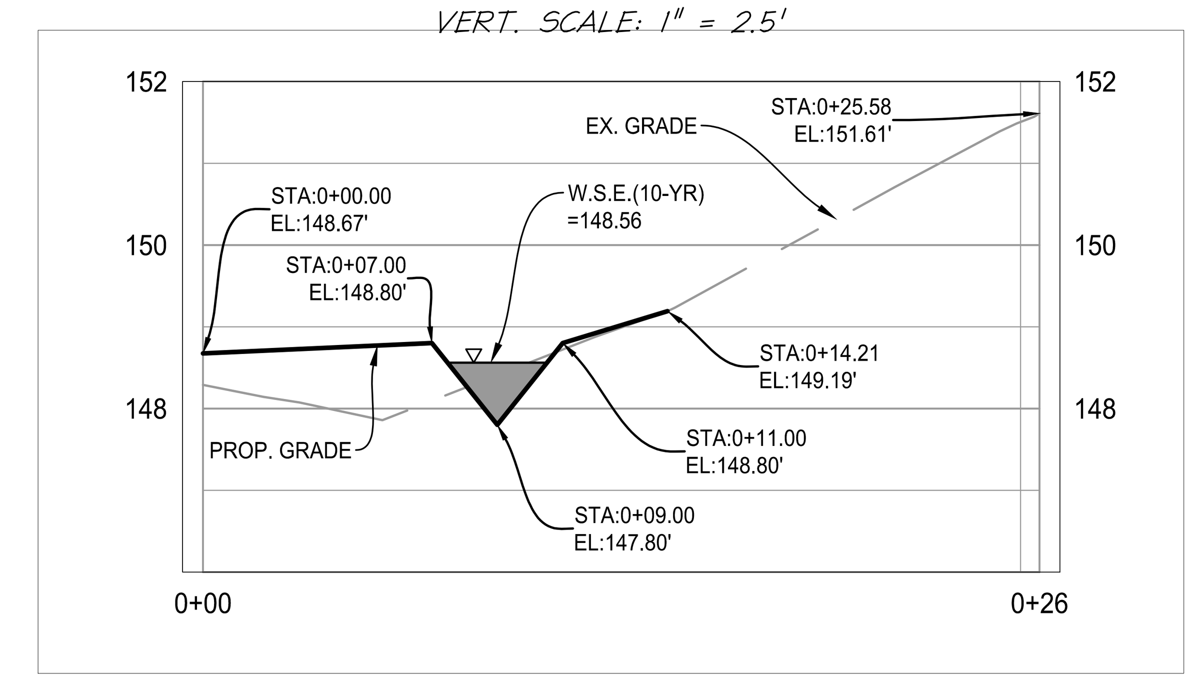
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Feb 23 2022

Section - 7 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 147.80	Depth (ft)	= 0.76
Slope (%)	= 0.80	Q (cfs)	= 2.860
N-Value	= 0.026	Area (sqft)	= 1.16
		Velocity (ft/s)	= 2.48
Calculations		Wetted Perim (ft)	= 3.40
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.67
Known Q (cfs)	= 2.86	Top Width (ft)	= 3.04
		EGL (ft)	= 0.86

(Sta, El, n)-(Sta, El, n)...
(0.00, 148.67)-(7.00, 148.80, 0.026)-(9.00, 147.80, 0.026)-(11.00, 148.80, 0.026)-(14.21, 149.19, 0.026)-(25.58, 151.61, 0.026)

SECTION-7
HOR. SCALE: 1" = 5'
VERT. SCALE: 1" = 2.5'



VERTICAL GRAPHIC SCALE
1" = 2.5'

HORIZONTAL GRAPHIC SCALE
1" = 5'

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

DITCH SECTONS AND CALCULATIONS

C611

STORM COMPUTATION

FROM POINT	TO POINT	DRAIN. AREA ACRES	RUNOFF COEFF. C	CA INCREM.	CA ACCUM.	INLET TIME MIN.	RAINFALL INTENSITY IN./HR.	RUNOFF Q C.F.S.	INVERT ELEVATIONS (FT) UPPER	INVERT ELEVATIONS (FT) LOWER	LENGTH FT	SLOPE FT/FT	DIA. IN.	N	CAPACITY C.F.S.	VELOCITY FPS	FULL FLOW VELOCITY FPS	FLOW TIME SEC.	Q/Qfull	V/Vfull	Vfull	NOTES
9	EX. ST1	0.570	0.35	0.20	0.20	5.00	9.00	1.80	177.36	177.26	7.41	0.0135	12	0.015	3.59	4.6	4.57	1.6	0.50	1.00	4.57	
EX. ST1	EX. ST2	0.290	0.70	0.20	0.40	5.03	8.99	3.62	176.40	176.38	13.53	0.0015	18	0.015	3.50	2.3	1.98	6.0	1.03	1.14	1.98	
EX. ST2	EX. ST21			0.00	0.40	5.13	8.96	3.61	176.36	176.00	26.50	0.0136	18	0.015	10.61	5.4	6.00	4.9	0.34	0.90	6.00	
14	EX. ST3	1.360	0.39	0.53	0.53	5.00	9.00	4.77	168.42	168.32	7.68	0.0130	15	0.015	6.39	5.7	5.21	1.3	0.75	1.09	5.21	
EX. ST3	EX. ST4			0.00	0.53	5.02	8.99	4.77	168.22	167.18	14.50	0.0717	18	0.015	24.38	10.3	13.80	1.4	0.20	0.75	13.80	
EX. ST4	EX. ST41	0.200	0.77	0.15	0.68	5.05	8.98	6.15	166.61	166.31	26.75	0.0112	18	0.015	9.64	5.8	5.46	4.6	0.64	1.06	5.46	
12	EX. ST10	0.080	0.39	0.03	0.03	5.00	9.00	0.28	152.10	151.22	27.75	0.0317	18	0.015	16.21	3.2	9.17	8.7	0.02	0.35	9.17	
EX. ST10	EX. ST50	0.510	0.60	0.31	0.34	5.14	8.94	3.01	151.19	151.00	63.97	0.0030	18	0.015	4.96	2.9	2.81	21.8	0.61	1.05	2.81	
15	EX. ST12	0.650	0.51	0.33	0.33	5.00	9.00	2.98	144.41	144.19	21.15	0.0104	15	0.015	5.71	4.7	4.65	4.5	0.52	1.00	4.65	
EX. ST12	EX. ST121	0.760	0.75	0.57	0.90	5.08	8.97	8.09	143.88	143.00	27.10	0.0325	18	0.015	16.41	9.1	9.28	3.0	0.49	0.98	9.28	
13A	13	0.110	0.85	0.09	0.09	5.00	9.00	0.84	144.70	144.40	10.89	0.0275	8	0.015	1.74	4.9	4.98	2.2	0.48	0.98	4.98	
13	EX. ST13	1.020	0.43	0.44	0.44	5.00	9.00	3.95	141.21	141.06	14.48	0.0104	18	0.015	9.27	5.0	5.24	2.9	0.43	0.94	5.24	
EX. ST13	EX. ST131	0.760	0.75	0.57	1.01	5.05	8.97	9.05	141.06	140.41	43.27	0.0150	18	0.015	11.16	7.0	6.31	6.2	0.81	1.11	6.31	

HGL COMPUTATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
							JUNCTION LOSS															
Inlet Str.	Outlet Water Surf Elev (ft)	Do (in)	Qo (cfs)	Lo (ft)	Sfo (%)	Hf (ft)	Vo (fps)	Ho (ft)	Qi (cfs)	Vi (fps)	QiVi	Vi^2 2g	Hi (ft)	Angle (deg)	Ha (ft)	Ht (ft)	1.3Ht (ft)	0.5Ht (ft)	Final H (ft)	Inlet Water Surf Elev (ft)	Rim Elev (ft)	Δ Freeboard (ft)
EX. ST2	177.20	18	3.61	26.50	0.16	0.04	5.4	0.11	3.62	2.3	8.16	0.08	0.03	0	0.00	0.14	0.00	0.07	0.11	177.31	182.00	4.69
EX. ST1	177.56	18	3.62	13.53	0.16	0.02	2.3	0.02	1.80	4.6	8.20	0.32	0.11	0	0.00	0.13	0.00	0.07	0.09	177.65	181.00	3.35
9	177.65	12	1.80	7.41	0.34	0.03	4.6	0.08	0.00	0.0	0.00	0.00	0.00	0	0.00	0.08	0.00	0.04	0.07	177.71	182.27	4.56
EX. ST4	167.51	18	6.15	26.75	0.46	0.12	5.8	0.13	4.77	10.3	49.15	1.65	0.58	0	0.00	0.71	0.00	0.35	0.48	167.99	173.00	5.01
EX. ST3	167.99	18	4.77	14.50	0.27	0.04	10.3	0.41	4.77	5.7	27.20	0.50	0.18	0	0.00	0.59	0.00	0.29	0.33	168.32	173.53	5.21
14	169.22	15	4.77	7.68	0.73	0.06	5.7	0.13	0.00	0.0	0.00	0.00	0.00	0	0.00	0.13	0.00	0.06	0.12	169.34	173.50	4.16
EX. ST10	152.20	18	3.01	63.97	0.11	0.07	2.9	0.03	0.28	3.2	0.90	0.16	0.06	45	0.00	0.09	0.00	0.04	0.11	152.31	155.00	2.69
12	152.39	18	0.28	27.75	0.00	0.00	3.2	0.04	0.00	0.0	0.00	0.00	0.00	18	0.00	0.04	0.00	0.02	0.02	152.41	158.90	6.49
EX. ST12	144.20	18	8.09	27.10	0.79	0.21	9.1	0.32	2.98	4.7	13.88	0.34	0.12	0	0.00	0.44	0.00	0.22	0.43	144.63	150.25	5.62
15	144.88	15	2.98	21.15	0.28	0.06	4.7	0.08	0.00	0.0	0.00	0.00	0.00	0	0.00	0.08	0.00	0.04	0.10	144.98	154.60	9.62
EX. ST13	141.61	18	9.05	43.27	0.99	0.43	7.0	0.19	3.95	5.0	19.55	0.38	0.13	0	0.00	0.32	0.00	0.16	0.59	142.20	147.66	5.46
13	142.26	18	3.95	14.48	0.19	0.03	5.0	0.10	0.84	4.9	4.12	0.37	0.13	121	0.00	0.23	0.00	0.11	0.14	142.40	147.53	5.13
13A	142.40	8	0.84	10.89	0.65	0.07	4.9	0.09	0.00	0.0	0.00	0.00	0.00	0	0.00	0.09	0.00	0.05	0.12	142.52	146.93	4.41

INLET COMPUTATION

Rainfall Intensity= 4

YARD INLET COMPUTATIONS

INLET NO.	AREA	C	INLET	Q TO INLET	PONDED DEPTH	% INTER-CEPTION	PICKUP Q	BYPASS Q	THROAT LENGTH	COMMENTS
9	0.57	0.35	YI-1	0.80	0.19	100	0.80	0	4'	1 THROAT
13	1.02	0.43	YI-1	1.75	0.31	100	1.75	0	4'	1 THROAT

Rainfall Intensity= 4

DROP INLET COMPUTATIONS

INLET NO.	AREA	C	INLET	Q TO INLET	Q/(P/2)	PONDED DEPTH	% INTER-CEPTION	PICKUP Q	BYPASS Q	TOP ELEV	50% BLOCKED ELEV (10 YR)	COMMENTS
14	1.36	0.39	DI-1	2.12	1.41	0.36	100	2.12	0	173.50	173.86	
12	0.08	0.39	DI-1	0.12	0.08	0.04	100	0.12	0	158.90	158.94	
15	0.65	0.51	DI-1	1.33	0.88	0.18	100	1.33	0	154.60	154.78	

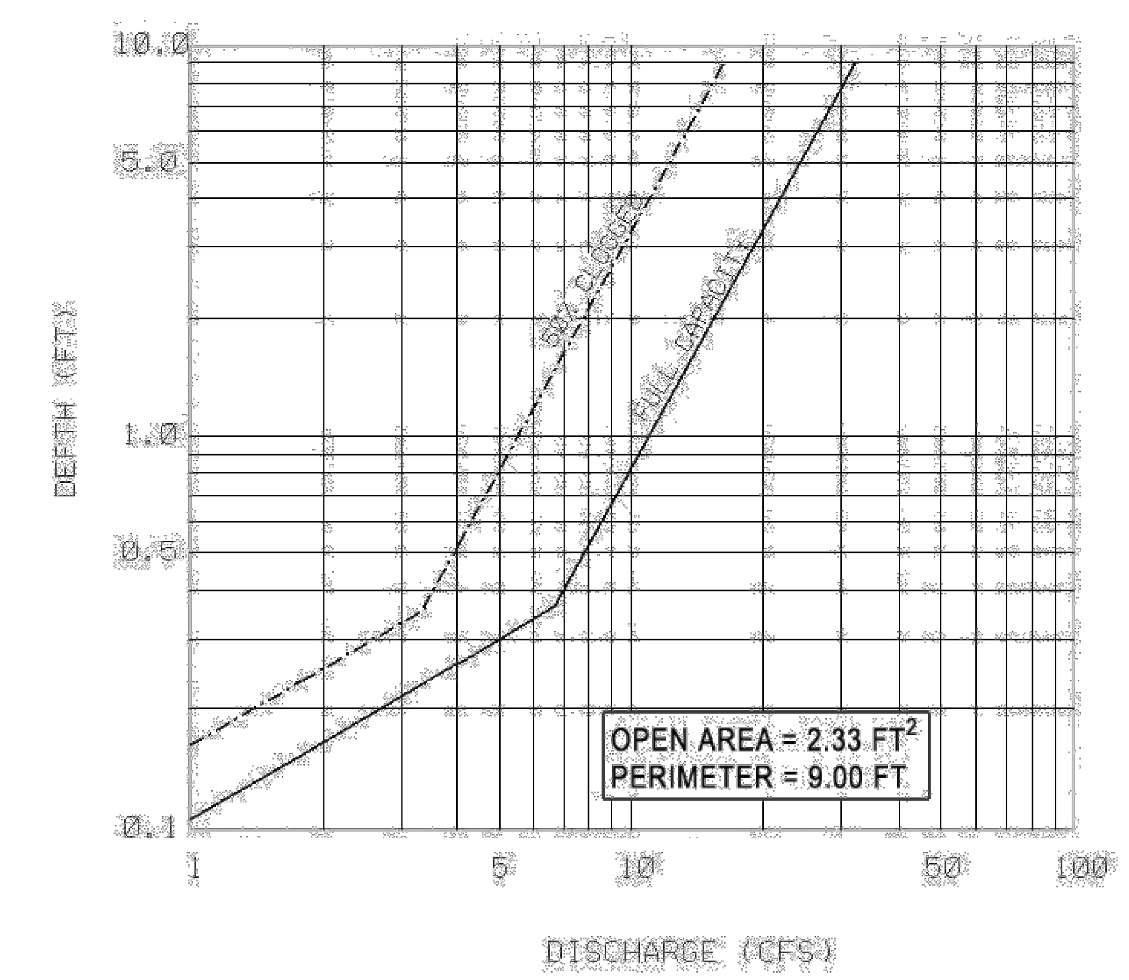
DRAINAGE REPORT NARRATIVE:

THE PROJECT CONSISTS OF APPROXIMATELY 1,400 LINEAR FEET OF 10' WIDE SHARED USE PATH. TO MEET SWM/BMP REQUIREMENTS, THE TRAIL UTILIZES LEVEL 1 PERMEABLE PAVEMENT. DUE TO THE NATURE OF THE PROJECT, POST DEVELOPMENT CONDITIONS HAVE HONORED AND MAINTAINED THE PRE DEVELOPMENT DRAINAGE DIVIDES OF WHICH EXISTING STORM INLETS AND PIPES ARE UTILIZED TO CONVEY POST DEVELOPMENT RUNOFF. ADDITIONAL INLETS ARE PROPOSED TO COLLECT POST DEVELOPMENT RUNOFF. POST DEVELOPMENT RUNOFF CALCULATIONS ARE SHOWN ON THIS SHEET. PER STORM CALCULATIONS, IT IS DETERMINED THAT THE EXISTING STORM DRAINAGE SYSTEM IS ADEQUATE TO HANDLE AND CONVEY DISCHARGES FROM POST DEVELOPMENT CONDITIONS. A NARRATIVE SUMMARY AND STORM WATER QUANTITY FOR THE SITE IS INCLUDED ON SHEETS C605-C608.

FOR TEMPORARY DRAINAGE DURING CONSTRUCTION OPERATIONS, THE SEQUENCE OF INLETS INSTALLATION AND IMPROVEMENTS IS SET TO PROVIDE ADEQUATE CAPTURE TO RUN OFF WITH THE USE OF SUPER SILT FENCE. REFER TO SEQUENCE OF CONSTRUCTION ON SHEETS C802.

Chapter 9 – Storm Drains

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



Source: VDOT Transportation Research Council publication "HYDRAULIC EFFICIENCY OF GRATE INLET", 1988

1 of 1 *VDOT Drainage Manual*

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

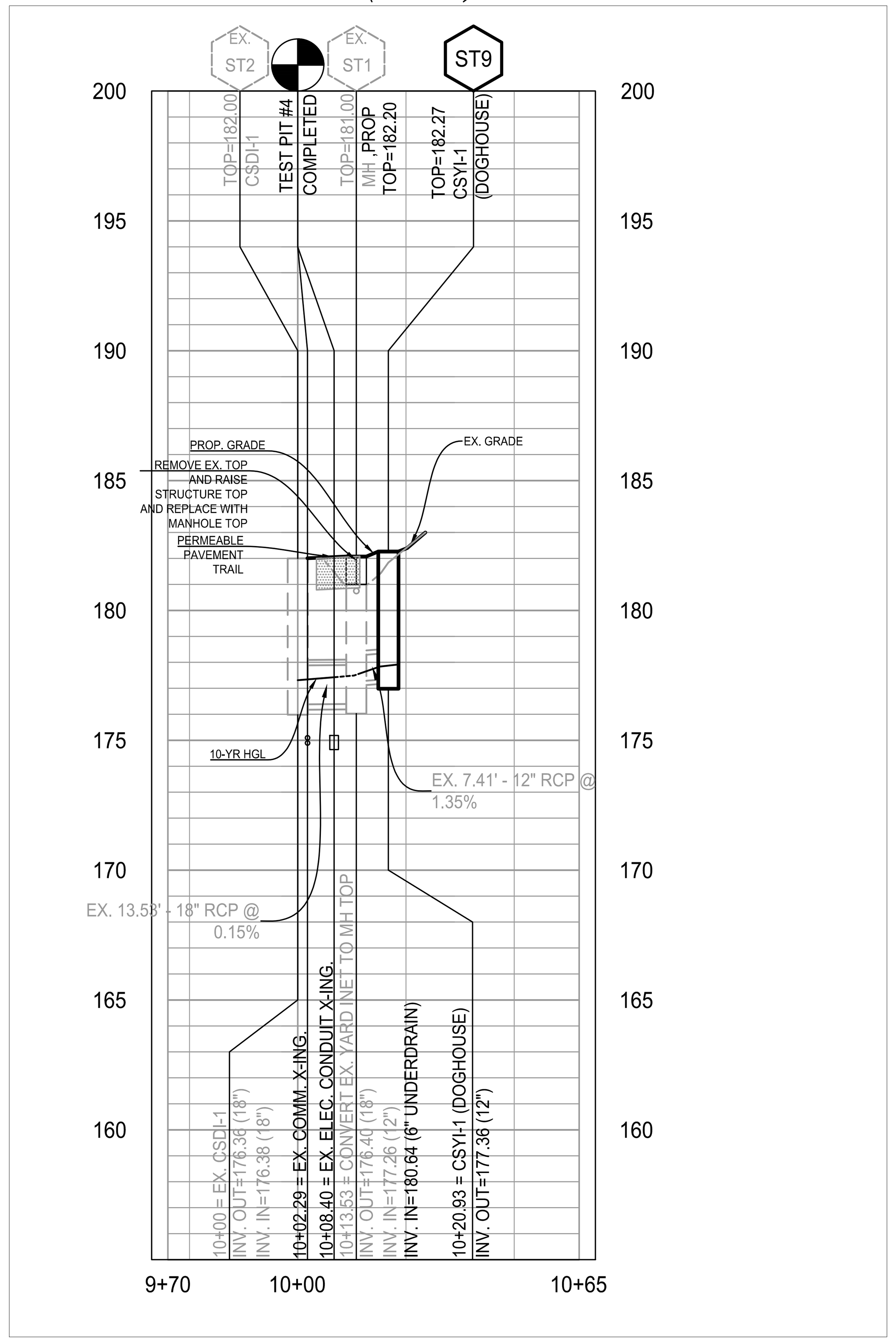
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

STORM SEWER COMPS

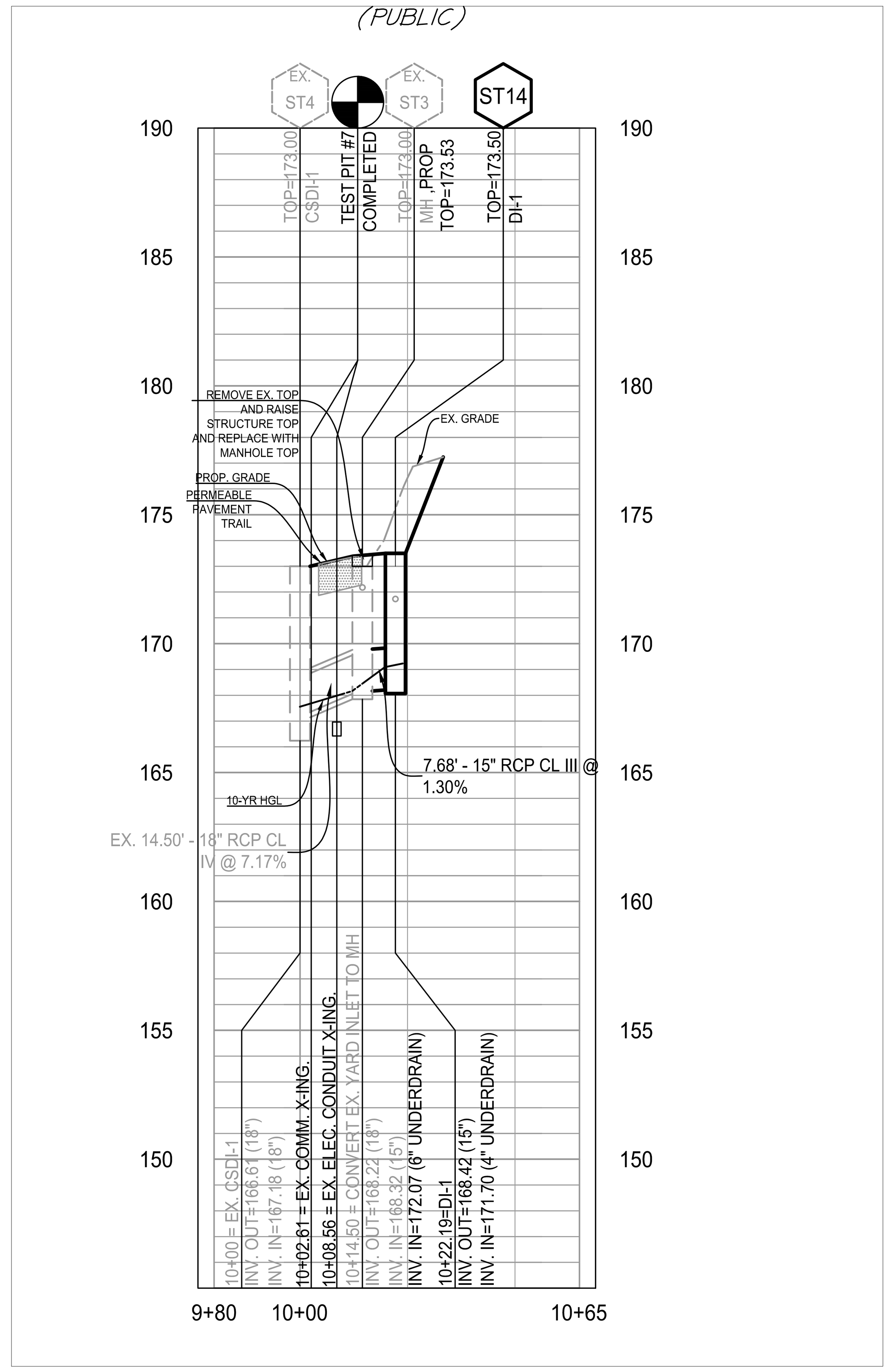
C650

P:\Projects\21266\00100\111333 – 60%\C650 STORM SEWER COMPS.dwg PLOTTED: 3/10/2022 8:27:02 AM BY FERAS ALNATOUR

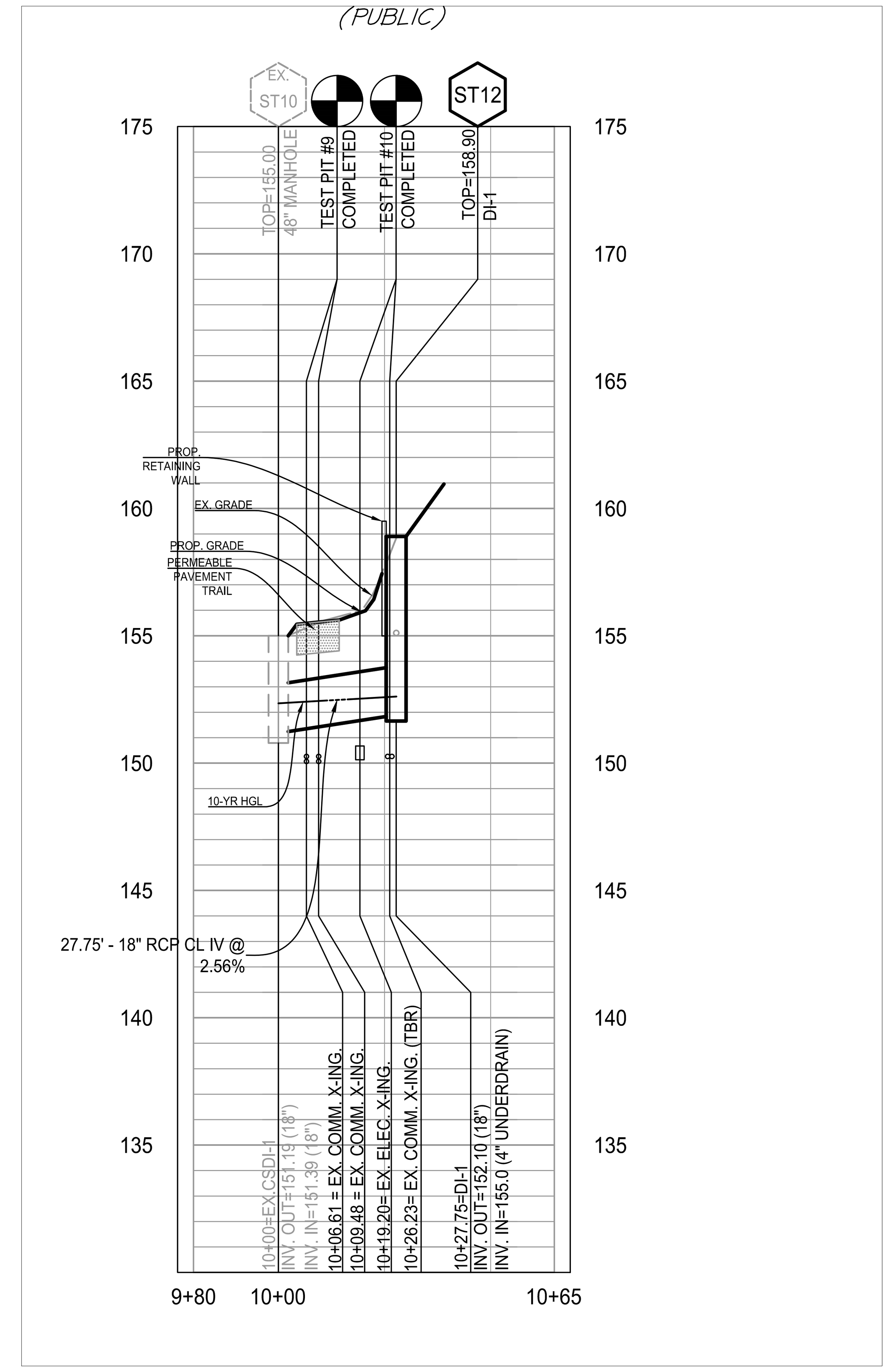
EX.ST2 - ST9 STORM PROFILE
HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



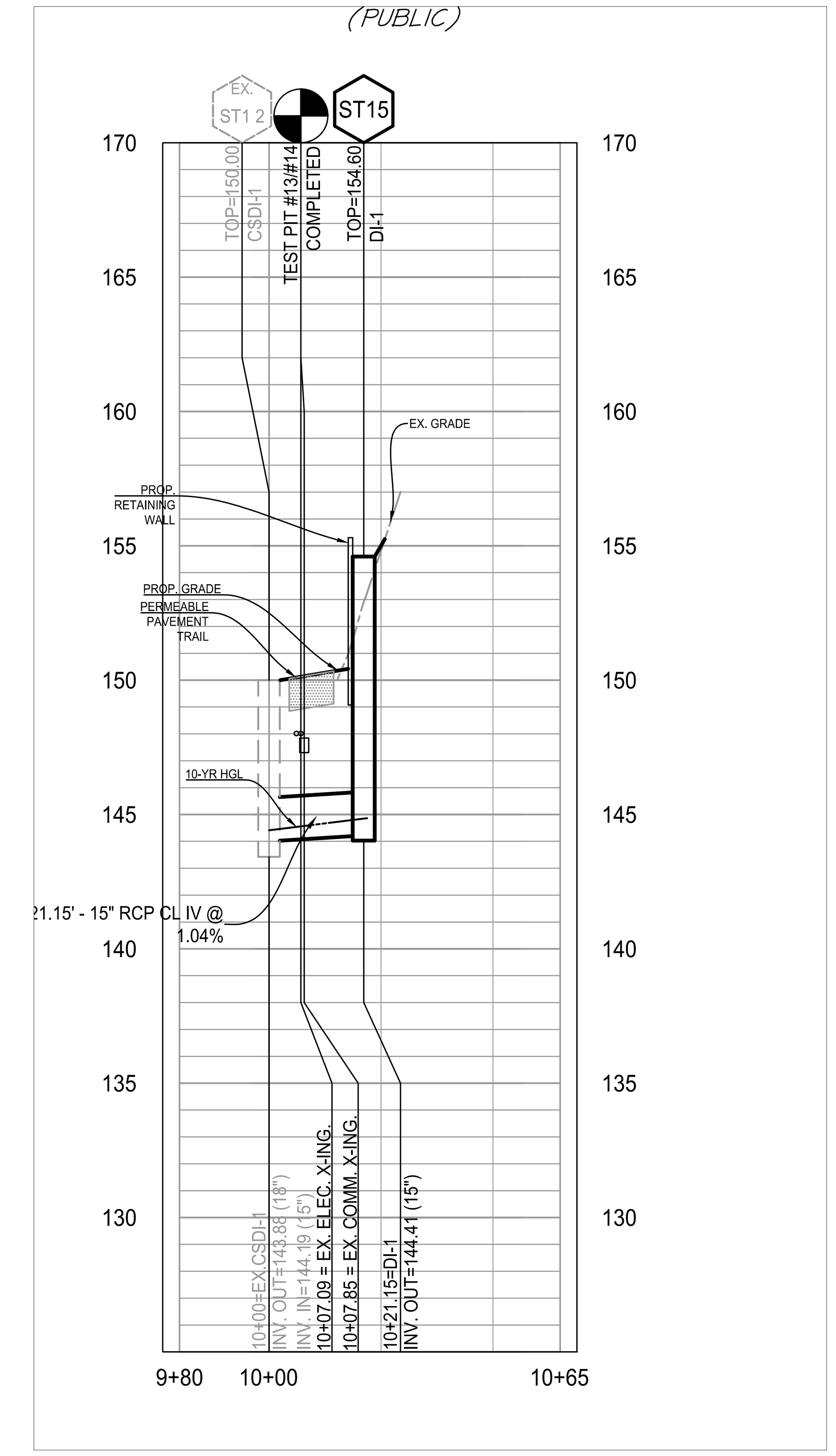
EX.ST4 - ST14 STORM PROFILE
HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



EX.ST10 - ST12 STORM PROFILE
HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



EX.ST12 - ST15 STORM PROFILE
HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



30 15 0 30 60
GRAPHIC SCALE
1" = 30'

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: DP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

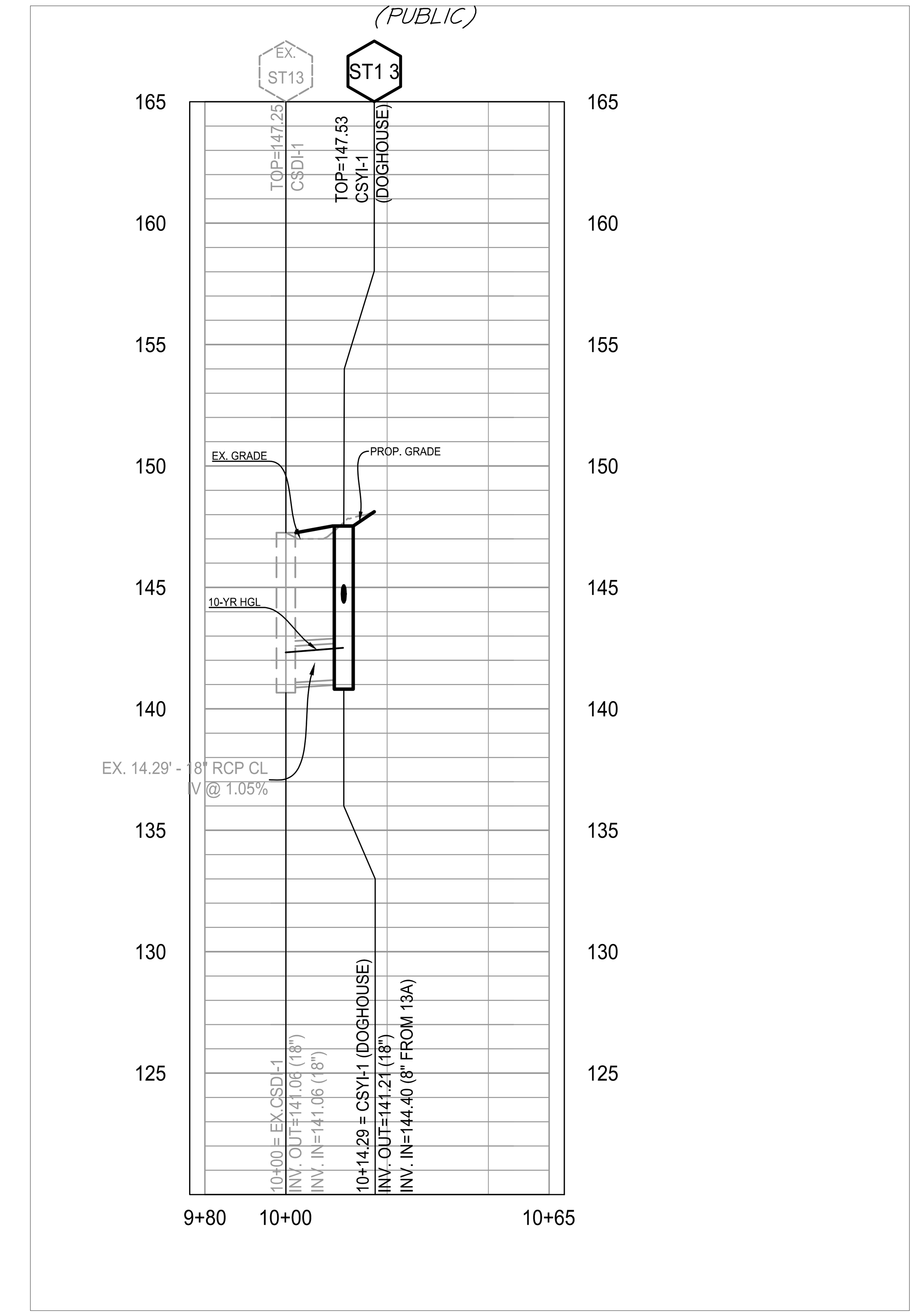
STORM SEWER PROFILES

C651

P:\Projects\21266\00100\111333 - 60%\C651 STORM SEWER PROFILES.dwg PLOTTED: 3/10/2022 8:27:11 AM BY FERAS ALNATOUR

EX.ST13 - ST13 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



30 15 0 30 60
GRAPHIC SCALE
1" = 30'

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

DATE	BY	REVISIONS DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

STORM SEWER PROFILES

C652

P:\Projects\21266\00100\111333 - 60%\C651 STORM SEWER PROFILES.dwg PLOTTED: 3/10/2022 8:27:12 AM BY FERAS ALNATOUR

TRANSPORTATION MANAGEMENT PLAN (TMP)

OVERALL PROJECT:

THE MAINTENANCE OF TRAFFIC (MOT) PLAN WILL ACCOMMODATE THE CONSTRUCTION ACTIVITIES FOR THE DEMOLITION OF EXISTING SIDEWALK AND PLACEMENT OF PERVIOUS PAVEMENT AS A SHARED USE PATH LOCATED ON THE SOUTH SIDE OF NORTH BEAUREGARD STREET (ROUTE 942) BETWEEN FILLMORE AVE AND BERKELEY ST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROJECT LANE CLOSURE INFORMATION ON LCAMS AND VaTraffic THROUGHOUT THE DURATION OF THE PROJECT. THE INFORMATION SHALL BE ENTERED INTO LCAMS AND VaTraffic NO LATER THAN WEDNESDAY WITH THE FOLLOWING WEEKS SCHEDULE.

THE MOT PLAN WILL BE IMPLEMENTED IN TWO PHASES.

SEE SHEET C701 FOR MAINTENANCE OF TRAFFIC PLAN.

NOTE:

1. THE SITE WORK AREA WILL REQUIRE TO FOLLOW TTC-16.1 REGULATIONS PER VIRGINIA WORK PROTECTION MANUAL.
2. THE DISTANCE BETWEEN SIGNS AND THE BEGINNING OF CHANNELIZING DEVICES SHOULD BE 350'-500' IN AREAS WHERE THE SPEED LIMIT IS 45 MPH OR LESS AND SPACING SHOULD BE 500'-800' IN AREAS WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH. THE POSTED SPEED LIMIT ON NORTH BEAUREGARD STREET NEAR THE PROJECT IS 35 MPH.

MAINTENANCE OF TRAFFIC NOTES

1. TRAFFIC CONTROL AND SAFETY MEASURES SHALL BE IN CONFORMANCE WITH THE FOLLOWING, AND THE LATEST REVISIONS THERETO:
   a) MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES.
   b) THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS.
   c) THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
   d) THE VIRGINIA WORK AREA PROTECTION MANUAL.
2. UNLESS OTHERWISE APPROVED OR DIRECTED BY THE VDOT INSPECTOR, THE CONTRACTOR SHALL PLAN AND EXECUTE THE WORK IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION.
3. THE SEQUENCE OF CONSTRUCTION AND MAINTENANCE OF TRAFFIC SHOW THE MAJOR TRAFFIC CONTROL AND THE SEQUENCING OF CONSTRUCTION. THE DAILY CONTROL OF TRAFFIC, INCLUDING THE PROVISION, PLACEMENT, MAINTENANCE, AND THE REMOVAL OF TRAFFIC DEVICES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE TRAFFIC CONTROL DEVICES REQUIRED ARE SHOWN ON THE PLAN AND THE IDENTIFIED FIGURES OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
4. ROAD DRUMS TO BE REMOVED FROM ROAD AND PLACED ON SHOULDER AFTER COMPLETION OF EACH DAYS WORK.
5. CONTRACTOR TO COORDINATE WITH VDOT PRIOR TO IMPLEMENTING PLAN AND ANY OTHER CONSTRUCTION ACTIVITY WITHIN RIGHT OF WAY.
6. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE II, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   MONDAY THROUGH SATURDAY FROM 7:00 AM TO 5:00 PM
   *NO WORK ON SUNDAYS IS PERMITTED. TFOR ALTERNATIVE WORK HOURS THE CONTRACTOR CAN CALL THE T&ES AT (703-746-4311) FOR REVIEW AND APPROVAL OF THE ALTERNATIVE WORK HOURS.

General Notes

1. *Temporary lane widths shall not be less than 11 feet.*
3. *Work operations which will restrict lane widths shall not be initiated until the DMV has been notified of the work operation and location in order for wideloads to be notified of the impending lane restrictions.*
4. *Measures shall be taken to ensure adequate sight distances during construction operations. Traffic Control Devices,signs,construction equipment,material storage or any other obstacle will not be allowed to interfere with sight distances at entrance ramps for this project.*
5. *Equipment and/or materials shall not be stored within the established Clear Zone of either the North or Southbound lanes,and/or the deflection zone of physical barriers.*
6. *All traffic control devices and signs necessary for the maintenance of traffic are to be installed,maintained and removed by the Contractor.*
7. *All traffic control device locations shall be marked by the Contractor and reviewed by the Engineer prior to installation.*
8. *All sketches and drawings are not to scale and shall be used for reference only.*
9. *All work shall be accomplished in accordance with the* 2011 edition as revised November 1,2020 *Work Area Protection Manual*
10. *The travel lane and approaches for each Stage of construction shall not be milled until traffic has been switched to the following phase.*
11. *All conflicting pavement markings and raised snowplowable pavement markers shall be covered using Construction Pavement Marking Type E 6"*

Lane Closures will not be permitted for the following events / holidays:

- **January 1:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Martin Luther King, Jr. Day and Lee Jackson Day*:** From Noon on the preceding Thursday to Noon on the following Tuesday.
- **Presidents Day*:** As indicated below.
- **Easter*:** As indicated below.
- **Memorial Day:** As indicated below.
- **July 4:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Labor Day:** As indicated below.
- **Columbus Day*:** As indicated below.
- **Veterans Day*:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Thanksgiving Day:** From Noon on the Wednesday proceeding Thanksgiving Day until Noon on the Monday following Thanksgiving Day.
- **Christmas Day:** From Noon on the preceding day until Noon on the following day, except as indicated below.

If the Holiday occurs on a Friday or Saturday: From Noon on the preceding Thursday to Noon on the following Monday.
If the Holiday occurs on a Sunday or Monday: From Noon on the preceding Friday to Noon on the following Tuesday.

ADVANCED WORK ZONE TRAFFIC CONTROL TRAINING CERTIFICATION
NAME: MOUSTAFA QADDORA
VERIFICATION NO. 080219112
EXPIRATION DATE: 08/31/2023

THIS SHEET IS FOR MAINTENANCE OF TRAFFIC INFORMATION ONLY !!!

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

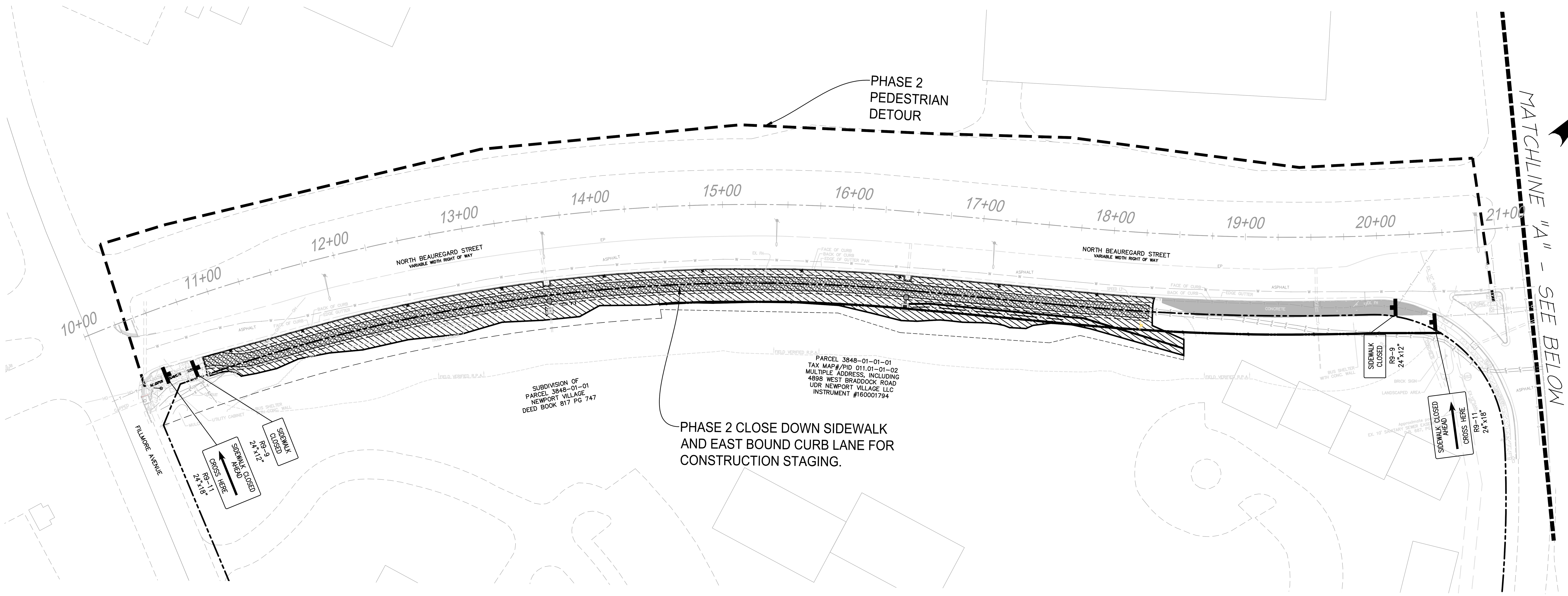
DATE	BY	DESCRIPTION

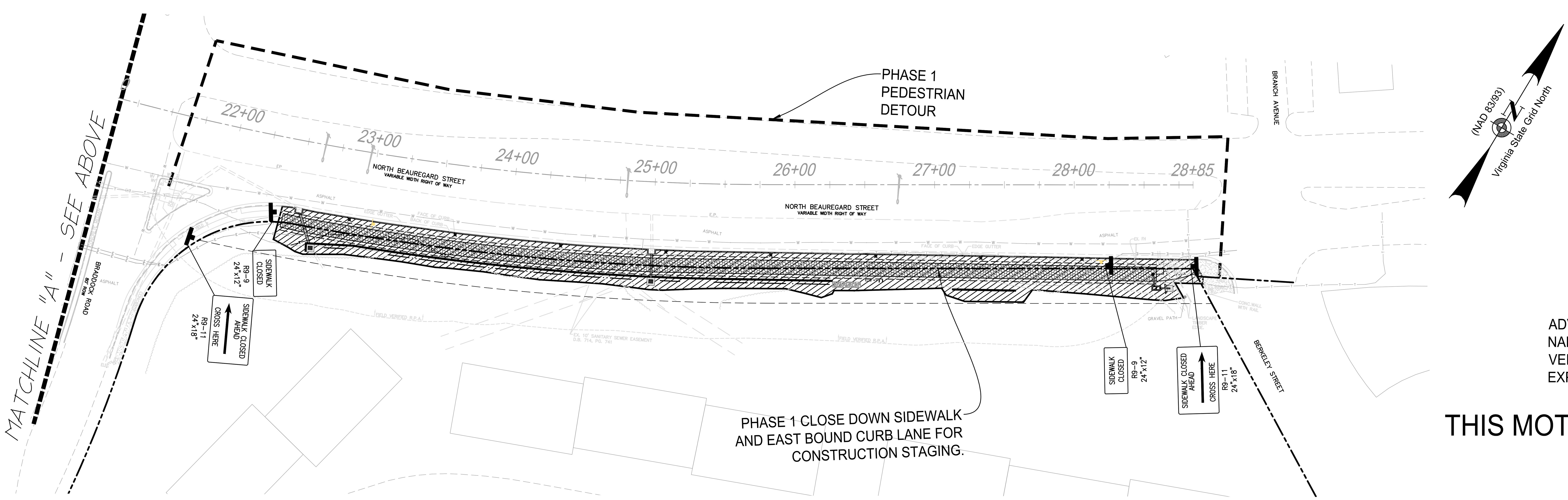
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

TRAFFIC MANAGEMENT PLAN (TMP)

C700





NOTE:

1. SEE SHEET C702 FOR TYPICAL TRAFFIC CONTROL OUTSIDE LANE CLOSURE OPERATION ON A FOUR-LANE ROADWAY (FIGURE TTC-16.1).
2. SIDEWALK CLOSURES ARE SUBJECT TO SEPARATE APPROVAL FROM TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) AT THE TIME OF PERMIT APPLICATION. PER MEMO TO INDUSTRY #04-18, PEDESTRIANS SHALL NOT BE DIVERTED ACROSS THE STREET WITHOUT THE APPROVAL FROM THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES OR HIS DESIGNEE.
3.
4. CONTRACTOR SHALL APPLY FOR ALL NECESSARY PERMITS FOR USES OF THE CITY RIGHT OF WAY AND SHALL SUBMIT MOT PLANS WITH THE T&ES APPLICATION FOR FINAL APPROVAL AT THAT TIME.

TRAFFIC CONTROL AND PHASING NARRATIVE:

THE CONSTRUCTION OF THIS PROJECT WILL BE BROKEN UP TO 2 DIFFERENT PHASES:

PHASE 1: CONSTRUCTION OF THIS PHASE IS BETWEEN BRADDOCK ROAD AND BERKELEY STREET. THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF THE STREET WILL BE CLOSED AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE SIDEWALK ON THE NORTH SIDE OF THE STREET. A PORTION OF THE EAST BOUND TRAVEL LANE ADJACENT TO THE CURB WILL BE CLOSED DOWN DURING WORK HOURS TO ALLOW FOR AN AREA FOR THE CONTRACTOR TO USE FOR STAGING PURPOSES.

PHASE 2: CONSTRUCTION OF THIS PHASE IS BETWEEN BRADDOCK ROAD AND FILLMORE STREET. THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF THE STREET WILL BE CLOSED AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE SIDEWALK ON THE NORTH SIDE OF THE STREET. A PORTION OF THE EAST BOUND TRAVEL LANE ADJACENT TO THE CURB WILL BE CLOSED DOWN DURING WORK HOURS TO ALLOW FOR AN AREA FOR THE CONTRACTOR TO USE FOR STAGING PURPOSES.

PEDESTRIAN DETOUR NARRATIVE:

PHASE 1: THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF N. BEAUREGARD STREET WILL BE CLOSED FROM W. BRADDOCK ROAD TO BERKELEY STREET AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE 5' WIDE SIDEWALK ON THE NORTH SIDE OF N. BEAUREGARD STREET. PEDESTRIAN PATH DETOUR INCLUDES CROSSING SIGNS FOR WEST AND EAST BOUND TO CROSS NORTH AT THE BERKELEY AND N. BEAUREGARD STREET INTERSECTION AND W. BRADDOCK ROAD AND N. BEAUREGARD STREET INTERSECTION.

PHASE 2: THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF N. BEAUREGARD STREET WILL BE CLOSED FROM FILLMORE AVENUE TO W. BRADDOCK ROAD AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE 5' WIDE SIDEWALK ON THE NORTH SIDE OF N. BEAUREGARD STREET. PEDESTRIAN PATH DETOUR INCLUDES CROSSING SIGNS FOR WEST AND EAST BOUND TO CROSS NORTH AT THE BERKELEY AND N. BEAUREGARD STREET INTERSECTION AND W. BRADDOCK ROAD AND N. BEAUREGARD STREET INTERSECTION.

ADVANCED WORK ZONE TRAFFIC CONTROL TRAINING CERTIFICATION
NAME: MOUSTAFA QADDORA
VERIFICATION NO. 080219112
EXPIRATION DATE: 08/31/2023

THIS MOT PLAN IS FOR INFORMATION ONLY!!!

GRAPHIC SCALE
50 25 0 50 100
1" = 50'

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA VIRGINIA

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

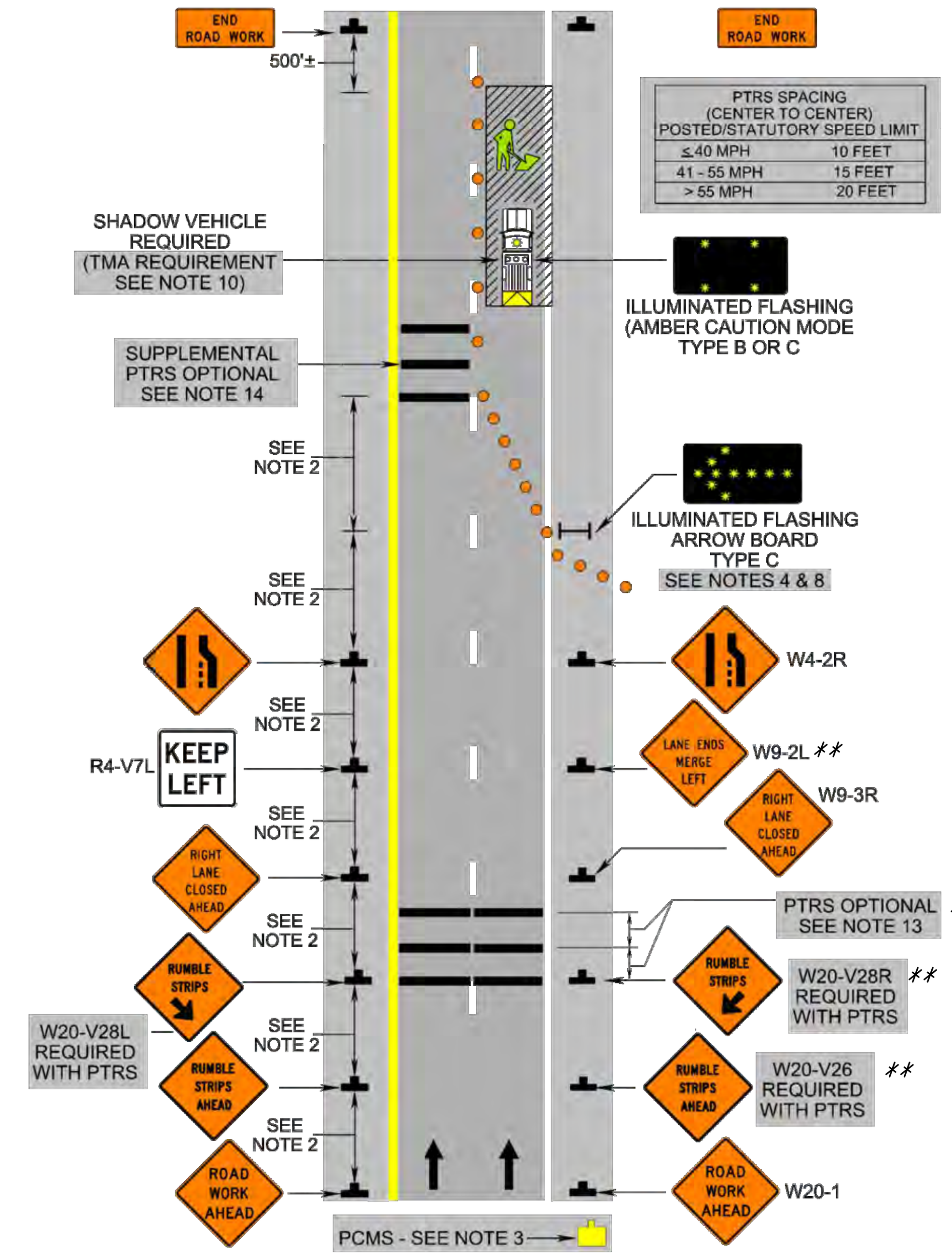
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

TRAFFIC CONTROL PLAN

C701

P:\Projects\21266\00100\111333 - 60%\C701 CONCEPTUAL TRAFFIC CONTROL PLAN.dwg PLOTTED: 3/10/2022 8:27:23 AM BY FERAS ALNATOUR

Outside Lane Closure Operation on a Four-Lane Roadway
(Figure TTC-16.2)



2: Revision 2 – 9/1/2019

** NOT PROPOSED WITH THIS TRAFFIC CONTROL PLAN

Typical Traffic Control
Outside Lane Closure Operation on a Four-Lane Roadway
(Figure TTC-16.2)
NOTES

Standard:

1. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**

Guidance:

2. *Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*
3. *When closing a lane, a PCMS should be used in advance of the first warning sign if all of the left side signs cannot be installed.*[2]
4. *Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. For Limited Access highways a minimum of 1000' is desired.*
5. *All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.*

Standard:

6. **Taper length (L) and channelizing device spacing shall be at the following:**

Taper Length L												
Speed Limit (mph)	Lane Width (Feet)				Remarks		Speed Limit (mph)	Lane Width (Feet)				Remarks
	9	10	11	12				9	10	11	12	
25	95	105	115	125	$L=S^2W/60$		50	450	500	550	600	L=SW
30	135	150	165	180	$L=S^2W/60$		55	495	550	605	660	L= SW
35	185	205	225	245	$L=S^2W/60$		60	540	600	660	720	L=SW
40	240	270	295	320	$L=S^2W/60$		65	585	650	715	780	L=SW
45	405	450	495	540	L=SW		70	630	700	770	840	L=SW
Limited Access highways shall use a 1000' merging taper regardless of the posted speed.												
Shifting Tapers see Table 6H-2.[2]							Shoulder Taper = ⅓ L Minimum					

7. **Channelizing device spacing shall be at the following:**

Channelizing Device Spacing								
Location Spacing	Speed Limit (mph)		Location Spacing	Speed Limit (mph)		Location Spacing	Speed Limit (mph)	
	0 -35	36 +		0 -35	36 +		0 -35	36 +
Transition	20'	40'	Travelway	40'	80'	* Construction Access	80'	120'
*Construction access spacing may be increased to this distance, but shall not exceed one access per ¼ mile.								

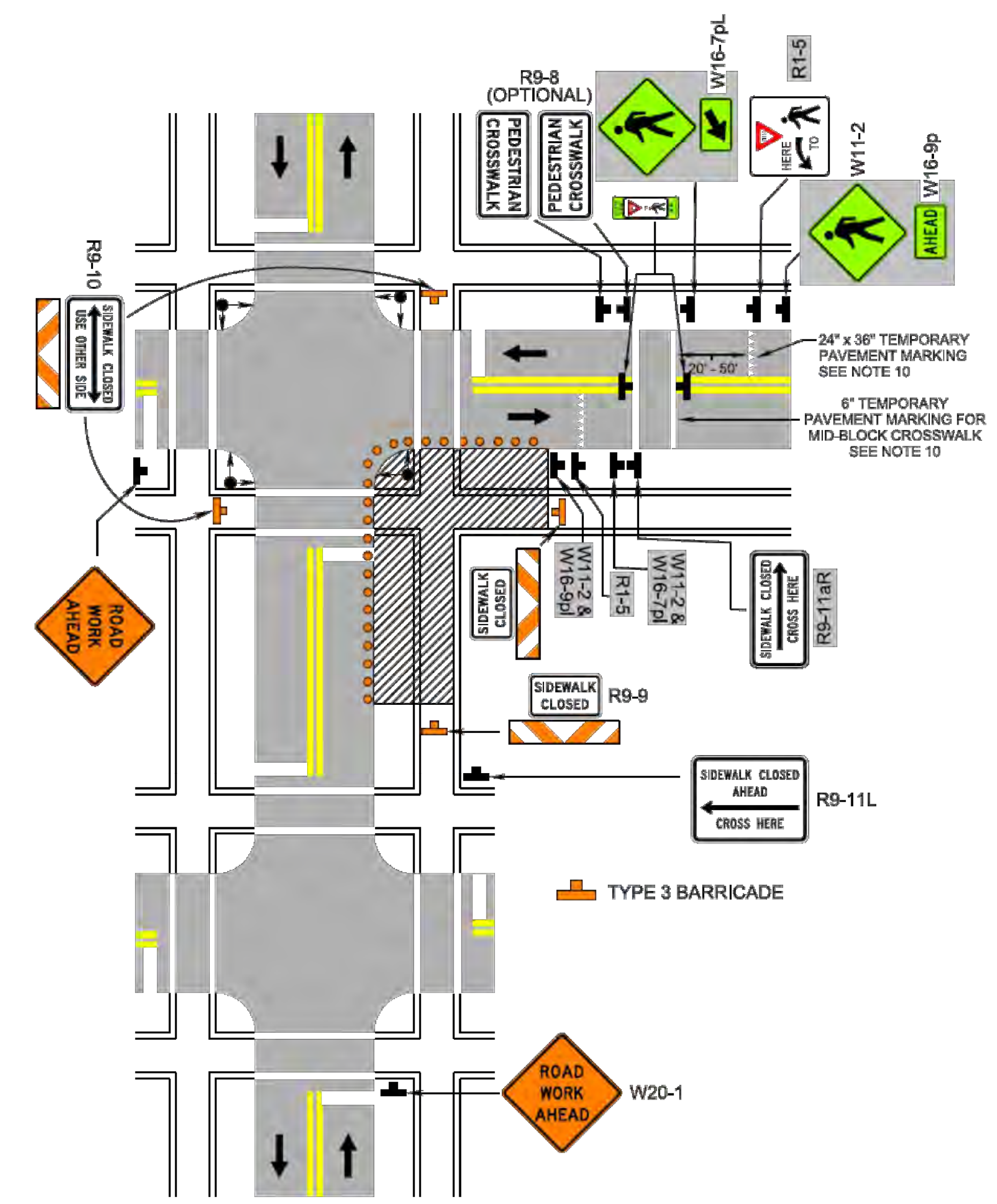
8. **An arrow board shall be used when a lane is closed. When more than one lane is closed, a separate arrow board shall be used for each closed lane (see Figure TTC-18).**
9. **The buffer space length shall be shown in Table 6H-3 on Page 6H-5 for the posted speed limit.**
10. **A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or at least one high intensity amber rotating, flashing, or[1] oscillating light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truck-mounted attenuator shall be used.**
11. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or[1] oscillating lights but can be used to supplement the amber rotating, flashing, or[1] oscillating lights.**
12. **When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.**

Option:[2]

13. PTRS and their supporting signs may be used, see Sections 6F.99 and 6G.25. Long-term transverse rumble strips may be used in long-term situations, see Section 6F.99 and TTC-20.[2]
14. The supplemental PTRS may be eliminated.[2]

1: Revision 1 – 4/1/2015
2: Revision 2 – 9/1/2019

Crosswalk Closure and Pedestrian Detour Operation
(Figure TTC-36.2)



1: Revision 1 – 4/1/2015
2: Revision 2 – 7/1/2018

Typical Traffic Control
Work Operation in the Vicinity of an Exit Ramp
(Figure TTC-37.2)
NOTES

Guidance:

1. *Sign spacing distance should be 1300'-1500' for Limited Access highways, and on all other roadways 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*
2. *When closing a lane, a PCMS should be used in advance of the first warning sign if all of the left side signs cannot be installed.*[2]
3. *When flaggers are used, care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.*

Standard:

4. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**
5. **A temporary EXIT (E5-V1) sign shall be located in the temporary gore. For better visibility, the EXIT, EXIT OPEN (E5-2) and EXIT CLOSED (E5-2a) signs[1] shall be mounted a minimum of 7 feet from the pavement surface to the bottom of the sign. The EXIT OPEN or the EXIT CLOSED sign shall be installed 500 feet in advance of the ramp's taper.[2]**
6. **Taper length (L) shall be installed in accordance to Table 6H-2.[2]**
7. **The minimum distance between the end of the taper and the beginning of the off ramp shall be 1000'.[2]**
8. **Channelizing device spacing shall be installed in accordance to Table 6H-4. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.[2]**
9. **In stationary lane closures, the right side exit ramps drums shall be used on the left side taper (L) starting at the work zone's gore and extending down the ramp. On left side exit ramps, drums shall be used on the right side taper (L) starting at the work zone's gore and extending down the ramp. Cones shall be used on the opposite side of the taper.[2]**
10. **For long term stationary operations, pavement markers and 8 inch pavement markings shall be installed to provide clear guidance to motorists exiting the highway. Pavement markers and pavement markings shall be installed in accordance to Section 1300 of the the Road and Bridge Standards.[2]**
11. **A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or equipped with at least one high intensity amber[1] rotating, oscillating, or flashing[1] light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truck-mounted attenuator shall be used.**

Guidance:

12. *The guide signs should indicate that the ramp is open, and where the temporary ramp is located. However, if the ramp is closed, guide signs should indicate that the ramp is closed.*
13. *When the exit ramp is closed, a black on orange EXIT CLOSED (E5-2a) sign should be placed diagonally across the interchange/intersection guide signs.*
14. *An END ROAD WORK (G20-2 (V)) sign should be placed 500' past the temporary traffic control devices on the off ramp.*

Option:

15. The temporary EXIT sign placed in the temporary gore may be either black on orange or white on green.
16. An alternative procedure that may be used is to channelize exiting vehicular traffic onto the right-hand shoulder and close the lane as necessary.

1: Revision 1 – 4/1/2015
2: Revision 2 – 9/1/2019

THIS MOT PLAN IS FOR INFORMATION ONLY!!!

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE BY DESCRIPTION

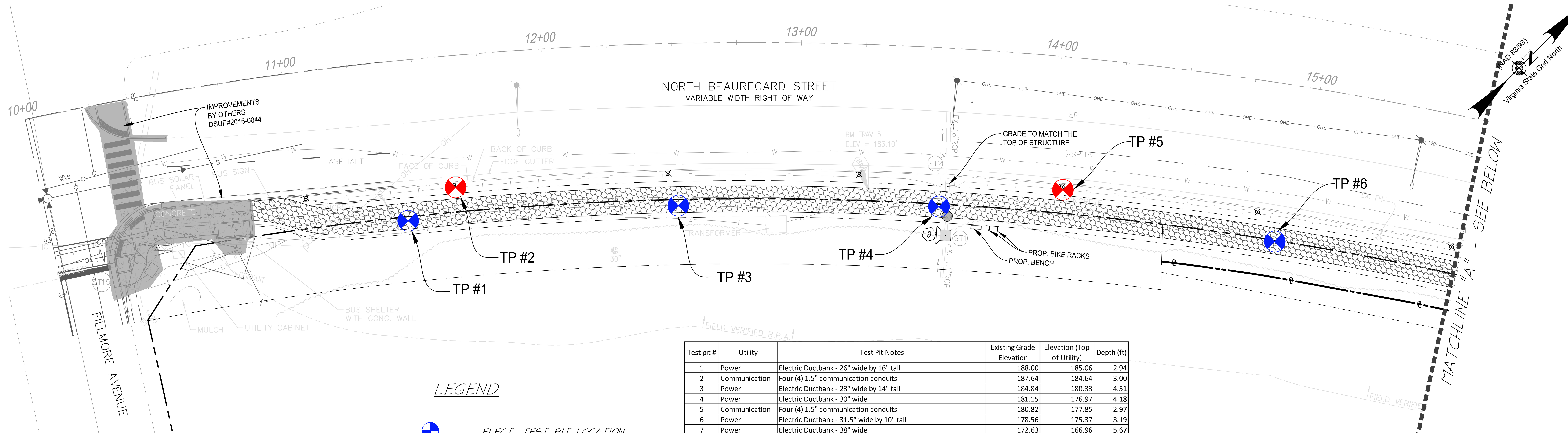
ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TRAFFIC CONTROL PLAN

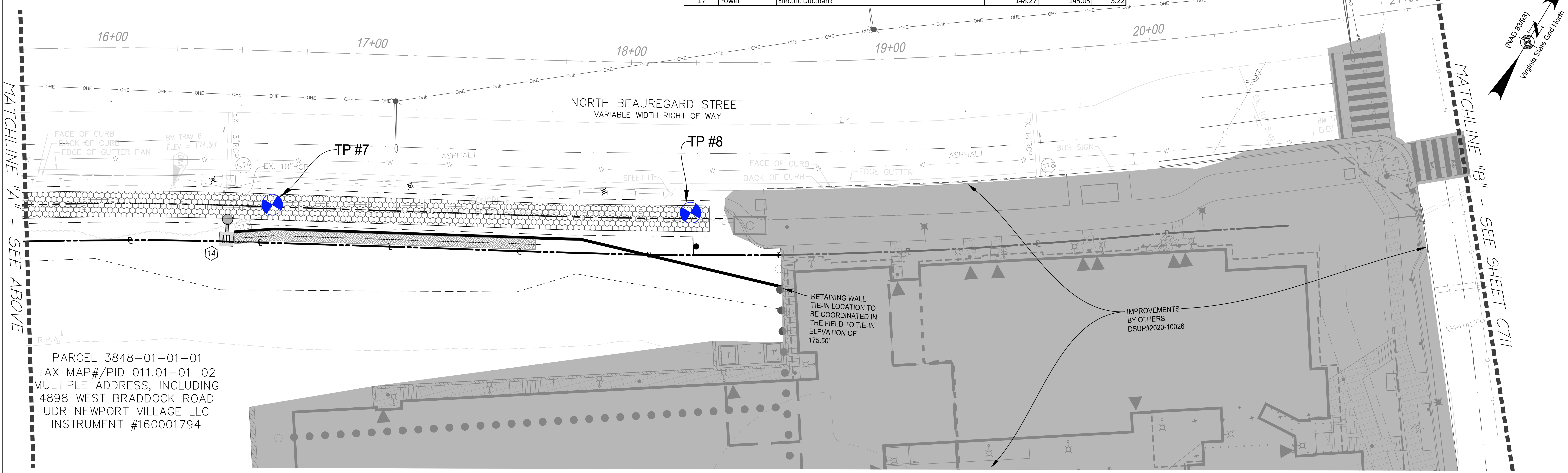
C702



LEGEND

(blue/white symbol)	ELECT. TEST PIT LOCATION
(red/white symbol)	TELE/COMM. TEST PIT LOCATION
TP #1	TEST PIT NUMBER

Test pit #	Utility	Test Pit Notes	Existing Grade Elevation	Elevation (Top of Utility)	Depth (ft)
1	Power	Electric Ductbank - 26" wide by 16" tall	188.00	185.06	2.94
2	Communication	Four (4) 1.5" communication conduits	187.64	184.64	3.00
3	Power	Electric Ductbank - 23" wide by 14" tall	184.84	180.33	4.51
4	Power	Electric Ductbank - 30" wide.	181.15	176.97	4.18
5	Communication	Four (4) 1.5" communication conduits	180.82	177.85	2.97
6	Power	Electric Ductbank - 31.5" wide by 10" tall	178.56	175.37	3.19
7	Power	Electric Ductbank - 38" wide	172.63	166.96	5.67
8	Power	Electric Ductbank	168.41	164.90	3.51
9	Communication	Four (4) 1.5" communication conduits	155.23	150.62	4.61
10	Power	Electric Ductbank - 38" wide. Additional two 6.5" unkown plastic conduits were located	155.88	151.85	4.03
11	Power	Electric Ductbank - 24" wide. Additional One 6" unkown corrugated plastic line was located	152.17	149.39	2.78
12	Communication	Three (3) 2.5" communication conduits	152.73	149.47	3.26
13	Power	Electric Ductbank	150.26	143.76	6.50
14	Communication	Three (3) 2.5" communication conduits	150.31	148.18	2.13
15	Power	Electric Ductbank - 38" wide.	149.63	146.34	3.29
16	Power	Electric Ductbank	148.81	145.32	3.49
17	Power	Electric Ductbank	148.27	145.05	3.22



20 10 0 20 40
GRAPHIC SCALE
1" = 20'

P:\Projects\21266\00100\111333 - 60%\C711 TEST PIT LOCATIONS PLAN.dwg PLOTTED: 3/10/2022 8:27:52 AM BY FERAS ALNATOUR

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

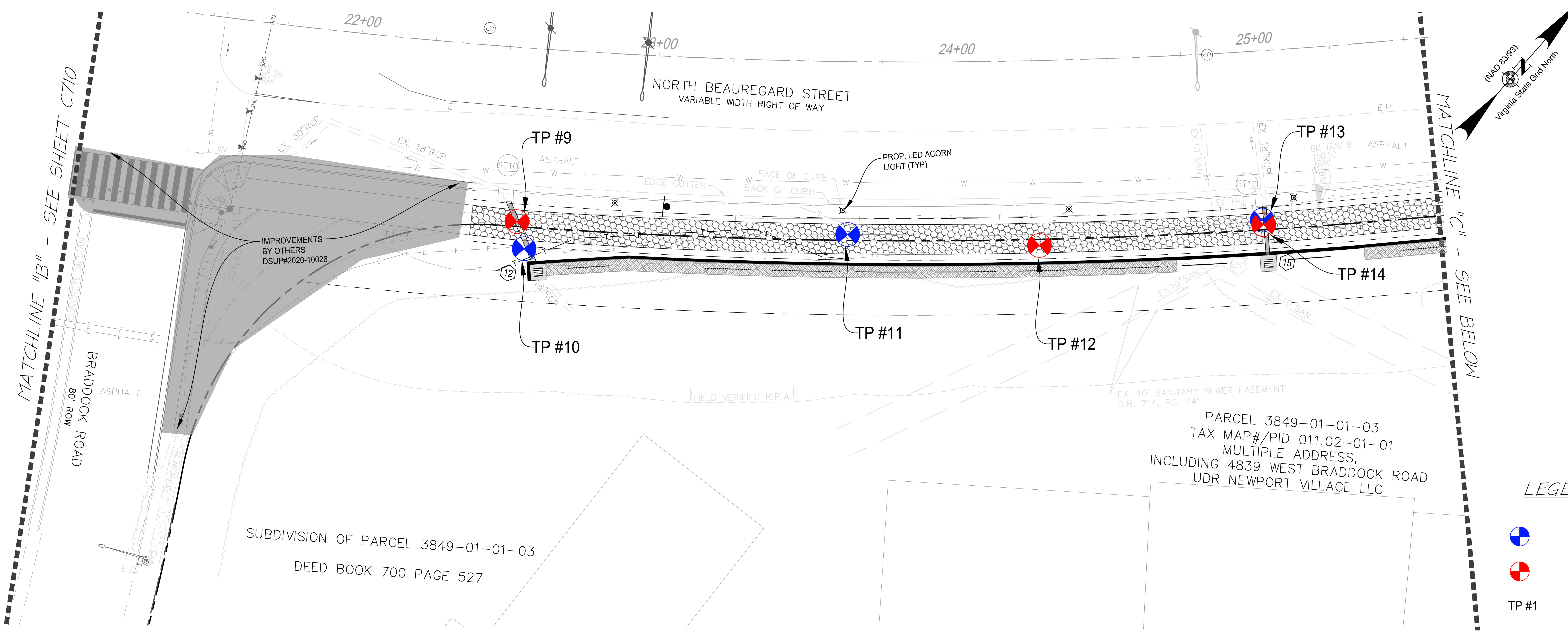
ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TEST PIT LOCATION PLAN

C710

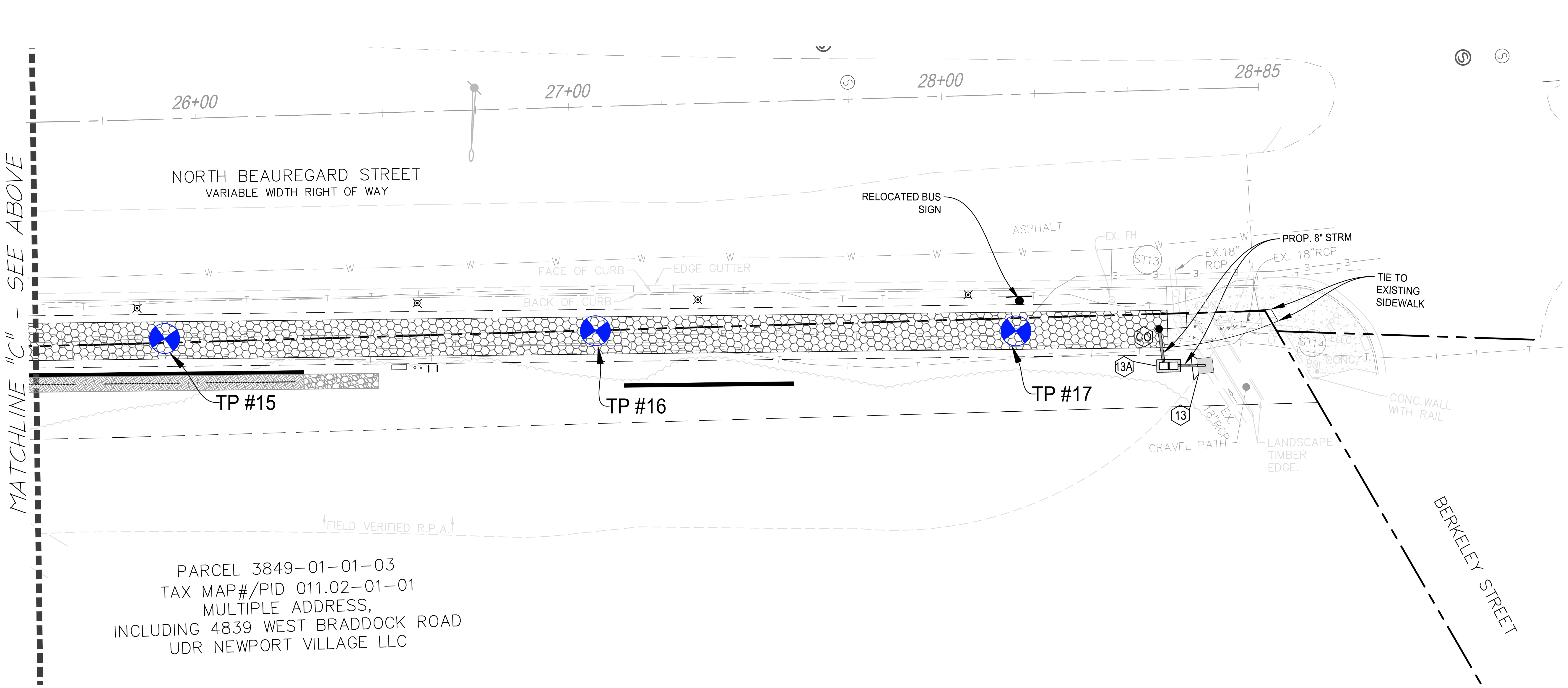


LEGEND

ELECT. TEST PIT LOCATION

TELE/COMM. TEST PIT LOCATION

TP #1 TEST PIT NUMBER



Test pit #	Utility	Test Pit Notes	Existing Grade Elevation	Elevation (Top of Utility)	Depth (ft)
1	Power	Electric Ductbank - 26" wide by 16" tall	188.00	185.06	2.94
2	Communication	Four (4) 1.5" communication conduits	187.64	184.64	3.00
3	Power	Electric Ductbank - 23" wide by 14" tall	184.84	180.33	4.51
4	Power	Electric Ductbank - 30" wide.	181.15	176.97	4.18
5	Communication	Four (4) 1.5" communication conduits	180.82	177.85	2.97
6	Power	Electric Ductbank - 31.5" wide by 10" tall	178.56	175.37	3.19
7	Power	Electric Ductbank - 38" wide	172.63	166.96	5.67
8	Power	Electric Ductbank	168.41	164.90	3.51
9	Communication	Four (4) 1.5" communication conduits	155.23	150.62	4.61
10	Power	Electric Ductbank - 38" wide. Additional two 6.5" unkown plastic conduits were located	155.88	151.85	4.03
11	Power	Electric Ductbank - 24" wide. Additional One 6" unkown corrugated plastic line was located	152.17	149.39	2.78
12	Communication	Three (3) 2.5" communication conduits	152.73	149.47	3.26
13	Power	Electric Ductbank	150.26	143.76	6.50
14	Communication	Three (3) 2.5" communication conduits	150.31	148.18	2.13
15	Power	Electric Ductbank - 38" wide.	149.63	146.34	3.29
16	Power	Electric Ductbank	148.81	145.32	3.49
17	Power	Electric Ductbank	148.27	145.05	3.22

GRAPHIC SCALE
1" = 20'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE | BY | DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

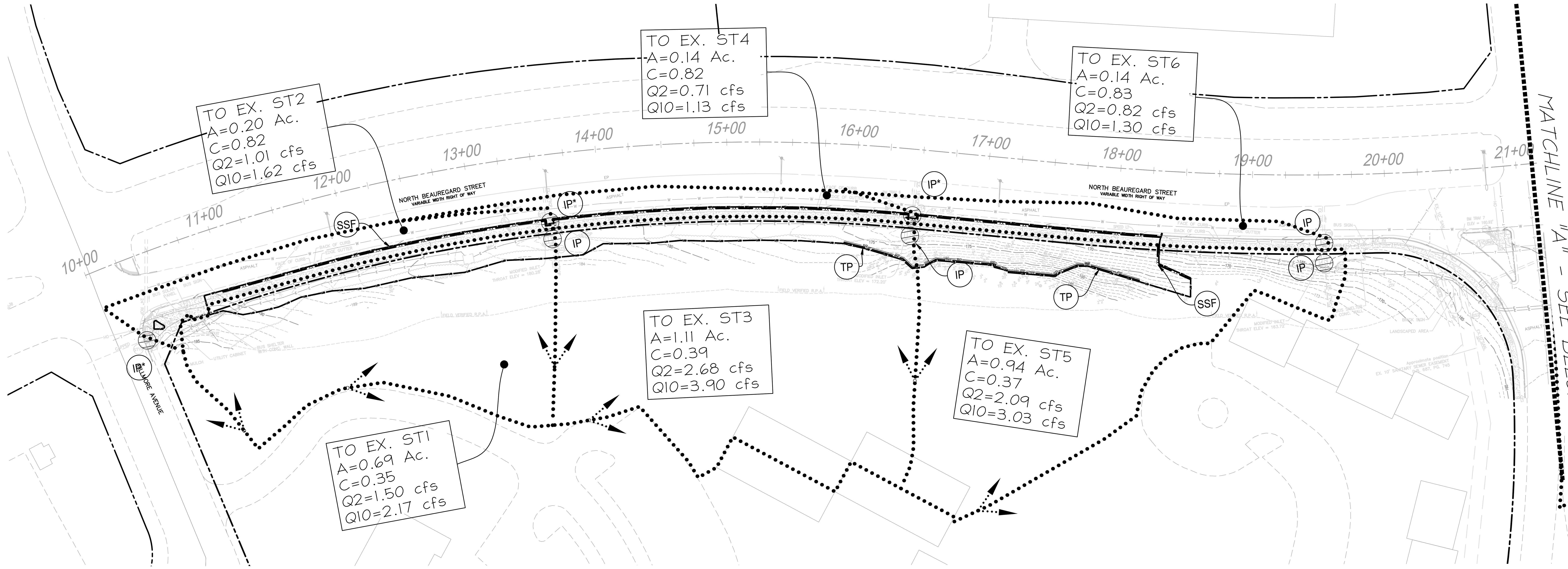
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

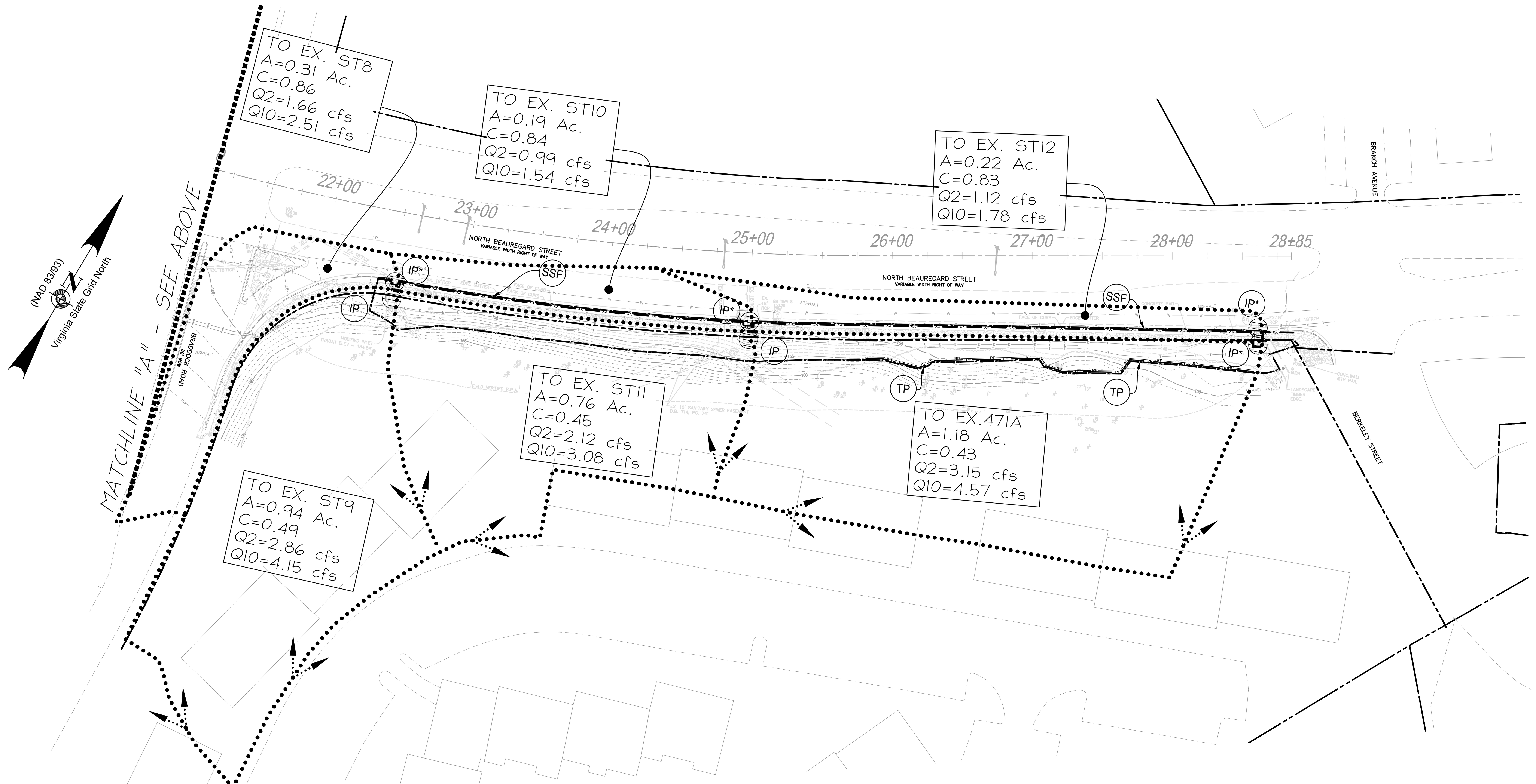
TEST PIT LOCATION PLAN

C711

P:\Projects\21266\00100\111333 - 60%\C711 TEST PIT LOCATIONS PLAN.dwg PLOTTED: 3/10/2022 8:27:58 AM BY FERAS ALNATOUR

TOTAL DISTURBED AREA = 38,554 SF OR 0.89 AC





ARCHAEOLOGY NOTES

1. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
2. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

NOTES:

1. A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE AND RIGHT OF WAY (IROW) PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE LATEST EDITION OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK".
3. ADDITIONAL EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED, IF DIRECTED BY THE T&ES INSPECTOR.

EROSION/SEDIMENT CONTROL LEGEND

IP	INLET PROTECTION, SPEC 3.07
IP*	INLET PROTECTION, SPEC 3.07 GUTTER GATOR
XX / SSF	SUPER SILT FENCE
	DRAINAGE DIVIDE
LOD	LIMITS OF DISTURBANCE
	TREE PROTECTION FENCING, SPEC 3.38
	ROOT PRUNING

50 25 0 50 100
GRAPHIC SCALE
1" = 50'

60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

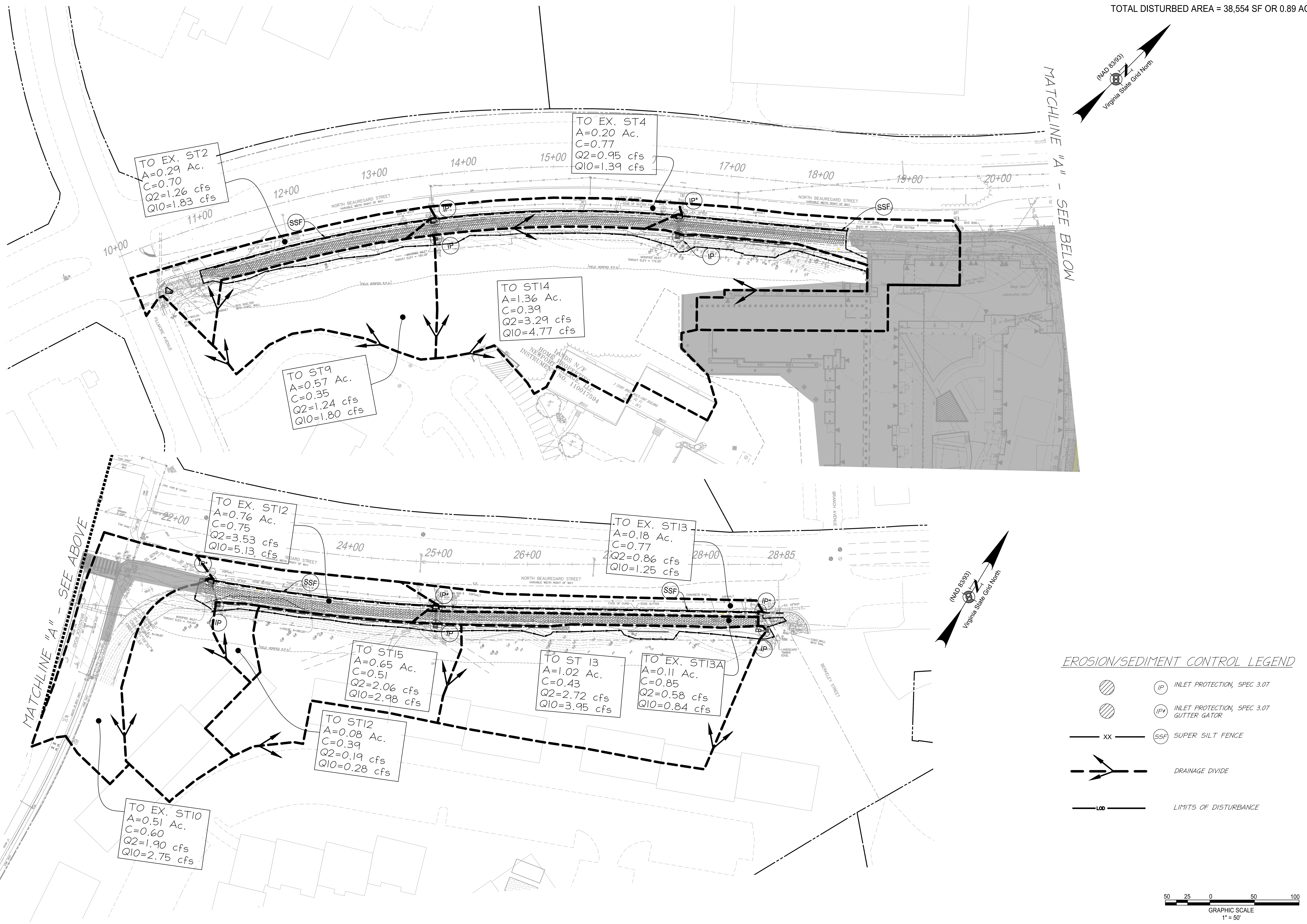
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL PLAN - PHASE 1

C800

P:\Projects\21266\00100\111333 - 60%\C801 EROSION & SEDIMENT CONTROL PLAN - PHASE 1.dwg PLOTTED: 3/10/2022 8:28:14 AM BY FERAS ALNATOUR



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

EROSION & SEDIMENT CONTROL PLAN - PHASE 2

C801

P:\Projects\21266\00100\111333 - 60%\C802 EROSION & SEDIMENT CONTROL PLAN - PHASE 2.dwg PLOTTED: 3/10/2022 8:28:45 AM BY ERAS ALNATOUR

EROSION AND SEDIMENT CONTROL PLAN NARRATIVE

PROJECT DESCRIPTION:
THIS SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET; TO THE SOUTH BY RESIDENTIAL HOUSES; TO THE EAST BY BERKELEY STREET; AND TO THE WEST BY FILLMORE AVENUE.

THIS PROJECT CONSISTS OF IMPROVEMENTS TO THE RIGHT-OF-WAY TO INSTALL A PERMEABLE PAVEMENT TRAIL AS A SHARED USE PATH FOR PEDESTRIANS AND BIKES.

ACCESS TO THE SITE WILL BE FROM NORTH BEAUREGARD STREET.

EXISTING SITE CONDITIONS:
THIS SITE IS 0.87 ACRES AND IS A RIGHT-OF-WAY CITY SIDEWALK AND GRASS AREAS.

REVIEW OF EXISTING TOPOGRAPHY INDICATES THAT THE SITE DRAINS TO THE STREAM SYSTEM IN NORTH BEAUREGARD STREET, WHICH DRAINS TO A PIPED STORM SYSTEM IN NORTH BEAUREGARD STREET.

THERE ARE RESOURCE PROTECTION AREAS ON SITE.

DATE OF CONSTRUCTION:
CONSTRUCTION IS ANTICIPATED TO BEGIN AT THE TIME OF FINAL SITE PLAN APPROVAL.

ADJACENT PROPERTIES:
THE PROJECT SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET, AND TO THE SOUTH BY RESIDENTIAL AREAS, TO THE WEST BY FILLMORE AVENUE, AND TO THE EAST BY BERKELEY STREET .

SOIL DATA:
PER THE USDA NRCS WEB SOIL SURVEY, THE SITE IS CLASSIFIED AS URBAN LAND - GRIST MILL. ADDITIONAL SOIL INFORMATION WILL BE PROVIDED ONCE THE GEOTECHNICAL REPORT IS COMPLETE.

LIMITS OF DISTURBANCE:
THE LIMITS OF DISTURBANCE AS SHOWN ON THIS PLAN ARE THE ULTIMATE LIMITS FOR THIS PROJECT. LIMITS OF DISTURBANCE = 37,897 SQ. FT. OR 0.87 AC.

CRITICAL EROSION AREAS:
THERE ARE STEEP SLOPES AND KNOWN CRITICAL EROSION AREAS ON THIS SITE. HOWEVER, SILT SHALL NOT LEAVE THE SITE AND WILL BE CONTROLLED DURING ALL PHASES OF CONSTRUCTION.

STRUCTURAL PRACTICES:
1. SUPER SILT FENCE BARRIER - 3.05
SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED AS SHOWN ON THE APPROVED PLAN TO FILTER SEDIMENT-LADEN RUNOFF FROM THE CONSTRUCTION AREA.

2. STORM DRAIN INLET PROTECTION - 3.07
ALL STORM SEWER INLETS INVOLVED SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT-LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER INLETS.

3. TREE PRESERVATION AND PROTECTION (3.38): WILL BE CONSTRUCTED AT TREE SAVE AREAS TO ENSURE THE SURVIVAL OF DESIRABLE TREES WHERE THEY WILL BE EFFECTIVE FOR EROSION AND SEDIMENT CONTROL, WATERSHED PROTECTION, LANDSCAPE BEAUTIFICATION, DUST AND POLLUTION CONTROL, NOISE REDUCTION, SHADE AND OTHER ENVIRONMENTAL BENEFITS WHILE THE LAND IS BEING CONVERTED FROM FOREST TO URBAN TYPE USES.

VEGETATIVE PRACTICES:
1. TOPSOIL STOCKPILING ON-SITE IS NOT ANTICIPATED. FOR BORROW SOIL STOCKPILING THAT WOULD BE DEEMED NECESSARY, THE E&S CONTROL NOTE ON STOCKPILED MATERIALS WOULD APPLY.

2. TEMPORARY SEEDING - 3.31
ALL DENUDED AREAS THAT WILL BE LEFT DORMANT SHALL BE PROTECTED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.

3. PERMANENT SEEDING - 3.32
TO PERMANENTLY STABILIZE UNPAVED DISTURBED AREAS. SEED WITH GRASS IS SUITABLE FOR THE SITE.

PERMANENT STABILIZATION:
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE DONE WITH KENTUCKY 31, RED TOP GRASS, AND A NURSE CROP AT THE FOLLOWING RATES:

KENTUCKY BLUE GRASS:	128 LBS/AC
RED TOP GRASS:	2 LBS/AC
NURSE CROP:	20 LBS/AC

NURSE CROP SHALL BE:

FEB-APR:	ANNUAL RYE
MAY-AUG:	FOXTAIL MILLET
SEP-NOV 15:	ANNUAL RYE
NOV 16-JAN:	WINTER RYE

ACCORDING TO STANDARD AND SPECIFICATION 3.32, PERMANENT SEEDING, OF THE HANDBOOK. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER AND LIME WILL BE APPLIED PRIOR TO MULCHING.

STORMWATER MANAGEMENT/BEST MANAGEMENT PRACTICES:
THIS PROJECT WILL COMPLY WITH THE WATER QUALITY TREATMENTS REQUIREMENTS IN ACCORDANCE WITH ARTICLE XIII OF THE ZONING ORDINANCE. WATER QUALITY TREATMENT AND WATER QUANTITY CONTROL WILL BE PROVIDED ONSITE THROUGH THE USE OF PERMEABLE PAVERS.

CONSTRUCTION PHASING:
THIS SITE PLAN REFLECTS TWO STAGES OF EROSION AND SEDIMENT CONTROL PROCEDURES TO ADDRESS ADAPTATION OF EROSION AND SEDIMENT CONTROL MEASURES TO CHANGES IN SITE CONDITIONS.

PHASE 1 - IN GENERAL, PHASE 1 ADDRESSES PERIMETER CONTROLS DURING DEMOLITION AND MINOR EXCAVATION ACTIVITIES IN PREPARATION FOR THE PROPOSED WORK.

PHASE II - PHASE II IS IMPLEMENTED DURING SITE STABILIZATION. THIS COVERS SHORT AND LONG TERM PROTECTION AND STABILIZATION OF FINAL GRADE IN ALL DENUDED AREAS AND THE PROTECTION OF EXISTING AND PROPOSED DRAINAGE STRUCTURES.

NOTE: THE CONSTRUCTION AND THE E&S CONTROLS SHALL BE COORDINATED WITH THE ADJACENT NEWPORT VILLAGE DEVELOPMENT.

SEDIMENT CONTROL PROGRAM:
PHASE 1 EROSION CONTROL

ALL PROPOSED CONTROLS AS SHOWN ON THE PHASE I - EROSION CONTROL PLAN SHALL BE IN PLACE PRIOR TO COMMENCING WITH SITE WORK. THE INITIAL CONTROL MEASURES SHALL BE AS FOLLOWS:

1. INSTALL INLET PROTECTION AT EXISTING INLET STRUCTURES AS SHOWN ON THE APPROVED PLAN.
2. INSTALL SUPER SILT FENCE BARRIER AND TREE PROTECTION FENCING AS SHOWN ON THE APPROVED PLAN.

THE CONTRACTOR SHALL RECEIVE VERIFICATION FROM THE CITY OF ALEXANDRIA INSPECTORS THAT THE EROSION AND SEDIMENT CONTROL MEASURES ARE FUNCTIONING PROPERLY PRIOR TO PROCEEDING WITH SITE WORK, THAT SHALL PROCEED AS FOLLOWS:
a. ROUGH GRADING INCLUDING DEMOLISHING, STRIPPING, CUT AND FILL AND BORROW FILL IF REQUIRED MAY BEGIN.
b. WHENEVER POSSIBLE TRENCHING MAY BEGIN TO ALLOW INSTALLATION OF SITE STORM SEWER.
c. TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED TO DENUDED AREAS NOT CONTINUOUSLY WORKED FOR SEVEN DAYS AFTER INITIAL ROUGH GRADING. RE-VEGETATION SHOULD BE ACCOMPLISHED AS SOON AS POSSIBLE.
d. ROUGH GRADING ACTIVITIES WILL BE COMPLETED AND FINAL TOPSOIL APPLICATIONS APPLIED TO ALL AREAS AS SOON AS POSSIBLE WITHIN THE CONSTRUCTION SCHEDULE.

NOTE: AS CONSTRUCTION PROGRESSES WITHIN THE SITE, PORTIONS OF THE SITE MAY GO FROM PHASE 1 TO PHASE II. ADEQUATE EROSION AND SEDIMENT CONTROL SHALL ALWAYS BE PROVIDED THROUGHOUT EVERY PHASE OF CONSTRUCTION.

ALL PHASE I CONTROLS WILL REMAIN IN PLACE UNTIL SUCH TIME THAT THE SITE INSPECTOR APPROVED THEIR REMOVAL.

PHASE II - FINAL CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL ESTABLISH ALL STRUCTURAL MEASURE ON THE PHASE II EROSION CONTROL PLAN AS PERMITTED IN THE CONSTRUCTION SCHEDULE. THE PHASE II EROSION AND SEDIMENT CONTROL PROGRAM SHALL PROGRESS AS FOLLOWS:

1. MAINTAIN EROSION & SEDIMENT CONTROLS IMPLEMENTED DURING PHASE I.
2. AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS ARE STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE GROUND STABILIZED WITH VEGETATION UPON APPROVAL OF THE CITY OF ALEXANDRIA'S INSPECTOR.

MANAGEMENT STRATEGIES:
1. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. TEMPORARY SEEDING OR OTHER STABILIZATION SHALL FOLLOW IMMEDIATELY AFTER GRADING.
3. AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED.
4. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

MAINTENANCE:

1. THE SUPER SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
2. THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND SEEDED AS NEEDED.

NOTE:
ALL EROSION AND SILTATION CONTROLS SHALL CONFORM TO THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

CRITICAL TREE AREA:
CONTRACTOR SHALL PRESERVE TREES PER SHEETS L200- L201. CONTRACTOR TO MINIMIZE IMPACT ON CRITICAL ROOT ZONE BY LIMITING MACHINERY USE AROUND THEM.

EROSION AND SEDIMENT CONTROL STANDARD NOTES

1. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.
2. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), VIRGINIA REGULATIONS 54VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
3. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT.
4. A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND INSPECTION (C&L), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF. A NOTE TO THIS EFFECT SHALL BE PLACED ON THE PHASE I EROSION AND SEDIMENT CONTROL SHEETS ON THE SITE PLAN.
5. THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&L) DIVISION MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION MEETING.
6. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND 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.
7. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS NOT TO BE DISTURBED MUST BE CLEARLY MARKED OR FLAGGED.
8. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
9. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
10. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE 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 CITY OF ALEXANDRIA.
11. THE DEVELOPER AND CONTRACTORS ARE TO KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.
12. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING.
13. 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.
14. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY IMPACT FLOWING STREAMS OR OFF-SITE PROPERTY.
15. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
16. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL (T&ES) SERVICES OF THE CITY OF ALEXANDRIA.
17. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.
18. ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING ONTO THE PUBLIC RIGHT-OF-WAY.
19. THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILTATION DEVICE TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUN OFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT-OF-WAY.
20. INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.
21. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION/WATER TRUCK AS NEEDED.
22. UPON COMPLETION OF DEMOLITION, CONSTRUCTION AND LAND DISTURBING ACTIVITIES; PROVIDE PERMANENT STABILIZATION ACCORDING TO APPROVED METHODS AND REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL MEASURES WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.
23. IF STOCKPILING IS REQUIRED ONSITE, THE CONTRACTOR SHALL COORDINATE WITH THE SITE INSPECTOR AND PROVIDE THE NECESSARY EROSION CONTROL MEASURES.
24. VPDES PERMITS WILL BE FILED FOR WITH THE CITY OF ALEXANDRIA. PERMITS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
25. NO POTW PERMIT IS REQUIRED.
26. A CERTIFIED LAND DISTURBER SHALL BE NAMED PRIOR TO LAND DISTURBANCE ACTIVITIES.

DUST MANAGEMENT PLAN

1. DUST CONTROL- 3.39 TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, THE SITE WILL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET AND REPEATED AS NEEDED. WATER SHALL BE PROVIDED BY WATER TRUCK IF PUBLIC WATER IS NOT AVAILABLE.

OTHER CONCERNS ARE BARE DISTURBED AREAS THAT ARE POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS DURING DRY WEATHER. SITE-SPECIFIC ENGINEERING CONTROLS FOR DUST SUPPRESSION WILL CONSIST OF STAGING A SPRAY TRUCK ONSITE AT ALL TIMES, AND WETTING SOILS DAILY, OR MORE FREQUENTLY, AS NECESSARY. AN AIR-MONITORING PROGRAM BY THE DEVELOPER AND/OR ITS ASSIGNEE(S) FOR FUGITIVE DUST WILL CONFIRM THE EFFECTIVENESS OF THE CONTROLS AND PRACTICES.

CITY REQUIREMENT ON VEHICLE IDLING:
NO VEHICLE ASSOCIATED WITH THE SITE CONSTRUCTION SHALL BE PERMITTED TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.

CONTAMINATED SOILS NOTE

TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN CONTAMINANTS ON SITE. REFER TO THE PHASE 2 ENVIRONMENTAL SITE ASSESSMENT FOR MORE INFORMATION.

TABLE 3.31-B

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS

"QUICK REFERENCE FOR ALL REGIONS"

Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (Lolium multi-florum)	60 - 100
May 1 - Aug 31	German Millet (Setaria italica)	50

Source: Va. DSWC

50 25 0 50 100
GRAPHIC SCALE
1" = 50'

60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA
VIRGINIA

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: –
DRAWN BY: MQ DATE: –
CHECKED BY: AG DATE: –
APPROVED BY: DL DATE: –

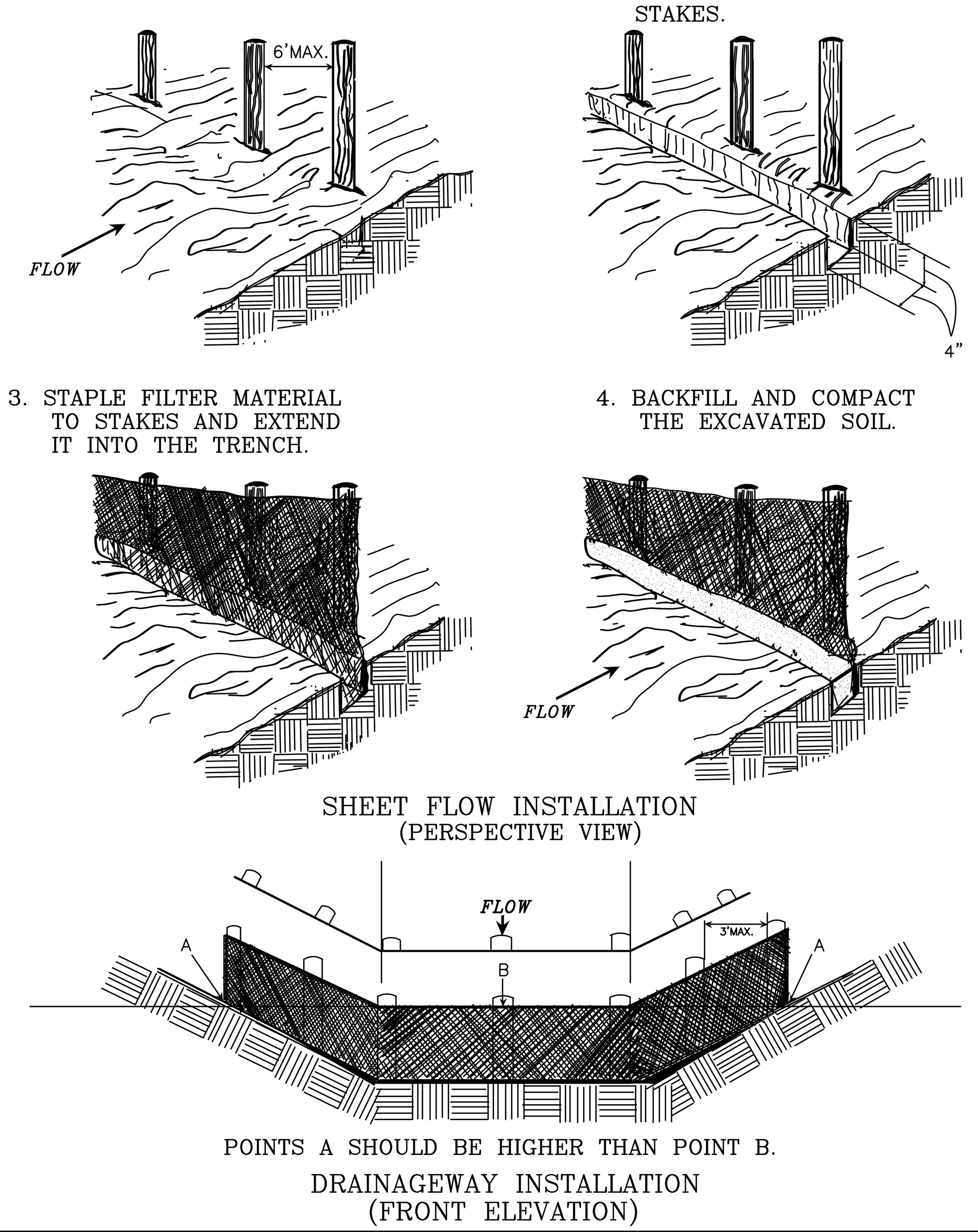
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL NOTES

C802

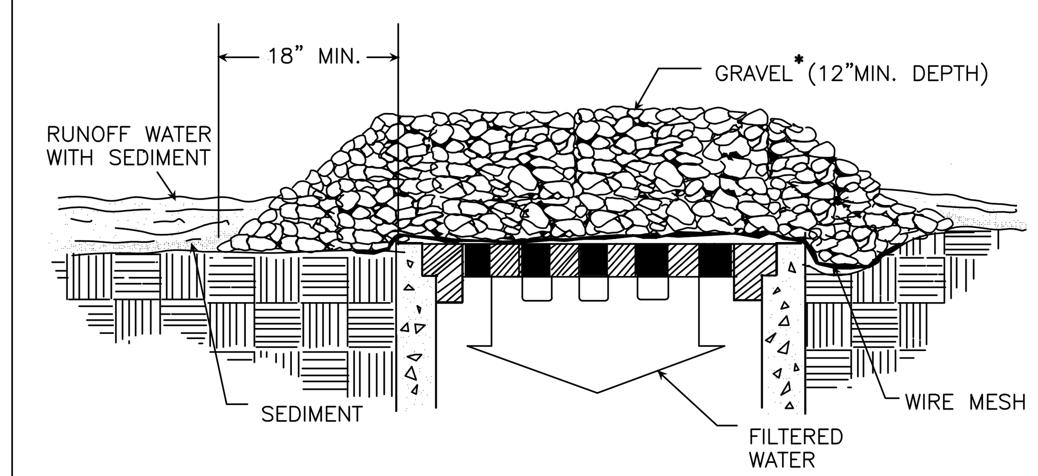
P:\Projects\21266\00100\111333 – 60%\C803 EROSION & SEDIMENT CONTROL NOTES.dwg PLOTTED: 3/10/2022 8:28:55 AM BY FERAS ALNATOUR

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, VA. DSWC Sherwood and Wyant — PLATE. 3.05-2

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



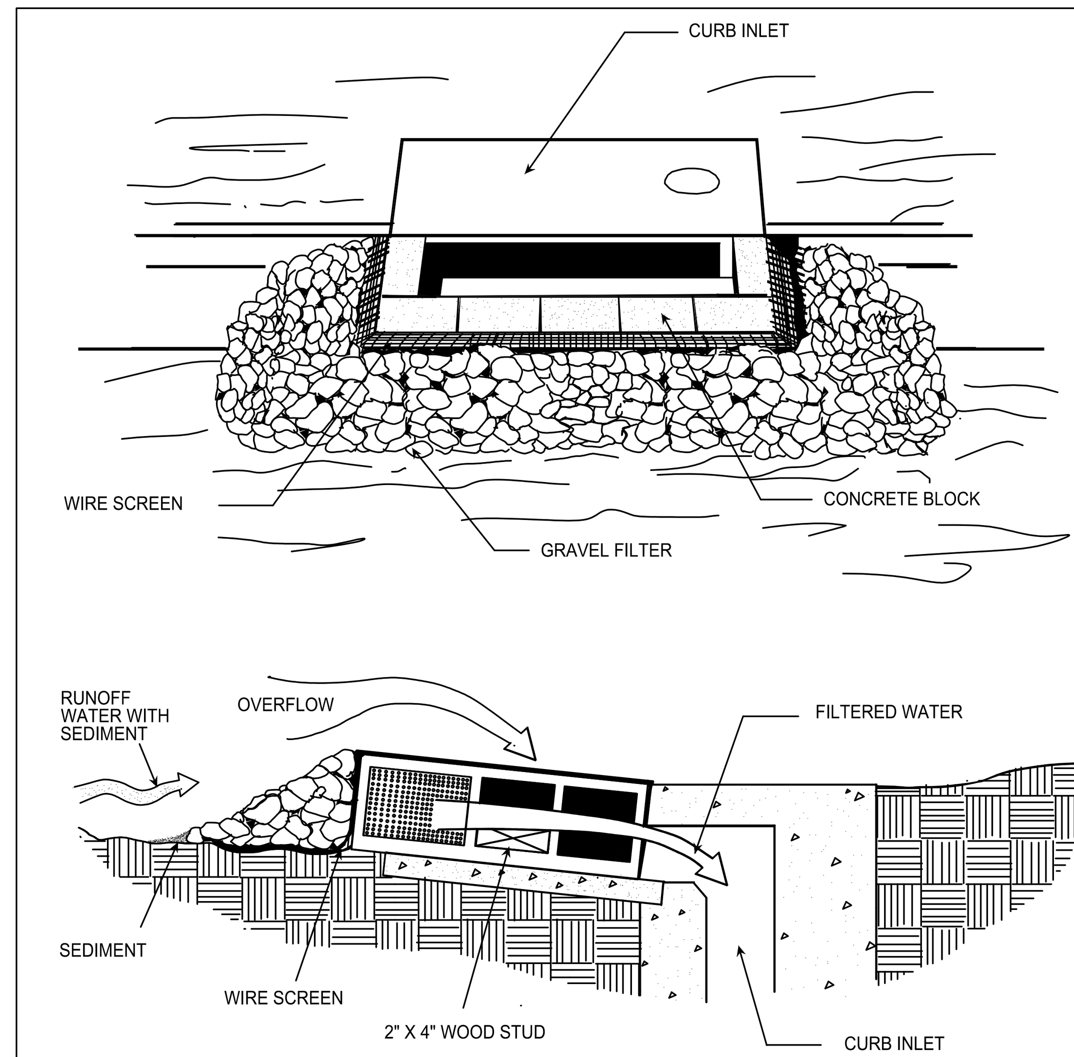
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

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

SOURCE: VA. DSWC — PLATE. 3.07-2

IP GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER
SPEC. 3.07 — N.T.S.



SPECIAL APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.
* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

IP BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER
SPEC. 3.08 — N.T.S.

GutterGator Specification:
For Curb Gutter Storm Drains

1.0 Description

1.1 This work shall consist of furnishing, placing, maintaining and removing the GutterGator sediment control device as directed by the engineer and as shown on the contract drawings. The GutterGator sediment control system manufactured by:

ACF Environmental, Inc.
2831 Cardwell Road
Richmond, Virginia 23234
Phone: 800-448-3636 • Fax: 804-743-7779
www.acfenvironmental.com

2.0 Materials

2.1 GUTTERGATOR

2.1.1 The GutterGator will be manufactured to 4' molds in 4', 6', 8', 10', 12', 14' and 16' lengths and a minimum of twenty-four (24) inches longer than the curb inlet opening. This will allow for sufficient length to cover the inlet with twelve (12) inches beyond the inlet on both ends.

3.0 Construction Sequence

3.1 General

3.1.1 Install the GutterGator in front of the curb inlet opening. Drop 7lb weight sock into inlet opening, secure tie pouch straps, if applicable. Each end of the GutterGator should overlap the curb inlet approximately 12".

3.1.2 The GutterGator should be cleaned if a visual inspection shows sediment and debris build up around the GutterGator.

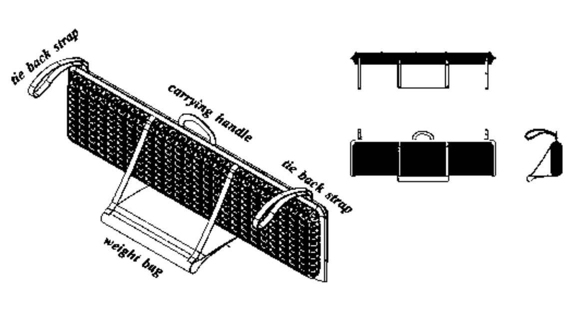
3.1.3 To remove the GutterGator, lift out of curb opening with provided lift strap.

3.1.4 Clean as needed. Store out of direct sunlight.

3.1.5 Ponding is likely if sediment is not removed regularly. Inspection of GutterGator should be on a regular basis and immediately after wet weather events.

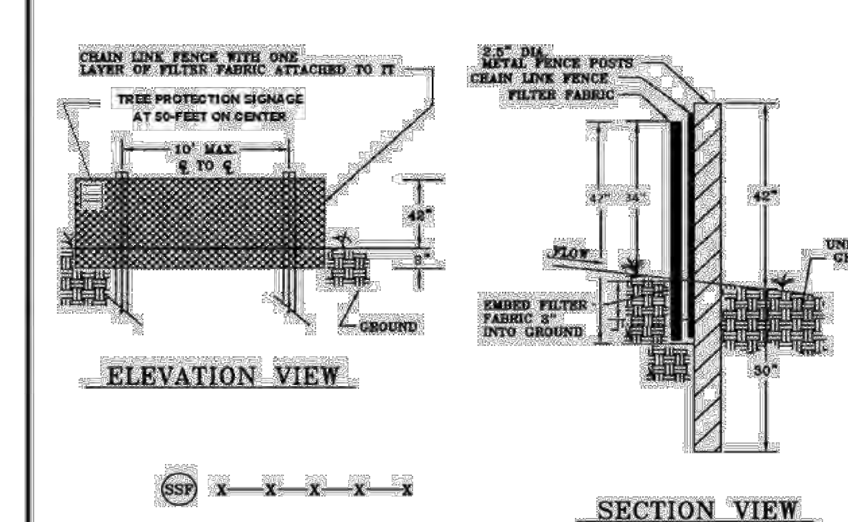
GutterGator
Installation and Maintenance:

- Place GutterGator on the ground near curb inlet.
- Place unit in curb inlet so weighted flap hangs down in curb inlet holding GutterGator firmly in place.
- Center unit so 1' of GutterGator extends beyond each end of curb inlet.
- Secure tie back straps with sod pin or stake if applicable.
- Inspection after each wet weather event is recommended.
- Remove all sediment and debris from surface after each wet weather event.
- Remove GutterGator, clean out and replace.



IP* GUTTER GATOR CURB INLET SEDIMENT FILTER

Figure 3 - Super Silt Fence



SUPER SILT FENCE
NO SCALE

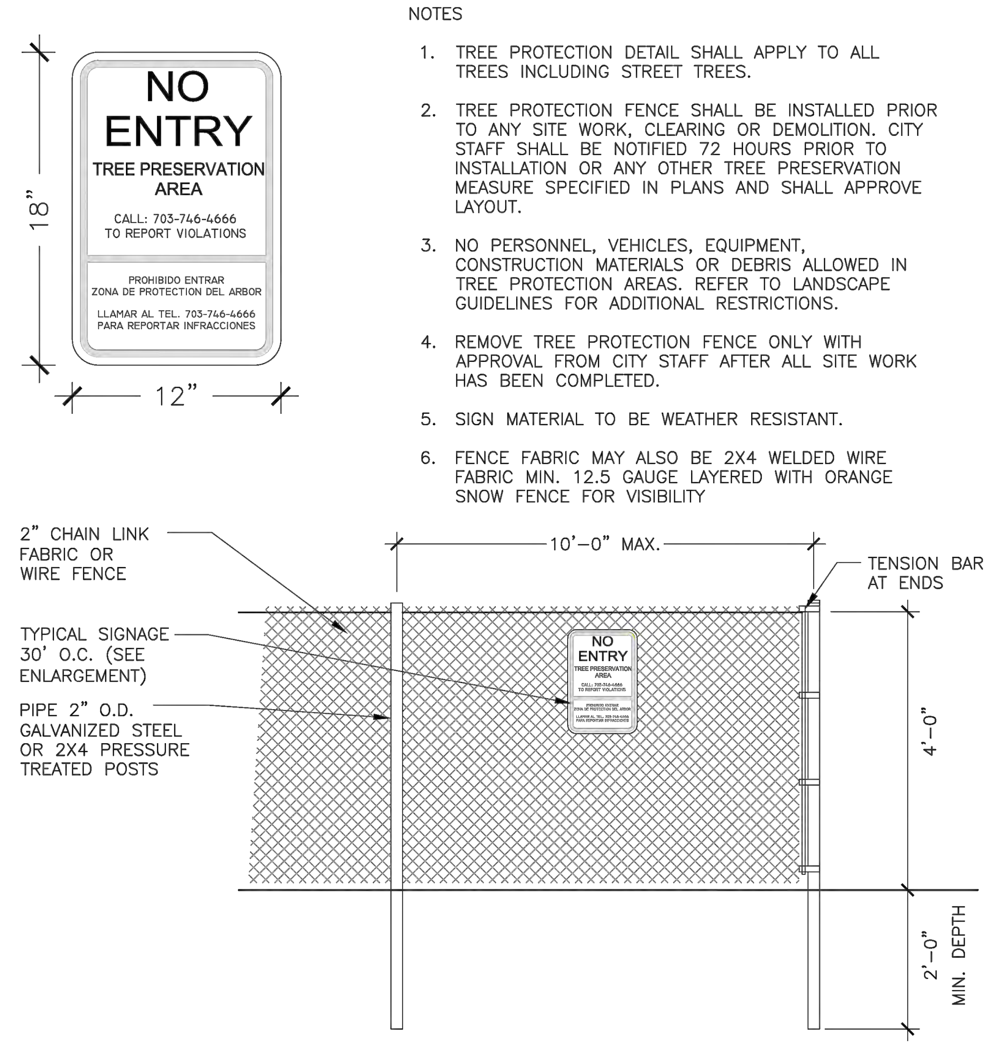
FENCING

Chain link fence shall be 34" above grade with 8" embedded for a total fabric width of 42". The post shall be 42" above grade with 30" placed below grade (without concrete) for a total length of 72".

NOTES

1. Chain link fence shall be fastened securely to fence posts with wire ties.
2. Filter fabric shall be fastened securely to chain link fence with ties spaced horizontally 24" at the top and midsection.
3. Physical properties of the filter fabric shall conform to the latest edition of THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.
4. When two sections of filter fabric adjoin each other, they shall be overlapped by 6" and folded.
5. Maintenance shall be performed as needed and material shall be removed when sediment build-up reaches 50% of the height of the super silt fence.

FIGURE 3
Section 7.600
Section 7.600 – Erosion and Sediment Control
Effective Date: 01/15/2018



NOTES

1. TREE PROTECTION DETAIL SHALL APPLY TO ALL TREES INCLUDING STREET TREES.
2. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION. CITY STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO INSTALLATION OR ANY OTHER TREE PRESERVATION MEASURE SPECIFIED IN PLANS AND SHALL APPROVE LAYOUT.
3. NO PERSONNEL, VEHICLES, EQUIPMENT, CONSTRUCTION MATERIALS OR DEBRIS ALLOWED IN TREE PROTECTION AREAS. REFER TO LANDSCAPE GUIDELINES FOR ADDITIONAL RESTRICTIONS.
4. REMOVE TREE PROTECTION FENCE ONLY WITH APPROVAL FROM CITY STAFF AFTER ALL SITE WORK HAS BEEN COMPLETED.
5. SIGN MATERIAL TO BE WEATHER RESISTANT.
6. FENCE FABRIC MAY ALSO BE 2X4 WELDED WIRE FABRIC MIN. 12.5 GAUGE LAYERED WITH ORANGE SNOW FENCE FOR VISIBILITY

A TREE PROTECTION FENCE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS / CITY OF ALEXANDRIA, VIRGINIA	NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.	Source: CITY OF ALEXANDRIA; Approved by: COA	TREE PROTECTION FENCE
		1 OF 1	Date drawn: 01/01/19 — LD 014

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

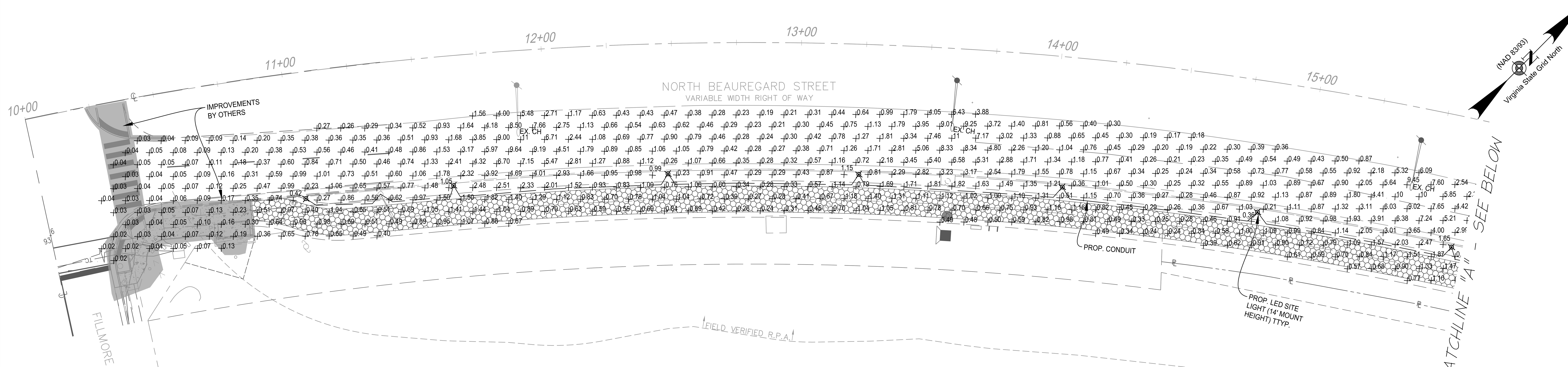
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL DETAILS

C803

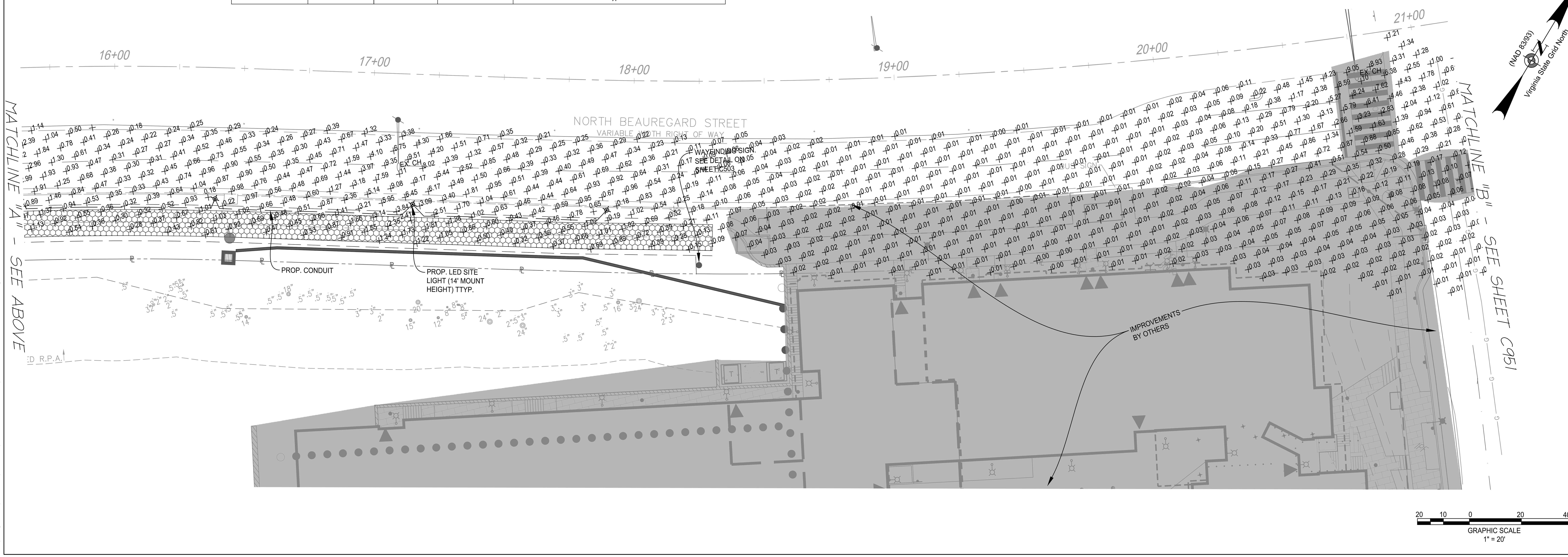


Numeric Summary							
Project: N. Beauregard							
Label	Calc. Type	Units	Avg.	Max	Min.	Avg./Min.	Max/Min.
N. Beauregard St - West	Illuminance	Fc	1.83	11	0.30	6.10	36.67
N. Beauregard St - East	Illuminance	Fc	1.09	8.04	0.23	4.75	34.96
Shared Path - West	Illuminance	Fc	0.83	2.43	0.63	1.31	3.86
Shared Path - East	Illuminance	Fc	0.59	1.27	0.25	2.34	5.08

Luminaire Schedule				
Project: N. Beauregard From Fillmore Ave to Berkeley St				
Symbol	Qty.	Arrangement	Lumens	Description
⨻	18	Single	8838	Prop. LED Acorn - Signle Pole Mounted - 14 ft Pole - Type V - 4000K Color Temp.
EX. CH	8	Signle	14575	EX. Cobra Head 250W HID EQUIVALENT (TYPE iii) - 22 ft Pole - Type III

LIGHTING NOTES:

1. CENTER OF FOUNDATION FOR LUMINARIES SHALL BE 2 FEET BACK OF THE CURB LINE, UNLESS OTHERWISE NOTED.
2. RUN TWO #10 RHW COPPER CONDUCTORS PLUS GROUND FROM LUMINAIRE BALLAST TO POLE BASE, LEAVE 3 FT SLACK FOR TAP SPLICE.
3. CONDUIT SHOWN ON THIS PLAN IS FOR INFORMATIONAL PURPOSES. THE CONTRACTOR IS RESPONSIBLE FOR THE LIGHTING CONDUIT LAYOUT.
4. SEE SHEET C952 FOR LIGHTS SPECS.



60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

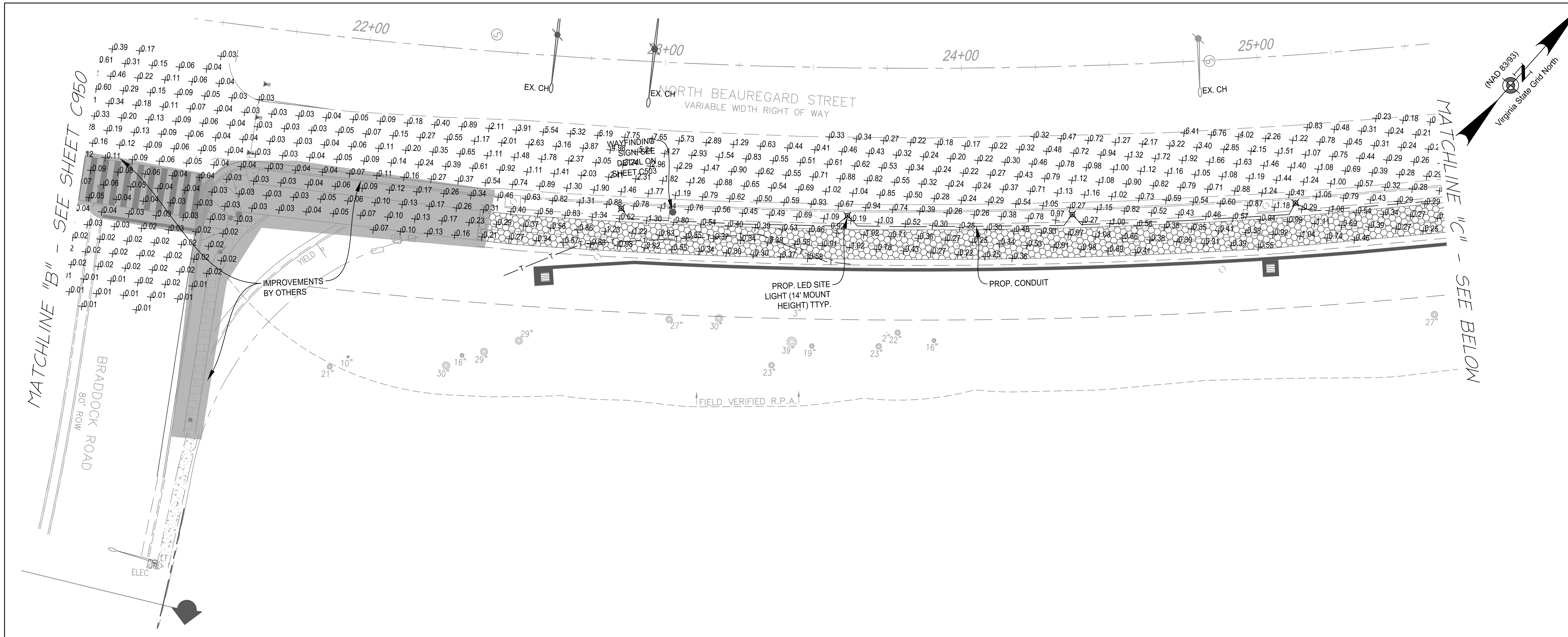
ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

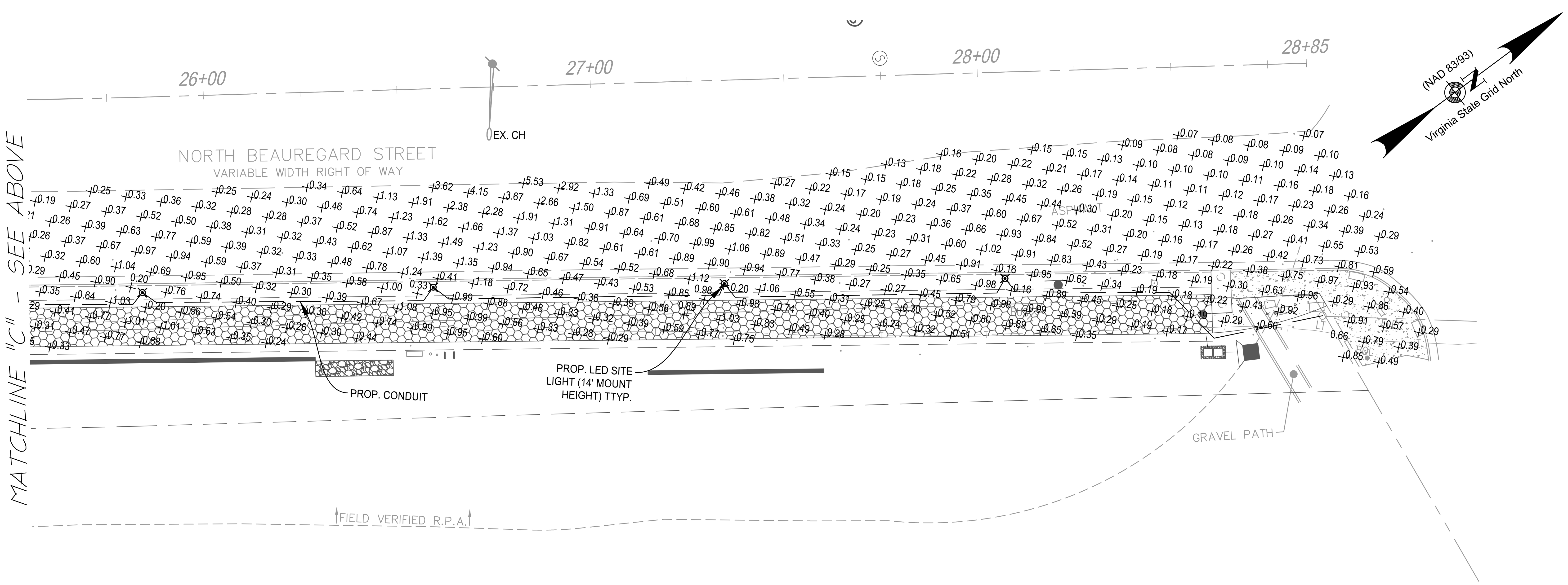
COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

LIGHTING PLAN

C950





LIGHTING NOTES:

1. CENTER OF FOUNDATION FOR LUMINARIES SHALL BE 2 FEET BACK OF THE CURB LINE, UNLESS OTHERWISE NOTED.
2. RUN TWO #10 RHW COPPER CONDUCTORS PLUS GROUND FROM LUMINAIRE BALLAST TO POLE BASE, LEAVE 3 FT SLACK FOR TAP SPLICE.
3. CONDUIT SHOWN ON THIS PLAN IS FOR INFORMATIONAL PURPOSES. THE CONTRACTOR IS RESPONSIBLE FOR THE LIGHTING CONDUIT LAYOUT.
4. SEE SHEET C952 FOR LIGHTS SPECS.

Luminaire Schedule
Project: N. Beauregard From Fillmore Ave to Berkeley St

Symbol	Qty.	Arrangement	Lumens	Description
⌧	18	Single	8838	Prop. LED Acorn - Signle Pole Mounted - 14 ft Pole - Type V - 4000K Color Temp.
EX. CH	8	Signle	14575	EX. Cobra Head 250W HID EQUIVALENT (TYPE iii) - 22 ft Pole - Type III

Numeric Summary
Project: N. Beauregard

Label	Calc. Type	Units	Avg.	Max	Min.	Avg./Min.	Max/Min.
N. Beauregard St - West	Illuminance	Fc	1.83	11	0.30	6.10	36.67
N. Beauregard St - East	Illuminance	Fc	1.09	8.04	0.23	4.75	34.96
Shared Path - West	Illuminance	Fc	0.83	2.43	0.63	1.31	3.86
Shared Path - East	Illuminance	Fc	0.59	1.27	0.25	2.34	5.08

20 10 0 20 40
GRAPHIC SCALE
1" = 20'

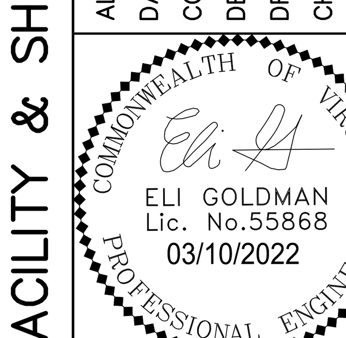
60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

LIGHTING PLAN

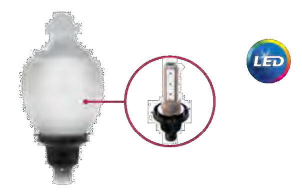
C951

HADCO by Signify

Urban

MainView

MV Post top



Project:	
Location:	
Cat.No:	
Type:	
Lamps:	Qty:
Notes:	

Hadco MainView LED post top is is a traditionally styled luminaire created for comfort and ease of maintenance. This post top offers offers you multiple wattage options and is designed to be future-proof, giving you maximum flexibility at an affordable price. MainView facilitates lower maintenance due to easy component replacement, a longer life, and fewer internal parts than traditional post tops. This makes the MainView a clear choice for communities looking to provide comfortable lighting for less.

Ordering guide

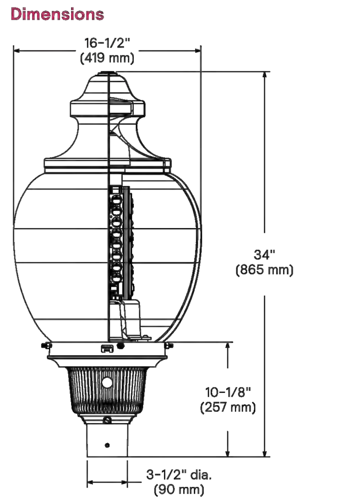
example: MV-G-CA-G1-425-5-730-A-S-N-R7-SP1-BKS

Model code	Pod	Globe/roof	Generation code	Drive current	Distribution	Color temperature	Voltage
MV	G	CA	G1				
MV MainView post top	**G** Tall round fluted 3"	**CA** Visual comfort acorn	**G1** Generation 1	**250** 250mA **350** 350mA **450** 450mA **530** 530mA **600** 600mA	**3** Assymetric **3H** with HSS	**727** 2700K (70 CRI) **730** 3000K (70 CRI) **740** 4000K (70 CRI)	**A** 120-277V **B** 347-480V
				200 200mA **250** 250mA **300** 300mA **350** 350mA **425** 425mA	**5** Symmetric		

Integral controls	Pod photo control	Internal future-proof receptacle	Surge protection	Finish
DL [1] DALI (default: logarithmic) **SRD** [1,2] Sensor ready driver, standard configuration **SRD1** [1,2] Sensor ready driver, alternate configuration **S** FAWS Field Adjustable Wattage Selector **N** None	**R** 3 Pin Receptacle **N** None	**R7** [3] 7 Pin Receptacle on top of LED engine **N** None	**SP1** Parallel 10kV standard **SP2** Parallel 20kV	**BKS** Black Smooth **WHS** White Smooth **BZS** Bronze Smooth **GNS** Green Smooth **BK** Black Texture **WH** White Texture **BZ** Bronze Texture **GN** Green Texture

1. Contact Custom Engineering for specific programming required.
2. Not available with 347-480V.
3. If ordering Interact City control node, use the Astroclock version.

Dimensions



Width: 16-1/2" / 419 mm diameter

Height: 34" / 865 mm

EPA: 1.17 sq. ft (maximum)

Weight: 20 lbs / 9.1 kg (maximum)

MV MainView

LED post top

Field Adjustable Wattage Selector (FAWS) Multiplier Chart

Type 3

FAWS Position	Power Ratio	Lumen Ratio
1	0.30	0.33
2	0.50	0.532
3	0.58	0.63
4	0.69	0.71
5	0.74	0.74
6	0.80	0.71
7	0.860	0.87
8	0.91	0.89
9	0.95	0.91
10	1	1

Note: Typical value accuracy +/- 5%

Type 5

FAWS Position	Power Ratio	Lumen Ratio
1	0.30	0.46
2	0.50	0.54
3	0.58	0.62
4	0.69	0.72
5	0.74	0.77
6	0.80	0.72
7	0.86	0.88
8	0.91	0.89
9	0.95	0.96
10	1	1

Note: Typical value accuracy +/- 5%

LED Wattage and Lumen Values

Asymmetric with comfort globe

					Type 3		
Catalog Number	LED Qty	System Current (mA)	Color Temperature	Avg System Wattage (W)	Lumen Output	Efficacy (Lm/W)	BUG Rating
MV-CA-G1-250-x-730	48	250	3000	37	4627	124	B1-U5-G3
MV-CA-G1-350-x-730	48	350	3000	51	6309	124	B2-U5-G3
MV-CA-G1-450-x-730	48	450	3000	66	7975	121	B2-U5-G3
MV-CA-G1-530-x-730	48	530	3000	77	9130	119	B2-U5-G4
MV-CA-G1-600-x-730	48	600	3000	88	10157	116	B2-U5-G4
MV-CA-G1-250-x-740	48	250	4000	37	5341	144	B1-U5-G3
MV-CA-G1-350-x-740	48	350	4000	51	7282	143	B2-U5-G3
MV-CA-G1-450-x-740	48	450	4000	66	9205	140	B2-U5-G4
MV-CA-G1-530-x-740	48	530	4000	77	10537	137	B2-U5-G4
MV-CA-G1-600-x-740	48	600	4000	88	11723	134	B3-U5-G4

Asymmetric with comfort globe and internal house-side shield

					Type 3H		
Catalog Number	LED Qty	System Current (mA)	Color Temperature	Avg System Wattage (W)	Lumen Output	Efficacy (Lm/W)	BUG Rating
MV-CA-G1-250-x-730	48	250	3000	37	4441	119	B1-U5-G3
MV-CA-G1-350-x-730	48	350	3000	51	6055	119	B1-U5-G3
MV-CA-G1-450-x-730	48	450	3000	66	7654	116	B2-U5-G3
MV-CA-G1-530-x-730	48	530	3000	77	8762	114	B2-U5-G4
MV-CA-G1-600-x-730	48	600	3000	88	9747	111	B2-U5-G4
MV-CA-G1-250-x-740	48	250	4000	37	5126	138	B1-U5-G3
MV-CA-G1-350-x-740	48	350	4000	51	6988	137	B1-U5-G3
MV-CA-G1-450-x-740	48	450	4000	66	8834	134	B2-U5-G4
MV-CA-G1-530-x-740	48	530	4000	77	10113	131	B2-U5-G4
MV-CA-G1-600-x-740	48	600	4000	88	11250	128	B2-U5-G4

Symmetric with comfort globe

					Type 5		
Catalog Number	LED Qty	System Current (mA)	Color Temperature	Avg System Wattage (W)	Lumen Output	Efficacy (Lm/W)	BUG Rating
MV-CA-G1-200-x-730	64	200	3000	40	5227	131	B2-U5-G3
MV-CA-G1-250-x-730	64	250	3000	49	6418	131	B2-U5-G3
MV-CA-G1-300-x-730	64	300	3000	59	7576	129	B3-U5-G3
MV-CA-G1-350-x-730	64	350	3000	68	8696	128	B3-U5-G3
MV-CA-G1-425-x-730	64	425	3000	83	10255	124	B3-U5-G3
MV-CA-G1-200-x-740	64	200	4000	40	5920	149	B2-U5-G3
MV-CA-G1-250-x-740	64	250	4000	49	7268	148	B2-U5-G3
MV-CA-G1-300-x-740	64	300	4000	59	8579	146	B3-U5-G3
MV-CA-G1-350-x-740	64	350	4000	68	9848	145	B3-U5-G3
MV-CA-G1-425-x-740	64	425	4000	83	11614	141	B3-U5-G4

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at outdoorlighting.applications@signify.com.

MV MainView

LED post top

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours.

Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 54,000 hrs
25°C	500 mA	>100,000 hours	>60,000 hours	>96%

Specifications

Housing/fitter

Tall Round fluted fitter is constructed of diecast 360 aluminum alloy with removable door providing entry into the fitter assembly for easy access to the electrical components. Wiring block to accept three #8 solid or stranded wires. Easy access to photo eye through the door on the pod. Heavy cast aluminum post fitter utilizes four 5/16-18 black cadmium stainless steel set screws (Hex head) for mounting to 3" O.D. post tenon. Globe holder has an internal water trap to prevent water from entering ballast compartment. Globe is held by utilizing four 5/16-18 black cadmium stainless steel fasteners (Hex head). All hardware to be stainless steel and captive. Pod height is 10-1/8" and width is 10-1/2".

Light engine

Light engine is composed of four main components: Heat Sink, LED, Optical System, and Driver. Electrical components are RoHS compliant.

Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F. B Voltage configurations rated for operation in ambient temperature of -40°C / -40°F up to +35°C / +95°F.

LED and optics

Composed of 48 or 64 high power LEDs. LED board substrate is MCPCB (Metal Core Printed Circuit Board), designed to minimize thermal resistance from LED junction to heat sinks. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K+/275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/- 175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

Type 3 and Type 5 distribution choices are available.

Optics form an IP66 light engine to ensure complete environmental protection against water and dust ingress and corrosion, critical to long term LED reliability. All wiring is full copper, with 105C rated insulation. LED modules are secured to heatsinks using #8 stainless steel hardware, guaranteeing construction rigidity and vibration resistance.

Heat sinks

LED Engine construction consists of four 6063-T5 aluminum heat sinks, clear anodized to MIL-A-8625 specifications for excellent corrosion resistance and surface finish. Fin spacing has been optimized for maximum convective heat transfer under natural convection conditions, maximizing LED life and efficiency. Heat sinks provide greater than 700 sq. in. of convective surface area total, ensuring proper junction temperature control, lumen maintenance, and system reliability. Extruded heatsinks meet or exceed tolerances as specified by AEC (Aluminum Extruders Council) standards and have been designed to provide superior surface flatness, ensuring excellent contact between heatsinks and LEDs.

Product does not use any cooling device with moving parts (passive cooling only).

Heat sinks are secured using galvanized steel brackets and stainless steel hardware to provide additional corrosion resistance.

Driver

Driver comes standard with 0-10V dimming capability. High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Driver operating ambient temperature range is -40F (-40C) to +130F (+55C). Certified in compliance to UL1310 cULus requirement (dry and damp location). Driver is part of the light engine assembly. The light engine assembly is removable by loosening two screws and twisting the light engine assembly. Quick connect Wago connectors are used for the power and ground wires to the light engine. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

SRD: Sensor Ready Driver including SR communication (used for dimming and other functionalities) 24V auxiliary supply connected and enabled. Logical signal input (LSI) connected to the top NEMA twist lock receptacle, functionality disabled.

SRD1: Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the top NEMA twist, functionality disabled for LSI and 24V auxiliary supply.

DL: Pre-set driver compatible with the DALI control system. Logarithmic standard.

FAWS

Field Adjustable Wattage Selector, pre set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details. Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.

Surge protection

SP1: Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/ IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

SP2: Optional 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

Photo control options

R7: Available on top of the LED engine inside the globe. (if inside the globe an astro-clock smart node must be used) Receptacle with 7 pins enabling dimming and additional functionality (to be determined). Can be used with a twist lock node or a shorting cap. Will ship with a shorting cap installed for this product. Remove shorting cap when you are ready to install your node.

Luminaire useful life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, using LM-80 data from LED manufacturers and engineering prediction methods, the luminaire useful life is expected to reach 100,000+ hours with >L70 lumen maintenance @ 25°C Luminaire useful life accounts for LED lumen maintenance and additional factors, including LED life, driver life, PCB substrate, solder joints on/off cycles and burning hours for nominal applications.

Hardware

All non-ferrous fasteners prevent corrosion and ensure longer life.

Wiring

18 AWG wire, 6" (152mm) minimum exceeding from luminaire.

Options

House side shield included for optional field installation.

Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils / 24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

BKS: Black Smooth
WHS: White Smooth
BZS: Bronze Smooth
GNS: Green Smooth
BK: Black Texture
WH: White Texture
BZ: Bronze Texture
GN: Green Texture

MV MainView

LED post top

Specifications

LED products manufacturing standard

Electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340 5 1 and ANSI/ ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality Control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification. Meets the ANSI C136.31 2010, American national Standard for Roadway Luminaire Vibration specifications for Normal Applications.

Certifications and Compliance

Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. LM80 & LM79 tested.

Warranty

5 year standard warranty. Options available for extended warranties – contact factory. See signify.com/warranties for details and restrictions.

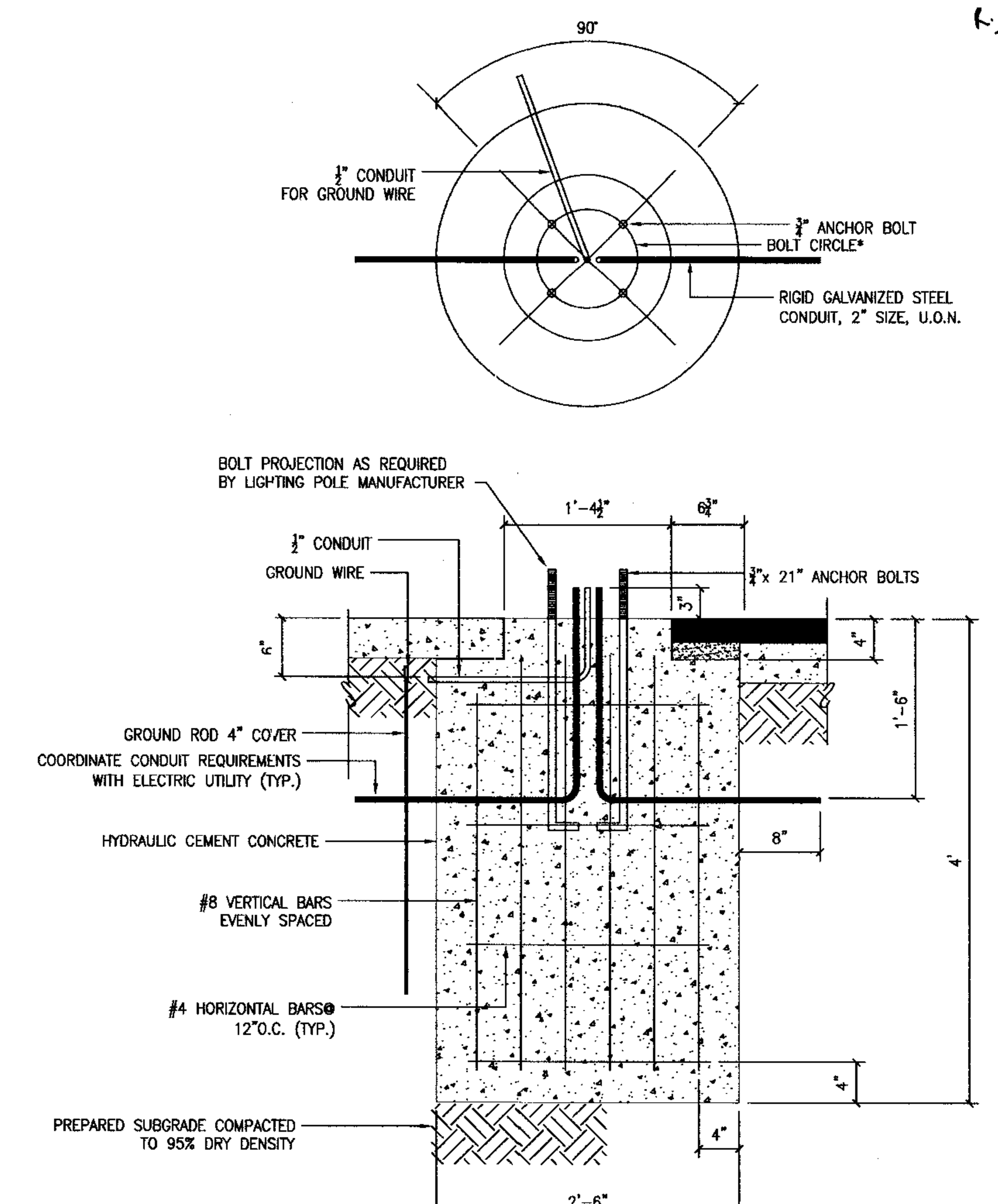
signify

Basic Acorn

The Acorn style luminaire is frequently used in urban areas, parks and pedestrian lighting applications where greater vertical illumination and uplight is preferred.

- Basic style luminaire
- 3000K & 4000K color temperature
- Type V lighting pattern
- 70W, 100W, 150W HID equivalents

LIGHT POLE BASE DETAIL



NOTES:

* THE BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY THE LIGHTING POLE MANUFACTURER.

CONDUIT ELBOWS SHALL HAVE A 90° BEND. THE BEND RADIUS SHALL BE IN ACCORDANCE WITH N.E.C.

ALL STRUCTURAL CROSS SECTIONS, INCLUDING FOOTINGS, SHALL BE REVIEWED BY A QUALIFIED STRUCTURAL ENGINEER AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT.

60% CONSTRUCTION DOCUMENT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
03/10/2022
PROFESSIONAL ENGINEER

LIGHTING DETAILS

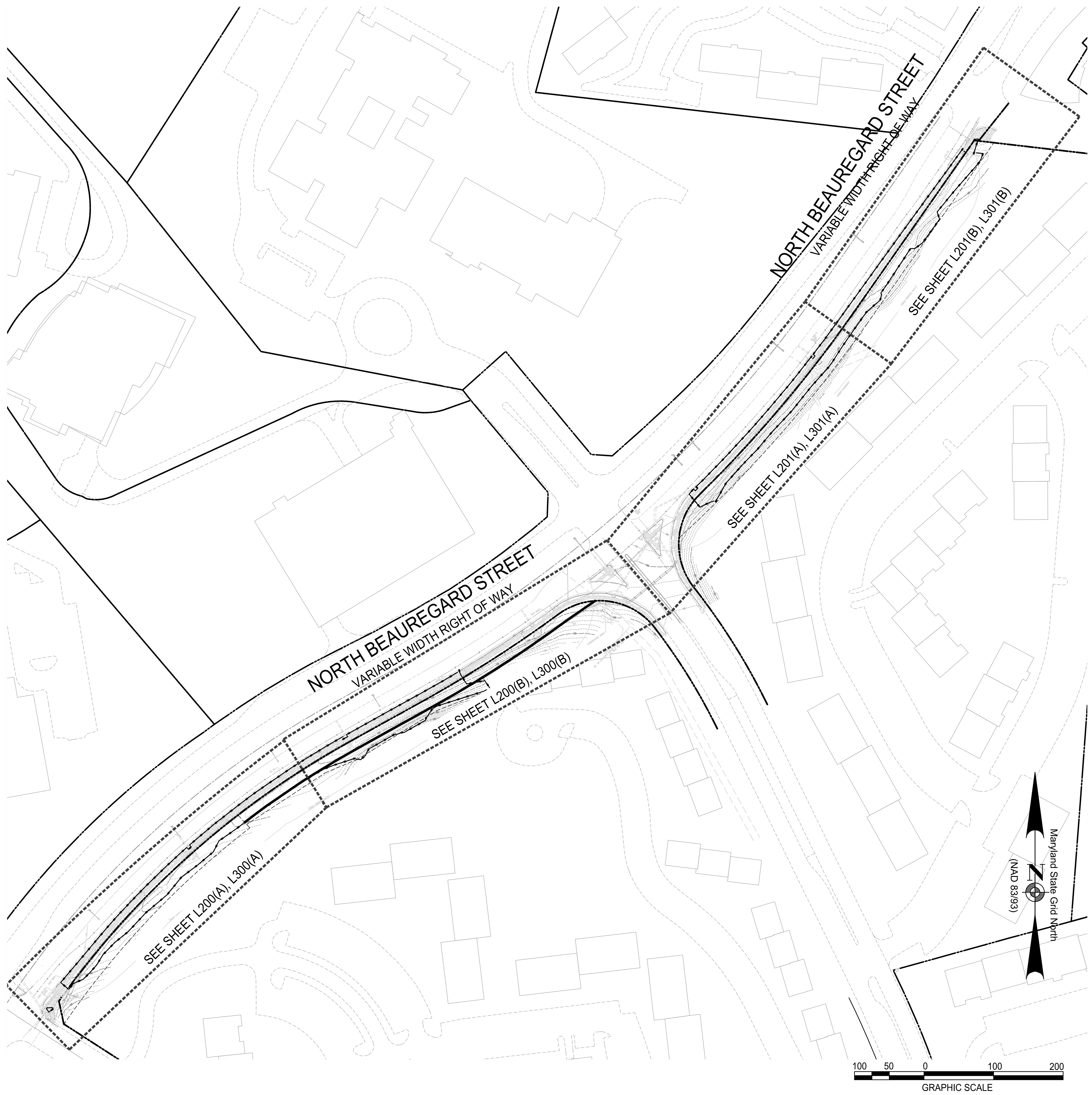
C952

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TREE PRESERVATION AND LANDSCAPE PLAN

4899 WEST BRADDOCK ROAD
ALEXANDRIA, VIRGINIA 22311

SHEET KEY MAP:



PROJECT NUMBERS:

STATE PROJECT # U000-100-814
FEDERAL JOB # P101 FEDERAL #CMAQ-5B01(105)
UPC # 105563
RFQU # 912
CCL # 21266.001.00

SHEET INDEX

SUBMITTALS

60% SUBMISSION: 2022-03-09

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: TR DATE: –
DRAWN BY: TR DATE: –
CHECKED BY: CM/LBD DATE: –
APPROVED BY: DL DATE: –

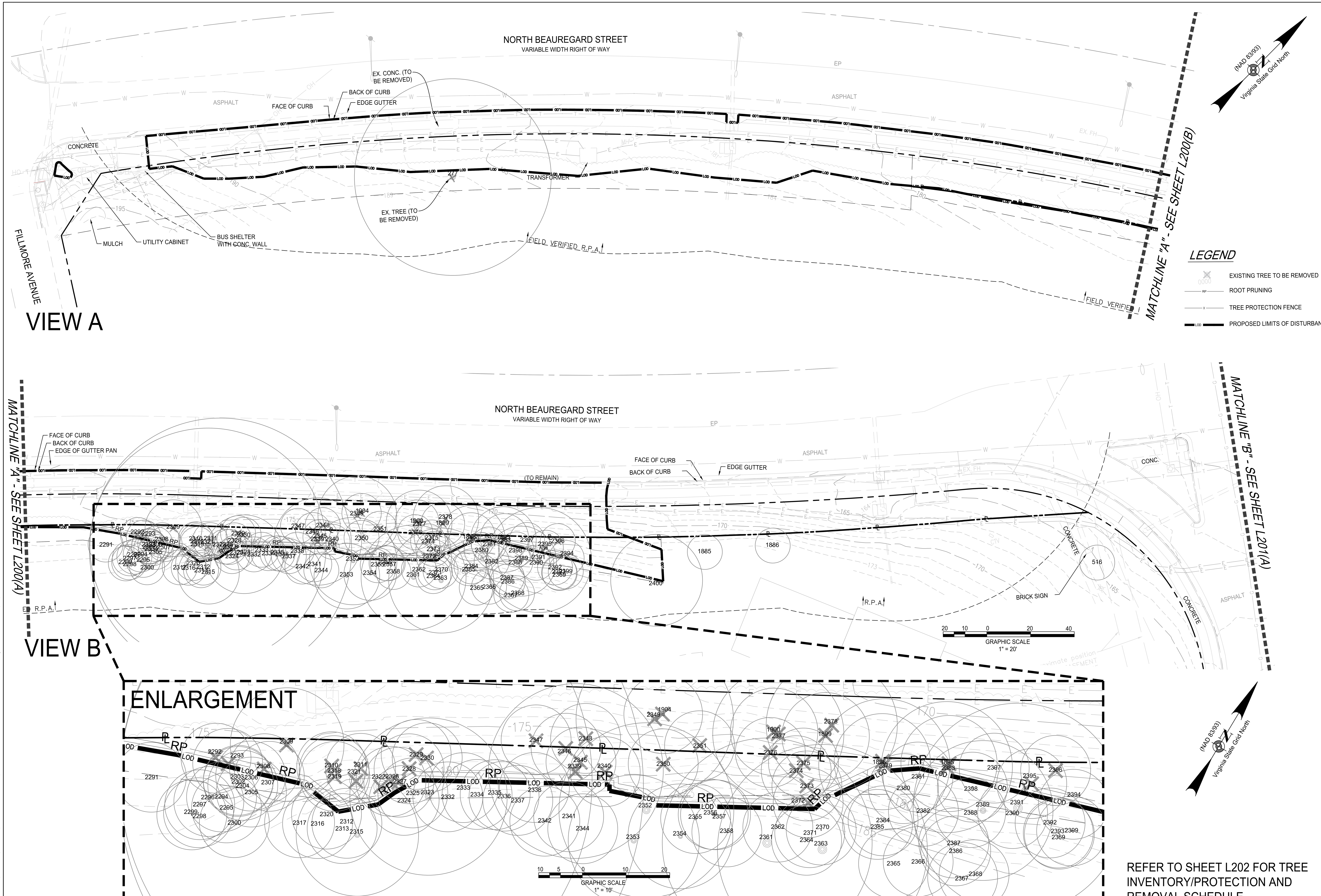
COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

LANDSCAPE COVER

L100

P:\Projects\21266\00100\111333 – 60%\L100 LANDSCAPE COVER.dwg PLOTTED: 3/8/2022 3:28:51 PM BY TESS REEVES



REFER TO SHEET L202 FOR TREE INVENTORY/PROTECTION AND REMOVAL SCHEDULE

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: TR DATE: –
DRAWN BY: TR DATE: –
CHECKED BY: CM/LBD DATE: –
APPROVED BY: DL DATE: –

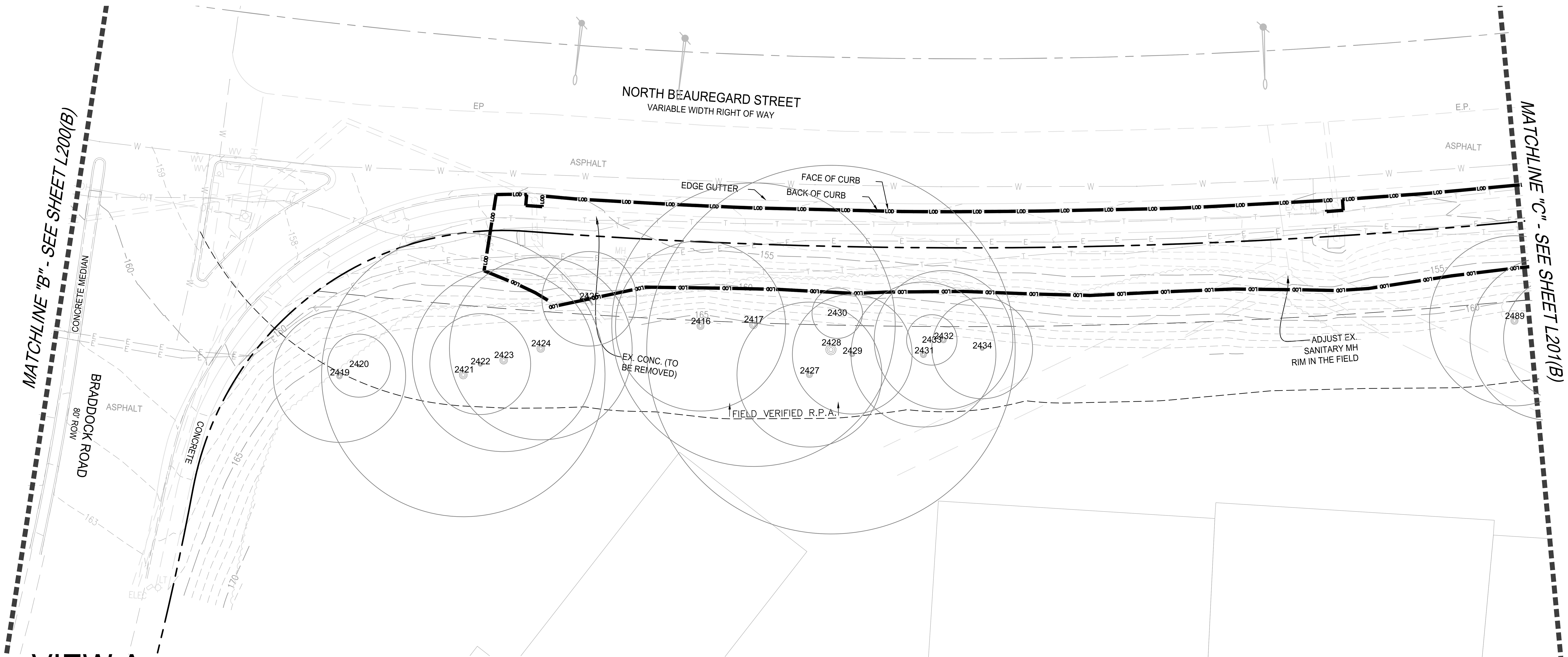
COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
LANDSCAPE ARCHITECT
03/08/2022

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

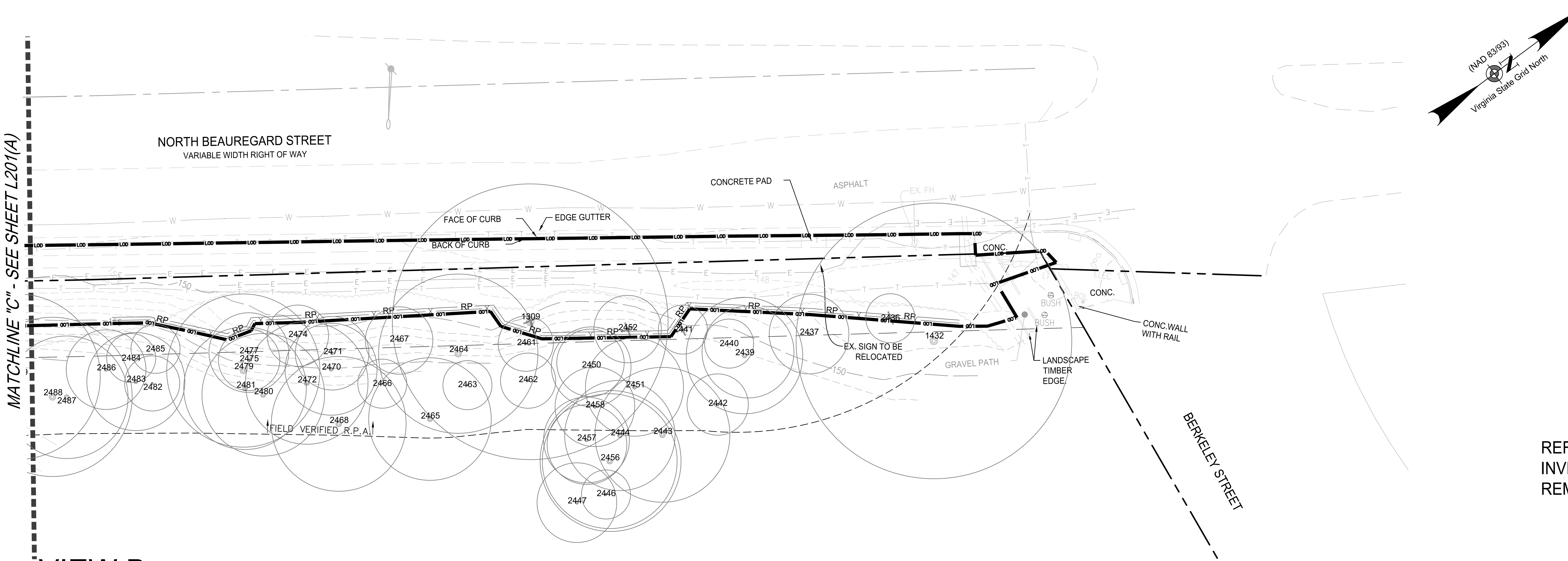
TREE PRESERVATION PLAN

L200

P:\Projects\21266\00100\111333 – 60%\L200 TREE PRESERVATION PLAN.dwg PLOTTED: 3/8/2022 3:28:59 PM BY TESS REEVES



VIEW A



VIEW B

LEGEND

- EXISTING TREE TO BE REMOVED
- ROOT PRUNING
- TREE PROTECTION FENCE
- PROPOSED LIMITS OF DISTURBANCE

REFER TO SHEET L202 FOR TREE INVENTORY/PROTECTION AND REMOVAL SCHEDULE

30 15 0 30 60
GRAPHIC SCALE
1" = 30'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CML/BD DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TREE PRESERVATION PLAN

L201

P:\Projects\21266\00100\111333 - 60%\L200 TREE PRESERVATION PLAN.dwg PLOTTED: 3/8/2022 3:29:07 PM BY TESS REEVES

TREE INVENTORY

TREE #	BOTANICAL NAME	COMMON NAME	CRITICAL ROOT ZONE RADIUS (FEET)	TRUNK DIAMETER (INCHES)	CONDITION RATING	STATUS	COMMENTS
1309	*QUERCUS ALBA*	WHITE OAK	45	30	68	REMOVE	25% DEAD CANOPY
1432	*QUERCUS RUBRA*	NORTHERN RED OAK	45	30	DEAD		
2292	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	60	REMOVE	LEANING
2293	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	25	REMOVE	TOP SNAPPED OFF
2295	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	2	65		RUBBING BRANCHES, LEANING
2297	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	2	65		BASE IN POOR CONDITION
2298	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	2	68		
2299	*PRUNUS SEROTINA*	BLACK CHERRY	8	2	65		POOR FORM
2300	*QUERCUS MONTANA*	CHESTNUT OAK	8	2	70		BARK DAMAGE
2301	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	67		LEANING, VINES
2302	*PRUNUS SEROTINA*	BLACK CHERRY	8	0.5	65		CRUSHED UNDER VINES AND VEGETATION
2304	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	70		
2305	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	70		
2306	*PRUNUS SEROTINA*	BLACK CHERRY	8	0.5	60		CANKER
2307	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	65		LEANING, BAD LEADER
2308	*ROBINIA PSEUDOACACIA*	BLACK LOCUST			65	REMOVE	LEANING
2309	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	13	13	65	REMOVE	BAD LEADER, VINES
2310	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	70	REMOVE	
2311	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	2	50	REMOVE	SPLIT
2313	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	70		
2313A	*QUERCUS ALBA*	WHITE OAK	14	14	70		DUAL LEADERS, EPICORMIC SPROUTING
2314	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	50		BARK DAMAGE, LEADER SNAPPED OFF
2316	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	60		BARK DAMAGE
2317	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	70		LEANING
2318	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	71	REMOVE	LEANING
2319	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	73	REMOVE	
2320	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	65		BASE IN POOR CONDITION
2321	*QUERCUS MONTANA*	CHESTNUT OAK	54	36	68	REMOVE	DUAL LEADERS, MISSING BRANCHES, SNAG
2322	*DEAD*	DEAD	60	40	DEAD		
2323	*QUERCUS MONTANA*	CHESTNUT OAK	18	18	68		DUAL LEADERS, HANGING BRANCH, SPROUTING
2324	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	71		
2325	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	68	REMOVE	VINES
2326	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	68	REMOVE	VINES
2327	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	40	REMOVE	TOP SNAPPED OFF, LEANING
2328	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	30	REMOVE	DYING
2329	*DEAD*	DEAD	8	0.5	DEAD	REMOVE	
2330	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	30	REMOVE	CRUSHED UNDER VINES AND VEGETATION
2331	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	65		VINES, CROSSING LIMBS
2332	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	65		VINES, CROSSING LIMBS
2333	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	65		VINES
2334	*QUERCUS MONTANA*	CHESTNUT OAK	8	0.5	72		UNEVEN CANOPY
2335	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	35		TOP SNAPPED OFF
2336	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	70		VINES
2337	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	70		DEAD BRANCHES
2338	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	68		BAD FORM, CROWDED, EPICORMIC SPROUTING
2339	*ACER RUBRUM*	RED MAPLE	8	0.5	65	REMOVE	POOR FORM, VINES
2340	*LIRIODENDRON TULIPIFERA*	TULIP POPLAR	8	3	50	REMOVE	VINES, NO BUDS
2341	*NYSSA SYLVATICA*	BLACK GUM	8	3	72		
2342	*NYSSA SYLVATICA*	BLACK GUM	8	3	72		UNEVEN CANOPY
2344	*NYSSA SYLVATICA*	BLACK GUM	8	2	60		LEANING
2345	*ACER RUBRUM*	RED MAPLE	8	0.5	73	REMOVE	VINES
2347	*ACER RUBRUM*	RED MAPLE	8	0.5	65	REMOVE	VINES
2349	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	9	9	67	REMOVE	DUAL LEADERS, VINES
2350	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	74	REMOVE	DUAL LEADERS
2351	*ACER RUBRUM*	RED MAPLE	8	0.5	72	REMOVE	
2352	*QUERCUS RUBRA*	NORTHERN RED OAK	20	20	67		MULTIPLE DEAD LEADERS
2353	*QUERCUS MONTANA*	CHESTNUT OAK	15	15	71		EPICORMIC SPROUTING
2354	*QUERCUS MONTANA*	CHESTNUT OAK	12	12	72		EPICORMIC SPROUTING
2355	*QUERCUS MONTANA*	CHESTNUT OAK	8	8	70		DEAD BRANCHES
2356	*QUERCUS MONTANA*	CHESTNUT OAK	8	8	68		POOR FORM
2358	*QUERCUS MONTANA*	CHESTNUT OAK	8	5	35		TOP SNAPPED OFF, ROTTING
2361	*QUERCUS MONTANA*	CHESTNUT OAK	24	24	70		
2362	*NYSSA SYLVATICA*	BLACK GUM	8	2	74		CROWDED
2363	*QUERCUS RUBRA*	NORTHERN RED OAK	24	24	72		BROKEN BRANCHES
2364	*NYSSA SYLVATICA*	BLACK GUM	8	2	70		
2365	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	74		
2366	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	73		
2367	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	2			
2368	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	2	65		DEAD BRANCHES
2369	*DEAD*	DEAD			DEAD		
2370	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	15	15	63		DEAD BRANCHES, LEANING, VINES
2371	*NYSSA SYLVATICA*	BLACK GUM	8	0.5	72		
2372	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	74	REMOVE	
2373	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	DEAD	REMOVE	
2374	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	60	REMOVE	DEAD BRANCHES
2375	*PRUNUS SEROTINA*	BLACK CHERRY	8	0.5	65	REMOVE	LEANING
2376	*ACER RUBRUM*	RED MAPLE	8	0.5	70	REMOVE	VINES
2377	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	15	15	63	REMOVE	BROKEN BRANCHES, VINES
2379	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	15	15	65	REMOVE	LEANING
2380	*LIRIODENDRON TULIPIFERA*	TULIP POPLAR	8	3	70		

TREE INVENTORY

TREE #	BOTANICAL NAME	COMMON NAME	CRITICAL ROOT ZONE RADIUS (FEET)	TRUNK DIAMETER (INCHES)	CONDITION RATING	STATUS	COMMENTS
2382	*LIRIODENDRON TULIPIFERA*	TULIP POPLAR	8	3	67		LEANING
2383	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	15	15	65	REMOVE	BAD FORM, VINES
2384	*LIRIODENDRON TULIPIFERA*	TULIP POPLAR	8	3	72		VINES
2385	*NYSSA SYLVATICA*	BLACK GUM	8	3	70		RUBBING BRANCHES
2386	*SASSAFRAS ALBIDUM*	SASSAFRAS	8	0.5	60		SEVERE VINES
2387	*PRUNUS SEROTINA*	BLACK CHERRY	8	0.5	68		POOR FORM
2388	*ILEX OPACA*	AMERICAN HOLLY	8	0.5	70		VINES
2389	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	16	16	60		SPLIT
2390	*PRUNUS SEROTINA*	BLACK CHERRY	8	3	70		VINES
2391	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	24	24	65		DUAL LEADERS, VINES, BROKEN AND DEAD BRANCHES
2392	*PRUNUS SEROTINA*	BLACK CHERRY	8	3	70		BAD FORM, VINES
2393	*PRUNUS SEROTINA*	BLACK CHERRY	8	2	74		
2395	*ACER RUBRUM*	RED MAPLE	8	3	70	REMOVE	VINES
2396	*ACER RUBRUM*	RED MAPLE	8	3	65	REMOVE	VINES, BROKEN BRANCHES
2396A	*PRUNUS SEROTINA*	BLACK CHERRY	8	3	68		VINES
2397	*ACER RUBRUM*	RED MAPLE	8	3	70		
2398	*ILEX OPACA*	AMERICAN HOLLY	8	3	68		BAD FORM
2399	*PRUNUS SEROTINA*	BLACK CHERRY	8	3	65		LEANING, VINES
2400	*PINUS STROBUS*	WHITE PINE	21	21	68		LOTS OF IVY, DEAD LIMBS
2416	*QUERCUS ALBA*	WHITE OAK	27	27	73		DUAL LEADERS
2417	*QUERCUS RUBRA*	NORTHERN RED OAK	45	30	70		LEANING, SOME DEAD
2419	*QUERCUS RUBRA*	NORTHERN RED OAK	21	21	60		MULTIPLE DEAD LEADERS
2420	*QUERCUS ALBA*	WHITE OAK	10	10	72		UNEVEN CANOPY
2421	*QUERCUS ALBA*	WHITE OAK	45	30	76		
2422	*QUERCUS ALBA*	WHITE OAK	16	16	72		CROWDED
2423	*QUERCUS ALBA*	WHITE OAK	29	29	73		DUAL LEADERS
2424	*QUERCUS ALBA*	WHITE OAK	29	29	70		DUAL LEADERS, BROKEN LIMB
2427	*QUERCUS RUBRA*	NORTHERN RED OAK	23	23	68		LEANING, DEAD LARGER BRANCHES
2428	*DEAD*		60	39			
2429	*DEAD*		19	19			
2430	*GLEDITSIA TRIACANTHOS*	HONEYLOCUST	8	3	68		VINES
2431	*QUERCUS ALBA*	WHITE OAK	23	23	65		DEAD BRANCHES
2432	*QUERCUS RUBRA*	NORTHERN RED OAK	22	22	60		MAJOR DIEBACK
2433	*MISSING*						
2434	*QUERCUS ALBA*	WHITE OAK	16	16	68		VINE IN CANOPY, POOR FORM
2436	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	4	73	REMOVE	POOR FORM
2437	*QUERCUS ALBA*	WHITE OAK	13	13	DEAD		
2439	*QUERCUS ALBA*	WHITE OAK	19	19	74		NARROW BRANCH ANGLE
2440	*CARYA TOMENTOSA*	HICKORY	8	3	72		CROWDED RUBBING BRANCHES,VINES
2441	*CARYA TOMENTOSA*	HICKORY	8	3	70	REMOVE	CROWDED RUBBING BRANCHES,VINES
2442	*QUERCUS RUBRA*	NORTHERN RED OAK	40	10	68		EPICORMIC SPROUTING
2443	*QUERCUS ALBA*	WHITE OAK	22	22	80		
2444	*QUERCUS ALBA*	WHITE OAK	18	18	78		DUAL LEADERS
2446	*QUERCUS ALBA*	WHITE OAK	8	8	73		BENT TOP
2447	*CARYA TOMENTOSA*	HICKORY	13	13	68		EPICORMIC SPROUTING, POOR FORM
2450	*QUERCUS MONTANA*	CHESTNUT OAK	13	13	68		POOR FORM
2451	*QUERCUS MONTANA*	CHESTNUT OAK	16	16	73		DEAD LIMBS, EPICORMIC SPROUTING
2452	*QUERCUS ALBA*	WHITE OAK	11	11	71	REMOVE	POOR FORM
2456	*QUERCUS RUBRA*	NORTHERN RED OAK	22	22	67		LEANING, SOME DEAD BRANCHES, SPROUTS, HEALED BASE WOUND
2457	*QUERCUS MONTANA*	CHESTNUT OAK	14	14	35		EXTENSIVE DECAY
2458	*QUERCUS MONTANA*	CHESTNUT OAK	13	13	40		INSECT HOLES,EXTENSIVE DECAY
2461	*QUERCUS MONTANA*	CHESTNUT OAK	9	9			
2462	*QUERCUS ALBA*	WHITE OAK	9	9	74		EPICORMIC SPROUTING
2463	*FAGUS GRANDIFOLIA*	AMERICAN BEECH	8	6	73		BAD BRANCHING ANGLES
2464	*QUERCUS ALBA*	WHITE OAK	26	26	75		SOME DECAY
2465	*QUERCUS ALBA*	WHITE OAK	20	20	75		
2466	*ULMUS AMERICANA*	ELM	8	4	80		GOOD FORM
2467	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	11	11	65		DEAD BRANCHES, LEANING
2468	*QUERCUS ALBA*	WHITE OAK	22	22	74		EPICORMIC SPROUTING, SLIGHT LEAN
2470	*QUERCUS RUBRA*	NORTHERN RED OAK	15	15	70		SLIGHT LEAN, DEAD BRANCHES
2471	*QUERCUS RUBRA*	NORTHERN RED OAK	12	12	65		POOR FORM, MULTIPLE CURVES IN TRUNK, LEANING
2472	*QUERCUS RUBRA*	NORTHERN RED OAK	20	20	40		EXTENSIVE DECAY
2474	*NYSSA SYLVATICA*	BLACK GUM	10	10	DEAD		EXTENSIVE DECAY
2475	*QUERCUS MONTANA*	CHESTNUT OAK	10	10	50		EXTENSIVE DECAY
2477	*QUERCUS RUBRA*	NORTHERN RED OAK	13	13	70		
2479	*QUERCUS RUBRA*	NORTHERN RED OAK	25	25	68		SLIGHT LEAN, SOME BROKEN BRANCHES
2480	*QUERCUS ALBA*	WHITE OAK	20	20	72		LEANING, UNEVEN CANOPY
2481	*LIRIODENDRON TULIPIFERA*	TULIP POPLAR	20	20	73		LEANING, SMALL ROOT HOLE
2482	*CARYA TOMENTOSA*	HICKORY	9	9	75		LEANING
2483	*QUERCUS ALBA*	WHITE OAK	16	16	75		
2484	*CATALPA SP.*	CATALPA	8	2	80		
2485	*JUNIPERUS VIRGINIANA*	EASTERN REDCEDAR	8	2	45		TOP SNAPPED OFF
2486	*LIRIODENDRON TULIPIFERA*	TULIP POPLAR	13	13	76		
2487	*QUERCUS ALBA*	WHITE OAK	20	20	DEAD		
2488	*QUERCUS ALBA*	WHITE OAK	26	26	70		DUAL LEADERS,LEANING
2489	*QUERCUS ALBA*	WHITE OAK	27	27	73		GALL
5450	*QUERCUS RUBRA*	NORTHERN RED OAK	21	21	65		MULTIPLE DEAD LIMBS, UNEVEN CANOPY
5308	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	8	0.5	DEAD		
5419	*ROBINIA PSEUDOACACIA*	BLACK LOCUST	20	20	63		DUAL LEADERS, BROKEN BRANCHES

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CMI,BD DATE: -
APPROVED BY: DL DATE: -

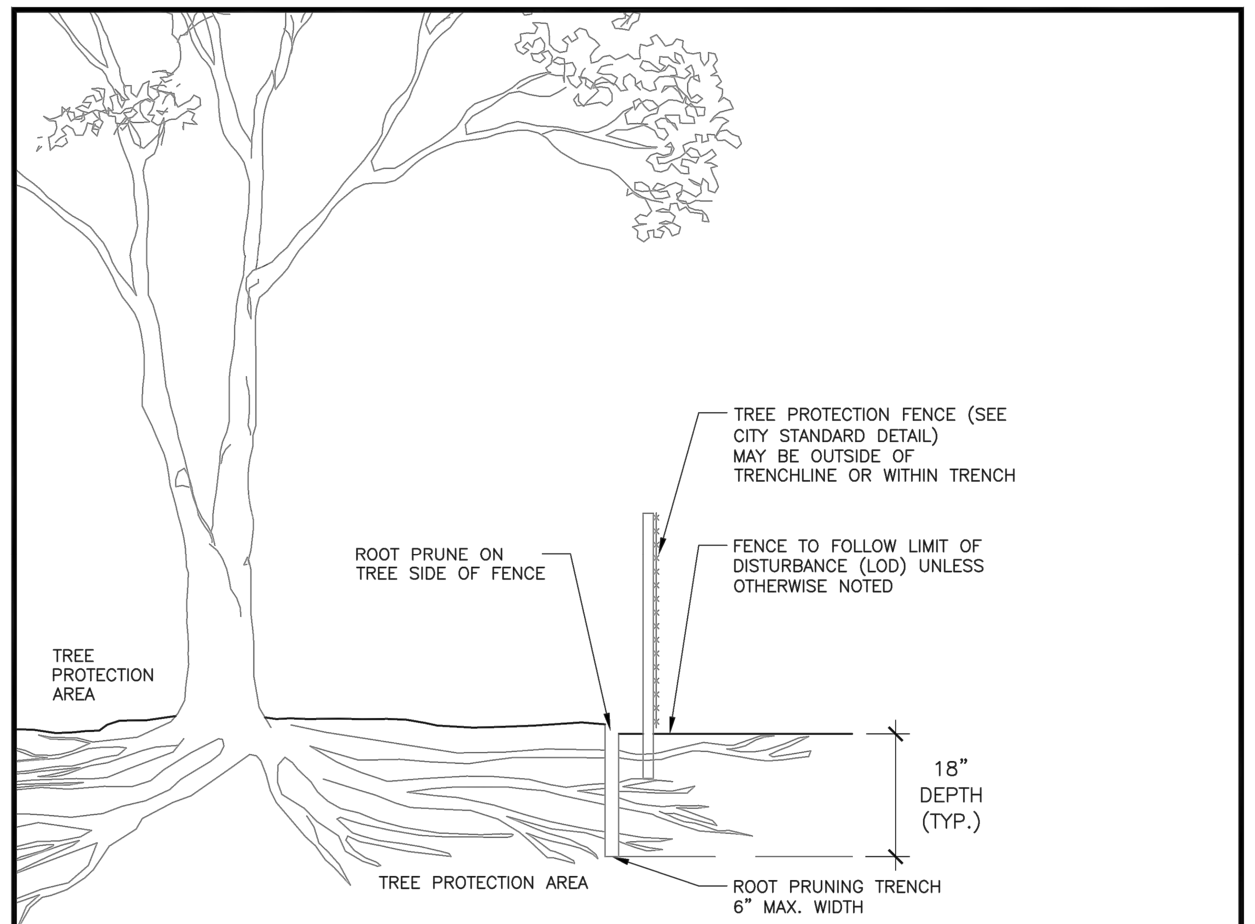
COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TREE PROTECTION INVENTORY

L202

P:\Projects\21266\00100\111333 – 60%\L200 TREE PRESERVATION PLAN.dwg PLOTTED: 3/8/2022 3:29:08 PM BY TESS REEVES



NOTES

1. ROOT PRUNING SHALL BE DONE WITH TRENCHER OR VIBRATORYPLOW TO DEPTH OF 18". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT BREAK OR CHOP. DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
2. ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING AND SHALL BE APPROVED BY CITY STAFF.
3. ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF AN ISA CERTIFIED ARBORIST. CERTIFICATION SHALL BE PROVIDED TO THE CITY UPON COMPLETION.
4. BACKFILL THE ROOT–PRUNING TRENCH WITH APPROVED LOOSE TOPSOIL MIX AND TOP WITH 3–4" BARK MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
5. ROOT PRUNING WORK SHALL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING SHALL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.
6. CITY OF ALEXANDRIA STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO TRENCHING AND WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

A ROOT PRUNING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

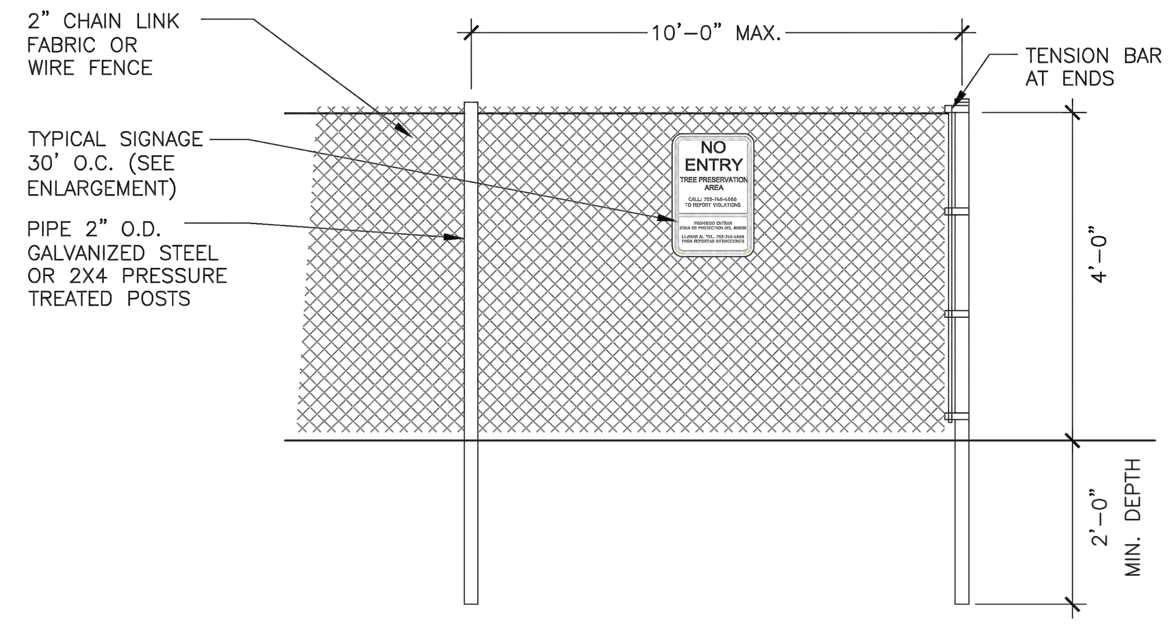
CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA | Approved by: COA | 1 OF 1 | ROOT PRUNING | Date drawn: 01/01/19 | LD 015

NOTES

1. TREE PROTECTION DETAIL SHALL APPLY TO ALL TREES INCLUDING STREET TREES.
2. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION. CITY STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO INSTALLATION OR ANY OTHER TREE PRESERVATION MEASURE SPECIFIED IN PLANS AND SHALL APPROVE LAYOUT.
3. NO PERSONNEL, VEHICLES, EQUIPMENT, CONSTRUCTION MATERIALS OR DEBRIS ALLOWED IN TREE PROTECTION AREAS. REFER TO LANDSCAPE GUIDELINES FOR ADDITIONAL RESTRICTIONS.
4. REMOVE TREE PROTECTION FENCE ONLY WITH APPROVAL FROM CITY STAFF AFTER ALL SITE WORK HAS BEEN COMPLETED.
5. SIGN MATERIAL TO BE WEATHER RESISTANT.
6. FENCE FABRIC MAY ALSO BE 2X4 WELDED WIRE FABRIC MIN. 12.5 GAUGE LAYERED WITH ORANGE SNOW FENCE FOR VISIBILITY



A TREE PROTECTION FENCE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA | Approved by: COA | 1 OF 1 | TREE PROTECTION FENCE | Date drawn: 01/01/19 | LD 014

A) STANDARD TREE PRESERVATION NOTES FOR ALL PLANS REQUIRING APPROVAL:

THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL PROJECTS WITH PRESERVATION AREAS

1) VEGETATION DESIGNATED FOR PROTECTION AND/OR PRESERVATION SHALL CONTINUOUSLY RECEIVE AN ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.

A. MAINTENANCE SHALL BE PRO–ACTIVE.
B. MAINTENANCE OPERATIONS SHALL AGGRESSIVELY MONITOR THE HEALTH, GROWTH AND VIGOR OF VEGETATION AND PRESCRIBE SELECTIVE PRUNING, REMOVAL OF VOLUNTEER AND/OR INVASIVE SPECIES, WATERING, FERTILIZATION AND INSTALLATION OF MULCH/TOPDRESSING.
C. WHEN PRESERVED VEGETATION IS LOCATED ON CITY PROPERTY, MAINTENANCE SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY.

2) AREAS DESIGNATED FOR PROTECTION AND/OR PRESERVATION OF VEGETATION SHALL NOT BE ENTERED OR UTILIZED (APPROVED MAINTENANCE PROCEDURES AND WATERING EXCEPTED) THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROHIBITED ITEMS/ ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO:

A. MODIFYING SITE TOPOGRAPHY IN A MANNER THAT DIRECTLY OR INDIRECTLY ALTERS EXISTING SITE DRAINAGE WITHIN PROTECTION ZONE INCLUDING TRENCHING OR GRADING OPERATIONS AND PLACING, STORING OR STOCKPILING SOIL OR CONSTRUCTION RELATED SUPPLIES.
B. FELLING AND STORING VEGETATION. III. INCINERATING MATERIALS WITHIN OR IN CLOSE PROXIMITY.
C. OPERATING MACHINERY OR EQUIPMENT, INCLUDING VEHICLE/EQUIPMENT PARKING OR STORAGE.
D. TEMPORARY OR PERMANENT UTILITY CONSTRUCTION, PAVING OR IMPERVIOUS SURFACE INSTALLATION.
E. DISPOSAL OF DEBRIS OR CHEMICALS. VII. TEMPORARY FACILITIES OR OCCUPATION BY WORK FORCE.
F. STORAGE OF CONSTRUCTION MATERIALS OR WASTE.

A STANDARD TREE PRESERVATION NOTES
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA | Approved by: COA | 1 OF 1 | STANDARD TREE PRESERVATION PLAN NOTES | Date drawn: 12/02/2019 | LD 017

NOTES:

1. ALL WORK PERFORMED SHALL MEET OR EXCEED THE MOST RECENT INDUSTRY STANDARDS, AS PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA). IN THE EVENT CULTURAL TREATMENTS PRESCRIBED ARE NOT COVERED BY AN EXISTING STANDARD, ALL WORK PERFORMED SHALL MEET OR EXCEED STANDARDS APPROVED BY THE CITY URBAN FORESTER.

2. ALL TREE PRESERVATION ACTIVITIES SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN ISA CERTIFIED ARBORIST.

3. TREES BEING REMOVED SHALL NOT BE FELLED, PUSHED OR PULLED INTO TREE PRESERVATION AREAS. EQUIPMENT OPERATORS SHALL NOT CLEAN ANY PART OF THEIR EQUIPMENT BY SLAMMING AGAINST THE TRUNKS OF TREES TO BE RETAINED.

4. TREES ON THE EDGE OF THE LIMITS OF CLEARING AND GRADING SHALL BE CUT DOWN BY HAND WITH A CHAIN SAW. REMAINING STUMPS SHALL EITHER BE LEFT IN PLACE OR GROUND DOWN WITH A STUMP GRINDER.

5. TREES INDICATED WILL BE MULCHED WITH WOOD CHIPS GENERATED FROM ON SITE CLEARING OR TREE REMOVAL AND PRUNING OPERATIONS WHEN POSSIBLE. SHREDDED HARDWOOD MULCH FROM OFFSITE MAYBE UTILIZED IF APPROVED BY PROJECT ARBORIST. MULCH SHALL BE SPREAD IN A UNIFORM DEPTH OF THREE (3") INCHES BY HAND. MULCH SHALL BE PLACED IN AREAS AS INDICATED ON APPROVED PLANS.

6. DURING CLEARING AND GRADING OPERATIONS AND THROUGHOUT CONSTRUCTION, NO ACTIVITY SHALL BE PERMITTED IN TREE SAVE AREAS WITHOUT AUTHORIZATION FROM OWNER, ARBORIST/FORESTER, AND CITY URBAN FORESTER. PRECLUDED ACTIVITIES INCLUDE:
- FELLING OF TREES INTO PRESERVATION AREAS OR OPERATION OF HEAVY MACHINERY IN SAVE AREAS TO FELL TREES ON THE PERIMETER OF PRESERVATION AREAS.
- OPERATION OF HEAVY EQUIPMENT OR MACHINERY OF ANY KIND IN PRESERVATION AREAS FOR ANY PURPOSE-INCLUDING REMOVAL OF TREES ADJACENT TO SAVE AREAS.
- PLACEMENT OF EXCESS SOIL, FILL, OR MATERIALS OF ANY KIND IN PRESERVATION AREAS.
- PLACEMENT OF ANY CONSTRUCTION MATERIALS OF ANY KIND IN PRESERVATION AREAS.
- PARKING OR STORING EQUIPMENT OR VEHICLES IN PRESERVATION AREAS.
- DUMPING CHEMICALS OR CONCRETE WASHOUT IN PRESERVATION AREAS.
- BURNING OF ANY MATERIAL OR DEBRIS IN PRESERVATION AREAS OR WITHIN 200 FEET OF PRESERVATION AREAS.
- TRENCHING, GRADING, EXCAVATING FOR ANY PURPOSE IN PRESERVATION AREAS.
- INSTALLATION OF LANDSCAPING, IRRIGATION, TURF, DRAINAGE SYSTEMS, ETC.

7. ALL EXISTING TRASH AND/OR DEBRIS ON SITE SHALL BE REMOVED AT THE TIME OF DISTURBANCE. INDIVIDUAL TREES AND FORESTED AREAS DESIGNATED TO BE PRESERVED SHALL BE PROTECTED AND MANAGED THAT ENSURES TREE SURVIVAL DURING ALL PHASES OF DEMOLITION, CLEARING AND GRADING, AND CONSTRUCTION. IN ADDITION TO PROTECTING TREES, ALL UNDERSTORY PLANTS, LEAF LITTER AND SOIL CONDITIONS FOUND IN FORESTED AREAS DESIGNATED TO BE LEFT PRESERVED SHALL BE PROTECTED.

8. TREES TO REMAIN LOCATED ALONG THE LIMITS OF CLEARING AND GRADING SHALL BE PRUNED DURING CLEARING OPERATIONS TO AVOID MECHANICAL DAMAGE. THIS SHALL BE ADMINISTRATED UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST.

9. ANY DAMAGE INFLICTED TO THE ABOVE OR BELOW-GROUND PORTIONS OF THE TREES SHOWED TO BE PRESERVED SHALL BE REPAIRED IMMEDIATELY.

10. ALL PRUNING SHALL CONFORM TO THE LATEST EDITION OF ANSI A300 (PART 1) PRUNING STANDARDS. DISEASED LIMBS SHALL BE REMOVED OR TREATED AT THE DISCRETION OF THE ARBORIST. WHILE PRUNING, THE ARBORIST SHALL MAKE NOTE OF ANY CONDITIONS WHICH AFFECT THE HEALTH OR CONDITION OF THE TREE AND RECOMMEND CORRECTIVE TREATMENT FOR THESE CONDITIONS. VINE REMOVAL SHALL BE INCLUDED IN ALL PRUNING ACTIVITIES. UNDER NO CIRCUMSTANCES SHALL THE INTERIOR OF TREES BE STRIPPED OF FOLIAGE, SUCKERS, EPICORMIC BRANCHING, OR OTHER LIVE GROWTH. INTERIOR GROWTH MAY BE THINNED AS NECESSARY TO REMOVE BRANCHES DAMAGED DURING OPERATIONS. DEBRIS FROM PRUNING SHALL BE CHIPPED AND DEPOSITED INTO THE TREE SAVE AREA AND SPREAD BY HAND TO A UNIFORM THICKNESS OR BE REMOVED FROM SITE.

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CM/LBD DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TREE PRESERVATION NOTES AND DETAILS

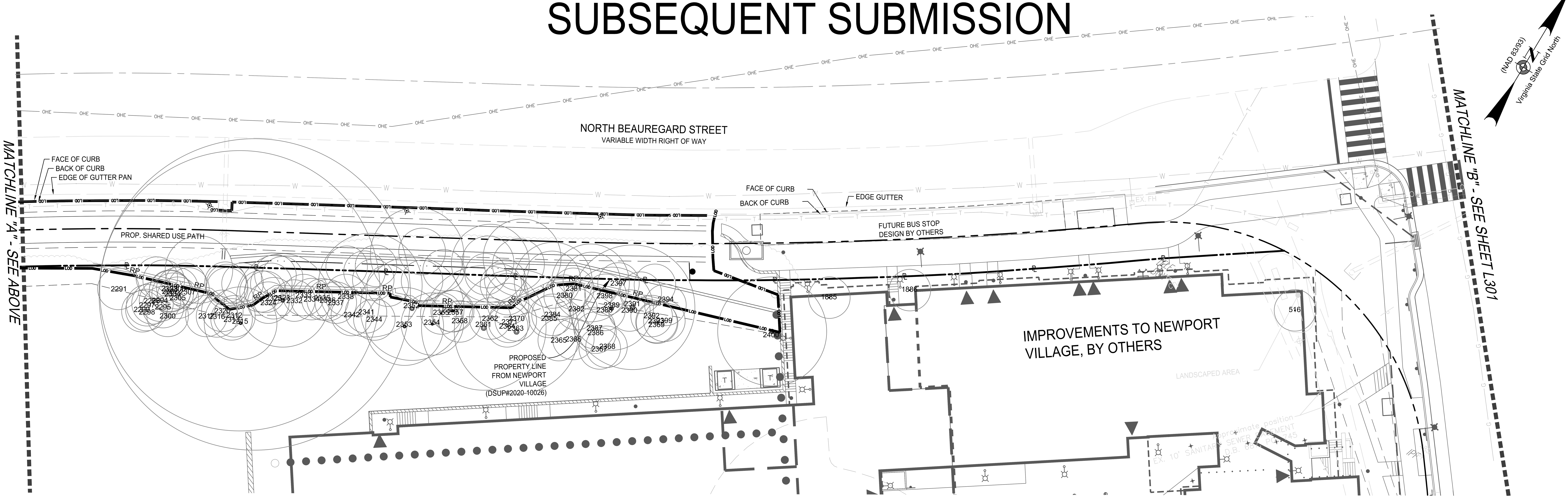
L203

P:\Projects\21266\00100\111333 – 60%\L200 TREE PRESERVATION PLAN.dwg PLOTTED: 3/8/2022 3:29:12 PM BY TESS REEVES

LEGEND

	EXISTING PROPERTY LINE
	PROPOSED LIMITS OF DISTURBANCE
	PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
	PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)

THIS SHEET IS FOR LANDSCAPE PLAN. SHEET TO BE FINALIZED AND SUBMITTED WITH SUBSEQUENT SUBMISSION



GRAPHIC SCALE
1" = 20'

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-0008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CM/LBD DATE: -
APPROVED BY: DL DATE: -

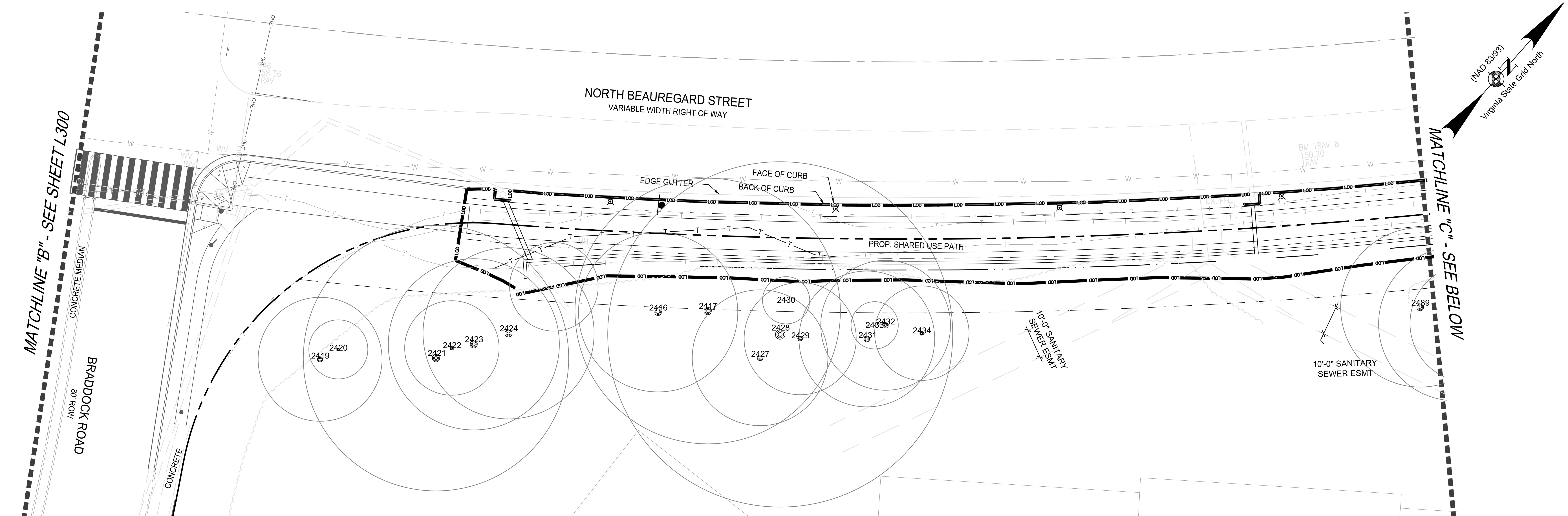
COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

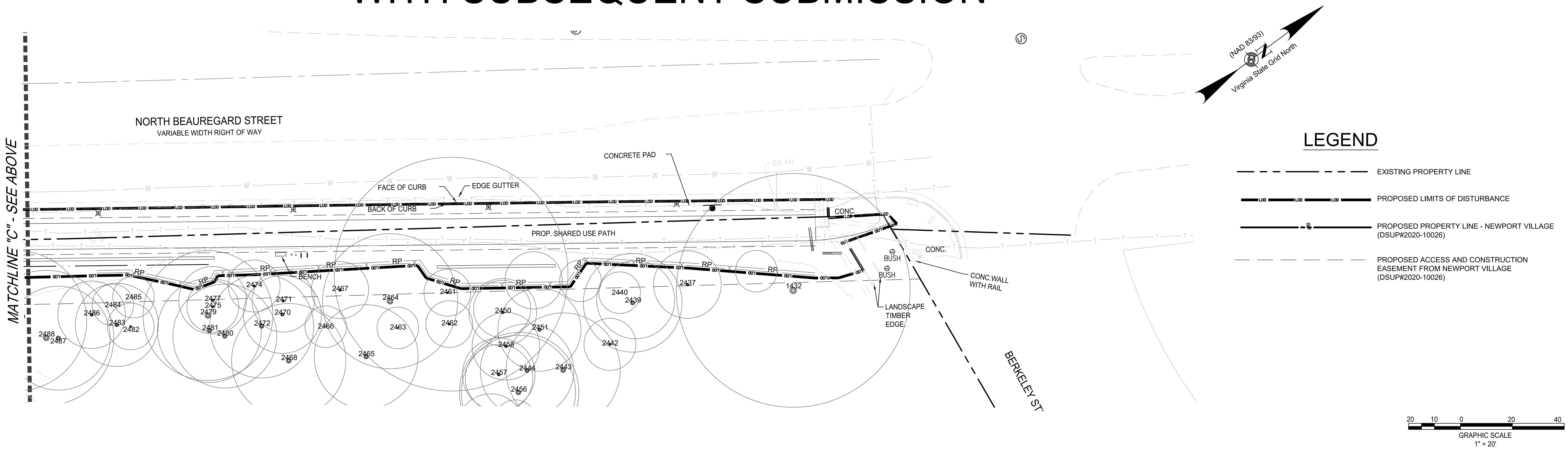
LANDSCAPE PLAN

L300

P:\Projects\21266\00100\11333 - 60%\L300 LANDSCAPE PLAN.dwg PLOTTED: 3/8/2022 3:29:27 PM BY TESS REEVES



THIS SHEET IS FOR LANDSCAPING PLAN.
SHEET TO BE FINALIZED AND SUBMITTED
WITH SUBSEQUENT SUBMISSION



LEGEND

- EXISTING PROPERTY LINE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
- PROPOSED ACCESS AND CONSTRUCTION EASEMENT FROM NEWPORT VILLAGE (DSUP#2020-10026)

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		
DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CML/BD DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

LANDSCAPE PLAN

L301

P:\Projects\21266\00100\111333 – 60% L300 LANDSCAPE PLAN.dwg PLOTTED: 3/8/2022 3:29:39 PM BY TESS REEVES

PLANT TYPE	PLAN INFORMATION		BOTANIC/COMMON NAME				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
URBAN TREES	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	CALIPER/HEIGHT		CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	AR	0	Acer	rubrum		Red Maple	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader (ROW tree)	0	0	0	0	0
	QP	0	Quercus	palustris		Pin Oak	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader (ROW tree)	0	0	0	0	0
	OV	0	Ostrya	virginiana		Eastern Hop Hornbeam	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	500	0	0	0	0
	BN	0	Betula	nigra		River Birch	2"-3" cal./12-14 ft. ht.	B&B; multistem; full branching	750	0	0	0	0
	GT	0	Gleditsia	triacanthos	Inermis	Thornless honeylocust	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	750	0	0	0	0
	CC	0	Cercis	canadensis	x canadensis	Eastern Redbud	1.5"-1.75"cal/6-10 ft. ht.	B&B; symmetrical, single leader	500	0	0	0	0
	UA	0	Ulmus	americana	Princeton	Princeton Elm	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	0	0	0	0
	TOTALS	0							URBAN TREE CCA:	0	0	0	0
											#DIV/0!	#DIV/0!	#DIV/0!
STANDARD TREES	PLAN KEY	QUANTITY	GENUS	SPECIES		COMMON NAME	CALIPER/HEIGHT		CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	AA	0	Amelanchier	arborea		Serviceberry	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	500	0	0		0
	AR	0	Acer	rubrum		Red Maple	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	0	0		0
	AS	0	Acer	saccharum		Sugar Maple	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	0	0		0
	HC	0	Halesia	carolina		Carolina Silverbell	1.5"-1.75"cal/6-10 ft. ht.	B&B; full branching	250	0	0		0
	CF	0	Cornus	florida		Flowering Dogwood	1.5"-1.75"cal/6-10 ft. ht.	B&B; full branching	500	0	0		0
	MV	0	Magnolia	virginiana		Sweetbay Magnolia	2"-3" cal./12-14 ft. ht.	B&B; full branching	250	0	0		0
	PO	0	Platanus	occidentalis		Sycamore	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	0	0		0
	TOTALS	0							STANDARD TREE CCA:	0	0	0	0
											#DIV/0!	#DIV/0!	#DIV/0!

NATIVE PLANT TABULATIONS

PLANT TYPE	QUANTITY	NATIVE TYPE	JANUARY 2, 2020 – JANUARY 1, 2024		
			REQUIRED	PROVIDED	
			%	QTY.	%
Standard Trees	0	Regional/Local	25%	0	100.0%
		Total Natives	60%	0	100.0%
Evergreen Shrubs	0	Regional/Local	8%	0	100.00%
		Total Natives	30%	0	100.00%
Deciduous Shrubs	0	Regional/Local	15%	0	100.00%
		Total Natives	60%	0	100.00%

TOTALS		
TOTAL PLANTS SPECIFIED	TOTAL SUM OF REGIONAL/LOCAL NATIVE PLANTS	TOTAL SUM OF NATIVE PLANTS
0	0	0
	#DIV/0!	#DIV/0!

NOTES:
1) Percentages apply to the total quantity of each plant type specifed on Completeness/Preliminary Plans and Final #1 Grading Plans submitted during the listed time frames.
2) Total Natives is the sum of Eastern U.S. Native, Regionally Native, and Locally Native vegetation specifed on the plans for each plant type.
3) Non-native vegetation for the purposes of providing edible fruits, seeds, or nuts may be planted and shall not be calculated in the above-stated requirements for native species regardless of plant type.

CANOPY COVER CALCULATIONS

		SF
GROSS SITE AREA		0
EXISTING CANOPY		0
CANOPY COVERAGE **REQUIRED**	25%	0
CANOPY COVERAGE **PROVIDED**		0
EXISTING CANOPY TO BE PRESERVED		0
PROPOSED CANOPY		0
TOTAL CANOPY COVERAGE PROVIDED	#DIV/0!	0

TO BE SUBMITTED WITH SUBSEQUENT SUBMISSIONS

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CM/LBD DATE: -
APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
COLIN C. MCCANN
Lic. No. 0406002013
03/08/2022
LANDSCAPE ARCHITECT

LANDSCAPE SCHEDULE AND CALCULATIONS

L302

P:\Projects\21266\00100\111333 - 60%\L300 LANDSCAPE PLAN.dwg PLOTTED: 3/8/2022 3:29:40 PM BY TESS REEVES

CCL GENERAL LANDSCAPE SPECIFICATION SUMMARY - SHORT FORM (REV. 7/20)

SPECIFICATION: THIS IS A SUMMARY OF CHRISTOPHER CONSULTANTS, LTD. GENERAL LANDSCAPE SPECIFICATION. ALL WORK SHALL FOLLOW THE PROCEDURES OUTLINED IN THE SPECIFICATIONS AND DETAILS CONTAINED HEREIN, WHICH ARE DESIGNED TO EXCEED CURRENT INDUSTRY STANDARDS. SHOULD THERE EXIST A DISCREPANCY BETWEEN THIS SPECIFICATION AND THE INCLUDED CONSTRUCTION DETAILS, THE WRITTEN SPECIFICATION SHALL TAKE PRECEDENCE.

REFERENCES: IN LIEU OF PROVIDING COMPREHENSIVE PROPRIETARY SPECIFICATIONS, THE FOLLOWING ARE REFERENCED TO BE GENERAL DEFAULT SPECIFICATIONS WITH THE FOLLOWING MODIFICATIONS. THESE MODIFICATIONS AND THE CONSTRUCTION DETAILS SHOWN IN THIS PLAN SET SHALL TAKE PRECEDENCE OVER THE GENERAL REFERENCED SPECIFICATIONS.

- "LANDSCAPE SPECIFICATION GUIDELINES" LANDSCAPE CONTRACTORS ASSOCIATION OF MD, DC, VA - MOST CURRENT EDITION.
- "AMERICAN STANDARD FOR NURSERY STOCK - ANSI Z60.1" BY AMERICANHORT - MOST CURRENT EDITION
- "TT-77 RECOMMENDED TURFGRASS CULTIVARS FOR CERTIFIED SOD PRODUCTION IN MARYLAND" - MARYLAND TURFGRASS COUNCIL
- "LANDSCAPE ARCHITECTURE/DESIGN SPECIFICATIONS FOR COMPOST USE" - US COMPOSTING COUNCIL

IF THERE ARE DISCREPANCIES OR CONTRADICTIONS IN SPECIFICATION SECTIONS OR DETAILS, THE STRICTER SPECIFICATION SHALL TAKE PRECEDENCE. A REQUEST FOR INFORMATION (RFI) CAN ALSO BE SUBMITTED FOR CLARIFICATION.

LIST OF PLANT MATERIAL: THE CONTRACTOR WILL VERIFY PLANT QUANTITIES PRIOR TO BIDDING AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL PLANT MATERIALS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS. QUANTITIES IN THE PLANTING SCHEDULE SHALL TAKE PRECEDENCE OVER QUANTITIES GRAPHICALLY SHOWN ON THE PLAN. SUBSTITUTIONS SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.

PLANT IDENTIFICATION: ALL TREES SHALL BE TRUE TO NAME AS ON PLANT SCHEDULE OR SHOWN ON PLANTING PLANS AND SHALL BE CORRECTLY LABELED INDIVIDUALLY OR IN GROUPS BY GENUS, SPECIES, VARIETY AND CULTIVAR. LABELS ARE TO REMAIN INTACT UNTIL SITE IS APPROVED THROUGH AGENCY INSPECTION, SUBSTANTIAL COMPLETION APPROVAL, OR PER OWNER'S REPRESENTATIVE'S INSTRUCTION.

PLANT QUALITY: ALL PLANT MATERIALS SHALL CONFORM TO THE SIZE AND FORM STANDARDS SET FORTH IN THE LATEST EDITION OF AMERICANHORT'S "AMERICAN STANDARD FOR NURSERY STOCK - ANSI Z60.1". ABOVE GROUND: TREES SHALL BE HEALTHY WITH THE COLOR, SHAPE, SIZE, AND DISTRIBUTION OF TRUNK, STEMS, BRANCHES, BUDS AND LEAVES TYPICAL OF THE PLANT SPECIFIED. ANY SIGNS OF STRESS, IMPROPER HANDLING (WOUNDS OR BROKEN BRANCHES), INSECT OR DISEASE DAMAGE, OR DEAD/DISTORTED BRANCHES SHOULD NOT BE PRESENT. TREES SHALL HAVE ONE CENTRAL LEADER (UNLESS OTHERWISE SPECIFIED) AND GRAFTS SHOULD BE FULLY CLOSED AND VISIBLE ABOVE THE SOIL LINE. BELOW GROUND: A MINIMUM OF 3 STRUCTURAL ROOTS SHOULD BE REASONABLY DISTRIBUTED AROUND THE TRUNK (REJECT A TREE WITH STRUCTURAL ROOTS ONLY ON ONE SIDE), THE ROOT CROWN SHOULD NOT BE MORE THAN 2 INCHES BELOW THE SOIL LINE, THE TOP 2 STRUCTURAL ROOTS SHOULD NOT BE MORE THAN 3 INCHES BELOW THE SOIL LINE WHEN MEASURED 4 INCHES AWAY FROM THE TRUNK. THE TOP OF THE OTHER STRUCTURAL ROOT SHOULD NOT BE MORE THAN 5 INCHES BELOW THE SURFACE. THE ROOT SYSTEM SHOULD BE FREE OF POTENTIALLY STEM-GIRDLING OR KINKED ROOTS ABOVE THE ROOT COLLAR AND MAIN STRUCTURAL ROOTS.

INSPECTION: PLANTS ARE TO BE INSPECTED UPON DELIVERY TO CONTRACTOR BY A CONTRACTOR'S REPRESENTATIVE AND/OR OWNER'S REPRESENTATIVE. TREES NOT PRESENTING PROPER FORM, INCORRECT VARIETY, SIGNS OF POOR HEALTH OR OVER-STRESS, AND GIRLDING ROOTS ARE TO BE REJECTED.

STORAGE & TRANSPORT: PLANT MATERIALS SHOULD BE PROTECTED FROM DESSICATION DURING TRANSPORT VIA BREATHABLE FABRIC COVERING THE CANOPY AND BY WATERING ROOTBALL/POT THOROUGHLY IMMEDIATELY PRIOR TO TRANSPORT. PLANT MATERIALS SHOULD BE INSTALLED ON DAY OF DELIVERY TO SITE. IF THAT IS NOT POSSIBLE, A TEMPORARY STORAGE AREA CAN BE CONSTRUCTED ON-SITE. PLANTS ARE NOT TO BE STORED ON BARE ASPHALT. IF STORAGE AREA IS ASPHALT, COVER BARE ASPHALT WITH A LAYER OF WOODCHIPS. STORAGE SHOULD BE IN SHADE, AND PLANTS BE REGULARLY WATERED AT ROOT-BALL LEVEL, AND SPACED SO FOLIAGE FROM ONE PLANT DOES NOT INTERFERE WITH FOLIAGE OF ANOTHER. TALL PLANT MATERIALS ARE TO REMAIN UPRIGHT DURING STORAGE. LONGER TERM STORAGE PLANTS ARE TO BE HEELED-IN OR STORED IN MULCH TO THE TOP OF THE CONTAINER/ROOT BALL. PLANT MATERIALS SHALL NOT BE STORED ON-SITE FOR MORE THAN TWO WEEKS. PLANTS STORED IMPROPERLY OR FOR TOO LONG MAY BE SUBJECT TO REJECTION AND REPLACEMENT DEPENDENT ON ULTIMATE PLANTING CONDITION.

PLANTING: PLANTINGS SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS ON THIS SHEET. DETAILS AND SPECIFICATIONS FOR OTHER SPECIFIC LANDSCAPE ITEMS, SUCH AS TREE PRESERVATION OR EROSION CONTROL MAY BE FOUND ELSEWHERE IN THIS DRAWING SET ON THEIR OWN RESPECTIVE SHEET. FOR ITEMS NOT SPECIFICALLY ADDRESSED BY THIS PLAN SET, REFER TO THE LATEST EDITION OF THE "LANDSCAPE SPECIFICATION GUIDELINES" DEVELOPED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MD, DC, AND VA. SHOULD THERE BE ANY AMBIUGUITIES OR QUESTIONS, PLEASE UTILIZE THE FORMAL RFI/SUBMITTAL PROCESS.

TREES: THE PLANTING HOLE DIAMETER IS TO BE AT A MINIMUM THREE TIMES THE DIAMETER OF THE ROOT BALL. THE DEPTH OF THE PLANTING HOLE SHALL BE DUG SO THAT THE SHOULDER OF THE ROOT BALL IS LEVEL WITH THE EXISTING GRADE LEAVING THE ROOT FLARE SLIGHTLY HIGHER. WHEN PLANTING ON A SLOPE, THE DEPTH OF THE HOLE SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT FLARE IS AT THE LEVEL OF THE EXISTING GRADE AT THE SIDES OF THE HOLE. IF THE PLANTING HOLE IS MECHANICALLY DUG, THE HOLE IS TO BE SCARIFIED BY SLIGHTLY ENLARGING HOLE BY HAND DIGGING THE SIDES AND BOTTOM TO PREVENT GLAZING. THE SIDES OF THE HOLE SHOULD BE VERTICAL OR SLOPING OUTWARDS. HOLES ARE NOT TO BE DUG WHEN SOIL IS SATURATED. FOR BALLED AND BURLAPPED TREES, THE WIRE ROOT BALL CAGE IS TO BE REMOVED AND BURLAP IS TO BE CUT AND COMPLETELY REMOVED FROM THE TOP AND A MINIMUM OF 8" TO 12" DOWN THE SIDE OF THE ROOT BALL. DO NOT FOLD BURLAP DOWN INTO HOLE, IT MUST BE REMOVED. ANY SYNTHETIC MATERIALS ARE TO BE COMPLETELY REMOVED FROM THE TRUNK AND ROOT BALL. BACKFILL IN LIFTS USING THE SAME SOIL DUG TO CREATE THE HOLE, BEING CAREFUL NOT TO OVER-COMPACT THE SOIL. INOCULATE BACKFILL SOIL OR ROOTBALL WITH AN APPROVED BALANCED (ENDO/ECTO) COMMERCIAL MYCORRHIZAE APPLICATION. DO NOT AMEND OR ADD FERTILIZER UNLESS EXPRESSLY SPECIFIED TO DO SO OR IS PART OF THE APPROVED MYCORRHIZAE INNOCULANT PRODUCT. DO NOT PLACE ANY SOIL ON TOP OF ROOT BALL. TREES ARE TO BE MULCHED TO FULL DEPTH SPECIFIED IMMEDIATELY AFTER PLANTING. A ½" LAYER OF APPROVED COMPOST IS TO BE PLACED UNDER THE MULCH LAYER. DO NOT PLACE MULCH AGAINST TREE TRUNK.

STAKING: STAKING (IF ANY) IS TO BE INSTALLED PER THE ACCOMPANYING DETAILS, UTILIZING TREE WEBBING STRAPS WITH GROMMETS TO PREVENT WIRE FROM COMING IN CONTACT WITH THE TREE. WHILE NOT PREFERRED, FULL TREE WEBBING SYSTEMS ARE ALSO PERMISSIBLE IF APPROVED THROUGH SUBMITTAL, AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS. WIRE IS TO BE TENSIONED TO ALLOW FOR 1/2 INCH OF DEFLECTION UP OR DOWN, AND TENSION SHALL BE RECHECKED AND ADJUSTED ON A REGULAR BASIS. STAKING IS TO BE REMOVED AS SOON AS POSSIBLE AFTER ONE YEAR. GARDEN HOSE IS NOT TO BE UTILIZED FOR STAKING.

IRRIGATION: FOR PERMANENT SYSTEMS, IRRIGATION SHOULD BE LARGELY INSTALLED PRIOR TO PLANT INSTALLATION TO AVOID HAVING TO DISTURB PLANTING BEDS OR MOVE PLANTS TO ACCOMMODATE THE INSTALLATION OF THE IRRIGATION SYSTEM. FOR SITES WITH NO PERMANENT IRRIGATION SYSTEM, TREES ARE TO BE IRRIGATED UNTIL ESTABLISHED BY THE USE OF TEMPORARY WATER BAGS THROUGH ONE GROWING YEAR OR UNTIL ESTABLISHED. SHRUBS, PERENNIAL BEDS, AND LAWNS ARE TO BE THOROUGHLY HAND-WATERED OR BY MOVABLE TEMPORARY IRRIGATION (SPRINKLERS OR DRIP HOSE) AS NECESSARY TO REFLECT LOCAL WEATHER CONDITIONS. WATERING IS TO BE DEEP INTO THE SOIL AND INFREQUENT, AS OPPOSED TO LIGHT SURFICIAL WATERING PERFORMED OFTEN.

SHRUBS: FOR CONTAINER SHRUBS, THE PLANTING HOLE IS TO BE DUG 3 TIMES THE WIDTH OF THE INTACT CONTAINER. THE CONTAINER IS TO BE COMPLETELY REMOVED AND THE SIDES OF THE SOIL/ROOT CLUMP SCARIFIED WITH A STERILE SHARP KNIFE. THEY SHALL BE PLANTED SO THAT THE TOP OF THE SOIL LEVEL OF THE CONTAINER IS NO MORE THAN 1.5" ABOVE THE ORIGINAL GRADE. FOR BALLED AND BURLAPPED SHRUBS, REMOVE AS MUCH BURLAP AS POSSIBLE FROM THE TOP AND SIDES OF THE ROOTBALL. DO NOT FOLD BURLAP INTO HOLE. PLANT WITH THE ROOT FLARE SLIGHTLY HIGHER THAN THE SURROUNDING GRADE. BACKFILL WITH SOIL DUG TO CREATE THE HOLE. DO NOT COVER TOP OF ROOT BALL/CLUMP.

GROUND COVERS/PERENNIALS: BEDS ARE TO BE PREPARED BY TILLING WELL TO A MINIMUM DEPTH OF 6", AND SOILS SHALL BE AMENDED BY INCORPORATING 1" OF COMPOST MEETING THE US COMPOSTING COUNCIL REFERENCE SPECIFICATION, 1" OF WORM CASTINGS AND/OR WELL DECOMPOSED COMMERCIALLY PRODUCED COMPOST, OR A CLASS A BIOSOLID ALSO MEETING THE REFERENCED US COMPOSTING COUNCIL SPECIFICATION PRIOR TO PLANTING. APPLY 3" OF SHREDDED NON-DYED HARDWOOD MULCH IMMEDIATELY AFTER PLANTING.

COMPACTED OR POORLY DRAINED SOILS: FOR SITES WITH HEAVILY COMPACTED OR POORLY DRAINING SOILS, ALTERNATE PLANTING METHODS WILL NEED TO BE EMPLOYED. CONTACT PROJECT LANDSCAPE ARCHITECT FOR ADDITIONAL PLANTING DETAILS AND SPECIFICATIONS SHOULD EITHER UNFORESEEN CONDITION BE ENCOUNTERED.

CONFLICTS WITH EXISTING ROOTS: PROPOSED LANDSCAPE MAY BE SHOWN TO BE PLANTED IN THE CRITICAL ROOT ZONES OF EXISTING LARGE TREES. SHOULD, IN THE COURSE OF PLANTING, LARGE WOODY ROOTS BE DISCOVERED BELONGING TO ADJACENT LARGE TREES THAT ARE TO BE PRESERVED, SHIFT THE PLANTING LOCATION OF THE TREE TO BE PLANTED TO AVOID CUTTING THE WOODY ROOT. SHOULD A SUITABLE PLANTING LOCATION NOT BE FOUND WITHIN THE PROXIMITY OF WHERE A PROPOSED TREE IS TO BE PLANTED, CONTACT THE PROJECT LANDSCAPE ARCHITECT FOR ALTERNATE PLANTING LOCATION AND RECORDING OF THE DISCREPANCY FOR LANDSCAPE INSPECTION/APPROVAL PURPOSES.

IRRIGATION: NEW PLANT MATERIALS ARE TO BE WATERED AS NECESSARY TO MAINTAIN HEALTH. IF NO PERMANENT IRRIGATION SYSTEM IS INSTALLED, TREES ARE TO BE WATERED UNTIL ESTABLISHED THROUGH THE USE OF TEMPORARY WATER BAGS. SHRUBS, PERENNIALS, AND GROUND COVERS SHALL BE HAND-WATERED. INFREQUENT DEEP WATERING IS PREFERRED TO MORE FREQUENT QUICK/SHALLOW WATERING.

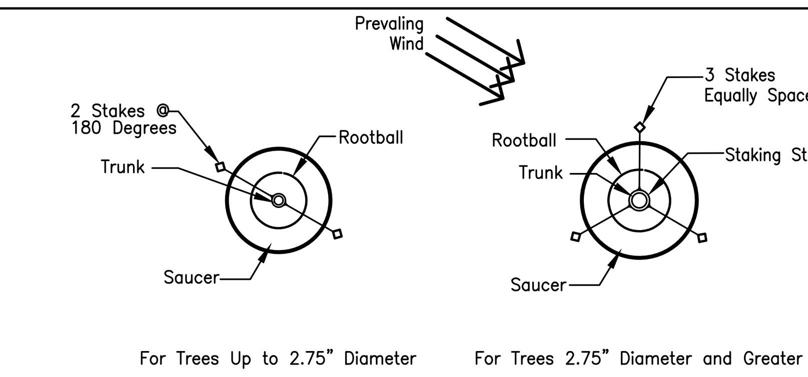
LAWN AREAS:

SEEDED LAWN AREA: AREAS TO BE SEEDED SHALL HAVE PLANTING SOIL TILLED TO A DEPTH OF 6" AND FREE OF STONES GREATER THAN 1" DIAMETER OR LENGTH. ANY AMENDMENTS THAT ARE TO BE ADDED SHOULD BE TILLED INTO SOIL PRIOR TO SEEDING. A SEED MIX COMPOSITION CHART SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. UNLESS SPECIFIED BY THE OWNER'S REPRESENTATIVE, THE SEED MIX MUST CONTAIN A MINIMUM OF THREE CULTIVARS OR TYPES OF GRASS IN THE BLEND, CHOSEN FROM THE RECOMMENDED CULTIVARS LIST OF THE MOST RECENT "TT-77 RECOMMENDED TURFGRASS CULTIVARS FOR CERTIFIED SOD PRODUCTION IN MARYLAND" DOCUMENT PRODUCED BY THE UNIVERSITY OF MARYLAND AND THE MARYLAND TURFGRASS COUNCIL. USE OF CULTIVARS ALSO APPEARING ON THE TURFGRASS WATER CONSERVATION ALLIANCE APPROVED LIST IS ENCOURAGED. SEEDS COATINGS THAT AID IN GERMINATION, MOISTURE RETENTION AND PREVENT LOSS TO BIRD CONSUMPTION ARE ACCEPTABLE. SEEDED AREAS ARE TO BE COVERED BY A LIGHT AND LOOSE LAYER OF RAPIDLY DEGRADABLE MULCH SUCH AS STRAW OR HYDRAULICALLY APPLIED CELLULOSE. USE OF EROSION CONTROL BLANKETS OR ANY SYNTHETIC WEBBING IS NOT PERMISSIBLE FOR LAWN AREAS UNLESS SPECIFIED BY THE OWNER'S REPRESENTATIVE.

SODDED LAWN AREA: UNLESS A PROPRIETARY SOD IS SPECIFIED BY THE OWNER'S REPRESENTATIVE, SOD MUST BE OF A MARYLAND OR VIRGINIA CERTIFIED VARIETY SUITED TO THE SPECIFIC GROWING REQUIREMENTS OF WHERE IT IS TO BE INSTALLED. GROWER AND VARIETY TO BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO ORDERING. CERTIFICATION DOCUMENTATION FOR ALL SOD IS TO BE PROVIDED TO THE OWNER'S REPRESENTATIVE UPON DELIVERY. FOR INSTALLATION ON SLOPES, THE CONTRACTOR SHALL USE BIODEGRADABLE SOD SPIKES TO SECURE SOD IN PLACE. METAL SOD STAPLES ARE NOT TO BE UTILIZED FOR INSTALLATION.

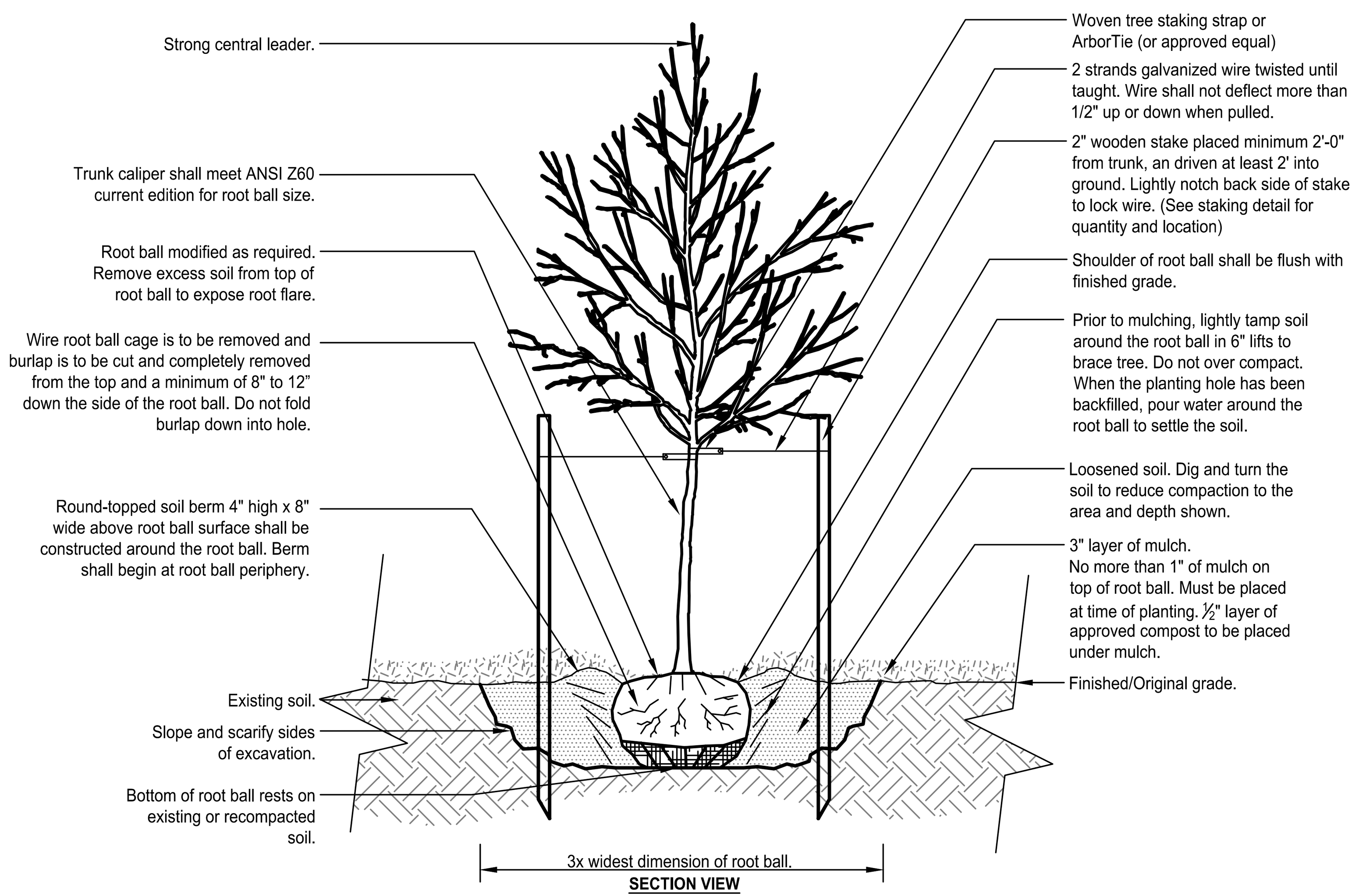
INVASIVE SPECIES: EXISTING INVASIVE SPECIES ARE TO BE REMOVED UTILIZING APPROPRIATE APPROVED METHODS INCLUDING IN THE INVASIVE SPECIES MANAGEMENT PLAN (IF APPLICABLE) PRIOR TO THE INSTALLATION OF NEW PLANT MATERIALS, AND IS SUBJECT TO INSPECTION, AND IS A FACTOR IN THE CERTIFICATION OF INSTALLATION.

NOTE: THESE SPECIFICATIONS AND DETAILS ARE BASED ON THOSE DEVELOPED BY THE URBAN TREE FOUNDATION, AND HAVE BEEN IMPROVED TO REFLECT CURRENT RESEARCH INTO EFFECTIVE PLANTING. THE ISA HAS ALSO REPLACED THEIR OWN DETAILS AND NOW REFERENCE THE UTF DETAILS. THE SPECIFICATIONS AND DETAILS ILLUSTRATED IN THIS PLAN SET EXCEED THE STANDARDS SET IN THE ISA, LCA, AND LOCAL JURISDICTIONAL PLANTING DETAILS AND SPECIFICATIONS.

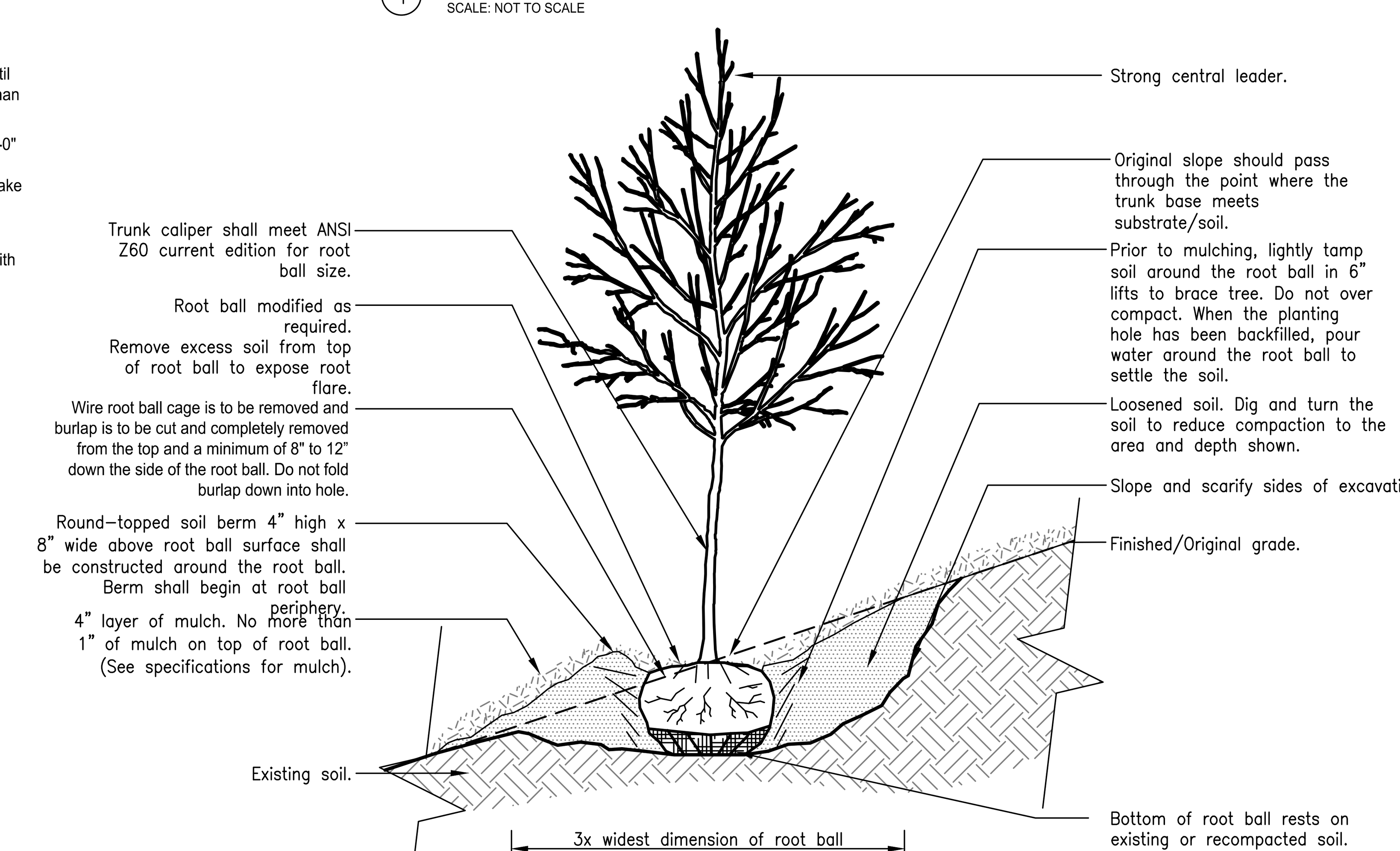


Notes:
1. Utilize only Arbor-tie or approved equal or staking straps against tree trunks.
2. Reference manufacturer's detail of approved system for installation instructions.
3. Wire tension (if used) should not allow greater than 1/2" of play in any direction.
4. Staking should be removed one year after planting or as instructed.

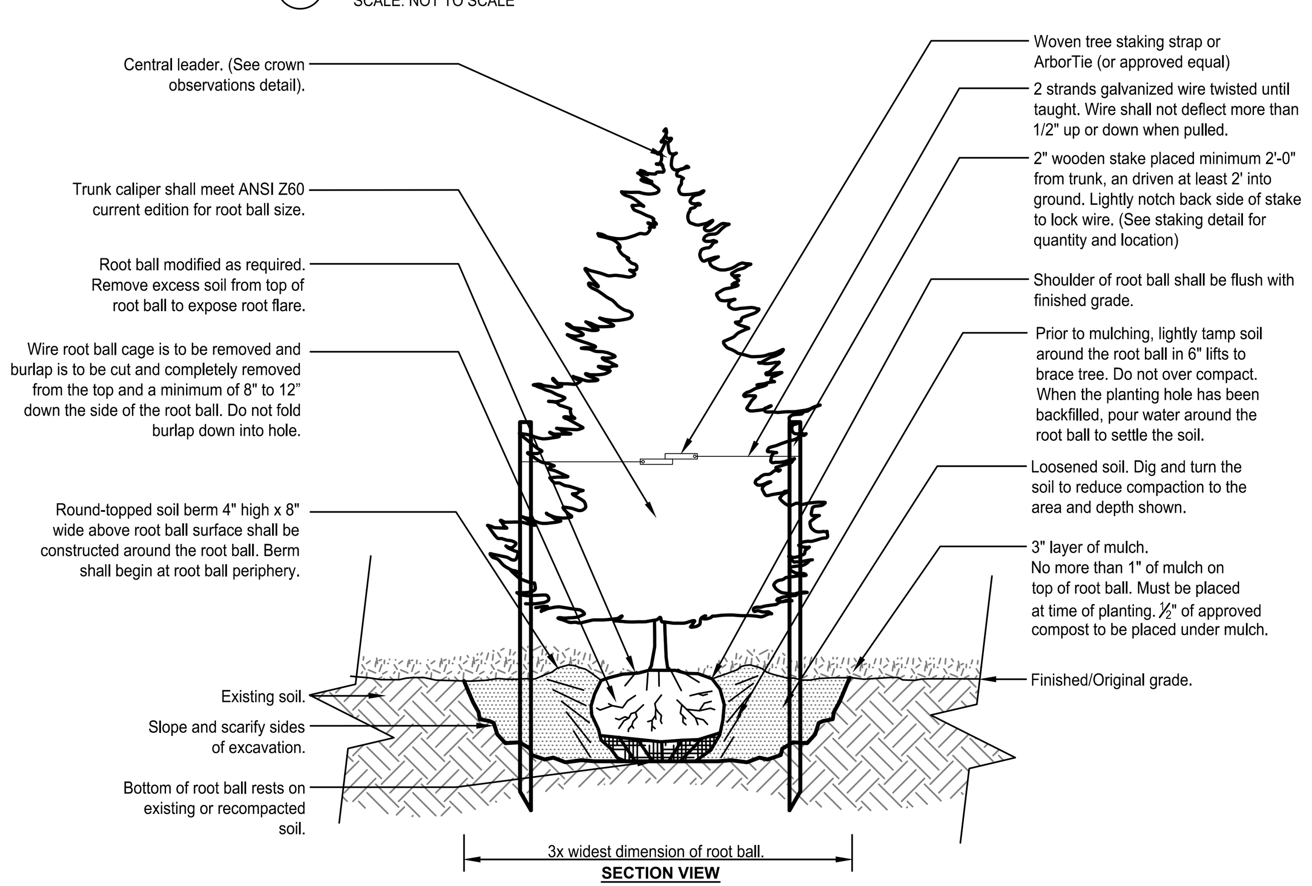
1 TREE STAKING DETAIL
SCALE: NOT TO SCALE



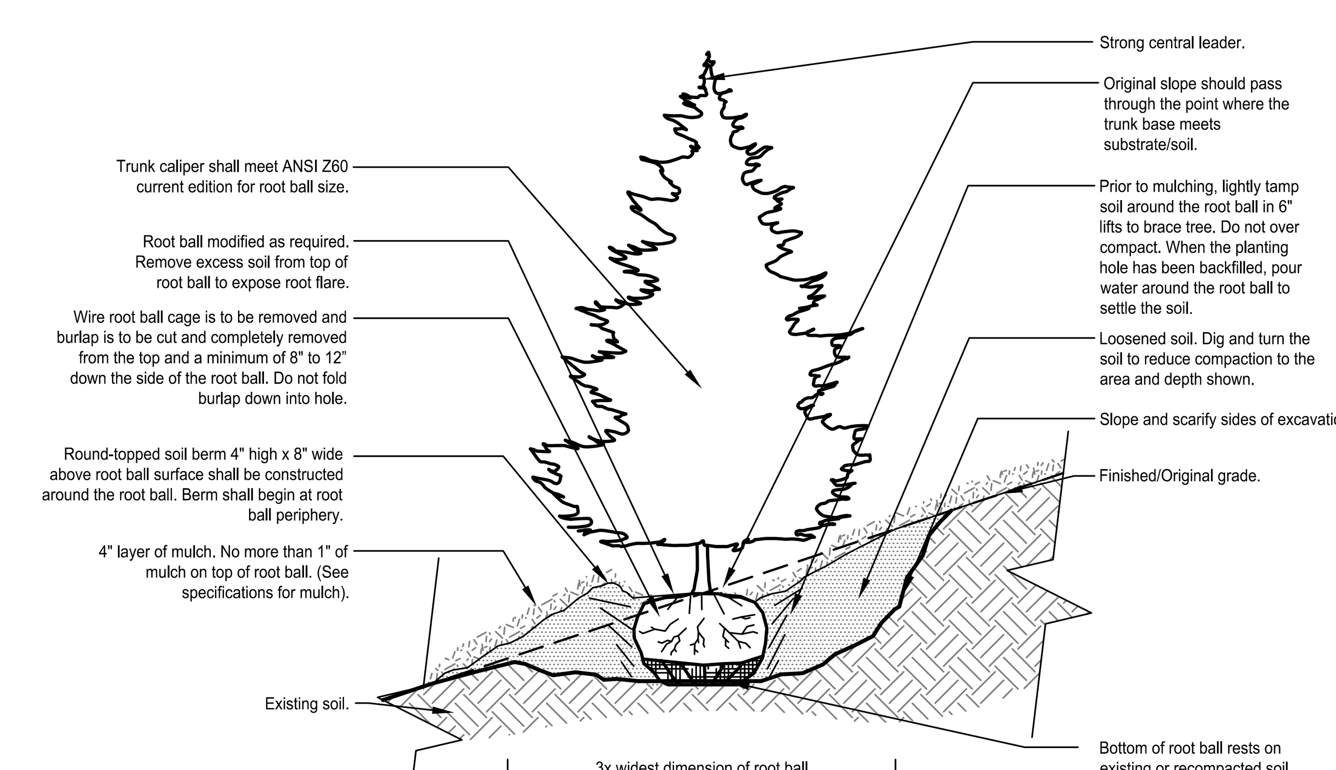
2 DECIDUOUS TREE PLANTING DETAIL
SCALE: NOT TO SCALE



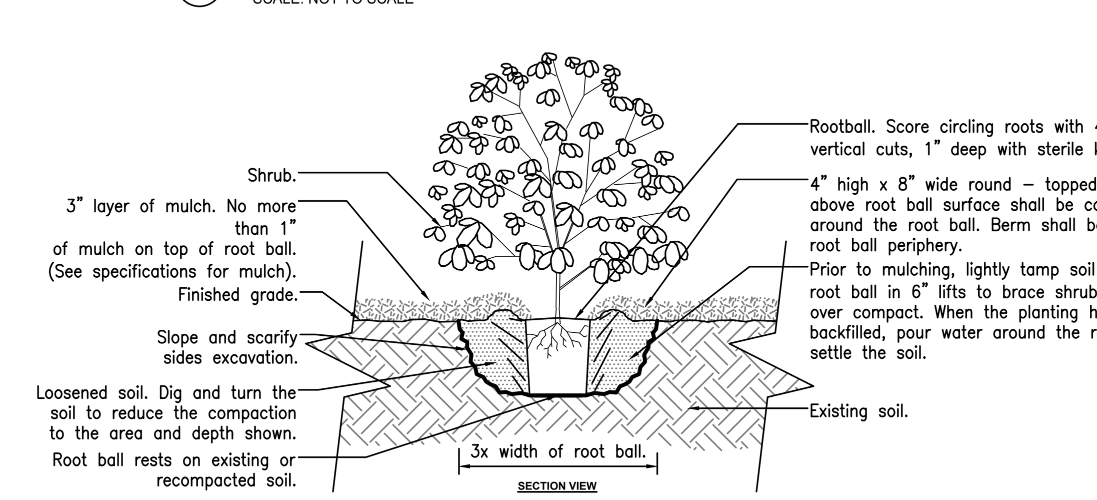
DECIDUOUS TREE SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE



3 EVERGREEN TREE PLANTING DETAIL
SCALE: NOT TO SCALE

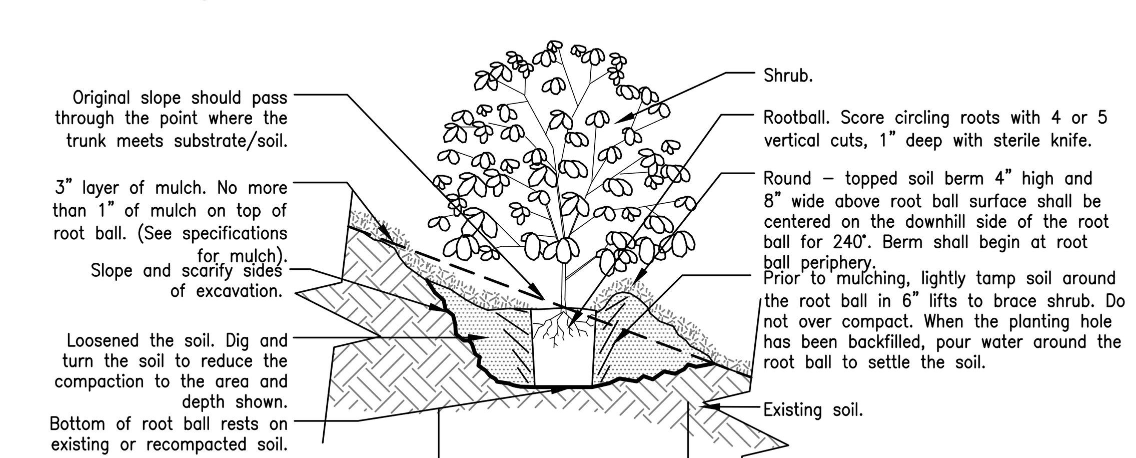


6 EVERGREEN TREE SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE



Notes:
1. For ball and burlapped shrubs, remove completely as much burlap as possible, minimum halfway down the side of the rootball. Do not fold burlap down into hole.
2. See specifications for further requirements related to this detail.

4 SHRUB PLANTING DETAIL
SCALE: NOT TO SCALE



Notes:
1. For ball and burlapped shrubs, remove completely as much burlap as possible, minimum halfway down the side of the rootball. Do not fold burlap down into hole.
2. See written specifications for further requirements related to this detail.

7 SHRUB SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

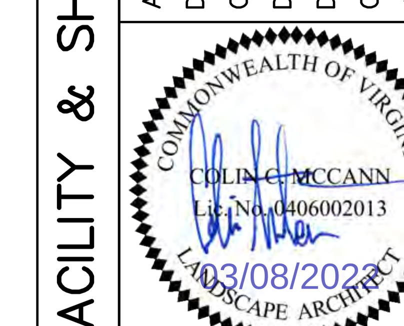
60% CONSTRUCTION DOCUMENT

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: OP2021-00008
DATE OF PLAN ISSUANCE: 10/01/21
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: TR DATE: -
CHECKED BY: CM/LBD DATE: -
APPROVED BY: DL DATE: -



LANDSCAPE DETAILS AND SPECIFICATIONS

L303