DEVELOPMENT SIMPLIFIED SITE PLAN

FIRST CHURCH OF CHRIST SCIENTIST

CITY OF ALEXANDRIA, VIRGINIA

AREA TABULATIONS

TOTAL SITE AREA = 0.1315 AC 5,728 SF

TOTAL AREA OF TAX PARCELS = 0.6869 AC 29,922 SF

TOTAL EXISTING IMPERVIOUS AREA = 0.000 AC 0 SF

TOTAL PROPOSED IMPERVIOUS AREA = 0.0468 AC 2,038 SF

TOTAL DISTURBED AREA = 0.1315 AC 5,728 SF

ENVIRONMENTAL SITE ASSESSMENT

1. THERE ARE NO RESOURCE PROTECTION AREAS (RPA'S), TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOOD PLAINS, OR BUFFER AREAS FOR SHORES, WETLANDS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS OR HIGHLY ERODIBLE/PERMEABLE SOILS LOCATED ON THIS SITE. THERE ARE NO WETLAND PERMITS REQUIRED FOR THE DEVELOPMENT ON THIS PROPERTY.
2. 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, ANY SOIL CONTAMINATION AND RELEASE TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
3. 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 703-746-4866.
4. THERE ARE NO KNOWN CONTAMINATED AREAS, CONTAMINATED SOILS, OR ENVIRONMENTAL ISSUES ASSOCIATED WITH THIS SITE.
5. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
MONDAY THROUGH FRIDAY FROM 7am TO 6pm AND SATURDAYS FROM 9am TO 6pm; NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS AND HOLIDAYS.
PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
MONDAY THROUGH FRIDAY FROM 9am TO 6pm AND SATURDAYS FROM 10am TO 4pm; NO PILE DRIVING ACTIVITIES ARE PERMITTED ON SUNDAYS AND HOLIDAYS.
EXCAVATION IN THE RIGHT OF WAY IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
MONDAY THROUGH SATURDAY 7am TO 5pm; NO EXCAVATION ACTIVITIES ARE PERMITTED ON SUNDAYS.

ENVIRONMENTAL PERMITS NOTES

ALL REQUIRED PERMITS FROM VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, ENVIRONMENTAL PROTECTION AGENCY, ARMY CORPS OF ENGINEERS, VIRGINIA MARINE RESOURCES MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF THE FINAL SITE PLAN.

THIS PROJECT PROPOSES CONSTRUCTION ACTIVITIES THAT DISTURB AN AREA LESS THAN 1 ACRE, THEREFORE A VPDES PERMIT IS NOT REQUIRED.

ARCHAEOLOGY NOTES

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.

THE APPLICANT SHALL NOT ALLOW ANY NON-PROFESSIONAL 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.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

GENERAL NOTES

1. PRIOR TO THE APPLICATION FOR NEW CERTIFICATE OF OCCUPANCY, THE APPLICANT SHALL SUBMIT A BUILDING PERMIT FOR A CHANGE OF USE. DRAWINGS PREPARED BY A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER SHALL ACCOMPANY THE PERMIT APPLICATION. THE PLANS SHALL SHOW PROPOSED CONDITIONS AND PROVIDE DATA BY THE DESIGN PROFESSIONAL WHICH DETAILS HOW THE PROPOSED USE WILL COMPLY WITH THE CURRENT EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE FOR THE NEW USE IN THE AREA OF STRUCTURAL STRENGTH, MEANS OF EGRESS, PASSIVE AND ACTIVE FIRE PROTECTION, HEATING AND VENTILATING SYSTEMS, HANDICAPPED ACCESSIBILITY AND PLUMBING FACILITIES.
2. NEW CONSTRUCTION MUST COMPLY WITH THE CURRENT EDITION OF THE UNIFORM STATEWIDE BUILDING CODE (USBC).
3. BEFORE A BUILDING PERMIT CAN BE ISSUED ON ANY PROPOSED FUTURE ALTERATIONS, A CERTIFICATION IS REQUIRED FROM THE OWNER OR OWNER'S AGENT THAT THE BUILDING HAS BEEN INSPECTED BY A LICENSED ASBESTOS INSPECTOR FOR THE PRESENCE OF ASBESTOS.
4. A CERTIFICATE OF OCCUPANCY SHALL BE OBTAINED PRIOR TO ANY OCCUPANCY OF THE BUILDING OR PORTION THEREOF.
5. REQUIRED EXITS, PARKING, AND ACCESSIBILITY WITHIN THE BUILDING FOR PERSONS WITH DISABILITIES MUST COMPLY WITH USBC CHAPTER 11. HANDICAPPED ACCESSIBLE BATHROOMS SHALL ALSO BE PROVIDED.
6. TOILET FACILITIES FOR PERSONS WITH DISABILITIES: LARGER, DETAILED, DIMENSIONED DRAWINGS ARE REQUIRED TO CLARIFY SPACE LAYOUT AND MOUNTING HEIGHTS OF AFFECTED ACCESSORIES. INFORMATION ON DOOR HARDWARE FOR THE TOILET STALL IS REQUIRED (USBC 1109.2.2).
7. IF APPLICABLE, ENCLOSED PARKING GARAGES MUST BE VENTILATED IN ACCORDANCE WITH USBC 406.4.2. THE REQUIRED MECHANICAL VENTILATION RATE FOR AIR IS 0.75 CFM PER SQUARE FOOT OF THE FLOOR AREA (USBC 2801.1). IN AREAS WHERE MOTOR VEHICLES OPERATE FOR A PERIOD OF TIME EXCEEDING 10 SECONDS, THE VENTILATION RETURN AIR MUST BE EXHAUSTED. AN EXHAUST SYSTEM MUST BE PROVIDED TO CONNECT DIRECTLY TO THE MOTOR VEHICLE EXHAUST (USBC 2801.1).
8. ELECTRICAL WIRING METHODS AND OTHER ELECTRICAL REQUIREMENTS MUST COMPLY WITH NFPA 70, 2008.
9. IF APPLICABLE, THE PUBLIC PARKING GARAGE FLOOR MUST COMPLY WITH USBC 406.2.6 AND DRAIN THROUGH OIL SEPARATORS OR TRAPS TO AVOID ACCUMULATION OF EXPLOSIVE VAPORS IN BUILDING DRAINS OR SEWERS AS PROVIDED FOR IN THE PLUMBING CODE (USBC 2901). THIS PARKING GARAGE IS CLASSIFIED AS AN S-2, GROUP 2, PUBLIC GARAGE.
10. THIS PROJECT IS NOT LOCATED IN A COMBINED SEWER AREA.
11. THIS SITE CONTAIN AREAS PREVIOUSLY MAPPED AS MARINE CLAYS.
12. THIS SITE IS NOT LOCATED WITHIN 1,000 FEET OF A FORMER LANDFILL OR OTHER DUMP SITE.

BUILDING CODE ANALYSIS:

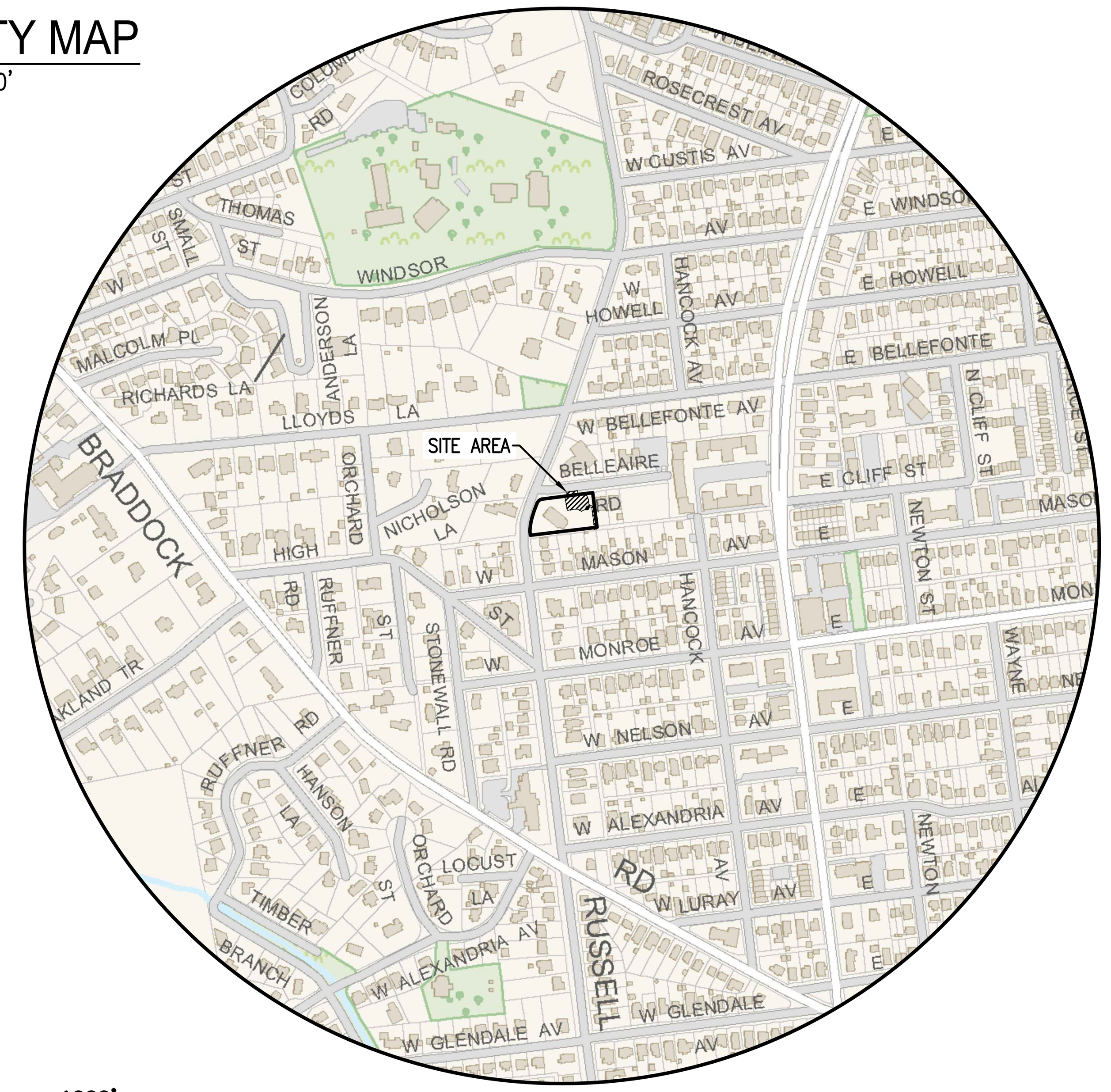
USE:	N/A
USE GROUP:	N/A
TYPE OF CONSTRUCTION:	N/A
NUMBER OF STORIES:	N/A
FLOOR AREA (GROSS):	N/A
FLOOR AREA (NET):	N/A
BUILDING FOOT PRINT AREA:	N/A
BUILDING HEIGHT:	N/A
FIRE SUPRESSION/DETECTION:	N/A

COMPLETE STREETS INFORMATION:

	NEW	UPGRADED
CROSSWALKS (NUMBER)	N/A	N/A
STANDARD	N/A	N/A
HIGH VISIBILITY	N/A	N/A
CURB RAMPS	N/A	N/A
SIDEWALKS (LF)	N/A	N/A
BICYCLE PARKING (NUMBER SPACES)	N/A	N/A
PUBLIC/VISITOR	N/A	N/A
PRIVATE/GARAGE	N/A	N/A
BICYCLE PATHS (LF)	N/A	N/A
PEDESTRIAN SIGNALS	N/A	N/A

VICINITY MAP

SCALE: 1"=500'



TAX PARCEL NUMBER: 043.01-02-10

PROJECT DESCRIPTION NARRATIVE

THE APPLICANT REQUESTS A DEVELOPMENT SIMPLIFIED SITE PLAN (DSP) TO PERMIT THE CONSTRUCTION OF A PARKING AREA WITH A DRIVEWAY ENTRANCE FROM BELLEAIRE ROAD. A BIORETENTION FACILITY IS PROPOSED TO TREAT THE PROPOSED PARKING AREA. THERE ARE NO RPAs OR FLOODPLAIN LOCATED WITHIN THE PROJECT LIMITS.

REQUESTED APPLICATIONS AND MODIFICATIONS:

- THERE ARE NO REQUESTED APPLICATIONS OR MODIFICATIONS WITH THIS APPLICATION

OWNER/DEVELOPER

OWNER:
TRUST OF FIRST CHURCH OF CHRIST SCIENTIST
1709 RUSSELL ROAD
ALEXANDRIA, VA 22301
D.B.: 303, PG. 571

DEVELOPER:
FIRST CHURCH OF CHRIST SCIENTIST
1709 RUSSELL ROAD
ALEXANDRIA, VA 22301
(703) 849-0396
CONTACT: DAVID MAUNE

PLAN PREPARED BY:
R.C. FIELDS & ASSOCIATES, INC.
730 S. WASHINGTON STREET
ALEXANDRIA, VA 22314
(703) 549-6422
CONTACT: ALEX HOLLEMAN

SHEET INDEX:

ZONING TABULATIONS

1. TAX MAP #: #043.01-02-10
2. ZONE OF SITE: R-5
3. USE: EXISTING CHURCHES/RELIGIOUS PROPOSED CHURCHES/RELIGIOUS
4. TOTAL LOT AREA: 29,922 SF (0.6869 AC.) MINIMUM LOT AREA: 6,500 SF
5. NUMBER OF DWELLINGS: EXISTING N/A PROPOSED N/A TOTAL N/A
6. UNITS PER ACRE: PERMITTED N/A PROPOSED N/A TOTAL N/A
7. FLOOR AREA: N/A
8. OPEN SPACE: REQUIRED: N/A PROPOSED: N/A
9. AVERAGE FINISHED GRADE:

UNIT	AVERAGE FINISHED GRADE (AFG)
1	N/A

10. HEIGHT: ALLOWED: N/A PROPOSED: N/A
11. YARDS: REQUIRED FRONT N/A SIDE N/A PROVIDED N/A
12. FRONTAGE: REQUIRED N/A PROVIDED N/A
13. LOT WIDTH: REQUIRED N/A PROVIDED N/A
14. TRIP GENERATION: EXISTING (ENTIRE PARCEL) N/A PROPOSED (ENTIRE PARCEL) N/A
15. PARKING TABULATION: REQUIRED N/A PROVIDED 5 SPACES
16. LOADING SPACES: REQUIRED N/A PROVIDED N/A

ENGINEER'S/SURVEYOR'S CERTIFICATE

I, ROBERTO TORRES, HEREBY CERTIFY THAT THIS PROPERTY IS IN THE NAME OF THE FIRST CHURCH OF CHRIST SCIENTIST AS RECORDED IN DEED BOOK 303, PAGE 571 AMONG THE LAND RECORDS OF THE CITY OF ALEXANDRIA, VA.

RCFIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
730 S. Washington Street
Alexandria, Virginia 22314
www.rcfassoc.com
(703) 549-6422
PROJ. MANAGER: ALEX HOLLEMAN
EMAIL: AHOLLEMAN@RCFASSOC.COM

SCALE: AS NOTED
DATE: MARCH 2019
REV:
DRAWN: AH

COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047863
APRIL 11, 2019
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	REVISION APPROVED BY	APPROVED	DATE

DEVELOPMENT SIMPLIFIED SITE PLAN
FIRST CHURCH OF CHRIST SCIENTIST
1709 RUSSELL ROAD
CITY OF ALEXANDRIA, VIRGINIA

SHEET NAME: COVER SHEET

APPROVED
SPECIAL USE PERMIT NO. ______
DEPARTMENT OF PLANNING & ZONING
______ DIRECTOR ______ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
______ DIRECTOR ______ DATE
______ CHAIRMAN, PLANNING COMMISSION ______ DATE
DATE RECORDED ______
______ INSTRUMENT NO. ______ DEED BOOK NO. ______ DATE

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 CONDUCT A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE WITH T&ES CONSTRUCTION MANAGEMENT AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT APPROPRIATE 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 AS 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 CONSTRUCTION.

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 THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.

16. 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.

17. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.

18. 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 FILL AGAINST BUILDINGS, LOCATION OF MECHANICAL EQUIPMENT, AND CONNECTIONS AT THE FACES OF BUILDINGS.

19. 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.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.

21. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF ON-SITE MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESS OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. 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.

22. THE THICKNESS 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.

23. 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.

24. 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.

25. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.

26. A TEMPORARY CONSTRUCTION TRAILER WILL BE PERMITTED (IF NECESSARY) AND SUBJECT TO APPROVAL OF THE DIRECTOR OF P&Z. THE TRAILER SHALL BE REMOVED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

27. PROVISIONS SHALL BE MADE TO PREVENT THE ACCUMULATION OF WATER OR DAMAGE TO ANY FOUNDATION ON THE PREMISES OR ADJOINING PROPERTY.

28. THE TEMPORARY USE OF STREETS OR PUBLIC PROPERTY FOR THE STORAGE OR HANDLING OF MATERIALS OR OF EQUIPMENT REQUIRED FOR CONSTRUCTION OR DEMOLITION, AND THE PROTECTION PROVIDED TO THE PUBLIC SHALL COMPLY WITH THE PROVISIONS OF THE APPLICABLE GOVERNING AUTHORITY AND THE BUILDING CODE.

29. CONSTRUCTION MATERIALS AND EQUIPMENT SHALL NOT BE PLACED OR STORED SO AS TO OBSTRUCT ACCESS TO FIRE HYDRANTS, STANDPIPES, FIRE OR POLICE ALARM BOXES, CATCH BASINS OR MANHOLES, NOR SHALL SUCH MATERIALS OR EQUIPMENT BE LOCATED WITHIN 20 FEET OF A STREET INTERSECTION, OR PLACED TO OBSTRUCT NORMAL OBSERVATIONS OF TRAFFIC SIGNALS OR TO HINDER THE USE OF PUBLIC TRANSIT LOADING PLATFORMS.

30. A SECURITY SURVEY IS TO BE COMPLETED FOR ANY SALES OR CONSTRUCTION TRAILERS THAT ARE PLACED ON THE SITE. THIS IS TO BE COMPLETED AS SOON AS THE TRAILERS ARE PLACED ON SITE BY CALLING THE COMMUNITY RELATIONS UNIT AT 703-746-1920.

UTILITY NOTES:

ALL NEW INSTALLATIONS AND/OR REINSTALLATION'S 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 5 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 SOILS 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:

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, CABLE OR CONDUITS.
BLUE	CAUTION POTABLE WATER.
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES.
GREEN	CAUTION SEWER, DRAINS LINES AND FORCE MAIN.

GENERAL NOTES:

1. TAX MAP: #043.01-02-10

2. ZONE: R-5

3. OWNER: TRUST OF FIRST CHURCH OF CHRIST SCIENTIST
1709 RUSSELL ROAD
ALEXANDRIA, VA 22301
D.B.: 303, PG. 571

4. TOTAL PARCEL AREA = 29,922 S.F. OR 0.6869 AC.

TOTAL SITE AREA = 4,490 S.F. OR 0.10 AC.
EXISTING IMPERVIOUS AREA = 0 S.F. OR 0.00 AC.
PROPOSED IMPERVIOUS AREA = 2,038 S.F. OR 0.05 AC.
TOTAL DISTURBED AREA = 5,728 S.F. OR 0.13 AC.

5. PLAT SUBJECT TO RESTRICTIONS OF RECORD.

6. TOPOGRAPHIC SURVEY WAS RUN BY THIS FIRM. VERTICAL DATUM USED = NAVD '88 PER CITY OF ALEXANDRIA MONUMENT #562. ELEVATION = 66.42'

BOUNDARY REFERENCE TO VIRGINIA COORDINATE SYSTEM, 1983, NORTH ZONE. MONUMENTS USED:
CITY OF ALEXANDRIA GPS #562 N = 6,986,388.14 E = 11,891,641.65 ELEV.=66.42'
CITY OF ALEXANDRIA GPS #563 N = 6,985,531.92 E = 11,891,386.94 ELEV.=94.17'

7. THE "GENERALIZED ALEXANDRIA SOILS MAP" IDENTIFIES THE SOILS FOR THIS SITE AS SUSQUEHANNA LOAM. THE SUSQUEHANNA LOAM OCCURS UPLAND OF OCHLOCKNEE AND OCCUPIES LARGE AREAS OF ALEXANDRIA INCLUDING EISENHOWER VALLEY AND THE DUKE STREET CORRIDOR. IT HAS FAIR DRAINAGE AND IS GENLY ROLLING TO UNDULATING, ALTHOUGH THERE ARE OCCASIONAL STEEP SLOPES. THIS SITE CONTAINS AREAS PREVIOUSLY MAPPED AS MARINE CLAYS.

8. THERE ARE NO KNOWN CONTAMINATED AREAS, CONTAMINATED SOILS, OR ENVIRONMENTAL ISSUES ASSOCIATED WITH THIS SITE. THIS SITE IS NOT KNOWN TO POSSESS SOILS OR MATERIALS CONTAMINATED WITH HEAVY METALS, PETROLEUM PRODUCTS, PCB'S PESTICIDES, FLY ASH, OR OTHER TOXIC OR HAZARDOUS MATERIALS. CONTAMINATED SOILS, CONTAMINATED MATERIALS, UNDERGROUND STORAGE TANKS, COMBUSTIBLE GASES, LANDFILLS, DUMPS OR DISPOSAL AREAS ENCOUNTERED DURING CONSTRUCTION SHALL BE REMOVED OR TREATED IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL EPA STANDARDS.

9. STORMWATER MANAGEMENT SHALL BE PROVIDED TO COMPLY WITH ARTICLE XIII OF THE ZONING ORDINANCE AND TO THE SATISFACTION OF THE DIRECTOR OF T&ES.

10. EXISTING UTILITIES SHOWN ARE TAKEN FROM AVAILABLE RECORD AND/OR FIELD OBSERVATIONS. LOCATION AND DEPTH OF ALL EXISTING UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. FOR EXACT LOCATIONS OF EXISTING UTILITIES CONTACT "MISS UTILITY" AT 1-800-552-7001 AT LEAST 72 HOURS BEFORE THE START OF ANY EXCAVATIONS OR CONSTRUCTION. INTERFERENCE OR DISRUPTION OF UTILITY SERVICE WILL NOT BE THE RESPONSIBILITY OF RC FIELDS & ASSOCIATES, INC.

11. TITLE REPORT WAS NOT FURNISHED, THUS ALL EASEMENTS MAY NOT BE SHOWN.

12. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA, THE VIRGINIA AMERICAN WATER COMPANY, AND THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC).

13. ALL NEW UTILITIES SHALL BE PLACED UNDERGROUND. ALL BELOW GRADE UTILITIES ARE DESIGNED TO MINIMIZE VISIBLE IMPACTS.

14. ALL PRIVATE STREETS AND ALLEYS SHALL COMPLY WITH THE CITY'S MINIMUM STANDARDS FOR PRIVATE STREETS AND ALLEYS.

15. APPLICANT SHALL COMPLY WITH THE CITY OF ALEXANDRIA, EROSION AND SEDIMENT CONTROL CODE, SECTION 5, CHAPTER 4.

16. NO UTILITIES MAY BE INSTALLED OUTSIDE THE APPROVED LIMITS OF CLEARING, OR WITHIN TREE PROTECTION ZONES.

17. A CERTIFICATE OF OCCUPANCY SHALL BE OBTAINED BY THE APPLICANT PRIOR TO ANY OCCUPANCY OF THE BUILDING OR PORTION THEREOF, IN ACCORDANCE WITH USBC #118.0.

18. THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS ON THIS SITE NOR ARE THERE ANY AREAS KNOWN TO HAVE THE POTENTIAL OF GENERATING COMBUSTIBLE GASES.

19. ALL DOWNSPOUTS, FOUNDATION DRAINS AND SUMP PUMP DISCHARGES SHALL BE CONNECTED TO THE CLOSED STORM SEWER SYSTEMS.

20. ALL IMPROVEMENTS TO THE CITY RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., MUST BE DESIGNED AND CONSTRUCTED AS PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.

21. ALL PEDESTRIAN IMPROVEMENTS SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

22. ALL IMPROVEMENTS TO THE CITY'S INFRASTRUCTURE SHALL BE DESIGNED AND CONSTRUCTED AS PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.

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 HEATH (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 BUILDINGS SHALL BE DISCONTINUED AND CAPPED PER APPROVED RULES AND USBC 3303.6. DISCONNECTIONS 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. WHERE A STRUCTURE HAS BEEN DEMOLISHED OR REMOVED, IF LEFT VACANT THE LOT SHALL BE FILLED AND MAINTAINED TO THE EXISTING GRADE (USBC 3303.4). 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.

11. ALL STRUCTURES UNDER CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE PROVIDED WITH NO LESS THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER IN ACCORDANCE WITH THE BUILDING CODE.

12. OPENINGS IN EXTERIOR WALLS ARE NOT ALLOWED WHEN LESS THAN 3 FEET FROM PROPERTY LINE.

GRADING NOTES TO CONTRACTOR:

1. SITE WORK CONTRACTOR TO FIELD CHECK FINAL GRADING TO ENSURE THE DEVELOPMENT IS GRADED IN ACCORDANCE WITH THE APPROVED SITE DEVELOPMENT/GRADING PLAN.

2. CONTRACTOR TO ENSURE POSITIVE DRAINAGE ACROSS ALL SURFACES TO PRECLUDE THE PONDING OF WATER, EITHER IN YARDS OR ON PAVED SURFACES. THIS DOES NOT APPLY TO PONDING ASSOCIATED WITH STORMWATER MANAGEMENT FACILITIES.

3. A SMOOTH GRADE SHALL BE MAINTAINED ACROSS ALL PAVEMENT SURFACES TO PRECLUDE THE FORMING OF FALSE GUTTERS AND / OR THE PONDING OF ANY WATER IN THE ROADWAY. FINISHED PAVING SURFACES SHALL BE FLUSH WITH ABUTTING SURFACES AT THE SAME ELEVATION (i.e. GUTTERS, SIDEWALKS, APRONS, ETC.).

4. THE SUB-BASE OF ALL PARKING AREAS AND TRAVEL LANES ON SITE SHALL BE PROOF ROLLED PRIOR TO THE PLACEMENT OF ANY PAVING MATERIALS TO IDENTIFY ANY AREAS OF INADEQUATE OR STRUCTURALLY UNSATISFACTORY MATERIAL THAT MUST BE UNDERCUT.

5. ANY PROPOSED STRUCTURAL FILL MATERIALS MUST HAVE APPROVAL OF THE PROJECT GEOTECHNICAL CONSULTANT PRIOR TO PLACEMENT AND COMPACTION. FILL MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERS SPECIFICATIONS AND UNDER HIS/HER GUIDANCE.

ENVIRONMENTAL SITE ASSESSMENT STATEMENT:

THERE ARE NO TIDAL WETLANDS, TIDAL SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS, OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS OR WETLANDS LOCATED ON THE SITE. FURTHER, THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWATER CONTAMINATION ON THIS SITE.

THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE 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, ANY SOIL CONTAMINATION, AN RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.

ALL WELLS TO BE DEMOLISHED ON THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4400 EXT 267/255.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
- MONDAY THROUGH FRIDAY 7 AM TO 6 PM AND
- SATURDAYS FROM 9 AM TO 6 PM.
- NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS AND HOLIDAYS.

PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
- MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND
- SATURDAYS FROM 10 TO 4 PM.
- NO PILE DRIVING ACTIVITIES ARE PERMITTED ON SUNDAYS AND HOLIDAYS.

EXCAVATION IN THE RIGHT OF WAY IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
- MONDAY THROUGH SATURDAY FROM 7 AM TO 5 PM.
- NO EXCAVATION ACTIVITIES ARE PERMITTED ON SUNDAYS.

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. DATE

RC FIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
730 S. Washington Street
Alexandria, Virginia 22314
www.rcfassoc.com
(703) 549-6422

COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

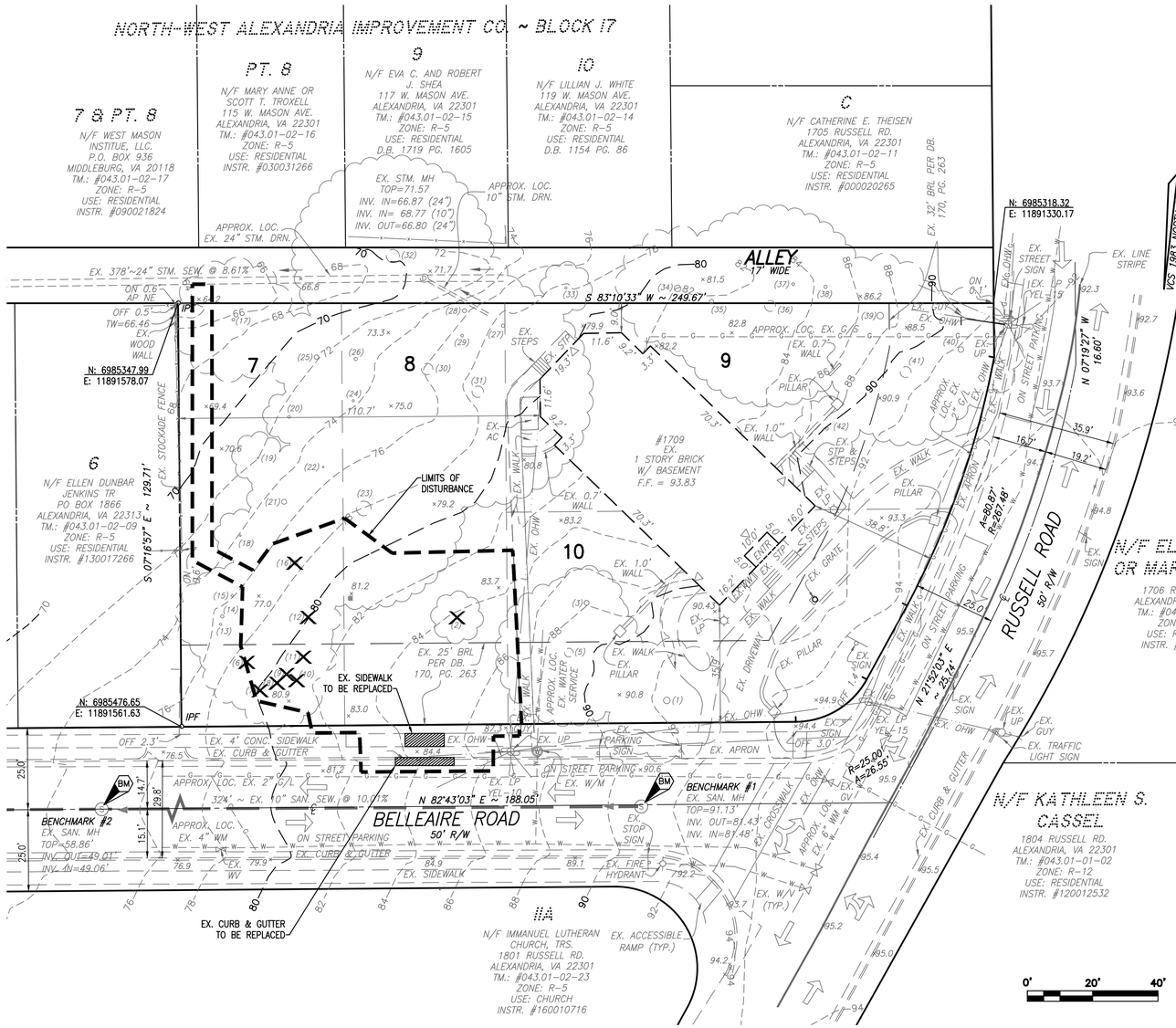
DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: NO SCALE
DATE: MAR. 15, 2019

NOTES

SHEET 2 OF 18
FILE: 16-52



TEXT LEGEND:

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- CLF= CHAIN LINK FENCE
- CMP = CORRUGATED METAL PIPE
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- C.O.= CLEAN OUT
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- DB= DEED BOOK
- DIP= DUCTILE IRON PIPE
- DOM= DOMESTIC
- DSP= DEVELOPMENT SITE PLAN
- DSUP= DEVELOPMENT SPECIAL USE PERMIT
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- EBOX= ELECTRICAL BOX
- ESMT.= EASEMENT
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- EX.=EXISTING
- FDC= FIRE DEPT. CONNECTION
- FF= FINISH FLOOR
- FH= FIRE HYDRANT
- FT.= FEET
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- IPF= IRON PIPE FOUND
- INV.= INVERT
- INSTR.= INSTRUMENT
- L= LUMENS
- LOC.= LOCATION
- LP= LIGHT POLE
- MAX.= MAXIMUM
- MH= MANHOLE
- MIN.= MINIMUM
- MPH= MILES PER HOUR
- MW= MONITORING WELL
- N= NORTH
- OHW= OVERHEAD WIRE
- PN = PANEL
- PG= PAGE
- PP= POWER POLE
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- PVC=VINYL CHLORIDE
- R= RADIUS
- RCP= RE-ENFORCED CONCRETE PIPE
- RELOC. = RELOCATED
- RET.= RETAINING
- RESID.= RESIDENTIAL
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- UGE= UNDERGROUND ELECTRIC
- UP= UTILITY POLE
- VCS= VIRGINIA COORDINATE SYSTEM
- VPD= VEHICLES PER DAY
- W= WATT
- W= WEST
- W.S.E.= WATER SURFACE ELEVATION
- WV= WATER VALVE
- WM= WATER METER
- W.W.= WINDOW WELL

CIVIL LEGEND

ITEM	EXISTING	PROPOSED
CURB & GUTTER		
SIDEWALK	WALK	WALK
FIRE HYDRANT		
STRUCTURES	D	D
WATER MAINS	W	W
GAS MAINS	G	G
TELEPHONE LINES	T	T
STORM SEWER	D	D
SANITARY SEWER	S	S
PAVING		
FENCES	X	X
POWER LINES	E	E
SPOT ELEVATIONS	+ 124.5	+ 124.5
CONTOURS	124	124
BUILDING ENTRANCES		
UTILITY POLE		
LIGHT POLE		
LIMITS OF DISTURBANCE		

UTILITY OWNERSHIP NOTE:

GAS: ALL GAS LINES SHOWN ON THIS PLAN ARE OWNED AND MAINTAINED BY WASHINGTON GAS COMPANY. CONTACT: KEN McCONKEY 703-750-4756; ADDRESS: WASHINGTON GAS, 6801 INDUSTRIAL ROAD, SPRINGFIELD, VA 22151.

ELECTRIC: ALL ELECTRIC UTILITIES SHOWN ON THIS PLAN ARE OWNED AND MAINTAINED BY DOMINION VIRGINIA POWER. ANY RELOCATION OF EXISTING POLES AND LINES WILL BE COORDINATED WITH DOMINION VIRGINIA POWER. CONTACT: 1-866-366-4357; ADDRESS: DOMINION POWER, P.O. BOX 26666, RICHMOND, VA 23261.

WATER: ALL EXISTING WATER MAINS, SERVICE LINES, AND FIRE HYDRANTS SHOWN ON THIS PLAN OUTSIDE THE PUBLIC RIGHT-OF-WAY ARE OWNED AND MAINTAINED BY THE PROPERTY OWNER. CONTACT: NETWORK SUPERVISOR FOR THE SOUTHEAST REGION HAO (STEVEN) CHEN 703-706-3889; ADDRESS: VIRGINIA AMERICAN WATER COMPANY, 2223 DUKE STREET, ALEXANDRIA, VA 22314.

SANITARY SEWER: ALL EXISTING SANITARY SEWER MAINS SHOWN ON THIS PLAN OUTSIDE THE PUBLIC RIGHT-OF-WAY ARE OWNED AND MAINTAINED BY THE PROPERTY OWNER. CONTACT: PUBLIC WORKS SERVICES, 2900 BUSINESS CENTER DRIVE, ALEXANDRIA, VA. TELEPHONE: 703-746-4357.

STORM SEWER: ALL EXISTING STORM SEWERS SHOWN ON THIS PLAN LOCATED OUTSIDE THE PUBLIC RIGHT-OF-WAY ARE OWNED AND MAINTAINED BY THE PROPERTY OWNER. ALL PROPOSED STORM SEWER AND ROOF DRAINS SHOWN OUTSIDE THE PUBLIC RIGHT-OF-WAY ARE TO BE PRIVATELY OWNED AND MAINTAINED BY THE PROPERTY OWNER. CONTACT: PUBLIC WORKS SERVICES, 2900 BUSINESS CENTER DRIVE, ALEXANDRIA, VA. TELEPHONE: 703-746-4357.

TELEPHONE: ALL TELEPHONE LINES ARE OWNED BY VERIZON. CONTACT: SECTION MANAGER MIKE TYSINGER 804-772-6625; ADDRESS: VERIZON VIRGINIA, INC., 3011 HUNGARY SPRING ROAD, 2ND FLOOR, RICHMOND, VA 23228.

GENERAL NOTES:

1. TAX MAP: #043.01-02-10
2. ZONE: R-5
3. TOPOGRAPHIC SURVEY WAS RUN BY THIS FIRM. VERTICAL DATUM USED = NAVD '88 PER CITY OF ALEXANDRIA MONUMENT #562. ELEVATION = 66.42

   BOUNDARY REFERENCE TO VIRGINIA COORDINATE SYSTEM, 1983. MONUMENTS USED:
   CITY OF ALEXANDRIA GPS #562 N = 6,986,388.14 E = 11,891,641.65 ELEV.=66.42
   CITY OF ALEXANDRIA GPS #563 N = 6,985,531.92 E = 11,891,386.94 ELEV.=94.17
4. A TITLE REPORT WAS NOT FURNISHED, THUS ALL EASEMENTS MAY NOT BE SHOWN.
5. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
6. THERE ARE NO RESOURCE PROTECTION AREAS (RPA'S), TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOOD PLAINS, OR BUFFER AREAS FOR SHORES, WETLANDS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS OR HIGHLY ERODIBLE/PERMEABLE SOILS LOCATED ON THIS SITE.
7. THERE ARE NO KNOWN CONTAMINATED AREAS, CONTAMINATED SOILS OR ENVIRONMENTAL ISSUES ASSOCIATED WITH THIS SITE.
8. THE "GENERALIZED ALEXANDRIA SOILS MAP" IDENTIFIES THE SOILS FOR THIS SITE AS SUSQUEHANNA LOAM. SUSQUEHANNA LOAM IS FOUND IN THE MID-ATLANTIC COASTAL PLAIN.
9. THIS SITE CONTAINS AREAS PREVIOUSLY MAPPED AS MARINE CLAYS.
10. TOTAL LOT AREA = 29,922 S.F. OR 0.6869 AC.

ARCHAEOLOGY NOTES:

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.

THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY NON-PROFESSIONAL METAL DETECTION OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE.

EXISTING TREE TABLE	
Tree ID#	Trunk Diameter
1	24" CHERRY TBS
2	6" DOGWOOD TBR
3	18" HOLLY TBS
5	32" MAPLE TBS
6	12" TREE TBR
7	6" DEAD TBR
8	12" TREE TBR
9	6" TREE TBR
10	6" TREE TBR
11	8" TREE TBR
12	6" TREE TBR
13	8" TREE TBS
14	12" TREE TBS
15	8" TREE TBS
16	18" TREE TBR
17	10" TREE TBS
18	6" TREE TBS
19	6" TREE TBS
20	10" HOLLY TBS
21	18" CLUSTER TBS
22	6" TREE TBS
23	54" POPLAR TBS
24	8" TREE TBS
25	16" PINE TBS
26	12" PINE TBS
27	12" TREE TBS
28	15" TREE TBS
29	10" TREE TBS
30	42" OAKWOOD TBS
31	42" POPLAR TBS
32	48" MAPLE TBS
33	8" TREE TBS
34	24" TREE TBS
35	15" TREE TBS
36	40" TREE TBS
37	10" TREE TBS
38	12" TREE TBS
39	24" TREE TBS
40	20" TREE TBS
41	40" TREE TBS
42	10" CREPE MYRTLE TBS

EXISTING CONDITIONS SURVEY NOTES:

1. UTILITY INFORMATION, AS SHOWN ON THIS PLAN, IS TAKEN FROM THE RECORDS AND/OR FIELD SURVEY COMPLETED AND CANNOT BE GUARANTEED. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.
2. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR/ENGINEER SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.

DEMOLITION LEGEND:

- X — EX. TREE TO BE REMOVED
- ▨ — EX. IMPROVEMENTS TO BE REMOVED

TOPOGRAPHY NOTE:

THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF ROBERTO TORRES, LS FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON JANUARY 23, 2019; AND THIS PLAT, MAP OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR — DATE
CHAIRMAN, PLANNING COMMISSION — DATE
DATE RECORDED _____
INSTRUMENT NO. — DEED BOOK NO. — DATE

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COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047863
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: 1" = 20'
DATE: MAR. 15, 2019

EXISTING CONDITIONS & DEMOLITION PLAN

SHEET 3 OF 18
FILE: 16-52

J:\2016\1652\DWG\EXELV\SITE PLAN\03 - EXISTING CONDITIONS & DEMO PLAN.dwg
Thu, Apr 11 2019 - 1:31:21pm

TEXT LEGEND:

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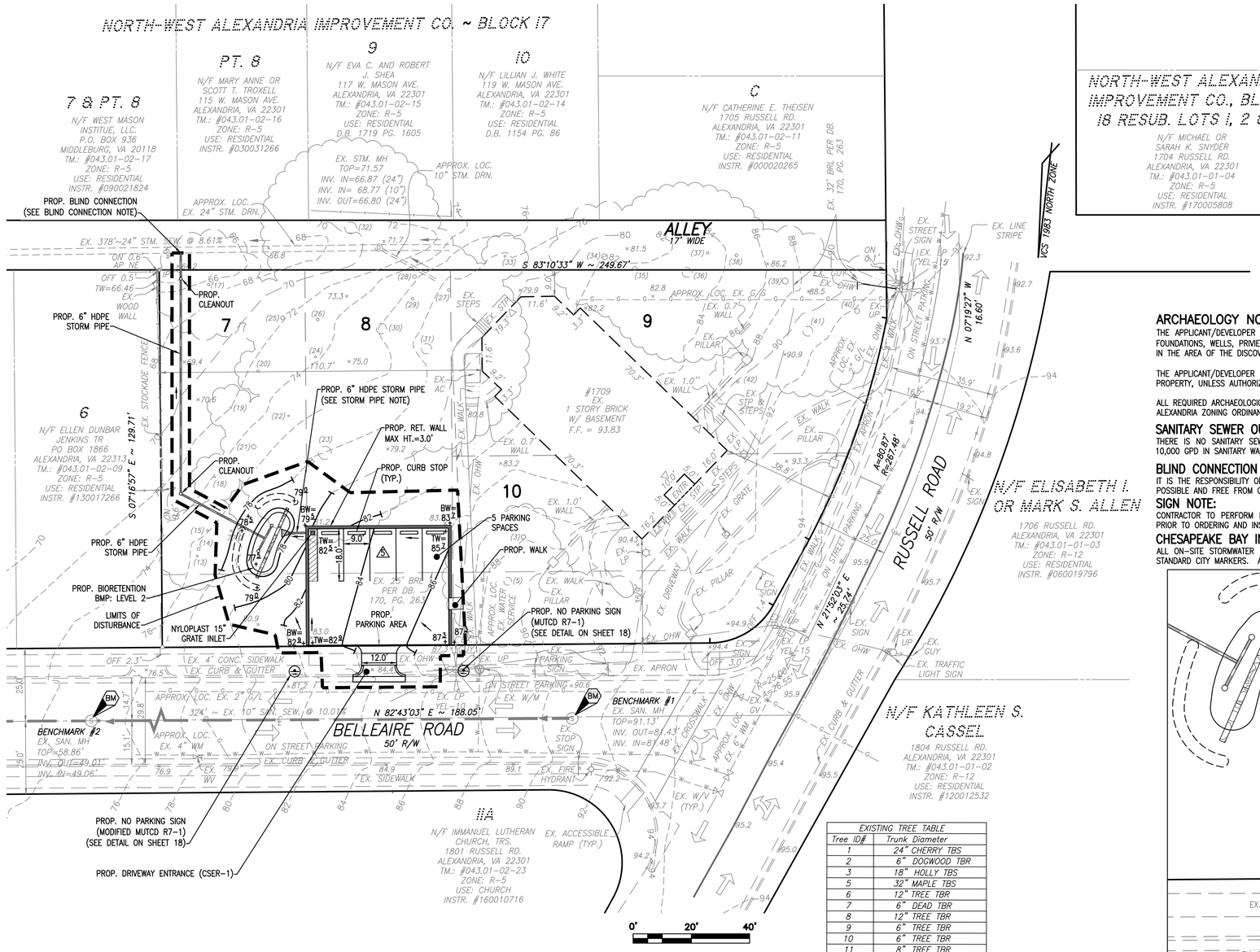
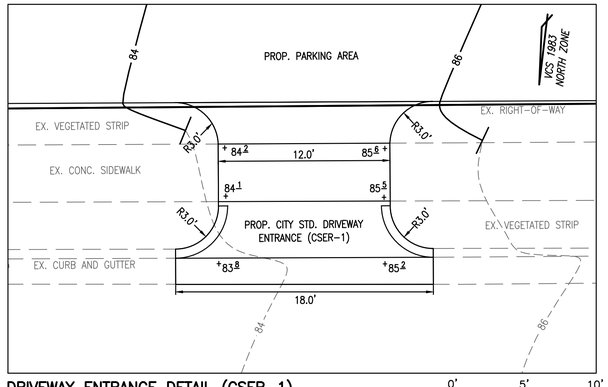
W.W.= WINDOW WELL

CIVIL LEGEND

ITEM	EXISTING	PROPOSED
CURB & GUTTER		
SIDEWALK	WALK	WALK
FIRE HYDRANT		
STRUCTURES	D	D
WATER MAINS	W	W
GAS MAINS	G	G
TELEPHONE LINES	T	T
STORM SEWER	D	D
SANITARY SEWER	S	S
PAVING		
FENCES	X	X
POWER LINES	E	E
SPOT ELEVATIONS	+ 124.5	+ 124.5
CONTOURS	124	124
BUILDING ENTRANCES		
UTILITY POLE		
LIGHT POLE		
LIMITS OF DISTURBANCE		



EXISTING TREE TABLE	
Tree ID#	Trunk Diameter
1	24" CHERRY TBS
2	6" DOGWOOD TBR
3	18" HOLLY TBS
5	32" MAPLE TBS
6	12" TREE TBR
7	6" DEAD TBR
8	12" TREE TBR
9	6" TREE TBR
10	6" TREE TBR
11	8" TREE TBR
12	6" TREE TBR
13	8" TREE TBS
14	12" TREE TBS
15	8" TREE TBS
16	18" TREE TBR
17	10" TREE TBS
18	6" TREE TBS
19	6" TREE TBS
20	10" HOLLY TBS
21	18" CLUSTER TBS
22	6" TREE TBS
23	54" POPLAR TBS
24	8" TREE TBS
25	16" PINE TBS
26	12" PINE TBS
27	12" TREE TBS
28	15" TREE TBS
29	10" TREE TBS
30	42" OAKWOOD TBS
31	42" POPLAR TBS
32	48" MAPLE TBS
33	8" TREE TBS
34	24" TREE TBS
35	15" TREE TBS
36	40" TREE TBS
37	10" TREE TBS
38	12" TREE TBS
39	24" TREE TBS
40	20" TREE TBS
41	40" TREE TBS
42	10" CREPE MYRTLE TBS



DRIVEWAY ENTRANCE DETAIL (CSER-1)
SCALE: 1"=5'

GENERAL NOTES:

1. TAX MAP: #043.01-02-10
2. ZONE: R-5
3. TOPOGRAPHIC SURVEY WAS RUN BY THIS FIRM. VERTICAL DATUM USED = NAVD '88 PER CITY OF ALEXANDRIA MONUMENT #562. ELEVATION = 66.42

   BOUNDARY REFERENCE TO VIRGINIA COORDINATE SYSTEM, 1983. MONUMENTS USED:
   CITY OF ALEXANDRIA GPS #562 N = 6,986,388.14 E = 11,891,641.65 ELEV.=66.42
   CITY OF ALEXANDRIA GPS #563 N = 6,985,531.92 E = 11,891,386.94 ELEV.=94.17
4. A TITLE REPORT WAS NOT FURNISHED, THUS ALL EASEMENTS MAY NOT BE SHOWN.
5. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
6. THERE ARE NO RESOURCE PROTECTION AREAS (RPA'S), TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOOD PLAINS, OR BUFFER AREAS FOR SHORES, WETLANDS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS OR HIGHLY ERODIBLE/PERMEABLE SOILS LOCATED ON THIS SITE.
7. THERE ARE NO KNOWN CONTAMINATED AREAS, CONTAMINATED SOILS OR ENVIRONMENTAL ISSUES ASSOCIATED WITH THIS SITE.
8. THE "GENERALIZED ALEXANDRIA SOILS MAP" IDENTIFIES THE SOILS FOR THIS SITE AS SUSQUEHANNA LOAM. SUSQUEHANNA LOAM IS FOUND IN THE MID-ATLANTIC COASTAL PLAIN.
9. THIS SITE DOES CONTAIN AREAS PREVIOUSLY MAPPED AS MARINE CLAYS.
10. TOTAL LOT AREA = 29,922 S.F. OR 0.6869 AC.

ARCHAEOLOGY NOTES:

THE APPLICANT/DEVELOPER SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIMIES, 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.

THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY NON-PROFESSIONAL METAL DETECTION OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE.

SANITARY SEWER OUTFALL NARRATIVE:

THERE IS NO SANITARY SEWER PROPOSED WITH THIS DEVELOPMENT. THUS, THIS PROJECT DOES NOT GENERATE AN INCREASE IN EXCESS OF 10,000 GPD IN SANITARY WASTE OUTFLOW AND IS NOT SUBJECT TO A SANITARY SEWER OUTFALL ANALYSIS.

BLIND CONNECTION NOTE:

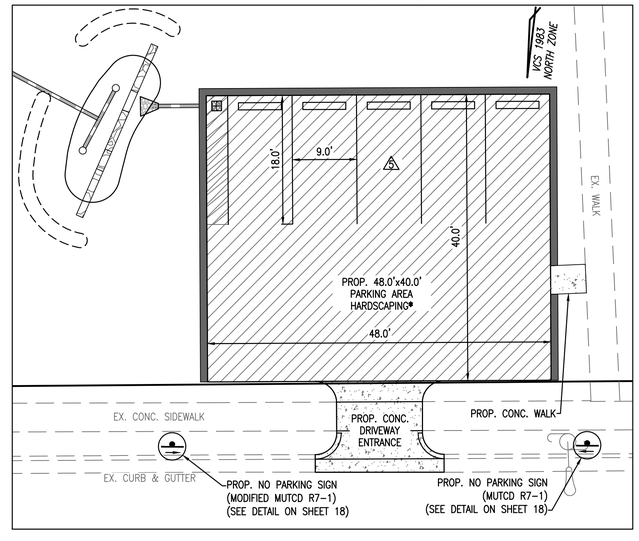
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE THE EXISTING STORM SEWER TO ENSURE THE PROPOSED BLIND CONNECTION IS POSSIBLE AND FREE FROM CONFLICT; TEST HOLES ARE RECOMMENDED PRIOR TO CONSTRUCTION.

SIGN NOTE:

CONTRACTOR TO PERFORM FINAL COORDINATION WITH THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES PRIOR TO ORDERING AND INSTALLING PROPOSED SIGNS.

CHESAPEAKE BAY INLET PLACARD NOTE:

ALL ON-SITE STORMWATER CURB INLETS AND PUBLIC CURB INLETS WITHIN 50 FEET OF THE PROPERTY LINE SHALL BE DULY MARKED USING STANDARD CITY MARKERS. A DETAIL FOR THE STANDARD INLET PLACARD IS LOCATED ON SHEET 18.



PARKING AREA DETAIL
SCALE: 1"=10'

= PARKING AREA HARDSCAPING

= CONCRETE DRIVEWAY ENTRANCE AND WALK

*CONTRACTOR TO ENSURE THE PROPOSED PARKING AREA HARDSCAPING REMAINS WITHIN THE SUBJECT PROPERTY AND DOES NOT ENCROACH INTO THE RIGHT-OF-WAY.

STORM PIPE NOTE:

RETAINING WALL DESIGNER AND CONTRACTOR TO COORDINATE RETAINING WALL AND RETAINING WALL FOUNDATION DESIGN TO ADEQUATELY ACCOUNT FOR THE PROPOSED STORM PIPE CONFIGURATION.

EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. DATE

RC FIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
730 S. Washington Street
Alexandria, Virginia 22314
www.rcfassoc.com
(703) 549-6422

COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: AS NOTED
DATE: MAR. 15, 2019

SITE PLAN

SHEET 4 OF 18
FILE: 16-52

MAINTENANCE PRACTICES:

1. THE SITE SUPERINTENDENT, OR REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO ENSURE THAT ALL CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING IF NECESSARY. ANY EXCESS BUILDUP OF SEDIMENTS ALONG PERIMETER SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL.

2. ALL SEDIMENT TRAPPING DEVICES SHALL BE CLEANED OUT AT 50% TRAP CAPACITY AND THE SEDIMENT SHALL BE DISPOSED OF BY SPREADING ON SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL.

EROSION AND SEDIMENT CONTROL PROGRAM:

DENUDED AREAS ARE TO BE KEPT TO A MINIMUM. TEMPORARY SEEDING AND MULCH ARE TO BE APPLIED TO ANY AREA WITHIN THE LIMITS OF CLEARING AND GRADING NOT CONTINUOUSLY WORKED FOR SEVEN (7) DAYS AFTER CLEARING AND GRADING. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SILT DAMS SHALL BE SEEDED AND MULCHED FOR TEMPORARY VEGETATIVE COVER WITHIN 48 HOURS AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL SOIL STOCKPILES. THE CITY OF ALEXANDRIA REQUIRES THAT ALL SLOPES CREATED BY THIS PLAN THAT ARE 25 PERCENT OR MORE MUST BE SODDED AND PEGGED FOR STABILITY. REFER TO SEEDING SCHEDULE AND SPECIFICATIONS FOR APPROPRIATE SEED MIXTURES, APPLICATION RATES AND THE DATES FOR PLANTING.

LIMITS OF DISTURBANCE NOTE:

THE LIMITS OF DISTURBANCE AS SHOWN ON THIS PLAN ARE THE ULTIMATE LIMITS FOR THIS PROJECT. THE CONTRACTOR MUST APPLY SEPARATELY TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) FOR ANY WORK, INCLUDING THE PLACEMENT OF CONSTRUCTION FENCING, WITHIN THE PUBLIC RIGHT OF WAY. THE CITY WILL NOT ALLOW INCLUSION OF ANY PORTION OF THE PUBLIC RIGHT OF WAY, INCLUDING SIDEWALKS, INTO THE PROJECT AREA FOR THE PROJECT DURATION. WORK AND ASSOCIATED CLOSURES IN THE PUBLIC RIGHT OF WAY WILL BE PERMITTED SEPARATELY ON AN AS NEEDED BASIS BY T&ES.

ADDITIONAL E&S MEASURES NOTE:

ADDITIONAL EROSION & SEDIMENT CONTROLS SHALL BE INSTALLED IF DIRECTED BY THE T&ES INSPECTOR.

PERMANENT STABILIZATION:

ALL AREAS THAT ARE DENUDED BY THIS PLAN SHALL BE COMPLETELY STABILIZED AT THE END OF CONSTRUCTION. A PERMANENT GROUND COVER OF GRASS SHALL BE ESTABLISHED ON ALL AREAS THAT ARE NOT PAVED OR BUILT UPON. GRASS COVER MAY BE APPLIED EITHER BY SEEDING WITH MULCH OR BY APPLYING SOD. REFER TO SEEDING SCHEDULE AND SPECIFICATIONS FOR APPROPRIATE SEED MIXTURES, APPLICATION RATES AND THE DATES FOR PLANTING. LANDSCAPE AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE LANDSCAPE PLANS.

CONSTRUCTION ENTRANCE:

THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. A WATER TRUCK WILL BE BROUGHT TO THE SITE FOR VEHICLE WASH.

RODENT ABATEMENT NOTE:

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 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 THE 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 GROUND BAIT BOXES MUST BE RELOCATED TO WITHIN 50 FEET OF A STRUCTURE IN KEEPING WITH EPA 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.

CONSTRUCTION WORKER PARKING NOTE:

CONSTRUCTION SHALL BE PHASED IN A MANNER TO ENSURE ADEQUATE OFF-STREET CONSTRUCTION WORKER PARKING IS AVAILABLE AT ALL TIMES. MASS TRANSIT INFORMATION (INCLUDING METRO AND BUS ROUTE INFORMATION) SHALL BE MADE AVAILABLE TO WORKERS TO REDUCE THE ON-SITE CONSTRUCTION PARKING NEEDS. ADDITIONALLY, CONTRACTOR WILL ENCOURAGE THE USE OF MASS TRANSIT BY PROVIDING WORKERS WITH A MINIMUM OF 50% SUBSIDY FOR THE FEES OF MASS TRANSIT PER THE DEVELOPMENT CONDITIONS. NO ON-STREET PARKING WILL BE ALLOWED.

SILT FENCE NOTE:

SILT FENCE MAY BE RELOCATED, ADDED AND OR REMOVED AS REQUIRED DUE TO CONSTRUCTION STAGING AND PROGRESS. CITY OF ALEXANDRIA SITE INSPECTOR MUST BE NOTIFIED AND GIVE PERMISSION PRIOR TO ANY MODIFICATION OF SILT FENCE.

WASH WATER DRAINAGE NOTE:

ALL WASH WATER IS TO BE DIRECTED ON-SITE TO EXISTING AND PROPOSED INLET STRUCTURES WHICH WILL HAVE STANDARD INLET PROTECTIONS FOR SEDIMENT CONTROL.

CERTIFIED LAND DISTURBER NOTE

A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE RIGHT OF WAY 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.

STAGING AREA NOTE:

ALL STAGING DURING PHASE DEMOLITION IS TO BE PERFORMED ON-SITE. NO STAGING IS TO OCCUR WITHIN THE PUBLIC RIGHT-OF-WAY. NO VEHICLE SHALL IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.

SITE GRADING NOTE:

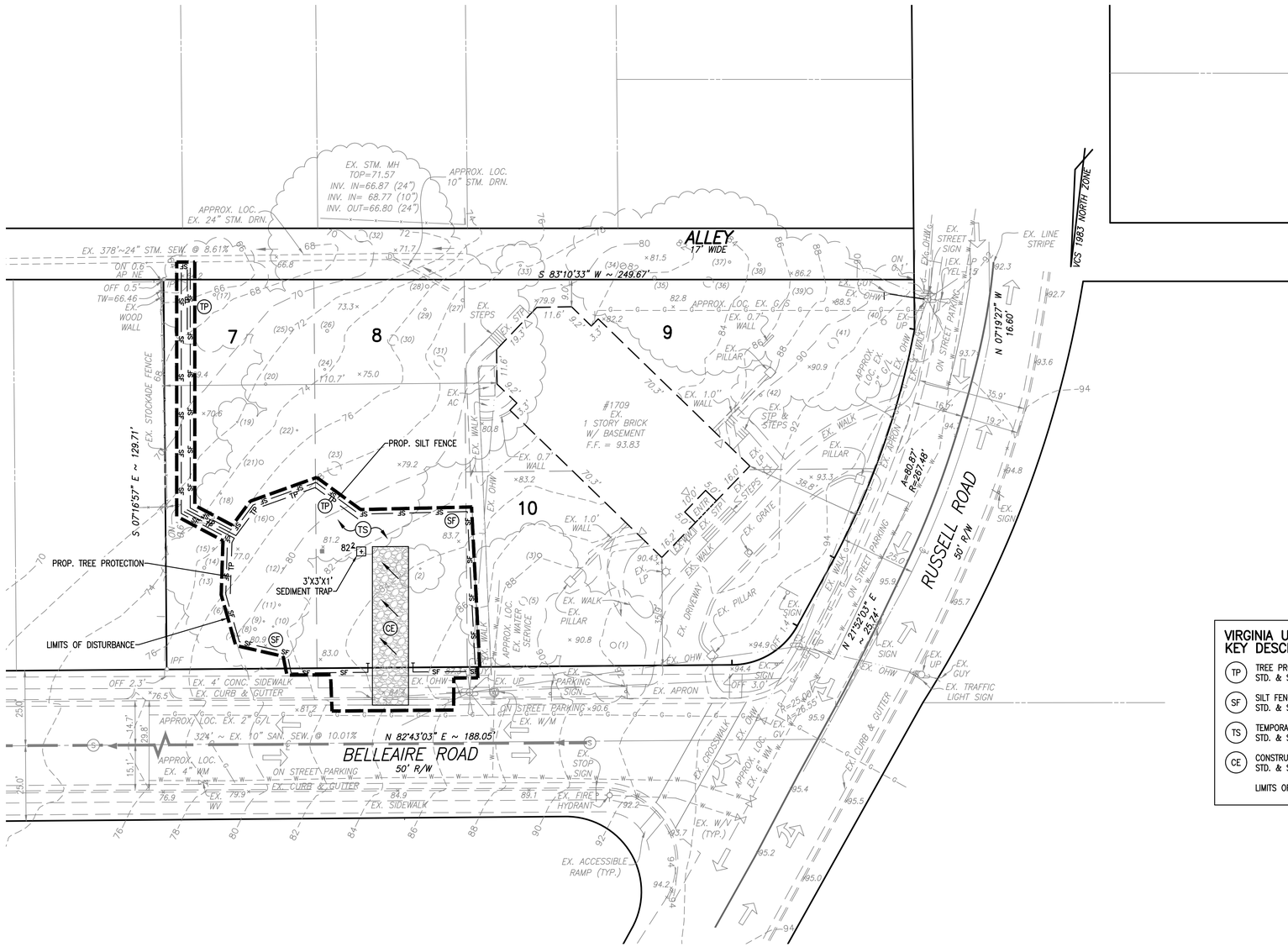
WHERE A STRUCTURE HAS BEEN DEMOLISHED OR REMOVED, IF LEFT VACANT THE LOT SHALL BE FILLED AND MAINTAINED TO THE EXISTING GRADE (USBC 3303.4).

ARCHAEOLOGY NOTES:

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.

THE APPLICANT SHALL NOT ALLOW ANY NON-PROFESSIONAL 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.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.



PHASE I - SEDIMENT CONTROL PLAN:

1. ESTABLISH PERIMETER CONTROLS AS SHOWN ON PLAN. AS WORK PROGRESSES, PERIMETER CONTROLS TO BE ADJUSTED TO PROTECT THE LIMITS OF THE PROJECT. ACCESS SITE FROM THE CONSTRUCTION ENTRANCE OFF BELLEAIRE ROAD ON THE NORTH SIDE OF THE SITE. VEHICLES WILL BE CLEANED PRIOR TO LEAVING THE CONSTRUCTION AREA. WASH WATER WILL BE OBTAINED FROM A PORTABLE WATER SOURCE PROVIDED BY THE CONTRACTOR.

2. ONCE PERIMETER CONTROLS HAVE BEEN INSTALLED AND APPROVED BY A CITY INSPECTOR, CLEARING OF THE SITE MAY TAKE PLACE.

VIRGINIA UNIFORM CODING SYSTEM KEY DESCRIPTIONS

TP	TREE PROTECTION FENCING STD. & SPEC. 3.38	TP — TP
SF	SILT FENCE STD. & SPEC. 3.05	SF — SF
TS	TEMPORARY SEEDING STD. & SPEC. 3.31	TS
CE	CONSTRUCTION ENTRANCE STD. & SPEC. 3.02	CE
	LIMITS OF DISTURBANCE	

TOTAL DISTURBED AREA = 0.13 AC. OR 5,728 S.F. THIS SHEET IS FOR EROSION/SEDIMENT CONTROLS PHASE I ONLY!

REFER TO FINAL SITE PLAN FOR FINAL LAYOUT, LOCATIONS, GROUND COVER MATERIAL, DIMENSIONS & GRADING

CONTRACTOR SHALL VERIFY THE REMOVAL OF ANY ITEMS NOT SHOWN "TO BE REMOVED" WITH THE OWNER, ARCHITECT AND THE ENGINEER. REMOVAL OF ITEMS SHALL NOT PROCEED UNTIL WRITTEN AUTHORIZATION IS OBTAINED FROM THE OWNER.

0' 20' 40'

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. DATE

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COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047863
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: 1" = 20'
DATE: MAR. 15, 2019

EROSION AND SEDIMENT CONTROL PLAN: PHASE I

SHEET 5 OF 18
FILE: 16-52

J:\2016\1652\DWG\DEVLP\SITE PLAN\05 - E&S PHASE I .dwg
Thu, Apr 11 2019 - 1:31:36pm

MAINTENANCE PRACTICES:

1. THE SITE SUPERINTENDENT, OR REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO ENSURE THAT ALL CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING IF NECESSARY. ANY EXCESS BUILDUP OF SEDIMENTS ALONG PERIMETER SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL.

2. ALL SEDIMENT TRAPPING DEVICES SHALL BE CLEANED OUT AT 50% TRAP CAPACITY AND THE SEDIMENT SHALL BE DISPOSED OF BY SPREADING ON SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL.

EROSION AND SEDIMENT CONTROL PROGRAM:

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CONSTRUCTION WORKER PARKING NOTE:

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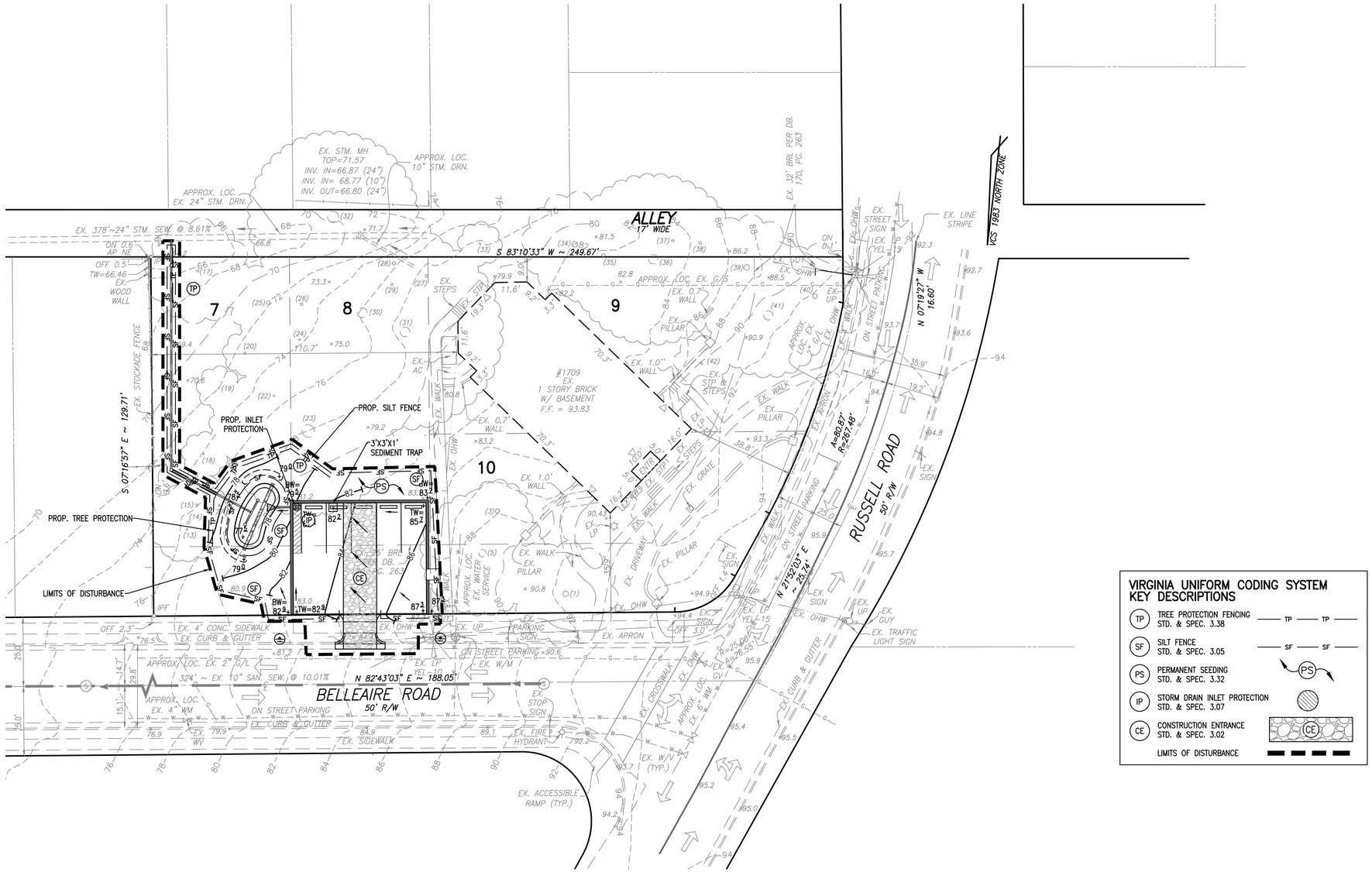

VIRGINIA UNIFORM CODING SYSTEM KEY DESCRIPTIONS

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IP	STORM DRAIN INLET PROTECTION STD. & SPEC. 3.07	IP
CE	CONSTRUCTION ENTRANCE STD. & SPEC. 3.02	CE
	LIMITS OF DISTURBANCE	

STAGING AREA NOTE:

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SITE GRADING NOTE:

WHERE A STRUCTURE HAS BEEN DEMOLISHED OR REMOVED, IF LEFT VACANT THE LOT SHALL BE FILLED AND MAINTAINED TO THE EXISTING GRADE (USBC 3303.4).

ARCHAEOLOGY NOTES:

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.

THE APPLICANT SHALL NOT ALLOW ANY NON-PROFESSIONAL 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.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

PHASE II – SEDIMENT CONTROL PLAN:

1. PERIMETER CONTROLS SHALL REMAIN IN PLACE ALONG THE LIMITS OF DISTURBANCE OF THE SITE. ACCESS TO THE SITE WILL BE VIA THE CONSTRUCTION ENTRANCE LOCATED OFF OF BELLEAIRE ROAD. ALL VEHICLES SHALL BE CLEANED PRIOR TO ENTERING ANY RIGHT-OF-WAY.
2. BEGIN ROUGH GRADING OF SITE.
3. INSTALL UNDERGROUND UTILITIES. INSTALL PROPOSED STORMWATER FACILITY.
4. BEGIN CONSTRUCTION OF THE PROPOSED PARKING AREA.
5. FINISH ROUGH GRADING.
6. COMPLETE CONSTRUCTION OF PROPOSED IMPROVEMENTS. COMPLETE FINE GRADING REQUIRED FOR THE SITE. ALL DEBRIS WILL BE HAULED OFF SITE ALONG CITY APPROVED HAUL ROUTES AND WITHIN HOURS PERMITTED BY CITY ORDINANCE.
7. SEDIMENT CONTROL STRUCTURES SHALL NOT BE REMOVED WITH OUT THE APPROVAL OF THE CITY'S EROSION AND SEDIMENT CONTROL INSPECTOR

TOTAL DISTURBED AREA = 0.13 AC. OR 5,728 S.F. THIS SHEET IS FOR EROSION/SEDIMENT CONTROLS PHASE II ONLY!

REFER TO FINAL SITE PLAN FOR FINAL LAYOUT, LOCATIONS, GROUND COVER MATERIAL, DIMENSIONS & GRADING

CONTRACTOR SHALL VERIFY THE REMOVAL OF ANY ITEMS NOT SHOWN "TO BE REMOVED" WITH THE OWNER, ARCHITECT AND THE ENGINEER. REMOVAL OF ITEMS SHALL NOT PROCEED UNTIL WRITTEN AUTHORIZATION IS OBTAINED FROM THE OWNER.

0' 20' 40'

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ DATE _____

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COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: 1" = 20'
DATE: MAR. 15, 2019

EROSION AND SEDIMENT CONTROL PLAN: PHASE II

SHEET 6 OF 18
FILE: 16-52

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Thu, Apr 11 2019 - 1:31:43pm

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. THE DEVELOPER AND CONTRACTORS ARE TO KEEP DENUDED AREAS TO A MINIMUM. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY T&ES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT. ALL EROSION / SEDIMENT CONTROL MEASURES WILL CONFORM TO THE CURRENT STANDARDS OF THE CITY OF ALEXANDRIA AND THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS §4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

3. T&ES 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.

4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING. 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.

5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

6. PRIOR TO COMMENCING ANY 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.

7. ALL DISTURBED AREAS OF THE SITE THAT ARE NOT TO BE WORKED FOR SEVEN OR MORE CALENDAR DAYS MUST BE STABILIZED.

8. 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.

9. 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.

10. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE.

11. 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.

12. 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 NOT BE WORKED FOR SEVEN OR MORE CALENDAR DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

13. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS IS TO BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED. ALL APPLICABLE EROSION AND SEDIMENT CONTROL MEASURES MUST BE EMPLOYED FOR STOCKPILE AREAS. NO CONTAMINATED MATERIALS WILL BE STOCKPILED FOR THIS SITE.

14. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 25% ARE TO BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL.

15. TO THE EXTENT POSSIBLE ALL TREE PROTECTION SHALL BE INSTALLED AT THE DRIP LINE OF THE TREE(S).

16. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND ALL DISTURBED AREAS SHALL BE STABILIZED AND ALL TEMPORARY EROSION AND SEDIMENT CONTROL SHALL BE REMOVED.

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

18. ALL EXCAVATED MATERIAL TO BE REPLACED INTO THE TRENCH SHALL BE STOCKPILED ON THE HIGH SIDE OF THE TRENCH.

19. IF ANY TRENCH WORK WILL REMAIN OPEN AFTER THE END OF THE WORKDAY ALL NEEDED EROSION AND SEDIMENT CONTROLS SHALL BE EMPLOYED.

20. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

21. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE CITY OF ALEXANDRIA.

PERIMETER SILT FENCE NOTE:

MAXIMUM ALLOWABLE DRAINAGE AREA UPSTREAM OF THE SILT FENCE IS 0.25 ACRES PER 100 L.F. OF FENCE.
DRAINAGE AREA TO SILT FENCE = 0.13 AC. TOTAL.
LINEAR FEET OF PERIMETER SILT FENCE = 450 FEET
MAXIMUM ALLOWABLE AREA FOR 450 FT. OF SILT FENCE= (450/100) X 0.25 = 1.13 ACRES
ACTUAL DRAIN AREA OF 0.13 ACRES IS LESS THAN 1.13 ACRES ALLOWABLE.
SILT FENCE IS ADEQUATE FOR THIS APPLICATION

CERTIFIED LAND DISTURBER NOTE:

A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE RIGHT OF WAY 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.

ADDITIONAL E&S MEASURES NOTE:

ADDITIONAL EROSION & SEDIMENT CONTROLS SHALL BE INSTALLED IF DIRECTED BY THE T&ES INSPECTOR.

EROSION & SEDIMENT CONTROL NARRATIVE:

PROJECT DESCRIPTION:
THIS PROJECT PROPOSES THE CONSTRUCTION OF A PARKING AREA, WITH A DRIVEWAY ENTRANCE FROM BELLEAIRE ROAD. A BIORETENTION FACILITY IS PROPOSED TO TREAT THE PROPOSED PARKING AREA. THE UNDERDRAIN FROM THE BIORETENTION FACILITY WILL CONNECT INTO THE EXISTING STORM SEWER WITHIN THE ALLEY SOUTH OF THE SUBJECT PROPERTY.

EXISTING CONDITIONS:
THIS SITE IS CURRENTLY OCCUPIED BY PRIMARILY WOODED LAND COVER AND MAINTAINED GRASS. THE EXISTING IMPROVEMENTS AS INDICATED ON THE EROSION & SEDIMENT CONTROL PHASE I PLAN AND DEMOLITION PLAN ARE TO BE REMOVED.

ADJACENT PROPERTIES:
THIS PROPERTY IS BOUNDED TO THE SOUTH BY A ALLEY, TO THE EAST BY RESIDENTIAL LOTS, TO THE NORTH BY BELLEAIRE ROAD, AND TO THE WEST BY RUSSELL ROAD.

CRITICAL AREAS:
CRITICAL AREAS INCLUDE AREAS AROUND THE LIMITS OF DISTURBANCE. SPECIAL CARE SHALL BE TAKEN TO ENSURE NO DISTURBANCE OCCURS OUTSIDE THE SPECIFIED LIMITS OF DISTURBANCE.

SOILS DESCRIPTION:
THE "GENERALIZED ALEXANDRIA SOILS MAP" IDENTIFIES THE SOILS FOR THIS SITE AS SUSQUEHANNA LOAM. THE SUSQUEHANNA LOAM OCCURS UPLAND OF OCHLOCKNEE AND OCCUPIES LARGE AREAS OF ALEXANDRIA INCLUDING EISENHOWER VALLEY AND THE DUKE STREET CORRIDOR. IT HAS FAIR DRAINAGE AND IS GENTLY ROLLING TO UNDULATING, ALTHOUGH THERE ARE OCCASIONAL STEEP SLOPES. THIS SITE CONTAINS AREAS PREVIOUSLY MAPPED AS MARINE CLAYS.

STORMWATER RUNOFF CONSIDERATIONS: (BMP STRATEGIES)
PERIMETER BMP STRATEGIES WILL INCLUDE INLET PROTECTION, SILT FENCE, AND A CONSTRUCTION ENTRANCE. THE PROPOSED DEVELOPMENT WILL HONOR ALL NATURAL DRAINAGE DIVIDES. SURFACE RUNOFF FROM THE SITE WILL SHEET FLOW TOWARDS THE PROPOSED STORMWATER MANAGEMENT STRUCTURES. ULTIMATELY, ALL RUNOFF FROM THE SITE WILL BE DIRECTED TO THE CITY MAINTAINED STORM SEWER SYSTEM.

MAINTENANCE PRACTICES:
1. THE SITE SUPERINTENDENT, OR REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO ENSURE THAT ALL CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING IF NECESSARY. ANY EXCESS BUILDUP OF SEDIMENTS ALONG THE PERIMETER SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL.
2. ALL SEDIMENT TRAPPING DEVICES SHALL BE CLEANED OUT AT 50% TRAP CAPACITY AND THE SEDIMENT SHALL BE DISPOSED OF BY SPREADING ON SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL. MAJORITY OF MATERIAL WILL BE HAULED FROM SITE.

PHASING:
THIS PROJECT WILL FOLLOW A SIMPLE, TWO-PHASE EROSION AND SEDIMENT CONTROL PLAN. THE EROSION & SEDIMENT CONTROLS SHALL BE PHASED ACCORDING TO THE PHASE I AND II EROSION AND SEDIMENT CONTROL SHEETS AND NARRATIVES INCLUDED IN THIS PLAN. PERIMETER CONTROLS SHALL BE INSTALLED AS REQUIRED PER PHASE I FOR DEMOLITION PROCEDURES AND THE REMAINDER OF THE CONTROLS SHALL BE EMPLOYED WHEN DEMOLITION HAS ENDED. PHASE II CONTROLS ARE TO BE INSTALLED AS THE SITE WORK PROGRESSES AND AREAS BECOME NEAR FINISHED CONDITION BUT PRIOR TO SITE STABILIZATION.

STOCKPILING PROCEDURES:
ANY EXCAVATED MATERIAL THAT IS NOT TO BE REUSED AS BACKFILL AND CANNOT BE STORED ON-SITE MUST BE HAULED OFF ALONG CITY APPROVED HAUL ROUTES. ANY ADDITIONAL MATERIAL REQUIRED WILL BE BROUGHT TO THE SITE UTILIZING THE SAME HAUL ROUTES.

CONTAMINATED SOILS:
THIS SITE IS NOT KNOWN TO CONTAIN CONTAMINATED AREAS, CONTAMINATED SOILS, AND ENVIRONMENTAL ISSUES. SHOULD ANY UNANTICIPATED CONTAMINATION, UNDERGROUND STORAGE TANKS, DRUMS OR CONTAINERS BE ENCOUNTERED AT THE SITE DURING CONSTRUCTION, THE APPLICANT MUST IMMEDIATELY NOTIFY THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY. SHOULD UNANTICIPATED CONDITIONS WARRANT, CONSTRUCTION WITHIN THE IMPACTED AREA SHALL BE STOPPED UNTIL THE APPROPRIATE ENVIRONMENTAL REPORTS ARE SUBMITTED AND APPROVED AT THE DISCRETION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.

OFF-SITE AREAS:
OFF-SITE WORK FOR THIS SITE INCLUDES THE INSTALLATION OF THE PROPOSED DRIVEWAY ENTRANCE IN THE BELLEAIRE ROAD RIGHT-OF-WAY AND CONNECTION OF THE PROPOSED STORM PIPE INTO THE EXISTING STORM SEWER IN THE ALLEY SOUTH OF THE SUBJECT PROPERTY.

EROSION & SEDIMENT CONTROL MEASURES:
DENUDED AREAS ARE TO BE KEPT TO A MINIMUM. TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED TO ANY AREAS NOT CONTINUOUSLY WORKED FOR 7 DAYS AFTER CLEARING AND ROUGH GRADING. ALL E/S MEASURES AND CONTROLS ARE TO CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK AND THE CITY OF ALEXANDRIA. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION/SEDIMENT CONTROL MEASURES. REFER TO INDIVIDUAL EROSION AND SEDIMENT CONTROL SHEETS FOR DETAIL ON CONTROL MEASURES. A STANDARD CONSTRUCTION ENTRANCE (WITH WASH RACKS IF NECESSARY) SHALL BE INSTALLED.

PERMANENT STABILIZATION:
THE AREAS OF THIS SITE NOT COVERED BY THE PROPOSED PARKING AREA WILL BE STABILIZED WITH GRASS. GRASS AREAS WILL BE TREATED WITH SOD OR OTHER FORMS OF STABILIZATION. PLANTING AREAS SHALL BE MULCHED OR PLANTED WITH GROUNDCOVER AS PER THE LANDSCAPING DESIGN PLANS. NO AREAS AFFECTED BY THIS PLAN SHALL BE LEFT IN A DENUDED CONDITION AT THE COMPLETION OF CONSTRUCTION ACTIVITIES.

SEQUENCE OF CONSTRUCTION NOTES:

PRE-CONSTRUCTION:
1. OBTAIN ALL REQUIRED DEMOLITION, PRE-CONSTRUCTION, AND CONSTRUCTION PERMITS.

PHASE I:
MOBILIZATION/DEMOLITION (2 WEEKS)
1. OBTAIN PERMITS TO CLOSE SIDEWALKS IN PUBLIC RIGHT-OF-WAY, IF REQUIRED.
2. ESTABLISH PERIMETER CONTROLS AS SHOWN ON PLAN. AS WORK PROGRESSES, PERIMETER CONTROLS TO BE ADJUSTED TO PROTECT THE LIMITS OF THE PROJECT.
3. ACCESS SITE FROM THE CONSTRUCTION ENTRANCE OFF BELLEAIRE ROAD ON THE NORTH SIDE OF THE SITE. VEHICLES WILL BE CLEANED PRIOR TO LEAVING THE CONSTRUCTION AREA. WASH WATER WILL BE OBTAINED FROM A PORTABLE WATER SOURCE PROVIDED BY THE CONTRACTOR.
4. COMMENCE CLEARING ACTIVITIES.
5. ALL DEBRIS WILL BE HAULED OFF SITE ALONG CITY APPROVED HAUL ROUTES AND WITHIN HOURS PERMITTED BY CITY ORDINANCE.

PHASE II:
CONSTRUCTION (12 WEEKS)
1. PERIMETER CONTROLS SHALL REMAIN IN PLACE ALONG THE LIMITS OF DISTURBANCE OF THE SITE.
2. ACCESS TO THE SITE WILL BE VIA THE CONSTRUCTION ENTRANCE LOCATED OFF OF BELLEAIRE ROAD. TRUCKS AND EQUIPMENT MUST BE PARKED ON-SITE. ALL VEHICLES SHALL BE CLEANED PRIOR TO ENTERING ANY RIGHT-OF-WAY.
3. BEGIN ROUGH GRADING OF SITE AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
4. FINISH ROUGH GRADING.
5. COMPLETE CONSTRUCTION OF PROPOSED IMPROVEMENTS.
6. COMPLETE FINE GRADING REQUIRED FOR THE SITE.
7. ALL DEBRIS WILL BE HAULED OFF SITE ALONG CITY APPROVED HAUL ROUTES AND WITHIN HOURS PERMITTED BY CITY ORDINANCE.

CONSTRUCTION ENTRANCE NOTE:

WASH WATER FOR THE CONSTRUCTION ENTRANCE WILL BE OBTAINED FROM A PORTABLE WATER SOURCE PROVIDED BY THE CONTRACTOR. THE CONSTRUCTION ENTRANCE SHALL BE GRADED SO THAT ALL RUNOFF IS DIRECTED TO THE SEDIMENT TRAP TO PREVENT SEDIMENT FROM LEAVING THE SITE.

CONSTRUCTION DUST NOTE:

DURING DEMOLITION AND CONSTRUCTION OF THE PROPOSED SITE, FUGITIVE DUST IS TO BE CONTROLLED TO LIMIT SPREAD, SETTLEMENT AND IMPACT ON ADJACENT PROPERTIES. FUGITIVE DUST WILL BE CONTROLLED BY THE WETTING OF THE SITE DURING DEMOLITION AND CONSTRUCTION SHOULD CONDITIONS WARRANT. CONTRACTOR IS TO WET THE SITE AS NECESSARY AND UPON DIRECTION FROM CITY SITE INSPECTOR.

CONSTRUCTION WASTE AND REFUSE CONTROL PROGRAM:

DURING THE CONSTRUCTION PHASE OF THIS DEVELOPMENT, THE SITE DEVELOPER, ITS CONTRACTOR, CERTIFIED LAND DISTURBER, OR OWNER'S OTHER AGENTS SHALL IMPLEMENT A WASTE AND REFUSE CONTROL PROGRAM. THIS PROGRAM SHALL CONTROL WASTES SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER OR TRASH, TRASH GENERATED BY CONSTRUCTION WORKERS OR MOBILE FOOD VENDOR BUSINESSES SERVING THEM AND SANITARY WASTE AT THE CONSTRUCTION SITE AND PREVENT ITS OFF SITE MIGRATION THAT MAY CAUSE ADVERSE IMPACTS TO THE NEIGHBORING PROPERTIES OR THE ENVIRONMENT TO THE SATISFACTION OF DIRECTORS OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AND CODE ENFORCEMENT. ALL WASTES SHALL BE DISPOSED OFF SITE PROPERLY IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS.

RODENT ABATEMENT NOTE:

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 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 THE 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 GROUND BAIT BOXES MUST BE RELOCATED TO WITHIN 50 FEET OF A STRUCTURE IN KEEPING WITH EPA 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.

ARCHAEOLOGY NOTES:

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.

THE APPLICANT SHALL NOT ALLOW ANY NON-PROFESSIONAL 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.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

TOTAL DISTURBED AREA = 0.13 AC.
OR 5,278 SF.

APPROVED
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DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
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DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: NO SCALE
DATE: MAR. 15, 2019

EROSION AND SEDIMENT CONTROL NARRATIVES

SHEET 7 OF 18
FILE: 16-52

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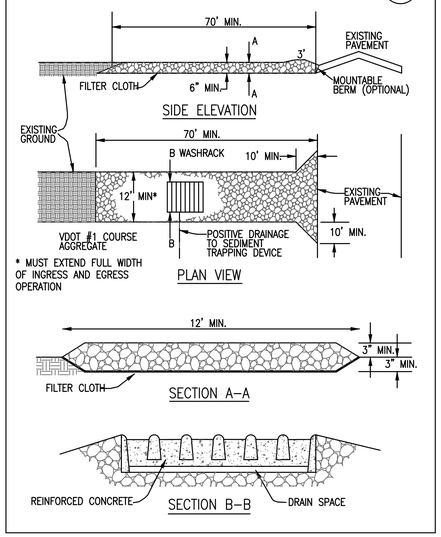
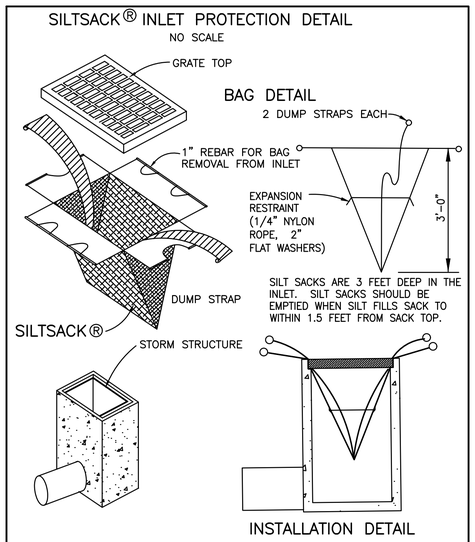
Thu, Apr 11 2019 - 1:31:49pm

STONE CONSTRUCTION ENTRANCE (CE)



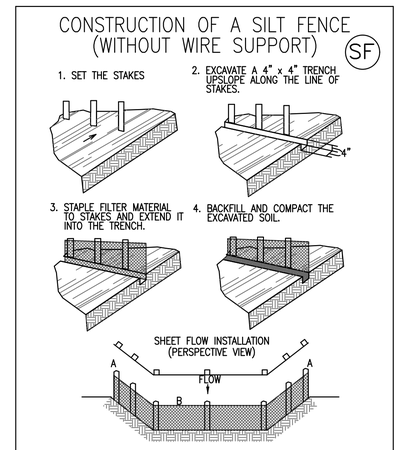
SILTSACK® INLET PROTECTION DETAIL

NO SCALE



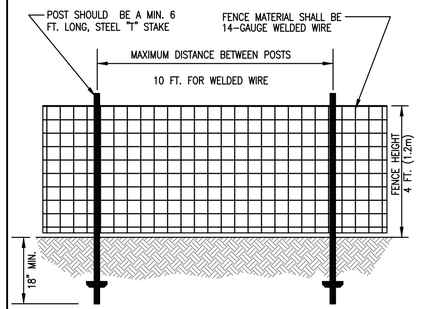
NOTE: EXISTING GRATE INLETS LOCATED WITHIN THE TRAVEL AISLE AND THE NEW TRENCH DRAINS SHALL USE THE SILTSACK TYPE PROTECTION OR APPROVED EQUIVALENT. THIS INLET PROTECTION ALLOWS FOR TRAVEL OVER THE INLETS DURING CONSTRUCTION ACTIVITIES.

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT) (SF)



TREE PROTECTION FENCE INSTALLATION DETAIL: (TP)

(NOT TO SCALE)



NOTE: TREE PROTECTION FENCING SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION

VIRGINIA UNIFORM CODING SYSTEM

KEY DESCRIPTIONS:

- (CE) CONSTRUCTION ENTRANCE WITH WASHRACK STANDARD AND SPECIFICATION #3.02
- (SF) SILT FENCE STANDARD AND SPECIFICATION #3.05
- (TP) TREE PROTECTION FENCING STANDARD AND SPECIFICATION #3.38
- (PS) PERMANENT SEEDING STANDARD AND SPECIFICATION #3.32
- (TS) TEMPORARY SEEDING STANDARD AND SPECIFICATION #3.31

SEEDING SCHEDULE: (COASTAL PLAIN REGION)

PRACTICE	SPECIES	RATE	APPLICATION DATES
TEMPORARY SEEDING (TS)	OATS (AVENA SATIVA)	50-100 lbs./acre	FEB. 15 to APRIL 30
	RYE (SECALE CEREALE)	50-110 lbs./acre (4.5 - 5.5 lbs.)	FEB.15 to APRIL 30, SEPT. 1 to NOV. 15
	50/50 MIX OF ANNUAL RYEGRASS AND CEREAL (WINTER) RYE	50-100 lbs./acre	SEPT. 1 to FEB. 15 (WINTER SEED)
PERMANENT SEEDING (PS)	KENTUCKY 31 TALL FESCUE KENTUCKY BLUEGRASS TALL FESCUES (IMPROVED)	200-250 lbs./acre per 1,000 sq. ft.	APPLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR TIME OF YEAR APPLICABILITY. UTILIZE TEMPORARY SEEDING UNTIL APPROPRIATE TIME TO APPLY PERMANENT SEEDING.

NOTE: REFER TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR OTHER SEED VARIETIES THAT MAY BE APPLICABLE. OTHER SEED VARIETIES AND MIXES MAY BE UTILIZED IF THERE IS A PROBLEM WITH PRODUCT AVAILABILITY. CONTACT THE DESIGN ENGINEER AND/OR THE CITY INSPECTOR FOR THE APPLICABILITY OF OTHER SEED MIXTURES.

TOTAL DISTURBED AREA = 0.13 AC. OR 5,728 SF.

ADDITIONAL E&S MEASURES NOTE:
ADDITIONAL EROSION & SEDIMENT CONTROLS SHALL BE INSTALLED IF DIRECTED BY THE T&ES INSPECTOR.

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COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: NO SCALE
DATE: MAR. 15, 2019

EROSION AND SEDIMENT CONTROL DETAILS

SHEET 8 OF 18
FILE: 16-52

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STANDARDS AND REQUIREMENTS:

1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE SHALL BE APPROVED BY THE CITY ARBORIST IN FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING ACTIVITY.

2. ALL MATERIALS SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE INDUSTRY STANDARD FOR GRADING PLAN MATERIAL – THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).

3. THE APPLICANT HAS MADE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROWING, OR IS UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVENIENTLY LOCATED TO THE PROJECT SITE, OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPECIFIED MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCURS, REMEDIAL EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLAN SHALL BE UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL, WITH PRIOR APPROVAL BY THE CITY BE PERFORMED TO THE SATISFACTION OF THE DIRECTORS OF PLANNING & ZONING, RECREATION, PARKS & CULTURAL ACTIVITIES AND TRANSPORTATION & ENVIRONMENTAL SERVICES.

4. MAINTENANCE OF ALL TREES AND LANDSCAPE MATERIALS SHALL CONFORM TO ACCEPTED INDUSTRY STANDARDS SET FORTH BY THE LANDSCAPE CONTRACTORS ASSOCIATION, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, THE INTERNATIONAL SOCIETY OF ARBORICULTURE, AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.

5. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.

6. MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED IN PERPETUITY, IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY PROJECT APPROVAL.

7. A CERTIFICATION LETTER FOR TREE WELLS, TREE TRENCHES AND PLANTINGS ABOVE STRUCTURE SHALL BE PROVIDED BY THE PROJECTS LANDSCAPE ARCHITECT. THE LETTER SHALL CERTIFY THAT ALL BELOW GRADE CONSTRUCTION IS IN COMPLIANCE WITH APPROVED DRAWING AND SPECIFICATIONS. THE LETTER SHALL BE SUBMITTED TO THE CITY ARBORIST AND APPROVED PRIOR TO APPROVAL OF THE LAST AND FINAL CERTIFICATE OF OCCUPANCY FOR THE PROJECT. THE LETTER SHALL BE SUBMITTED BY THE OWNER/APPLICANT/SUCCESSOR AND SEALED AND DATED AS APPROVED BY THE PROJECTS LANDSCAPE ARCHITECT.

8. AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWING SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

ARCHAEOLOGY NOTES:

1. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTUREAL REMAINS (WALLS, WELL, 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.

3. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

CROWN COVER CALCULATIONS

TOTAL SITE AREA	22,922 SQ. FT.
REQUIRED CROWN COVER (25%)	5,731 SQ. FT.
EXISTING CROWN COVER	16,246 SQ. FT.
REMOVED CROWN COVER	1,369 SQ. FT.
CROWN COVER TO BE PLANTED	0 SQ. FT.
CROWN COVER PROVIDED	14,877 SQ. FT. OR 64.9%

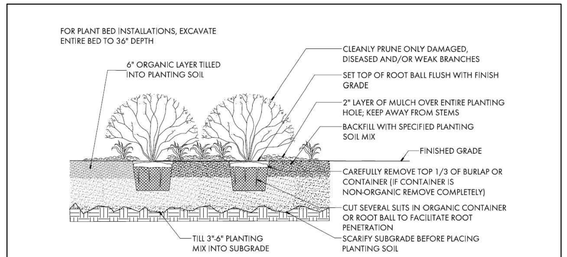
PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	HEIGHT	QUANTITY
	ILEX CRENATA	JAPANESE HOLLY	24"	3
	JUNIPERUS HORIZONTALIS	CARPET JUNIPER	12"	30
	ILEX X MESERVEAE 'MONDO'	LIL RASCAL BOY HOLLY	36"	3
	ILEX 'RUTZAN'	RED BEAUTY HOLLY	60" MAX	3
	ILEX VERTICILLATA	WINTERBERRY HOLLY	36"	14

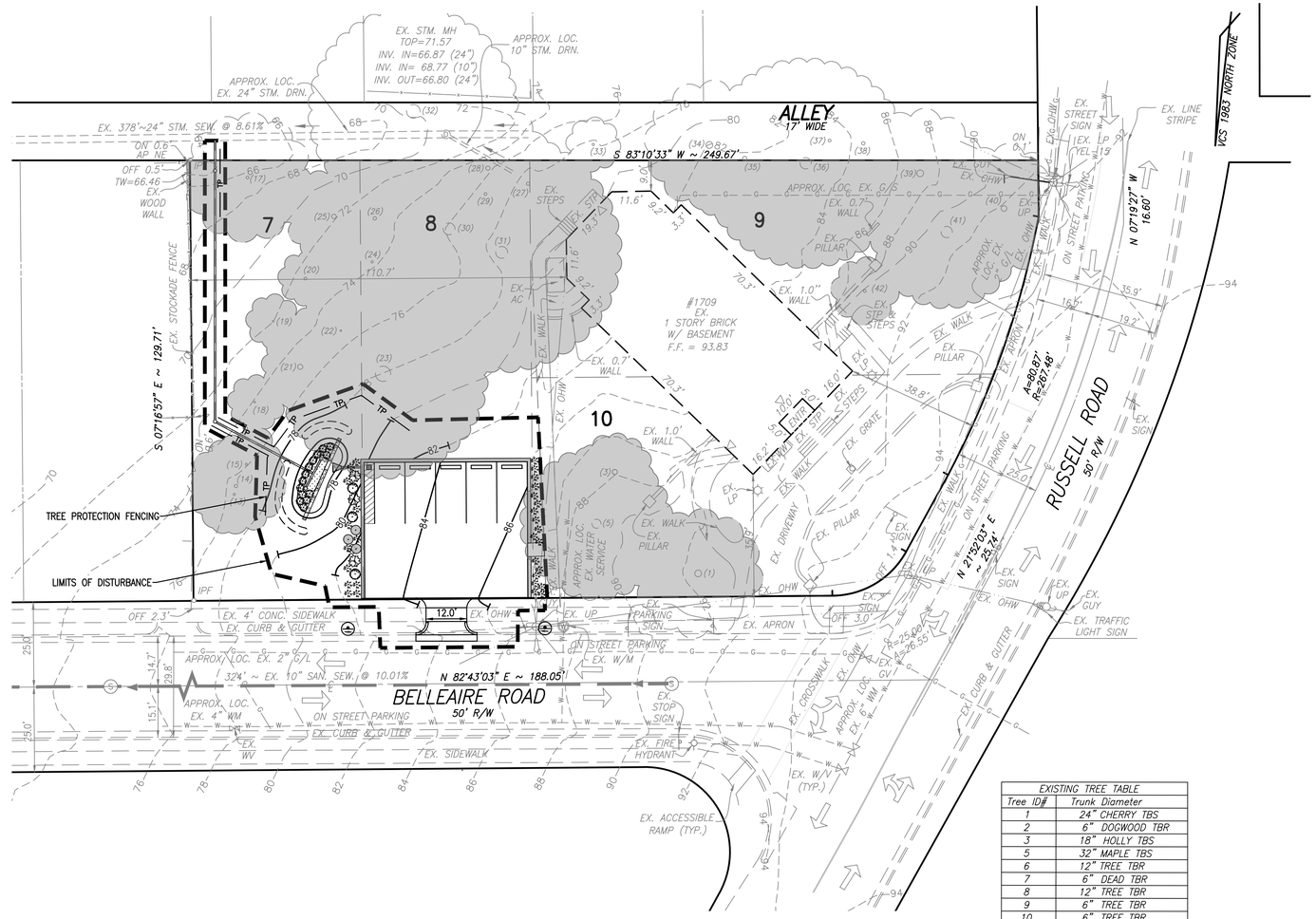
TOTAL = 53 SHRUBS

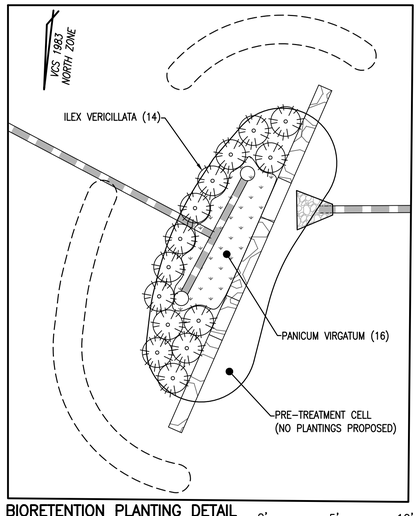
GROUNDCOVER AND PERENNIALS

SYMBOL	BOTANICAL NAME	COMMON NAME	CONTAINER	SPACING	QUANTITY
	PANICUM VIRGATUM	SWITCHGRASS	1 GAL.	18" O.C.	16



1 **SHRUB PLANTING DETAIL**





BIORETENTION PLANTING DETAIL
SCALE: 1"=5'
0' 5' 10'

TREE CONSERVATION AND PROTECTION PROGRAM

EX. CROWN COVER TO REMAIN

—— TP —— TREE PROTECTION FENCING (SEE DETAIL ON SHEET 8)

TREE PRESERVATION MEASURES SHALL BE PERFORMED PER THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND THE SATISFACTION OF THE DIRECTOR OF PLANNING & ZONING, AND/OR RP&CA AND THE CITY ARBORIST.

EXISTING TREE TABLE	
Tree ID#	Trunk Diameter
1	24" CHERRY TBS
2	6" DOGWOOD TBR
3	18" HOLLY TBS
5	32" MAPLE TBS
6	12" TREE TBR
7	6" DEAD TBR
8	12" TREE TBR
9	6" TREE TBR
10	6" TREE TBR
11	8" TREE TBR
12	6" TREE TBR
13	8" TREE TBS
14	12" TREE TBS
15	8" TREE TBS
16	18" TREE TBR
17	10" TREE TBS
18	6" TREE TBS
19	6" TREE TBS
20	10" HOLLY TBS
21	18" CLUSTER TBS
22	6" TREE TBS
23	54" POPLAR TBS
24	8" TREE TBS
25	16" PINE TBS
26	12" PINE TBS
27	12" TREE TBS
28	15" TREE TBS
29	10" TREE TBS
30	42" OAKWOOD TBS
31	42" POPLAR TBS
32	48" MAPLE TBS
33	8" TREE TBS
34	24" TREE TBS
35	15" TREE TBS
36	40" TREE TBS
37	10" TREE TBS
38	12" TREE TBS
39	24" TREE TBS
40	20" TREE TBS
41	40" TREE TBS
42	10" CREPE MYRTLE TBS

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ DATE _____

R.C. FIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
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TREE PRESERVATION AND PLANTING PLAN

SHEET 9 OF 18
FILE: 16-52

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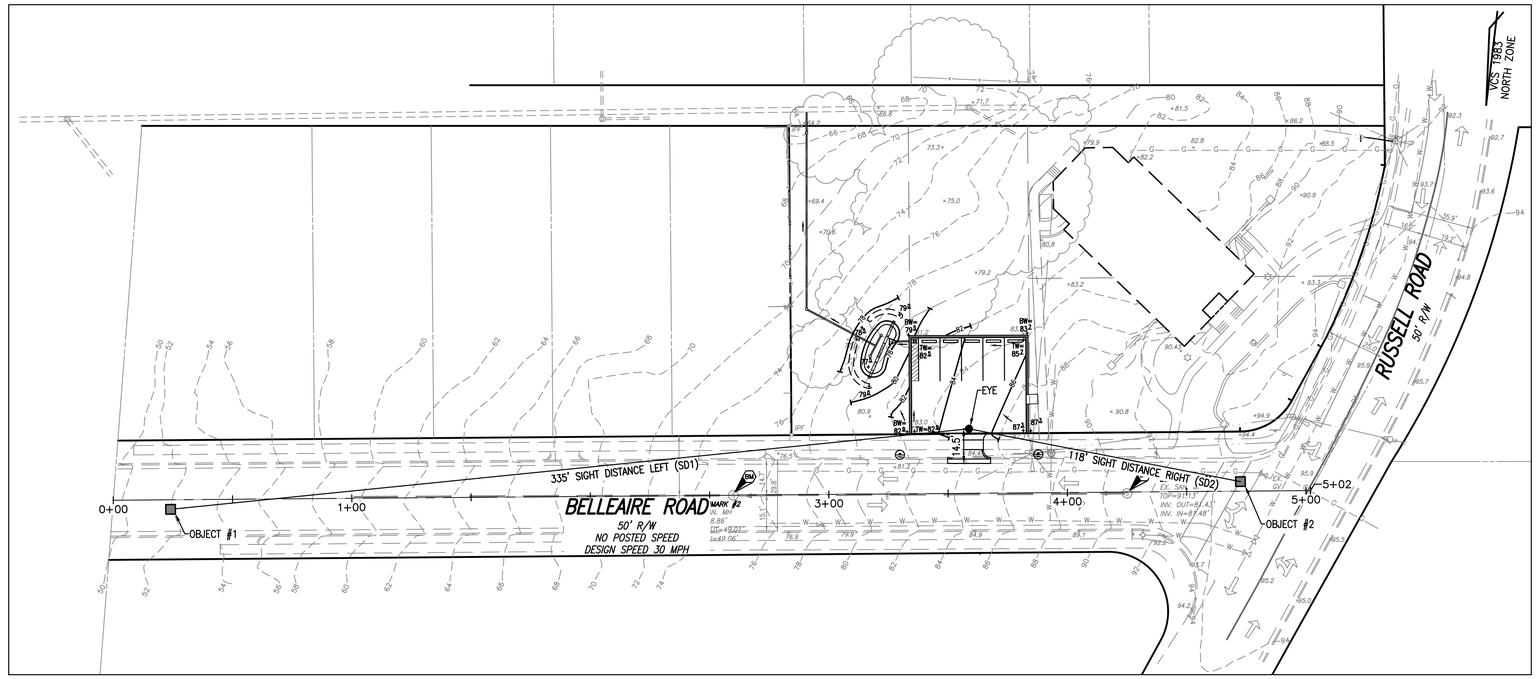
Thu, Apr 11, 2019 - 1:32:04pm



INTERSECTION SIGHT DISTANCE PLAN VIEW
SCALE: 1" = 30'

0' 30' 60'

THIS DRAWING IS A SERVICE DOCUMENT OF R.C. FIELDS & ASSOCIATES, INC. AND MAY NOT BE USED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER AND/OR LAND SURVEYOR.

EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

APPROVED
SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. DATE

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SIGHT DISTANCE PLAN

SHEET 10 OF 18
FILE: 16-52

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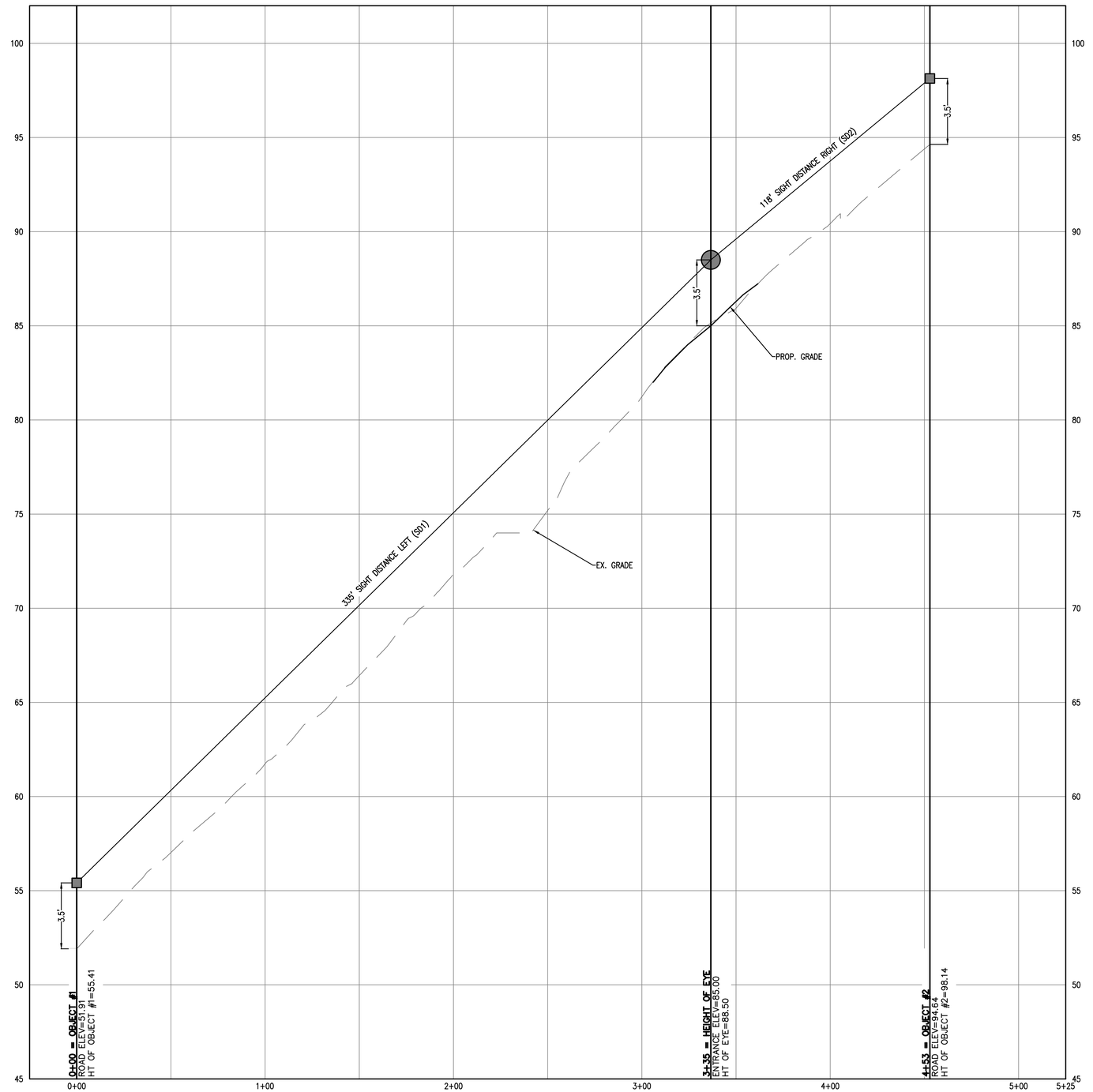

INTERSECTION SIGHT DISTANCE PROFILE
SCALE – HORIZ: 1" = 30', VERT. 1" = 3'

0' 30' 60' HORIZONTAL SCALE

0' 3' 6' VERTICAL SCALE

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
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SIGHT DISTANCE PROFILE

SHEET 11 OF 18
FILE: 16-52

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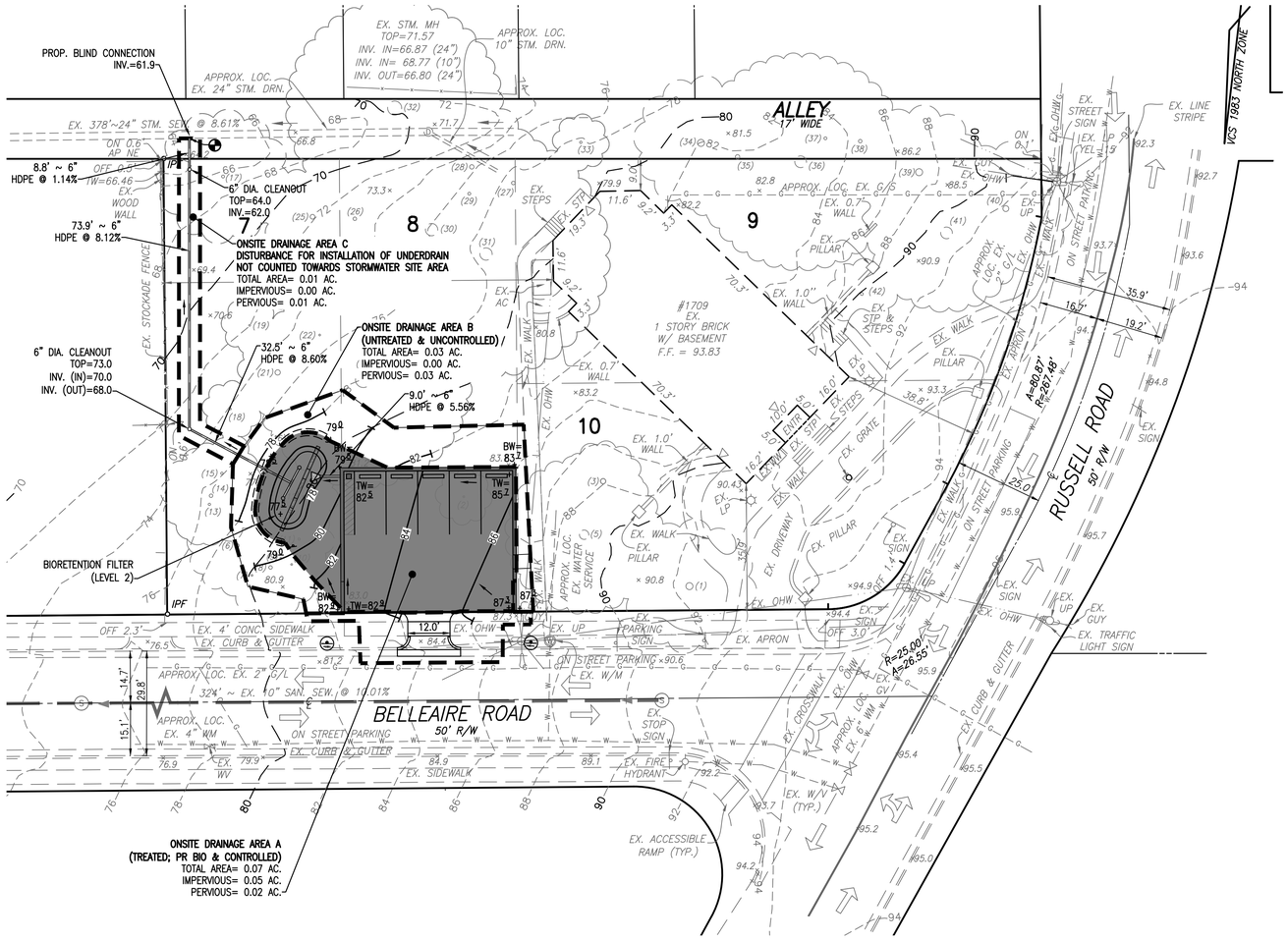

BMP FACILITY	AREA TREATED (ACRES)	IMPERVIOUS AREA TREATED (ACRES)	PERVIOUS AREA TREATED (ACRES)	TP REMOVAL EFFICIENCY	PHOSPHORUS REMOVED (LBS)	GEOGRAPHIC COORDINATES	
						LATITUDE	LONGITUDE
BIORETENTION #1	0.07	0.05	0.02	80%	0.11	38.8216	-77.066

HATCH LEGEND

ON-SITE TREATED DRAINAGE AREA A

PROJECT DESCRIPTION

REDEVELOPMENT – CHURCH USE

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL
SITE AREA (TOTAL ON-SITE AREA INSIDE SWM LOD)	0.05 AC	0.05 AC	0.10 AC
ON-SITE TREATED (ON-SITE & INSIDE SWM LOD)	0.05 AC	0.02 AC	0.07 AC
OFF-SITE TREATED (OFF-SITE & INSIDE SWM LOD)	0.00 AC	0.00 AC	0.00 AC
TOTAL TREATED	0.05 AC	0.02 AC	0.07 AC
ON-SITE IMPERVIOUS AREAS DISCONNECTED BY A VEGETATIVE FILTER	N/A	N/A	N/A
TOTAL TREATED OR DISCONNECTED			0.07 AC

WATER QUALITY DEFAULT VOLUME:

PROPOSED IMPERVIOUS AREA: 0.05 AC
TREATMENT OF FIRST HALF INCH OF RUNOFF: 1,815 X 0.05 = 91 CU. FT.

WATER TREATMENT ON-SITE			
BMP TYPE	AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)	BMP EFFICIENCY (%)
BIORETENTION	0.07 AC	0.05 AC	80%

TOTAL WQV TREATED: YES
WATER QUALITY VOLUME REQUIRED = 91 CU. FT.
WATER QUALITY VOLUME TREATED (FIRST HALD INCH OF RUNOFF) = 1,815 X 0.05 = 91 CU. FT.
PERCENT OF WATER QUALITY VOLUME TREATED = 100%
DETENTION ON SITE: YES (SEE STORMWATER RUNOFF SUMMARIES ON SHEET 16)
PROJECT IS WITHIN WHICH WATERSHED? HOOFF'S RUN (TIMBER BRANCH)
PROJECT DISCHARGES TO WHICH BODY OF WATER? HOOFF'S RUN (TIMBER BRANCH)

COMPLIANCE NARRATIVE:

SINCE THE ENTIRE WATER QUALITY VOLUME IS TREATED ON-SITE, THIS PROJECT IS IN COMPLIANCE WITH THE CITY OF ALEXANDRIA'S WATER QUALITY VOLUME DEFAULT REQUIREMENTS PER SECTION 13-109(E) OF THE ENVIRONMENTAL MANAGEMENT ORDINANCE.

STORMWATER MANAGEMENT CALCULATIONS & REQUIREMENTS

I. TOTAL SITE AREA = 0.10 ACRES (ON-SITE LIMITS OF DISTURBANCE)
EXISTING IMPERVIOUS AREA = 0.00 ACRES
PROPOSED IMPERVIOUS AREA = 0.05 ACRES
TOTAL INCREASE IN IMPERVIOUS AREA = 0.05 ACRES

NOTE: THE SCS TR-20 METHOD HAS BEEN UTILIZED FOR STORMWATER RUNOFF ANALYSIS FOR THE SWM/BMP SYSTEM THROUGH USE OF THE HYDROCAD 10.00 PROGRAM. D SOILS WERE ASSUMED FOR ALL CALCULATIONS.

II. PRE-DEVELOPMENT PEAK DISCHARGES: (Tc = 5 MINS.)
PEAK Q2 PRE-DEVELOPMENT = 0.23 cfs
PEAK Q10 PRE-DEVELOPMENT = 0.50 cfs

III. POST-DEVELOPMENT PEAK DISCHARGES (Tc = 5 MINS.)
PEAK Q2 POST-DEVELOPMENT = 0.33 cfs
PEAK Q10 POST-DEVELOPMENT = 0.62 cfs

IV. POST-DEVELOPMENT INCREASES (BIORETENTION DETENTION NOT FACTORED IN)
Q2 INCREASE = 0.10 cfs
Q10 INCREASE = 0.12 cfs

THE INCREASE IN IMPERVIOUS AREA RESULTS IN AN INCREASE IN STORMWATER RUNOFF OF 0.10 CFS AND 0.12 CFS FOR THE 2-YR AND 10-YR 24-HOUR STORM EVENT, RESPECTIVELY (SEE STORMWATER CALCULATIONS ABOVE). DUE TO THESE CALCULATED INCREASES IN RUNOFF, THE PROPOSED BIORETENTION FACILITY WAS DESIGNED TO PROVIDE DETENTION OF THE POST-DEVELOPMENT RUNOFF FLOW WITHIN THEIR DRAINAGE AREAS (SEE BIORETENTION ROUTING AND DETENTION CALCULATIONS ON SHEET 16.)

NATURAL CHANNEL 1-YR STORM CALCULATION NOTE:

NO NATURAL STREAMS ARE LOCATED WITHIN OUR STORMWATER ANALYSIS AREA. THEREFORE, PER CITY CODE CHAPTER 13, 1-YR STORM CALCULATIONS ARE NOT REQUIRED.

MITIGATION NOTE:

IN THE EVENT, THE PROPOSED PARKING LOT, STORM DRAIN SYSTEM AND/OR GRADING ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON PUBLIC RIGHT OF WAY OR PRIVATE PROPERTIES THEN THE APPLICANT AND/OR OWNER SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO THE PARKING LOT, STORM DRAIN SYSTEM AND/OR GRADING TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.

STORMWATER QUALITY COMPLIANCE NARRATIVE (CITY CODE SECTION 13-109E)

THE PROPOSED REDEVELOPMENT OF THE SUBJECT SITE INCLUDES 0.13 ACRES OF TOTAL DISTURBED AREA. THIS PLAN OF DEVELOPMENT IS CONSIDERED TO BE REDEVELOPMENT OF LAND RESULTING IN A NET INCREASE IN IMPERVIOUS AREA. A STORMWATER BMP LIMITS OF DISTURBANCE WILL BE UTILIZED FOR THIS PROJECT'S STORMWATER BMP CALCULATIONS. THIS WILL EXCLUDE DISTURBANCE REQUIRED FOR THE INSTALLATION OF THE PROPOSED STORM PIPE SINCE NO TREES ARE BEING IMPACTED AND THE GRADE WILL RETURN TO ITS EXISTING CONDITION. FURTHERMORE, THE OFFSITE DISTURBANCE WITHIN THE RIGHT-OF-WAY WILL NOT BE INCLUDED IN THE STORMWATER BMP LIMITS OF DISTURBANCE. THE ONSITE STORMWATER BMP LIMITS OF DISTURBANCE FOR THIS PROJECT IS 0.10 ACRES.

IN EXISTING CONDITIONS, THE MAJORITY OF THE SITE CONSISTS OF PRIMARILY WOODED LAND COVER WITH MAINTAINED GRASS.

IN PROPOSED CONDITIONS, THE REDEVELOPMENT OF THE SITE PROPOSES A 40'X48' PARKING AREA CONTAINING 5 PARKING SPACES, RETAINING WALLS, A BIORETENTION BMP FACILITY, AND ASSOCIATED IMPROVEMENTS. OVERALL IMPERVIOUS AREA WILL INCREASE WITH THE PROPOSED CONSTRUCTION. HOWEVER, THE INCREASE IN STORMWATER RUNOFF ASSOCIATED WITH THE INCREASED IMPERVIOUS AREA IS ADEQUATELY CONTAINED WITHIN THE PROPOSED BIORETENTION FACILITY BEFORE IT IS RELEASED DIRECTLY INTO THE ALEXANDRIA CITY STORM SEWER SYSTEM.

UTILIZING THE STORMWATER BMP LIMITS OF DISTURBANCE, THE PROJECT'S WATER QUALITY PHOSPHORUS REMOVAL REQUIRED AS CALCULATED THROUGH THE VRRM IS 0.09 LBS/YEAR (SEE SHEET 13). THE PROJECT PROPOSES THE USE OF ONE BIORETENTION FACILITY. THIS PROPOSED BMP PRACTICE PROVIDES 0.11 LBS/YEAR PHOSPHOROUS REMOVAL. THEREFORE, THROUGH THE USE OF THE PROPOSED ONSITE BMP PRACTICE, THE WATER QUALITY MANAGEMENT PERFORMANCE REQUIREMENTS FOR THE PROPOSED DEVELOPMENT PER CITY CODE SECTION 13-109E-(4)(a) HAVE BEEN MET. THE PROPOSED BMP FACILITY SHALL BE PRIVATELY OWNED AND MAINTAINED.

THE ENTIRE WATER QUALITY TREATMENT VOLUME IS CAPTURED AND TREATED BY A BMP. THEREFORE, THE PROJECT IS IN COMPLIANCE WITH CITY CODE SECTION 13-109E-(5) AND SECTION 13-110 AND NO CONTRIBUTION TO THE ALEXANDRIA WATER QUALITY IMPROVEMENT FUND IS REQUIRED.

TEST HOLE NOTES:

IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR TO PROVIDE THE DESIGN ENGINEER AND SURVEYOR WITH TEST HOLE INFORMATION PRIOR TO CONSTRUCTION. THE LOCATION AND DEPTH OF EXISTING UTILITIES, ESPECIALLY AT CRITICAL TIE-INS AND CROSSINGS, MUST BE PROVIDED TO ENSURE CONSTRUCTIBILITY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE UTILITIES HORIZONTALLY AND VERTICALLY DURING TEST PIT OPERATIONS AND PROVIDE THE INFORMATION TO THE DESIGN ENGINEER.

STAKE OUT AND CUT SHEETS OF THE PROPOSED DESIGN WILL NOT BE PERFORMED BY R.C. FIELDS AND ASSOCIATES, INC UNTIL TEST HOLES ARE PERFORMED AND DETAILED UTILITY INFORMATION IS PROVIDED.

DENOTES PROPOSED TEST HOLE LOCATION.

STORMWATER MANAGEMENT NOTES:

THE STORMWATER BEST MANAGEMENT PRACTICES (BMP) REQUIRED FOR THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF THE DESIGN ENGINEER OR HIS DESIGNATED REPRESENTATIVE. THE DESIGN ENGINEER SHALL MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMPs ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED SITE PLAN, AND ARE CLEAN AND FREE OF DEBRIS, SOIL, AND LITTER BY HAVING BEEN INSTALLED OR BROUGHT INTO SERVICE AFTER THE SITE WAS STABILIZED. IN ADDITION, AGGREGATE LAYERS AND COLLECTOR PIPES MAY NOT BE INSTALLED UNLESS THE DESIGN ENGINEER OR HIS REPRESENTATIVE IS PRESENT.

THE APPLICANT SHALL ENTER A BMP MAINTENANCE AGREEMENT WITH THE CITY THAT SHALL BE RECORDED BEFORE RELEASE OF THE FINAL SITE PLAN. THE CONTRACTOR SHALL FURNISH THE CITY WITH AN OPERATION AND MAINTENANCE MANUAL FOR ALL BMPs ON THE PROJECT. THE MANUAL SHALL INCLUDE AN EXPLANATION OF THE FUNCTIONS AND OPERATIONS OF EACH BMP AND ANY SUPPORTING UTILITIES, CATALOG CUTS ON ANY MECHANICAL OR ELECTRICAL EQUIPMENT AND A SCHEDULE OF ROUTINE MAINTENANCE FOR THE BMPs AND SUPPORTING EQUIPMENT.

PRIOR TO RELEASE OF THE PERFORMANCE BOND, THE APPLICANT IS REQUIRED TO SUBMIT A CERTIFICATION BY A QUALIFIED PROFESSIONAL TO THE SATISFACTION OF THE DIRECTOR OF T&ES THAT ANY EXISTING STORM WATER MANAGEMENT FACILITIES ADJACENT TO THE PROJECT AND ASSOCIATED CONVEYANCE SYSTEMS WERE NOT ADVERSELY AFFECTED BY CONSTRUCTION OPERATIONS. IF MAINTENANCE OF THE FACILITY OR SYSTEMS WERE REQUIRED IN ORDER TO MAKE THIS CERTIFICATION, PROVIDE A DESCRIPTION OF THE MAINTENANCE MEASURES PERFORMED.

PRIOR TO RELEASE OF THE PERFORMANCE BOND, THE APPLICANT IS REQUIRED TO SUBMIT CONSTRUCTION RECORD DRAWINGS FOR PERMANENT STORMWATER MANAGEMENT FACILITIES TO THE CITY. THE DRAWINGS MUST BE APPROPRIATELY SIGNED AND SEALED BY A PROFFESSIONAL REGISTERED IN THE COMMONWEALTH OF VIRGINIA AND CERTIFY THAT THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.

THE APPLICANT SHALL BE RESPONSIBLE FOR MAINTAINING STORM WATER BEST MANAGEMENT PRACTICES (BMPS) UNTIL SALE TO A PRIVATE OWNER. PRIOR TO TRANSFERRING MAINTENANCE RESPONSIBILITY FOR THE BMPS TO THE OWNER, THE APPLICANT SHALL EXECUTE A MAINTENANCE SERVICE CONTRACT WITH A QUALIFIED PRIVATE CONTRACTOR FOR A MINIMUM OF THREE YEARS, AND TRANSFER THE CONTRACT TO THE OWNER. A COPY OF THE CONTRACT SHALL ALSO BE PLACED IN THE BMP OPERATION AND MAINTENANCE MANUAL. PRIOR TO RELEASE OF THE PERFORMANCE BOND, A COPY OF THE MAINTENANCE CONTRACT SHALL BE SUBMITTED TO THE CITY.

THE APPLICANT SHALL FURNISH THE OWNERS WITH AN OWNER'S OPERATION AND MAINTENANCE MANUAL FOR ALL 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 INCLUDING ANY MECHANICAL OR ELECTRICAL EQUIPMENT; MANUFACTURER CONTACT NAMES AND PHONE NUMBERS; A COPY OF THE EXECUTED MAINTENANCE SERVICE CONTRACT; AND A COPY OF THE MAINTENANCE AGREEMENT WITH THE CITY.

ARCHAEOLOGY NOTES:

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.

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ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE.

10-YEAR, 24-HOUR STORM COMPUTATIONS

STRUCTURE FROM	STRUCTURE TO	INC. DRAINAGE AREA (AC)	ACCUM. DRAINAGE AREA (AC)	CURVE NUMBER (CN)	RAINFALL DEPTH (IN)	T_c (MINUTES)	INCREMENTAL "Q" (CFS)	ACCUMULATED "Q" (CFS)	PIPE DIAMETER (IN)	SLOPE (%)	"n"	MAXIMUM "Q" (CFS)	MAXIMUM VELOCITY (FPS)	LENGTH OF RUN (FT)	UPPER INVERT	LOWER INVERT	FALL (FT)	NORMAL VELOCITY (FPS)	NORMAL DEPTH	FLOW AREA (SF)	WETTED PERIMETER (FT)	HYDRAULIC RADIUS
INLET	BIORETENTION	0.05	0.05	98	5.20	5	0.25	**0.25**	6	5.56%	0.013	**1.32**	6.75	9.0	78.00	77.50	0.50	5.20	0.15	0.05	0.57	0.0877

EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

APPROVED
SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ DATE _____

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730 S. Washington Street
Alexandria, Virginia 22314
www.rcfassoc.com
(703) 549-6422

COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: 1" = 20'
DATE: MAR. 15, 2019

STORMWATER MANAGEMENT PLAN (1 OF 5)

SHEET 12 OF 18
FILE: 16-52

J:\2016\16521\DWG\DEVLP\SITE PLAN\12-16 - STORMWATER MANAGEMENT PLAN.dwg
Thu, Apr 11 2019 - 1:32:26pm

Project Name: 1709 Russell Road
Date: 3/1/2019
Linear Development Project? No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 0.10

Maximum reduction required:	*10%*
The site's net increase in impervious cover (acres) is:	*0.05*
Post-Development TP Load Reduction for Site (lb/yr):	*0.09*

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 forest/open space					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.10	0.10
Impervious Cover (acres)					0.00
					0.10

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					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.05	0.05
Impervious Cover (acres)				0.05	0.05
Area Check	OK.	OK.	OK.	OK.	0.10

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)	0.10	0.05
Weighted Rv(turf)	0.25	0.25
% Managed Turf	100%	100%
Impervious Cover (acres)	0.00	0.00
Rv(impervious)	0.95	0.95
% Impervious	0%	0%
Total Site Area (acres)	**0.10**	**0.05**
Site Rv	**0.25**	**0.25**

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)	0.05
Weighted Rv (turf)	0.25
% Managed Turf	50%
Impervious Cover (acres)	0.05
Rv(impervious)	0.95
% Impervious	50%
Final Site Area (acres)	**0.10**
Final Post Dev Site Rv	**0.60**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.05
Weighted Rv (turf)	0.25
% Managed Turf	100%
ReDev. Impervious Cover (acres)	0.00
Rv(impervious)	0.95
% Impervious	0%
Total ReDev. Site Area (acres)	**0.05**
ReDev Site Rv	**0.25**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	0.05
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0021	0.0010	
Pre-ReDevelopment Treatment Volume (cubic feet)	91	45	
Pre-ReDevelopment TP Load (lb/yr)	**0.06**	**0.03**	
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.57	0.57	
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.02*	
Final Post-Development Treatment Volume (acre-ft)	0.0050		
Final Post-Development Treatment Volume (cubic feet)	218		
Final Post-Development TP Load (lb/yr)	**0.14**		
Final Post-Development TP Load per acre (lb/acre/yr)	1.37		
Post-ReDevelopment Treatment Volume (acre-ft)	0.0010		
Post-ReDevelopment Treatment Volume (cubic feet)	45		
Post-ReDevelopment Load (TP) (lb/yr)*	**0.03**		
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.57		
Max. Reduction Required (Below Pre-ReDevelopment Load)	10%		
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.00**		
Post-Development Treatment Volume (acre-ft)	0.0040		
Post-Development Treatment Volume (cubic feet)	172		
Post-Development TP Load (lb/yr)	**0.11**		
TP Load Reduction Required for New Impervious Area (lb/yr)	**0.09**		

[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 requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	**0.09**

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	0.41	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	0.98

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)				0.02	0.02	0.25
Impervious Cover (acres)				0.05	0.05	0.95
				Total	0.07	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr) 0.12
Post Development Treatment Volume in D.A. A (ft^3) 191

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
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80	0.02	0.05	0	152	38	191	50	0.00	0.12	0.11	0.01	

Nitrogen Removal Efficiency (%)	Nitrogen Load from Upstream Practices (lbs)	Untreated Nitrogen Load to Practice (lbs)	Nitrogen Removed By Practice (lbs)	Remaining Nitrogen Load (lbs)
6. Bioretention (RR)				
40	0.00	0.00	0.00	0.00
60	0.00	0.86	0.79	0.07

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)	0.05	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.05	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.02	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.02	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 218

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)	152	0	0	0	0	152
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.12	0.00	0.00	0.00	0.00	0.12
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.11	0.00	0.00	0.00	0.00	0.11
TP LOAD REMAINING (lb/yr)	0.01	0.00	0.00	0.00	0.00	0.01
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.79	0.00	0.00	0.00	0.00	0.79

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	0.14
TP LOAD REDUCTION REQUIRED (lb/yr)	0.09
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.11
TP LOAD REMAINING (lb/yr):	0.03
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)	0.98
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.79
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	0.19

APPROVED
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ANDREA SPRUCH
Lic. No. 047863
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: NO SCALE
DATE: MAR. 15, 2019

STORMWATER MANAGEMENT PLAN
(2 OF 5)

SHEET 13 OF 18
FILE: 16-52

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Thu, Apr 11 2019 - 1:32:27pm

WATER QUALITY CALCULATIONS:

THE BIORETENTION TREATMENT VOLUME IS CALCULATED AS FOLLOWS:
Tv=[(1.25"*Ap*Rv))/12]

THE MINIMUM BMP SURFACE AREA REQUIRED IS CALCULATED AS FOLLOWS:
SA=Tv/Sd

WHERE:
Tv = TREATMENT VOLUME
Rv = RUNOFF COEFFICIENT FOR DRAINAGE AREA
Sd = STORAGE DEPTH OF BIORETENTION
Dp = PONDING DEPTH (0.5')
Dfm = DEPTH OF FILTER MEDIA (3')
Nfm = VOID RATIO OF FILTER MEDIA (0.25)
Dg = DEPTH OF GRAVEL BED (1.5')
Ng = VOID RATIO OF GRAVEL BED (0.40)
SA = SURFACE AREA

TOTAL ON-SITE DRAINAGE AREA TO BMP= 0.07 AC
IMPERVIOUS ON-SITE AREA TO BMP= 0.05 AC
PERVIOUS ON-SITE AREA TO BMP= 0.02 AC

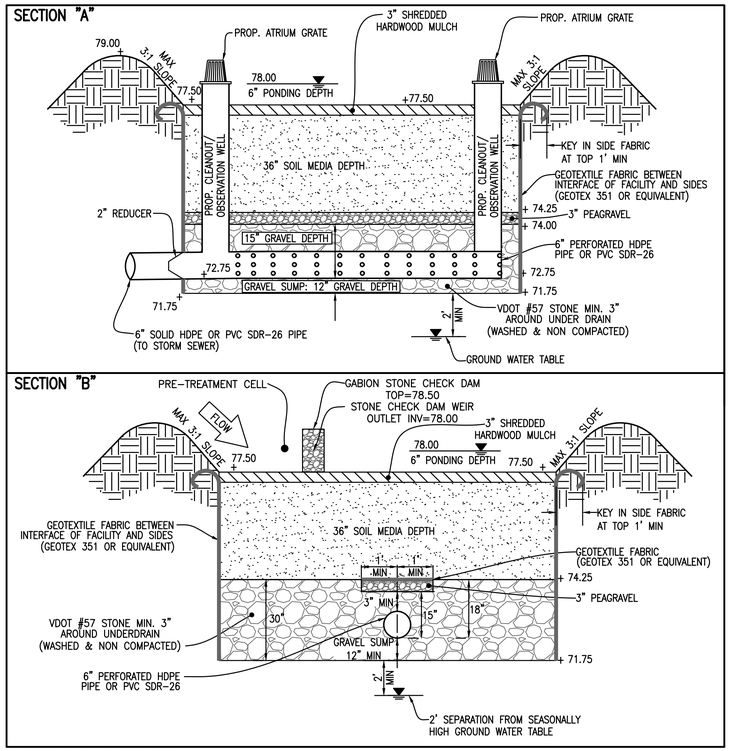
Rv=[(0.95*0.05)+(0.25*0.02)]/0.07= 0.75

REQUIRED BIORETENTION TREATMENT VOLUME:
Tv=[(1.25"*2,893*0.75)/12
Tv=226 SF

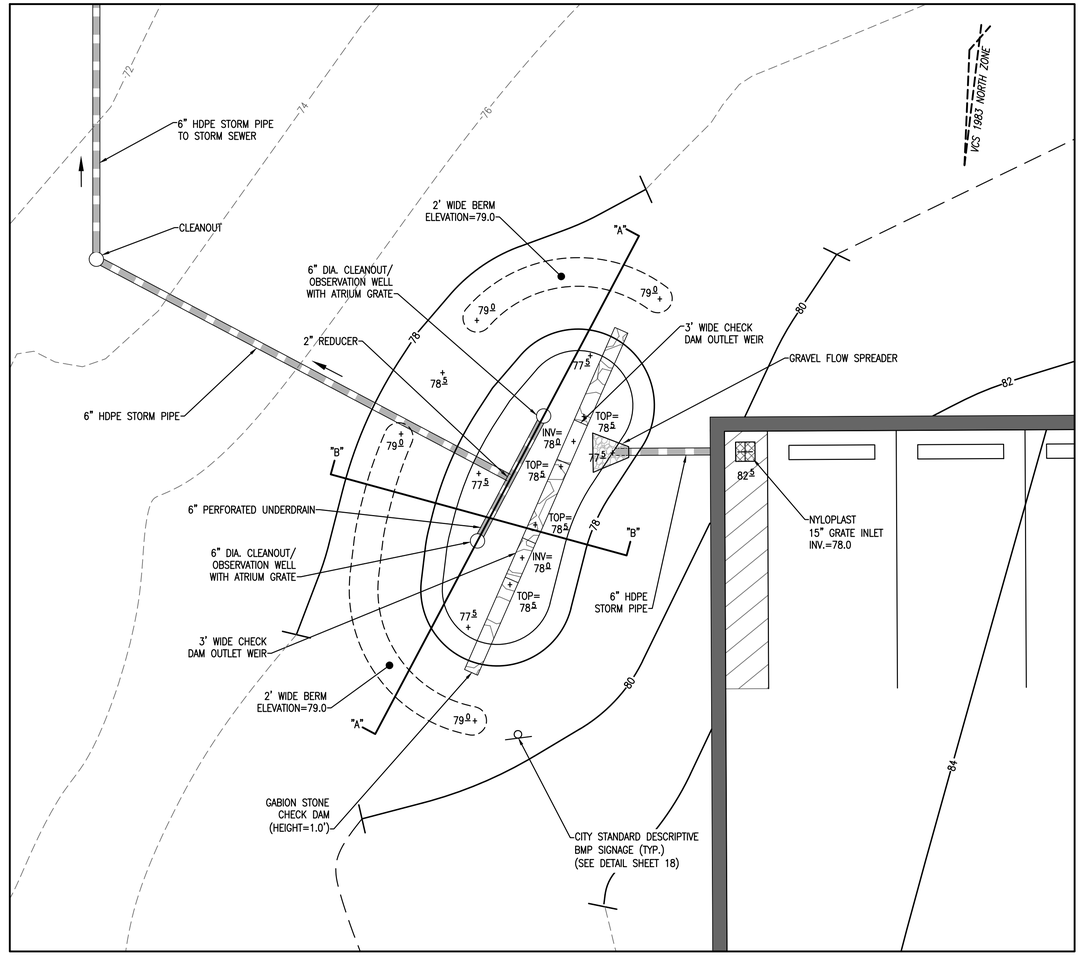
BIORETENTION STORAGE DEPTH:
Sd=0.5+(3*0.25)+(1.5*0.4)
Sd=1.85'

MINIMUM BMP SURFACE AREA REQUIRED:
SA=226/1.85'
SA=122 SF

REQUIRED SURFACE AREA: 122 SF
PROVIDED SURFACE AREA: 160 SF



BIORETENTION FILTER DETAIL
NOT TO SCALE



BIORETENTION FILTER DESIGN – LEVEL 2
SCALE: 1"=5'

0' 5' 10'

PRETREATMENT NOTE:
THE PROPOSED BIORETENTION FACILITY WILL UTILIZE A PRE-TREATMENT CELL AND A GRAVEL FLOW SPREADER AS PRETREATMENT DEVICES TO FILTER THE RUNOFF PRIOR TO ENTERING THE PROPOSED FACILITY.

ARCHAEOLOGY NOTES:
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.

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ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE.

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: AS SHOWN
DATE: MAR. 15, 2019

STORMWATER MANAGEMENT PLAN
(3 OF 5)

SHEET 14 OF 18
FILE: 16-52

HIGH GROUNDWATER EVALUATION FOR BIORETENTION:

TERRA ENGINEERING SERVICES, PLC
6909 Winners Circle
Fairfax Station, VA 22039
703-915-2615
Fax 703-249-9144

February 27, 2019

Alex Holleman, P.E.
R.C. Fields & Associates
730 S. Washington Street
Alexandria, VA 22314

Re: 1709 RUSSELL ROAD – City of Alexandria VA
Seasonal High Groundwater Evaluation for Bio Retention Filter
TERRA Project No. 19-3136G

Dear Alex:

TERRA Engineering Services, PLC (TERRA) has completed a subsurface soil exploration for the bio-retention filter planned near the proposed parking area at the above referenced site. This letter report is provided to summarize our findings and observations based on a review of the attached grading plan (Figure 1) provided to us.

A test boring was manually-augered in an accessible area near the proposed facility. Underlying approximately a foot of loose gravelly FILL, the natural subsoils were generally characterized as brown clayey SAND (SC). Evidence of a high seasonal groundwater table was not observed within 9.5 feet of existing grades which is a minimum of 2 feet below the invert of the bio-retention filter.

Should you have any questions regarding the information presented in this letter report or attachments, please do not hesitate to contact me.

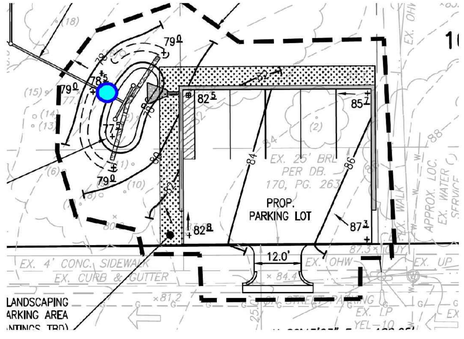
Respectfully,

TERRA Engineering Services, PLC

Timothy V. Farabaugh, P.E.
Certified Water Table Delineator (expires June 2019)

COMMONWEALTH OF VIRGINIA
TIMOTHY V. FARABAUGH
Lic. No. 24264
PROFESSIONAL ENGINEER

Attachments: Test Boring Location (Figure 1)



TERRA ENGINEERING SERVICES, PLC	1709 Russell Road	TERRA Project No. 193126 G
	City of Alexandria	February, 2019
	TEST BORING LAYOUT	FIGURE 1

BIORETENTION MAINTENANCE GUIDELINES:

REFERENCE: VA DEQ STORMWATER DESIGN SPECIFICATION #9: SECTION 9

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

Section 4 VAC 50-60-124 of the regulations specifies the circumstances under which a maintenance agreement to must be executed between the owner and the local program. This section sets forth inspection requirements, compliance procedures if maintenance is neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

For bioretention, maintenance agreements must contain recommended maintenance tasks and a copy of an annual inspection checklist. When micro-scale bioretention practices are applied on private residential lots, homeowners will need to be educated regarding their routine maintenance needs. A deed restriction, drainage easement or other mechanism enforceable by the qualifying local program must be in place to help ensure that rain gardens and bioretention filters are maintained and not converted or disturbed, as well as to pass the knowledge along to any subsequent owners. The mechanism should, if possible, grant authority for local agencies to access the property for inspection or corrective action.

9.2. First Year Maintenance Operations

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- ***Initial inspections.*** For the first 6 months following construction, the site should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- ***Spot Reseeding.*** Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- ***Fertilization.*** One-time, spot fertilization may be needed for initial plantings.
- ***Watering.*** Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- ***Remove and replace dead plants.*** Since up to 10% of the plant stock may die off in the first year, construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction. The typical thresholds below which replacement is required are 85% survival of plant material and 100% survival of trees.

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each bioretention area. The following is a list of some of the key maintenance problems to look for:

- Check to see if 75% to 90% cover (mulch plus vegetative cover) has been achieved in the bed, and measure the depth of the remaining mulch.
- Check for sediment buildup at curb cuts, gravel diaphragms or pavement edges that prevents flow from getting into the bed, and check for other signs of bypassing.
- Check for any winter- or salt-killed vegetation, and replace it with hardier species.
- Note presence of accumulated sand, sediment and trash in the pre-treatment cell or filter beds, and remove it.
- Inspect bioretention side slopes and grass filter strips for evidence of any rill or gully erosion, and repair it.
- Check the bioretention bed for evidence of mulch flotation, excessive ponding, dead plants or concentrated flows, and take appropriate remedial action.
- Check inflow points for clogging, and remove any sediment.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize them immediately.
- Check for clogged or slow-draining soil media, a crust formed on the top layer, inappropriate soil media, or other causes of insufficient filtering time, and restore proper filtration characteristics.

Example maintenance inspection checklists for Bioretention areas can be accessed in Appendix C of Chapter 9 of the *Virginia Stormwater Management Handbook* (2010) or at the Center for Watershed Protection website at:

http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/sm.htm
(scroll to Tool6: Plan Review, BMP Construction, and Maintenance Checklists)

9.4. Routine and Non-Routine Maintenance Tasks

Maintenance of bioretention areas should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique bioretention landscaping needs, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, and limited use of fertilizers and pesticides. A customized maintenance schedule must be prepared for each bioretention facility, since the maintenance tasks will differ depending on the scale of bioretention, the landscaping template chosen, and the type of surface cover. A generalized summary of common maintenance tasks and their frequency is provided in **Table 9.7**.

The most common non-routine maintenance problem involves standing water. If water remains on the surface for more than 48 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter (try the easiest things first, as listed below):

- Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be snaked.
- Remove accumulated sediment and till 2 to 3 inches of sand into the upper 8 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. This reduces the average concentration of fines in the media bed and promotes quicker drawdown times. Sand wicks can be installed by excavating or augering (using a tree auger or similar tool) down to the gravel storage zone to create vertical columns which are then filled with a clean open-graded coarse sand material (ASTM C-33 concrete sand or similar approved sand mix for bioretention media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Remove and replace some or all of the soil media.

Table 9.7. Suggested Annual Maintenance Activities for Bioretention

Maintenance Tasks	Frequency
• Mowing of grass filter strips and bioretention turf cover	At least 4 times a year
• Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season
• Add reinforcement planting to maintain desired the vegetation density • Remove invasive plants using recommended control methods • Stabilize the contributing drainage area to prevent erosion	As needed
• Spring inspection and cleanup • Supplement mulch to maintain a 3 inch layer • Prune trees and shrubs	Annually
• Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Replace the mulch layer	Every 3 years

GRAVEL FLOW SPREADER DETAIL:

REFERENCE: VA DEQ STORMWATER DESIGN SPECIFICATION #9: BIORETENTION

VA DEQ STORMWATER DESIGN SPECIFICATION NO. 9 — BIORETENTION

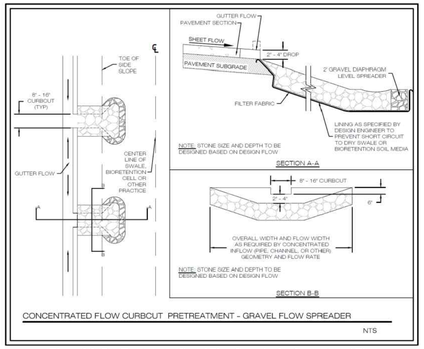


Figure 9.9: Pre-Treatment – Gravel Flow Spreader for Concentrated Flow

SECTION 5: PHYSICAL FEASIBILITY & DESIGN APPLICATIONS

5.1 Physical Feasibility

Bioretention can be applied in most soils or topography, since runoff simply percolates through an engineered soil bed and is returned to the stormwater system. Key constraints with bioretention include the following:

Available Space. Planners and designers can assess the feasibility of using bioretention facilities based on a simple relationship between the contributing drainage area and the corresponding required surface area. The bioretention surface area will be approximately 3% to 6% of the contributing drainage area, depending on the imperviousness of the CDA and the desired bioretention design level.

Site Topography. Bioretention is best applied when the grade of contributing slopes is greater than 1% and less than 5%.

BIORETENTION MATERIAL SPECIFICATIONS:

REFERENCE: VA DEQ STORMWATER DESIGN SPECIFICATION #9: BIORETENTION TABLE 9.6

Table 9.6. Bioretention Material Specifications

Material	Specification	Notes
Filter Media * Composition	Filter Media to contain: • 85%–88% sand • 8%-12% soil fines • 3%–5% organic matter in the form of leaf compost	The volume of filter media based on 110% of the plan volume, to account for settling or compaction.
Filter Media Testing	P-Index range = 10-30, ***OR*** Between 7 and 21 mg/kg of P in the soil media. CECs greater than 10	The media must be procured from approved filter media vendors.
Mulch Layer	Use aged, shredded hardwood bark mulch	Lay a 2 to 3 inch layer on the surface of the filter bed.
Alternative Surface Cover	Use river stone or pea gravel, coir and jute matting, or turf cover.	Lay a 2 to 3 inch layer of to suppress weed growth.
Top Soil For Turf Cover	Loamy sand or sandy loam texture, with less than 5% clay content, pH corrected to between 6 and 7, and an organic matter content of at least 2%.	3 inch surface depth.
Geotextile/Liner	Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./sq. ft. (e.g., Geotex 351 or equivalent)	Apply only to the sides and above the underdrain. For hotspots and certain karst sites only, use an appropriate liner on bottom.
Choking Layer	Lay a 2 to 4 inch layer of sand over a 2 inch layer of choker stone (typically #8 or #89 washed gravel), which is laid over the underdrain stone.	
Stone Jacket for Underdrain and/or Storage Layer	1 inch stone should be double-washed and clean and free of all fines (e.g., VDOT #57 stone).	12 inches for the underdrain; 12 to 18 inches for the stone storage layer, if needed
Underdrains, Cleanouts, and Observation Wells	Use 6 inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center; position each underdrain on a 1% or 2% slope located nor more than 20 feet from the next pipe.	Lay the perforated pipe under the length of the bioretention cell, and install non-perforated pipe as needed to connect with the storm drain system. Install T's and Y's as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the Ts and Ys.
Plant Materials	Plant one tree per 250 square feet (15 feet on-center, minimum 1 inch caliper). Shrubs a minimum of 30 inches high planted a minimum of 10 feet on-center. Plant ground cover plugs at 12 to 18 inches on-center; Plant container-grown plants at 18 to 24 inches on-center, depending on the initial plant size and how large it will grow.	Establish plant materials as specified in the landscaping plan and the recommended plant list. In general, plant spacing must be sufficient to ensure the plant material achieves 80% cover in the proposed planting areas within a 3-year period. If seed mixes are used, they should be from a qualified supplier, should be appropriate for stormwater basin applications, and should consist of native species (unless the seeding is to establish maintained turf).

* FILTER MEDIA NOTE:
THE MINERAL SOIL TEXTURE OF THE BIPARTITION SOIL MIX SHOULD BE LOAMY COARSE SAND WITH NO MORE THAN 10% CLAY, NO MORE THAN 20% SILT+CLAY AND AT LEAST 75% OF THE SAND FRACTION SHOULD BE COARSE OF VERY COARSE SAND. THE FILTER MEDIA SHOULD CONTAIN 3% TO 5% ORGANIC MATTER. PLANT–AVAILABLE SOIL P SHOULD BE WITHIN THE RANGE OF LOW (L+) TO MEDIUM (M) AS DEFINED IN TABLE 2.2 OF DCR (2005) VIRGINIA NUTRIENT MANAGEMENT STANDARDS AND CRITERIA FOR THE MEHLICH I EXTRACTION PROCEDURE THIS EQUATE TO A RANGE OF 5 TO 15 MG/KG P OR 18 TO 40 MG/KG P FOR THE MEHLICH III PROCEDURE.

2016 Soil Morphology Class Certification

By successfully completing the Soil Morphology Training Course offered by the Northern Virginia Soil and Water Conservation District on June 2-3, 2016, and passing the required certification test,

Tim Farabaugh

NORTHERN VIRGINIA SWCD SOIL & WATER CONSERVATION DISTRICT

is qualified to determine seasonal high water table heights using soil morphology at all times of the year in Fairfax and Loudon Countries. This knowledge is to be used for the correct design and placement of stormwater infiltration facilities.

This certification shall be valid for a period of 3 years from June, 2016 through June, 2019

SIGNATURE-NVSWCD SOIL SCIENTIST — DATE: June 17, 2016

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EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR — DATE
CHAIRMAN, PLANNING COMMISSION — DATE
DATE RECORDED _____
INSTRUMENT NO. — DEED BOOK NO. — DATE

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COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

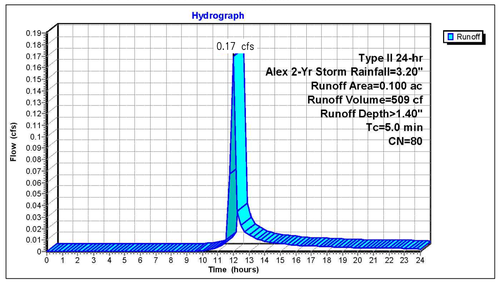
DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: NO SCALE
DATE: MAR. 15, 2019

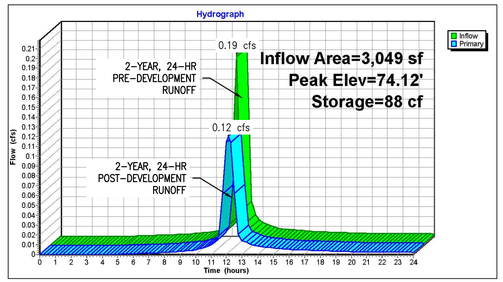
STORMWATER MANAGEMENT PLAN (4 OF 5)

SHEET 15 OF 18
FILE: 16-52

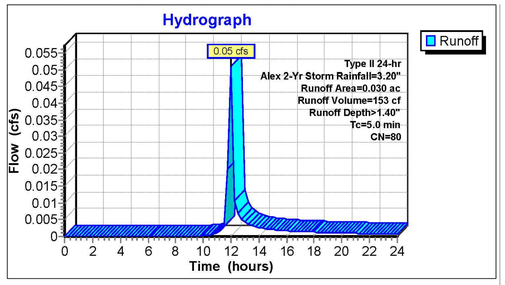
2-YEAR 24 HR PRE-DEVELOPMENT RUNOFF



2-YEAR 24 HR POST-DEVELOPMENT CONTROLLED RUNOFF



2-YEAR 24 HR POST-DEVELOPMENT UNCONTROLLED



2-YEAR, 24 HOUR STORMWATER RUNOFF SUMMARY

(NRCS METHODOLOGY USED TO CALCULATE THE 24-HOUR STORM)

PRE-DEVELOPMENT PEAK FLOW:
Q_2 PRE-DEVELOPMENT = 0.17 CFS

POST-DEVELOPMENT PEAK FLOW:
Q_2 POST-DEVELOPMENT, (DETAINED; BIO) = 0.12 CFS
Q_2 POST-DEVELOPMENT, (UNCONTROLLED) = 0.05 CFS

Q_2 POST-DEVELOPMENT TOTAL = 0.17 CFS

POST-DEVELOPMENT DECREASES
Q_2 DECREASE = 0.17 CFS - 0.17 CFS = 0.00 CFS

THE PROPOSED BIORETENTION FACILITIES WERE DESIGNED TO PROVIDE DETENTION OF THE ONSITE POST DEVELOPMENT RUNOFF WITHIN THEIR DRAINAGE AREAS. THE RESULTING DETENTION PROVIDES A 0.00 CFS INCREASE IN THE 2-YR, 24-HR PEAK FLOW RATES. THUS, THE POST DEVELOPMENT RUNOFF FLOWS ARE ATTENUATED DOWN TO THE PRE DEVELOPMENT LEVELS AND THE DETENTION REQUIREMENT FOR THIS SITE HAS BEEN MET.

HSG "D" SOILS NOTE

HSG "D" SOILS WERE ASSUMED FOR BOTH THE PRE-DEVELOPMENT AND POST DEVELOPMENT CONDITION

ONSITE SWM *Type II 24-hr Alex 2-Yr Storm Rainfall=3.20"*
Prepared by Windows User Printed 2/26/2019
HydroCAD® 10.00-19 s/n 08211 © 2016 HydroCAD Software Solutions LLC Page 1

Summary for Pond 4P: BIORETENTION (LEVEL2)

Inflow Area = 3,049 sf, 71.43% Impervious, Inflow Depth > 2.45" for Alex 2-Yr Storm event
Inflow = 0.19 cfs @ 11.97 hrs, Volume= 621 cf
Outflow = 0.12 cfs @ 12.12 hrs, Volume= 620 cf, Atten= 38%, Lag= 9.5 min
Primary = 0.12 cfs @ 12.12 hrs, Volume= 620 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.25 hrs
Peak Elev= 74.12' @ 12.12 hrs Surf.Area= 160 sf Storage= 88 cf

Plug-Flow detention time= 10.2 min calculated for 620 cf (100% of inflow)
Center-of-Mass det. time= 8.6 min (797.3 - 788.7)

Volume	Invert	Avail.Storage	Storage Description
#1	72.75'	96 cf	**GRAVEL LAYER (Prismatic)** Listed below (Recalc) 240 cf Overall x 40.0% Voids
#2	74.25'	120 cf	**MEDIA LAYER (Prismatic)** Listed below (Recalc) 480 cf Overall x 25.0% Voids
#3	77.25'	80 cf	**PONDING LAYER (Prismatic)** Listed below (Recalc)
		296 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.75	160	0	0
74.25	160	240	240

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
74.25	160	0	0
77.25	160	480	480

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
77.25	160	0	0
77.75	160	80	80

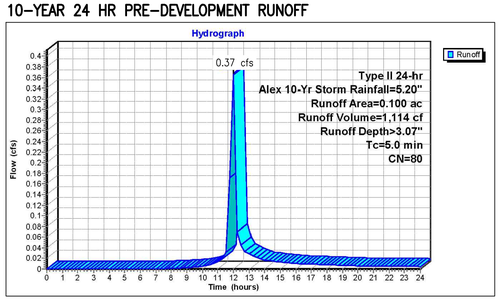
Device	Routing	Invert	Outlet Devices
#1	Primary	72.75'	**2.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.11 cfs @ 12.12 hrs HW=76.05' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.11 cfs @ 5.24 fps)

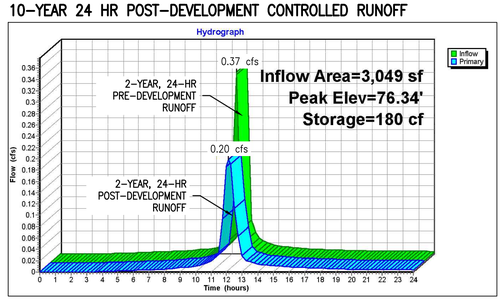
2-YR 24 HR BIO HYDROGRAPH TABLE

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)	
0.00	0.00	0	72.75	0.00	
0.50	0.00	0	72.75	0.00	
1.00	0.00	0	72.75	0.00	
1.50	0.00	0	72.75	0.00	
2.00	0.00	0	72.75	0.00	
2.50	0.00	0	72.75	0.00	
3.00	0.00	0	72.75	0.00	
3.50	0.00	0	72.75	0.00	
4.00	0.00	0	72.75	0.00	
4.50	0.00	0	72.75	0.00	
5.00	0.00	0	72.75	0.00	
5.50	0.00	0	72.76	0.00	
6.00	0.00	1	72.76	0.00	
6.50	0.00	1	72.76	0.00	
7.00	0.00	1	72.77	0.00	
7.50	0.00	1	72.77	0.00	
8.00	0.00	1	72.77	0.00	
8.50	0.00	2	72.78	0.00	
9.00	0.00	2	72.79	0.00	
9.50	0.00	3	72.80	0.00	
10.00	0.01	3	72.80	0.00	
10.50	0.01	4	72.81	0.01	
11.00	0.01	5	72.83	0.01	
11.50	0.02	8	72.87	0.02	
12.00	**0.19**	**81**	**74.02**	0.12	← PEAK
12.50	0.02	28	73.18	0.06	
13.00	0.01	6	72.85	0.01	
13.50	0.01	5	72.83	0.01	
14.00	0.01	5	72.82	0.01	
14.50	0.01	4	72.82	0.01	
15.00	0.01	4	72.81	0.01	
15.50	0.01	4	72.81	0.01	
16.00	0.01	4	72.80	0.01	
16.50	0.00	3	72.80	0.00	
17.00	0.00	3	72.80	0.00	
17.50	0.00	3	72.80	0.00	
18.00	0.00	3	72.80	0.00	
18.50	0.00	3	72.79	0.00	
19.00	0.00	3	72.79	0.00	
19.50	0.00	2	72.79	0.00	
20.00	0.00	2	72.79	0.00	
20.50	0.00	2	72.78	0.00	
21.00	0.00	2	72.78	0.00	
21.50	0.00	2	72.78	0.00	
22.00	0.00	2	72.78	0.00	
22.50	0.00	2	72.78	0.00	
23.00	0.00	2	72.78	0.00	
23.50	0.00	2	72.78	0.00	
24.00	0.00	2	72.78	0.00	

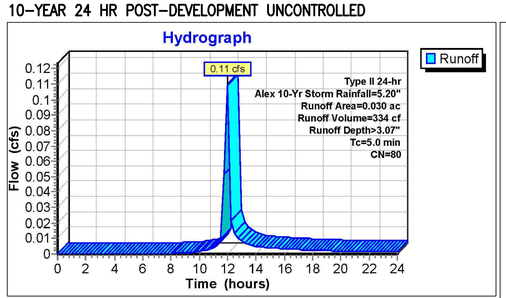
10-YEAR 24 HR PRE-DEVELOPMENT RUNOFF



10-YEAR 24 HR POST-DEVELOPMENT CONTROLLED RUNOFF



10-YEAR 24 HR POST-DEVELOPMENT UNCONTROLLED



10-YEAR, 24 HOUR STORMWATER RUNOFF SUMMARY

(NRCS METHODOLOGY USED TO CALCULATE THE 24-HOUR STORM)

PRE-DEVELOPMENT PEAK FLOW:
Q_{10} PRE-DEVELOPMENT = 0.37 cfs

POST-DEVELOPMENT PEAK FLOW:
Q_{10} POST-DEVELOPMENT, DRAINAGE AREA (DETAINED; BIO) = 0.20 CFS
Q_{10} POST-DEVELOPMENT, DRAINAGE AREA (UNCONTROLLED) = 0.11 CFS

Q_{10} POST-DEVELOPMENT TOTAL = 0.31 CFS

POST-DEVELOPMENT DECREASES
Q_{10} DECREASE = 0.37 CFS - 0.31 CFS = 0.06 CFS

THE PROPOSED BIORETENTION FACILITIES WERE DESIGNED TO PROVIDE DETENTION OF THE ONSITE POST DEVELOPMENT RUNOFF WITHIN THEIR DRAINAGE AREAS. THE RESULTING DETENTION PROVIDES A 0.06 CFS DECREASE IN THE 10-YR, 24-HR PEAK FLOW RATES. THUS, THE POST DEVELOPMENT RUNOFF FLOWS ARE ATTENUATED DOWN TO THE PRE DEVELOPMENT LEVELS AND THE DETENTION REQUIREMENT FOR THIS SITE HAS BEEN MET.

HSG "D" SOILS NOTE

HSG "D" SOILS WERE ASSUMED FOR BOTH THE PRE-DEVELOPMENT AND POST DEVELOPMENT CONDITION

10-YEAR 24 HR SUMMARY OF BIO DETENTION ROUTING

ONSITE SWM *Type II 24-hr Alex 10-Yr Storm Rainfall=5.20"*
Prepared by Windows User Printed 2/26/2019
HydroCAD® 10.00-19 s/n 08211 © 2016 HydroCAD Software Solutions LLC Page 1

Summary for Pond 4P: BIORETENTION (LEVEL2)

Inflow Area = 3,049 sf, 71.43% Impervious, Inflow Depth > 4.39" for Alex 10-Yr Storm event
Inflow = 0.34 cfs @ 11.96 hrs, Volume= 1,117 cf
Outflow = 0.20 cfs @ 12.14 hrs, Volume= 1,114 cf, Atten= 41%, Lag= 10.7 min
Primary = 0.20 cfs @ 12.14 hrs, Volume= 1,114 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.25 hrs
Peak Elev= 76.34' @ 12.14 hrs Surf.Area= 320 sf Storage= 180 cf

Plug-Flow detention time= 10.8 min calculated for 1,102 cf (99% of inflow)
Center-of-Mass det. time= 9.4 min (782.3 - 772.9)

Volume	Invert	Avail.Storage	Storage Description
#1	72.75'	96 cf	**GRAVEL LAYER (Prismatic)** Listed below (Recalc) 240 cf Overall x 40.0% Voids
#2	74.25'	120 cf	**MEDIA LAYER (Prismatic)** Listed below (Recalc) 480 cf Overall x 25.0% Voids
#3	77.25'	80 cf	**PONDING LAYER (Prismatic)** Listed below (Recalc)
		296 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.75	160	0	0
74.25	160	240	240

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
74.25	160	0	0
77.25	160	480	480

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
77.25	160	0	0
77.75	160	80	80

Device	Routing	Invert	Outlet Devices
#1	Primary	72.75'	**2.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.19 cfs @ 12.14 hrs HW=76.05' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.19 cfs @ 8.64 fps)

10-YR 24 HR BIO HYDROGRAPH TABLE

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)	
0.00	0.00	0	72.75	0.00	
0.50	0.00	0	72.75	0.00	
1.00	0.00	0	72.75	0.00	
1.50	0.00	0	72.75	0.00	
2.00	0.00	0	72.75	0.00	
2.50	0.00	0	72.75	0.00	
3.00	0.00	0	72.75	0.00	
3.50	0.00	0	72.76	0.00	
4.00	0.00	1	72.76	0.00	
4.50	0.00	1	72.77	0.00	
5.00	0.00	1	72.77	0.00	
5.50	0.00	2	72.78	0.00	
6.00	0.00	2	72.78	0.00	
6.50	0.00	2	72.79	0.00	
7.00	0.00	3	72.79	0.00	
7.50	0.00	3	72.80	0.00	
8.00	0.00	3	72.80	0.00	
8.50	0.01	4	72.81	0.01	
9.00	0.01	4	72.82	0.01	
9.50	0.01	5	72.82	0.01	
10.00	0.01	5	72.83	0.01	
10.50	0.01	6	72.85	0.01	
11.00	0.02	8	72.87	0.02	
11.50	0.04	13	72.95	0.04	
12.00	**0.33**	**164**	**75.95**	0.20	← PEAK
12.50	0.04	**79**	**73.98**	**0.11**	
13.00	0.02	10	72.91	0.03	
13.50	0.02	7	72.87	0.02	
14.00	0.01	6	72.85	0.01	
14.50	0.01	6	72.84	0.01	
15.00	0.01	5	72.83	0.01	
15.50	0.01	5	72.83	0.01	
16.00	0.01	5	72.82	0.01	
16.50	0.01	4	72.82	0.01	
17.00	0.01	4	72.82	0.01	
17.50	0.01	4	72.81	0.01	
18.00	0.01	4	72.81	0.01	
18.50	0.01	4	72.81	0.01	
19.00	0.01	4	72.81	0.01	
19.50	0.01	4	72.81	0.01	
20.00	0.00	3	72.80	0.00	
20.50	0.00	3	72.80	0.00	
21.00	0.00	3	72.80	0.00	
21.50	0.00	3	72.80	0.00	
22.00	0.00	3	72.80	0.00	
22.50	0.00	3	72.80	0.00	
23.00	0.00	3	72.80	0.00	
23.50	0.00	3	72.80	0.00	
24.00	0.00	3	72.79	0.00	

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. DATE

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Alexandria, Virginia 22314
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(703) 549-6422

COMMONWEALTH OF VIRGINIA
ANDREA SPRUCH
Lic. No. 047063
APRIL 11, 2019
PROFESSIONAL ENGINEER

DEVELOPMENT SIMPLIFIED SITE PLAN
LOTS 7, 8, 9, & 10
FEDERAL HILL
(1709 RUSSELL ROAD)
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: ABH
CHECKED: ACS
SCALE: NO SCALE
DATE: MAR. 15, 2019

STORMWATER MANAGEMENT PLAN
(5 OF 5)

SHEET 16 OF 18
FILE: 16-52

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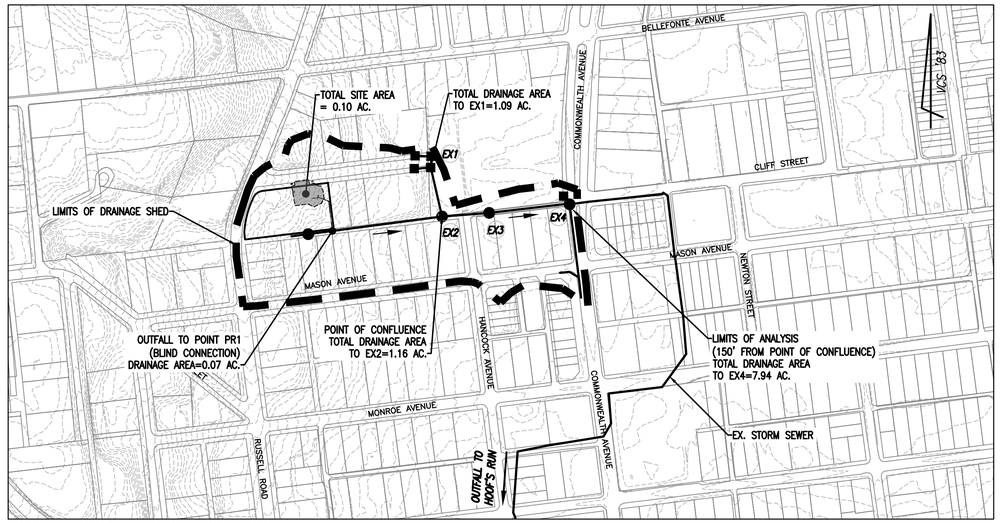
Thu, Apr 11 2019 - 1:32:34pm



OUTFALL ANALYSIS DRAINAGE AREA MAP

SCALE: 1"=200'

0' 200' 400'

STORMWATER OUTFALL NARRATIVE (CITY CODE SECTION 13-109F):

PRE-DEVELOPMENT CONDITIONS:
THE 0.10 ACRE SITE IS LOCATED IN THE HOOF'S RUN (TIMBER BRANCH) WATERSHED. IN EXISTING CONDITIONS, THE SITE CONSISTS OF PRIMARILY WOODED LAND COVER WITH MAINTAINED GRASS.

OUTFALL #1: THE MAJORITY OF THE PROJECT SITE DRAINS IN A SOUTHEASTERLY DIRECTION VIA OVERLAND FLOW TO THE EXISTING ALLEY SOUTH OF THE SITE. THE RUNOFF CONTINUES IN AN EASTERLY DIRECTION WITHIN THE ALLEY UNTIL IT ENTERS THE EXISTING STORM SEWER SYSTEM THROUGH AN EXISTING CURB INLET ON THE WEST SIDE OF COMMONWEALTH AVENUE. THE COLLECTED STORMWATER THEN FLOWS IN AN SOUTHERLY DIRECTION VIA STORM SEWER WITHIN THE CITY OF ALEXANDRIA RIGHT-OF-WAY BEFORE ULTIMATELY DISCHARGING INTO HOOF'S RUN (TIMBER BRANCH).

POST-DEVELOPMENT CONDITIONS:
THE REDEVELOPMENT OF THE PROJECT SITE PROPOSES THE CONSTRUCTION OF A PARKING AREA, A BIORETENTION BMP FACILITIY, AND ASSOCIATED IMPROVEMENTS. OVERALL IMPERVIOUS AREA WILL INCREASE WITH THE PROPOSED CONSTRUCTION. HOWEVER, THE INCREASE IN STORMWATER RUNOFF ASSOCIATED WITH THE IMPERVIOUS AREA HAS BEEN ADEQUATELY ACCOUNTED FOR THROUGH DETENTION PROVIDED BY THE PROPOSED BIORETENTION FACILITY. EXISTING DRAINAGE DIVIDES ARE MAINTAINED FROM PRE-DEVELOPMENT CONDITIONS. THE PROJECT SITE HAS TWO PROPOSED CONDITION OUTFALL POINTS.

OUTFALL #1: IN POST-DEVELOPMENT CONDITIONS, THE MAJORITY OF ONSITE STORMWATER RUNOFF IS COLLECTED WITHIN THE PROPOSED ONSITE BIORETENTION BMP FACILITY. THE RUNOFF COLLECTED WITHIN THE BIORETENTION THEN OUTFALLS VIA PIPE FLOW TO AN EXISTING 24" STORM SEWER LOCATED WITHIN THE ALLEY SOUTH OF THE SITE (PR1). THE COLLECTED STORMWATER THEN FLOWS IN AN SOUTHERLY DIRECTION VIA STORM SEWER LOCATED WITHIN CITY OF ALEXANDRIA RIGHT-OF-WAY BEFORE ULTIMATELY DISCHARGING INTO HOOF'S RUN (TIMBER BRANCH).

OUTFALL #2: AS IN EXISTING CONDITIONS, THE REMAINING RUNOFF FROM THE PROJECT SITE FLOWS AS NON-CONCENTRATED SHEETFLOW IN A SOUTHEASTERLY DIRECTION UNTIL IT LEAVES THE SITE AND ENTERS THE ALLEY LOCATED SOUTH OF THE SITE.

CONCLUSION:
THE POINT OF OUTFALL FOR OUTFALL #1 IS THE PROPOSED BLIND CONNECTION (PR1) INTO THE EXISTING 24" STORM SEWER LOCATED WITHIN THE ALLEY SOUTH OF THE SITE. OUTFALL #2 REQUIRES NO FORMAL OUTFALL ANALYSIS AS IT CONSIST OF NON-CONCENTRATED SHEET FLOW. THE LIMITS OF ANALYSIS INCLUDES ANALYZING THE OUTFALL SYSTEM 150' BEYOND THE POINT WHERE THE OUTFALL DRAINAGE AREA IS JOINED BY ANOTHER WATERSHED GREATER THAN 90% OF THE OUTFALL DRAINAGE AREA (POINT OF CONFLUENCE). FOR OUTFALL #1'S DRAINAGE AREA OF 0.07 ACRES, THE POINT OF CONFLUENCE WAS DETERMINED TO BE AT EXISTING STRUCTURE EX1 (1.16 ACRES) WITHIN THE ALLEY SOUTH OF THE SUBJECT SITE. THEREFORE, OUTFALL #1'S LIMITS OF ANALYSIS WAS DETERMINED TO BE AT EXISTING MANHOLE EX3 LOCATED APPROXIMATELY 350' DOWNSTREAM OF THE POINT OF CONFLUENCE. OUTFALL ANALYSIS COMPUTATIONS AND A COMPANION DRAINAGE AREA MAP ARE PROVIDED ON THIS SHEET.

PER THE LIMITS OF ANALYSIS PER CITY CODE SECTION 13-109F-2(d)(i) THE PROJECT POST-DEVELOPMENT RUNOFF WILL NOT EXACERBATE ANY EXISTING DOWNSTREAM CAPACITY CONDITIONS.

COMPUTATIONS SHOWN ON THIS SHEET DEMONSTRATE THAT THE EXISTING SYSTEM EXPERIENCES NO LOCALIZED FLOODING IN EXISTING CONDITIONS. DUE TO SITE DRAINAGE OUTFALLING TO AN EXISTING ADEQUATELY SIZED MANMADE STORM SEWER SYSTEM, NO OFFSITE IMPROVEMENTS TO THE SYSTEM ARE REQUIRED AND THE OUTFALL IS DEEMED ADEQUATE.

STORM OUTFALL CALCULATIONS

STRUCTURE																					
FROM	TO	INC. DRAINAGE AREA (AC)	ACCUM. DRAINAGE AREA (AC)	CURVE NUMBER (CN)	RAINFALL DEPTH (IN)	T_C (MINUTES)	INCREMENTAL "Q" (CFS)	ACCUMULATED "Q" (CFS)	PIPE DIAMETER (IN)	SLOPE (%)	"n"	MAXIMUM "Q" (CFS)	MAXIMUM VELOCITY (FPS)	LENGTH OF RUN (FT)	UPPER INVERT	LOWER INVERT	FALL (FT)	NORMAL VELOCITY (FPS)	NORMAL DEPTH	FLOW AREA (SF)	WETTED PERIMETER (FT)	HYDRAULIC RADIUS
PR1	EX2	0.07	0.07	93	5.20	5	0.20	**0.20**	24	8.62%	0.013	**66.40**	21.19	310.0	60.95	34.24	26.71	4.73	0.08	0.04	0.81	0.0494
EX2	EX3	1.09	1.16	86	5.20	5	4.64	**4.84**	24	1.26%	0.013	**25.37**	8.10	132.0	34.20	32.54	1.66	6.25	0.59	0.78	2.30	0.3391
EX3	EX4	0.00	1.16	0	5.20	5	0.00	**4.84**	24	1.60%	0.013	**28.60**	9.13	226.5	32.45	28.83	3.62	6.79	0.55	0.71	2.22	0.3198

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. DATE

R.C. FIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
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Alexandria, Virginia 22314
www.rcfassoc.com
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DESIGN: ABH
CHECKED: ACS
SCALE: 1"=200'
DATE: MAR. 15, 2019

ADEQUATE OUTFALL ANALYSIS

SHEET 17 OF 18
FILE: 16-52

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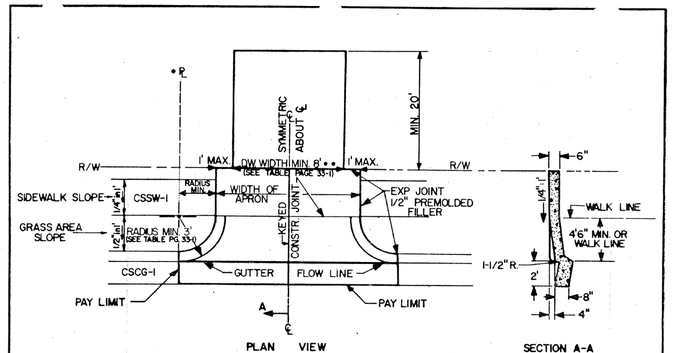


NOTES: 1. DEPRESS SLAB 1-1/2" AT ℄, AND BLEND INTO FLOW LINE.
2. PAY QUANTITIES SQ. YD. COMPLETE.
3. CLASS "A3" CONCRETE
4. PROVIDE INTERMEDIATE CONTRACTION JOINTS AT 1/4 OF ENTRANCE WIDTH, IF ENTRANCE EXCEEDS 12'.

REVISIONS:

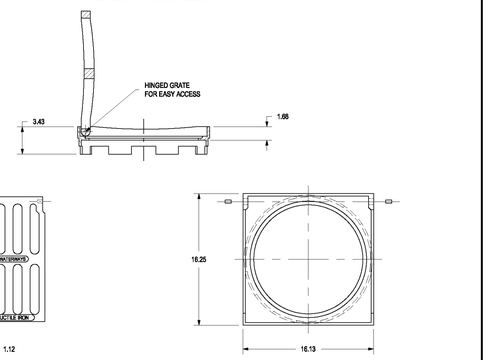
TRANSPORTATION & ENVIRONMENTAL SERVICES
DEPARTMENT
ALEXANDRIA VIRGINIA

ENTRANCE
RESIDENTIAL RAMP

CSER-1 | PAGE 33

1599CGS

APPROX. DRAIN AREA = 92.70 SQ IN
APPROX. WEIGHT WITH FRAME = 99.62 LBS



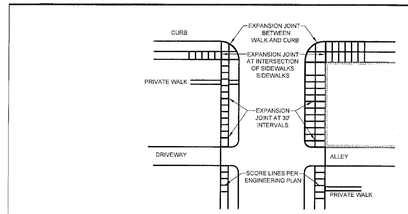
DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-032

DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-7-06		
REVISED BY	EBC	PROJECT NO./NAME	
DATE	3-7-06		
DWG SIZE	A	SCALE 1:8	SHEET 1 OF 1

Nyloplast
3126 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 15 IN STANDARD GRATE ASSEMBLY

DWG NO. 7001-110-206 REV C



EXPANSION JOINT PLACEMENT

*ADA: AMERICAN WITH DISABILITY ACT.

SIDEWALK SECTION (N.T.S.) EXPANSION JOINT

NOTES:

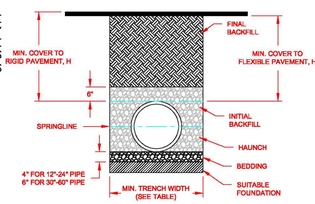
1. SCORING OF CONCRETE SLAB SHALL BE SAW CUT NOT MORE THAN 3/16" IN WIDTH AND NOT MORE THAN ¼" DEEP.
2. THE EXPANSION JOINTS SHALL BE ½" WIDE AND SHALL BE THE FULL THICKNESS OF THE CONCRETE SLAB, AND SHALL BE OF PRE-FORMED EXPANSION JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM D994 ASPHALT OR ASTM D1751 FIBRE. EXPANSION MATERIAL SHALL BE SECURED IN A MANNER THAT WILL PREVENT MOVEMENT OR DISPLACEMENT OF CONCRETE DURING PLACEMENT.
3. THE EXPANSION JOINTS SHALL BE PLACED PERPENDICULAR TO CONCRETE CURB AT A DISTANCE OF 30' OR COINCIDING WITH THE SCORING.
4. DOWELS SHALL BE PLACED AT THE END OF A SIDEWALK PLACEMENT, AT INTERRUPTIONS FOR A DRIVEWAY, OR IF SIDEWALK SLABS ARE POURED AT DIFFERENT TIMES.
5. SAWING OF JOINTS SHALL BE CONDUCTED AS SOON AS THE CONDITION OF THE CONCRETE PERMITS AND BEFORE ANY RANDOM CRACKING APPEARS.
6. ALL STRUCTURAL ITEMS TO CONFORM TO THE LATEST EDITION OF UNIFORM STATEWIDE BUILDING CODE (USBC) REQUIREMENTS.
7. PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A QUALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT.

STANDARD CONCRETE SIDEWALK

DATE

APPROVED DATE | DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA VIRGINIA | CSSW- 1 | PAGE 41

PIPE INSTALLATION NOTE:
THE HDPE PIPE INSTALLATION DETAIL MAY BE MODIFIED PER THE DIRECTION OF THE T&ES INSPECTOR PER THE CITY'S STANDARD PRACTICE.



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (760mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
2	ADDED E-80 INFORMATION	TJR	09/20/07	

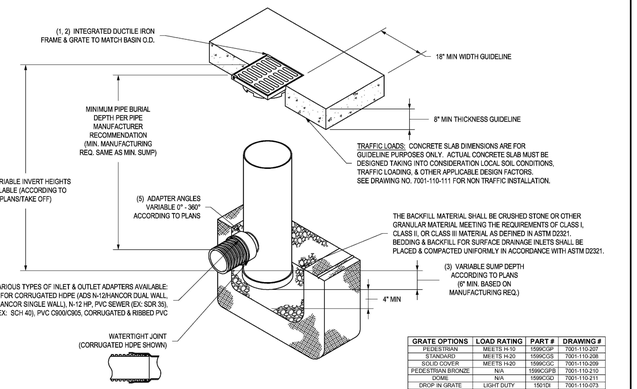
TYPICAL TRENCH DETAIL
DRAWING NUMBER: STD-101

ADS
4640 TRUEMAN BLVD
HILLIARD, OHIO 43026
ADVANCED DRAINAGE SYSTEMS, INC.

CRD
10/14/05
NTS
1 OF 1

HDPE PIPE INSTALLATION DETAIL

NYLOPLAST 15" DRAIN BASIN: 2815AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1599CGP	7001-110-207
STANDARD	MEETS H-20	1599CGS	7001-110-208
SOLID COVER	MEETS H-20	1599CGC	7001-110-209
PEDESTRIAN BRONZE	N/A	1599CGPB	7001-110-210
DOME	N/A	1599CGD	7001-110-211
DROP IN GRATE	LIGHT DUTY	1501DI	7001-110-073

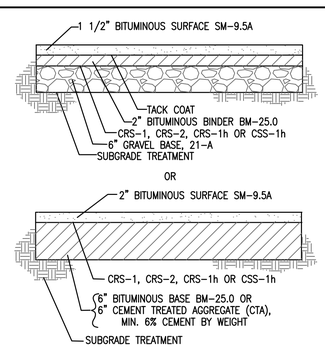
1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RIBERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY	EBC	MATERIAL	
DATE	03-30-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-14-16		
DWG SIZE	A	SCALE 1:25	SHEET 1 OF 1

Nyloplast
3120 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 15 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-196 REV E



PAVING FOR ONSITE ASPHALT

TYPICAL PAVEMENT SECTIONS

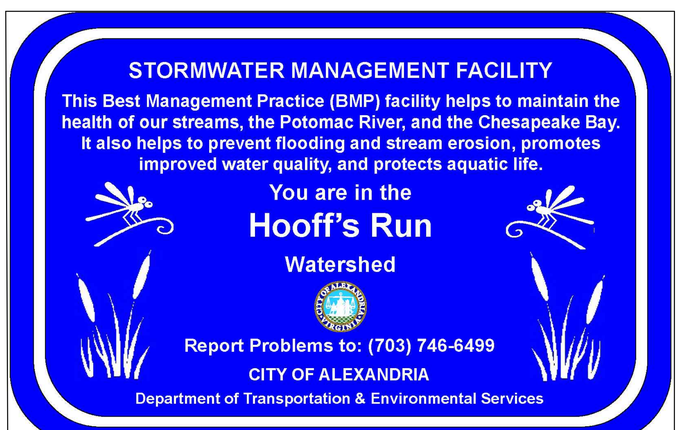
NOT TO SCALE

PAVEMENT AND SUBBASE NOTE:
PAVEMENT DESIGN IS BASED ON A PRELIMINARY CBR VALUE OF 10. FINAL CBR TESTING IS REQUIRED TO DETERMINE ACTUAL DESIGN CBR'S. ALL SUBBASE AND BASE MATERIAL WITHIN PAVEMENT AREAS AND TO A DISTANCE OF AT LEAST 2 FEET BEYOND THE PAVEMENT PERIMETER AND ALL SUBSEQUENT LIFTS OF ENGINEERED FILL WILL REQUIRE COMPACTION TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM SPECIFICATION D698, STANDARD PROCTOR METHOD.

A SMOOTH GRADE SHALL BE MAINTAINED ACROSS NEWLY PAVED AREAS TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY OR IN PARKING AREAS.

MUTCD DETAIL R7-1 (MODIFIED)

MUTCD DETAIL R7-1



CITY STANDARD DESCRIPTIVE BMP SIGNAGE DETAIL
SEE SHEET 14 FOR PLACEMENT LOCATION

CBAY INLET PLACARD
N.T.S.
TO BE PLACED ON ALL INLETS WITHIN 50 FEET OF THE PROPERTY LINE.

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EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. 2019-0010
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. DATE

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DESIGN: ABH
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SITE DETAILS

SHEET 18 OF 18
FILE: 16-52

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Thu, Apr 11 2019 - 1:32:50pm