THE MARK

DEVELOPMENT PRELIMINARY SITE PLAN

DSP#2015-0020

CITY OF ALEXANDRIA, VIRGINIA

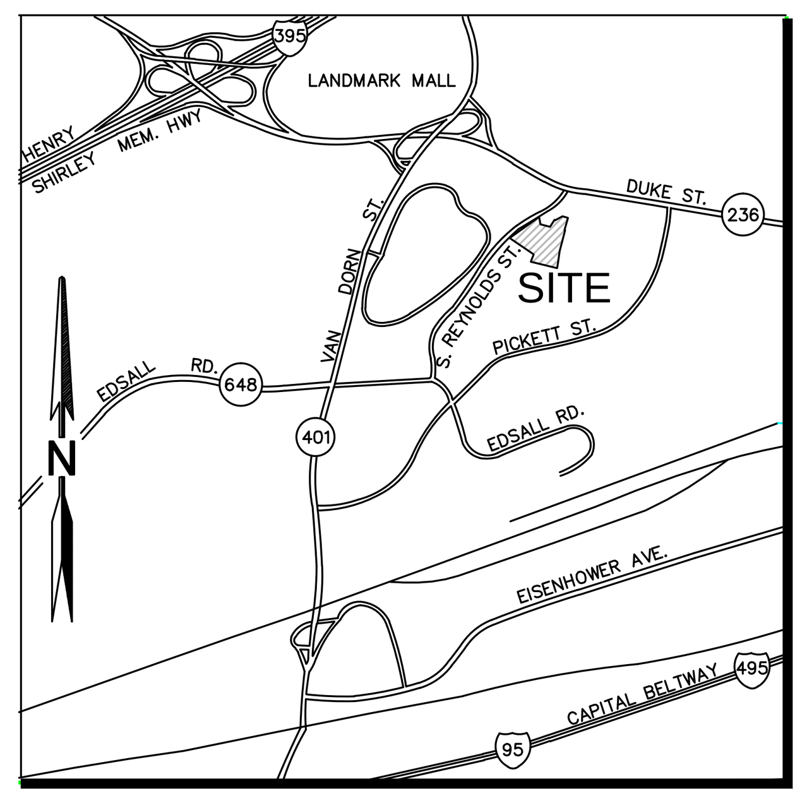
JULY 20, 2015

ZONING TABULATIONS

TAX MAP:	058.01-02-03	
ZONE:	EXISTING : RC	
USE:		
EXISTING USE:	EXTENDED STAY HOTEL	
APPROVED / PROPOSED USE:	MULTIFAMILY APARTMENTS	
GROSS FLOOR AREA:	EX. BLDG. 211,596 SF	
NET FLOOR AREA:	EX. BLDG. 202,556 SF	
UNITS:	EXISTING: 219 UNITS PROPOSED: 227 UNITS (67 STUDIO; 125 ONE BEDROOM UNITS; 31 TWO BEDROOM UNITS; 4 THREE BEDROOM UNITS)	
LOT SIZE:	**REQUIRED**	**PROVIDED**
AREA	181,600 S.F. (1)	183,268 S.F. OR 4.207 AC
FRONTAGE	50 FEET	380 FEET
FAR:	1.25 MAX.	EXISTING: 1.11 (202,556 SF / 183,268 SF)
UNITS PER ACRE:	54.45	52.06
OPEN SPACE:	40% (73,307 SF)	40% (73,400 SF +/-) NOTE: ALL OPEN SPACE IS PROVIDED AT GRADE.
	EX. BLDG.	**EX. BLDG.**
BUILDING HEIGHT:	87 FEET (3) (AFG= ELEV. 159.6)	87 FEET (3) (AFG= ELEV. 159.6)
YARDS:		
FRONT	NONE	87.2 FEET
SIDE	29 FEET	47 FEET
REAR	87 FEET	54.6 FEET
	REQUIRED	**PROVIDED**
CROWN COVERAGE:	25%	39%
	REQUIRED	**PROVIDED**
PARKING:	**236 SPACES** (4)	**238 SPACES**
STUDIO (67 ROOMS)	60.3 (0.9 SPACES PER ROOM)	
ONE BEDROOM (125 ROOMS)	112.5 (0.9 SPACES PER ROOM)	
TWO BEDROOM (62 ROOMS)	55.8 (0.9 SPACES PER ROOM)	
THREE BEDROOM (8 ROOMS)	7.2 (0.9 SPACES PER ROOM)	
EXISTING SPACES:		**218 SPACES**
PROPOSED SPACES:		**238 SPACES**
BREAKDOWN OF PARKING SPACES:	**REQUIRED**	**PROVIDED**
STANDARD		73 SPACES
HANDICAP	7 SPACES (2)	10 SPACES (INCL. 2 VAN)
COMPACT	177 (MAX. 75% OF TOTAL SPACES)	155 SPACES (65% OF TOTAL)
LOADING SPACES:	NONE	NONE
TRIP GENERATION:	EXISTING: 1,073 ADT'S (EXTENDED STAY HOTEL) PROPOSED: 950 ADT'S (MULTIFAMILY APARTMENTS)	

FOOTNOTES:

1. 800 SF PER DWELLING UNIT* 227 UNITS = 181,600 SF
2. REQUIRED HANDICAP PARKING SPACES IS SIX (6) REGULAR HANDICAP SPACES PLUS ONE (1) VAN ACCESSIBLE SPACE
3. EXISTING BUILDING HEIGHT SHOWN IS FROM THE 2005 ALTA SURVEY.
4. FOR CALCULATION OF REQUIRED PARKING, THE FOLLOWING DEDUCTIONS ARE BEING TAKEN: 5% FOR MORE THAN 20% STUDIO UNITS; AND 5% FOR FOUR BUS STOPS WITHIN 0.25 MILES OF DEVELOPMENT ENTRANCE.



VICINITY MAP
SCALE: 1" = 2,000'

AREA TABULATIONS

TOTAL SITE AREA =. . . . . 4.207 ACRES, . . . 183,268 SQUARE FEET
TOTAL AREA OF TAX PARCELS = ... 4.207 ACRES, . . . 183,268 SQUARE FEET
TOTAL EXISTING IMPERVIOUS AREA = . . 2.80 ACRES, . . . 121,968 SQUARE FEET
TOTAL PROPOSED IMPERVIOUS AREA = . 2.78 ACRES, . . . 121,143 SQUARE FEET
TOTAL DISTURBED AREA =. . . . . 1.91 ACRES, . . . 83,156 SQUARE FEET

SOILS

THE GENERAL SOIL CONDITION THROUGHOUT THE SITE IS DEVELOPED. TO THE BEST OF OUR KNOWLEDGE, NO HAZARDOUS OR TOXIC SUBSTANCES ARE PRESENT ON SITE. THE SITE DOES CONTAIN MARINE CLAY PER THE CITY'S "MARINE CLAY AREAS MAP" DATED NOVEMBER 1976. A GEOTECHNICAL REPORT WILL BE PREPARED AND SUBMITTED WITH THE BUILDING PERMIT APPLICATION.

RPA, WETLANDS AND FLOODPLAINS

NO RESOURCE PROTECTION AREA (RPA) OR 500 YEAR FLOODPLAIN IS PRESENT ON THE SITE AS DETERMINED BY REFERENCE TO FIRM COMMUNITY PANEL NO. 51551900 E REVISED JUNE 16, 2011 AS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

ARCHAEOLOGY

PER FINDINGS FROM THE CITY'S ARCHAEOLOGICAL REVIEW WITH THE DEVELOPMENT CONCEPT I PLAN, THIS PROPERTY HAS LOW POTENTIAL TO HAVE SIGNIFICANT ARCHEOLOGICAL REMAINS THAT COULD YIELD IMPORTANT INFORMATION ON ALEXANDRIA'S HISTORY. ARCHEOLOGICAL RECOMMENDATIONS HAVE BEEN ADDED TO THE GENERAL CONSTRUCTION NOTES FOUND ON SHEET 2.

PROJECT NARRATIVE

THE APPLICANT PROPOSES TO AMEND THE APPROVED DEVELOPMENT SITE PLAN DSP #2012-00032 TO ADJUST PARKING TO CURRENT STANDARDS, ADD 8 UNITS WITHIN THE EXISTING BUILDING FOOTPRINT AND PERMITTED DENSITY, AND REMOVE THE APPROVED PARKING STRUCTURE.

EXISTING APPROVALS

MASTER PLAN AMENDMENT MPA#2013-0001; REZONING REZ#2013-0001; AND DEVELOPMENT SITE PLAN DSP#2012-0032 FOR WASHINGTON SUITES RESIDENCES WERE APPROVED BY THE CITY OF ALEXANDRIA MAY 7, 2013.

FINAL SITE PLAN DSP #2012-00032 WAS APPROVED OCTOBER 14, 2014 BY THE CITY OF ALEXANDRIA

MODIFICATIONS GRANTED WITH DSP#2012-00032

- MASTER PLAN AMENDMENT AND REZONING FOR THE NORTHERN TWO PARCELS FROM CG TO RC.
- MODIFICATION TO SECTION 3-906.B.1 FOR THE REQUIRED OPEN SPACE.
- MODIFICATION TO SECTION 3-906.A.2 AND 3 FOR THE REQUIRED SIDE AND REAR YARDS.
- MODIFICATION TO THE LANDSCAPE GUIDELINES FOR A REDUCTION TO THE REQUIRED NUMBER OF STREET TREES DUE TO BUS STOP.

BUILDING CODE ANALYSIS

EXISTING RESIDENTIAL BUILDING RENOVATION:

USE GROUP: R-2, B, A-2 NON-SEPARATED

CONSTRUCTION TYPE: 1-B

NUMBER OF STORIES: 9 STORIES

SANITARY OUTFALL NARRATIVE

THE WASHINGTON SUITES SITE WAS ORIGINALLY DEVELOPED IN 1966 AND OPERATED AS MULTI-FAMILY APARTMENTS WITH 219 UNITS, ALONG WITH SUPPORTING AMENITIES AND PARKING. IN 1973, THE BUILDING CHANGED TO A HOTEL USE, WHICH HAS CONTINUED TO THIS DATE. FSP DSP #2012-00082 CONVERTED THE USE OF THE BUILDING BACK TO 219 MULTIFAMILY APARTMENTS, AS WAS APPROVED UNDER THE ORIGINAL SITE PLAN. THIS PLAN PROPOSES THE ADDITION OF EIGHT APARTMENT UNITS.

SANITARY FLOWS FROM THIS PROJECT WILL CONTINUE TO UTILIZE THE EXISTING SEWER LATERAL AND MAIN THAT WERE ORIGINALLY CONSTRUCTED FOR THE BUILDING, AND ARE CALCULATED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA MEMORANDUM TO THE INDUSTRY NO. 02-07 CONCERNING NEW SANITARY CONNECTION AND ADEQUATE OUTFALL ANALYSIS, DATED JUNE 1, 2007. THE FOLLOWING WERE CONSIDERED:

- PROPOSED USE AND DENSITIES FOR WASHINGTON SUITES WILL REMAIN AS ORIGINALLY APPROVED (219 APARTMENT UNITS).
- SEWAGE FLOWS WILL BE CARRIED BY THE EXISTING PRIVATE SEWER LATERAL AND THE EXISTING PUBLIC SEWER MAIN THAT WERE ORIGINALLY APPROVED AND CONSTRUCTED FOR THE BUILDING.
- PEAK FLOWS ARE CALCULATED AS FOLLOWS: 227 APARTMENT UNITS X 300GPD/UNIT = 0.068 MGD. USING A PEAKING FACTOR OF 4.0, THE PEAK FLOW RATE IS 0.272 MGD (0.42 CFS). SEE FLOW CALCULATIONS CHART ON THIS SHEET.

SEWAGE WILL FLOW NORTHWARD TO A 10" PUBLIC SEWER LINE IN SOUTH REYNOLDS STREET, THEN CONTINUE NORTHWARD TO A SEWER MAIN ALONG HOLMES RUN. BECAUSE THE ON-SITE DENSITY AND USE ARE CONSISTENT WITH THAT ORIGINALLY APPROVED FOR THE WASHINGTON SUITES PROJECT, AND BECAUSE THE RECEIVING SYSTEM IS THE SAME AS THAT ORIGINALLY INSTALLED TO ACCOMMODATE THE PROJECT, IT IS THE ENGINEER'S OPINION THAT THE RECEIVING SEWER SYSTEM IS ADEQUATE FOR THE RESTORED APARTMENT USE. FURTHER VERIFICATION OF OFF-SITE SEWERS WILL BE PROVIDED AS REQUIRED WITH FINAL DESIGNS.

RESIDENTIAL									PEAK FLOW			
MANHOLE NO. FR.	TO	GFA (SF)	DWELLING UNITS (DU)	300 GPD/ UNIT AVE FLOW (GPD)	INCR. RES. FLOW (MGD)	TOTAL RES FLOW (MGD)	INCR. OFF & RET. FLOW (MGD)	TOTAL OFF & RET. FLOW (MGD)	PRIMARY FLOW (MGD)	PEAK FACTOR	PEAK FLOW (MGD)	FLOW CFS
BLDG	OUTFALL		227	300 X 227 = 68,100	0.068	0.068	0.000	0.000	0.068	4.0	0.272	0.42

SHEET INDEX

APPROVED
SPECIAL USE PERMIT NO. ____________
DEPARTMENT OF PLANNING & ZONING
____________ DIRECTOR ____________ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
____________ DIRECTOR ____________ DATE
____________ CHAIRMAN, PLANNING COMMISSION ____________ DATE
DATE RECORDED ____________
INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

COMMONWEALTH OF VIRGINIA
BRIAN D. SWANSON
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07-20-2015
PROFESSIONAL ENGINEER

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
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07-20-2015
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SILVER SPRING, MD
T 301.587.1820

CITY STANDARD 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 AND PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN IN 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 CONTINUANCE OF SERVICE.

2. THE SUBJECT BUILDING WILL BE VACATED DURING PROPOSED ON-SITE CONSTRUCTION ACTIVITIES BUT ADJACENT BUSINESSES AND RESIDENCES SHALL REMAIN OPEN AT ALL TIMES DURING CONSTRUCTION AND SHALL NOT BE INCONVENIENCED BY THE WORK.

3. 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.

4. 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.

5. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.

6. 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 EXISTING UTILITIES ARE DISCONNECTED IF REQUIRED.

7. THE DEVELOPER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.

8. 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 OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.

9. EXISTING WELLS SHALL BE PERMANENTLY ABANDONED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD REQUIREMENTS.

10. EXISTING SEPTIC FIELDS, IF APPLICABLE, SHALL BE ABANDONED IN ACCORDANCE WITH VIRGINIA HEALTH DEPARTMENT STANDARDS AND SPECIFICATIONS.

11. 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.

12. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSION, DETAILS, AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.

13. THE CONTRACTOR IS TO VERIFY INVERT, SIZE AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.

14. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONSTRUCTION.

15. EXISTING CONC. SIDEWALKS AND CURBS & GUTTERS 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 THE DIRECTOR OF T&ES.

16. DAMAGE TO ANY EXISTING ENTRANCES, CURB AND GUTTER, PAVEMENT OR OTHER EXISTING STRUCTURES NOT PROPOSED TO BE DISTURBED WITH THIS DEVELOPMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE REPAIRED TO THE SATISFACTION OF THE CITY OF ALEXANDRIA INSPECTOR AND ANY ADJOINING OWNERS THAT MAY BE AFFECTED.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB.

18. ANY NEW PRIVATE BUILDING CONNECTIONS, INCLUDING ROOF DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.

19. 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 SUPERCEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS MAY BE REQUIRED. TOPS OF EXISTING STRUCTURES WITHIN PEDESTRIAN ROUTES SHALL BE ADA COMPATIBLE AND SHALL BE ADJUSTED TO PROVIDE A SMOOTH SURFACE.

20. THE DESIGN, CONSTRUCTION, FIELD PRACTICES AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA AND ITS CURRENT ZONING ORDINANCE AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, PROVISIONS OF THE CONSTRUCTION, AND ESCROW AGREEMENTS OR THE PERMITS SHALL BE DEEMED A VIOLATION.

21. 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.

22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.

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

24. NO EVIDENCE OF GRAVES OR BURIAL SITES HAVE BEEN FOUND ON THIS PROPERTY.

25. ALL ON-SITE RETAINING WALLS ARE SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. THIS PLAN IS FOR LOCATION AND PROPOSED GRADING ONLY. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE ACCOMPLISHED BY OTHERS.

26. 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, AND LOCATION OF MECHANICAL EQUIPMENT AND CONNECTIONS AT THE FACES OF BUILDINGS.

27. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR THE PONDING OF WATER ON THE ROADWAY.

28. PROPOSED PAVEMENT SECTION DEPTH(S) ARE BASED ON A CBR VALUE OF 6 .IF REQUIRED, LABORATORY TESTS OF SUBGRADE SOIL SHALL BE PERFORMED FOR ACTUAL DETERMINATION OF REQUIRED SUBGRADE THICKNESS PRIOR TO PAVING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.

29. EMERGENCY VEHICLE EASEMENTS AND HANDICAPPED PARKING SPACES TO BE MARKED ACCORDING TO CITY OF ALEXANDRIA STANDARD SIGNAGE AND ADA REQUIREMENTS.

30. ALL STRIPING TO MEET MUTCD STANDARDS.

31. ALL EROSION CONTROLS SHALL CONFORM TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST EDITION) AND MUST BE SUBMITTED AND APPROVED BY T&ES.

32. ALL PAVEMENTS WITHIN EMERGENCY VEHICLE EASEMENTS MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CITY STANDARDS (CSAP-1A).

33. 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 SOILS REPORT REQUIREMENTS.

34. SOLID WASTE SHALL BE DELIVERED TO WASTE TO ENERGY FACILITY.

35. PROPOSED CURB RADII ARE GIVEN TO THE FACE OF CURB.

36. CONSTRUCTION PERMITS ARE REQUIRED FOR THIS PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS.

37. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.

38. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND TO THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC).

39. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.

40. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).

41. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.

42. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF THE FINAL SITE PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMP GENERAL PERMIT CAN BE FOUND ONLINE AT: http://www.dcr.virginia.gov/soil_and_water/vsmp.shtml

43. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ) TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES), AND BUILDING AND FIRE CODE ADMINISTRATION SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.

44. ANY WORK IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.

45. THE PROPERTY ADDRESS MUST BE CLEARLY MARKED IN THE FRONT AND BACK OF THE PROPOSED DEVELOPMENT SITE DURING CONSTRUCTION FOR EMERGENCY RESPONSE PURPOSE IN CONTRASTING COLORS FOR EASY IDENTIFICATION.

46. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.

47. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PULIC RIGHT OF WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.

48. THE SIDEWALKS SHALL REMAIN OPENED DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.

49. PRIOR TO THE RELEASE OF THE FINAL SITE PLAN, A TRAFFIC CONTROL PLAN FOR CONSTRUCTION DETAILING PROPOSED CONTROLS TO THE TRAFFIC MOVEMENT, LANE CLOSURES, CONSTRUCTION ENTRANCES, HAUL ROUTES, AND STORAGE AND STAGING SHALL BE PROVIDED FOR INFORMATION PURPOSE; HOWEVER, AN AMENDED TRAFFIC CONTROL PLAN, IF REQUIRED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES SHALL BE SUBMITTED TO THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES ALONG WITH THE BUILDING PERMIT APPLICATION. THE FINAL SITE PLAN SHALL INCLUDE A STATEMENT "FOR INFORMATION ONLY" ON THE TRAFFIC CONTROL PLAN SHEETS.

PROJECT SPECIFIC CONSTRUCTION NOTES

1. THE PROPERTY DELINEATED ON THIS PLAN IS LOCATED ON TAX ASSESSMENT MAP NO. 058.01-02-03 AND IS CURRENTLY IN THE NAME OF ALEXANDRIA SUITES, LLC AS RECORDED UNDER INSTRUMENT #140004636 AMONG THE LAND RECORDS OF THE CITY OF ALEXANDRIA, VIRGINIA.
2. THE ADDRESS FOR THE SITE IS 100 SOUTH REYNOLDS STREET, ALEXANDRIA, VIRGINIA.
3. THE SITE IS CURRENTLY ZONED RC.
4. OWNER: LANDMARK 100 SR
5. BOUNDARY SURVEY BY PATTON, HARRIS, RUST & ASSOCIATES, INC.
6. TOPOGRAPHY SURVEY BY PENNONI ASSOCIATES (PHR+A).
7. VERTICAL DATUM: NAVD 88
8. CONTOUR INTERVAL: 1 FT
9. BENCH MARKS:

   BM #1: NORTHING = 6981650.65
   EASTING = 11874178.90
   ELEVATION = 165.91
   DESCRIPTION = STORM SEWER MANHOLE

   BM #2: NORTHING = 6981707.87
   EASTING = 11874307.81
   ELEVATION = 153.01
   DESCRIPTION = SANITARY SEWER MANHOLE

10. ALL DEVELOPMENT AND CONSTRUCTION WILL BE IN CONFORMANCE WITH THE CURRENT CITY OF ALEXANDRIA ZONING ORDINANCE AND THE CURRENT CITY OF ALEXANDRIA OR VDOT CONSTRUCTION STANDARDS AND SPECIFICATIONS, AS SHOWN ON THE PLAN.
11. BEST MANAGEMENT PRACTICES (BMP) ARE PROVIDED WITH THESE IMPROVEMENTS AND ARE ACCOMMODATED BY VARIOUS TREATMENT FACILITIES AND ARE TO BE SHOWN ON THE FINAL SITE PLAN. ACCESS TO THESE FACILITIES WILL BE AVAILABLE FROM THE TRAVEL WAYS ON THE SITE. ALL NEW STORM WATER MANAGEMENT AND BMP FACILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED, WITH A MAINTENANCE AGREEMENT BETWEEN THE OWNER AND THE CITY OF ALEXANDRIA.
12. PUBLIC WATER AND SEWER ARE CURRENTLY SERVING THE SITE.
13. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION AND NOTIFY PENNONI ASSOCIATES AT (703) 449-6700 IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND APPROVED PLAN.
14. EXISTING UNDERGROUND UTILITY INFORMATION TAKEN FROM AVAILABLE RECORDS. PENNONI ASSOCIATES MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. IN ADDITION, THE DEPTHS OF EXISTING WATER, TELEPHONE, ELECTRIC, GAS AND CABLE TV UTILITY LINES MAY VARY BENEATH THE SURFACE OF THE GROUND. THE CONTRACTOR IS RESPONSIBLE TO CONTACT "MISS UTILITY" UTILITY SERVICE PROTECTION CENTER AT 1-(800) 257-7777 REGARDING THE LOCATIONS OF THESE UNDERGROUND UTILITIES, AND FOR VERIFYING THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES THAT MAY OCCUR DUE TO HIS FAILURE TO LOCATE AND PROTECT THESE UNDERGROUND FACILITIES.
15. ⌖ DENOTES TEST HOLE REQUIRED TO DETERMINE EXACT LOCATION AND ELEVATION OF THE EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF ALL TEST HOLES PRIOR TO BEGINNING OF ANY CONSTRUCTION ON THE PROJECT. IF CONFLICTS ARE DISCOVERED AS A RESULT OF THE TEST HOLE FINDINGS, NOTIFY PENNONI ASSOCIATES @ (703) 449-6700 IMMEDIATELY.
16. WHERE IN CONFLICT WITH THE PROPOSED WORK, EXISTING UTILITY POLES ARE TO BE RELOCATED PRIOR TO CONSTRUCTION.
17. WHERE REQUIRED, ALL UTILITIES ARE TO BE RELOCATED AT THE DEVELOPER'S EXPENSE UNLESS OTHERWISE AGREED BETWEEN THE DEVELOPER AND THE RESPECTIVE UTILITIES.
18. EXISTING MANHOLE FRAMES AND COVERS AND VALVE BOXES AND COVERS SHALL BE ADJUSTED OR RECONSTRUCTED, AS NECESSARY, TO MATCH NEW FINISHED GRADES.
19. EXISTING AND ACCESSIBLE SANITARY SEWER AND STORM DRAINAGE STRUCTURES ON AND AROUND THE SITE WERE FIELD SURVEYED. UTILIZING THIS FIELD DATA AND INFORMATION OF EXISTING RECORD, THESE STRUCTURES WILL BE TABULATED FOR DESIGN REFERENCE ON THE FINAL SITE PLAN.
20. EXCAVATION SUPPORT SYSTEMS SHALL CONFORM TO THE PROVISIONS OF OSHA CONSTRUCTION STANDARD 29 CFR PART 1926 SUBPART P.
21. ALL PERSONNEL INVOLVED WITH CONSTRUCTION OF THE PROJECT MUST PARK IN APPROVED OFF-STREET LOTS AND MAY NOT PARK ON ANY PUBLIC OR PRIVATE STREETS EXCEPT WHERE SPECIFICALLY DESIGNATED BY T&ES.
22. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO EXISTING ROADS AND UTILITIES THAT OCCUR AS A RESULT OF THIS CONSTRUCTION PROJECT WITHIN OR CONTIGUOUS TO EXISTING CITY OR STATE RIGHT-OF-WAYS.
23. PAVEMENT, SPECIAL PAVERS, AND/OR CONCRETE WHERE IN AREAS SUBJECT TO VEHICULAR LOADING SHALL BE DESIGNED TO MEET HS-20 LOADING SPECIFICATIONS.
24. CONTRACTOR IS TO VERIFY ALL HANDICAP SPACES AND ACCESS FROM HANDICAP SPACES TO THE BUILDING SHALL MEET ALL CURRENT ADA CRITERIA. CONTRACTOR SHALL EXERCISE EXTREME CARE IN IMPLEMENTING CONSTRUCTION DETAILS PERTAINING TO ADA CRITERIA AS WELL AS PROPOSED GRADES AND SLOPES.
25. ANY RETAINING WALL(S) 2' IN HEIGHT AND OVER (MEASURED FROM THE TOP OF WALL AND THE FINISHED GRADE AT THE FACE OF WALL), SHALL REQUIRE A SEPARATE BUILDING PERMIT.
26. ALL FINISHED GRADING, SEEDING, SODDING OR PAVING SHALL BE DONE IN SUCH A MANNER TO PRECLUDE THE PONDING OF WATER ON THE SITE, PARTICULARLY ADJACENT TO BUILDINGS AND STORM INLETS.
27. CONTRACTOR SHALL BE RESPONSIBLE FOR A POLLUTION CONTROL PLAN AS DICTATED BY THE COMMONWEALTH OF VIRGINIA'S DEPARTMENT OF ENVIRONMENTAL QUALITY. THE VSMP CONSTRUCTION STORMWATER PERMIT APPLICATION SHALL BE OBTAINED PRIOR TO MOBILIZATION.
28. ALL WATER FACILITY CONSTRUCTION SHALL CONFORM TO VIRGINIA-AMERICAN WATER COMPANY STANDARDS AND SPECIFICATIONS.
29. CONTACT VIRGINIA-AMERICAN WATER COMPANY AT (703) 549-7080 TO COORDINATE CONSTRUCTION AND INSPECTION OF WATER FACILITIES.
30. A CONSTRUCTION MANAGEMENT PLAN WILL BE SUBMITTED BY OTHERS FOR THE WORK TO BE COMPLETED UNDER THIS PROJECT. THIS PLAN SHALL BE APPROVED BY THE CITY OF ALEXANDRIA AND DISPLAYED ON THE WALL OF THE CONSTRUCTION OFFICE TRAILER ON THE SITE.
31. THE CONSTRUCTION TRAILER, WHEN IN PLACE, SHALL HAVE A SECURITY SURVEY COMPLETED BY THE CRIME PREVENTION UNIT OF THE ALEXANDRIA POLICE DEPARTMENT.
32. NEW CONSTRUCTION SHALL COMPLY WITH THE CURRENT EDITION OF THE UNIFORM STATEWIDE BUILDING CODE (USBC).
33. COPY OF THE SOILS REPORT MUST BE SUBMITTED WITH THE BUILDING PERMIT APPLICATION.
34. WHEN REPLACING EXISTING ASPHALT PAVEMENT, THE PROJECT SHALL INSTALL THE PROPOSED PAVEMENT SECTION OR MATCH THE EXISTING CONDITION, WHICHEVER IS GREATER.
35. ARCHEOLOGICAL NOTES:
    a. THE APPLICANT SHALL CALL ALEXANDRIA ARCHEOLOGY 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.
    b. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.
36. ELECTRICAL (POWER) SERVICE IS PROVIDED BY DOMINION VIRGINIA POWER (ALEXANDRIA ARLINGTON DISTRICT) 907 W. GLEBE ROAD, ALEXANDRIA, VIRGINIA, 22305 (703) 838-2230.
37. PROPOSED SITE AND BUILDINGS LIGHTS WILL BE COMPATIBLE WITH THE EXISTING SITE LIGHTS AND ARCHITECTURAL FEATURES OF THE BUILDING. IN ACCORDANCE WITH THE APPLICANT'S DESIGN SCHEDULE FOR ARCHITECTURAL IMPROVEMENTS, A LIGHTING PLAN WILL BE PROVIDED WITH THE FINAL SITE PLAN.
38. THE EXISTING ENTRY SIGN FACING S. REYNOLDS STREET WILL BE REPLACED WITH A NEW PROJECT IDENTIFICATION SIGN FOR THE PROPERTY TO THE LOCATION SHOWN ON THE PELIMINARY SITE PLAN. THE DESIGN AND MATERIALS SELECTED FOR THE PROPOSED SIGN WILL BE IN A CHARACTER AND STYLE COMPATIBLE WITH THE EXISTING BUILDING, PROPOSED ENHANCEMENTS AND OTHER SITE FEATURES. THE SIGN MAY UTILIZE BRICK, CONCRETE, STUCCO AND/OR OTHER MATERIALS WHICH WILL ACCENT THE NEW BUILDING DESIGN AND IDENTITY. THE SIGN WILL BE DESIGNED TO MEET ALL APPLICABLE CITY ORDINANCES AND A SEPARATE SIGN PERMIT WILL BE OBTAINED BY THE APPLICANT. A CONCEPTUAL DESIGN FOR THIS SIGN WILL BE PROVIDED TO THE CITY WHEN AVAILABLE.
39. COMPACT CAR SPACES WILL BE PROPERLY IDENTIFIED IN THE PARKING LOT WITH PAINT IN ACCORDANCE WITH CITY STANDARDS.
40. BICYCLE PARKING FOR THE RESIDENCES WILL BE PROVIDED IN A DEDICATED ROOM LOCATED ON THE FIRST FLOOR WITH ACCESS TO THE LOBBY OR OTHER ACCESS CONTROLLED ENTRY DOOR. BIKE PARKING FOR GUESTS WILL BE LOCATED ALONG THE FRONT OF THE BUILDING. BICYCLE PARKING DETAILS WILL BE PROVIDED WITH THE FINAL SITE PLAN.
41. THE EXISTING POOL MECHANICAL EQUIPMENT CURRENTLY DISCHARGES INTO THE SANITARY SEWER SYSTEM WITHIN THE BUILDING AND NO CHANGE IS PROPOSED TO THAT SYSTEM WITH THIS SITE PLAN. POOL WATER SHOULD BE DISCHARGED DURING NON-PEAK HOURS.
42. ALL PEDESTRIAN IMPROVEMENTS SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY PERMIT.
43. ALL ON-SITE STORM WATER CURB INLETS AND PUBLIC CURB INLETS THAT ARE LOCATED WITHIN 50 FEET OF THE PROPERTY SHALL BE DULLY MARKED USING STANDARD CITY MARKERS INDICATING THE DRAINAGE INTO THE HOLMES RUN WATERSHED, OR TO THE SATISFACTION OF THE DIRECTOR OF T&ES.
44. ALL EXTERIOR LOUDSPEAKERS SHALL BE PROHIBITED AND NO AMPLIFIED SOUND SHALL BE AUDIBLE AT THE PROPERTY LINE.
45. SUPPLY DELIVERIES, LOADING, AND UNLOADING ACTIVITIES SHALL NOT OCCUR BETWEEN THE HOURS OF 11:00 PM AND 7:00 AM.
46. IF FIREPLACES ARE UTILIZED IN THE DEVELOPMENT, ONLY GAS FIRE PLACES SHALL BE USED AND ANIMAL SCREENS SHALL BE INSTALLED ON ALL CHIMNEYS.
47. ALL PROPOSED ROOF DRAINS (IF APPLICABLE) SHALL BE CONNECTED TO THE STORM DRAINAGE SYSTEM.
48. THIS SITE IS SUBJECT TO VIRGINIA DEQ STORMWATER MANAGEMENT GENERAL PERMIT # VAR10ØD32Ø EXPIRATION JUNE 30, 2019.

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. DSP2015- 0020

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Pennoni

NO.	DATE	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP2015–0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

GENERAL NOTES

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

NORTH

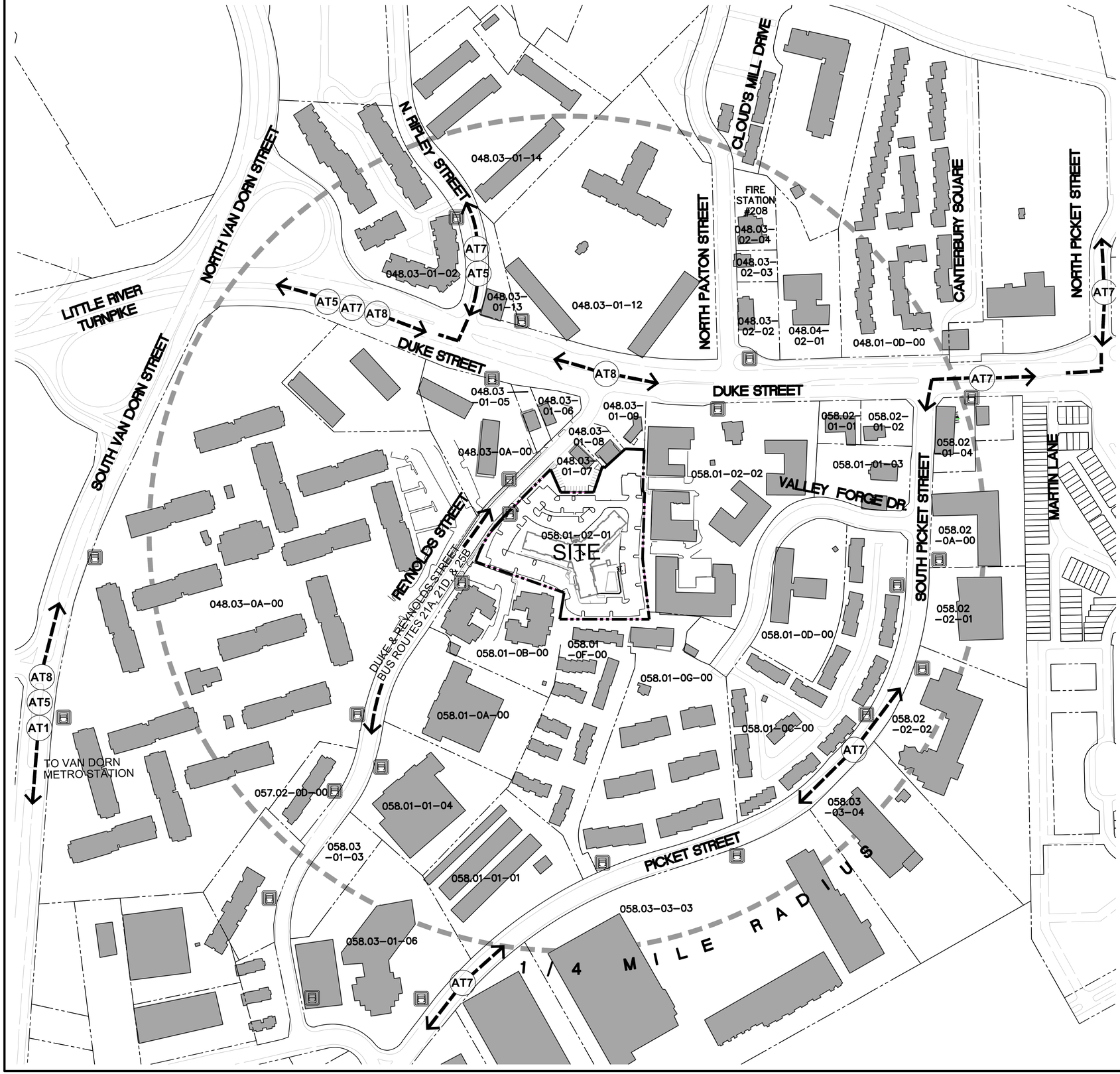
PROJECT NO. NPRP1501

SHEET 2 OF 22

SCALE	DATE
N/A	2015–07–20
DRAWN BY	APPROVED
PAI	DHS

DRAWING NO. CS0002

V:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0002 DWG PLOTTED: ----- BY: TIMOTHY JENKINS PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----



LEGEND:

- BUS STOPS
- AT5 DASH METRO ROUTES
- OTHER BUS ROUTES (AS LABELED)

0 150' 300'

NORTH

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. DSP2015 - 0020

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Pennoni

DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

CONTEXTUAL PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT NO. NPRP1501

SHEET 3 OF 22

SCALE	DATE
1" = 150'	2015-07-20
DRAWN BY: PAI	APPROVED: DHS

DRAWING NO. CS0003

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

X:\PROJECTS\NPRP1501-WASHINGTON SUITES\VERSION\SHEETS\CS0003.DWG PLOTTED: ----- BY: NADEJDA BURDUJA PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----

LEGEND

	EXISTING	PROPOSED
FIRE HYDRANT		
FIRE DEPT. CONNECTION (FDC)		
WATER VALVE		
STORM PIPE		
STORM PIPE APPROX. LOCATION TO BE FIELD VERIFIED		
STRUCTURE	STR	
STORM DRAIN	SD	
CORRUGATED METAL PIPE	CMP	
REINFORCED CONCRETE PIPE	RCP	RCP
STORM DRAINAGE CLEAN-OUT (SDCO)		
STORM DRAINAGE STRUCTURE REFERENCE	CI-5 DI-5	
STORM DRAINAGE MANHOLE		
SANITARY SEWER PIPE APPROX LOCATION TO BE FIELD VERIFIED		
SANITARY SEWER MANHOLE	SSMH	
LIGHT POLE		
STREET LIGHT		
SIGN		
BOLLARD		
UTILITY POLE		
UNDERGROUND ELECTRIC (AS MARKED)	UE	
GUY WIRE		
TELEPHONE PEDESTAL		
HANDICAP PARKING SPACE		
VAN ACCESSABLE HANDICAP PARKING SPACE	VAN	VAN
PARKING SPACE (STANDARD)	STD. PKSP	
PARKING SPACE (COMPACT)	CMT. PKSP	
MAIN BUILDING ENTRANCE		
BUILDING ENTRANCE		
AVERAGE DAILY TRIPS USING THE ITE TRIP GENERATION METHOD	ADT	ADT
LANDSCAPE STONE		
CONCRETE	CONC.	CONC.
CURB AND GUTTER	C&G	C&G
HEADER CURB	HC	HC
EDGE OF CONCRETE	EC	
HANDICAP RAMP	HCR	
CONCRETE SIDEWALK	CSW	
PAVED SIDEWALK	PSW	
EDGE OF PAVEMENT	EP	
CHAIN LINK FENCE	CLF	
PLASTIC FENCE	PLF	
WOOD FENCE	WDF	
FENCE (AS LABELED)		
WOOD RETAINING WALL	WRW	
UNDERGROUND COMMUNICATION LINE (AS MARKED)	UC	
UNDERGROUND WATER LINE (AS MARKED)	W	
OVERHEAD UTILITY LINES	UHD	
TRAFFIC CONTROL BOX	TCB	
UNDERGROUND GAS LINE (AS MARKED)	UG	
GAS METER	GM	
DECIDUOUS TREE ≥ 6" DBH		
ORNAMENTAL TREE		
CONIFER TREE		
SHRUBS		
PROPERTY	PROP.	
PROPERTY LINE		
CORNER	COR.	
DEED BOOK	DB.	
PAGE	PG.	
INSTRUMENT NUMBER	INST. #	
EASEMENT	ESMT	
EASEMENT LINE		
IRON ROD FOUND	IRF	
IRON PIPE FOUND	IPF	
IRON PIPE SET	IPS	
POINT OF BEGINING	P.O.B.	
BENCH MARK		
LOCATION	LOC.	
RETAINING	RET.	
TYPICAL	TYP.	
OVERHANG	O.H.	
NOT TO SCALE	N.T.S.	

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. DSP2015 - 0020

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Pennoni

BY	REVISIONS	NO.	DATE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT PRELIMINARY SITE PLAN DSP 2015-0020

THE MARK

100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

NORTH

PROJECT NO.	NPRP1501
SHEET	4 OF 22
SCALE	1" = 30'
DATE	2015-07-20
DRAWN BY	PAI
APPROVED	DHS
DRAWING NO.	CS0004

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

X:\PROJECTS\VPNPA1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0004 EC.DWG PLOTTED: ---- BY: ELIZABETH FRBUSH PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----

NOTES

1. UNLESS OTHERWISE NOTED ON THIS SURVEY, LOCATIONS AND CONNECTIONS OF STORM AND SANITARY SEWER FACILITIES SHOWN HEREON ARE BASED ON OBSERVED FIELD EVIDENCE. AS-BUILT INFORMATION OF ACCESSIBLE STRUCTURES HAVE BEEN PROVIDED, IF OBTAINABLE.

2. WHILE REASONABLE CARE HAS BEEN TAKEN IN IDENTIFYING UNDERGROUND UTILITIES AND CONNECTIONS, THEY ARE APPROXIMATE AND BASED ON OBSERVABLE ABOVE GROUND FIELD FACILITIES AND/OR SUB-SURFACE UTILITY PAINT MARKINGS ONLY. THEREFORE, ACCURACY OF CONNECTIONS CANNOT BE GUARANTEED.

3. ADDITIONAL UTILITY FACILITIES AND/OR UNDERGROUND LINES MAY EXIST THAT WERE NOT EVIDENT OR IDENTIFIED. UTILITY PLANS NEED TO BE ACQUIRED AND COMPARED WITH THIS SURVEY PRIOR TO COMMENCING SITE DESIGN.

4. THIS SURVEY REPRESENTS FIELD CONDITIONS AS OF MARCH 29, 2013.

5. HORIZONTAL DATUM IS REFERENCED TO NAD83 (CORS) AND ESTABLISHED BY GPS OBSERVATIONS. VERTICAL DATUM IS REFERENCED TO NAVD 88 AND ESTABLISHED BY GPS OBSERVATIONS. BENCHMARK 1 ELEVATION = 165.91 AND IS DESCRIBED AS A STORM MANHOLE LOCATED ALONG WEST SIDE OF S. REYNOLDS ST. BENCHMARK 2 ELEVATION = 153.01 AND IS DESCRIBED AS A SANITARY MANHOLE NORTH OF THE ENTRANCE TO THE SITE IN THE EAST BOUND LANE OF S. REYNOLDS ST.

6. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPOSIBLE CHARGE OF, JEFFREY A. SMERALDO FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON MARCH 29, 2013; AND THAT THIS PLAT, MAP OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

PARCEL CURVE TABLE

CURVE #	RADIUS	DELTA	ARC LENGTH	TANGENT	CHORD LENGTH	CHORD BEARING
C1	365.65'	026°25'19"	168.62'	85.84	167.13'	N 41°24'31" E

STORM SEWER PIPE TABLE

ID	FROM STRUCTURE	INV OUT	TO STRUCTURE	INV IN	DIAMETER (in)	MATERIAL	LENGTH (ft)	SLOPE
RD-14		150.61	CI-4	150.61	4"	HDPE	25'	0.00%
SD-1	DI-1	180.80	CI-2	162.22	18"	RCP	80'	23.35%
SD-2	CI-2	157.31	CI-3	154.36	15"	RCP	55'	5.41%
SD-3	CI-3	150.32	CI-4	147.38	15"	RCP	88'	3.35%
SD-4	CI-4A	149.56	CI-4	146.11	18"	RCP	111'	3.11%
SD-5	CI-4	145.59	CI-5	139.77	18"	RCP	219'	2.66%
SD-6	CI-5	139.49	CI-6	136.94	18"	RCP	95'	2.67%
SD-7	CI-4D	155.35	DI-4C	151.97	18"	RCP	115'	2.93%
SD-8	DI-4C	151.90	CI-4A	148.40	18"	RCP	76'	4.59%
SD-9	MH-7	131.00	CI-8	130.31	24"	RCP	46'	1.51%
SD-10	CI-8	130.47	CI-9	129.28	24"	RCP	66'	1.81%
SD-11	CI-7A	131.30	MH-7	131.13	24"	RCP	10'	1.77%
SD-12	CI-OFF SITE	131.67	CI-7A	131.67	21"	RCP	51'	0.00%
SD-13	CI-6A	136.71	MH -6B	134.97	15"	RCP	75'	2.31%
SD-15	DI-12	156.46	CI-11	156.87	4"	HDPE	16'	2.54%
SD-16		147.41	DI-10	147.41	15"	RCP	16'	0.00%
SD-17	DI-10	147.36	CI-11	146.76	15"	RCP	71'	0.85%
SD-18	CI-11	146.63	MH-11	UNKNOWN**	15"	RCP	56'**	0.00%
SD-19	CI-6	135.84	MH -6B	133.09	24"	RCP	23'	11.94%
SD-20	MH -6B	132.72	MH-7	131.11	24"	RCP	137'	1.18%
SD-21	MH-11	UNKNOWN**	CI-6	138.45	15"	RCP	160'**	0.00%
SD-39	CI-9	128.67	MH-13	127.15	24"	RCP	47'	3.25%
SD-40	MH-13	126.55	MH-14	115.23	30"	RCP	258'	4.40%
SD-41	CI-15	118.11	MH-14	117.74	15"	RCP	11'	3.39%
SD-42		127.22	MH-13	127.22	30"	RCP	17'	0.00%

STORM SEWER STRUCTURE TABLE

ID	RIM ELEVATION	INV IN (FROM)	INV OUT (TO)	TYPE
CI-2	165.91	162.22 (18" RCP @ 23.35%) DI-1	157.31 (15" RCP) CI-3	#903 (4')
CI-3	163.81	154.36 (15" RCP @ 5.41%) CI-2	150.32 (15" RCP) CI-4	#901 (4')
CI-4	155.71	147.38 (15" RCP @ 3.35%) CI-3 146.11 (18" RCP @ 3.11%) CI-4A 150.61 (4" HDPE @ 0.00%)	145.59 (18" RCP) CI-5	#899 (4')
CI-4A	157.32	148.40 (18" RCP @ 4.59%) DI-4C	149.56 (18" RCP) CI-4	#897 (4')
CI-4D	165.22		155.35 (18" RCP) DI-4C	#891 (4')
CI-5	150.79	139.77 (18" RCP @ 2.66%) CI-4	139.49 (18" RCP) CI-6	#1232 (4')
CI-6	147.51	136.94 (18" RCP @ 2.67%) CI-5 138.45 (15" RCP @ 0.00%)	135.84 (24" RCP) MH -6B	#865 (4')
CI-6A	146.06		136.71 (15" RCP) MH -6B	#1230 (4')
CI-7A	137.98	131.67 (21" RCP @ 0.00%) CI-OFF SITE	131.30 (24" RCP) MH-7	#881 (4')
CI-8	136.69	130.31 (24" RCP @ 1.51%) MH-7	130.47 (24" RCP) CI-9	#875 *
CI-9	135.11	129.28 (24" RCP @ 1.81%) CI-8	128.67 (24" RCP) MH-13	#867 (4')
CI-11	159.17	156.87 (4" HDPE @ -2.54%) DI-12 146.76 (15" RCP @ 0.85%) DI-10	146.63 (15" RCP)	#1790 (4')
CI-15	121.90		118.11 (15" RCP) MH-14	10057 (4')
CI-OFF SITE	139.92		131.67 (21" RCP) CI-7A	886 (4')
DI-1	186.60		180.80 (18" RCP) CI-2	#908 (???')
DI-4C	156.85	151.97 (18" RCP @ 2.93%) CI-4D	151.90 (18" RCP) CI-4A	#896 (???')
DI-10	156.99	147.41 (15" RCP @ 0.00%)	147.36 (15" RCP) CI-11	#1827 (???')
DI-12	157.51		156.46 (4" HDPE) CI-11	#1789 (???')
MH-7	137.70	131.11 (24" RCP @ 1.18%) MH -6B 131.13 (24" RCP @ 1.77%) CI-7A	131.00 (24" RCP) CI-8	#879 (4')
MH-13	133.04	127.15 (24" RCP @ 3.25%) CI-9 127.22 (30" RCP @ 0.00%)	126.55 (30" RCP) MH-14	10049 (4')
MH-14	121.54	115.23 (30" RCP @ 4.40%) MH-13 117.74 (15" RCP @ 3.39%) CI-15		10056 (4')
MH -6B	140.36	134.97 (15" RCP @ 2.31%) CI-6A 133.09 (24" RCP @ 11.94%) CI-6	132.72 (24" RCP) MH-7	#10031 (4')
MH-11**	UNKNOWN	UNKNOWN 56' (15" RCP@ ???%) CI-11	UNKNOWN 160' (15" RCP) CI-6	

* REVERSE FLOW WAS CAUGHT IN THE FIELD AND VERIFIED STANDING WATER OBSERVED (4')

** STRUCTURE INACCESSIBLE AT THE TIME OF SURVEY. LOCATION AND PIPE FOOTAGE CORRECTIONS BASED ON VIDEO INSPECTIONS BY OTHERS.

SANITARY SEWER STRUCTURE TABLE

ID	RIM ELEVATION	INV IN (FROM)	INV OUT (TO)	TYPE
SSMH-1	136.77	128.37 (10" DIP W/CONC @ 4.23%) SSMH-2	128.15 (10" DIP W/CONC) SSMH-4	#877 (4')
SSMH-2	153.01	141.05 (10" UNDEFINED MATERIAL @ 0.00%)	141.01 (10" DIP W/CONC) SSMH-1	#887 (4')
SSMH-4	129.41	121.83 (10" DIP W/CONC @ 2.75%) SSMH-1	121.71 (10" DIP W/CONC) SSMH-5	#10003 (4')
SSMH-5	127.28	119.58 (10" DIP W/CONC @ 4.46%) SSMH-4	119.48 (10" DIP W/CONC) SSMH-6	#10004 (4')
SSMH-6	122.97	115.30 (10" DIP W/CONC @ 4.43%) SSMH-5	115.25 (10" DIP W/CONC) SSMH-7	#10005 (4')
SSMH-7	114.14	106.74 (10" DIP W/CONC @ 4.77%) SSMH-6	106.49 (10" DIP W/CONC) SSMH-8	#10006 (4')
SSMH-8	106.81	101.16 (8" PVC @ 0.00%) 101.16 (10" DIP W/CONC @ 2.01%) SSMH-7	101.12 (10" DIP W/CONC) SSMH-9	#10007 (4')
SSMH-9	106.70	100.30 (10" DIP W/CONC @ 2.86%) SSMH-8 100.90 (4" PVC @ 0.00%)	100.20 (10" DIP W/CONC) SSMH-10	#10008 (4')
SSMH-10	106.97	99.92 (10" DIP W/CONC @ 1.78%) SSMH-9 100.14 (8" PVC @ 0.00%)	99.87 (10" DIP W/CONC) SSMH-11	#10009 (4')
SSMH-11	104.90	98.95 (10" DIP W/CONC @ 0.49%) SSMH-10	98.85 (10" DIP W/CONC) SSMH-12	#10010 (4')
SSMH-12	99.87	95.90 (10" DIP W/CONC @ 3.86%) SSMH-11	94.53 (10" DIP W/CONC) SSMH-13	#10011 (4')
SSMH-13	102.66	93.77 (10" DIP W/CONC @ 0.62%) SSMH-12 94.18 (8" PVC @ 0.00%)	93.63 (10" DIP W/CONC) SSMH-14	#10012 (4')
SSMH-14	104.18	93.06 (10" DIP W/CONC @ 0.43%) SSMH-13 93.75 (8" DIP W/CONC @ 0.00%)	93.05 (10" DIP W/CONC) SSMH-15	#10013 (4')
SSMH-15	102.19	91.99 (10" DIP W/CONC @ 0.50%) SSMH-14 93.39 (10" DIP W/CONC @ 0.00%)	91.29 (12" DIP W/CONC) SSMH-16	#10014 (4')
SSMH-16	100.19	88.16 (12" DIP W/CONC @ 0.90%) SSMH-15 88.37 (10" DIP W/CONC @ 0.00%)	87.74 (12" DIP W/CONC) SSMH-17	#10015 (4')
SSMH-17	85.15	78.13 (12" DIP W/CONC @ 3.33%) SSMH-16 78.53 (8" UNDEFINED MATERIAL @ 0.00%)	78.09 (12" DIP W/CONC) SSMH-18	#10016 (4')
SSMH-18	86.69	73.88 (12" DIP W/CONC @ 2.54%) SSMH-17 74.95 (8" UNDEFINED MATERIAL @ 0.00%)	73.74 (14" DIP W/CONC) SSMH-19	#10017 (4')
SSMH-19	81.05	72.85 (14" DIP W/CONC @ 1.38%) SSMH-18	72.80 (18" DIP W/CONC) SSMH-20	#10018 (4')
SSMH-20	79.89	71.97 (18" DIP W/CONC @ 1.39%) SSMH-19 70.79 (10" DIP W/CONC @ 0.00%)	70.04 (18" DIP W/CONC) SSMH-21	#10019 (4')
SSMH-21	78.33	68.53 (18" DIP W/CONC @ 0.51%) SSMH-20 69.88 (8" UNDEFINED MATERIAL @ 0.00%)	68.50 (18" DIP W/CONC) SSMH-22	#10020 (4')
SSMH-22	76.90	66.65 (18" DIP W/CONC @ 0.62%) SSMH-21 67.30 (8" UNDEFINED MATERIAL @ 0.00%)	66.54 (18" DIP W/CONC) SSMH-23	#10021 (4')
SSMH-23	75.06	65.16 (18" DIP W/CONC @ 0.46%) SSMH-22 66.96 (12" DIP W/CONC @ 0.00%)	65.06 (18" DIP W/CONC) SSMH-24	#10023 (4')
SSMH-24	74.28	64.38 (18" DIP W/CONC @ 1.22%) SSMH-23	64.28 (18" DIP W/CONC) SSMH-25	#11001 (4')
SSMH-25	74.19	63.81 (18" DIP W/CONC @ 1.88%) SSMH-24	63.57 (18" DIP W/CONC) SSMH-26	#10137 (4')
SSMH-26	74.18	62.58 (18" DIP W/CONC @ 2.90%) SSMH-25	62.00 (18" DIP W/CONC) SSMH-27	#10138 (4')
SSMH-27	73.17	59.29 (18" DIP W/CONC @ 11.25%) SSMH-26 57.74 (20" DIP W/CONC @ 0.15%) SSMH-31	57.64 (36" UNDEFINED MATERIAL)	#10139 (4')
SSMH-31	73.21	58.01 (20" DIP W/CONC @ 0.00%)	57.78 (20" DIP W/CONC) SSMH-27	#11003 (4')

SANITARY SEWER PIPE TABLE

ID	FROM STRUCTURE	INV OUT	TO STRUCTURE	INV IN	DIAMETER (in)	MATERIAL	LENGTH (ft)	SLOPE
SS-3		141.05	SSMH-2	141.05	10"	Undefined Material	50'	0.00%
SS-4	SSMH-2	141.01	SSMH-1	128.37	10"	DIP w/Conc	299'	4.23%
SS-5	SSMH-1	128.15	SSMH-4	121.83	10"	DIP w/Conc	229'	2.75%
SS-6	SSMH-4	121.71	SSMH-5	119.58	10"	DIP w/Conc	48'	4.46%
SS-7	SSMH-5	119.48	SSMH-6	115.30	10"	DIP w/Conc	94'	4.43%
SS-8	SSMH-6	115.25	SSMH-7	106.74	10"	DIP w/Conc	178'	4.77%
SS-9	SSMH-7	106.49	SSMH-8	101.16	10"	DIP w/Conc	265'	2.01%
SS-10	SSMH-8	101.12	SSMH-9	100.30	10"	DIP w/Conc	29'	2.86%
SS-11	SSMH-9	100.20	SSMH-10	99.92	10"	DIP w/Conc	16'	1.78%
SS-12	SSMH-10	99.87	SSMH-11	98.95	10"	DIP w/Conc	189'	0.49%
SS-13	SSMH-11	98.85	SSMH-12	95.90	10"	DIP w/Conc	76'	3.86%
SS-14	SSMH-12	94.53	SSMH-13	93.77	10"	DIP w/Conc	122'	0.62%
SS-15	SSMH-13	93.63	SSMH-14	93.06	10"	DIP w/Conc	133'	0.43%
SS-16	SSMH-14	93.05	SSMH-15	91.99	10"	DIP w/Conc	213'	0.50%
SS-17	SSMH-15	91.29	SSMH-16	88.16	12"	DIP w/Conc	349'	0.90%
SS-18	SSMH-16	87.74	SSMH-17	78.13	12"	DIP w/Conc	289'	3.33%
SS-19	SSMH-17	78.09	SSMH-18	73.88	12"	DIP w/Conc	166'	2.54%
SS-20	SSMH-18	73.74	SSMH-19	72.85	14"	DIP w/Conc	65'	1.38%
SS-21	SSMH-19	72.80	SSMH-20	71.97	18"	DIP w/Conc	60'	1.39%
SS-22	SSMH-20	70.04	SSMH-21	68.53	18"	DIP w/Conc	297'	0.51%
SS-23	SSMH-21	68.50	SSMH-22	66.65	18"	DIP w/Conc	300'	0.62%
SS-24	SSMH-22	66.54	SSMH-23	65.16	18"	DIP w/Conc	300'	0.46%
SS-25	SSMH-23	65.06	SSMH-24	64.38	18"	DIP w/Conc	56'	1.22%
SS-26		66.96	SSMH-23	66.96	12"	DIP w/Conc	43'	0.00%
SS-27		67.30	SSMH-22	67.30	8"	Undefined Material	27'	0.00%
SS-28		69.88	SSMH-21	69.88	8"	Undefined Material	42'	0.00%
SS-29		70.79	SSMH-20	70.79	10"	DIP w/Conc	38'	0.00%
SS-30		74.95	SSMH-18	74.95	8"	Undefined Material	34'	0.00%
SS-31		78.53	SSMH-17	78.53	8"	Undefined Material	47'	0.00%
SS-32		88.37	SSMH-16	88.37	10"	DIP w/Conc	25'	0.00%
SS-33		93.39	SSMH-15	93.39	10"	DIP w/Conc	42'	0.00%
SS-34		93.75	SSMH-14	93.75	8"	DIP w/Conc	26'	0.00%
SS-35		94.18	SSMH-13	94.18	8"	PVC	17'	0.00%
SS-36		100.14	SSMH-10	100.14	8"	PVC	24'	0.00%
SS-37		100.90	SSMH-9	100.90	4"	PVC	30'	0.00%
SS-38		101.16	SSMH-8	101.16	8"	PVC	29'	0.00%
SS-40	SSMH-25	63.57	SSMH-26	62.58	18"	DIP w/Conc	34'	2.90%
SS-41	SSMH-26	62.00	SSMH-27	59.29	18"	DIP w/Conc	24'	11.25%
SS-42	SSMH-24	64.28	SSMH-25	63.81	18"	DIP w/Conc	25'	1.88%
SS-43	SSMH-31	57.78	SSMH-27	57.74	20"	DIP w/Conc	27'	0.15%
SS-44	SSMH-31	58.01		58.01	20"	DIP w/Conc	124'	0.00%
SS-45	SSMH-27	57.64		57.64	36"	Undefined Material	80'	0.00%

EXISTING TREE TABLE

TREE NUMBER	TREE SIZE DBH*	BOTANICAL NAME	COMMON NAME	COMMENTS	SAVE OR REMOVE TREE
10	2.5"	Prunus serrulata "kwanzan"	Kwanzan Flowering Cherry		To Be Removed
11	2.5"	Prunus serrulata "kwanzan"	Kwanzan Flowering Cherry		To Be Removed
12	3.5"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	To Be Removed
13	3.5"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	To Be Removed
14	4"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	Save this Tree.
15	3.5"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	Save this Tree.
16	3.5"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	Save this Tree.
17	4"	Acer spp.	Dwarf Japanese Maple		To Be Removed
18	4"	Acer spp.	Dwarf Japanese Maple		To Be Removed
24	8"	x Cupressocyparis leylandii	Leyland Cypress		To Be Removed
25	8"	x Cupressocyparis leylandii	Leyland Cypress		To Be Removed
26	8"	x Cupressocyparis leylandii	Leyland Cypress		To Be Removed
27	8"	x Cupressocyparis leylandii	Leyland Cypress		To Be Removed
915	15"	Acer Rubrum	Red Maple		Save this Tree.
916	15"	Acer Rubrum	Red Maple		Save this Tree.
917	12"	Acer Rubrum	Red Maple		Save this Tree.
918	22"	Acer Rubrum	Red Maple		Save this Tree.
919	15"	Prunus serotina	BLACK CHERRY		To Be Removed
920	12"	Zelkova serrata	Zelkova		To Be Removed
921	9"	Zelkova serrata	Zelkova		To Be Removed
922	15"	Zelkova serrata	Zelkova		To Be Removed
969	9"	Acer Palmatum	Japanese Maple	twin	Save this Tree.
1234	10"	Zelkova serrata	Zelkova		To Be Removed
1235	10"	Prunus serrulata "kwanzan"	Kwanzan Flowering Cherry		To Be Removed
1236	6"	Prunus serrulata "kwanzan"	Kwanzan Flowering Cherry		To Be Removed
1237	15"	Prunus serrulata "kwanzan"	Kwanzan Flowering Cherry		To Be Removed
1238	13"	Acer Palmatum	Japanese Maple		To Be Removed
1239	13"	Acer Palmatum	Japanese Maple		Save this Tree.
1247	25"	Acer rubrum	Red Maple		To Be Removed
1248	15"	Pinus thunbergiana	Japanese Black Pine		To Be Removed
1249	6"	Pinus thunbergiana	Japanese Black Pine		To Be Removed
1250	15"	Robinia pseudoacacia	Black locust	Twin trunk	To Be Removed
1336	15"	Prunus serotina	Black Cherry		Save this Tree.
1337	8"	Sassafras albidum	Common Sassafras		Save this Tree.
1338	8"	Sassafras albidum	Common Sassafras		Save this Tree.
1339	15"	Prunus serotina	Black Cherry		Save this Tree.
1340	8"	Prunus serotina	Black Cherry		Save this Tree.
1341	12"	Robinia pseudoacacia	Black locust		Save this Tree.
1342	14"	Carya spp.	Hickory		Save this Tree.
1343	18":	Robinia pseudoacacia	Black locust		Save this Tree.
1344	20"	Acer Rubrum	Red Maple		Save this Tree.
1345	10"	Robinia pseudoacacia	Black locust		Save this Tree.
1361	15"	x Cupressocyparis leylandii	Leyland Cypress		Save this Tree.
1365	15"	x Cupressocyparis leylandii	Leyland Cypress		Save this Tree.
1392	20"	Prunus serotina	Black Cherry		Save this Tree.
1393	12"	Morus alba	Common Mulberry		Save this Tree.
1394	18"	Prunus serotina	Black Cherry		Save this Tree.
1460	15"	Pinus strobus	white Pine		Save this Tree.
1461	13"	Pinus strobus	white Pine		Save this Tree.
1463	19"	Pinus strobus	white Pine		Save this Tree.
1464	12"	Pinus strobus	white Pine		Save this Tree.
1490	13"	Robinia pseudoacacia	Black Locust		Save this Tree.
1577	12"	x Cupressocyparis leylandii	Leyland Cypress		Save this Tree.
1578	12"	x Cupressocyparis leylandii	Leyland Cypress		Save this Tree.
1579	12"	Pinus strobus	White Pine		Save this Tree.
1580	12"	Pinus strobus	White Pine		Save this Tree.
1581	12"	Pinus strobus	White Pine		Save this Tree.
1582	12"	Pinus strobus	White Pine		Save this Tree.
1583	12"	Pinus strobus	White Pine		Save this Tree.
1584	15"	Pinus strobus	White Pine		Save this Tree.
1668	12"	Pinus strobus	White Pine		Save this Tree.
1669	15"	Pinus strobus	White Pine		Save this Tree.
1670	15"	Pinus strobus	White Pine		Save this Tree.
1671	18"	Pinus strobus	White Pine		Save this Tree.
1671	18"	Pinus strobus	White Pine		Save this Tree.
1671	18"	Pinus strobus	White Pine		Save this Tree.
1672	12"	Pinus strobus	White Pine		Save this Tree.
1687	12"	Pinus strobus	White Pine		Save this Tree.
1688	12"	Pinus strobus	White Pine		Save this Tree.
1689	15"	Pinus strobus	White Pine		Save this Tree.
1690	13"	Pinus strobus	White Pine		Save this Tree.
1691	15"	Pinus strobus	White Pine		Save this Tree.
1692	15"	Pinus strobus	White Pine		Save this Tree.
1693	15"	Pinus strobus	White Pine		Save this Tree.
1694	8"	Pinus strobus	White Pine		Save this Tree.
1695	15"	Pinus strobus	White Pine		Save this Tree.
1696	10"	Pinus strobus	White Pine		Save this Tree.
					Save this Tree
1828	7"	Cornus florida	Dogwood		Save this Tree
1829	11"	Cornus florida	Dogwood		Save this Tree.
1830	9"	Cornus florida	Dogwood	Multi-stem	Save this Tree
1831	3"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	To Be Removed
1832	3"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	To Be Removed
1833	3"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	Save this Tree.
1834	3"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	Save this Tree.
1835	3"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	Save this Tree.
1836	2.5"	Lagerstroemia spp.	Crape Myrtle	Multi-stem	To Be Removed
1879	32"	Quercus rubra	Northern Red Oak		
2053	8"	Morus alba	Common Mulberry		Save this Tree.
2054	22"	Morus alba	Common Mulberry		Save this Tree.
2055	8"	Pinus strobus	White Pine		Save this Tree.
2056	12"	Pinus strobus	White Pine		Save this Tree.
2057	12"	Pinus strobus	White Pine		Save this Tree.
2058	12"	Pinus strobus	White Pine		Save this Tree.
2059	8"	Acer rubrum	Red Maple		Save this Tree.
2060	8"	Acer rubrum	Red Maple		Save this Tree.
2061	12"	Acer rubrum	Red Maple		Save this Tree.
2062	15"	Ulmus americana	American Elm		Save this Tree.
2063	8"	Prunus serotina	Black Cherry		Save this Tree.
2064	15"	Prunus serotina	Black Cherry		Save this Tree.
2065	10"	Acer rubrum	Red Maple		Save this Tree.
2066	12"	Acer rubrum	Red Maple		Save this Tree.
2067	12"	Prunus serotina	Black Cherry		Save this Tree.
2068	12"	Prunus serotina	Black Cherry		Save this Tree.
2124	10"	Acer rubrum	Red Maple		Save this Tree.
2125	15"	Acer rubrum	Red Maple		Save this Tree.
2126	15"	Prunus serotina	Black Cherry		Save this Tree.
2128	10"	Prunus serotina	Black Cherry		Save this Tree.
2129	10"	Lirodendron tulipifera	Tulip Poplar		Save this Tree.
2130	10"	Quercus spp.	Oak		Save this Tree.
2131	8"	Robinia pseudoacacia	Black Locust		Save this Tree.
2132	12"	Sassafras albidum	Common Sassafras		Save this Tree.
3147	8"	Malus spp.	Crab Apple		To Be Removed
3233	25"	Pinus strobus	White Pine		Save this Tree.
3234	12"	Robinia pseudoacacia	Black Locust		Save this Tree.
3253	12"	Prunus serotina	Black Cherry		Save this Tree.
3254	12"	Robinia pseudoacacia	Black Locust		Save this Tree.
3255	12"	Robinia pseudoacacia	Black Locust		Save this Tree.
3256	15"	Acer rubrum	Red Maple		Save this Tree.
3730	8"	Morus alba	Common Mulberry		Save this Tree.
3732	18"	Lirodendron tulipifera	tulip Poplar		Save this Tree.
3734	8"	Morus alba	Common Mulberry		Save this Tree.
3736	24"	Lirodendron tulipifera	tulip Poplar		Save this Tree.
3743	12"	Acer rubrum	Red Maple		Save this Tree.
3763	15"	Liquidambar styraciflua	Sweetgum		Save this Tree.

* DBH TREES DIAMETER MEASURED AT BREAST HEIGHT OR 4.5 FEET ABOVE FINISH GRADE.

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR ____ DATE ____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
DIRECTOR ____ DATE ____
CHAIRMAN, PLANNING COMMISSION ____ DATE ____
DATE RECORDED ____
INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

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REVISIONS
NO.	DATE	BY

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DEVELOPMENT PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS NOTES & TABLES

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

NORTH

PROJECT NO.	NPRP1501
SHEET	5 OF 22
SCALE	N/A
DATE	2015-07-20
DRAWN BY	PAI
APPROVED	DHS
DRAWING NO.	CS0005

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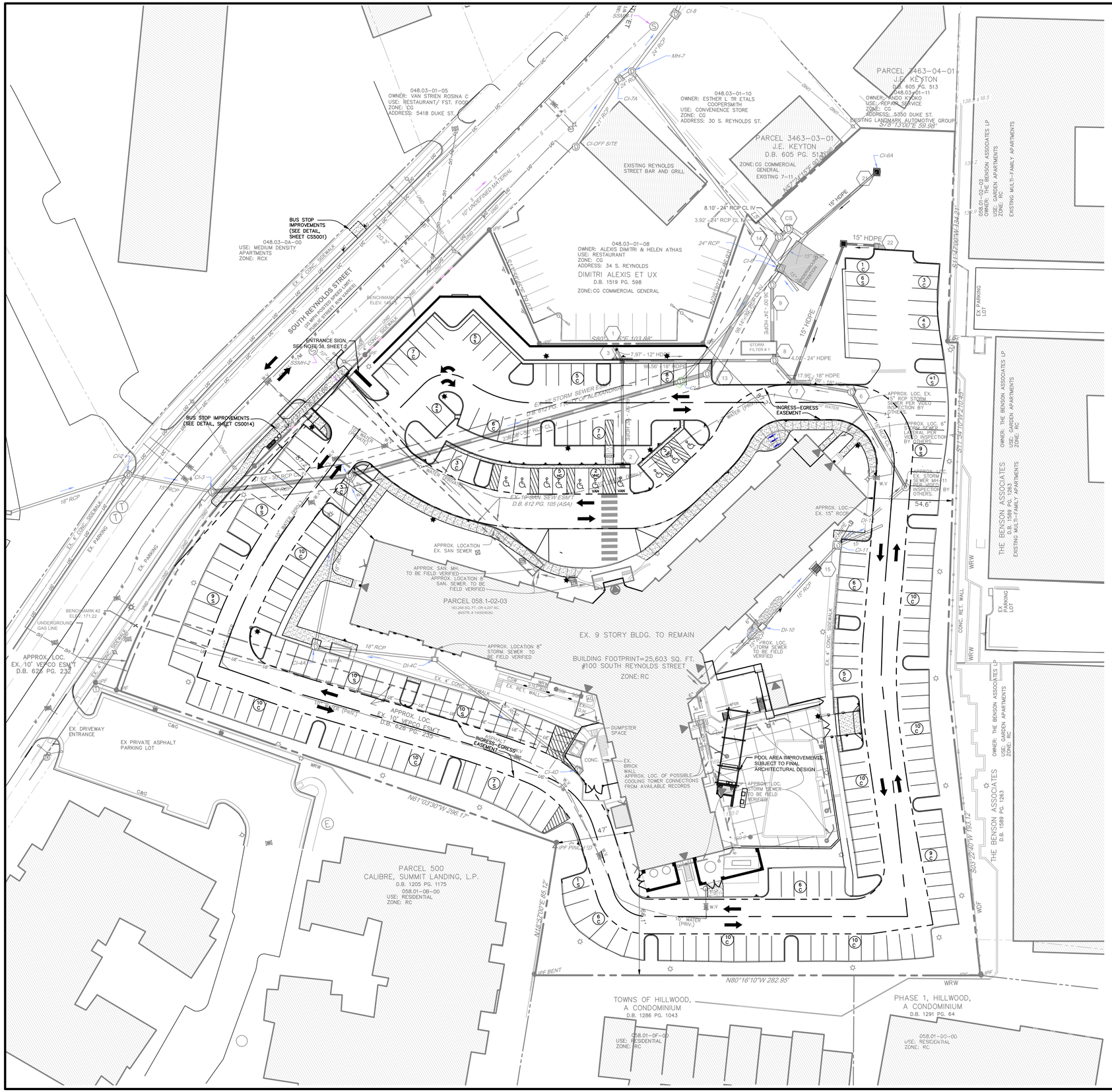

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BY	REVISIONS	NO.	DATE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT PRELIMINARY SITE PLAN DSP 2015-0020

PRELIMINARY SITE PLAN

THE MARK

100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

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SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. DSP2015 - 0020

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

NORTH

PROJECT NO. NPRP1501

SHEET 6 OF 22

SCALE	DATE
1" = 30'	2015-07-20
DRAWN BY: PAI	APPROVED: DHS

DRAWING NO. CS0006

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13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

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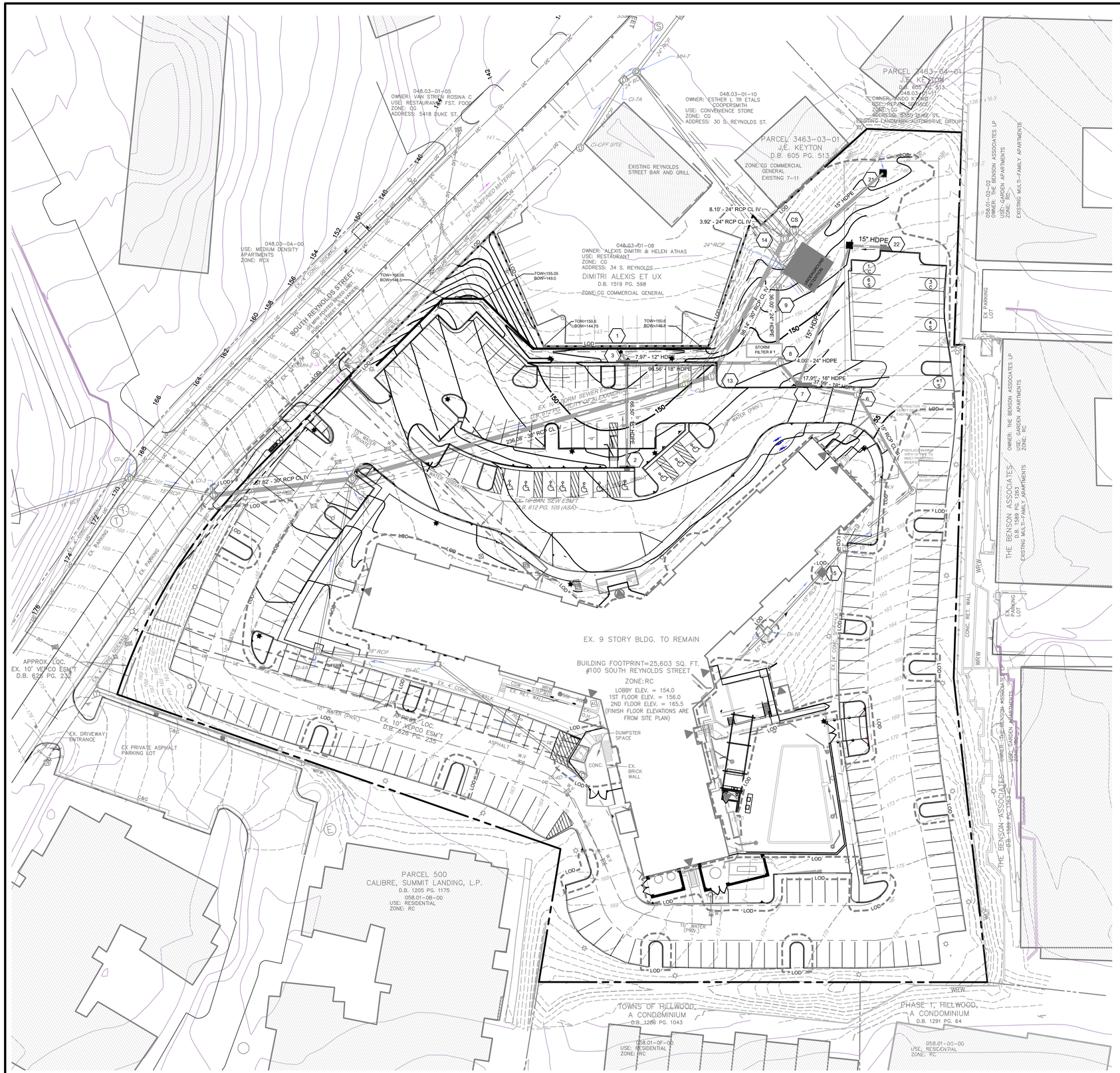

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ _____
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
_____ _____
DIRECTOR DATE
_____ _____
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
_____ _____ _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

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DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

PRELIMINARY GRADING PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

NORTH

PROJECT NO. NPRP1501
SHEET 7 OF 22

SCALE 1" = 30'
DATE 2015-07-20
DRAWN BY PAI
APPROVED DHS
DRAWING NO. CS0007

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

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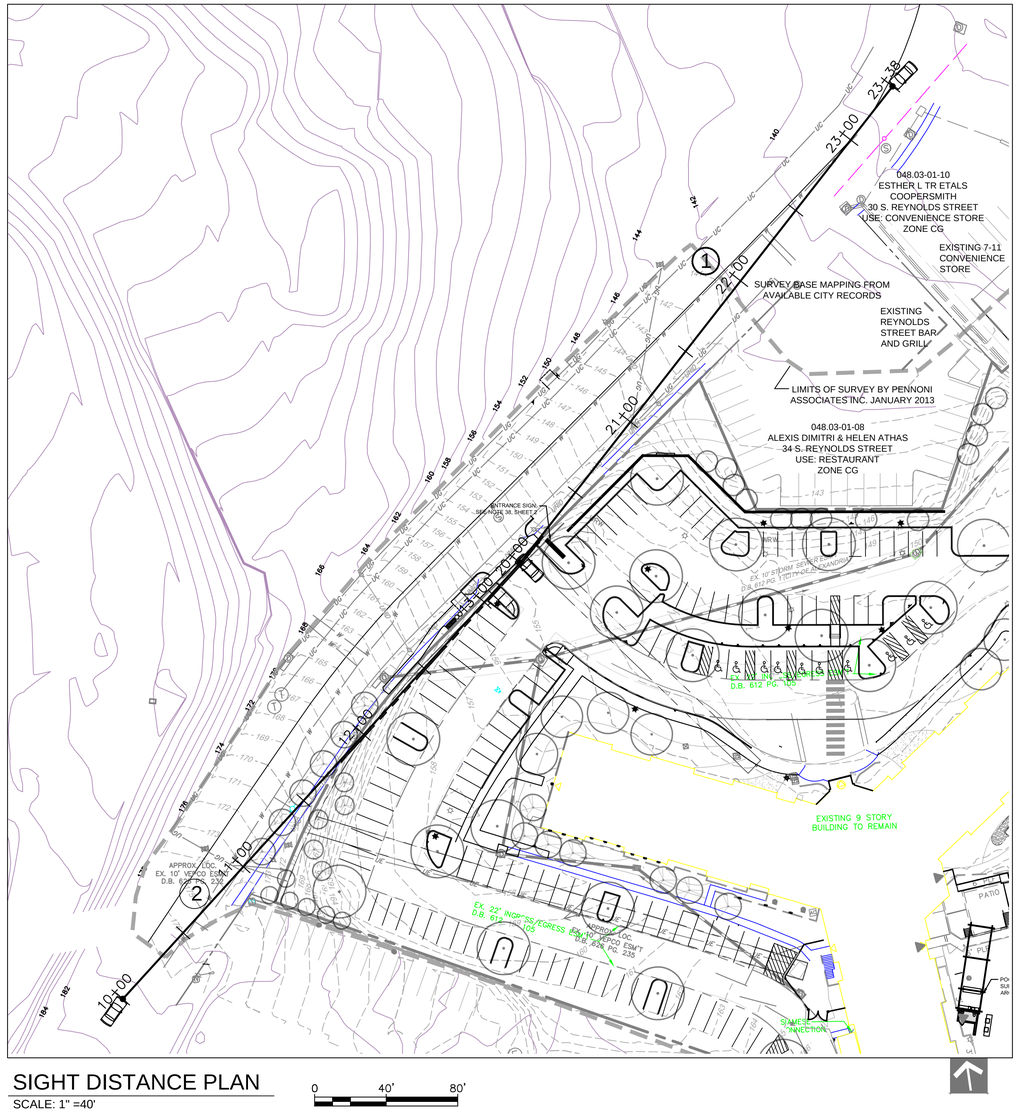


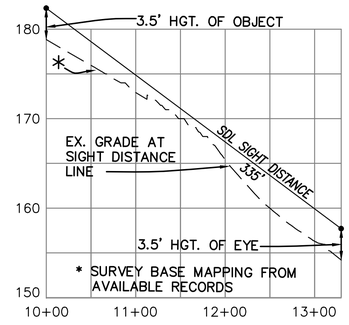
SIGHT DISTANCE PLAN

SCALE: 1" =40'

0 40' 80'

NOTES:

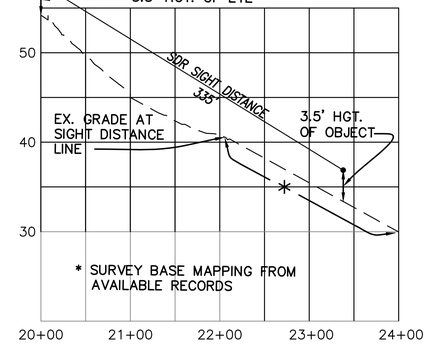
1. ALL STREET TREES SHALL BE LIMBED UP TO 7' TO ALLOW FOR SIGHT DISTANCE.
2. ON STREET PARKING WITHIN SIGHT DISTANCE SHALL BE ELIMINATED.



1 INTERSECTION SIGHT DISTANCE AT SITE ENTRANCE LOOKING RIGHT

DESIGN SPEED = 30 MPH
POSTED SPEED = 25 MPH

SCALE: 1" = 80'



2 INTERSECTION SIGHT DISTANCE AT SITE ENTRANCE LOOKING LEFT

DESIGN SPEED = 30 MPH
POSTED SPEED = 25 MPH

SCALE: 1" = 80'

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ _____
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
_____ _____
DIRECTOR DATE
_____ _____
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
_____ _____ _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Pennoni

BY	REVISIONS	NO.	DATE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

SIGHT DISTANCE PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

PROJECT NO. NPRP1501
NORTH
SHEET 8 OF 22

SCALE	DATE
AS SHOWN	2015-07-20
DRAWN BY	APPROVED
PAI	DHS

DRAWING NO. CS0008

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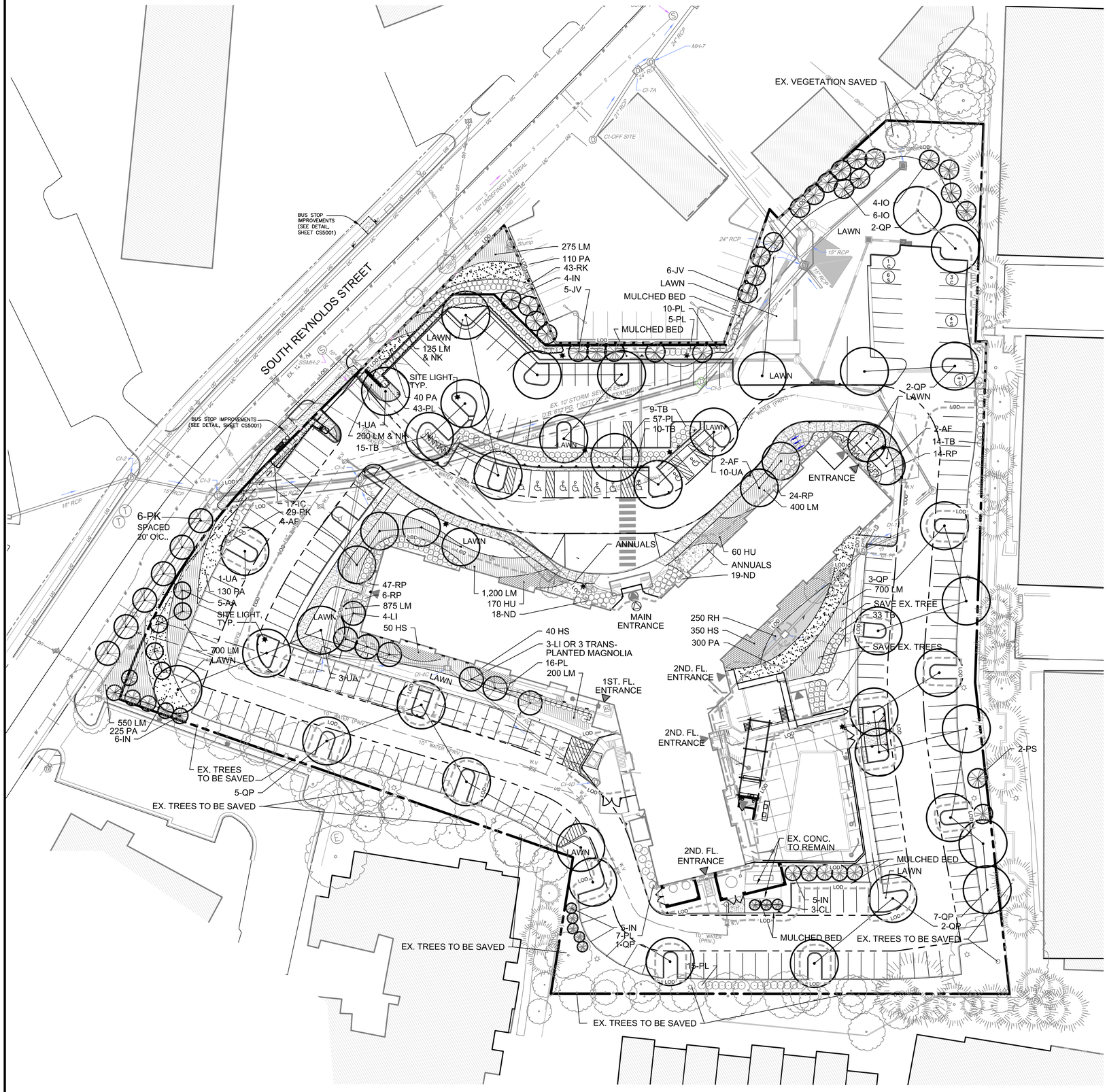

NOTES

1. THIS PLAN IS FOR LANDSCAPE PURPOSES ONLY.
2. SEE LANDSCAPE NOTES AND DETAILS, SHEET 10, FOR PLANT SCHEDULE AND PLANTING DETAILS.
3. SEE EXISTING CONDITIONS PLAN SHEET 4, AND EXISTING CONDITIONS NOTES AND TABLES SHEET 5, FOR LOCATIONS, SPECIES, AND SIZES OF EXISTING TREES; AND FOR DESIGNATION OF TREES TO BE PRESERVED AND TO BE REMOVED.
4. EXISTING SHRUBS, GROUND COVERS, AND PERENNIALS MAY BE PRESERVED AND USED IN PLACE OF PROPOSED SHRUBS, GROUND COVERS, AND PERENNIALS IF APPROVED BY LANDSCAPE ARCHITECT.
5. AS TREES WITHIN SIGHT DISTANCE AREAS MATURE, THEY SHALL BE LIMBED TO 6 FT. ABOVE FINISH GRADE TO ALLOW FOR ADEQUATE SIGHT DISTANCE.
6. AIR CONDITIONING UNITS, AND OTHER UTILITIES VISIBLE ABOVE GRADE, SHALL BE SCREENED WITH EXISTING AND PROPOSED LANDSCAPING.
7. ALL PARKING LOT ISLANDS WILL BE PLANTED WITH SHRUBS AND GROUNDCOVER, TO BE DETERMINED AT FINAL DESIGN.

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED

SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. DSP2015 - 0020

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

LANDSCAPE PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

NORTH

PROJECT NO. NPRP1501

SHEET 09 OF 22

SCALE	DATE
1" = 30'	2015-07-20
DRAWN BY: PAI	APPROVED: DHS

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13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

PLANTING NOTES

General

1. Unless specified otherwise, all landscape work shall be performed in accordance with the current and most up-to date edition of the Landscape Specification Guidelines, as produced by the Landscape Contractors Association (LCA) of Maryland, District of Columbia, and Virginia; Gaithersburg, MD
2. All plant specification shall be in compliance with ANSI-Z60.1-The American Standard for Nursery Stock as produced by the American Association of Nurserymen; Washington, DC.
3. Quantities shown in the plant schedule are given for the contractor's convenience. The contractor shall install all plant material shown or noted on the plans.
4. No changes to plant schedule unless first approved by the Landscape Architect.
5. Provide Plants typical of their species or variety, with normally developed branches and vigorous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscale injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestations.
6. Material for walls shall be brick to match or blend with building brick. Wall cap shall be precast or brick, to be determined at final design.

Installation

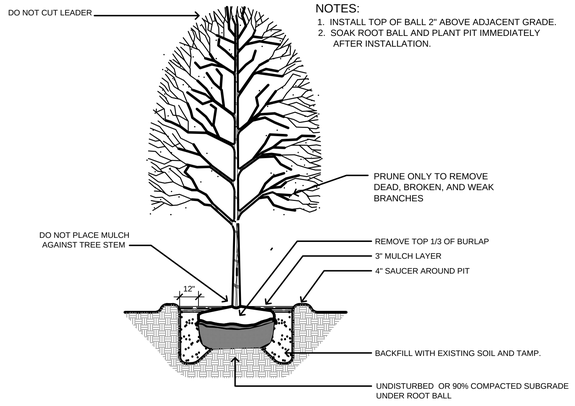
7. Call Miss Utility before beginning any planting operations.
8. Plant deciduous materials in a dormant condition. Plant evergreen materials between September 1 and December 1 or in spring before new growth begins. Spray plants with anti-desiccant if to be planted at other times.
9. All planting holes to be free of rocks, gravel and other debris. See details for planting procedures.
10. Backfill trees and shrubs with topsoil and peatmoss (or leaf mold) at 3 to 1 ratio by volume.
11. Mulch tree and shrub planting pits and shrub beds with 100% shredded hardwood bark mulch 3" deep.
12. The contractor shall remove all dead wood or suckers and all broken or badly bruised branches, in accordance with the American Association of Nurserymen standards, to preserve the natural character of the plant.
13. Seasonal Color shall denote annual beds for plantings on a quarterly rotation.
14. Lawn areas shall be seeded with superior specification type(s). Species and type shall be approved varieties by the Virginia Department of Agriculture or University of Maryland and be readily available in certified form.

Maintenance

15. Maintenance of all trees and landscape material shall be conform to accepted industry standards set forth by the Landscape Contractors Association, the International Society of Arboriculture, and the American Standards Institute.
16. All shrubs shall be pruned to maintain a height no greater than 2'-6".
17. As proposed trees mature, they are to be limbed up a minimum of 6 feet to enhance natural surveillance.

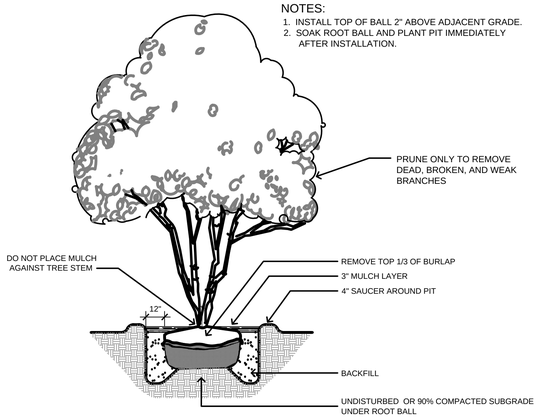
Tree Protection Notes

1. Tree Preservation work shall be under supervision of a professional Arborist. All Tree Preservation work shall meet or exceed industry standards as stated in most recently published standards by the International Society of Arboriculture (ISA), American National Standards Institute (ANSI), or National Arborist Association (NAA).
2. Prior to any construction activity, all trees shown to be preserved on the Landscape Plan shall be protected by tree protection fencing (see detail 5, this sheet), placed at the dripline of the trees to be preserved, or at the final limits of clearing and grading shown on the final approved site plan, whichever is at a greater distance from the trunk of the tree being preserved. The tree protection fencing shall have signs posted on it stating that it is a tree protection area and no entry is permitted. The Arborist shall inspect the installed tree protection fencing prior to any demolition or construction activity.
3. All construction activity beyond the limits of clearing and grading shown on the final approved site plan and Landscape Plan shall be prohibited unless previously approved by the City. Within the Tree Protection Areas, there shall be no storage of equipment or materials, no disposal of materials, nor any other disturbance or construction activity.
4. Arboricultural treatments that are recommended by the Arborist will be performed. These treatments may include root pruning, fertilization, and pruning of tree limbs.



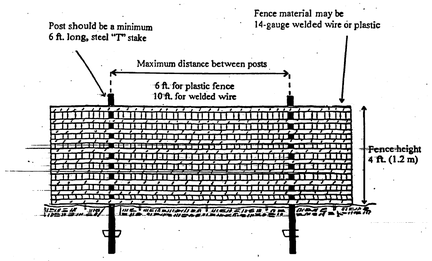
NOTES:
1. INSTALL TOP OF BALL 2" ABOVE ADJACENT GRADE.
2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.

1 LARGE SHADE TREE PLANTING DETAIL (2" CAL. & LARGER)
NOT TO SCALE

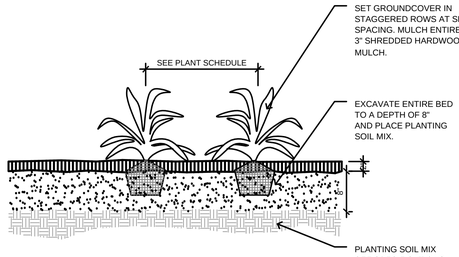


NOTES:
1. INSTALL TOP OF BALL 2" ABOVE ADJACENT GRADE.
2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.

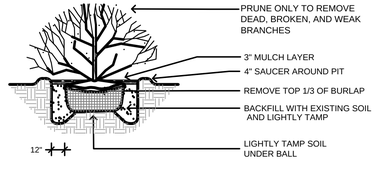
2 MULTI-STEM ORNAMENTAL TREE PLANTING DETAIL
NOT TO SCALE



3 TREE PROTECTION FENCE INSTALLATION DETAIL
NOT TO SCALE



4 GROUNDCOVER PLANTING DETAIL
NOT TO SCALE



5 SHRUB PLANTING DETAIL
NOT TO SCALE

CROWN COVERAGE CALCULATIONS

Crown Coverage Required

TOTAL SITE AREA:	183,268 ± SF	
TOTAL CROWN COVERAGE REQUIRED:	45,817 SF	(25%)
TOTAL CROWN COVERAGE PROVIDED:		
AREA OF EXISTING TREES TO BE SAVED ON-SITE	7,770 SF	
PROPOSED TREE PLANTING	64,250 SF	
TOTAL PROVIDED	72,020 SF	(39.2%)

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	UNIT TREE COVER	TREE QTY. ON-SITE	ON-SITE TREE COVER
DECIDUOUS TREES								
AF	8	Acer x fremanii 'Armstrong'	'Armstong' Maple	2.5" cal.	Single stem, B&B or cont.,well-branched, matched specimens	500 S.F.	8	4,000 S.F.
QP	23	Quercus phellos	Willow Oak	2.5" cal.	Single stem, B&B or cont.,well-branched specimens	1,250 S.F.	23	28,750 S.F.
UA	15	Ulmus americana 'Princeton'	Princeton Elm	2.5" cal.	Single stem, B&B or cont.,well-branched, matched specimens	1,250 S.F.	15	18,750 S.F.
ORNAMENTAL TREES								
AA	5	Amelanchier arborea	Shad Blow Serviceberry	8' Ht.	Multi-Stem, B&B or cont.,well-branched specimens	250 S.F.	5	1,250 S.F.
LI	7	Lagerstroema indica ' Natchez'	Natchez Crepe Myrtle	8' Ht.	Multi-Stem, B&B or cont.,well-branched specimens	250 S.F.	7	1,750 S.F.
PK	6	Prunus serrulata 'Kwanzan'	Kwanzan Cherry	8' Ht.	Single-Stem, B&B or cont.,well-branched specimens	500 S.F.	0	0
EVERGREEN TREES								
IO	10	Ilex opaca	American Holly	8' ht.	B&B or cont.,well-branched, matched specimens	250 S.F.	10	2,500 S.F.
IN	20	Ilex x 'Nellie R. Stevens'	Nelle Stevens Holly	8' ht	B&B or cont.,well-branched, matched specimens	250 S.F.	19	4,750 S.F.
CL	3	Chamaecyparis lawsoniana 'Kilmacurragh'	Kilmacurragh False Cypress	4' ht.	B&B or cont.,well-branched, matched specimens			
JV	6	Juniperus virginiana 'Princeton Sentry'	Princeton Sentry Eastern Red Cedar	8' ht.	B&B or cont.,well-branched, matched specimens	250 S.F.	6	1,500 S.F.
PS	2	Pinus strobus	Eastern White Pine	8' ht.	B&B or cont.,well-branched, matched specimens	500 S.F.	2	1,000 S.F.
SHRUBS								
ND	37	Nandina domestica 'Harbor Dwarf'	Harbor Dwarf Heavenly Bamboo	18-24"	B&B or cont.,well-branched, dense			
IC	17	Ilex crenata 'Helleri'	Helleri Holly	15-18"	B&B or cont.,well-branched, dense			
PL	148	Prunus laurocerasus 'Otto Luyken'	Otto Luyken Cherry Laurel	18-24"	B&B or cont.,well-branched, dense			
RP	91	Rhododendron 'PJM'	PJM Rhododendron	18-24"	B&B or cont.,well-branched, dense			
RK	72	Rosa x 'Radtko' Double Knock Out	Knock Out Rose	18-24"	B&B or cont.,well-branched, dense			
TB	100	Taxus baccata 'Repandens'	English Weeping Yew	18-24"	B&B or cont.,well-branched, dense			
GROUND COVERS & PERENNIALS								
HS	440	Hemerocallis 'Stella D'Oro'	Yellow Daylily	1 gal	triangularly spaced 18" O.C.			
HU	230	Hosta undulata ' Alba Marginata'	Plantain Lily	1 gal	triangularly spaced 18" O.C.			
LM	4,425	Liriope muscari 'Big Blue'	Green Lilyturf	4" pots	triangularly spaced 12" O.C.			
NK	325	Narcissus 'King Alfred'	King Alfred Daffodil	Bulbs	triangularly spaced 10" O.C.			
PA	805	Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass	1 gal	triangularly spaced 24" O.C.			
RH	250	Rudbeckia hirta	Black Eyed Susan	1 gal	triangularly spaced 18" O.C.			
TOTAL TREE COVER TO BE PLANTED ON-SITE								64,250 S.F.

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

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DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015- 0020
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
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BY	REVISIONS	NO.	DATE

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DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
1100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

LANDSCAPE NOTES AND DETAILS

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

NORTH

PROJECT NO. NPRP1501
SHEET 10 OF 22

SCALE NO SCALE | DATE 2015-07-20
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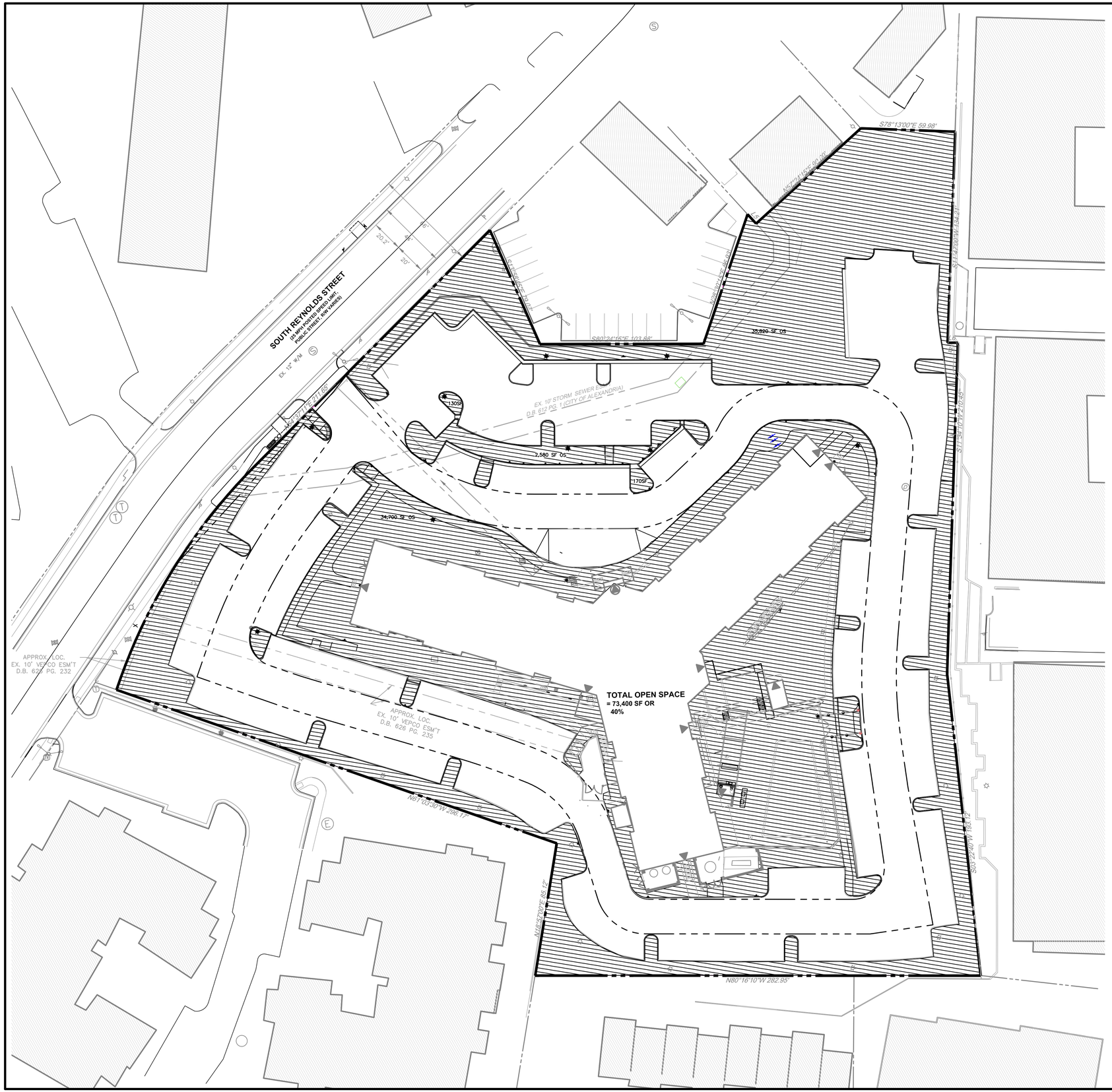

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DAVID H. STEIGLER
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07-20-2015
LANDSCAPE ARCHITECT

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CHAIRMAN, PLANNING COMMISSION DATE

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DEVELOPMENT PRELIMINARY SITE PLAN DSP2015–0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

OPEN SPACE PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

NORTH	PROJECT NO. NPRP1501
	SHEET 11 OF 22
SCALE 1" = 30'	DATE 2015–07–20
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DRAWING NO. CS0011	

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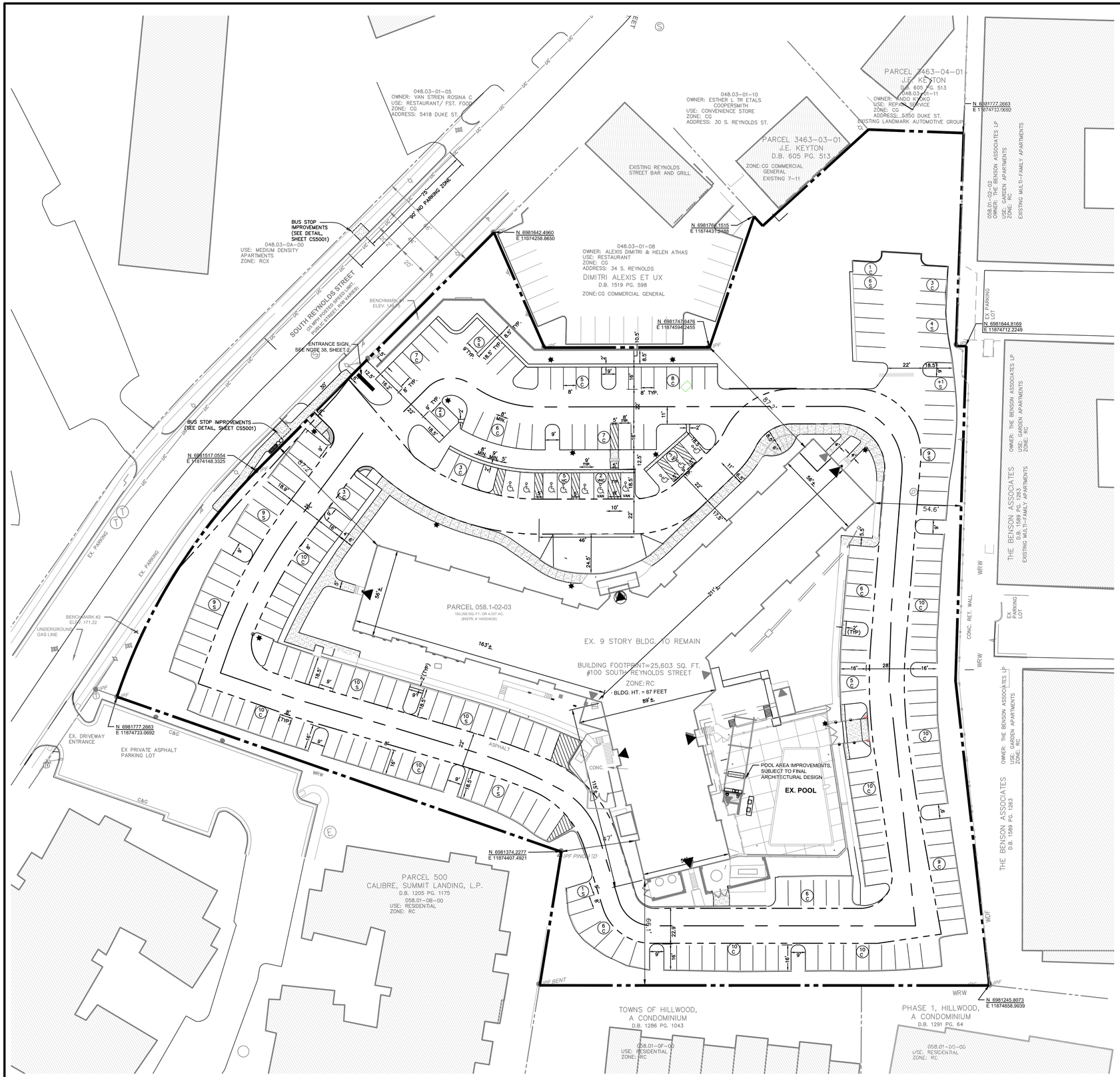

LEGEND:

MAIN ACCESS

DOOR

THE DIMENSIONS SHOWN ON THIS PLAN ARE INTENDED FOR INFORMATIONAL PURPOSES ONLY, AS PART OF THIS DSP SUBMISSION.

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
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CHAIRMAN, PLANNING COMMISSION _____ DATE _____

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PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

GIS DIMENSION PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT NO. NPRP1501

SHEET 12 OF 22

SCALE	DATE
1" = 30'	2015-07-20
DRAWN BY: PAI	APPROVED: DHS

DRAWING NO. CS0012

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

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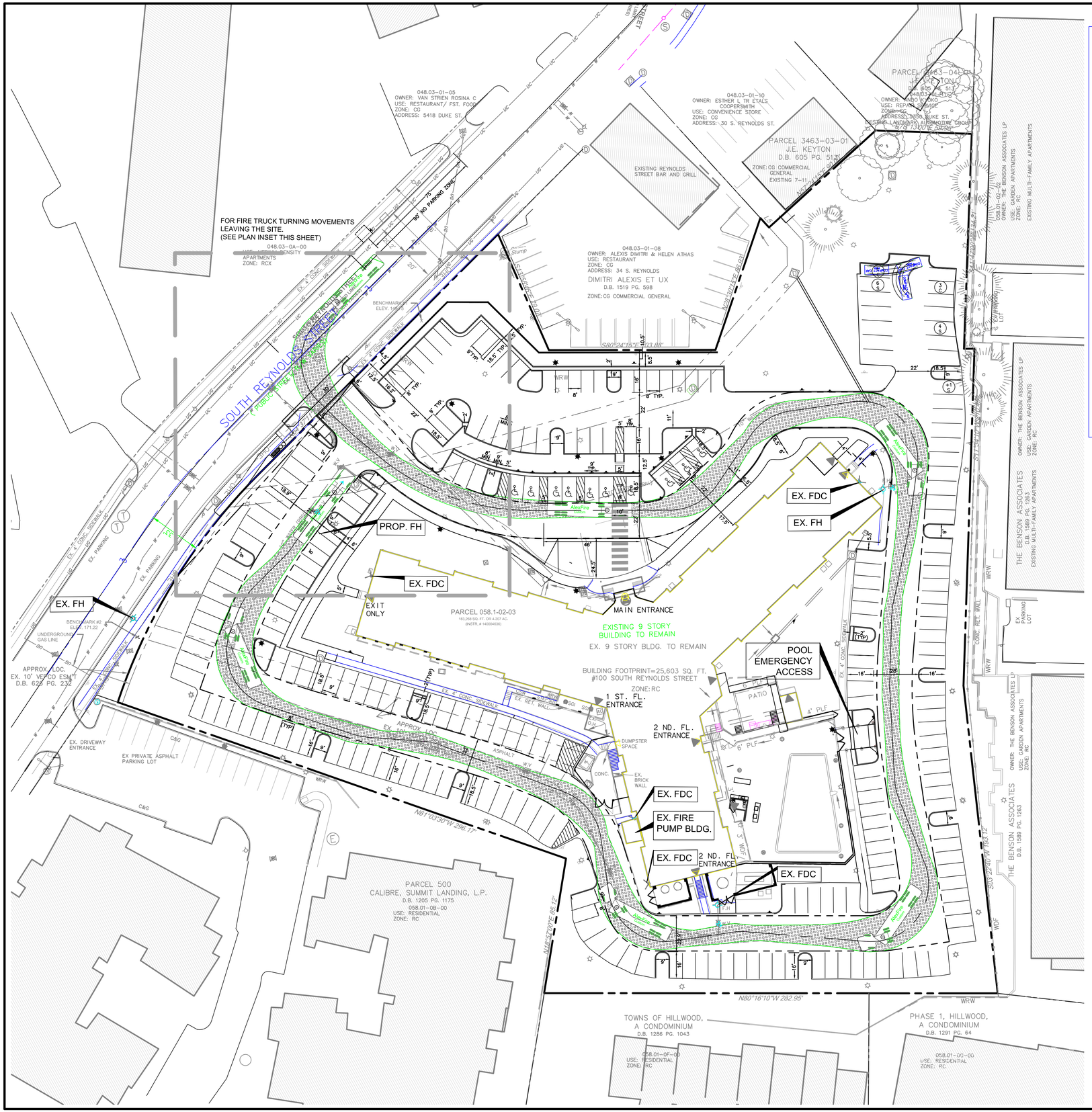
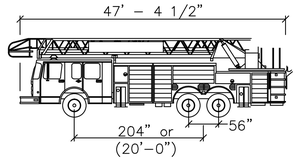




- TURNING RADIUS:
  WALL TO WALL = 54.98 FEET ± 2 FEET
  CURB TO CURB = 51.33 FEET ± 2 FEET
  INSIDE TURNING RADIUS = 37.73 FEET ±
- GROSS WEIGHT – AS BUILT WITH NO EQUIPTMENT OR WATER GROSS WEIGHT= 66,000LBS
- ANGLE OF APPROACH – 13 DEGREES
- ANGLE OF DEPARTURE– 11 DEGREES
- RAMP BREAK OVER – BREAK OVER ANGLE IS 9 DEGREES
- OVERALL WIDTH – 98"
- TANDEM AXLE SPACING – 56" CL OF AXLE TO CL OF AXLE

TRACTOR DRAWN AERIAL FIRE APPARATUS - TRUCK 203

FIRE TRUCK TURNING DATA – PROVIDED BY ALEX. FIRE MARSHALL SCALE: 1"=10'

LEGEND:

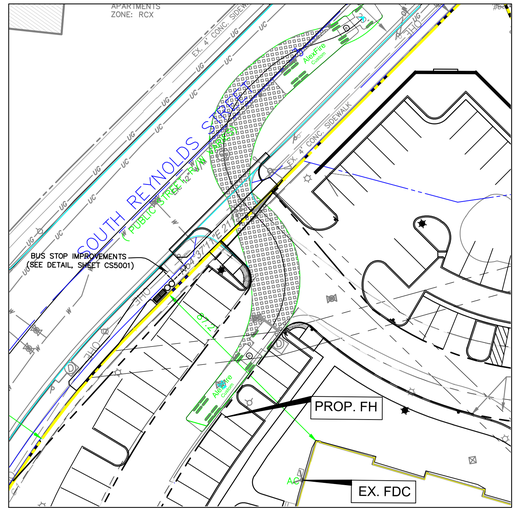
MAIN ACCESS

DOOR

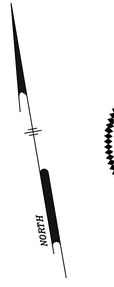
EX. FIRE HYDRANT

EX. FIRE DEPT. CONNECTION

PROP. FIRE HYDRANT



FIRE TRUCK EGRESS ON TO SOUTH REYNOLDS STREET



0 30' 60'

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Lic. No. 609
07-20-2015
LANDSCAPE ARCHITECT

APPROVED

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CHAIRMAN, PLANNING COMMISSION _____ DATE _____

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PRELIMINARY SITE PLAN
DSP2015–0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

FIRE TRUCK PLAN

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

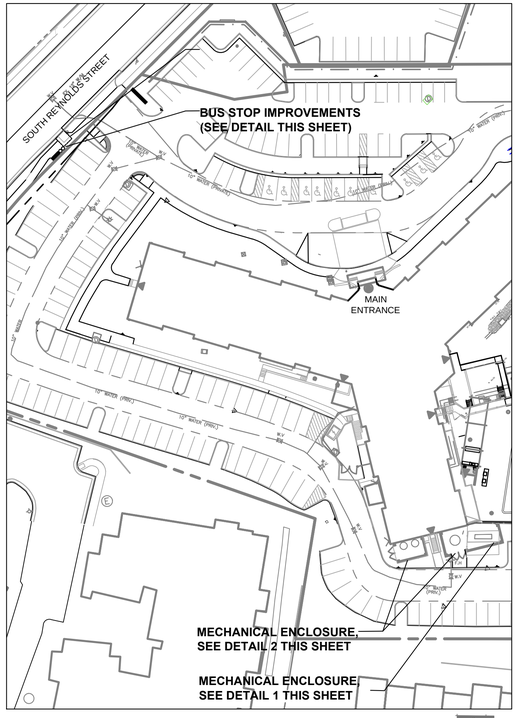
PROJECT NO. NPRP1501

SHEET 13 OF 22

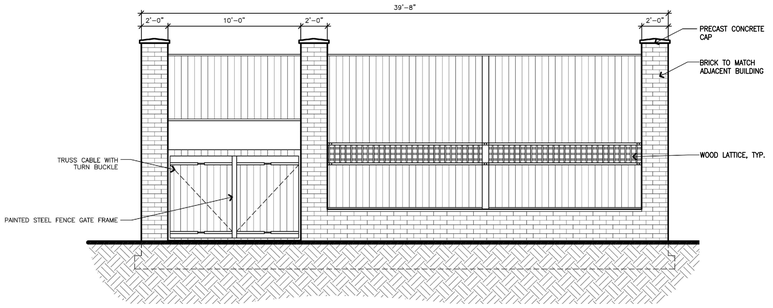
SCALE	DATE
1" = 30'	2015-07-20
DRAWN BY: PAI	APPROVED: DHS

DRAWING NO. CS0013

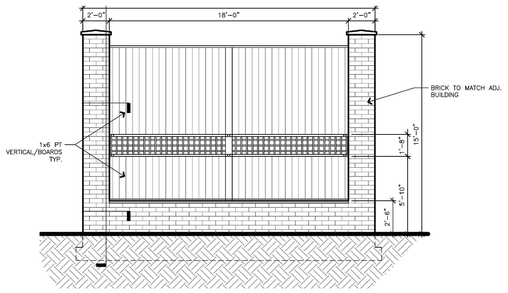
V:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0013 FP.DWG PLOTTED: ----, BY: NADEJDA BURDNJA PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----



KEY MAP
SCALE: 1"=50'-0"

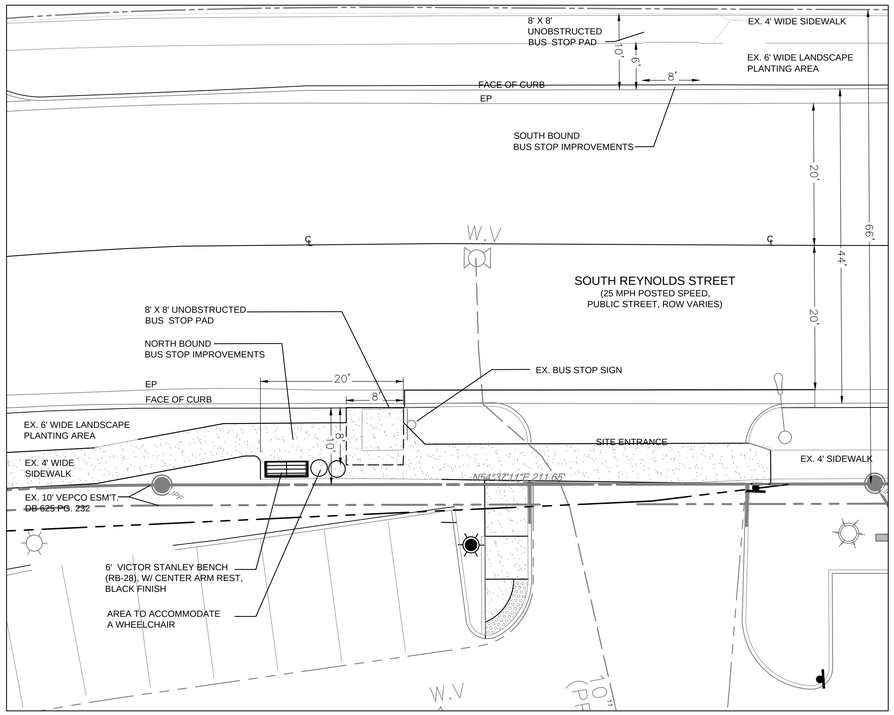


1 MECHANICAL ENCLOSURE WEST ELEVATION
SCALE: 1/8"=1'-0"

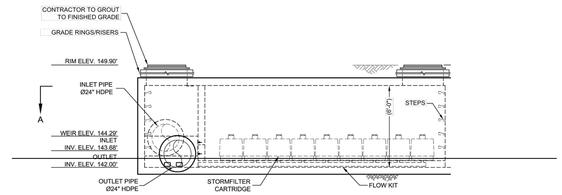


2 MECHANICAL ENCLOSURE SOUTH ELEVATION
SCALE: 1/8"=1'-0"

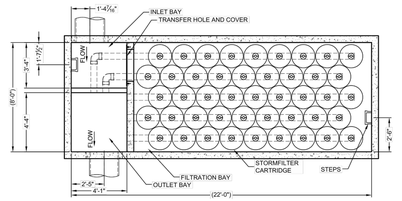
NOTE:
INFORMATION SHOWN HEREIN IS CONCEPTUAL AND INTENDED TO INDICATE THE PROPOSED CHARACTER AND QUALITY OF DESIGN. FINAL DESIGN MAY VARY AS LONG AS THIS CONCEPT, CHARACTER AND QUALITY ARE MAINTAINED.



BUS STOP PLAN DETAIL
SCALE: 1"=10'-0"



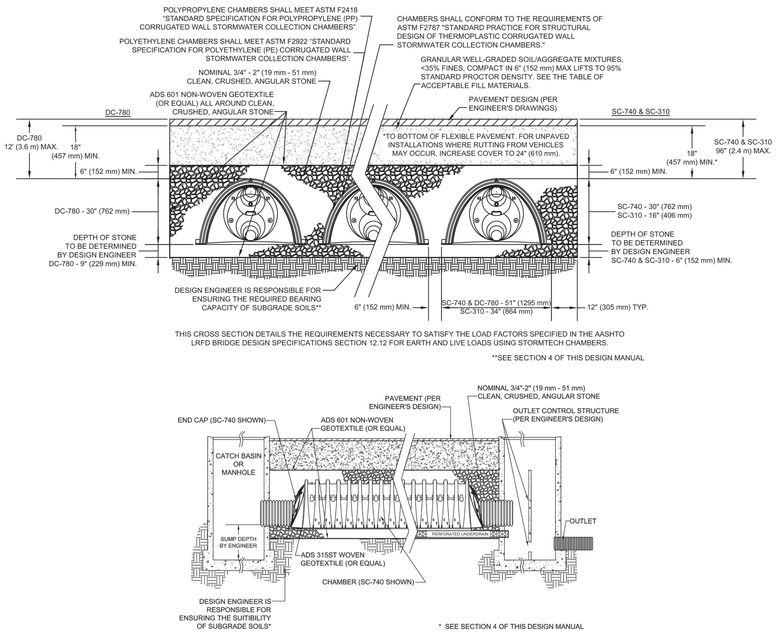
ELEVATION



SECTION

SCHEMATIC DETAIL FOR BMP VAULT #1
STORM FILTER OR APPROVED EQUAL. FLOW-BASED DESIGN
NOT TO SCALE

NOTE:
SCHEMATIC DETAILS PROVIDED HEREIN ARE INTENDED TO SHOW THE INTENT OF THE PROPOSED BMP AND SWM FACILITIES. CONSTRUCTION DETAILS WILL BE PROVIDED WITH THE FINAL SITE PLAN AND WILL VARY FROM THESE DETAILS AS NECESSARY AS DICTATED BY FINAL ENGINEERING.



SCHEMATIC DETAIL FOR SWM DETENTION FACILITY
STORM TECH OR APPROVED EQUAL
NOT TO SCALE

Pennoni

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

SITE DETAILS

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

COMMONWEALTH OF VIRGINIA
Brian D. Swanson
BRIAN D. SWANSON
Lic. No. 04020547711
07-20-2015
PROFESSIONAL ENGINEER

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

NORTH

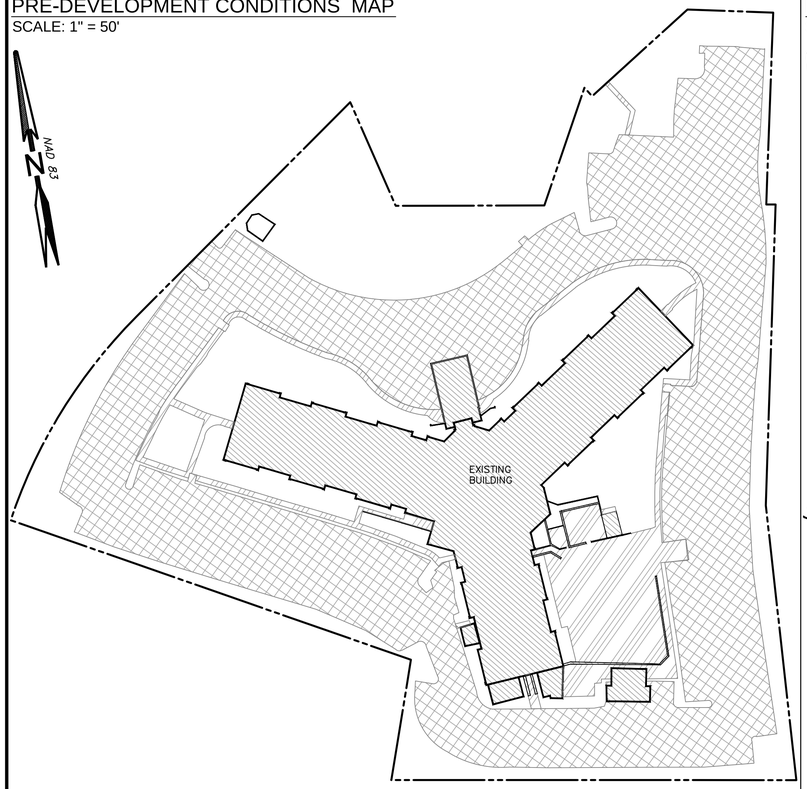
PROJECT NO. NPRP1501
SHEET 14 OF 22

SCALE	DATE
AS SHOWN	2015-07-20
DRAWN BY: PAI	APPROVED: BDS

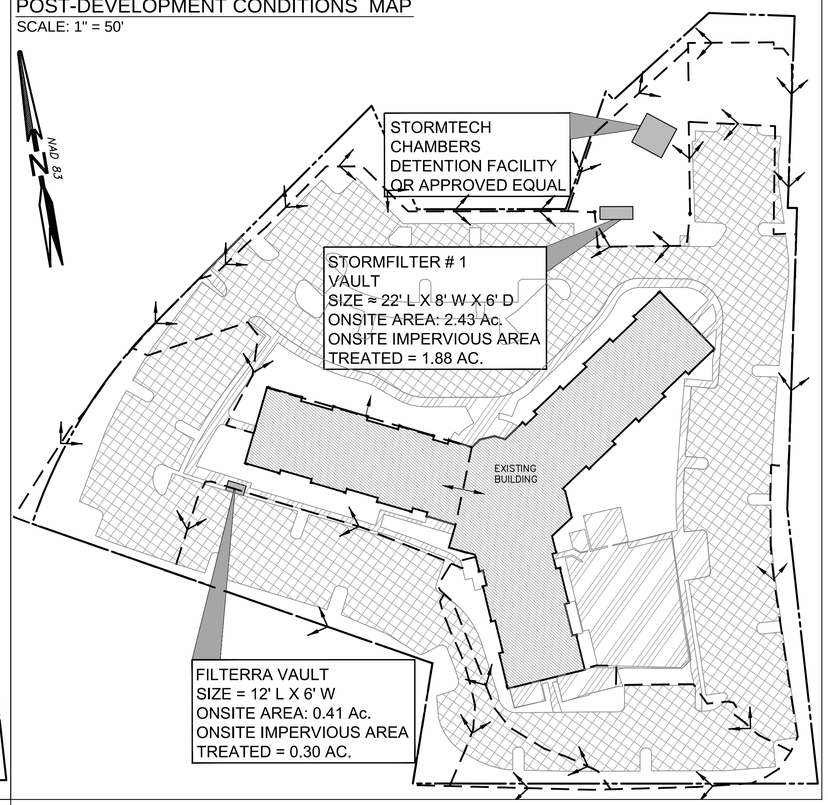
DRAWING NO. CS0014

V:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0014 DET.DWG PLOTTED: ---- BY: ELIZABETH FIRBISH PLOTSTYLE: PENNONI MCS.STB, PROJECT STATUS: ----

PRE-DEVELOPMENT CONDITIONS MAP
SCALE: 1" = 50'



POST-DEVELOPMENT CONDITIONS MAP
SCALE: 1" = 50'



STORMWATER MANAGEMENT NARRATIVE

EXISTING CONDITIONS

THE MARK SITE IS LOCATED SOUTH OF THE INTERSECTION OF SOUTH REYNOLDS AND DUKE STREETS. IT WAS DEVELOPED IN 1966 AND OPERATED AS MULTI-FAMILY APARTMENTS WITH 219 UNITS. THE SITE IS FULLY DEVELOPED WITH SUPPORTING AMENITIES AND PAVED SURFACE PARKING. THE EXISTING BUILDING UNITS ARE BEING CONVERTED TO 227 TOTAL MULTI-FAMILY UNITS. THE EXISTING SITE DOES NOT CURRENTLY ADDRESS STORMWATER MANAGEMENT REQUIREMENTS, NOR DOES THE EXISTING SITE PROVIDE WATER QUALITY TREATMENT.

PROPOSED IMPROVEMENTS

NEW SITE IMPROVEMENTS ARE PROPOSED TO BRING THE SITE INTO CLOSER COMPLIANCE WITH CURRENT STANDARDS FOR PARKING, LANDSCAPING, AND OPEN SPACE. IMPROVEMENTS TO INCREASE PARKING WILL INCREASE IMPERVIOUS COVER ON THE NORTHERN PORTIONS OF THE SITE. IMPROVEMENTS TO ADD LANDSCAPING AREAS WILL SERVE TO REDUCE IMPERVIOUS COVER IN THE SOUTHERN PORTIONS OF THE SITE.

STORMWATER MANAGEMENT PLAN

THE MARK SITE FALLS WITHIN THE HOLMES RUN DRAINAGE SHED. SITE RUNOFF FLOWS NORTHWARD THROUGH AN EXISTING STORM SEWER SYSTEM THAT RUNS ALONG SOUTH REYNOLDS STREET, CROSSES DUKE STREET THROUGH DENSE RESIDENTIAL NEIGHBORHOODS, AND FINALLY OUTFALLS TO HOLMES RUN STREAM. UNDERSTANDING THAT THE PRESENT SITE IS FULLY DEVELOPED AT THIS TIME, AND WITHOUT STORMWATER MANAGEMENT MEASURES, THE INTENT OF THIS APPLICATION IS TO PROVIDE ON-SITE STORMWATER MANAGEMENT FOR WATER QUANTITY AND QUALITY TO ACCOUNT FOR INCREASED RUNOFF RESULTING FROM THE PROPOSED SITE IMPROVEMENTS, IN GENERAL CONFORMANCE WITH THE REQUIREMENTS OF ARTICLE XIII OF THE CITY ORDINANCE.

WATER QUANTITY

AN UNDERGROUND DETENTION FACILITY IS PROPOSED ALONG THE NORTHERN END OF THE SITE, TO CONTROL THE INCREASED RATE OF RUNOFF FROM THE IMPROVEMENTS WITHIN THE LIMITS OF DISTURBANCE NORTH OF THE EXISTING BUILDING. SITE IMPROVEMENTS NORTH OF THE BUILDING WILL INCREASE IMPERVIOUS COVER AND THUS WILL INCREASE RUNOFF. HOWEVER, ON THE SOUTHERN PORTIONS OF THE SITE, IMPERVIOUS COVER WILL BE REDUCED BY ADDING NEW LANDSCAPE ISLANDS, THUS REDUCING AND ENHANCING RUNOFF FROM THOSE AREAS.

ON-SITE RUNOFF FROM THE NORTHERN PORTIONS OF THE SITE WILL BE INTERCEPTED, DIRECTED TO AN UNDERGROUND STORAGE FACILITY, AND DETAINED BEFORE BEING DISCHARGED TO THE EXISTING OUTFALL SYSTEM (SEE DRAINAGE MAP FOR DRAINAGE DIVIDES). THE PROPOSED STORMWATER MANAGEMENT FACILITY PROVIDES EXCESS DETENTION BY MORE THAN 10% IN ORDER TO COMPENSATE FOR THE INEDEQUACY OF THE OUTFALL.

OFF-SITE FLOWS FROM DEVELOPMENTS TO THE NORTH AND WEST OF SOUTH REYNOLDS STREET WILL BYPASSES THE PROPOSED DETENTION FACILITY. LIKEWISE, RUNOFF FROM THE SOUTHERN PARTS OF THE SITE WILL ALSO BYPASS THE DESCRIBED DETENTION SYSTEM. SEE DRAINAGE MAP FOR DRAINAGE DIVIDES AND SITE OUTFALL LOCATION.

WATER QUALITY

TO COMPLY WITH THE CITY OF ALEXANDRIA ARTICLE XIII, THE APPLICANT REQUESTS TO PROVIDE WATER QUALITY IMPROVEMENTS USING THE SUB-BASIN APPROACH (Sec. 13-109(E)(1). THIS BMP MAP, ALONG WITH BMP COMPUTATIONS SHOWS THE WATER QUALITY PROGRAM FOR THE PROPOSED SITE IMPROVEMENTS OF THE WASHINGTON SUITES RESIDENCES DSP2012-00032.

THE TOTAL SITE AREA IS 4.21 AC. AND THE DISTURBED AREA IS 1.99 AC. 85% OF THE DISTURBED AREA IS ON THE NORTH SIDE OF THE SITE, AND FOR THE MOST PART, IT IS WITHIN THE SUB-BASINS TREATED BY STORM FILTER # 1 (SEE BMP MAP, THIS SHEET).

THE REMAINING 15% OF THE DISTURBED AREA IS ON THE SOUTH SIDE OF THE SITE, AND IT INCLUDES REMOVAL OF EXISTING IMPERVIOUS AREA AND REPLACING IT WITH PLANTING ISLANDS IN ORDER TO COMPLY WITH ZONING REQUIREMENTS. (SEE BMP MAP)

PHOSPHORUS LOAD AND TREATED WATER QUALITY VOLUME (WQV) WILL BE MET BY THREE SUB-BASINS (SEE BMP MAP):

1. SUB-BASIN TO STORMFILTER #1
2. SUB-BASIN TO FILTERRA

THE PROPOSED PHOSPHORUS LOAD REQUIREMENT IS MET (SEE THIS SHEET FOR WORKSHEET B – RE-DEVELOPMENT, WORKSHEET C – COMPLIANCE, AND CITY DATA BLOCKS).

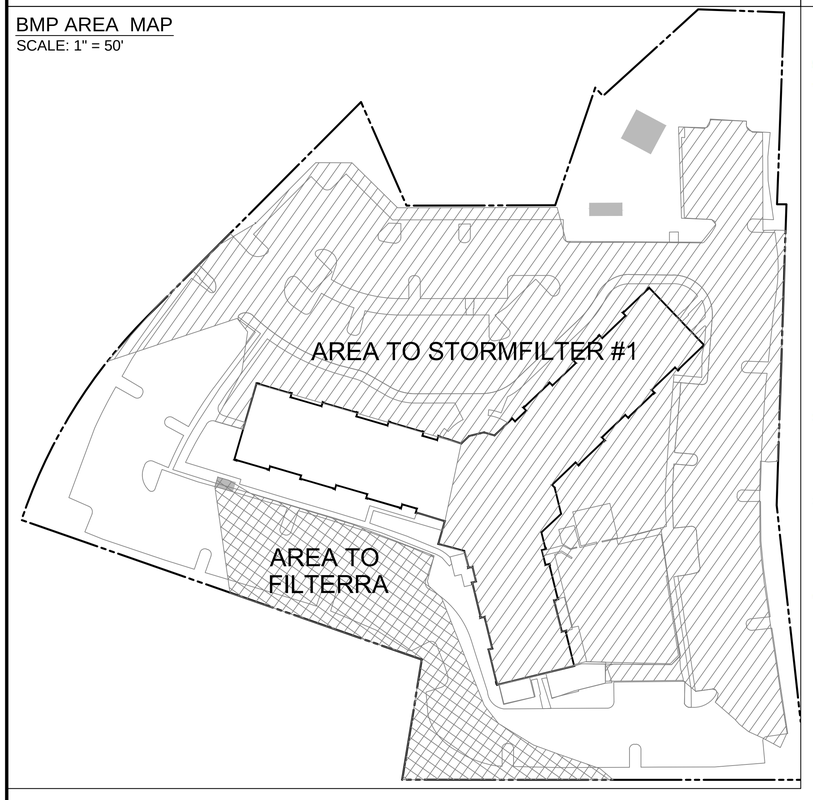
THE PROPOSED TREATED WATER QUALITY VOLUME (WQV) IS MET USING THE SUB-BASIN APPROACH.

IN SUMMARY, THE WATER QUALITY PROGRAM FOR THE PROPOSED IMPROVEMENTS OF THE WASHINGTON SUITES RESIDENCES (CURRENTLY NAMED THE MARK) DSP2012-00032 EXCEEDS THE REQUIRED POLLUTANT LOAD REMOVAL FOR THE SITE. THE DISTURBED AREA IS 1.70 ACRES AND THE IMPERVIOUS AREA TREATED IS 2.29 ACRES, THUS OVER 75% OF THE WATER QUALITY VOLUME (WQV) IS BEING TREATED.

FLOODPLAINS AND RESOURCE PROTECTION AREAS

NO RESOURCE PROTECTION AREA (RPA) OR 500 YEAR FLOODPLAIN IS PRESENT ON THE SITE, AS DETERMINED BY REFERENCE TO FIRM COMMUNITY PANEL NO. 5155190017E REVISED JUNE 16, 2011, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, AND RESOURCE PROTECTION AREAS MAP ADOPTED BY CITY COUNCIL JUNE 12, 2004.

BMP AREA MAP
SCALE: 1" = 50'



PHOSPHORUS LOADING COMPUTATIONS
ALEXANDRIA, VIRGINIA

WORKSHEET B: REDEVELOPMENT

1. Compile site-specific data and determine site imperviousness (I_{site}).

		PRE-DEVELOPMENT		POST-DEVELOPMENT
A*	=	4.21 acres	=	4.21 acres
I_a**				
structure	=	0.86 acres	=	0.59 acres
parking lot	=	acres	=	acres
roadway	=	1.82 acres	=	1.86 acres
other	=	0.13 acres	=	0.36 acres
Total I_a	=	2.80 acres	=	2.81 acres
I_{site}= Total I_a x 100 / A	=	67 %	=	67 %

A* is the total area of the site.
I_a** is the total amount of impervious cover.

R_v = 0.05 + (0.009 x I)

	=	0.65 unitless	=	0.65 unitless

C: I< 20 = 0.26 mg/L
I ≥ 20 = 1.08 mg/L

	=	1.08 mg/l	=	1.08 mg/l

2. Calculate the pre-development load (L_{pre}).

L_{Pre} = 8.16 x $R_{v\text{-}pre}$ x C x A

= 8.16 x 0.65 x 1.08 x 4.21

= 24.09 pounds per year

3. Calculate the post-development load (L_{post}).

L_{Post} = 8.16 x $R_{v\text{-}post}$ x C x A

= 8.16 x 0.65 x 1.08 x 4.21

= 24.14 pounds per year

4. Calculate the pollutant removal requirement (RR).

RR = L_{post} - (0.9 x L_{pre})

= 24.14 - (0.9 x 24.09)

= 2.46

To determine the overall BMP efficiency required (%RR) when selecting BMP options:

%RR = RR/L_{post} x 100

=(2.46 / 24.14) x 100

= 10.20 %

COMPLIANCE WORKSHEET C
ALEXANDRIA, VIRGINIA

WORKSHEET C: COMPLIANCE

Select BMP options using screening tools and list them below. Then calculate the load removal for each option. DO NOT LIST BMP's IN SERIES HERE.

Selected Option	Removal* Efficiency (% 100)	x	Fraction of CBPA Drainage Area Served (expressed in decimal form)	x	L_{post} (lbs/yr)	=	Load Removed (lbs/yr)
StormFilter # 1	50%		2.43 / 4.21	=	0.58	24.14	6.96
Filterra	25%		0.41 / 4.21	=	0.10	24.14	0.59
						Total	7.55

* For conventional BMPs, see Section IIa of the Northern Virginia BMP Handbook (NVBMPHB) published by the Northern Virginia Planning District Commission or Chapter 1 of the Alexandria Supplement to the NVBMPHB. For non-conventional BMP's, see Section IV, Chapter 1 of the Alexandria Supplement.

CITY STANDARD WATER QUALITY BMP DATA BLOCKS (2)

PROJECT DESCRIPTION

Drainage Area Acres	Impervious	Pervious	Total
Site Area	2.81	1.39	4.21
On-site Treated	2.17	0.66	2.84
Off-Site Treated	0	0	0.00
Total Treated:	2.17	0.66	2.84
Any On-Site Disconnected by a Vegetated Buffer (25 Ft)	0		
Total Onsite Treated or Disconnected			2.84

WATER TREATMENT ONSITE

BMP Type	Area treated by BMP (acres)	Impervious area treated by BMP (acres)	BMP efficiency (%)
StormFilter # 1	2.43 ac	1.88 ac	50%
Filterra	0.41 ac	0.30 ac	25%

SITE WATER QUALITY VOLUME (WQV) COMPUTATIONS

WQV COMPUTATIONS * PERCENTAGE OF WATER QUALITY VOLUME (WQV) REQUIRED TO BE TREATED.

	TOTAL (AC)	IMPERVIOUS (AC)	WQV REQUIRED TO BE TREATED (AC-FT)	WQV REQUIRED TO BE TREATED (CF)	WQV TREATED (CF)	WQV * TREATED (%)	WQV UNTREATED (CF)	WQV UNTREATED (%)
TO STORMFILTER # 1	2.43	1.88	--	--	3,257	59.09	--	--
TO FILTERRA	0.41	0.30	--	--	511	9.27	--	--
TOTAL	2.84	2.17			3,768	68.36		
EXISTING SITE	4.21	3.14	0.127	5,512	3,768	68	1,744	32

LEGEND

	PRE-DEV'T	POST-DEV'T
ONSITE IMPERVIOUS AREA - STRUCTURE (BUILDING, WALL)	0.86 AC (37,265 SF)	0.59 AC (25,638 SF)
ONSITE IMPERVIOUS AREA - OTHER (HARDSCAPE)	0.13 AC (5,516 SF)	0.36 AC (15,781 SF)
ONSITE IMPERVIOUS AREA - ROADWAY / PAVEMENT	1.82 AC (79,326 SF)	1.86 AC (81,164 SF)
ONSITE PERVIOUS AREA	1.40 AC (61,160 SF)	1.39 AC (60,685 SF)

MISCELLANEOUS

TOTAL WQV TREATED: * YES (NO)

DETENTION ON SITE: (YES) NO

PROJECT IS WITHIN WHICH WATERSHED? CAMERON RUN WATERSHED

PROJECT DISCHARGES TO WHICH BODY OF WATER? HOLMES RUN STREAM

* SUB-SHED APPROACH METHOD IS USED

COMMONWEALTH OF VIRGINIA
BRIAN D. SWANSON
Lic. No. 0402054771
07-20-2015
PROFESSIONAL ENGINEER

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Pennoni

NO.	DATE	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
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ALEXANDRIA, VIRGINIA
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8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

STORMWATER MANAGEMENT PLAN
WATER QUALITY MAPS AND NARRATIVE

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

NORTH

PROJECT NO. NPRP1501
SHEET 15 OF 22

SCALE	DATE
AS SHOWN	2015-07-20
DRAWN BY: PAI	APPROVED: BDS

DRAWING NO. CS0015

I:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0015.SWG PLOTTED: ----- BY: ELIZABETH FREBUSH PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----

INFORMATION PROVIDED IS FROM TR-55 STORMWATER MANAGEMENT METHODOLOGY AND IS PROVIDED TO SUPPORT THE ESTIMATE STORAGE SHOWN WITH THE PRELIMINARY STORMWATER MANAGEMENT PLAN. ONCE THE CONTROL STRUCTURE IS DESIGNED DURING FINAL ENGINEERING, STORMWATER MANAGEMENT ROUTINGS WILL BE PROVIDED FOR CITY REVIEW TO QUANTIFY THE STORAGE AND RELEASE FLOW RATES.

Worksheet 2: Runoff curve number and runoff

Project: *Washington Suites* By: *YB* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* Checked: Date:
Condition: *Existing / Predeveloped Conditions* *REVISED:*

1. Runoff Curve Number (CN)

Soil name and hydrologic group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	Figure 2-3	Figure 2-4	Area (acres)	Product of CN x Area
D	Open Space Lawns - Fair Condition	84			1.41	*118.44*
D	Impervious Area	98			2.80	*274.4*
				Totals =	*4.21*	*392.84*

1. Use only one CN source per line.

CN (weighted) = (total product) / (total area) = *392.84* / *4.21* = *93.311164*
Use CN = *93.31*
Therefore, S = (1000/CN) - 10 = *0.717*
Therefore Ia = 0.2 * S = *0.143*

2. Runoff

	Storm #1	Storm #2	Storm #3	Storm #4	Storm #5
Frequency ..... years	*1*	*2*	*10*	*25*	*100*
Rainfall, P (24-hour) ..... inches	*2.7*	*3.2*	*5.2*	*6.0*	*7.3*
Runoff, Q ..... inches	*2.00*	*2.45*	*4.43*	*5.22*	*6.51*

Worksheet 2: Runoff curve number and runoff

Project: *Washington Suites* By: *YB* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* Checked: Date:
Condition: *Developed / Proposed Conditions* *REVISED:*

1. Runoff Curve Number (CN)

Soil name and hydrologic group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	Figure 2-3	Figure 2-4	Area (acres)	Product of CN x Area
D	Open Space (Lawns, grass area, lanscape area) - Fair Condition	84			1.07	*89.88*
D	Impervious Area	98			3.14	*307.72*
				Totals =	*4.21*	*397.6*

1. Use only one CN source per line.

CN (weighted) = (total product) / (total area) = *397.6* / *4.21* = *94.441805*
Use CN = *94.44*
Therefor, S = (1000/CN) - 10 = *0.589*
Therfore Ia = 0.2 * S = *0.118*

2. Runoff

	Storm #1	Storm #2	Storm #3	Storm #3	Storm #4
Frequency ..... years	*1*	*2*	*10*	*25*	*100*
Rainfall, P (24-hour) ..... inches	*2.7*	*3.2*	*5.2*	*6.0*	*7.3*
Runoff, Q ..... inches	*2.10*	*2.59*	*4.55*	*5.35*	*6.64*

Worksheet 3: Time of concentration (Tc) or travel time (Tt)

Project: *Washington Suites* By: *YB* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* Checked: Date:
Condition: *Existing / Predeveloped Conditions* *REVISED:*

Sheet Flow (Applicable to Tc only)		Segment ID	*AB*			
1. Surface description (table 3-1)			*Asphalt*			
2. Manning's roughness coefficient, n (table 3-1)			*0.011*			
3. Flow length, L (total L <= 300 feet)	feet		*74*			
4. Two-year, 24-hour rainfall, P2	inches		*3.2*			
5. Land slope, s	feet/foot		*0.02*			
6. Travel time, Tt = 0.007 (nL)^0.8 / (P2^0.5 s^0.4)	hours		*0.02*			*0.02*

Shallow concentrated flow		Segment ID	*BC*	*CD*		
7. Surface description (paved or unpaved)			*Unpaved*	*paved*		
8. Flow length, L	feet		*0*	*75*		
9a. Watercourse slope (paved), s_p	feet/foot		*0*	*0.02*		
9b. Watercourse slope (unpaved), s_u	feet/foot		*0.02*			
10. Average velocity, V (figure 3-1)	feet/sec		*2.28*	*2.87*		
11. Travel time, Tt = L / (3600 * V) =	hours		*0.00*	*0.01*		*0.01*

Channel flow		Segment ID	*DE*	*EF*	*FG*	
12. Cross-sectional flow area, a	sq. feet		*9.62*	*9.62*	*9.62*	
13. Wetted perimeter, pw	feet		*2.33*	*2.33*	*2.33*	
14. Hydraulic radius, r = a / pw	feet/foot		*4.1288*	*4.1288*	*4.1288*	
15. Channel slope, s	feet/foot		*0.0183*	*0.0185*	*0.00833*	
16. Manning's roughness coefficient, n			*0.013*	*0.013*	*0.013*	
17. Velocity, V = 1.49 * r^(2/3) * s^(1/2) / n	feet/sec		*39.91*	*40.12*	*26.92*	
18. Flow length, L	feet		*186*	*55*	*36*	
19. Travel time, Tt = L / (3600 * V) =	hours		*0.00*	*0.00*	*0.00*	*0.002*

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 an 19) ..... hours *0.03*

Worksheet 3: Time of concentration (Tc) or travel time (Tt)

Project: *Washington Suites* By: *YB* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* Checked: Date:
Condition: *Developed / Proposed Conditions* *REVISED:*

Sheet Flow (Applicable to Tc only)		Segment ID	*AB*			
1. Surface description (table 3-1)			*Asphalt*			
2. Manning's roughness coefficient, n (table 3-1)			*0.011*			
3. Flow length, L (total L <= 300 feet)	feet		*85*			
4. Two-year, 24-hour rainfall, P2	inches		*3.2*			
5. Land slope, s	feet/foot		*0.04*			
6. Travel time, Tt = 0.007 (nL)^0.8 / (P2^0.5 s^0.4)	hours		*0.01*			*0.01*

Shallow concentrated flow		Segment ID	*BC*	*CD*		
7. Surface description (paved or unpaved)			*Unpaved*	*paved*		
8. Flow length, L	feet		*0*	*56*		
9a. Watercourse slope (paved), s_p	feet/foot		*0*	*0.03*		
9b. Watercourse slope (unpaved), s_u	feet/foot		*0.08*			
10. Average velocity, V (figure 3-1)	feet/sec		*4.56*	*3.52*		
11. Travel time, Tt = L / (3600 * V) =	hours		*0.00*	*0.004*		*0.004*

Channel flow		Segment ID	*DE*			
12. Cross-sectional flow area, a	sq. feet		*1.03*			
13. Wetted perimeter, pw	feet		*2.59*			
14. Hydraulic radius, r = a / pw	feet/foot		*0.3977*			
15. Channel slope, s	feet/foot		*0.02*			
16. Manning's roughness coefficient, n			*0.013*			
17. Velocity, V = 1.49 * r^(2/3) * s^(1/2) / n	feet/sec		*8.77*			
18. Flow length, L	feet		*135*			
19. Travel time, Tt = L / (3600 * V) =	hours		*0.00*	*0.004*		

28. Watershed or subarea Tc or Tt (add Tt in steps 6, 11,19 and 27) ..... hours *0.02*

Worksheet 4: Graphical Peak Discharge Method (TR-55)

Project: *Washington Suites* By: *YB* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* Checked: Date:
Condition: *Existing / Predeveloped Conditions* *REVISED:*

1. Data..... Am = *4.21* acres = *0.0066* square miles
Drainage Area..... CN = *93.31116*
Time of Concentration .. Tc = *0.03* hours (for qu use *0.10*)
Rainfall Distribution Type = *II*
% Pond/Swamp Area in Watershed *0.00%*
Potential retention .... S = *0.717* inches
S = (1000 / CN) - 10

2. Frequency	years	*1*	*2*	*10*	*25*	*100*
3. Rainfall, P (24-hour)	inches	*2.7*	*3.2*	*5.2*	*6*	*7.3*
4. Initial abstraction, Ia ..... (Use CN with table 4-1.)	inches	*0.143*	*0.143*	*0.143*	*0.143*	*0.143*
5. Compute Ia/P		*0.053*	*0.045*	*0.028*	*0.024*	*0.020*
SCS peak discharge coeff, C_0 (TR-55 Table F-1)		*2.57385*	*2.57749*	*2.58507*	*2.58668*	*2.58855*
SCS peak discharge coeff, C_1 (TR-55 Table F-1)		*-0.61338*	*-0.61307*	*-0.61243*	*-0.61229*	*-0.61213*
SCS peak discharge coeff, C_2 (TR-55 Table F-1)		*-0.17516*	*-0.17713*	*-0.18122*	*-0.18209*	*-0.18310*
Intermediate computation, log qu =		*3.012062*	*3.013431505*	*3.016275*	*3.016882*	*3.017584*
6. Unit peak discharge, qu ..... (Use Tc and Ia/P with exhibit 4-II, or App F)	csm/in	*1028*	*1031*	*1038*	*1040*	*1041*
7. Runoff, Q ..... Q = ((P - Ia)^2) / ((P - Ia) + S)	inches	*2.00*	*2.48*	*4.43*	*5.22*	*6.51*
8. Pond/swamp adjustment factor, Fp .... (Use % area with table 4-2)		*1.0*	*1.0*	*1.0*	*1.0*	*1.0*
9. Peak discharge, qp ..... (Where qp = qu*Am*Q*Fp)	cfs	*13.50*	*16.80*	*30.25*	*35.68*	*44.56*

Worksheet 4: Graphical Peak Discharge Method (TR-55)

Project: *Washington Suites* By: *YB* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* Checked: Date:
Condition: *Developed / Proposed Conditions* *REVISED:*

1. Data..... Am = *4.21* acres = *0.0066* square miles
Drainage Area..... CN = *94.44181*
Time of Concentration .. Tc = *0.02* hours (for qu use *0.10*)
Rainfall Distribution Type = *II*
% Pond/Swamp Area in Watershed *0.00%*
Potential retention .... S = *0.59* inches
S = (1000 / CN) - 10

2. Frequency	years	*1*	*2*	*10*	*25*	*100*
3. Rainfall, P (24-hour)	inches	*2.7*	*3.2*	*5.2*	*6*	*7.3*
4. Initial abstraction, Ia ..... (Use CN with table 4-1.)	inches	*0.118*	*0.118*	*0.118*	*0.118*	*0.118*
5. Compute Ia/P		*0.044*	*0.037*	*0.023*	*0.020*	*0.016*
SCS peak discharge coeff, C_0 (TR-55 Table F-1)		*2.57802*	*2.58102*	*2.58724*	*2.58856*	*2.59010*
SCS peak discharge coeff, C_1 (TR-55 Table F-1)		*-0.61302*	*-0.61277*	*-0.61224*	*-0.61213*	*-0.61200*
SCS peak discharge coeff, C_2 (TR-55 Table F-1)		*-0.17741*	*-0.17903*	*-0.18239*	*-0.18310*	*-0.18393*
Intermediate computation, log qu =		*3.013631*	*3.01475472*	*3.0170593*	*3.017587*	*3.018164*
6. Unit peak discharge, qu ..... (Use Tc and Ia/P with exhibit 4-II, or App F)	csm/in	*1032*	*1035*	*1040*	*1041*	*1043*
7. Runoff, Q ..... Q = ((P - Ia)^2) / ((P - Ia) + S)	inches	*2.10*	*2.59*	*4.55*	*5.35*	*6.64*
8. Pond/swamp adjustment factor, Fp .... (Use % area with table 4-2)		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
9. Peak discharge, qp ..... (Where qp = qu*Am*Q*Fp)	cfs	*14.27*	*17.61*	*31.16*	*36.63*	*45.53*

Worksheet 6a: Detention basin storage, peak outflow discharge (qo) known

Project: *Washington Suites* Date: *23-Jan-13*
Location: *SWM Facility - STORMTECH Chambers* By: *YB*
Condition: *Existing / Predeveloped Conditions* *REVISED:*

1. Data..... *I* *4.21* acres = *0.00658* *square miles*

2. Frequency	years	*1*	*2*	*10*	*25*	*100*
3. Peak inflow discharge, qi	cfs	*14.275*	*17.613*	*31.165*	*36.629*	*45.533*
4. Peak outflow discharge, qo	cfs	*13.505*	*16.799*	*30.246*	*35.685*	*44.559*
5. Compute qo/qi		*0.95*	*0.95*	*0.97*	*0.97*	*0.98*
6. Vs/Vr ..... (Use qo/qi with figure 6-1, App F)		*0.12*	*0.11*	*0.10*	*0.10*	*0.10*
7. Runoff Q	inches	*2.10*	*2.59*	*4.55*	*5.35*	*6.64*
8. Runoff volume, Vr ..... (Vr = 53.33 * Q * Am)	acre-feet	*0.74*	*0.91*	*1.60*	*1.88*	*2.33*
	cubic feet	*32,137*	*39,550*	*69,604*	*81,714*	*101,443*
9. Required Storage volume, Vs ..... (Vs = Vr * (Vs / Vr))	acre-feet	*0.09*	*0.10*	*0.17*	*0.19*	*0.23*
	cubic feet	*3,734*	*4,446*	*7,234*	*8,333*	*10,111*
10. Provided Storage volume	cubic feet	-	-	-	-	-

COMMONWEALTH OF VIRGINIA
Brian D. Swanson
BRIAN D. SWANSON
Lic. No. 0402054771
07-20-2015
PROFESSIONAL ENGINEER

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

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BY	REVISIONS	NO.	DATE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

PRELIMINARY SWM COMPUTATIONS

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

NORTH

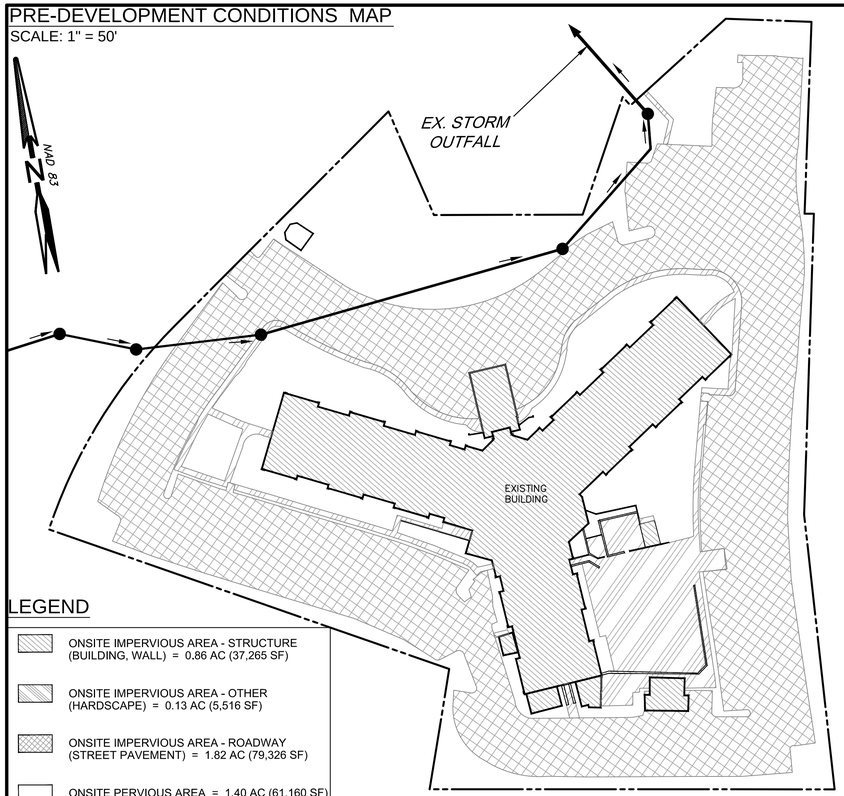
PROJECT NO. NPRP1501
SHEET 16 OF 22

SCALE N/A
DATE 2015-07-20
DRAWN BY PAI
APPROVED BDS
DRAWING NO. CS0016

V:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0016 SWM.DWG PLOTTED: ----- BY: ELIZABETH FRIBUSH PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----

PRE-DEVELOPMENT CONDITIONS MAP

SCALE: 1" = 50'

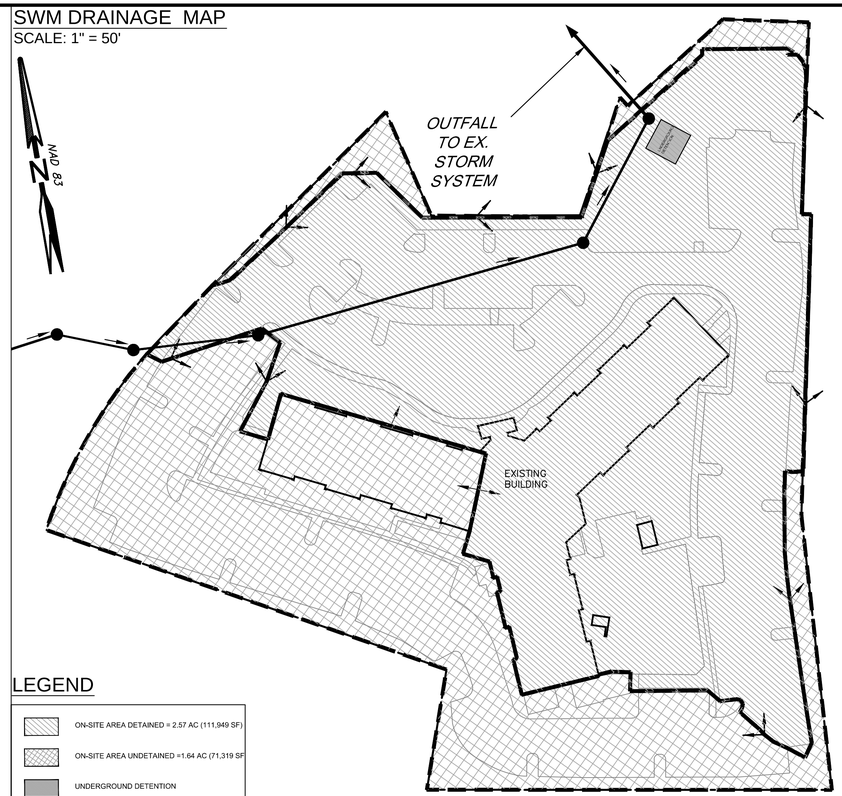


LEGEND

- ONSITE IMPERVIOUS AREA - STRUCTURE (BUILDING, WALL) = 0.86 AC (37,265 SF)
- ONSITE IMPERVIOUS AREA - OTHER (HARDSCAPE) = 0.13 AC (5,516 SF)
- ONSITE IMPERVIOUS AREA - ROADWAY (STREET PAVEMENT) = 1.82 AC (79,326 SF)
- ONSITE PERVIOUS AREA = 1.40 AC (61,160 SF)

SWM DRAINAGE MAP

SCALE: 1" = 50'



LEGEND

- ON-SITE AREA DETAINED = 2.57 AC (111,949 SF)
- ON-SITE AREA UNDETAINED =1.64 AC (71,319 SF
- UNDERGROUND DETENTION

STORMWATER MANAGEMENT COMPUTATIONS - MAXIMUM ALLOWABLE RELEASE

STORMWATER MANAGEMENT COMPUTATIONS - MAXIMUM ALLOWABLE RELEASE

	AREA (AC)	C-FACT PRE	C-FACT POST
SITE AREA 2yr	**4.21**	0.72	0.76
SITE AREA 10yr	**4.21**	0.72	0.76
ON-SITE DETAINED 2yr	**2.57**		0.78
ON-SITE DETAINED 10yr	**2.57**		0.78
ON-SITE UNDETAINED 2yr	**1.64**		0.69
ON-SITE UNDETAINED 10yr	**1.64**		0.69
OFF-SITE DETAINED 2yr	**0.00**		0.00
OFF-SITE DETAINED 10yr	**0.00**		0.00

INTENSITY [I] PRE-DEV. 5 MIN Tc:

2 YEAR = 6.20 IN/HR
10 YEAR = 9.10 IN/HR
100 YEAR = 14.90 IN/HR

INTENSITY [I] POST-DEV. 5 MIN Tc:

2 YEAR = 6.20 IN/HR
10 YEAR = 9.10 IN/HR
100 YEAR = 14.90 IN/HR

PRE-DEVELOPED FLOW [Qpre]:

Qpre 2 YR = 4.21 ACRES * 0.72 * 6.20 IN/HR = **18.87 CFS**
Qpre 10 YR = 4.21 ACRES * 0.72 * 9.10 IN/HR = **27.70 CFS**

POST-DEVELOPED FLOW UNDETAINED:

Q2 = 1.64 ACRES * 0.69 * 6.20 IN/HR = **7.02 CFS**
Q10 = 1.64 ACRES * 0.69 * 9.10 IN/HR = **10.30 CFS**

OFF-SITE FLOW DETAINED:

Q2 = 0.00 ACRES * 0.00 * 6.20 IN/HR = **0.00 CFS**
Q10 = 0.00 ACRES * 0.00 * 9.10 IN/HR = **0.00 CFS**

MAXIMUM ALLOWABLE RELEASE = Qpre – Q UNDETAINED + Q OFF-SITE

Q2 ALLOWABLE = 18.87 CFS - 7.02 CFS + 0.00 CFS = **11.86 CFS**
Q10 ALLOWABLE = 27.70 CFS - 10.30 CFS + 0.00 CFS = **17.40 CFS**

Q TO UNDERGROUND STORAGE

2 YEAR = 2.57 ACRES * 0.78 * 6.20 IN/HR = **12.43 CFS**
10 YEAR = 2.57 ACRES * 0.78 * 9.10 IN/HR = **18.24 CFS**
100 YEAR = 2.57 ACRES * 0.78 * 14.90 IN/HR = **29.87 CFS**

ESTIMATED VOLUME PER ROUTING:
2 YEAR VOLUME = **659 CF**
10 YEAR VOLUME = **1,268 CF**

MAXIMUM ROUTING RESULTS:

	2 YEAR		10 YEAR	
Q ROUTED =	**10.61**	**CFS**	**15.66**	**CFS**
Q ALLOWABLE =	**11.86**	**CFS**	**17.40**	**CFS**

FOR BOTH THE 2 YEAR AND 10 YEAR STORMS, EXCESS DETENTION IS ACHIEVED BY 10% FROM PRE-DEVELOPED CONDITIONS.

STORMTECH UNDERGROUND CHAMBERS - CUMMULATIVE STORAGE

Project: REV1 - Washington Suites - VA

StormTech — Detention • Retention • Water Quality — A division of CDS

Chamber Model -	MC-3500	
Units -	**Imperial**	Click Here for Metric
Number of Chambers -	7	
Number of End Caps -	4	
Voids in the stone (porosity) -	40	%
Base of Stone Elevation -	138.67	ft
Amount of Stone Above Chambers -	12	in
Amount of Stone Below Chambers -	9	in

☐ Include Perimeter Stone in Calculations

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Single End Cap (cubic feet)	Incremental Chambers (cubic feet)	Incremental End Cap (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch, EC and Stone (cubic feet)	Cumulative System (cubic feet)	Elevation (feet)
66	0.00	0.00	0.00	0.00	14.26	14.26	1440.55	144.17
65	0.00	0.00	0.00	0.00	14.26	14.26	1426.29	144.09
64	0.00	0.00	0.00	0.00	14.26	14.26	1412.02	144.00
63	0.00	0.00	0.00	0.00	14.26	14.26	1397.76	143.92
62	0.00	0.00	0.00	0.00	14.26	14.26	1383.50	143.84
61	0.00	0.00	0.00	0.00	14.26	14.26	1369.24	143.75
60	0.00	0.00	0.00	0.00	14.26	14.26	1354.98	143.67
59	0.00	0.00	0.00	0.00	14.26	14.26	1340.72	143.59
58	0.00	0.00	0.00	0.00	14.26	14.26	1326.46	143.50
57	0.00	0.00	0.00	0.00	14.26	14.26	1312.20	143.42
56	0.00	0.00	0.00	0.00	14.26	14.26	1297.94	143.34
55	0.00	0.00	0.00	0.00	14.26	14.26	1283.67	143.25
54	0.06	0.00	0.41	0.00	14.10	14.51	1269.41	143.17
53	0.19	0.01	1.36	0.04	13.70	15.10	1254.91	143.09
52	0.29	0.01	2.06	0.04	13.42	15.52	1239.81	143.00
51	0.40	0.02	2.83	0.08	13.10	16.00	1224.29	142.92
50	0.69	0.04	4.81	0.16	12.27	17.24	1208.28	142.84
49	1.03	0.05	7.20	0.20	11.30	18.70	1191.04	142.75
48	1.25	0.07	8.75	0.28	10.65	19.68	1172.34	142.67
47	1.42	0.09	9.96	0.36	10.13	20.45	1152.66	142.59
46	1.57	0.10	11.01	0.40	9.70	21.11	1132.21	142.50
45	1.71	0.12	11.95	0.48	9.29	21.72	1111.10	142.42
44	1.83	0.14	12.80	0.56	8.92	22.28	1089.39	142.34
43	1.94	0.16	13.56	0.64	8.58	22.78	1067.11	142.25
42	2.04	0.18	14.29	0.72	8.26	23.26	1044.33	142.17
41	2.13	0.20	14.94	0.80	7.96	23.71	1021.06	142.09
40	2.22	0.21	15.57	0.84	7.70	24.11	997.35	142.00
39	2.31	0.24	16.15	0.96	7.42	24.53	973.25	141.92
38	2.38	0.26	16.69	1.04	7.17	24.90	948.72	141.84
37	2.46	0.27	17.21	1.08	6.94	25.24	923.82	141.75
36	2.53	0.29	17.70	1.16	6.72	25.58	898.58	141.67
35	2.59	0.32	18.16	1.28	6.49	25.92	873.01	141.59
34	2.66	0.33	18.59	1.32	6.30	26.21	847.08	141.50
33	2.72	0.35	19.01	1.40	6.10	26.50	820.88	141.42
32	2.77	0.37	19.40	1.48	5.91	26.79	794.37	141.34
31	2.82	0.39	19.77	1.56	5.73	27.06	767.58	141.25
30	2.88	0.41	20.13	1.64	5.55	27.32	740.52	141.17
29	2.92	0.43	20.47	1.72	5.39	27.57	713.20	141.09
28	2.97	0.45	20.79	1.80	5.23	27.81	685.63	141.00
27	3.01	0.46	21.09	1.84	5.09	28.02	657.81	140.92
26	3.05	0.48	21.37	1.92	4.94	28.24	629.79	140.84
25	3.09	0.49	21.66	1.96	4.81	28.43	601.56	140.75
24	3.13	0.51	21.91	2.04	4.68	28.63	573.12	140.67
23	3.17	0.52	22.16	2.08	4.57	28.80	544.49	140.59
22	3.20	0.54	22.40	2.16	4.44	28.99	515.69	140.50
21	3.23	0.54	22.62	2.16	4.35	29.13	486.69	140.42
20	3.26	0.56	22.83	2.24	4.23	29.30	457.56	140.34
19	3.29	0.57	23.03	2.28	4.14	29.45	428.26	140.25
18	3.32	0.58	23.23	2.32	4.04	29.59	398.81	140.17
17	3.34	0.58	23.41	2.32	3.97	29.70	369.22	140.09
16	3.37	0.60	23.58	2.40	3.87	29.85	339.53	140.00
15	3.39	0.60	23.75	2.40	3.80	29.95	309.68	139.92
14	3.41	0.61	23.90	2.44	3.72	30.07	279.73	139.84
13	3.44	0.61	24.06	2.44	3.66	30.16	249.66	139.75
12	3.46	0.62	24.20	2.48	3.59	30.27	219.50	139.67
11	3.48	0.63	24.35	2.52	3.51	30.38	189.23	139.59
10	3.51	0.63	24.54	2.52	3.44	30.49	158.84	139.50
9	0.00	0.00	0.00	0.00	14.26	14.26	128.35	139.42
8	0.00	0.00	0.00	0.00	14.26	14.26	114.09	139.34
7	0.00	0.00	0.00	0.00	14.26	14.26	99.83	139.25
6	0.00	0.00	0.00	0.00	14.26	14.26	85.57	139.17
5	0.00	0.00	0.00	0.00	14.26	14.26	71.31	139.09
4	0.00	0.00	0.00	0.00	14.26	14.26	57.04	139.00
3	0.00	0.00	0.00	0.00	14.26	14.26	42.78	138.92
2	0.00	0.00	0.00	0.00	14.26	14.26	28.52	138.84
1	0.00	0.00	0.00	0.00	14.26	14.26	14.26	138.75

SITE STORMWATER COMPUTATIONS

Site Runoff Summary	Pre-development	Post-development
Area (acres)	4.21	4.21
C-factor	0.72	0.76
2-year Q (cfs)	18.87	19.84
10-year Q (cfs)	27.70	29.12
100-year Q (cfs)	45.35	47.67

2-year Intensity (in/hr)	6.20
10-year Intensity (in/hr)	9.10
100-year Intensity (in/hr)	14.90

COMMONWEALTH OF VIRGINIA
Brian D. Swanson
BRIAN D. SWANSON
Lic. No. 0402054771
07-20-2015
PROFESSIONAL ENGINEER

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Pennoni

NO.	DATE	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015–0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA
LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

STORMWATER MANAGEMENT PLAN
WATER QUANTITY MAPS AND COMPS

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

NORTH

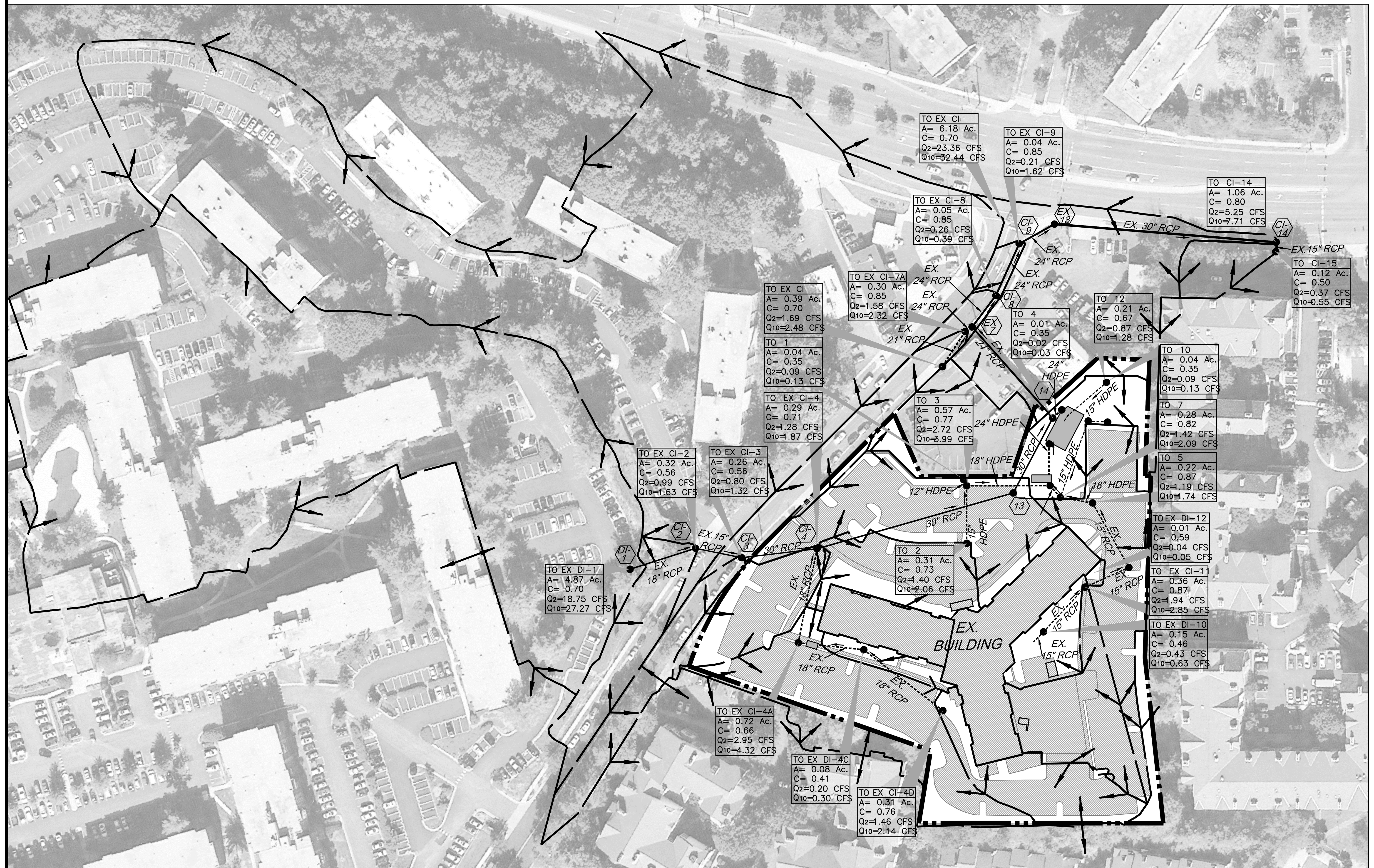
PROJECT NO. NPRP1501
SHEET 17 OF 22

SCALE	DATE
AS SHOWN	2015–07–20
DRAWN BY: PAI	APPROVED: BDS

DRAWING NO. CS0017

V:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0017.SWM.DWG PLOTTED: ----- BY: ELIZABETH FRBUSH PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ----

OUTFALL MAP
SCALE: 1" = 80'



LEGEND

PROPSED ONSITE IMPERVIOUS AREA = 3.14 AC (136,778 SF)

PROPOSED ONSITE PERVIOUS AREA = 1.07 AC (46,490 SF)

SITE AREA = 4.21 AC (183,268 SF)

ADEQUATE OUTFALL ANALYSIS

EXISTING CONDITIONS

THE MARK (WASHINGTON SUITES) SITE IS LOCATED SOUTH OF THE INTERSECTION OF SOUTH REYNOLDS AND DUKE STREETS. IT WAS DEVELOPED IN 1966 AND OPERATED AS MULTI-FAMILY APARTMENTS WITH 219 UNITS. THE SITE IS FULLY DEVELOPED, WITH THE EXISTING BUILDING CURRENTLY USED AS A HOTEL, WITH SUPPORTING AMENITIES AND PAVED SURFACE PARKING. THE SITE DOES NOT CURRENTLY ADDRESS STORMWATER MANAGEMENT REQUIREMENTS.

PROPOSED IMPROVEMENTS

THIS APPLICATION PROPOSES TO CONVERT THE USE OF THE BUILDING FROM ITS PRESENT HOTEL USE BACK TO ITS ORIGINALLY APPROVED 219 MULTIFAMILY UNITS. NEW SITE IMPROVEMENTS ARE PROPOSED TO BRING THE SITE INTO CLOSER COMPLIANCE WITH CURRENT STANDARDS FOR PARKING, LANDSCAPING, AND OPEN SPACE. IMPROVEMENTS TO INCREASE PARKING WILL INCREASE IMPERVIOUS COVER ON THE NORTHERN PORTIONS OF THE SITE. IMPROVEMENTS TO ADD LANDSCAPING AREAS WILL SERVE TO REDUCE IMPERVIOUS COVER IN THE SOUTHERN PORTIONS OF THE SITE.

THE MARK (WASHINGTON SUITES) SITE FALLS WITHIN THE CAMERON RUN DRAINAGE SHED. SITE RUNOFF FLOWS NORTHWARD THROUGH AN EXISTING STORM SEWER SYSTEM THAT RUNS ALONG SOUTH REYNOLDS STREET, CROSSES DUKE STREET THROUGH DENSE RESIDENTIAL NEIGHBORHOODS, AND FINALLY OUTFALLS TO HOLMES RUN STREAM. UNDERSTANDING THAT THE PRESENT SITE IS FULLY DEVELOPED AT THIS TIME, AND WITHOUT STORMWATER MANAGEMENT MEASURES, THE INTENT OF THIS APPLICATION IS TO PROVIDE ON-SITE STORMWATER MANAGEMENT FOR WATER QUANTITY AND QUALITY TO ACCOUNT FOR INCREASED RUNOFF RESULTING FROM THE PROPOSED SITE IMPROVEMENTS, IN GENERAL CONFORMANCE WITH THE REQUIREMENTS OF ARTICLE XIII OF THE CITY ORDINANCE.

FACTS AND FINDINGS BASED ON CITY GIS TOPO, SURVEY AND FIELD OBSERVATIONS

THERE IS AN EXISTING STORM DRAINAGE SYSTEM THAT RECEIVES SIGNIFICANT AMOUNT OF RUNOFF FROM THE CONDOMINIUM DEVELOPMENT TO THE SOUTHWEST. PRIOR TO DEVELOPMENT, THE EXISTING DRAINAGE SYSTEM CI-3 TO CI-6 TO CI-6B TO MH 7 TO CI-8 TO CI-9 IS INADEQUATE TO CARRY THE 10 YR OFFSITE RUNOFF EVEN WITHOUT RUNOFF CONTRIBUTION FROM THE WASHINGTON SUITES RESIDENCES SITE. SEE OUTFALL MAP ON THE LEFT FOR HYDROLOGY PARAMETERS THAT CONTRIBUTE RUNOFF TO THE SYSTEM.

CITY OF ALEXANDRIA OUTFALL ANALYSIS CRITERIA

IF AN ADEQUATE OUTFALL IS NOT PRESENT

THE HYDROLOGIC AND HYDRAULIC COMPUTATIONS DEMONSTRATE THE NON-AVAILABILITY OF AN ADEQUATE STORM WATER OUTFALL FOR POST DEVELOPMENT CONDITIONS; THEREFORE, THE SITE HAS BEEN DEVELOPED NOT TO INCREASE THE POST DEVELOPMENT PEAK RUNOFF RATE FROM THE PRE-DEVELOPMENT PEAK RUNOFF RATE FOR A TWO-YEAR AND TEN YEAR STORM CONSIDERED INDIVIDUALLY PER THE REQUIREMENTS OF ARTICLE 13-109(F)(1) OF ALEXANDRIA ZONING ORDINANCE.

IN ADDITION TO NOT INCREASING THE POST DEVELOPMENT PEAK RUNOFF RATE FROM THE PRE DEVELOPMENT CONDITIONS, A COMBINATION OF CHANNEL IMPROVEMENTS, STORMWATER DETENTION OR OTHER MEASURES HAVE BEEN DESIGNED TO PROVIDE AN ADEQUATE OUTFALL TO THE SATISFACTION OF THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THESE IMPROVEMENTS SHALL PRODUCE NON EROSIVE VELOCITIES IN THE PROPOSED IMPROVEMENTS AND THE EXISTING SYSTEM. THE PROPOSED IMPROVEMENTS ARE NOT CONSTRUCTED IN THE PUBLIC RIGHT OF WAY.

ANALYSIS

GIVEN THE ABOVE FACTS, THE PROPOSED SITE CONDITIONS IMPROVE THE EXISTING OUTFALL FOR THE FOLLOWING REASONS:

1. THE EXTENT OF THIS OUTFALL ANALYSIS WAS CHASED TO AN EXISTING 30" RCP STORM SEWER THAT RUNS WEST EAST AS SHOWN ON THE OUTFALL MAP TO THE RIGHT.
2. THE POST-DEVELOPED PEAK RUNOFF RELEASED FROM THE SITE IS LESS THAN THE PRE-DEVELOPED PEAK FOR BOTH THE 2 YR AND 10 YR STORMS. THE PROPOSED STORMWATER MANAGEMENT FACILITY PROVIDES EXCESS DETENTION BY MORE THAN 10% IN ORDER TO COMPENSATE FOR THE INEDEQUACY OF THE OUTFALL. FOR SWM DESIGN, SEE SHEETS CS5009-CS5012.
3. THE ONSITE PUBLIC DRAINAGE SYSTEM HAS BEEN UPGRADED TO CARRY THE BYPASS OFFSITE FLOW AS WELL AS HANDLE THE 10-YR RUNOFF. PER DISCUSSION WITH THE CITY, THESE PIPES HAVE BEEN OVERSIZED TO 30" TO PROVIDE AN ADDITIONAL DETENTION EFFECT AS REQUESTED BY THE CITY. FOR STORM PIPE CALCULATIONS AND HYDRAULIC GRADE LINE CALCULATIONS, SEE SHEETS CS2101-CS2102.
4. THE 2-YR HYDRAULIC GRADE LINE ALONG THE OUTFALL DRAINAGE SYSTEM IS AT LEAST 2 FT BELOW THE RIM OF ALL INLETS/MANHOLES, SEE SHEET HYDRAULIC GRADE LINE COMPUTATIONS ON SHEET CS2102.

FOR STORM PIPE CALCULATIONS AND HYDRAULIC GRADE LINE CALCULATIONS, SEE SHEET CS2102. FOR POST DEVELOPMENT DRAINAGE DIVIDES, SEE SHEET CS5009. FOR SWM DESIGN, SEE SHEETS CS5009-CS5012.

IT IS ALSO IMPORTANT TO NOTE THAT THE DOWNSTREAM DRAINAGE SYSTEM FROM THE SITE ON PRIVATE PROPERTIES AND PUBLIC RIGHT-OF-WAY IS NOT ADEQUATE GIVEN THE PIPES FLAT SLOPES. GIVEN THAT DESCRIBED ABOVE, IT IS THE ENGINEER'S OPINION THAT THE PROPOSED DESIGN IS A BETTERMENT TO THE CURRENT OUTFALL CONDITIONS.

10U HOLMES RUN STORM DRAIN MARKER
N.T.S.

ALL ON-SITE STORM WATER CURB INLETS AND PUBLIC CURB INLETS LOCATED WITHIN 50 FEET OF THE PROPERTY LINE SHALL BE ONLY MARKED WITH THE ABOVE STANDARD CITY OF ALEXANDRIA MARKER.

RESOURCE PROTECTION AREA NOTE

THE SUBJECT PROPERTY DOES NOT LIE WITHIN THE CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA) AND THERE ARE NO MAPPED RPA'S ON THIS PROPERTY.

FLOOD PLAIN NOTE

THIS SITE DOES NOT LIE WITHIN 100-YEAR FLOOD PLAIN WATER SURFACE ELEVATION (WSE) PER THE DEMARCATION OF THE CURRENT FLOOD INSURANCE RATE MAP (FIRM) PUBLISHED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

ENVIRONMENTAL SITE ASSESSEMENT

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 WETLANDS PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWATER CONTAMINATION ON THE 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 AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.

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 7 AM TO 6 PM AND
- SATURDAYS FROM 9 AM TO 6 PM
- NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS

PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:

- MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND
- SATURDAYS FROM 10 AM TO 4 PM.

COMMONWEALTH OF VIRGINIA
Brian D. Swanson
BRIAN D. SWANSON
Lic. No. 0402054771
07-20-2015
PROFESSIONAL ENGINEER

APPROVED

SPECIAL USE PERMIT NO. ____________

DEPARTMENT OF PLANNING & ZONING

DIRECTOR ____ DATE ____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. DSP2015 - 0020

DIRECTOR ____ DATE ____

CHAIRMAN, PLANNING COMMISSION ____ DATE ____

DATE RECORDED ____________

INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

Pennoni

DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

STORMWATER MANAGEMENT PLAN
WATER QUANTITY MAPS AND COMPS

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

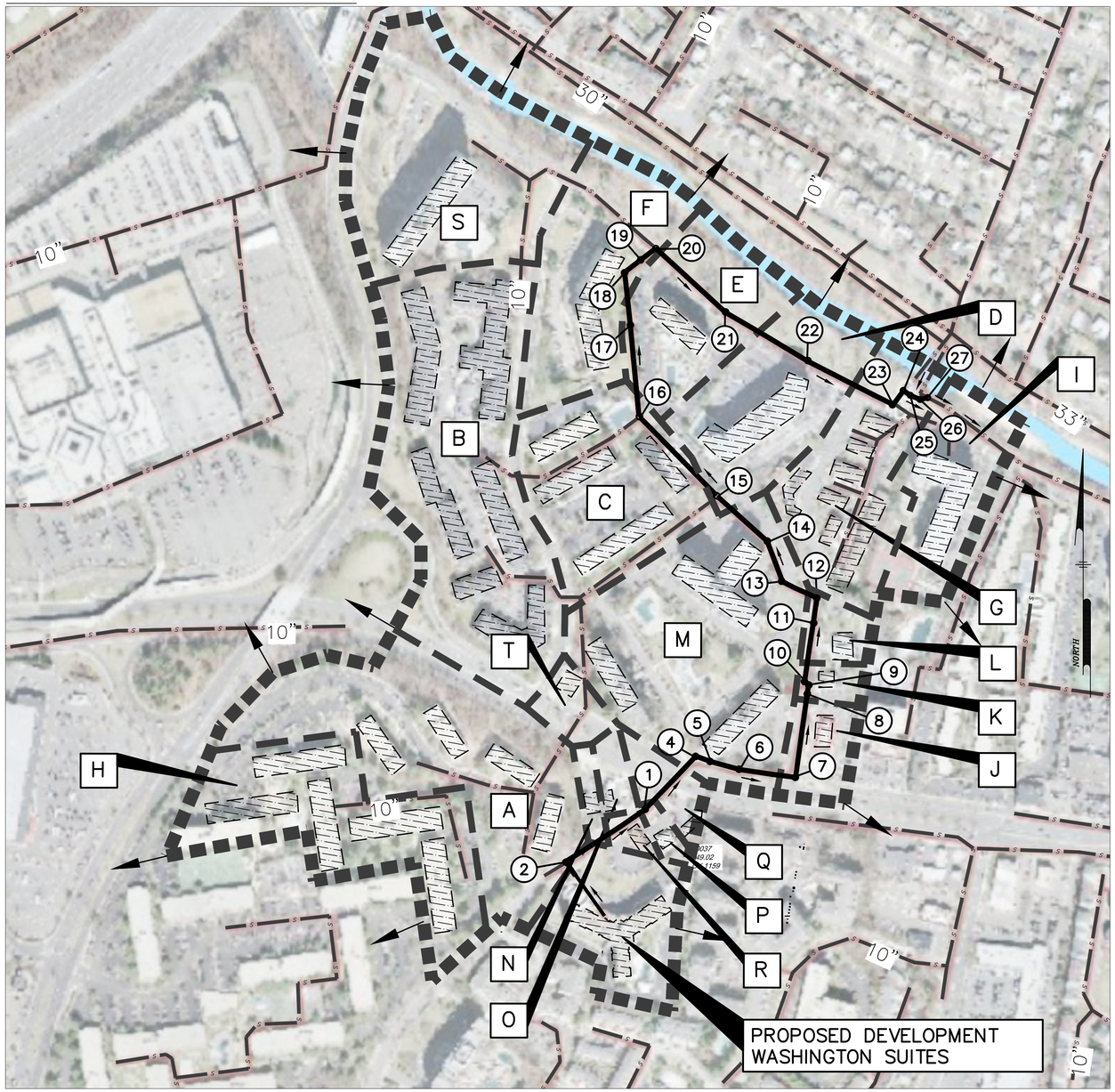
Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

NORTH	PROJECT NO. NPRP1501
	SHEET 18 OF 22
SCALE AS SHOWN	DATE 2015-07-20
DRAWN BY PAI	APPROVED DHS
DRAWING NO. CS0018	

SANITARY SEWER ADEQUATE OUTFALL COMPUTATIONS

MANHOLE NO. FR.	TO	GFA (SF)	RESIDENTIAL: DWELLING UNITS (DU)	RESIDENTIAL: 300 GPD/ UNIT AVE FLOW (GPD)	RESIDENTIAL: INCR. RES. FLOW (MGD)	RESIDENTIAL: TOTAL RES FLOW (MGD)	OFFICE: GFA (SF)	OFFICE: 200 GPD/ 1000 SQ. FT. (NET FLOOR AREA) AVE FLOW (GPD)	OFFICE: INCR. OFF. FLOW (MGD)	OFFICE: TOTAL OFFICE FLOW (MGD)	RETAIL: GFA (SF)	RETAIL: 200 GPD/ 1000 SQ. FT. (NET FLOOR AREA) AVE FLOW (GPD)	RETAIL: INCR. RET. FLOW (MGD)	RETAIL: TOTAL RETAIL FLOW (MGD)	PEAK FLOW: INCR. OFF & RET. FLOW (MGD)	PEAK FLOW: TOTAL OFF & RET. FLOW (MGD)	PEAK FLOW: COMBINED FLOW (MGD)	PEAK FLOW: PEAK FACTOR	PEAK FLOW: PEAK FLOW (MGD)	PIPE DESIGN: LENGTH (FT)	PIPE DESIGN: SLOPE (%)	PIPE DESIGN: DIAMETER (IN)	PIPE DESIGN: FULL FLOW CAPACITY (MGD)	PIPE DESIGN: FULL FLOW VELOCITY (FPS)	PIPE DESIGN: ACTUAL FLOW DEPTH (IN)	PIPE DESIGN: ACTUAL FLOW VELOCITY (FPS)	REMARKS
SSMH-2	SSMH-1	211596	227	300 X 227 = 68,100	0.068	0.068			0.000	0.000			0.000	0.000	0.000	0.000	0.068	4.0	0.272	299.00	4.23	10	2.531	7.18	2.22	4.70	
SSMH-1	SSMH-4				0.000	0.068			0.000	0.000	11,014	200 X 0.85 X 11014 /1000 = 1,872	0.002	0.002	0.002	0.002	0.070	4.0	0.280	229.00	2.75	10	2.041	5.79	2.51	4.06	
SSMH-4	SSMH-5				0.000	0.068			0.000	0.000			0.000	0.002	0.000	0.002	0.070	4.0	0.280	48.00	4.46	10	2.599	7.37	2.22	4.82	
SSMH-5	SSMH-6				0.000	0.068			0.000	0.000			0.000	0.002	0.000	0.002	0.070	4.0	0.280	94.00	4.43	10	2.590	7.35	2.23	4.81	
SSMH-6	SSMH-7				0.000	0.068			0.000	0.000			0.000	0.002	0.000	0.002	0.070	4.0	0.280	178.00	4.77	10	2.688	7.62	2.19	4.94	
SSMH-7	SSMH-8				0.000	0.068			0.000	0.000			0.000	0.002	0.000	0.002	0.070	4.0	0.280	265.00	2.01	10	1.745	4.95	2.71	3.63	
SSMH-8	SSMH-9				0.000	0.068			0.000	0.000	5,056	200 X 0.85 X 5056 /1000 = 860	0.001	0.003	0.001	0.003	0.071	4.0	0.283	29.00	2.86	10	2.081	5.90	2.50	4.13	
SSMH-9	SSMH-10				0.000	0.068			0.000	0.000	2,146	200 X 0.85 X 2146 /1000 = 365	0.000	0.003	0.000	0.003	0.071	4.0	0.285	16.00	1.78	10	1.642	4.66	2.82	3.49	
SSMH-10	SSMH-11		187	300 X 187 = 56,100	0.056	0.124			0.000	0.000			0.000	0.003	0.000	0.003	0.127	4.0	0.509	189.00	0.49	10	0.861	2.44	5.51	2.54	
SSMH-11	SSMH-12				0.000	0.124	12,786	200 X 0.85 X 12786 /1000 = 2,174	0.002	0.002			0.000	0.003	0.002	0.005	0.129	4.0	0.518	76.00	3.88	10	2.424	6.88	3.14	5.47	
SSMH-12	SSMH-13				0.000	0.124			0.000	0.002			0.000	0.003	0.000	0.005	0.129	4.0	0.518	122.00	0.62	10	0.969	2.75	5.21	2.80	
SSMH-13	SSMH-14				0.000	0.124			0.000	0.002			0.000	0.003	0.000	0.005	0.129	4.0	0.518	133.00	0.43	10	0.807	2.29	5.81	2.43	
SSMH-14	SSMH-15		271	300 X 271 = 81,300	0.081	0.206			0.000	0.002			0.000	0.003	0.000	0.005	0.211	4.0	0.843	213.00	0.50	10	0.870	2.47	7.87	2.81	
SSMH-15	SSMH-16		853	300 X 853 = 255,900	0.256	0.461	2,520	200 X 0.85 X 2520 /1000 = 428	0.000	0.003			0.000	0.003	0.000	0.008	0.467	4.0	1.868	349.00	0.90	12	1.898	3.74	9.60	4.26	
SSMH-16	SSMH-17		269	300 X 269 = 80,700	0.081	0.542			0.000	0.003			0.000	0.003	0.000	0.006	0.548	4.0	2.191	289.00	3.33	12	3.652	7.19	6.88	7.51	
SSMH-17	SSMH-18		152	300 X 152 = 45,600	0.046	0.588			0.000	0.003			0.000	0.003	0.000	0.006	0.593	4.0	2.374	166.00	2.54	12	3.189	6.28	7.66	6.87	
SSMH-18	SSMH-19		152	300 X 152 = 45,600	0.046	0.633			0.000	0.003			0.000	0.003	0.000	0.006	0.639	4.0	2.556	65.00	1.37	14	3.533	5.11	8.84	5.57	
SSMH-19	SSMH-20				0.000	0.633			0.000	0.003			0.000	0.003	0.000	0.006	0.639	4.0	2.556	60.00	1.38	18	6.931	6.07	7.59	5.62	
SSMH-20	SSMH-21		444	300 X 444 = 133,200	0.133	0.767			0.000	0.003			0.000	0.003	0.000	0.006	0.772	4.0	3.089	297.00	0.51	18	4.213	3.69	11.48	4.03	
SSMH-21	SSMH-22		159	300 X 159 = 47,700	0.048	0.814			0.000	0.003			0.000	0.003	0.000	0.006	0.820	4.0	3.280	300.00	0.62	18	4.645	4.07	11.19	4.41	
SSMH-22	SSMH-23		284	300 X 284 = 85,200	0.085	0.899			0.000	0.003			0.000	0.003	0.000	0.006	0.905	4.0	3.620	300.00	0.46	18	4.001	3.50	13.48	3.97	
SSMH-23	SSMH-24		332	300 X 332 = 99,600	0.100	0.999			0.000	0.003			0.000	0.003	0.000	0.006	1.005	4.0	4.019	56.09	1.22	18	6.516	5.71	10.28	6.01	
SSMH-24	SSMH-25				0.000	0.999			0.000	0.003			0.000	0.003	0.000	0.006	1.005	4.0	4.019	25.65	1.88	18	8.089	7.08	8.98	7.08	
SSMH-25	SSMH-26				0.000	0.999			0.000	0.003			0.000	0.003	0.000	0.006	1.005	4.0	4.019	34.14	2.90	18	10.047	8.80	7.96	8.33	
SSMH-26	SSMH-27				0.000	0.999			0.000	0.003			0.000	0.003	0.000	0.006	1.005	4.0	4.019	24.08	11.25	18	19.788	17.33	5.50	13.58	

SANITARY SEWER SHED OVERALL MAP



HGL COMPUTATIONS

INLET NUMBER (1)	Outlet Water Surface Elev. (2)	D_o (3)	Q_o (4)	L_o (5)	S_o ft/ft (6)	H_f (7)	JUNCTION LOSS: V_o (8)	H_o (9)	Q (10)	V_i (11)	Q/Vi (12)	$V_i^2/2g$ (13)	H_i (14)	Angle (15)	H_b (16)	H_t (17)	1.3 H_t (18)	0.5 H_t (19)	Final H (20)	Inlet Water Surface Elev. (21)	Rim Elev. (22)	WSE Distance to Rim
SSMH-26	60.49	18	6.20	24.08	0.0035	0.08	8.32	0.27	6.20	0.12	0.7	0.00	0.00	42	0.00	0.27	0.35	0.13	0.43	60.92	72.06	11.14
SSMH-25	63.78	18	6.20	34.14	0.0035	0.12	8.32	0.27	6.20	0.09	0.6	0.00	0.00	40	0.00	0.27	0.35	0.13	0.47	64.25	73.06	8.81
SSMH-24	65.01	18	6.20	25.65	0.0035	0.09	7.07	0.19	6.20	0.20	1.2	0.00	0.00	10	0.00	0.19	0.25	0.10	0.34	65.35	74.06	8.71
SSMH-23	65.58	18	6.20	56.09	0.0035	0.20	6.01	0.14	5.59	0.85	4.7	0.01	0.00	90	0.01	0.15	0.20	0.08	0.39	65.97	75.06	9.09
SSMH-22	66.36	18	5.59	300.00	0.0028	0.85	3.97	0.06	5.06	0.70	3.5	0.01	0.00	0	0.00	0.06	0.08	0.03	0.93	67.29	76.90	9.61
SSMH-21	67.85	18	5.06	300.00	0.0023	0.70	4.41	0.08	4.76	0.61	2.9	0.01	0.00	12	0.00	0.08	0.10	0.04	0.80	68.65	78.33	9.68
SSMH-20	69.73	18	4.76	297.00	0.0021	0.61	4.03	0.06	3.94	0.08	0.3	0.00	0.00	80	0.00	0.06	0.08	0.03	0.69	70.42	79.89	9.47
SSMH-19	73.17	18	3.94	60.00	0.0014	0.08	5.61	0.12	3.94	0.35	1.4	0.00	0.00	0	0.00	0.12	0.16	0.06	0.24	73.41	81.05	7.64
SSMH-18	73.78	14	3.94	65.00	0.0054	0.35	5.57	0.12	3.66	1.75	6.4	0.05	0.02	58	0.02	0.16	0.21	0.08	0.56	74.34	86.69	12.35
SSMH-17	74.68	12	3.66	166.00	0.0105	1.75	6.87	0.18	3.38	2.59	8.8	0.10	0.04	0	0.00	0.22	0.29	0.11	2.04	76.72	85.15	8.43
SSMH-16	78.93	12	3.38	289.00	0.0090	2.59	7.50	0.22	2.88	2.27	6.5	0.08	0.03	39	0.02	0.27	0.35	0.13	2.94	81.87	100.19	18.32
SSMH-15	88.96	12	2.88	349.00	0.0065	2.27	4.26	0.07	1.29	0.74	1.0	0.01	0.00	0	0.00	0.07	0.10	0.04	2.37	91.33	102.19	10.86
SSMH-14	92.66	10	1.29	213.00	0.0035	0.74	2.81	0.03	0.79	0.17	0.1	0.00	0.00	28	0.00	0.03	0.04	0.02	0.78	93.43	104.18	10.75
SSMH-13	93.73	10	0.79	133.00	0.0013	0.17	2.42	0.02	0.79	0.16	0.1	0.00	0.00	45	0.00	0.02	0.03	0.01	0.20	93.93	102.66	8.73
SSMH-12	94.44	10	0.79	122.00	0.0013	0.16	2.78	0.03	0.79	0.10	0.1	0.00	0.00	72	0.00	0.03	0.04	0.02	0.20	94.63	99.87	5.24
SSMH-11	96.57	10	0.79	76.00	0.0013	0.10	5.44	0.12	0.77	0.24	0.2	0.00	0.00	0	0.00	0.12	0.15	0.06	0.25	96.81	104.90	8.09
SSMH-10	99.65	10	0.77	189.00	0.0012	0.24	2.53	0.02	0.43	0.01	0.0	0.00	0.00	59	0.00	0.02	0.03	0.01	0.27	99.91	106.97	7.06
SSMH-9	100.59	10	0.43	16.00	0.0004	0.01	3.46	0.05	0.42	0.01	0.0	0.00	0.00	58	0.00	0.05	0.06	0.02	0.07	100.65	106.70	6.05
SSMH-8	100.97	10	0.42	29.00	0.0004	0.01	4.09	0.07	0.42	0.10	0.0	0.00	0.00	0	0.00	0.07	0.08	0.03	0.10	101.06	106.81	5.75
SSMH-7	101.83	10	0.42	265.00	0.0004	0.10	3.60	0.05	0.42	0.06	0.0	0.00	0.00	90	0.00	0.05	0.07	0.03	0.16	101.99	114.14	12.15
SSMH-6	107.41	10	0.42	178.00	0.0004	0.06	4.89	0.09	0.42	0.03	0.0	0.00	0.00	7	0.00	0.09	0.12	0.05	0.19	107.59	122.97	15.38
SSMH-5	115.97	10	0.42	94.00	0.0004	0.03	4.76	0.09	0.42	0.02	0.0	0.00	0.00	3	0.00	0.09	0.11	0.04	0.15	116.12	127.28	11.16
SSMH-4	120.25	10	0.42	48.00	0.0004	0.02	4.78	0.09	0.42	0.08	0.0	0.00	0.00	65	0.00	0.09	0.12	0.04	0.13	120.38	129.41	9.03
SSMH-1	122.50	10	0.42	229.00	0.0004	0.08	4.02	0.06	0.41	0.10	0.0	0.00	0.00	12	0.00	0.06	0.08	0.03	0.17	122.66	136.77	14.11
SSMH-2	129.04	10	0.41	299.00	0.0003	0.10	4.65	0.08	0.00	0.00	0.0	0.00	0.00	90	0.00	0.08	0.11	0.04	0.21	129.25	153.01	23.76

DEVELOPMENT TABULATION

MARKER	PROPERTY	APPROVED SITE PLAN NUMBER	DATE	OFFICE DENSITY GFA (SF)	RETAIL DENSITY GFA (SF)	DWELLING UNITS (DU)	CONTRIBUTING JUNCTION
A	American Landmark	62-028	11/6/1962	0	0	164	15
B	Landmark Century Apartments	86-062	6/28/1990	0	0	532	15/16/20
C	Parkwood terrace Apartments	62-045-1	2/1/1962	0	0	190	15/16
D	The Park Alexandrian	65-023	10/26/1966	0	0	284	22
E	The Landmark Apartments	72-011	7/18/1972	0	0	159	21
F	Claridge House Alexandria	80-027	9/24/1970	0	0	304	17/18
G	Paxton Street Townhouses	85-006	5/17/1985	0	0	44	23
H	Alexandria Country Club Apartments	71-025	3/23/1972	0	0	400	15
I	Park Randolph	73-002	7/12/1974	0	0	288	23
J	Mcdonalds	97-021R	9/12/1998	0	5056	0	8
K	Burke & Herbert Bank & Trust Co	74-048	7/1/1975	0	2146	0	9
L	Fire House #8	75-007	6/6/1975	12786	0	0	11
M	Royal-Duke Apartments	63-003-2	8/13/1964	0	0	458	10/14
N	Dominos	65-056	3/2/1966	0	2200	0	1
O	Service Station	65-067	3/18/1965	0	1564	0	1
P	7-Eleven	64-051	5/19/1964	0	2400	0	1
Q	Precision Tune	95-024	5/14/1996	0	2330	0	1
R	Reynolds Street Bar & Grille	SUP0766	Jul-66	0	2520	0	1
S	Fox Chase Apartments	72-0011	11/17/1972	8000	0	300	20
T	Sendi Center for Cosmetic Surgery	n/a	1974	2520	0	0	15

LEGEND

- (8) SANITARY SEWER MANHOLE - (SSMH-8)
- (A) DEVELOPMENT MARKER
- EX. SANITARY SEWER FROM CITY RECORDS
- EX. SANITARY SEWER THAT IS PART OF THIS OUTFALL STUDY AREA
- LIMITS OF DEVELOPMENT AREAS
- LIMITS OF SANITARY SEWER SHED

SANITARY SEWER OUTFALL NARRATIVE

PROJECT SUMMARY:

THIS PROJECT OUTFALLS TO AN EXISTING SANITARY SEWER THAT RUNS GENERALLY NORTHEAST. THIS STUDY FOLLOWS THE EXISTING SEWER UNTIL IT CONNECTS TO A 24" TRUNK SEWER.

CALCULATION SUMMARY:

THE ADEQUACY OF THE DOWNSTREAM SYSTEM IS ANALYZED WITH FULL BUILDOUT CONDITIONS, INCLUDING ALL DEVELOPMENT EXISTING (OR PROPOSED AND APPROVED WITH A SITE PLAN) UPSTREAM OF THE SITE.

ALL COMPUTATIONS ARE IN COMPLIANCE WITH THE CITY OF ALEXANDRIA'S PEAK FLOW METHODOLOGY AS DETAILED IN THE LETTER TO INDUSTRY 02-07 DATED JUNE 1, 2007, AS WELL AS ALL STATE REGULATIONS.

GFA, FLOW, AND HGL DATA WAS TAKEN FROM CURRENT TOPO, AS-BUILT PLANS, PLANS OF RECORD, AND RECORDS AS INDICATED.

A PEAK FACTOR OF 4.0 IS USED FOR ALL LATERALS AND SUB-TRUNKS. A MANNING'S COEFFICIENT OF 0.015 IS USED FOR ALL PIPES.

PER ASSESSMENT BY DR. SINGH WITH ON 05/30/2013, THE EXISTING FLOW IS 130 GPD/UNIT. THE FLOW USED FOR THE STUDY IS BASED ON 2.6 PEOPLE PER UNIT AT 100 GPCPD GENERATING A RATE OF 260 GPD/UNIT.

CONCLUSIONS:

ALL PIPES, PROPOSED AND EXISTING, WITHIN THE STUDY ARE FOUND TO ADEQUATELY CONVEY THE PROPOSED DEVELOPMENT CONDITIONS.

COMMONWEALTH OF VIRGINIA
Brian D. Swanson
BRIAN D. SWANSON
Lic. No. 0402054771
07-20-2015
PROFESSIONAL ENGINEER

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. DSP2015 - 0020
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Pennoni

NO.	DATE	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK

DEVELOPMENT
PRELIMINARY SITE PLAN
DSP 2015-0020

THE MARK
100 S. REYNOLDS STREET
ALEXANDRIA, VIRGINIA

SANITARY SEWER OUTFALL ANALYSIS

LANDMARK 100 SR, LLC
c/o NORTHPOINT REALTY PARTNERS
8210 WOODMONT AVENUE SUITE 410
BETHESDA, MARYLAND 20814

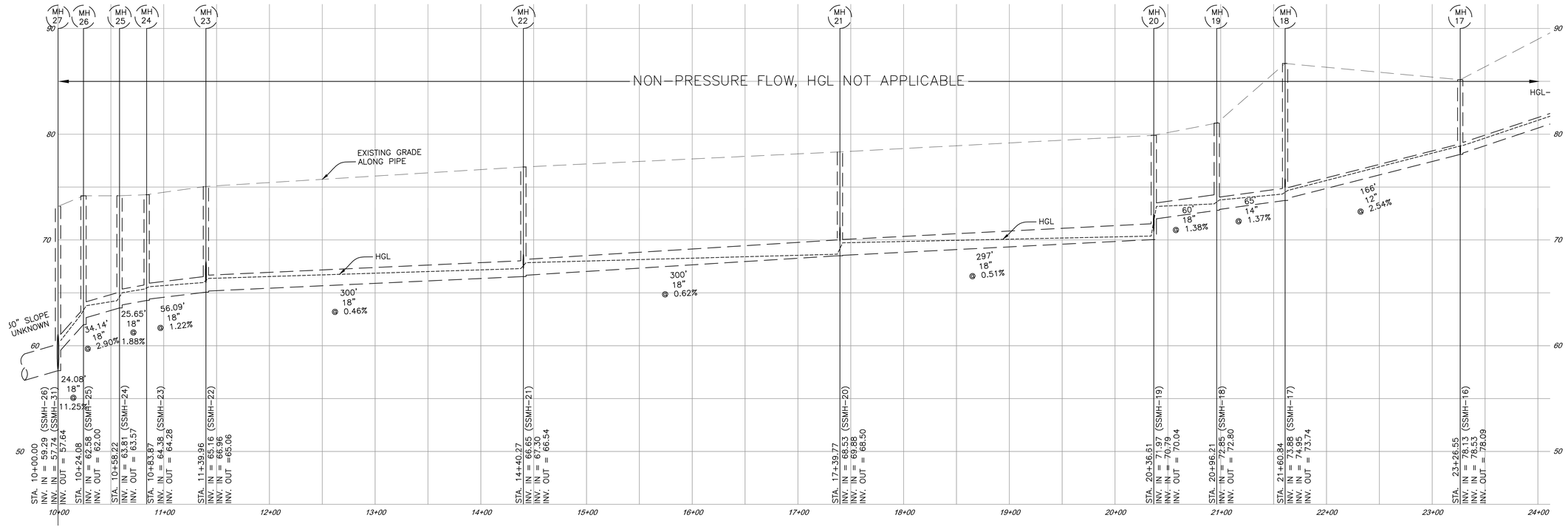
NORTH

PROJECT NO. NPRP1501
SHEET 19 OF 22

SCALE AS SHOWN | DATE 2015-07-20
DRAWN BY PAI | APPROVED BDS
DRAWING NO. CS0019

Pennoni Associates Inc.
13880 Dulles Corner Lane, Herndon, VA 20171 703.449.6700

V:\PROJECTS\NPRP\1501-WASHINGTON SUITES\DESIGN\SHEETS\CS0019 SAN-HGL.DWG PLOTTED: ------ BY: NADEJDA BURDUJA PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ------



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SANITARY SEWER PROFILE

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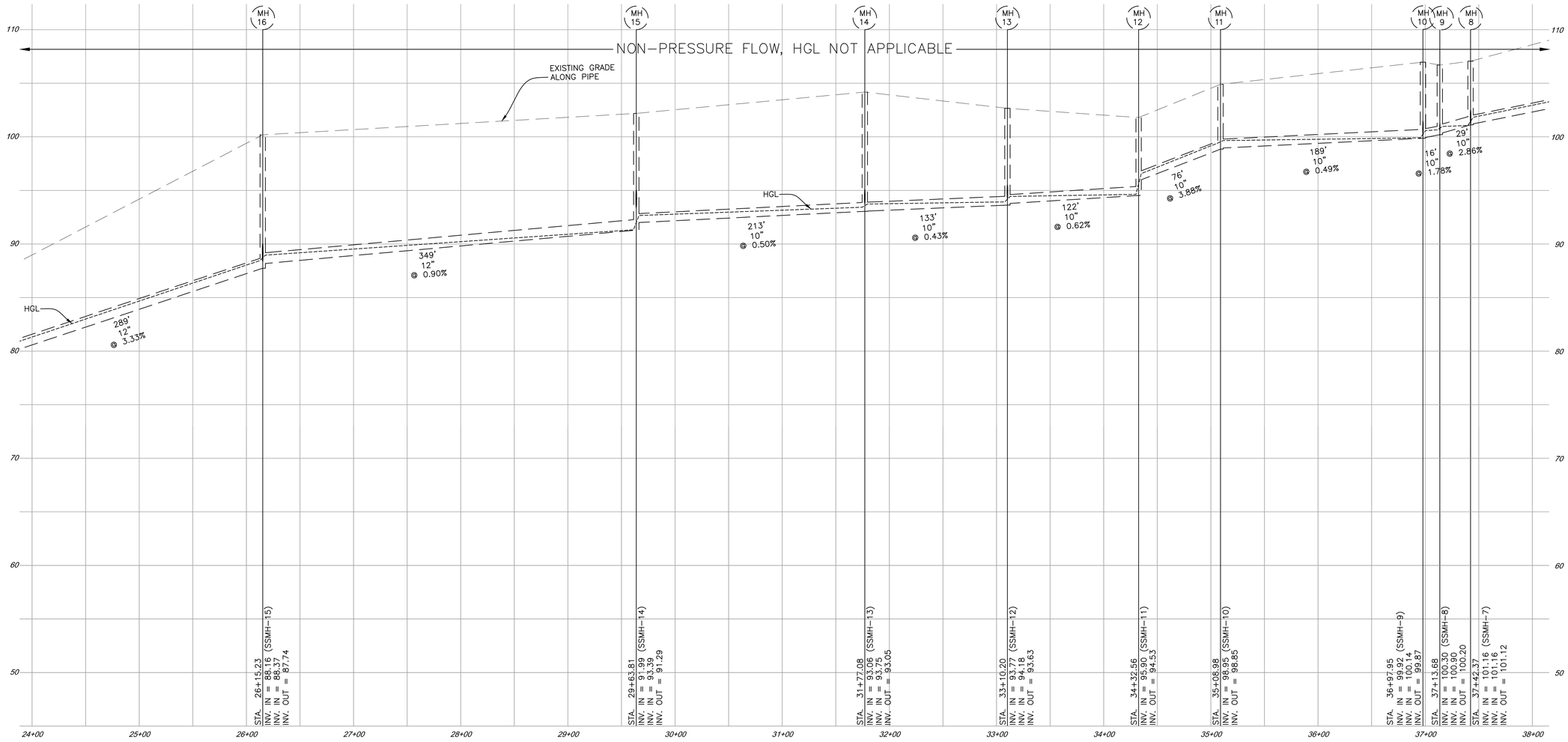

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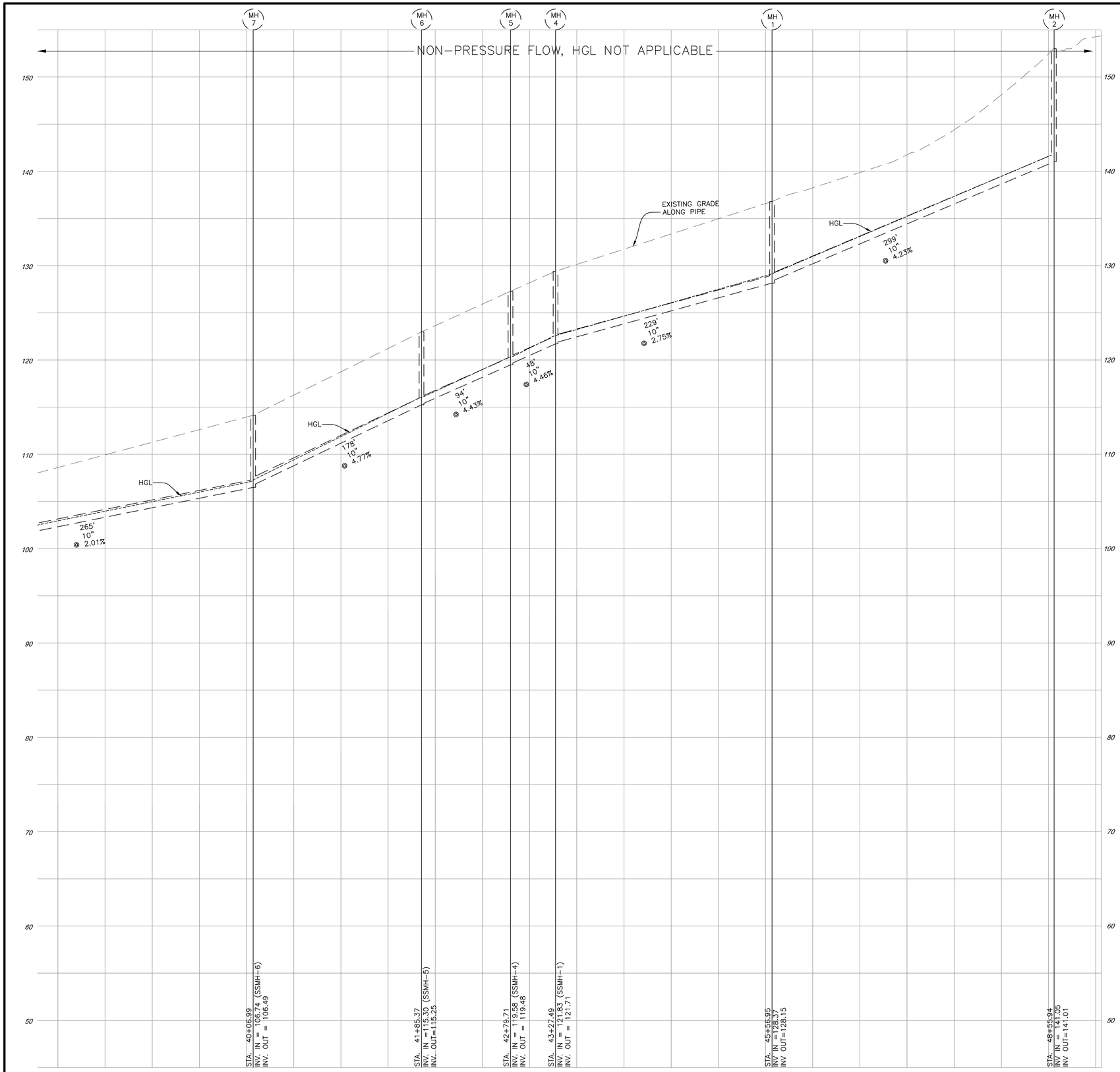

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