

# PRELIMINARY DEVELOPMENT SPECIAL USE PERMIT STAGE I HOFFMAN TOWN CENTER BLOCKS 4 & 5 ALEXANDRIA, VIRGINIA

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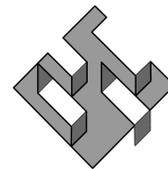
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### NARRATIVE DESCRIPTION OF DEVELOPMENT

THIS SITE IS BORDERED TO THE NORTH BY MILL ROAD; TO THE SOUTH AND EAST BY MANDEVILLE LANE; AND TO THE WEST BY STOVALL STREET.

THIS PROJECT CONSISTS OF THE DEVELOPMENT OF RESIDENTIAL MULTI-FAMILY UNITS, CONDOMINIUMS, SENIOR LIVING, GROUND AND 2ND LEVEL RETAIL SPACE INCLUDING GROCERY.

SITE ACCESS: THE PRIMARY ACCESS TO THE SITE WILL BE FROM MILL ROAD, STOVALL STREET AND MANDEVILLE LANE.



PREPARED BY:

**christopher consultants**

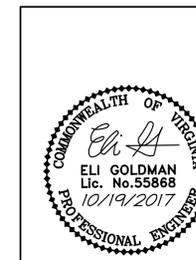
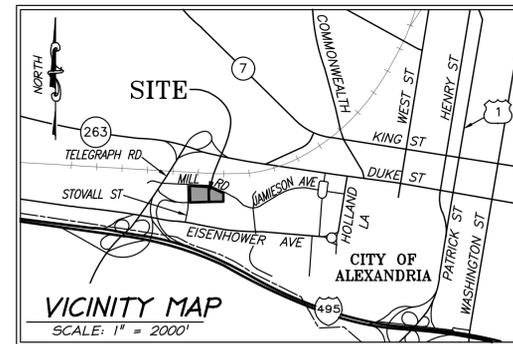
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### SPECIAL USE PERMITS/ZONING MODIFICATIONS/WAIVERS

1. STAGE I DEVELOPMENT SPECIAL USE PERMIT WITH SITE PLAN.
2. AMENDMENT TO THE CDD #2 DEVELOPMENT CONCEPT PLAN.
3. VACATION OF RIGHT-OF-WAY.
4. TIER 3 TRANSPORTATION MANAGEMENT PLAN SPECIAL USE PERMIT

### COMPLETE STREETS

	New	Upgraded
Crosswalks (number)		
Standard	0	3
High Visibility	0	7
Curb Ramps	2	12
Sidewalks (LF)	0	1,864
Bicycle Parking (number of spaces)		
Public/Visitor	TBD	N/A
Private/Garage	TBD	N/A
Bicycle / Side Paths (LF)	810	N/A
Pedestrian Signals	0	0



DATE	REVISION
02-24-2017	CONCEPT II SUBMISSION
05-02-2017	CONCEPT III SUBMISSION
07-28-2017	CONCEPT IV SUBMISSION
09-15-2017	PRELIMINARY DSUP STAGE I
10-19-2017	COMPLETENESS - DSUP STAGE I

### ARCHITECTURAL

A0.01	SITE PLAN
A1.01	LEVEL 1 PLAN - MANDEVILLE LANE
A1.02	LEVEL 2 PLAN - PARKING
A1.03	LEVEL 3 PLAN - GROCERY AND RETAIL
A1.04	LEVEL 4 PLAN - PARKING
A1.05	LEVEL 5 PLAN - PARKING
A1.06	PODIUM ROOF PLAN
A1.07	TYPICAL RESIDENTIAL LOWER LEVEL PLAN
A1.08	TYPICAL RESIDENTIAL UPPER LEVEL PLAN
A1.09	ROOFTOP AMENITY PLAN
A1.10	ROOF PLAN
A1.21	LOADING DIAGRAM - P1
A1.22	LOADING DIAGRAM - P2
A1.23	LOADING DIAGRAM - P3
A1.24	LOADING DIAGRAM - P4
A1.25	LOADING DIAGRAM - P5
A1.26	LOADING DIAGRAM - R1
A5.01-A5.02	BUILDING SECTIONS
A8.01	AXON SOUTH-WEST
A8.02	AXON SOUTH-EAST
A8.03	AXON NORTH-WEST
A8.04	AXON NORTH-EAST

### LANDSCAPE

L1.0	REFERENCE PLAN
L1.2	CIRCULATION PLAN
L1.3	OPEN SPACE DIAGRAM
L1.4	OPEN SPACE ELEMENTS
L2.0-L2.1	MATERIALS PLAN - STREETSCAPE
L2.2	MATERIALS PLAN - PLAZA
L2.2A	PLAZA PROGRAMMING DIAGRAMS
L2.3	MATERIALS PLAN - PODIUM
L2.4	MATERIALS PLAN - ROOFTOP
L3.0-L3.1	SECTIONS - STREETSCAPE
L4.0	DETAILS - PAVING
L4.1	DETAILS - SITE FURNISHINGS
L4.2	DETAILS - TREE WELLS
L4.3	DETAILS - BMP TREE WELLS
L4.4	DETAILS - GREEN ROOF
L4.5	PAVING ENLARGEMENT
L5.0-L5.2	PLANTING PLAN
L6.0	PLANT SCHEDULE
L7.0	DETAILS - PLANTING
L8.0	PUBLIC ART NARRATIVE

**APPROVED**  
SPECIAL USE PERMIT NO. 2016-0043  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

OWNER  
**HOFFMAN BUILDING II, LLC**  
**HOFFMAN FAMILY, LLC**  
2034 EISENHOWER AVENUE, SUITE 290  
ALEXANDRIA, VA 22331  
(703) 960-4700

APPLICANT  
**S/C EISENHOWER, LLC**  
7200 WISCONSIN AVENUE  
SUITE 700  
BETHESDA, MD 20814  
(301) 913-9610

CIVIL ENGINEER  
**christopher consultants, ltd.**  
9900 MAIN STREET  
FOURTH FLOOR  
FAIRFAX, VIRGINIA 22031  
(703) 273-6820

TRAFFIC ENGINEER  
**GOROVE/SLADE ASSOCIATES, INC.**  
1140 CONNECTICUT AVE, NW  
SUITE 600  
WASHINGTON, DC 20036  
(202) 296-8625

ATTORNEY  
**LAND, CARROLL,  
& BLAIR, PC.**  
524 KING STREET  
ALEXANDRIA, VA 22314  
(703) 836-1000

ARCHITECT  
**COOPER CARRY**  
625 NORTH WASHINGTON STREET  
SUITE 200  
ALEXANDRIA, VA 22314  
(703) 519-7127

LANDSCAPE ARCHITECT  
**LANDDESIGN**  
200 SOUTH PEYTON STREET  
ALEXANDRIA, VA 22314  
(703) 549-7784

**GENERAL NOTES**

- THE BOUNDARY INFORMATION FOR THE SUBJECT SITE IS BASED ON A CURRENT FIELD SURVEY PREPARED BY THIS FIRM IN MARCH 2016.
- EXISTING SITE INFORMATION FOR THE SUBJECT SITE IS BASED ON A CURRENT FIELD SURVEY PREPARED BY THIS FIRM IN MARCH 2016 AND APPROVED PLANS.
- THE SUBJECT SITE IS LOCATED ON CITY OF ALEXANDRIA ASSESSMENT MAP 072.04-03-25 AND 072.04-03-28, ZONED CDD #2.
- THE PROPERTY SHOWN HEREON IS LOCATED ON F.E.M.A. MAP COMMUNITY PANEL NUMBER 515519 0037 E, REVISED JUNE 16, 2011, ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
- OWNER: HOFFMAN BUILDING II, LLC  
HOFFMAN FAMILY, LLC  
INSTRUMENT NO. 150015496
- IN ACCORDANCE WITH THE CITY OF ALEXANDRIA'S MARINE CLAY AREAS MAP DATED NOVEMBER 1976, THERE ARE NO AREAS OF MARINE CLAY LOCATED IN THE VICINITY OF THIS SITE.
- IN ACCORDANCE WITH THE RESOURCE PROTECTION AREAS MAP ADOPTED JUNE 12, 2004 BY THE CITY COUNCIL OF ALEXANDRIA, THERE ARE NO RESOURCE PROTECTION AREAS LOCATED ON THIS PROPERTY.
- THIS PROJECT IS NOT LOCATED IN A COMBINED SEWER AREA.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS CURRENTLY LOCATED AT THE PROPERTY. SHOULD ANY UNANTICIPATED UNDERGROUND STORAGE TANKS OR DRUMS BE ENCOUNTERED AT THE SITE, THE APPLICANT SHALL IMMEDIATELY NOTIFY THE CITY OF ALEXANDRIA FIRE DEPARTMENT AND DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY. THE SITE IS LOCATED PROXIMATE TO A KNOWN HISTORIC OLD LANDFILL.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE AREAS ON-SITE CONTAINING CONTAMINATED SOILS OR CONTAMINATED GROUNDWATER.
- THERE IS NO OBSERVABLE EVIDENCE OF CEMETERIES OR BURIAL GROUNDS.

**SOIL DATA:**

A DRAFT GEOTECHNICAL ENGINEERING REPORT FOR THE SUBJECT PROPERTY WAS PREPARED BY ECS ON JUNE 2, 2016. SOIL BORING TESTS WERE DONE ON SITE TO EVALUATE THE SUBSURFACE CONDITIONS. THREE MAJOR SOIL STRATA WERE ENCOUNTERED WITHIN THE SOIL BORINGS TAKEN. STRATUM I (FILL - EL. +23.5 TO + 17.5) - FILL SOILS THAT CONSISTED OF CLAY AND SILT. STRATUM II (QUATERNARY AGE DEPOSITS - EL. +12.0 TO -20.0) - SOIL GENERALLY CONSISTED OF CLAY, SILT, SAND AND GRAVEL WITH A WIDE RANGE OF STRENGTHS. STRATUM III (POTOMAC GROUP - EL. -20.0 TO BELOW) - SOIL CONSISTS OF CLAY AND SAND.

**ENVIRONMENTAL SITE ASSESSMENT**

THERE ARE NO RPA'S, TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS OR WETLANDS LOCATED ON THIS SITE.

**ARCHAEOLOGY NOTES**

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

**SANITARY STRUCTURE DATA**

\* PIPE MATERIAL TYPE AS PER CITY OF ALEXANDRIA GIS

- RIM EL. = 17.22  
INV IN (24" RCP FROM NORTHWEST) = 7.72  
INV OUT (24" RCP TO 370) = 7.62
- RIM EL. = 16.61  
INV IN (24" RCP FROM 340) = 7.11  
INV OUT (24" RCP TO 400) = 7.01
- RIM EL. = 17.66  
INV IN (24" RCP FROM 370) = 6.26  
INV OUT (24" PVC TO 410) = 6.16
- RIM EL. = 16.82  
INV IN (24" PVC FROM 400) = 5.82  
INV IN (8" PVC FROM NORTHEAST) = 7.32  
INV OUT (24" PVC TO 411) = 5.72

**STORM STRUCTURE DATA**

\* PIPE SIZE AS PER PREVIOUS AS-BUILT SURVEY CONDUCTED BY THIS FIRM ON JUNE 16th, 2003, DRAWING RC-4242 \*\* PIPE SIZE PER PLAN

- RIM EL. = 31.45  
INACCESSIBLE - UNABLE TO OPEN
- RIM EL. = 30.52  
INV IN (21" RCP FROM 481) = 22.94  
INV IN (18" RCP FROM 482) = 22.84  
INV OUT (21" RCP TO 500) = 21.95
- RIM EL. = 31.22  
INV OUT (18" RCP TO 480) = 26.12
- RIM EL. = 29.74  
INV IN (21" RCP FROM 480) = 21.20  
INV IN (18" RCP FROM 501) = 21.99  
INV IN (24" RCP FROM 500) = 21.74  
INV OUT (21"x35" RCP TO 6072) = 20.84
- RIM EL. = 30.00  
INV OUT (18" RCP TO 500) = 22.25
- RIM EL. = 30.60  
INV OUT (15" RCP TO 553) = 26.19
- RIM EL. = 29.85  
INV IN (15" RCP FROM 554) = 25.61  
INV IN (10" STEEL FROM NORTHEAST) = 27.21  
INV OUT (15" RCP TO 552) = 25.36
- RIM EL. = 29.38  
INV IN (15" RCP FROM 553) = 25.38  
INV IN (24" RCP FROM NORTH) = 25.23  
INV OUT (24" RCP TO 551) = 25.08
- RIM EL. = 29.37  
INV IN (15" RCP FROM 552) = 24.57  
INV IN (15" RCP FROM 710) = 24.67  
INV OUT (21" RCP TO 550) = 24.47
- RIM EL. = 30.54  
INV OUT (15" RCP TO 551) = 25.84
- RIM EL. = 28.95  
INV IN (21" RCP FROM 551) = 23.74  
INV IN (18" RCP FROM 549) = 23.90  
INV OUT (24" RCP TO 500) = 23.59
- RIM EL. = 28.99  
INV OUT (18" RCP TO 549) = 24.47
- RIM EL. = 28.85  
INV IN (18" RCP FROM 548) = 23.86  
INV IN (21" DIP FROM EAST) = 23.90  
INV OUT (18" RCP TO 550) = 23.74
- RIM EL. = 17.86  
INV IN (8" PVC FROM SOUTH) = 14.34  
INV OUT (15" RCP TO 1530) = 14.31
- RIM EL. = 19.60  
INV IN (15" RCP FROM 1670) = 13.11  
INV OUT (24" RCP TO 1410) = 12.59
- RIM EL. = 19.22  
INV IN (24" RCP FROM 1530) = 12.24  
INV IN (18" RCP FROM 1630) = 13.04  
INV OUT (30" RCP TO 1400) = 11.94
- RIM EL. = 17.94  
INV IN (4" PVC FROM SOUTH) = 14.62  
INV IN (8" PVC FROM SOUTH) = 13.80  
INV OUT (18" RCP TO 1410) = 13.72
- RIM EL. = 17.94  
INV IN (24" RCP FROM SOUTH) = 14.62  
INV IN (8" PVC FROM SOUTH) = 13.80  
INV OUT (18" RCP TO 1410) = 13.72
- RIM EL. = 19.68  
INV IN (30" RCP FROM 1410) = 11.49  
INV IN (15" RCP FROM 1420) = 12.37  
INV OUT (15" RCP TO 1220) = 11.41
- RIM EL. = 19.92  
INV IN (15" RCP FROM 1400) = 11.02  
INV IN (21" RCP FROM 1180) = 12.40  
INV OUT (30" RCP TO 1200) = 10.90
- RIM EL. = 21.82  
INV OUT (21" RCP TO 1220) = 14.12
- RIM EL. = 17.96  
INV IN (15" RCP FROM 1210) = 11.46  
INV IN (24" RCP FROM 1220) = 10.56  
INV OUT (24" RCP TO 1310) = 10.55
- RIM EL. = 17.89  
INV IN (5" RCP FROM WEST) = 12.87  
INV IN (4" PVC FROM SOUTH) = 14.05  
INV OUT (15" RCP TO 1200) = 12.24
- RIM EL. = 17.93  
INV IN (36" RCP FROM 1200) = 10.13  
INV IN (10" IRON FROM EAST) = 12.88  
INV OUT (36" RCP TO SOUTH) = 10.03
- RIM EL. = 16.77  
INV IN (15" RCP FROM 349) = 12.77  
INV OUT (18" RCP TO 380) = 12.62
- RIM EL. = 16.51  
INV OUT (TO 380) = 12.11
- RIM EL. = 16.68  
INV IN (18" RCP FROM 350) = FLOODED AT THE TIME OF SURVEY  
INV IN (FROM 381) = FLOODED AT THE TIME OF SURVEY  
INV OUT (18" RCP TO 401) = FLOODED AT THE TIME OF SURVEY
- RIM EL. = 16.99  
INV IN (15" RCP FROM 380) = 9.35  
INV IN (6" PVC FROM 5503) = 11.59  
INV IN (15" RCP FROM 402) = 12.85  
INV OUT (24" RCP TO 5408) = 9.19
- RIM EL. = 17.43  
INV OUT (15" RCP TO 401) = 13.58
- RIM EL. = 17.52
- RIM EL. = 17.53  
INV IN (30" RCP FROM 5790) = 12.33  
INV OUT (36" RCP TO 315) = 11.88
- RIM EL. = 17.88  
INV OUT (30" RCP TO 5414) = 10.16  
INV OUT (30" RCP TO 5509) = 10.12
- RIM EL. = 16.89  
INV IN (30" RCP FROM 5516) = 9.99  
INV OUT (15" RCP TO 5508) = 12.13
- RIM EL. = 17.20  
INV IN (15" RCP FROM 5509) = 7.80
- RIM EL. = 17.78  
INV OUT (6" PVC TO 401) = INACCESSIBLE (MESH)
- RIM EL. = 19.17  
INV IN (24" RCP FROM 401) = 8.62  
INV OUT (27" RCP TO 6057) = 19.51
- RIM EL. = 17.56  
INV IN (24" RCP FROM 5414) = 8.76  
INV IN (24" RCP FROM 401) = 8.62  
INV OUT (36" RCP TO 5403) = 8.36
- RIM EL. = 31.81  
INV IN (21" RCP FROM 500) = 19.67  
INV OUT (27" RCP TO 6057) = 19.51
- RIM EL. = 30.28  
INV IN (27" RCP FROM 6072) = 18.50  
INV IN (24" RCP FROM EAST) = 18.98  
INV OUT (27" RCP TO 5847) = 18.40
- RIM EL. = 21.34  
INV IN (27" RCP FROM 6057) = 14.84  
INV OUT (27" RCP TO 5790) = 14.67
- RIM EL. = 20.39  
INV IN (15" RCP FROM SOUTHWEST) = 16.09  
INV IN (28"x45" RCP FROM SOUTH) = 14.49  
INV OUT (28"x45" RCP TO 5790) = 14.27
- RIM EL. = 19.85  
(ABANDONED - FULL OF DEBRIS)
- RIM EL. = 19.75  
INV IN (27" RCP FROM 5847) = 14.13  
INV IN (28"x45" RCP FROM 5932) = 13.65  
INV IN (15" RCP FROM 5789) = 14.06 (ABANDONED)  
INV OUT (30" RCP TO 316) = 13.55
- RIM EL. = 31.36  
INV OUT (18" RCP TO 750) = 25.62
- RIM EL. = 31.36  
INV IN (18" RCP FROM 730) = 24.09  
INV IN (12" CMP FROM 740) = 24.16  
INV OUT (24" RCP TO 760) = 23.86
- RIM EL. = 31.57  
INV OUT (12" CMP TO 750) = 26.42
- RIM EL. = 31.92  
INV IN (24" RCP FROM 750) = 22.72  
INV OUT (24" RCP TO SOUTHEAST) = 22.62

**ZONING TABULATIONS**

**SITE LOCATION/ADDRESS:** 2410 & 2460 MILL ROAD  
**EXISTING ZONE:** COORDINATED DEVELOPMENT DISTRICT #2 (CDD)  
**PROPOSED ZONE:** COORDINATED DEVELOPMENT DISTRICT #2 (CDD)  
**SMALL AREA PLAN DISTRICT:** EISENHOWER EAST PLAN  
**EXISTING SITE AREA:** TAX MAP #072.04-03-25 96,503 S.F. OR 2.22 AC.  
 TAX MAP #072.04-03-28 166,104 S.F. OR 3.81 AC.  
 TOTAL 262,607 S.F. OR 6.03 AC.  
**PROPOSED SITE AREA:** 220,940 S.F. OR 5.07 AC.  
**EXISTING USE:** PARKING LOT  
**PROPOSED USE:** MULTI-FAMILY RESIDENTIAL, CONDOMINIUM, SENIOR LIVING, GROUND AND 2ND LEVEL RETAIL INCLUDING GROCERY  
**EXISTING IMPERVIOUS AREA:** 184,393 SF OR 4.23 AC.  
**PROPOSED IMPERVIOUS AREA:** 220,940 SF OR 5.07 AC.  
**MAXIMUM FLOOR AREA RATIO:** N/A\*  
**PROPOSED FLOOR AREA RATIO:** N/A\*  
**ALLOWABLE FLOOR AREA:** N/A\*  
**GROSS FLOOR AREA PROPOSED:**

GROCERY	NON-GROCERY RETAIL	RESIDENTIAL	BOH	TOTAL GFA	PARKING/LOADING
84,412 SF	126,091 SF	785,097 SF	39,331 SF	1,034,931 SF	660,282 SF

\* AN AMENDMENT TO CDD #2 IS FORTHCOMING AND WILL SET ALL OF THE ALLOWABLE FLOOR AREAS THAT THIS BUILDING WILL COMPLY WITH.

**NET FLOOR AREA:** TBD  
**LOT AREA REQUIRED:** N/A  
**LOT AREA PROVIDED:** 220,940 SF OR 5.07 ACRES  
**BUILDING SETBACK REQUIRED:** 0'  
**BUILDING SETBACK PROVIDED:** 0'  
**LOT FRONTAGE REQUIRED:** N/A  
**LOT FRONTAGE PROVIDED:** NORTH: 757'  
 EAST: 173'  
 SOUTH: 717'  
 WEST: 349'

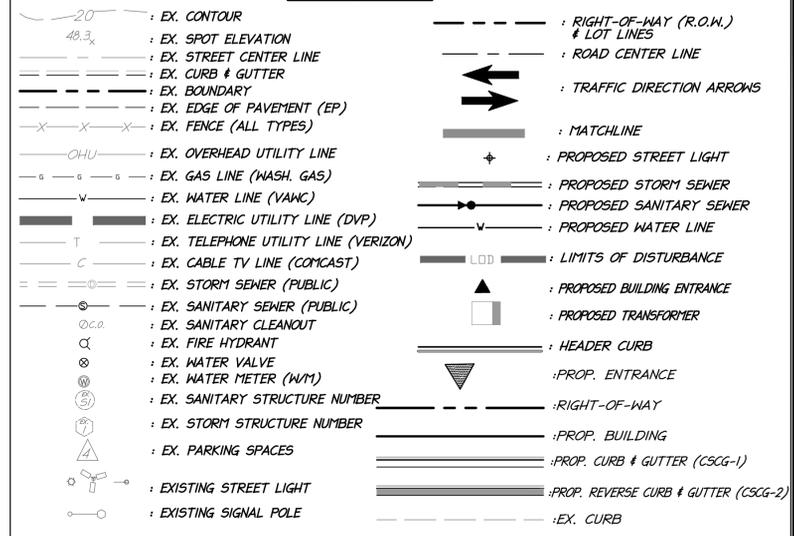
**PROPOSED MAXIMUM NUMBER OF UNITS:** 750 UNITS  
**UNITS PER ACRE:** 750 UNITS/5.07 ACRES = 148 UNITS/ACRE  
**OPEN SPACE REQUIRED:** 10,900 SF (PER APPROVED CDD #2)  
**OPEN SPACE PROVIDED:** 10,900 SF (SEE SHEET C600)  
**MAXIMUM BUILDING HEIGHT:** 220'  
**PROPOSED BUILDING HEIGHT:** SEE SHEET A4.01 & A4.02  
**AVERAGE FINISHED GRADE:** 25.5' (SEE SHEET C403)

**YARDS:** N/A  
**PARKING MAXIMUMS:** 2,201 SPACES (FROM APPROVED CDD #2)  
**PARKING PROVIDED:** STANDARD 1317 SPACES  
 COMPACT 194 SPACES  
 HANDICAP 35 SPACES  
 TOTAL 1,546 SPACES  
**LOADING REQUIRED:** 5  
**LOADING PROVIDED:** 10  
**APPROXIMATE AREA OF DISTURBANCE DURING CONSTRUCTION:** 7.21 AC OR 314,000 SF  
**EXISTING TRIP GENERATION:** 0 VEHICLES  
**PROPOSED TRIP GENERATION:** A TRAFFIC STUDY WAS SUBMITTED ON 8/29 BY GOROVE/SLADE TO CITY STAFF FOR THE EISENHOWER EAST SAP DENSITY CONVERSION.

**PARKING TABULATION CHART**

USE	GFA	PARKING SPACES PROVIDED	PARKING RATIO PROVIDED	EESAP MAX. PARKING RATIO
NON-GROCERY RETAIL	126,091 SF	352 SPACES	2.79 SPACES PER 1,000 SF	3.0 SPACES PER 1,000 SF*
GROCERY RETAIL	84,412 SF	500 SPACES	5.92 SPACES PER 1,000 SF	3.0 SPACES PER 1,000 SF*
<b>SUB-TOTAL (RETAIL)</b>	<b>210,503 SF</b>	<b>852 SPACES</b>	<b>4.05 SPACES PER 1,000 SF</b>	<b>3.0 SPACES PER 1,000 SF*</b>
RESIDENTIAL	785,097 SF	694 SPACES	0.88 SPACES PER 1,000 SF	1.1 SPACES PER 1,000 SF
<b>GRAND TOTAL</b>	<b>996,600 SF</b>	<b>1,546 SPACES</b>		

**LEGEND**



**ENVIRONMENTAL SITE ASSESSMENT**

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 IN THE AREA OF THE SITE. FURTHER, THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWATER CONTAMINATION ON THE SITE. A PORTION OF THIS SITE IS WITHIN A POTENTIALLY HAZARDOUS AREA AS SHOWN ON THE CITY'S CONTAMINATED LANDS MAP DUE TO THE PROXIMITY TO A HISTORIC LANDFILL.

THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENT SERVICES, DIVISION OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, AND SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE AND CITY REGULATIONS.

ALL WELLS INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH STATE WELL REGULATION. CONTACT JOE FINDER AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 EX. 295.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE II, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:

MONDAY THROUGH FRIDAY FROM 7:00 AM - 6:00 PM  
 SATURDAYS FROM 9:00 AM TO 6:00 PM  
 NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.

PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:

MONDAY THROUGH FRIDAY FROM 9:00 AM TO 6:00 PM AND  
 SATURDAYS FROM 10:00 AM TO 4:00 PM

\* PER THE CURRENT EESAP, THE MAXIMUM RETAIL PARKING RATE IS 3.0 / 1,000 SF UNTIL SUCH TIME THAT 2,000,000 GSF OF OFFICE EXISTS WITHIN 750 FEET OF THE INTERSECTION OF SWAMP FOX ROAD AND EISENHOWER AVENUE...

**APPROVED**  
**SPECIAL USE PERMIT NO. 2016-0043**  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
**SITE PLAN NO. \_\_\_\_\_**

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

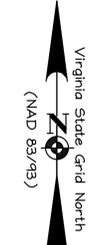
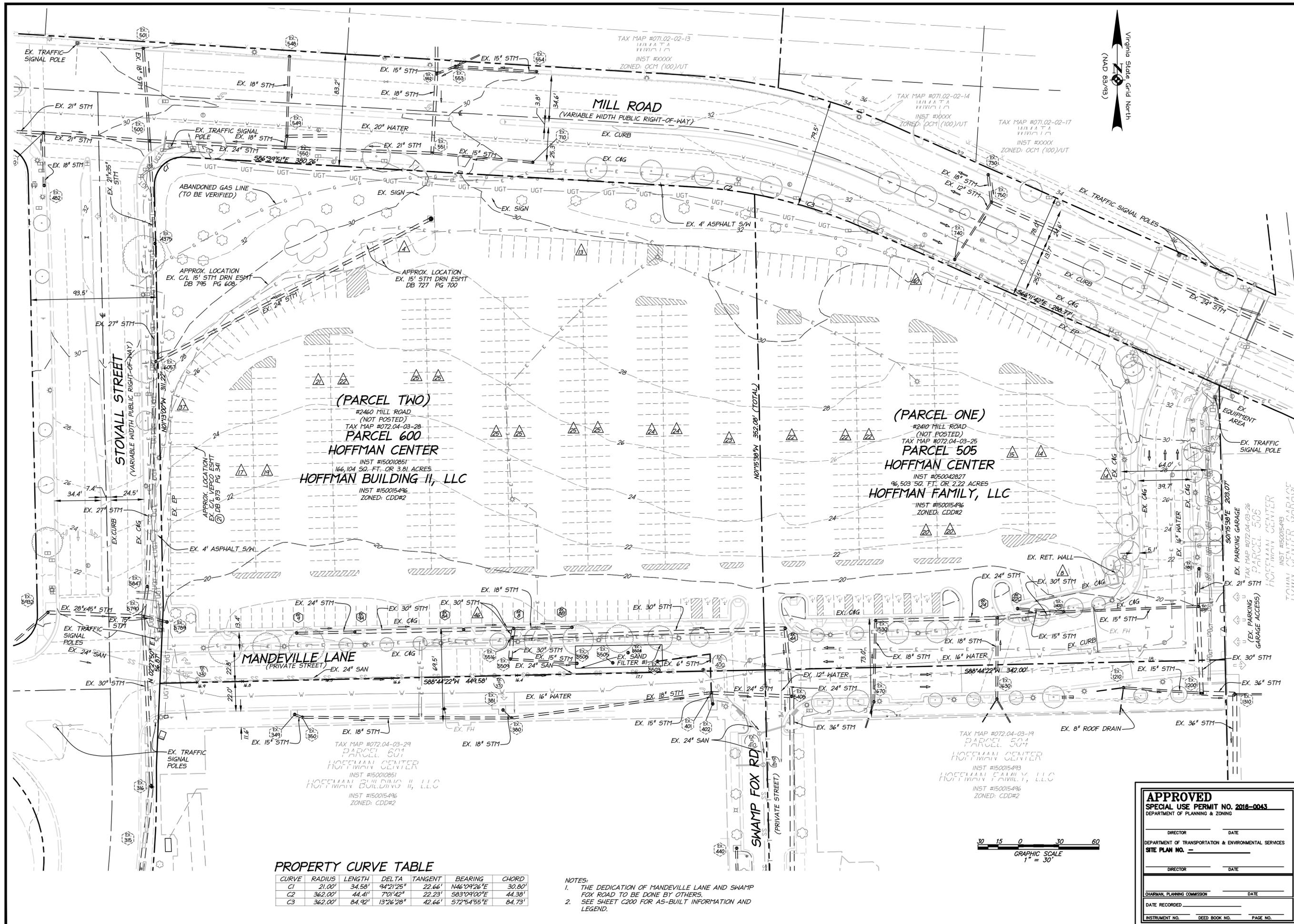
**christopher consultants**  
 9900 main street (suite 400) · Fairfax, VA 22031  
 phone 703.273.6820 · fax 703.273.6820

COMMONWEALTH OF VIRGINIA  
 ELI GOLDMAN  
 Lic. No. 55868  
 10/19/2017  
 PROFESSIONAL ENGINEER

NOTES AND TABULATIONS

PRELIMINARY PLAN - STAGE 1  
 HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5  
 CITY OF ALEXANDRIA, VIRGINIA

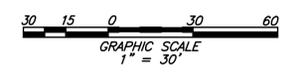
PROJECT NO: 98085.049.00  
 SCALE: 1"=30'  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: EG  
 CHECKED: K1W  
 SHEET No.  
**C200**  
 107540



**PROPERTY CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	BEARING	CHORD
C1	21.00'	34.58'	94°21'25"	22.66'	N46°09'26"E	30.80'
C2	362.00'	44.41'	7°01'42"	22.23'	S83°09'00"E	44.38'
C3	362.00'	84.92'	13°26'28"	42.66'	S72°54'55"E	84.73'

- NOTES:**
- THE DEDICATION OF MANDEVILLE LANE AND SWAMP FOX ROAD TO BE DONE BY OTHERS.
  - SEE SHEET C200 FOR AS-BUILT INFORMATION AND LEGEND.



**APPROVED**  
**SPECIAL USE PERMIT NO. 2016-0043**  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
 DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
**SITE PLAN NO. \_\_\_\_\_**

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

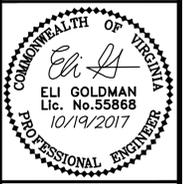
PROJECT NO: 98085.049.00  
 SCALE: 1"=30'  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: A.J.B  
 CHECKED: K.M.W  
 SHEET No.

**C300**  
 107540

**EXISTING CONDITIONS PLAN**

**PRELIMINARY PLAN - STAGE 1  
 HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5**

CITY OF ALEXANDRIA, VIRGINIA



**christopher consultants**  
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 phone 703.273.6820 · fax 703.273.6820



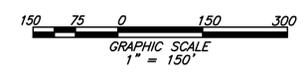
- |  |   |   |
|--|---|---|
| <p>1 100 TELEGRAPH ROAD<br/>EXTRA SPACE PROPERTIES 102 LLC<br/>USE: SELF STORAGE FACILITY<br/>ZONE: OCM (50)<br/>TM 072.02-01-02</p> <p>2 25 DOVE STREET<br/>DOVE STREET HOLDINGS LLC<br/>USE: COMMERCIAL BUILDING<br/>ZONE: OCM (50)<br/>TM 072.02-01-03</p> <p>3 2438 DUKE STREET<br/>MII LLC<br/>USE: VACANT LAND COMMERCIAL<br/>ZONE: OCM (50)<br/>TM 072.02-01-04</p> <p>4 20 DOVE STREET<br/>MII LLC<br/>USE: AUTOMOTIVE CENTER<br/>ZONE: OCM (50)<br/>TM 072.02-01-05</p> <p>5 26 DOVE STREET<br/>DAREZZO REAL ESTATE NO 1 LLC<br/>USE: AUTO SALES<br/>ZONE: OCM (50)<br/>TM 072.02-01-06</p> <p>6 100 DOVE STREET<br/>AITCHESON REAL ESTATE INC<br/>USE: DISTRIBUTION WAREHOUSE<br/>ZONE: OCM (50)<br/>TM 072.02-01-07</p> <p>7 2412 DUKE STREET<br/>AITCHESON REAL ESTATE INC<br/>USE: VACANT LAND/COMMERCIAL<br/>ZONE: OCM (50)<br/>TM 072.02-01-08</p> <p>8 2387 DUKE STREET ASSOCIATES, LC<br/>USE: COMMERCIAL WAREHOUSE<br/>ZONE: OCM (50)<br/>TM 072.02-01-09</p> <p>9 2350 DUKE STREET ASSOCIATES, LC<br/>USE: COMMERCIAL WAREHOUSE<br/>ZONE: OCM (50)<br/>TM 072.02-01-10</p> <p>10 2328 DUKE STREET<br/>2350 DUKE STREET ASSOCIATES, LC<br/>USE: SURFACE PARKING<br/>ZONE: OCM (50)<br/>TM 072.02-01-11</p> <p>11 2326 DUKE STREET<br/>J.T. MARTYN JR. AND E.F. CANNON<br/>USE: VACANT LAND/COMMERCIAL<br/>ZONE: OCM (100)<br/>TM 072.02-01-12</p> <p>12 2324 DUKE STREET<br/>J.T. MARTYN JR. AND E.F. CANNON<br/>USE: AUTOMOTIVE CENTER<br/>ZONE: OCM (50)<br/>TM 072.02-01-13</p> <p>13 2226 DUKE STREET<br/>UNITED STATES POSTAL SERVICE<br/>USE: U.S. POST OFFICE<br/>ZONE: OCM (50)<br/>TM 072.02-01-14.C</p> <p>14 CSX TRANSPORTATION, INC<br/>USE: CSX TRACKS<br/>ZONE: OCM (100)<br/>TM 071.01-03-01</p> <p>15 WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA<br/>ZONE: OCM (100)<br/>TM 072.02-02-XX</p> <p>16 108 TELEGRAPH ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA<br/>ZONE: UT<br/>TM 071.02-02-01</p> <p>17 2421 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA<br/>ZONE: OCM (100)/UT<br/>TM 071.02-02-13</p> <p>18 2415 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA<br/>ZONE: OCM (100)/UT<br/>TM 072.02-02-14</p> <p>19 2403 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA<br/>ZONE: OCM (100)/UT<br/>TM 072.02-02-17</p> <p>20 2395 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA<br/>ZONE: OCM (100)<br/>TM 072.02-02-18</p> | <p>21 2355 MILL ROAD<br/>CITY OF ALEXANDRIA<br/>USE: CITY GOVERNMENT BUILDINGS<br/>ZONE: OCM (100)<br/>TM 072.02-02-10</p> <p>22 2393 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA TRACKS<br/>ZONE: UT<br/>TM 072.02-02-19</p> <p>23 2375 MILL ROAD<br/>CITY OF ALEXANDRIA<br/>USE: CITY VACANT LAND<br/>ZONE: OCM (100)<br/>TM 072.04-02-14</p> <p>24 2365 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA TRACKS<br/>ZONE: CDD-2<br/>TM 072.04-02-20</p> <p>25 2345 MILL ROAD<br/>MHF ALEXANDRIA V LLC<br/>USE: EXTENDED STAY HOTEL<br/>ZONE: CDD-2<br/>TM 072.04-02-19</p> <p>26 2425 MILL ROAD<br/>HOFFMAN FAMILY, LLC<br/>USE: VACANT LAND COMMERCIAL<br/>ZONE: CDD-2<br/>TM 072.02-02-12</p> <p>27 2460 MILL ROAD<br/>HOFFMAN BUILDING II, LLC<br/>USE: SURFACE PARKING/COMMERCIAL<br/>ZONE: CDD-2<br/>TM 072.04-03-28</p> <p>28 2410 MILL ROAD<br/>HOFFMAN FAMILY, LLC<br/>USE: SURFACE PARKING/COMMERCIAL<br/>ZONE: CDD-2<br/>TM 072.04-03-25</p> <p>29 2380 MILL ROAD<br/>TOWN CENTER GARAGE, LLC<br/>USE: TOWN CENTER GARAGE<br/>ZONE: CDD-2<br/>TM 072.04-03-26</p> <p>30 2360 MILL ROAD<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA TRACKS<br/>ZONE: CDD-2<br/>TM 072.04-03-08</p> <p>31 2299 EISENHOWER AVENUE<br/>WASHINGTON METRO AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA TRACKS<br/>ZONE: UT<br/>TM 072.04-03-12</p> <p>32 2318 MILL ROAD<br/>CARLYLE OVERLOOK LLC<br/>USE: OFFICE BUILDING/RETAIL<br/>ZONE: CDD-2<br/>TM 072.04-0A-00</p> <p>33 2316 MILL ROAD<br/>MILL RACE PROPERTY OWNERS ASSOCIATION<br/>USE: VACANT LAND/COMMERCIAL<br/>ZONE: CDD-2<br/>TM 072.04-03-22</p> <p>34 2251 EISENHOWER AVENUE<br/>CARLYLE PLACE ASSOCIATES LLC<br/>USE: HI-RISE RESIDENTIAL<br/>ZONE: CDD-2<br/>TM 072.04-03-21</p> <p>35 2351 EISENHOWER AVENUE<br/>EISENHOWER RESIDENTIAL LP<br/>USE: HI-RISE RESIDENTIAL<br/>ZONE: CDD-2<br/>TM 072.04-03-23</p> <p>36 2415 EISENHOWER AVENUE<br/>USGBF NSF LLC<br/>USE: OFFICE BUILDING<br/>ZONE: CDD-2<br/>TM 072.04-03-27</p> <p>37 206 SWAMP FOX ROAD<br/>HOFFMAN FAMILY, LLC<br/>USE: AMC HOFFMAN CENTER 22<br/>THEATER &amp; SURFACE PARKING<br/>ZONE: CDD-2<br/>TM 072.04-03-19</p> <p>38 200 STOVALL STREET<br/>HOFFMAN BUILDING II LLC<br/>USE: OFFICE BUILDING/SURFACE PARKING<br/>ZONE: CDD-2<br/>TM 072.04-03-29</p> <p>39 2461 EISENHOWER AVENUE<br/>2461 EISENHOWER ACQUISITIONS LLC<br/>USE: OFFICE BUILDING/SURFACE PARKING<br/>ZONE: CDD-2<br/>TM 072.04-03-30</p> <p>40 2425 EISENHOWER AVENUE<br/>2425 EISENHOWER ACQUISITIONS LLC<br/>USE: VACANT LAND/COMMERCIAL<br/>ZONE: CDD-2<br/>TM 072.04-03-31</p> | <p>41 315 STOVALL STREET<br/>HOFFMAN FAMILY LLC<br/>USE: VACANT/SURFACE PARKING<br/>ZONE: CDD-2<br/>TM 072.04-04-08</p> <p>42 312 TAYLOR DRIVE<br/>HOFFMAN MANAGEMENT INC<br/>USE: VACANT LAND/COMMERCIAL<br/>ZONE: CDD-2<br/>TM 072.03-04-09</p> <p>43 2460 EISENHOWER AVENUE<br/>ALEXANDRIA VA HOTEL PARTNERS LLC<br/>USE: HOTEL AND SURFACE PARKING<br/>ZONE: CDD-2<br/>TM 072.04-04-07</p> <p>44 2400 EISENHOWER AVENUE<br/>HOFFMAN FAMILY LLC<br/>USE: VACANT LAND/SURFACE PARKING<br/>ZONE: CDD-2<br/>TM 078.02-01-08</p> <p>45 2300 EISENHOWER AVENUE<br/>WASHINGTON METROPOLITAN AREA<br/>TRANSIT AUTHORITY (WMATA)<br/>USE: WMATA RAIL TRACKS<br/>ZONE: UT<br/>TM 078.02-01-02</p> <p>46 2310 EISENHOWER AVENUE<br/>HOFFMAN FAMILY LLC<br/>USE: VACANT LAND/APARTMENTS<br/>ZONE: CDD-2<br/>TM 078.02-01-19</p> <p>47 2356 EISENHOWER AVENUE<br/>HOFFMAN TOWERS BLOCK 12 LLC<br/>USE: VACANT LAND/APARTMENTS<br/>ZONE: CDD-2<br/>TM 078.02-01-09</p> <p>48 2300 DOCK LANE<br/>HOFFMAN TOWERS BLOCK II LLC<br/>USE: VACANT LAND/APARTMENTS<br/>ZONE: CDD-2<br/>TM 078.02-01-13</p> <p>49 2250 EISENHOWER AVENUE<br/>HOFFMAN FAMILY LLC<br/>USE: VACANT LAND/APARTMENTS<br/>ZONE: CDD-2<br/>TM 078.02-01-15</p> <p>50 750 PORT STREET<br/>PARADIGM 2230 MILL LLC<br/>USE: HI-RISE RESIDENTIAL<br/>ZONE: CDD-2<br/>TM 078.02-01-20</p> <p>51 2200A MILL ROAD<br/>LSREF2 CLOVER PROPERTY 12 LLC<br/>USE: VACANT LAND/COMMERCIAL<br/>ZONE: OCM (100)<br/>TM 078.02-01-18</p> |
|--|---|---|

**STREET TYPOLOGY:**

MILL ROAD (MIXED-USE BOULEVARD): SERVE AREAS THAT GENERALLY HAVE TALLER (FIVE STORIES OR MORE) BUILDINGS THAT HOUSE A MIX OF RETAIL, RESIDENTIAL, OFFICE AND ENTERTAINMENT USES.

STOVALL STREET (COMMERCIAL CONNECTOR): TYPICALLY SERVE EMPLOYMENT AND ENTERTAINMENT CENTER, CIVIC, COMMERCIAL, AND INSTITUTIONAL LAND USES.

MANDEVILLE LANE (MAIN STREET): TEND TO SERVE SMALL AND MEDIUM SIZED BUSINESSES, RESTAURANTS, CIVIC BUILDINGS OR RESIDENCES.



VIRGINIA STATE GRID NORTH  
(NAD 83 NAVD 88)

- LEGEND**
- PROPOSED SITE
  - TRANSIT STOP
  - ZONE LINE
  - PROPERTY LINE
  - STREET CENTERLINE

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION _____	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
_____	PAGE NO. _____

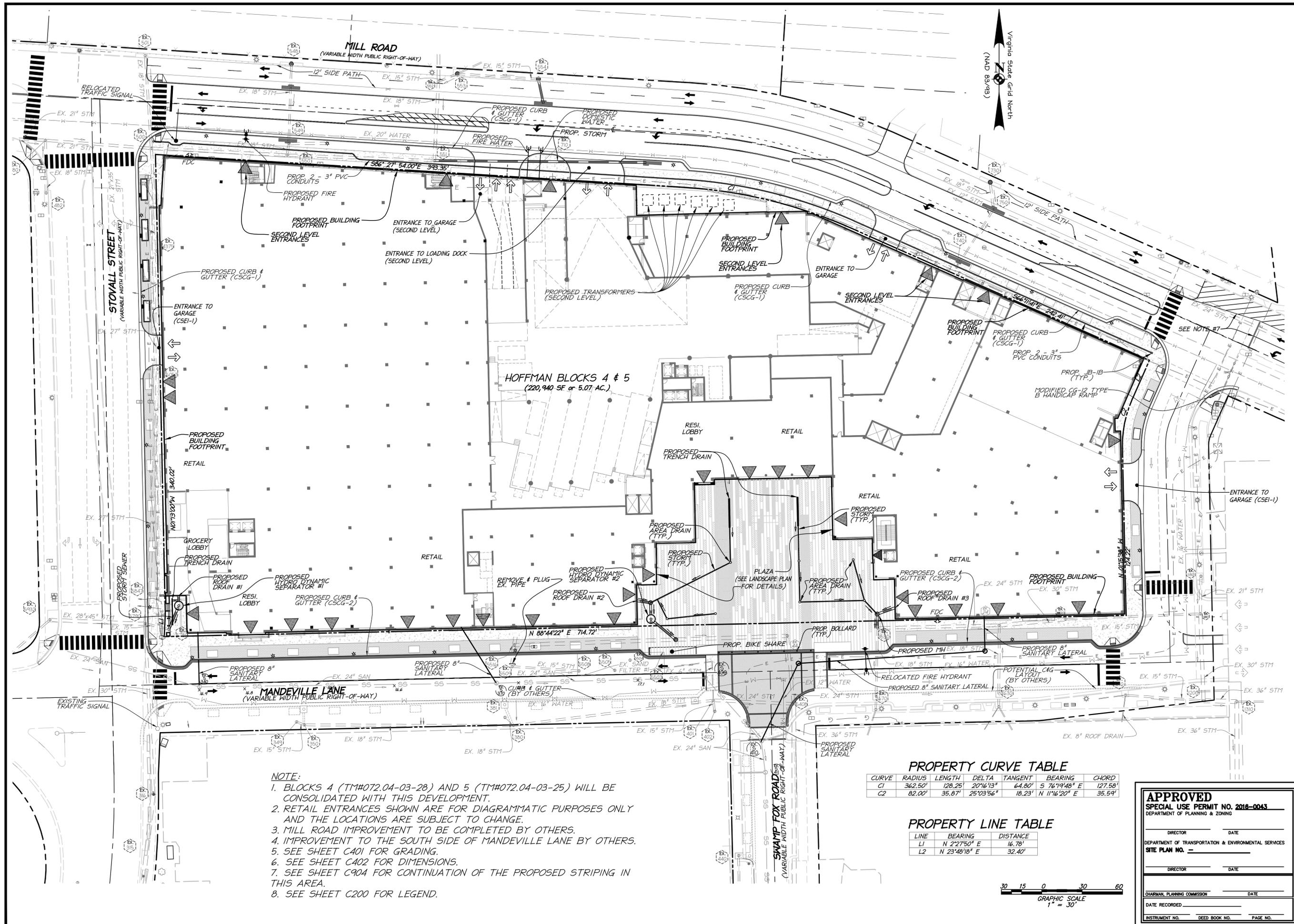
**christopher consultants**

9900 main street (suite 400) • Fairfax, VA 22031  
phone 703.273.6820 • fax 703.273.6820

**CONTEXTUAL PLAN**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO: 98085.049.00  
SCALE: 1"=150'  
DATE: 05/02/17  
DESIGN: EG  
DRAWN: A.JB  
CHECKED: K.M.W.  
SHEET No. **C301**  
107540



**HOFFMAN BLOCKS 4 & 5**  
(220,940 SF or 5.07 AC.)

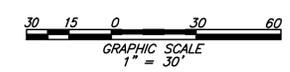
- NOTE:**
- BLOCKS 4 (TM#072.04-03-28) AND 5 (TM#072.04-03-25) WILL BE CONSOLIDATED WITH THIS DEVELOPMENT.
  - RETAIL ENTRANCES SHOWN ARE FOR DIAGRAMMATIC PURPOSES ONLY AND THE LOCATIONS ARE SUBJECT TO CHANGE.
  - MILL ROAD IMPROVEMENT TO BE COMPLETED BY OTHERS.
  - IMPROVEMENT TO THE SOUTH SIDE OF MANDEVILLE LANE BY OTHERS.
  - SEE SHEET C401 FOR GRADING.
  - SEE SHEET C402 FOR DIMENSIONS.
  - SEE SHEET C904 FOR CONTINUATION OF THE PROPOSED STRIPING IN THIS AREA.
  - SEE SHEET C200 FOR LEGEND.

**PROPERTY CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	BEARING	CHORD
C1	362.50'	128.25'	20°16'13"	64.80'	S 76°19'48" E	127.58'
C2	82.00'	35.87'	25°03'56"	18.23'	N 11°16'20" E	35.59'

**PROPERTY LINE TABLE**

LINE	BEARING	DISTANCE
L1	N 2°27'50" E	16.78'
L2	N 23°48'18" E	32.40'



**APPROVED**  
SPECIAL USE PERMIT NO. 2016-0043  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_  
INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

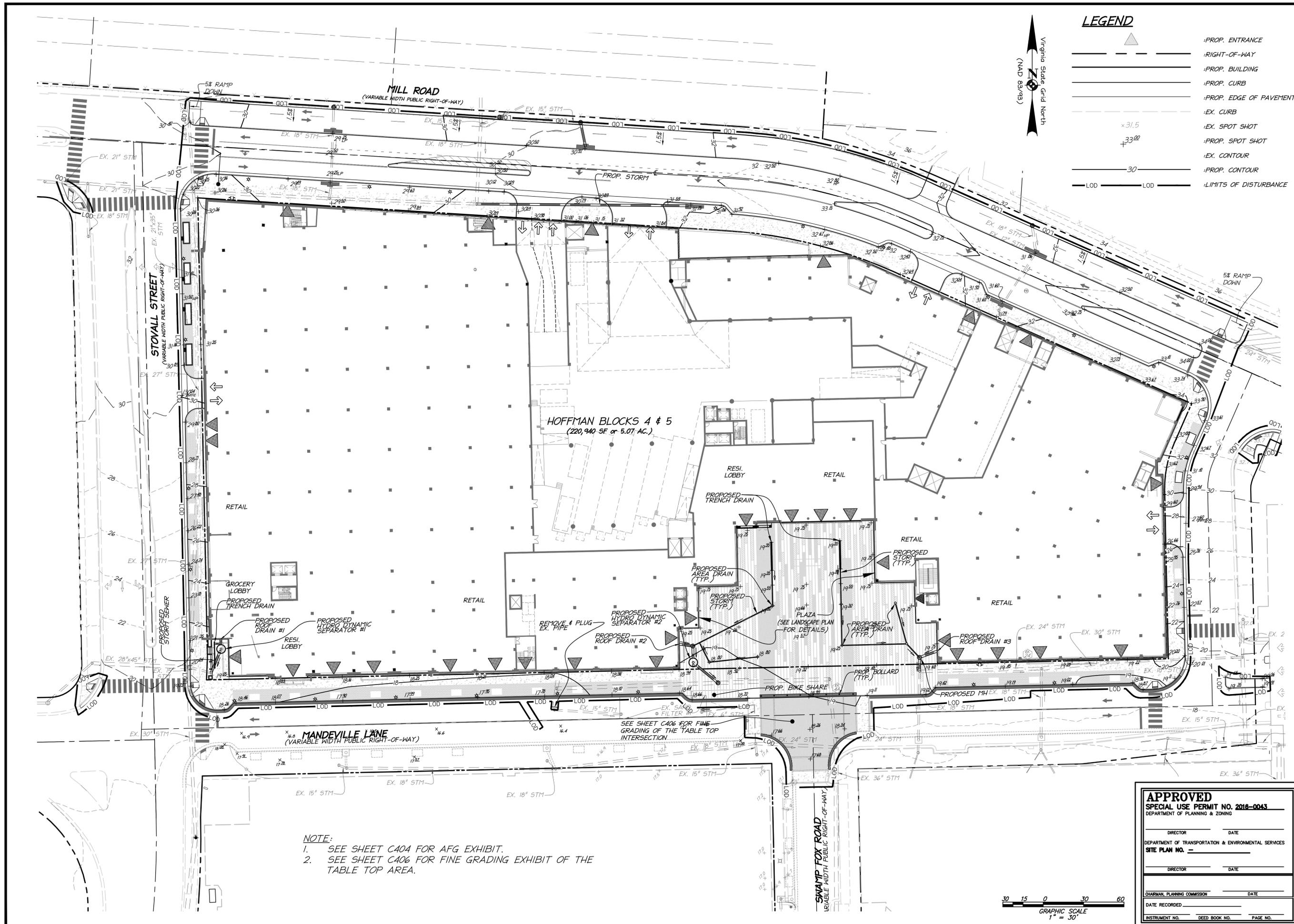
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COMMONWEALTH OF VIRGINIA  
ELI GOLDMAN  
Lic. No. 55868  
10/19/2017  
PROFESSIONAL ENGINEER

**PRELIMINARY SITE PLAN**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO. 98085.049.00  
SCALE: 1"=30'  
DATE: 05/02/17  
DESIGN: EG  
DRAWN: EG  
CHECKED: K1W  
SHEET No. **C400**  
107540



**LEGEND**

- :PROP. ENTRANCE
- :RIGHT-OF-WAY
- :PROP. BUILDING
- :PROP. CURB
- :PROP. EDGE OF PAVEMENT
- :EX. CURB
- :EX. SPOT SHOT
- :PROP. SPOT SHOT
- :EX. CONTOUR
- :PROP. CONTOUR
- :LIMITS OF DISTURBANCE

Virginia State Grid North  
(NAD 83/93)

**HOFFMAN BLOCKS 4 & 5**  
(220,940 SF or 5.07 AC.)

**NOTE:**  
1. SEE SHEET C404 FOR AFG EXHIBIT.  
2. SEE SHEET C406 FOR FINE GRADING EXHIBIT OF THE TABLE TOP AREA.

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
_____	PAGE NO. _____

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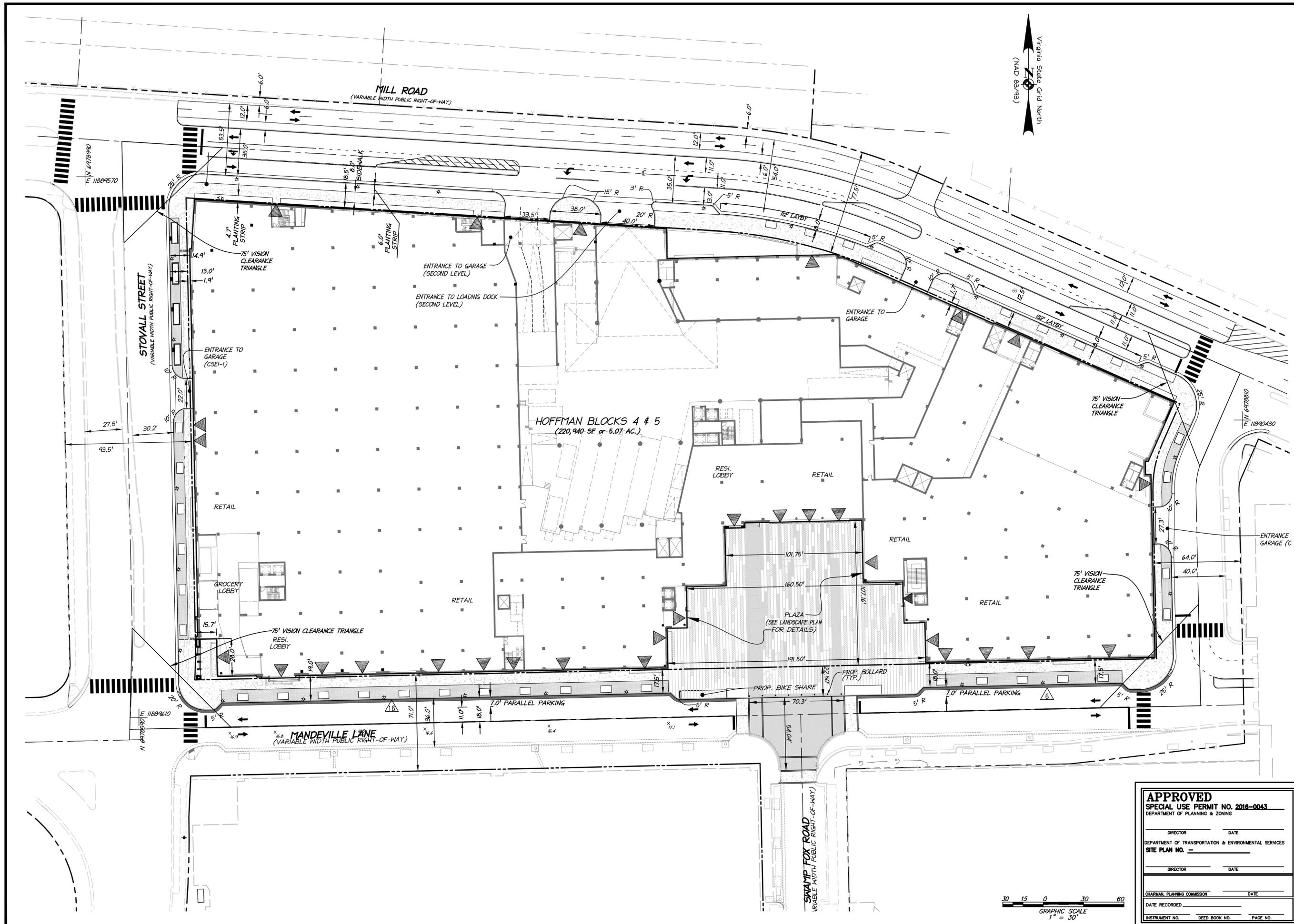
COMMONWEALTH OF VIRGINIA  
*Eli Goldman*  
ELI GOLDMAN  
Lic. No. 55868  
10/19/2017  
PROFESSIONAL ENGINEER

**PRELIMINARY SITE GRADING PLAN**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**

CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO. 98085.049.00  
SCALE: 1"=30'  
DATE: 05/02/17  
DESIGN: EG  
DRAWN: A.JB  
CHECKED: K.M.W.  
SHEET No.  
**C401**  
107540



**christopher consultants**  
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COMMONWEALTH OF VIRGINIA  
 ELI GOLDMAN  
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 10/19/2017  
 PROFESSIONAL ENGINEER

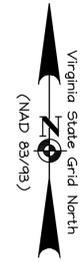
PRELIMINARY DIMENSION PLAN

PRELIMINARY PLAN - STAGE 1  
 HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5  
 CITY OF ALEXANDRIA, VIRGINIA

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR	DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR	DATE
CHAIRMAN, PLANNING COMMISSION	
DATE RECORDED	DATE
INSTRUMENT NO.	DEED BOOK NO. PAGE NO.

PROJECT NO: 98085.049.00  
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 DESIGN: EG  
 DRAWN: A.JB  
 CHECKED: KJW  
 SHEET No.  
**C402**  
 107540

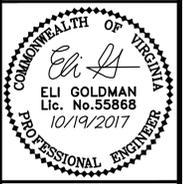
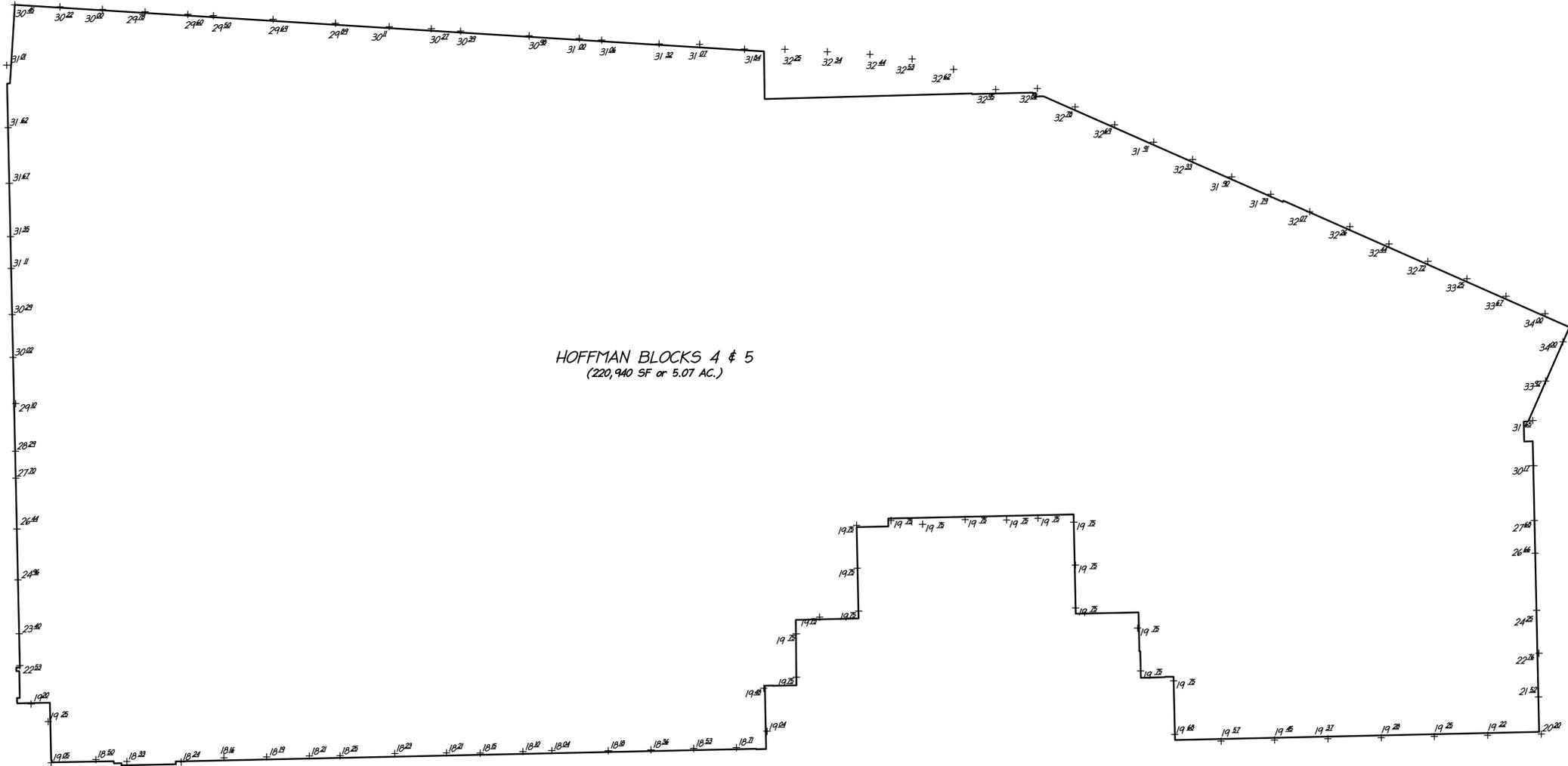
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\* starts at southeast corner and goes counterclockwise

AFG Point	Elevation	AFG Point	Elevation
1*	20.20	54	30.02
2	21.52	55	29.10
3	22.76	56	28.29
4	24.25	57	27.70
5	26.66	58	26.44
6	27.68	59	24.96
7	30.17	60	23.40
8	31.65	61	22.53
9	33.92	62	19.20
10	34.00	63	19.25
11	34.00	64	19.05
12	33.67	65	18.50
13	33.25	66	18.33
14	32.72	67	18.24
15	32.44	68	18.16
16	32.26	69	18.19
17	32.07	70	18.21
18	31.79	71	18.25
19	31.90	72	18.23
20	32.33	73	18.21
21	31.91	74	18.15
22	32.69	75	18.10
23	32.78	76	18.04
24	32.86	77	18.18
25	32.95	78	18.36
26	32.62	79	18.53
27	32.53	80	18.71
28	32.44	81	19.04
29	32.34	82	19.48
30	32.25	83	19.75
31	31.84	84	19.75
32	31.07	85	19.75
33	31.32	86	19.75
34	31.06	87	19.75
35	31.00	88	19.75
36	30.98	89	19.75
37	30.39	90	19.75
38	30.27	91	19.75
39	30.11	92	19.75
40	29.89	93	19.75
41	29.69	94	19.75
42	29.50	95	19.75
43	29.60	96	19.75
44	29.78	97	19.75
45	30.00	98	19.75
46	30.22	99	19.75
47	30.45	100	19.68
48	31.01	101	19.57
49	31.62	102	19.45
50	31.67	103	19.37
51	31.35	104	19.28
52	31.11	105	19.25
53	30.29	106	19.22

AFG = 25.5'

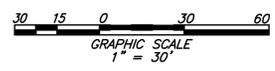


AVERAGE FINISHED GRADE

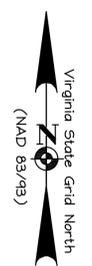
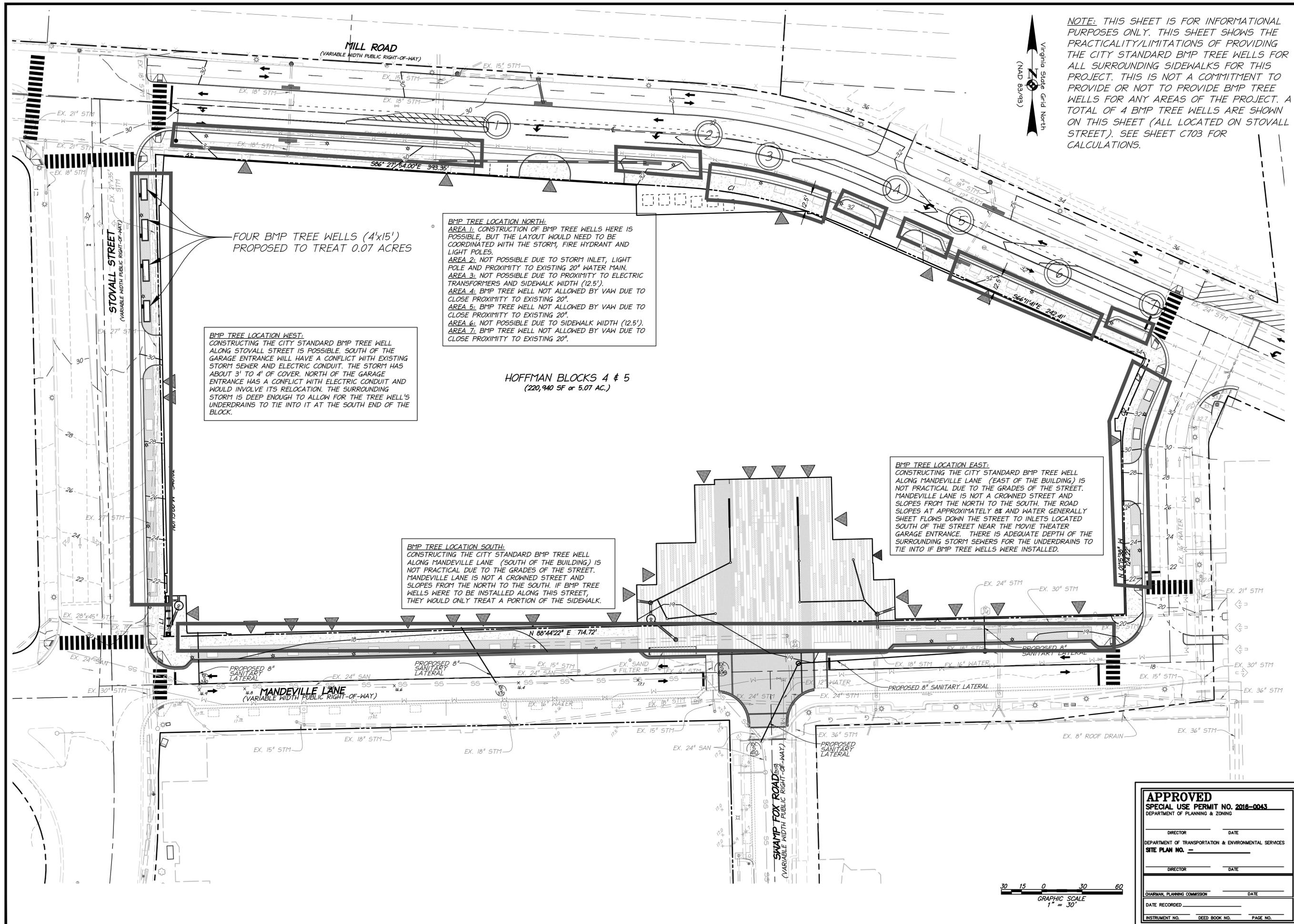
PRELIMINARY PLAN - STAGE 1  
 HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5  
 CITY OF ALEXANDRIA, VIRGINIA

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION	
DATE RECORDED _____	DATE _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____	

PROJECT NO: 98085.049.00  
 SCALE: 1"=30'  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: A.JB  
 CHECKED: K.M.W.  
 SHEET No.  
**C403**



P:\Projects\98085 Hoffman\04900 Block 4 & 5\107540 Prelim\CGI3 AVERAGE FINISHED GRADE.dwg, 10/18/2017 5:31:28 PM, jasonm.11, christopher consultants, ltd



NOTE: THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. THIS SHEET SHOWS THE PRACTICALITY/LIMITATIONS OF PROVIDING THE CITY STANDARD BMP TREE WELLS FOR ALL SURROUNDING SIDEWALKS FOR THIS PROJECT. THIS IS NOT A COMMITMENT TO PROVIDE OR NOT TO PROVIDE BMP TREE WELLS FOR ANY AREAS OF THE PROJECT. A TOTAL OF 4 BMP TREE WELLS ARE SHOWN ON THIS SHEET (ALL LOCATED ON STOVALL STREET). SEE SHEET C703 FOR CALCULATIONS.

FOUR BMP TREE WELLS (4'x15') PROPOSED TO TREAT 0.07 ACRES

**BMP TREE LOCATION WEST:**  
CONSTRUCTING THE CITY STANDARD BMP TREE WELL ALONG STOVALL STREET IS POSSIBLE. SOUTH OF THE GARAGE ENTRANCE WILL HAVE A CONFLICT WITH EXISTING STORM SEWER AND ELECTRIC CONDUIT. THE STORM HAS ABOUT 3' TO 4' OF COVER. NORTH OF THE GARAGE ENTRANCE HAS A CONFLICT WITH ELECTRIC CONDUIT AND WOULD INVOLVE ITS RELOCATION. THE SURROUNDING STORM IS DEEP ENOUGH TO ALLOW FOR THE TREE WELL'S UNDERDRAINS TO TIE INTO IT AT THE SOUTH END OF THE BLOCK.

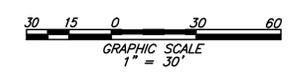
**BMP TREE LOCATION NORTH:**  
AREA 1: CONSTRUCTION OF BMP TREE WELLS HERE IS POSSIBLE, BUT THE LAYOUT WOULD NEED TO BE COORDINATED WITH THE STORM, FIRE HYDRANT AND LIGHT POLES.  
AREA 2: NOT POSSIBLE DUE TO STORM INLET, LIGHT POLE AND PROXIMITY TO EXISTING 20" WATER MAIN.  
AREA 3: NOT POSSIBLE DUE TO PROXIMITY TO ELECTRIC TRANSFORMERS AND SIDEWALK WIDTH (12.5').  
AREA 4: BMP TREE WELL NOT ALLOWED BY VAW DUE TO CLOSE PROXIMITY TO EXISTING 20".  
AREA 5: BMP TREE WELL NOT ALLOWED BY VAW DUE TO CLOSE PROXIMITY TO EXISTING 20".  
AREA 6: NOT POSSIBLE DUE TO SIDEWALK WIDTH (12.5').  
AREA 7: BMP TREE WELL NOT ALLOWED BY VAW DUE TO CLOSE PROXIMITY TO EXISTING 20".

HOFFMAN BLOCKS 4 & 5  
(220,940 SF or 5.07 AC.)

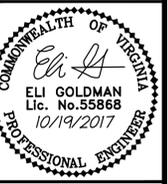
**BMP TREE LOCATION SOUTH:**  
CONSTRUCTING THE CITY STANDARD BMP TREE WELL ALONG MANDEVILLE LANE (SOUTH OF THE BUILDING) IS NOT PRACTICAL DUE TO THE GRADES OF THE STREET. MANDEVILLE LANE IS NOT A CROWNED STREET AND SLOPES FROM THE NORTH TO THE SOUTH. IF BMP TREE WELLS WERE TO BE INSTALLED ALONG THIS STREET, THEY WOULD ONLY TREAT A PORTION OF THE SIDEWALK.

**BMP TREE LOCATION EAST:**  
CONSTRUCTING THE CITY STANDARD BMP TREE WELL ALONG MANDEVILLE LANE (EAST OF THE BUILDING) IS NOT PRACTICAL DUE TO THE GRADES OF THE STREET. MANDEVILLE LANE IS NOT A CROWNED STREET AND SLOPES FROM THE NORTH TO THE SOUTH. THE ROAD SLOPES AT APPROXIMATELY 0.8% AND WATER GENERALLY SHEET FLOWS DOWN THE STREET TO INLETS LOCATED SOUTH OF THE STREET NEAR THE MOVIE THEATER GARAGE ENTRANCE. THERE IS ADEQUATE DEPTH OF THE SURROUNDING STORM SEWERS FOR THE UNDERDRAINS TO TIE INTO IF BMP TREE WELLS WERE INSTALLED.

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION _____	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
PAGE NO. _____	



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BMP TREE WELL EXHIBIT

PRELIMINARY PLAN - STAGE 1  
HOFFMAN TOWN CENTER  
BLOCKS 4 & 5

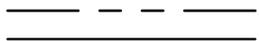
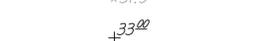
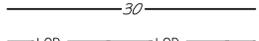
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DESIGN: EG  
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CHECKED: K1W  
SHEET No.

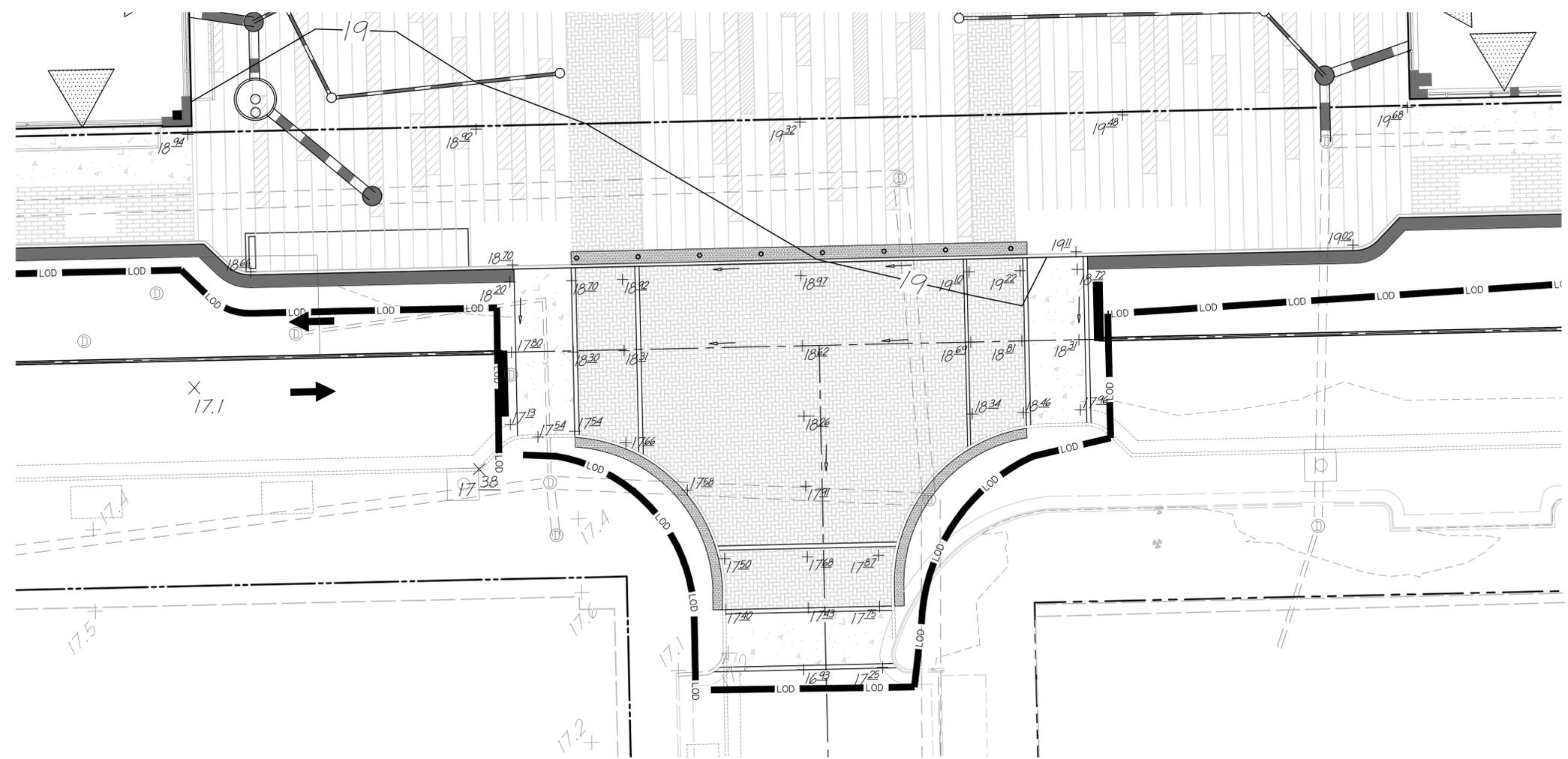
C405  
107540

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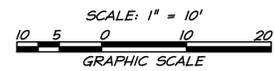
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 (NAD 83/93)

**LEGEND**

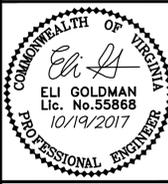
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-  :RIGHT-OF-WAY
-  :PROP. BUILDING
-  :PROP. CURB
-  :PROP. EDGE OF PAVEMENT
-  :EX. CURB
-  :EX. SPOT SHOT
-  :PROP. SPOT SHOT
-  :EX. CONTOUR
-  :PROP. CONTOUR
-  :LIMITS OF DISTURBANCE



**NOTE:**  
 1. SEE SHEET C401 FOR GRADING OF THE ENTIRE SITE.  
 2. SEE SHEET C404 FOR AFG EXHIBIT.



**christopher consultants**  
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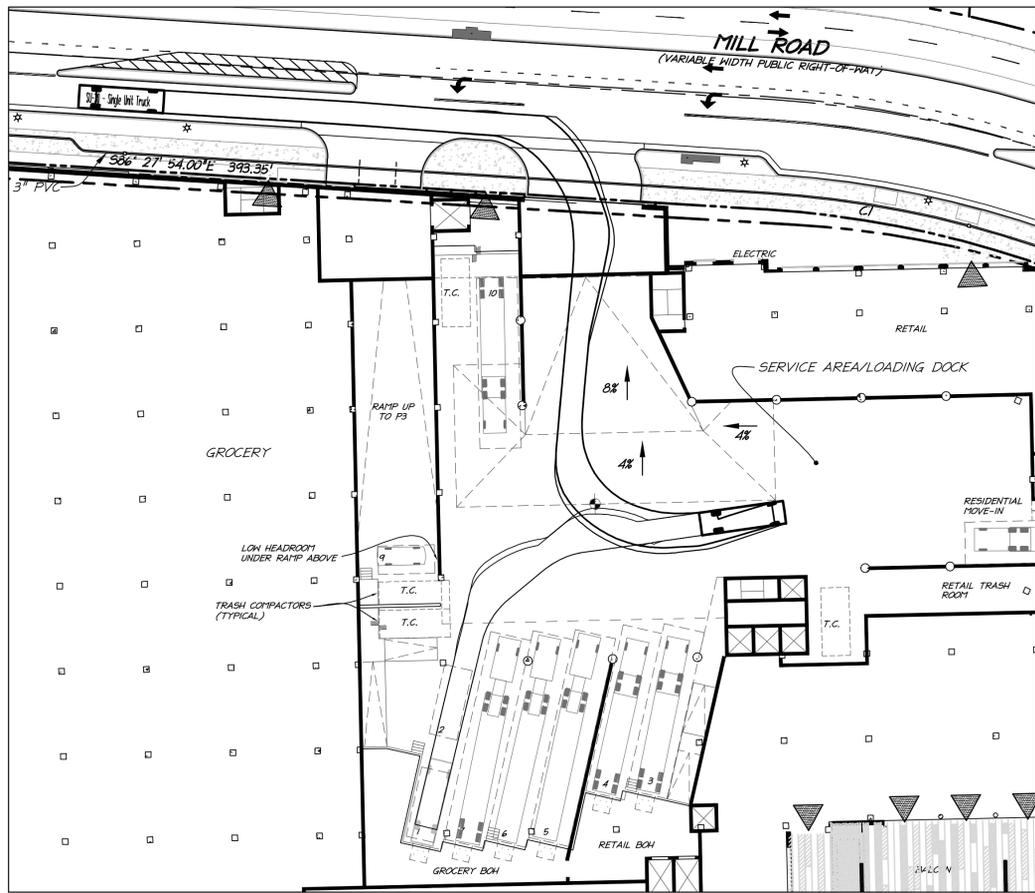
**FINE GRADING PLAN**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

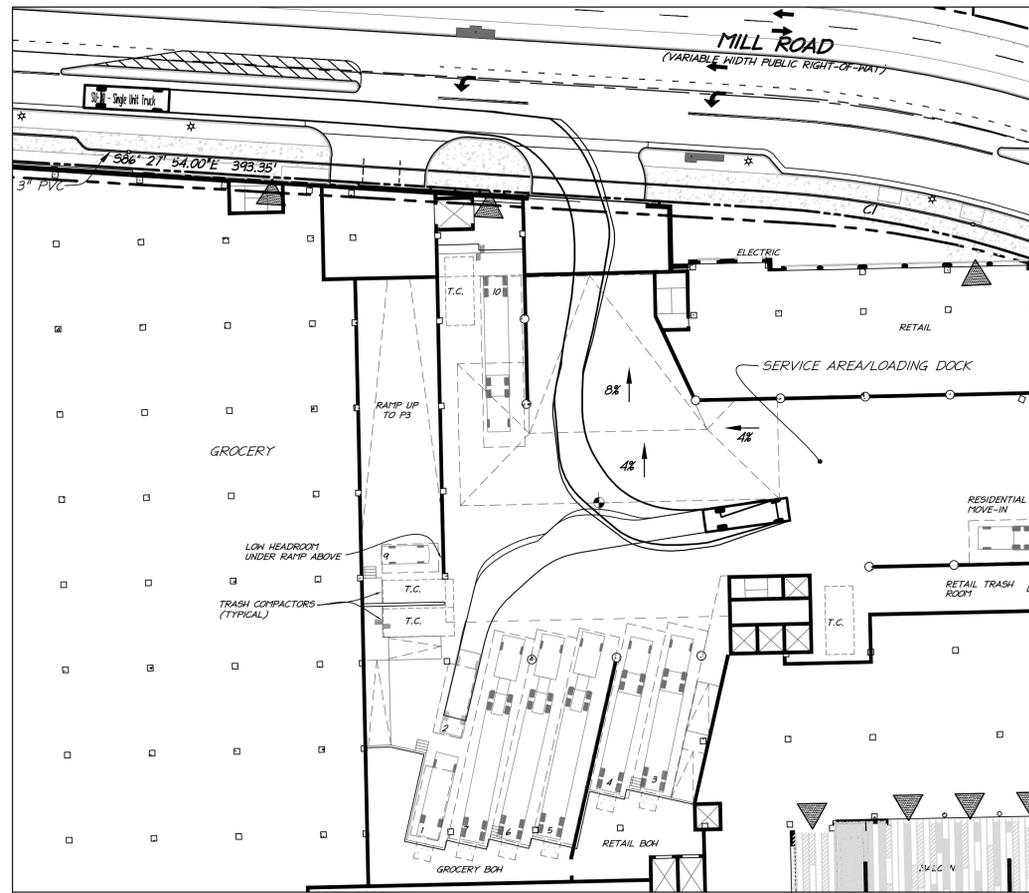
<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
_____	PAGE NO. _____

PROJECT NO: 98085.049.00  
 SCALE: 1"=30'  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: A.JB  
 CHECKED: K.M.W.  
 SHEET No.  
**C406**  
 107540

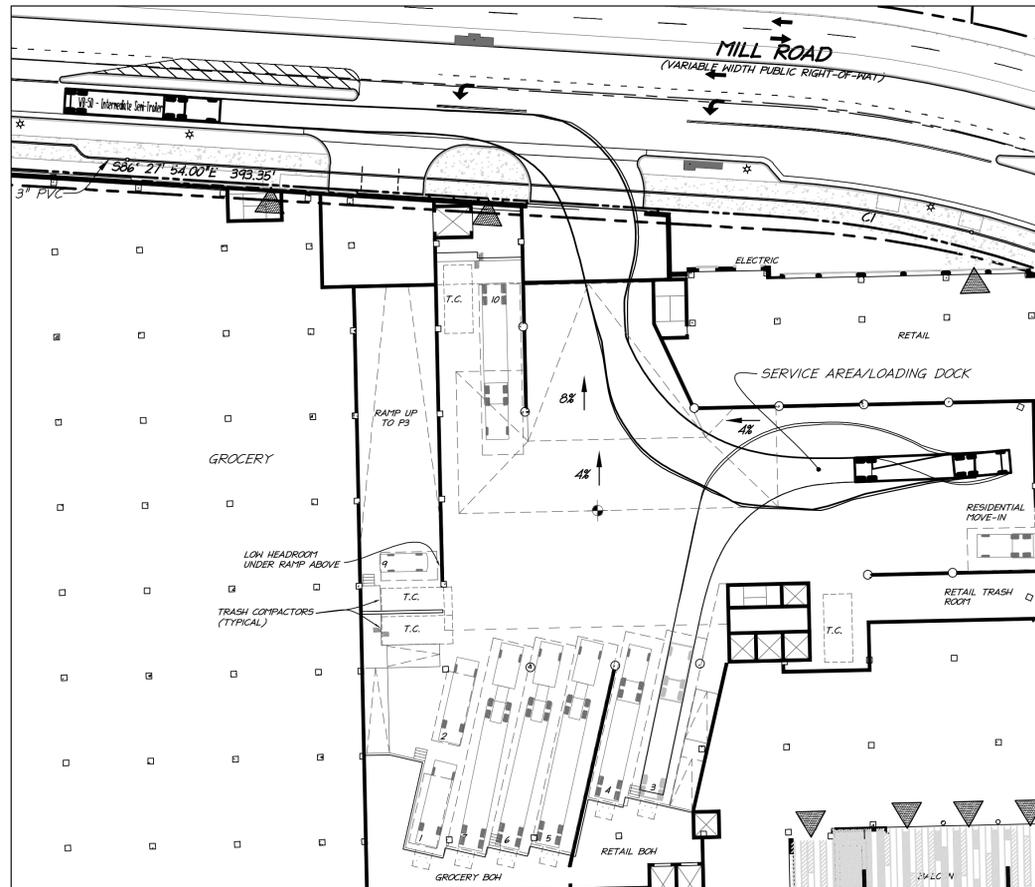
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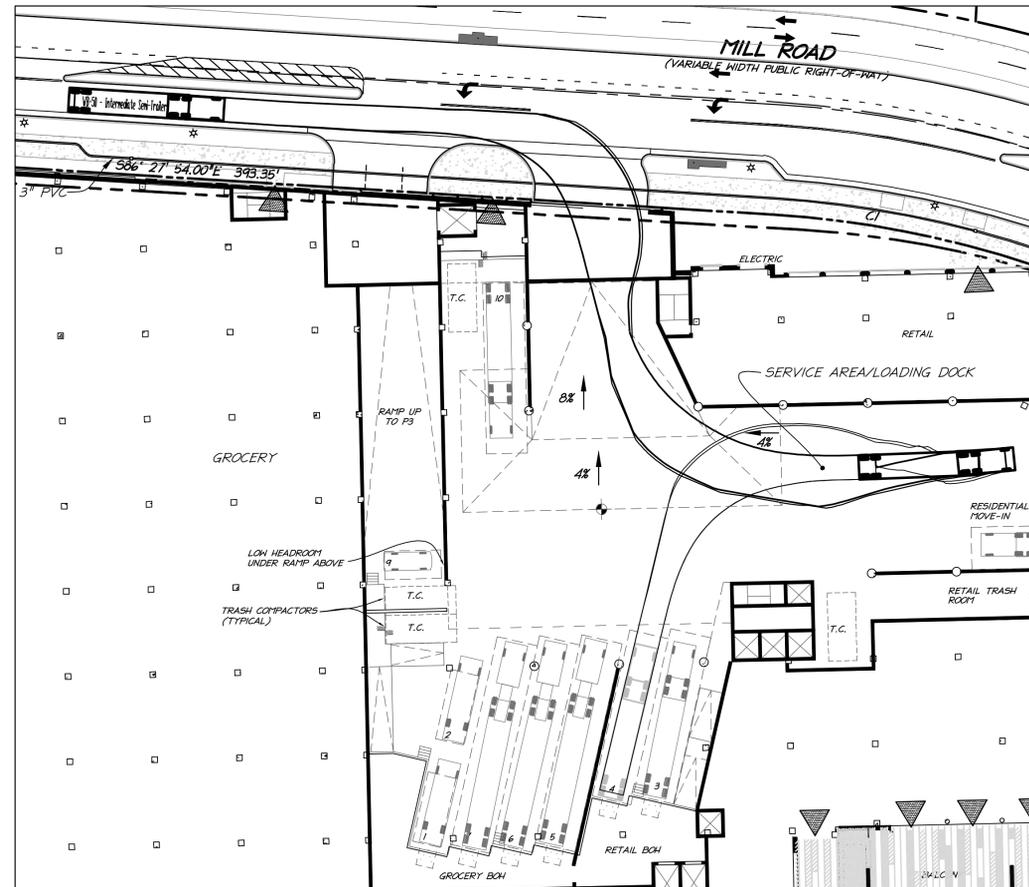
SU-30 TRUCK - ENTERING BAY #1



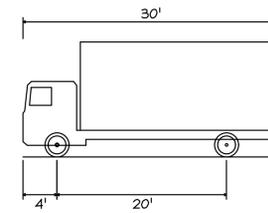
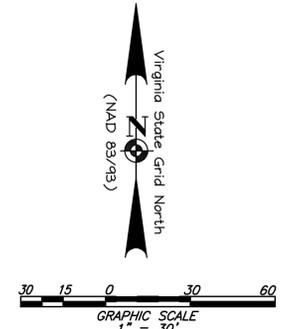
SU-30 TRUCK - ENTERING BAY #2



WB-50 TRUCK - ENTERING BAY #3

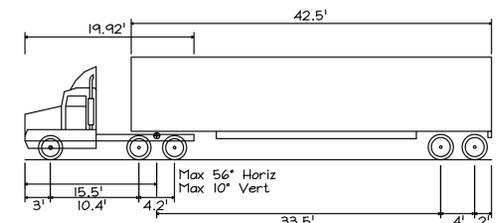


WB-50 TRUCK - ENTERING BAY #4



Overall Length 30.00ft  
 Overall Width 8.00ft  
 Overall Body Height 13.50ft  
 Min Body Ground Clearance 1.367ft  
 Track Width 8.00ft  
 Lock-to-lock time 5.00s  
 Max Steering Angle (Virtual) 31.80°

SU-30 - Single Unit Truck



Overall Length 55.00ft  
 Overall Width 8.50ft  
 Overall Body Height 12.052ft  
 Min Body Ground Clearance 1.334ft  
 Max Track Width 8.50ft  
 Lock-to-lock time 6.00s  
 Max Steering Angle (Virtual) 17.90°

WB-50 - Intermediate Semi-Trailer

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION _____	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
PAGE NO. _____	

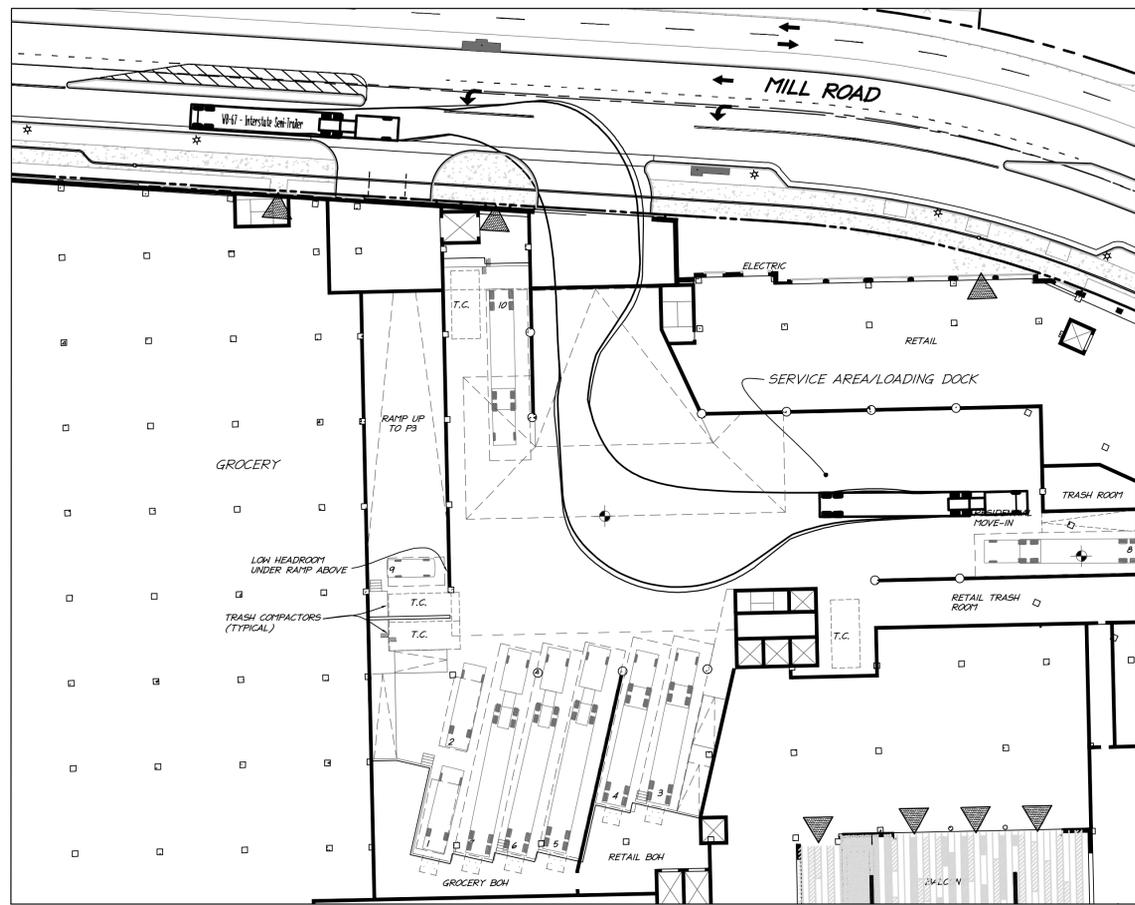
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 9900 main street (suite 400) · Fairfax, VA 22031  
 phone 703.273.6820 · fax 703.273.6820

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 ELI GOLDMAN  
 Lic. No. 55868  
 10/19/2017  
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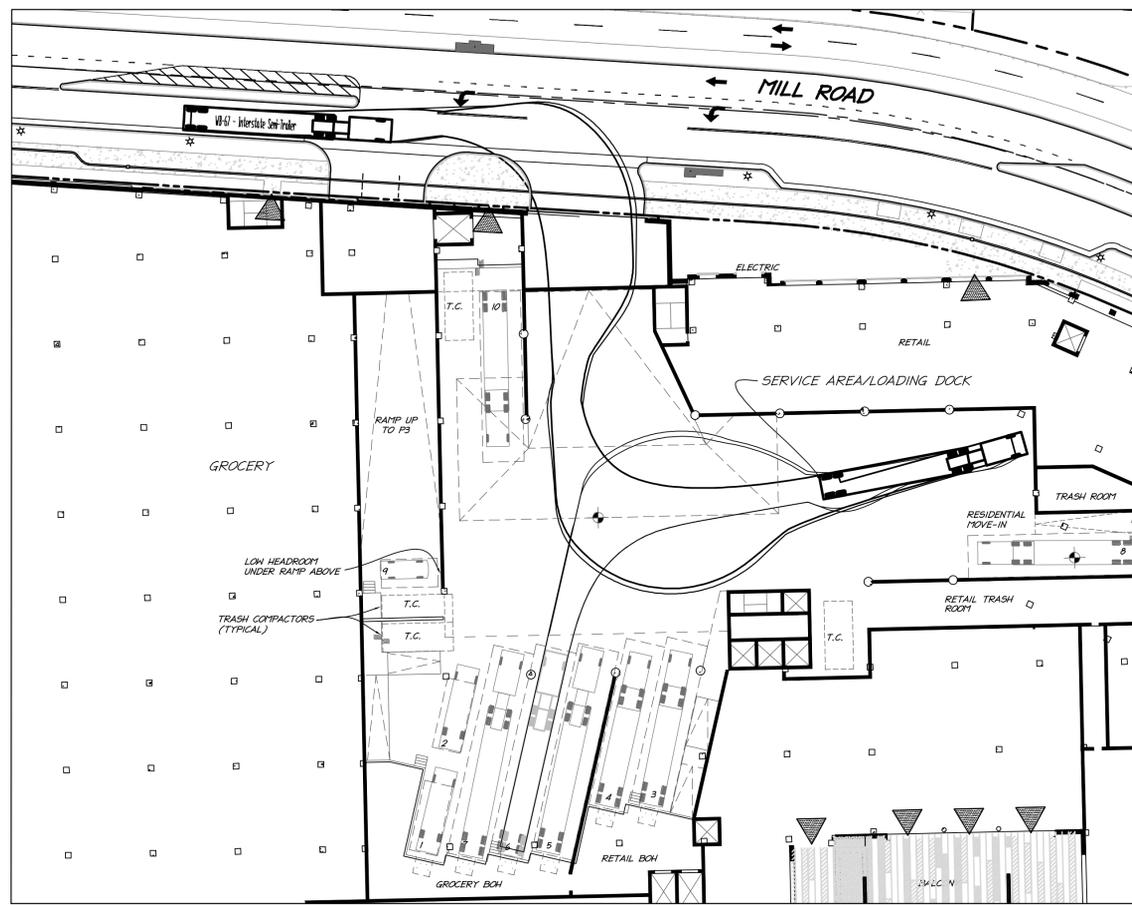
TURNING MOVEMENTS

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

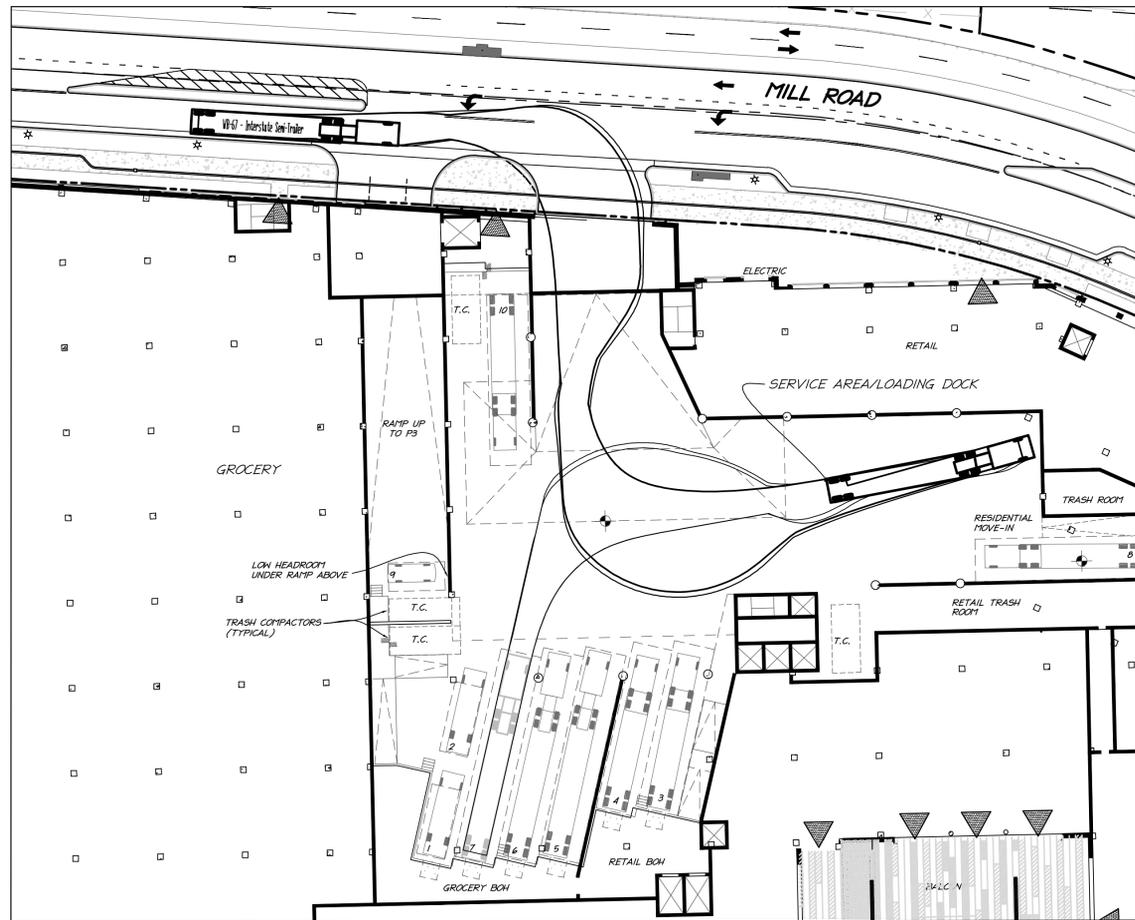
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 DESIGN: EG  
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 CHECKED: KMW  
 SHEET No. **C500**  
 107540



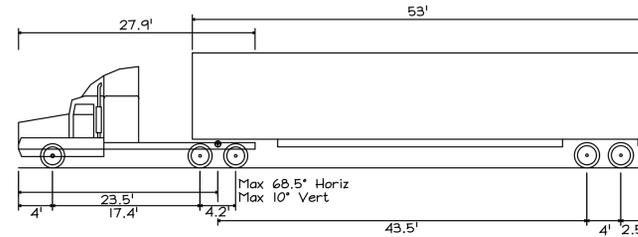
WB-67 TRUCK - ENTERING BAY #5



WB-67 TRUCK - ENTERING BAY #6

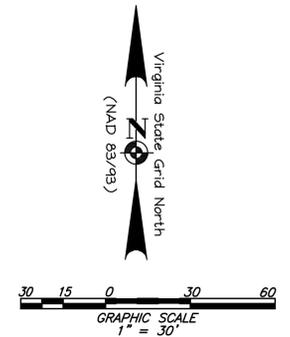


WB-67 TRUCK - ENTERING BAY #7

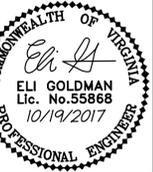


Overall Length 73.50ft  
 Overall Width 8.50ft  
 Overall Body Height 13.50ft  
 Min Body Ground Clearance 1.334ft  
 Max Track Width 8.50ft  
 Lock-to-lock time 6.00s  
 Max Steering Angle (Virtual) 28.40°

WB-67 - Interstate Semi-Trailer



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TURNING MOVEMENTS

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION _____	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
_____	PAGE NO. _____

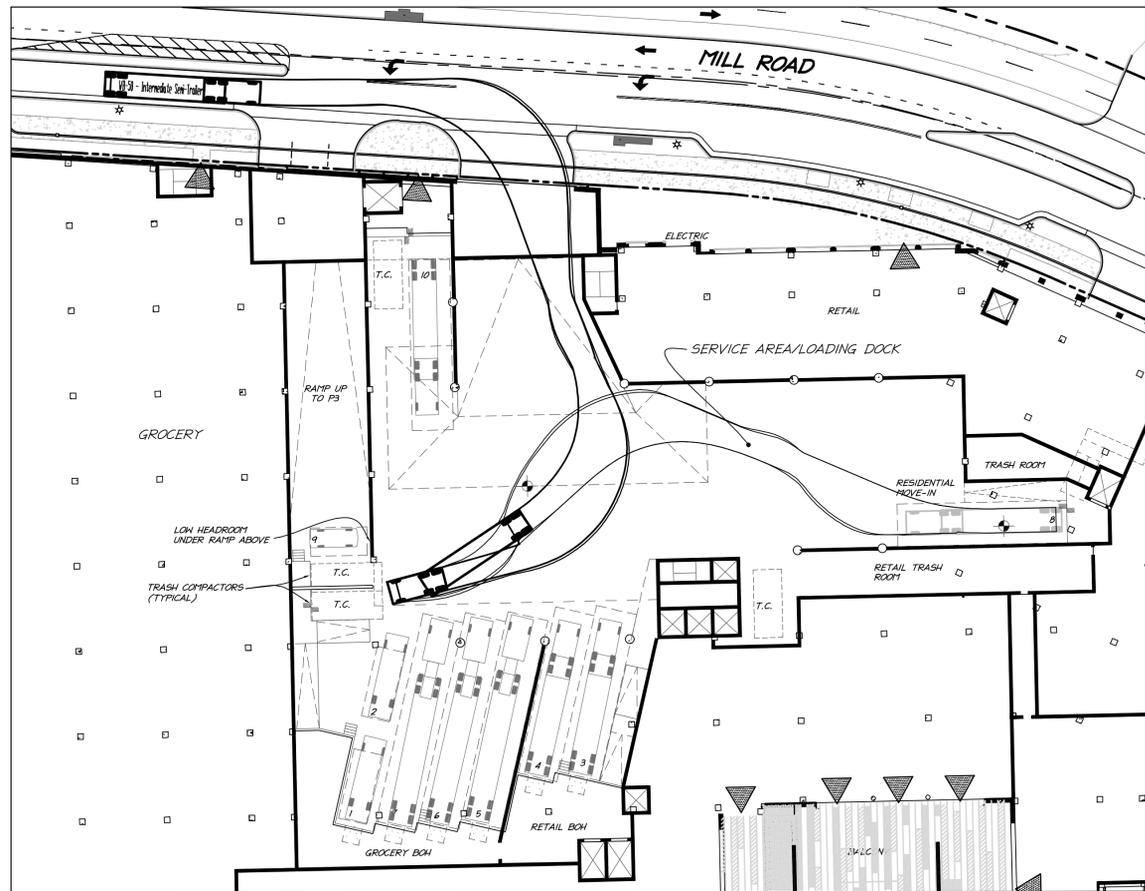
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DATE: 05/02/17

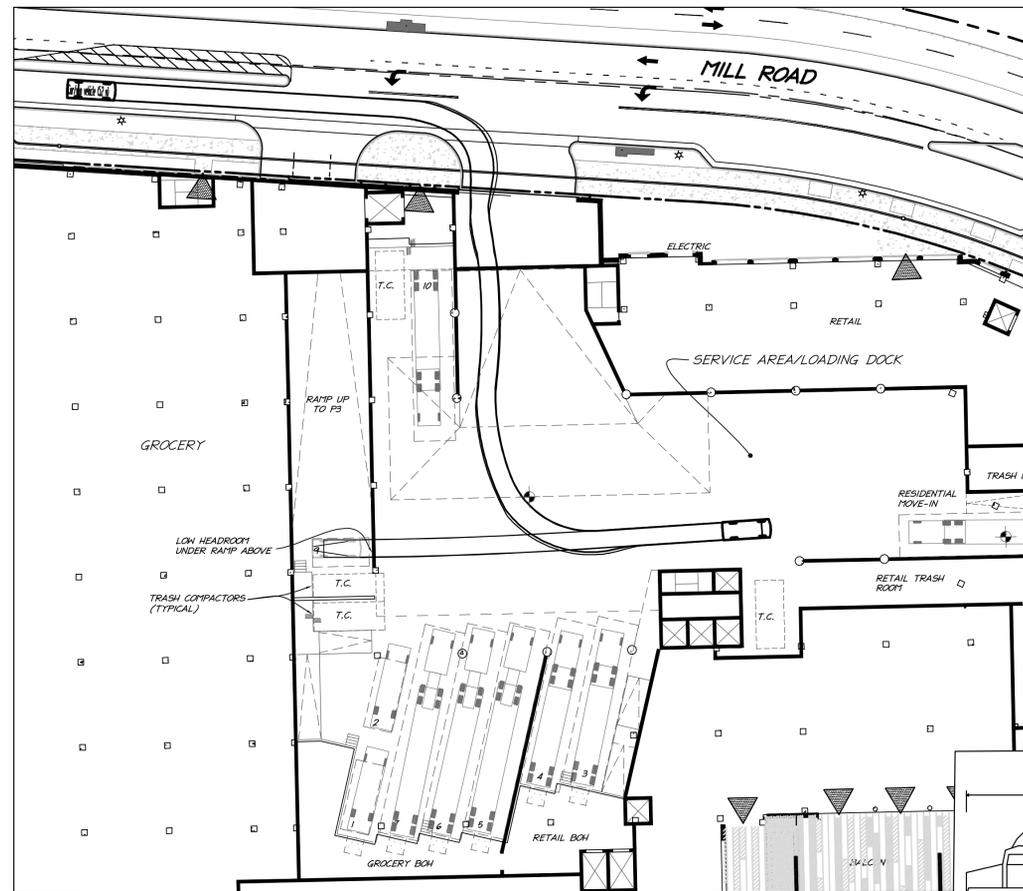
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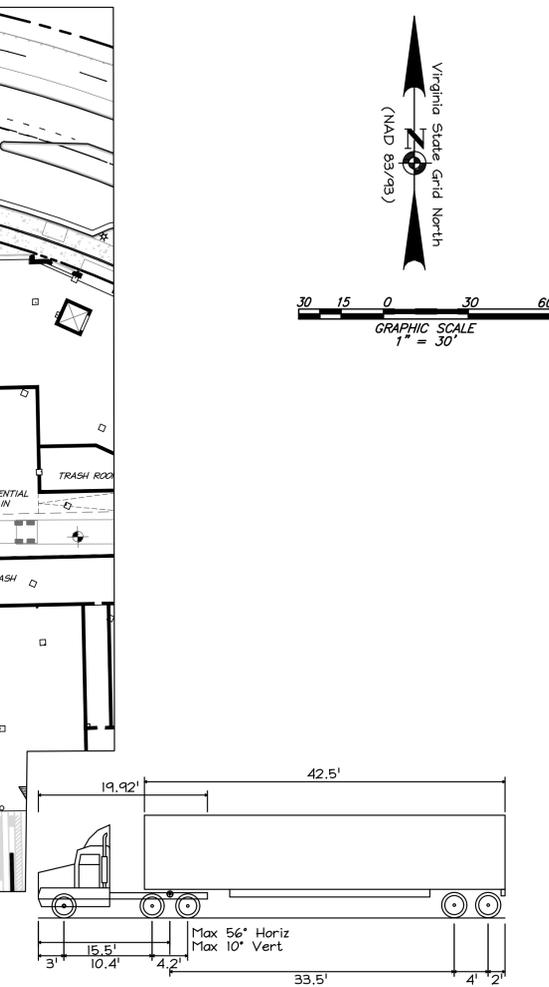
C501  
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WB-50 TRUCK - ENTERING BAY #8

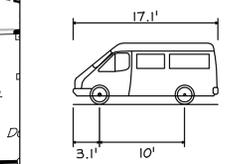


CARGO VAN - ENTERING BAY #9



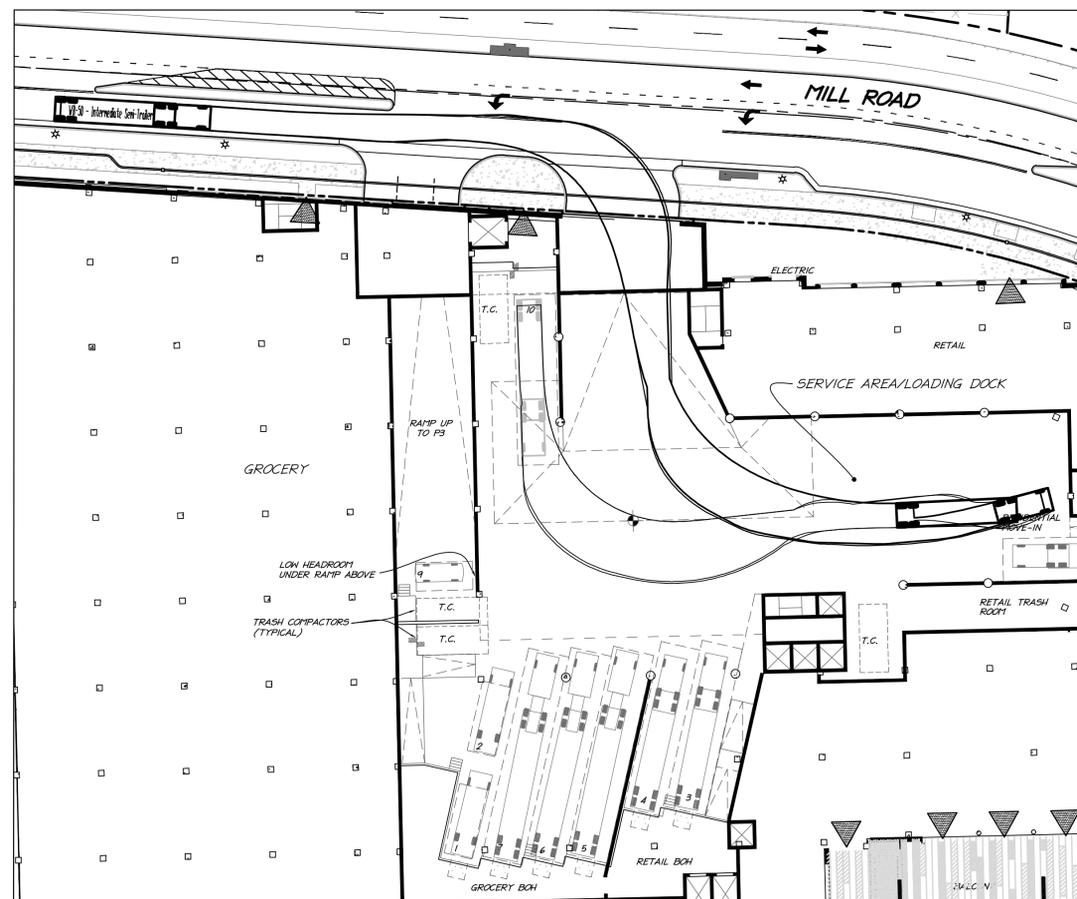
Overall Length	55.00ft
Overall Width	8.50ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.50ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	17.90°

WB-50 - Intermediate Semi-Trailer

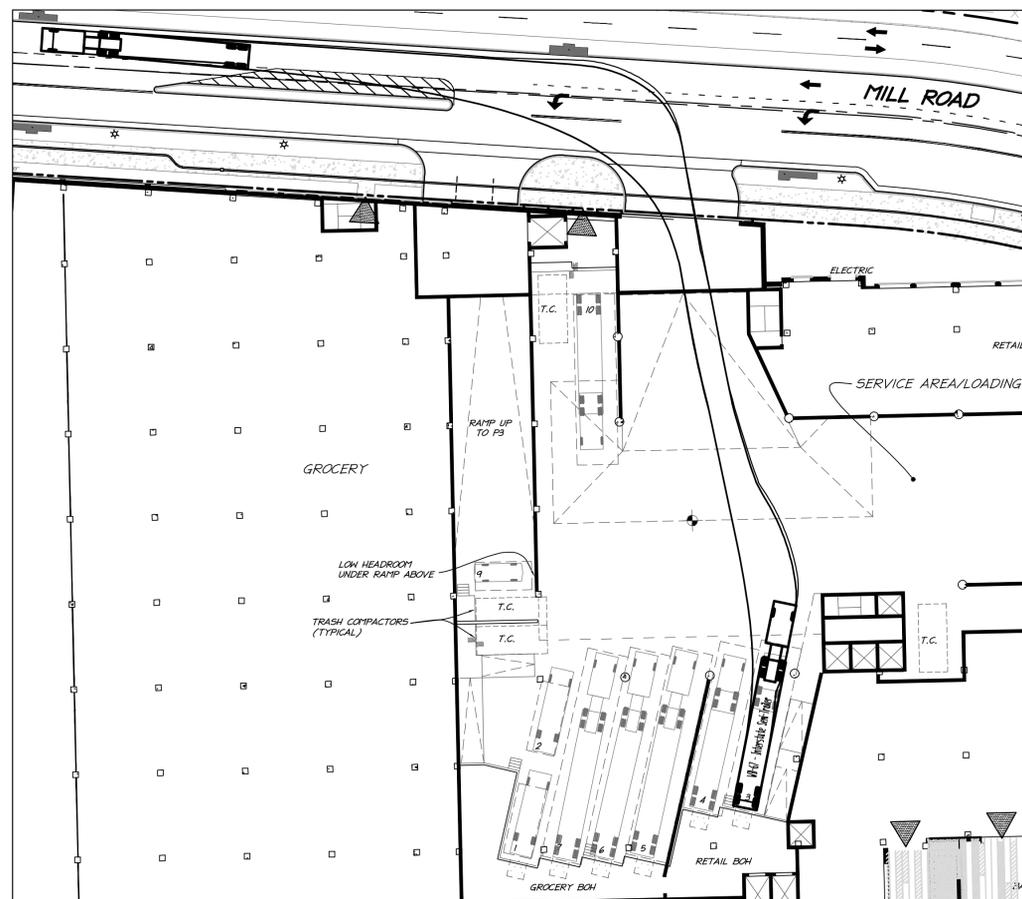


Overall Length	17.06ft
Overall Width	6.37ft
Overall Body Height	7.22ft
Min Body Ground Clearance	1.024ft
Track Width	6.04ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	20.67ft

Passenger/Cargo Van



WB-50 - ENTERING BAY #10



WB-67 - EXITING

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
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DIRECTOR _____	DATE _____
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DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
PAGE NO. _____	

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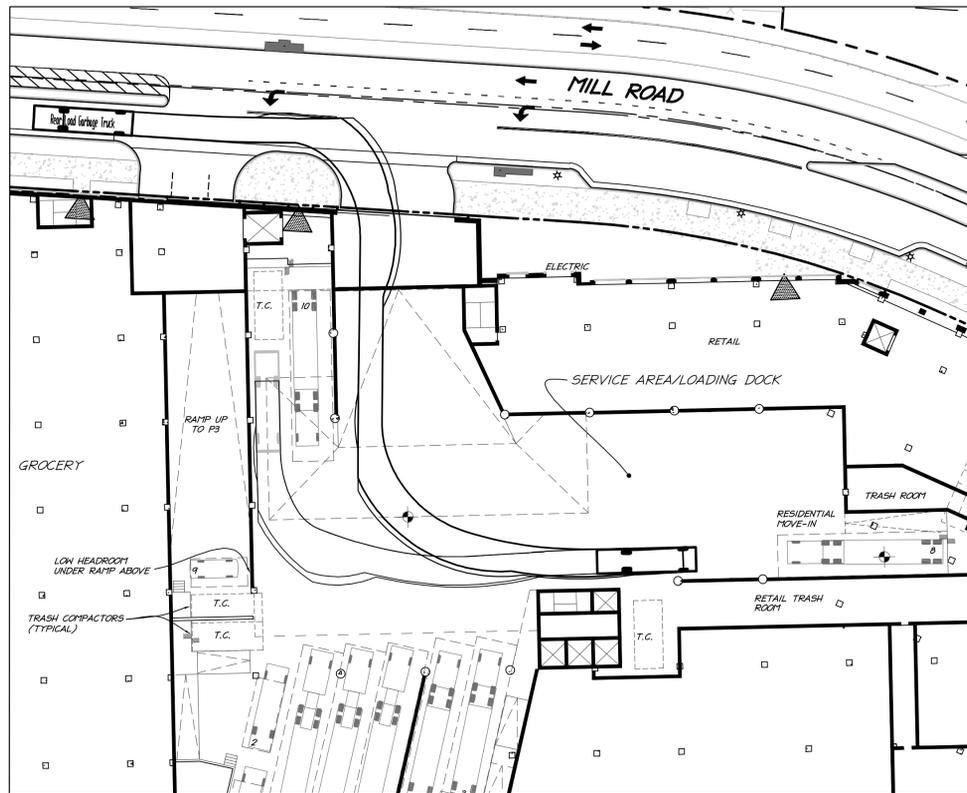
TURNING MOVEMENTS

PRELIMINARY PLAN - STAGE 1  
 HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5  
 CITY OF ALEXANDRIA, VIRGINIA

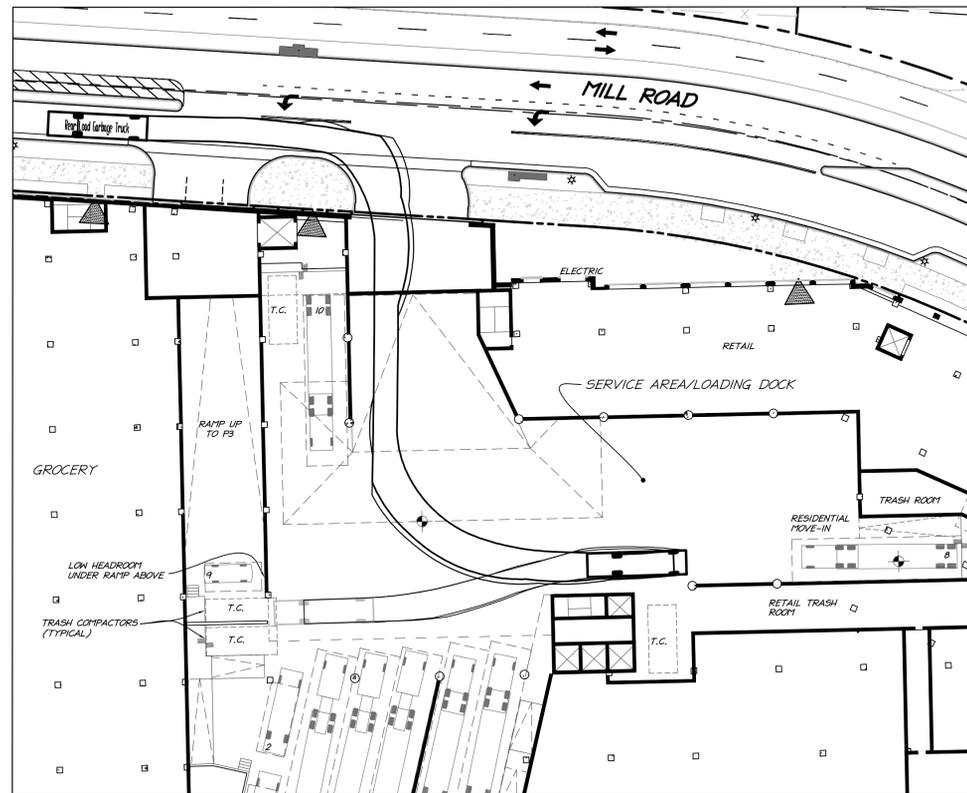
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DESIGN: EG
DRAWN: EG
CHECKED: KMW
SHEET No.

C502  
 107540

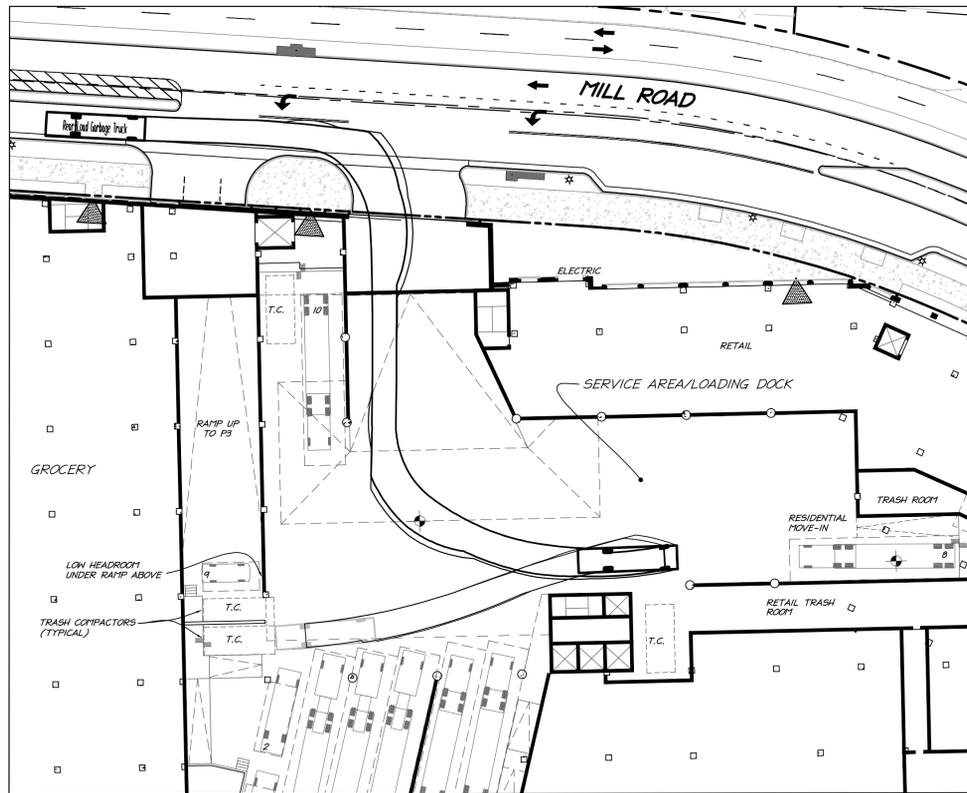
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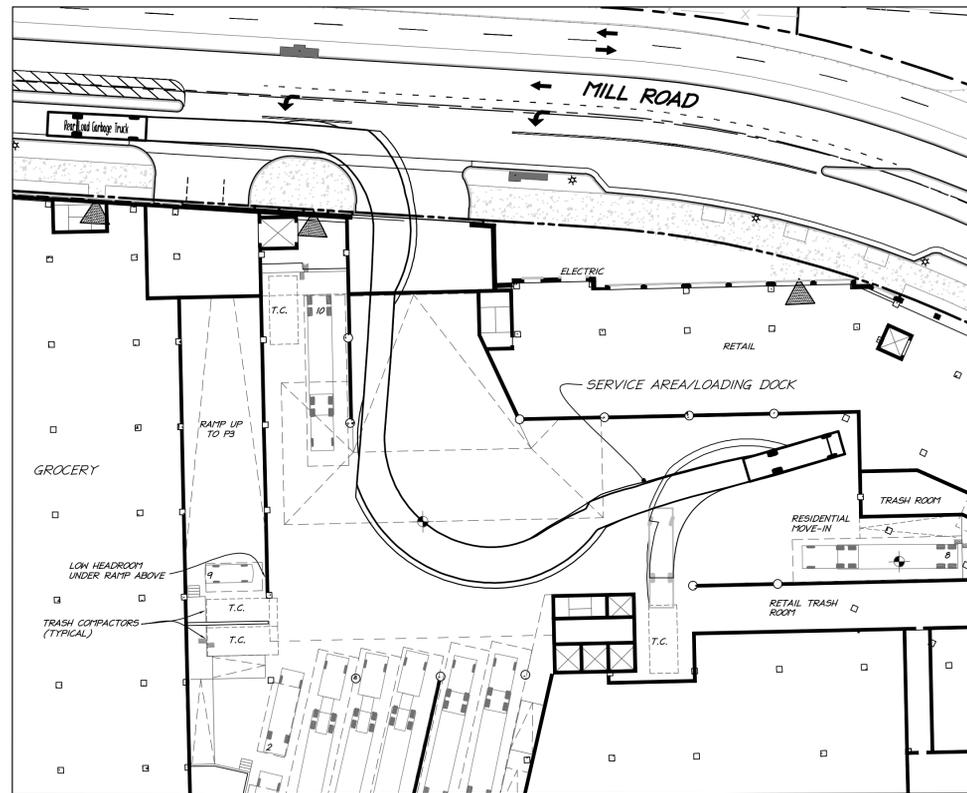
GARBAGE TRUCK - ENTERING



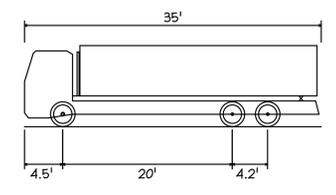
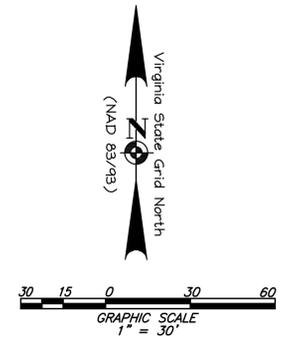
GARBAGE TRUCK - ENTERING



GARBAGE TRUCK - ENTERING



GARBAGE TRUCK - ENTERING



Overall Length 35.00ft  
 Overall Width 8.375ft  
 Overall Body Height 9.53ft  
 Min Body Ground Clearance 1.00ft  
 Track Width 8.375ft  
 Lock-to-lock time 6.00s  
 Curb to Curb Turning Radius 29.30ft  
 Roll-Off Garbage Truck

<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. _____	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION _____	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
PAGE NO. _____	

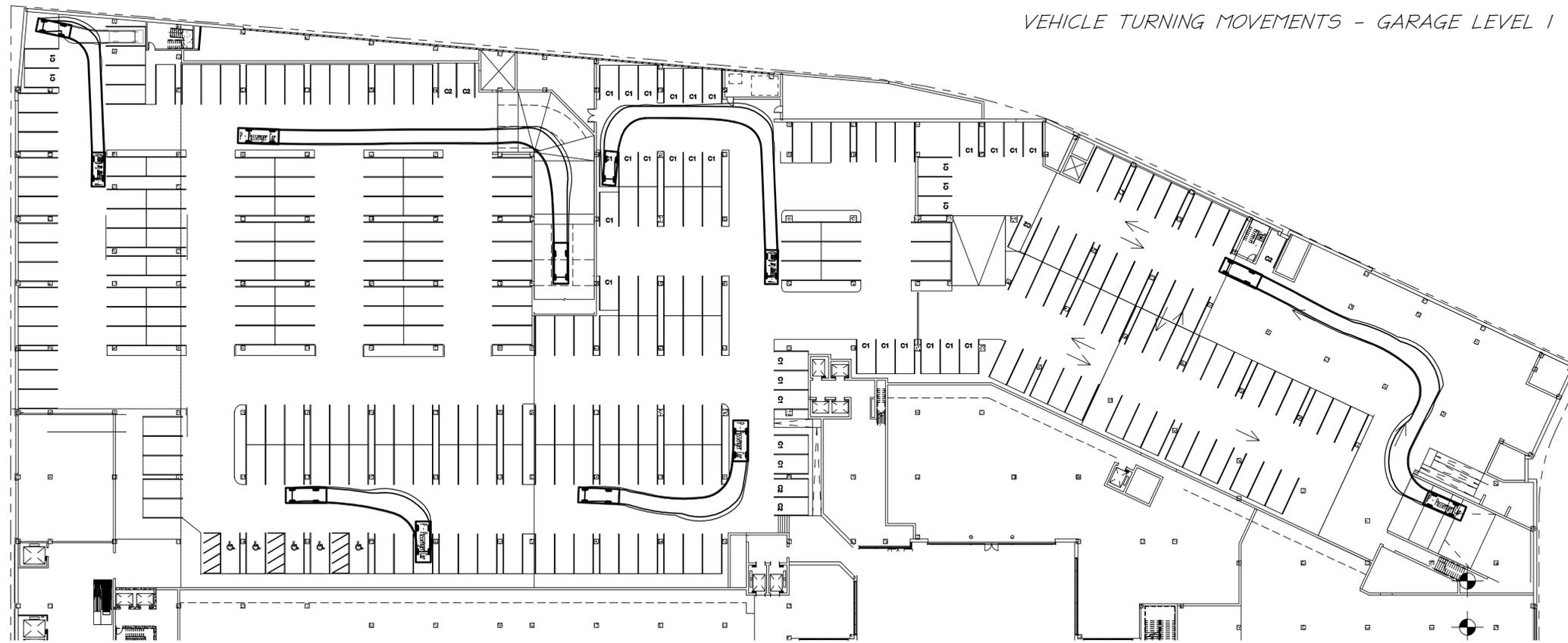
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TURNING MOVEMENTS

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

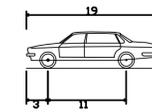
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C503  
107540



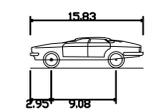
VEHICLE TURNING MOVEMENTS - GARAGE LEVEL 1

PASSENGER CAR - NOT TO SCALE

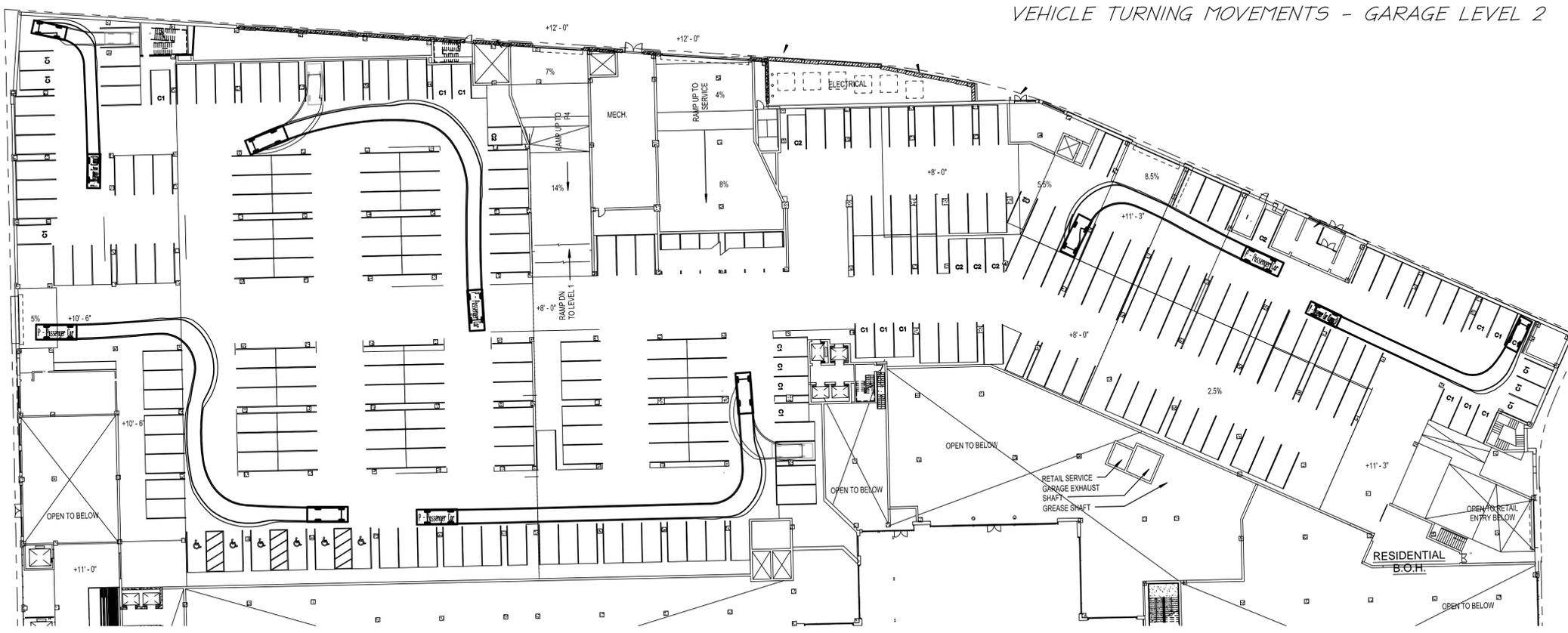


P - Passenger Car	19.000ft
Overall Length	7.000ft
Overall Width	5.101ft
Overall Body Height	1.116ft
Min Body Ground Clearance	6.000ft
Track Width	4.005
Lock-to-lock time	31.60°
Max Steering Angle (Virtual)	

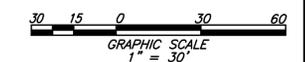
COMPACT CAR - NOT TO SCALE



P - Passenger Car (Compact)	15.830ft
Overall Length	5.080ft
Overall Width	4.265ft
Overall Body Height	1.155ft
Min Body Ground Clearance	5.230ft
Track Width	3.005
Lock-to-lock time	
Curb to Curb Turning Radius	19.500ft



VEHICLE TURNING MOVEMENTS - GARAGE LEVEL 2



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_____	PAGE NO. _____

Virginia State Grid North  
(NAD 83/93)

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TURNING MOVEMENTS - LEVELS 1 & 2

PRELIMINARY PLAN - STAGE 1  
HOFFMAN TOWN CENTER  
BLOCKS 4 & 5  
CITY OF ALEXANDRIA, VIRGINIA

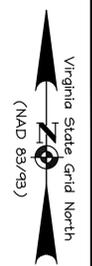
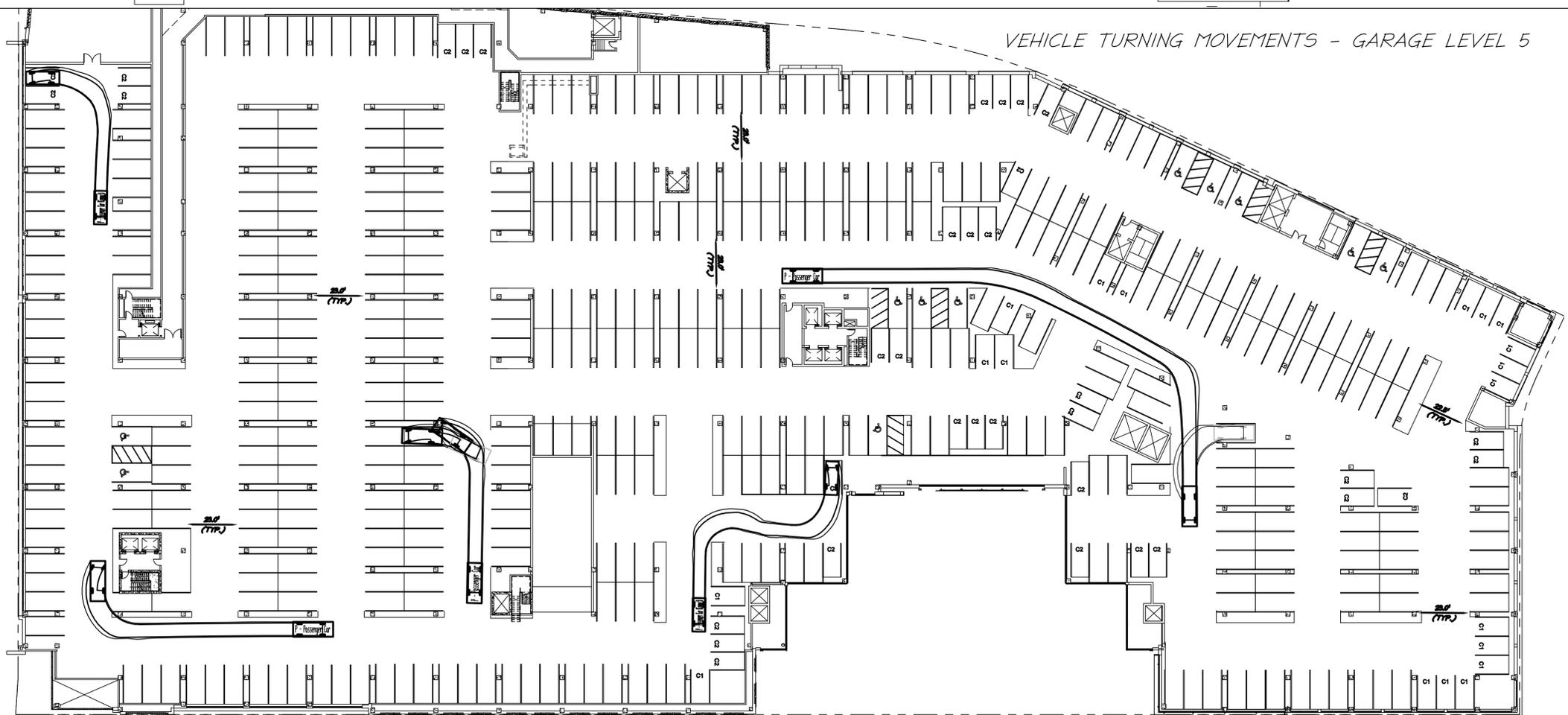
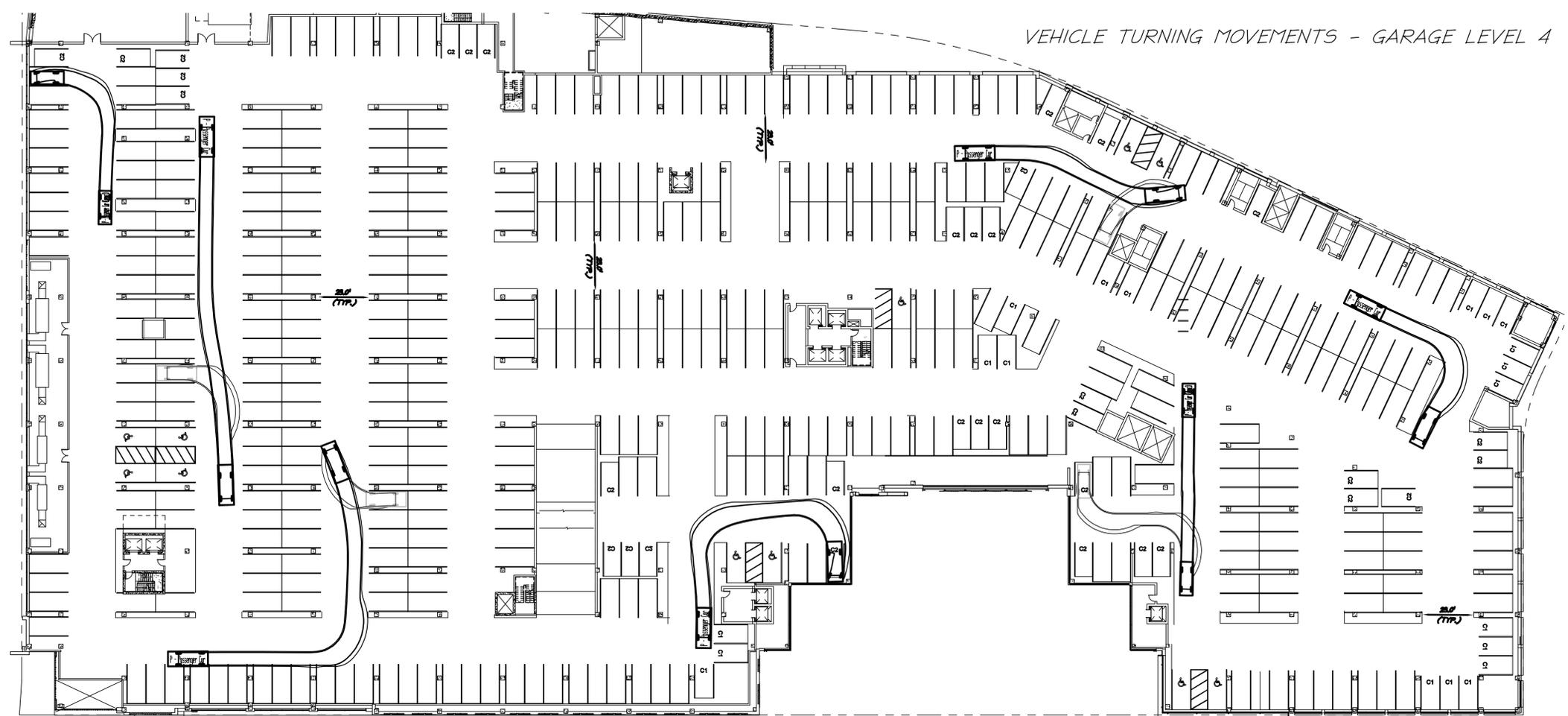
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SHEET No.

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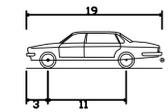
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VEHICLE TURNING MOVEMENTS - GARAGE LEVEL 4

VEHICLE TURNING MOVEMENTS - GARAGE LEVEL 5

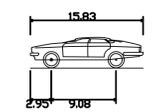


PASSENGER CAR - NOT TO SCALE



P - Passenger Car	19.000ft
Overall Length	7.000ft
Overall Width	5.101ft
Overall Body Height	1.116ft
Min Body Ground Clearance	6.000ft
Track Width	4.005
Lock-to-lock time	31.60°
Max Steering Angle (Virtual)	

COMPACT CAR - NOT TO SCALE



P - Passenger Car (Compact)	15.830ft
Overall Length	5.080ft
Overall Width	4.265ft
Overall Body Height	1.115ft
Min Body Ground Clearance	5.230ft
Track Width	3.005
Lock-to-lock time	
Curb to Curb Turning Radius	19.500ft



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SITE PLAN NO. _____		
DIRECTOR	DATE	
CHAIRMAN, PLANNING COMMISSION		
DATE RECORDED	DATE	
INSTRUMENT NO.	DEED BOOK NO.	PAGE NO.

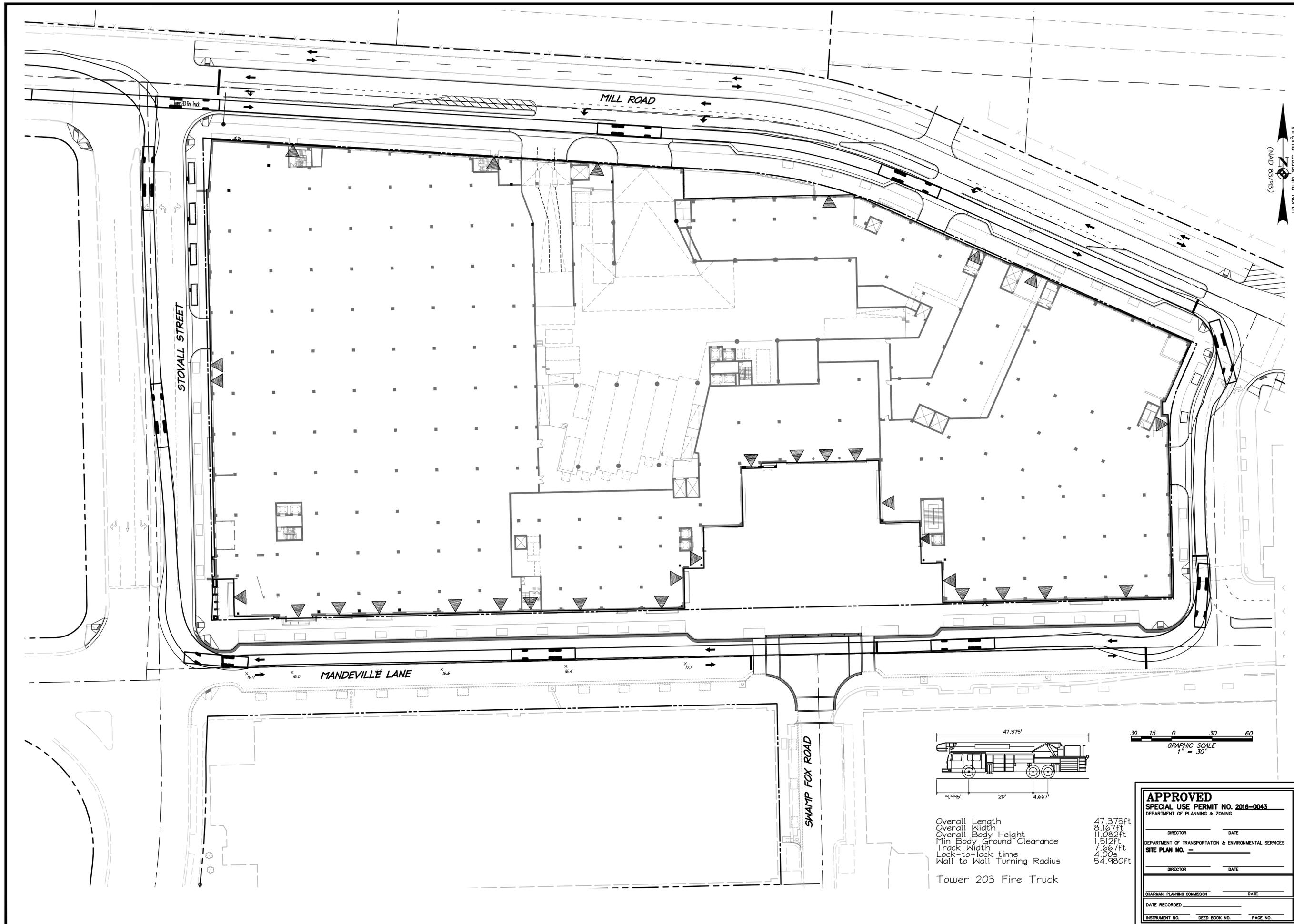
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PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO: 98085.049.00  
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 SHEET No.  
**C505**  
 107540

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Virginia State Grid North  
 (NAD 83/99)

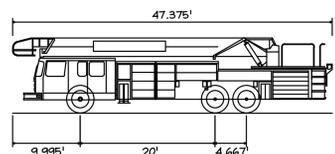
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PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

TURNING MOVEMENTS -  
 FIRE TRUCK

PROJECT NO. 98085.049.00  
 SCALE: 1"=30'  
 DATE: 05/02/17  
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 SHEET No.  
**C506**  
 107540



Overall Length 47.375'  
 Overall Width 8.167'  
 Overall Body Height 11.082'  
 Min. Body Ground Clearance 1.512'  
 Track Width 1.667'  
 Lock-to-lock time 4.00s  
 Wall to Wall Turning Radius 54.980ft

Tower 203 Fire Truck



<b>APPROVED</b>	
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DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
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DIRECTOR _____	DATE _____
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 (NAD 83/99)

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**FIRE SERVICE PLAN**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO. 98085.049.00

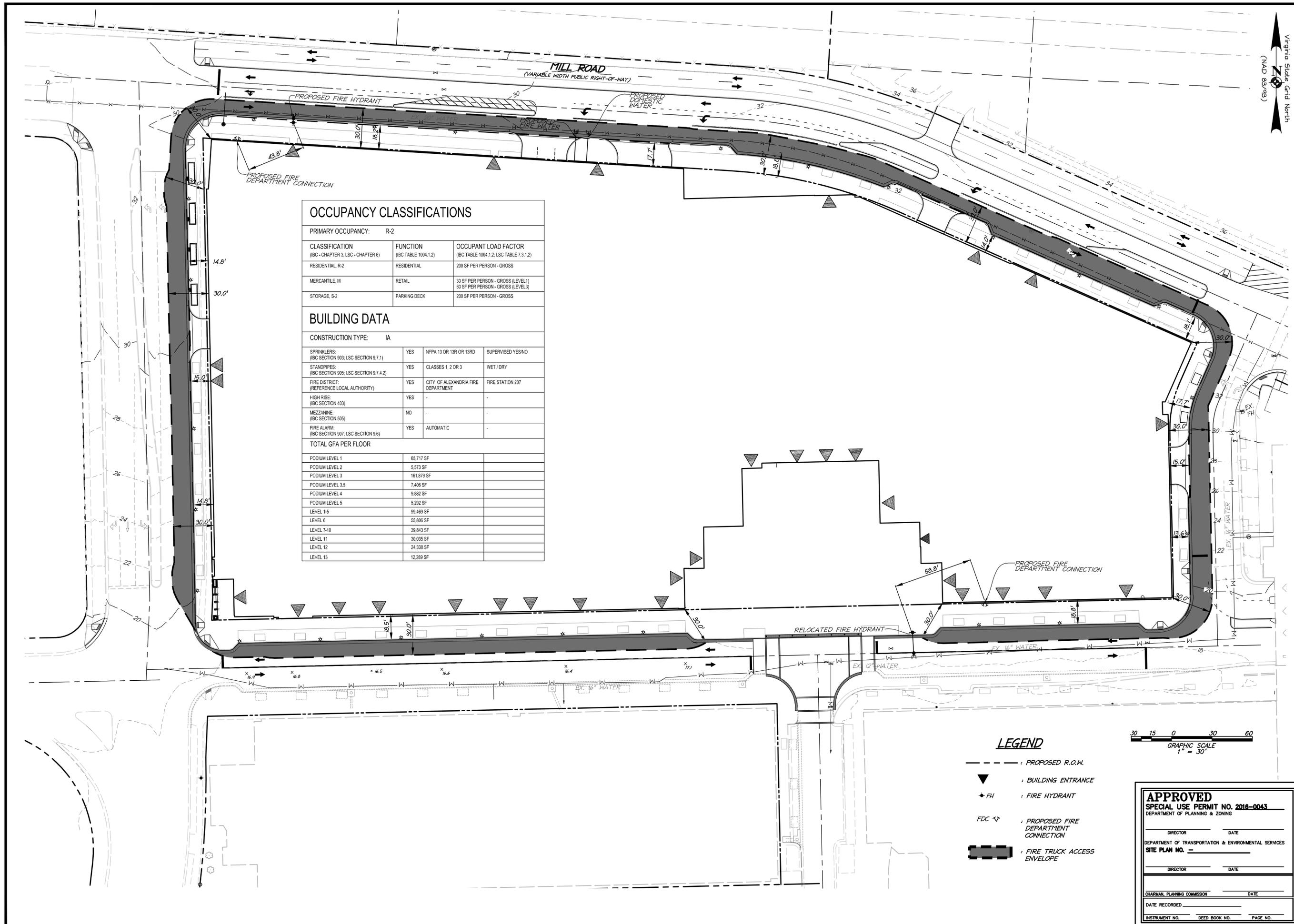
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DATE: 05/02/17

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 CHECKED: KMW

SHEET No.

**C507**  
 107540



OCCUPANCY CLASSIFICATIONS		
PRIMARY OCCUPANCY: R-2		
CLASSIFICATION (IBC - CHAPTER 3, LSC - CHAPTER 6)	FUNCTION (IBC TABLE 1004.1.2)	OCCUPANT LOAD FACTOR (IBC TABLE 1004.1.2; LSC TABLE 7.3.1.2)
RESIDENTIAL R-2	RESIDENTIAL	200 SF PER PERSON - GROSS
MERCANTILE M	RETAIL	30 SF PER PERSON - GROSS (LEVEL 1) 80 SF PER PERSON - GROSS (LEVELS 2-5)
STORAGE S-2	PARKING DECK	200 SF PER PERSON - GROSS

BUILDING DATA			
CONSTRUCTION TYPE: IA			
SPRINKLERS: (IBC SECTION 903; LSC SECTION 9.7.1)	YES	NFPA 13 OR 13R OR 13RD	SUPERVISED YES/NO
STANDPIPES: (IBC SECTION 905; LSC SECTION 9.7.4.2)	YES	CLASSES 1, 2 OR 3	WET / DRY
FIRE DISTRICT: (REFERENCE LOCAL AUTHORITY)	YES	CITY OF ALEXANDRIA FIRE DEPARTMENT	FIRE STATION 207
HIGH RISE: (IBC SECTION 403)	YES	-	-
MEZZANINE: (IBC SECTION 505)	NO	-	-
FIRE ALARM: (IBC SECTION 907; LSC SECTION 9.6)	YES	AUTOMATIC	-
TOTAL GFA PER FLOOR			
PODIUM LEVEL 1	65,717 SF		
PODIUM LEVEL 2	5,573 SF		
PODIUM LEVEL 3	161,879 SF		
PODIUM LEVEL 3.5	7,406 SF		
PODIUM LEVEL 4	9,862 SF		
PODIUM LEVEL 5	5,292 SF		
LEVEL 1-5	99,469 SF		
LEVEL 6	55,806 SF		
LEVEL 7-10	39,843 SF		
LEVEL 11	30,035 SF		
LEVEL 12	24,338 SF		
LEVEL 13	12,289 SF		

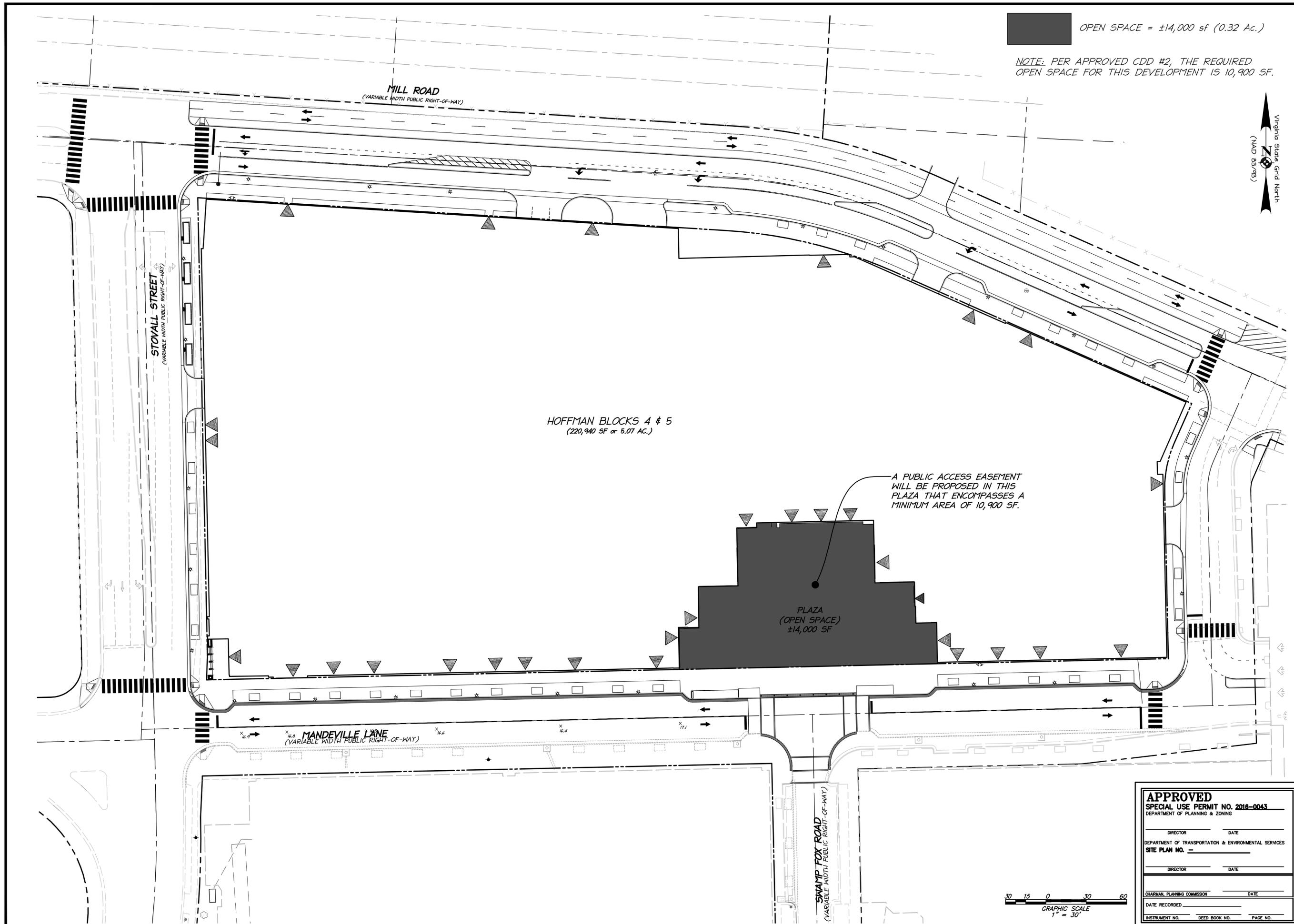
**LEGEND**

- : PROPOSED R.O.W.
- ▼ : BUILDING ENTRANCE
- ◆ FH : FIRE HYDRANT
- FDC ◀ : PROPOSED FIRE DEPARTMENT CONNECTION
- █ : FIRE TRUCK ACCESS ENVELOPE



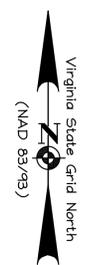
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OPEN SPACE = ±14,000 sf (0.32 Ac.)

NOTE: PER APPROVED CDD #2, THE REQUIRED OPEN SPACE FOR THIS DEVELOPMENT IS 10,900 SF.



HOFFMAN BLOCKS 4 & 5  
(220,940 SF or 5.07 AC.)

PLAZA  
(OPEN SPACE)  
±14,000 SF

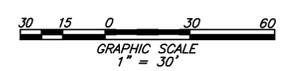
A PUBLIC ACCESS EASEMENT  
WILL BE PROPOSED IN THIS  
PLAZA THAT ENCOMPASSES A  
MINIMUM AREA OF 10,900 SF.

MANDEVILLE LANE  
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)

SWAMP FOX ROAD  
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)

STOVALL STREET  
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)

MILL ROAD  
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)



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PAGE NO. _____	

**christopher**  
 consultants  
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 phone 703.273.6820 · fax 703.273.6820

COMMONWEALTH OF VIRGINIA  
 ELI GOLDMAN  
 Lic. No. 55868  
 10/19/2017  
 PROFESSIONAL ENGINEER

OPEN SPACE PLAN

PRELIMINARY PLAN - STAGE 1

HOFFMAN TOWN CENTER

BLOCKS 4 & 5

CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO: 98085.049.00

SCALE: 1" = 30'

DATE: 05/02/17

DESIGN: EG

DRAWN: A.JB

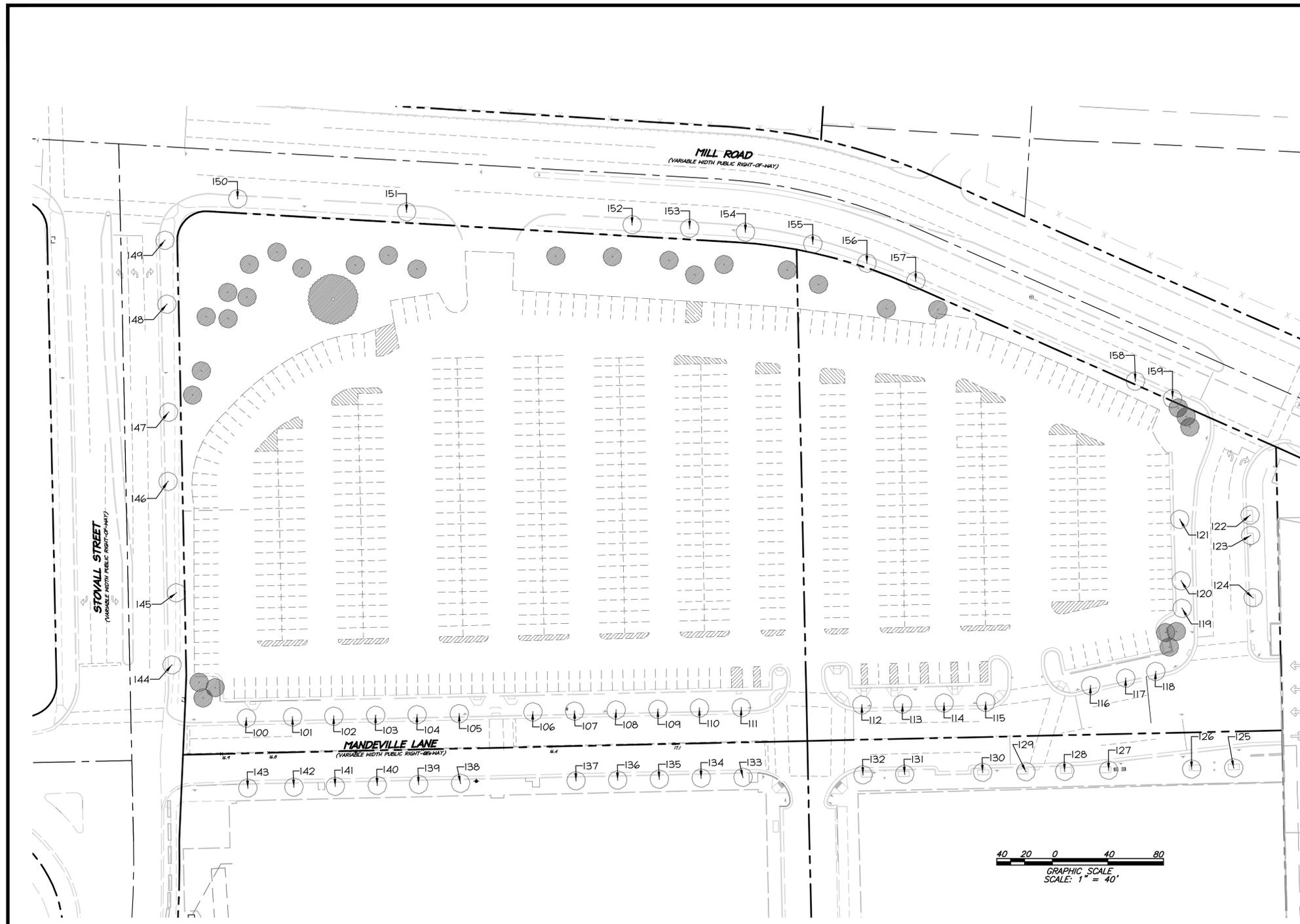
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SHEET No.

C600

107540

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**LEGEND**

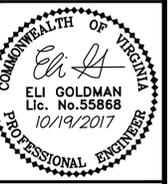
- :EXISTING ROW TREE
- :EXISTING ON-SITE TREE (TO BE REMOVED)



**TREE INVENTORY DATA**

TREE #	BOTANICAL NAME	COMMON NAME	TRUNK DIAMETER (INCHES)	CONDITION RATING	COMMENTS
100	ACER RUBRUM	RED MAPLE	5		
101	ACER RUBRUM	RED MAPLE	4.5		
102	ACER RUBRUM	RED MAPLE	5		
103	ACER RUBRUM	RED MAPLE	4.5		
104	ACER RUBRUM	RED MAPLE	4.5		
105	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
106	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
107	ACER RUBRUM	RED MAPLE	4		
108	ACER RUBRUM	RED MAPLE	5		
109	ACER RUBRUM	RED MAPLE	4		
110	ACER RUBRUM	RED MAPLE	4		
111	ACER RUBRUM	RED MAPLE	4		
112	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
113	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
114	ACER RUBRUM	RED MAPLE	3.5		
114	ACER RUBRUM	RED MAPLE	4		
116	ACER RUBRUM	RED MAPLE	3.5		
117	ACER RUBRUM	RED MAPLE	3.5		
118	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
119	ACER RUBRUM	RED MAPLE	4		
120	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
121	ACER RUBRUM	RED MAPLE	5		
122	ACER RUBRUM	RED MAPLE	5		
123	ACER RUBRUM	RED MAPLE	5		
124	ACER RUBRUM	RED MAPLE	5		
125	ACER RUBRUM	RED MAPLE	3.5		
126	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
127	ACER RUBRUM	RED MAPLE	5		
128	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
129	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
130	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016
131	ACER RUBRUM	RED MAPLE	4.5		
132	ACER RUBRUM	RED MAPLE	4		
133	ACER RUBRUM	RED MAPLE	3.5		
134	ACER RUBRUM	RED MAPLE	3.5		
135	ACER RUBRUM	RED MAPLE	4		
136	ACER RUBRUM	RED MAPLE	4		
137	ACER RUBRUM	RED MAPLE	4		
138	ACER RUBRUM	RED MAPLE	5		
139	ACER RUBRUM	RED MAPLE	4.5		
140	ACER RUBRUM	RED MAPLE	4.5		
141	ACER RUBRUM	RED MAPLE	4.5		
142	ACER RUBRUM	RED MAPLE	4.5		
143	ACER RUBRUM	RED MAPLE	3.5		REPLACED 2016

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**EXISTING TREE EXHIBIT**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

**APPROVED**  
 SPECIAL USE PERMIT NO. 2016-0043  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
 SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

PROJECT NO: 98085.049.00  
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 DRAWN: A.JB  
 CHECKED: K.M.W.  
 SHEET No.  
**C601**  
 107540

P:\Projects\98085 Hoffman\049000 Block 4 & 5\107540 Hoffman\049000 TREE EXHIBIT.dwg, 10/18/2017 3:55:01 PM, jacksons\_l.c., christopher consultants, ltd

**EXISTING CONDITION SITE NARRATIVE**

THIS SITE IS 5.08 ACRES (EXCLUDING RIGHT-OF-WAYS) AND IS A VACANT PARKING LOT. THE SITE IS LOCATED NORTH OF THE EISENHOWER METRO AND IS BORDERED TO THE NORTH BY MILL ROAD; TO THE SOUTH AND EAST BY MANDEVILLE LANE; AND TO THE WEST BY STOVALL STREET.

REVIEW OF EXISTING TOPOGRAPHY INDICATES THAT THE PROPERTY DRAINS FROM THE NORTH TO THE SOUTH. THE ELEVATION OF MILL ROAD ON THE NORTH SIDE OF THE PROPERTY IS 10' HIGHER THAN THE ELEVATION OF MANDEVILLE LANE ON THE SOUTH SIDE OF THE PROPERTY. A PORTION OF THE SITE DRAINS TO AN EXISTING STORM SYSTEM THAT RUNS SOUTH DOWN STOVALL STREET AND THEN TO THE EAST UNDER HOFFMAN BUILDING 1. THE WESTERN AND CENTRAL PORTION OF THE SITE DRAINS TO INLETS ON THE SOUTH SIDE OF THE PARKING LOT AND THEN INTO SANDFILTER #1. FROM SANDFILTER #1, THE STORMWATER FLOWS SOUTH DOWN SWAMP FOX ROAD AND THEN TO THE EAST DOWN GRIST MILL PLACE. THE EASTERN SIDE OF THE SITE DRAINS TO INLETS ON THE SOUTH SIDE OF THE PARKING LOT AND THEN TO THE EAST TO THE MOVIE THEATER PARKING GARAGE AND THEN SOUTH TO SANDFILTER #2 LOCATED IN GRIST MILL PLACE.

THERE ARE NO RESOURCE PROTECTION AREAS ON THIS PROPERTY.

**PROPOSED CONDITION SITE NARRATIVE**

THIS PROJECT PROPOSES A MIXED-USE DEVELOPMENT CONSISTING OF RETAIL, GROCERY, RESIDENTIAL, CONDOMINIUM AND SENIOR LIVING. IMPROVEMENTS TO THE STREETScape FRONTING THE PROPERTY WILL ALSO BE PROVIDED.

**WATER QUALITY TREATMENT (BMP) NARRATIVE**

TO COMPLY WITH THE CHESAPEAKE BAY ACT (CBA) AND ARTICLE XIII OF THE ZONING ORDINANCE, THE PROJECT WILL PROVIDE WATER QUALITY TREATMENT THROUGH THE USE OF GREEN ROOFS, HYDRODYNAMIC SEPARATORS AND AN EXISTING SANDFILTER.

THE GREEN ROOFS WILL TREAT APPROXIMATELY 1.79 ACRES OF IMPERVIOUS RUNOFF FROM THE BUILDING. THE HYDRODYNAMIC SEPARATORS WILL TREAT APPROXIMATELY 2.44 ACRES OF IMPERVIOUS RUNOFF FROM THE BUILDING AND PLAZA. THE SAND FILTER WILL TREAT APPROXIMATELY 1.59 ACRES OF IMPERVIOUS RUNOFF FROM THE BUILDING AND ADDITIONAL OFFSITE AREA THAT CURRENTLY FLOWS TO THE SANDFILTER. THE FOUR OFF-SITE BMP TREE WELLS ON STOVALL STREET WILL TREAT AN ADDITIONAL 0.07 ACRES OF IMPERVIOUS RUNOFF.

**SITE AREA**

PER CITY CODE SECTION 13-103-LL, THE SITE IS THE ENTIRE PARCEL SINCE GREATER THAN 50% OF THE TAX PARCEL IS BEING DISTURBED. THIS TOTAL SITE AREA IS 5.07 ACRES.

**WQV TREATMENT**

THE WQV TO BE TREATED AS PER THE CITY OF ALEXANDRIA SUPPLEMENT TO THE NORTHERN VIRGINIA BMP HANDBOOK IS 1016 CU FT/ACRE OF IMPERVIOUS SURFACE. THEREFORE WQV REQUIRED = 5.07 x 1016 = 5,151 CU FT. SEE WQV CALCULATIONS ON C701.

**BMP TREATMENT PROVIDED**

FOR THIS PROJECT, 5.01 AC OF ON-SITE IMPERVIOUS COVER IS TREATED WITH THE GREEN ROOF, HYDRODYNAMIC SEPARATORS AND SAND FILTER. AN ADDITIONAL 0.07 AC OF OFF-SITE TREATMENT IS PROVIDED BY THE BMP TREE WELLS. A TOTAL OF 5.08 ACRES OF IMPERVIOUS AREA IS BEING TREATED AND EXCEEDS THE CITY'S WQV REQUIREMENT.

**STORM WATER MANAGEMENT / BEST MANAGEMENT PRACTICES NARRATIVE**

**BEST MANAGEMENT PRACTICES (BMP) - STORMWATER QUALITY**

TO MEET THE STATE REQUIREMENTS FOR STORMWATER QUALITY, THE VIRGINIA RUNOFF REDUCTION METHOD SPREADSHEET FOR RE-DEVELOPMENT MUST BE FILLED OUT AND MEET ALL POLLUTANT LOAD REDUCTION REQUIREMENTS. THE CITY REQUIREMENT IS MORE STRINGENT IN THIS CASE. THE ENTIRE SITE'S WATER QUALITY VOLUME (WQV) NEEDS TO BE TREATED (13-109-E-1). SINCE THERE IS A NET INCREASE IN IMPERVIOUS AREA FOR THE SITE, THE NET INCREASE WILL HAVE TO MEET THE 'NEW DEVELOPMENT' REQUIREMENT AND THE REMAINING IMPERVIOUS AREA WILL MEET A PHOSPHORUS REDUCTION OF 20%. THE SITE IS BEING DESIGNED TO CAPTURE AND TREAT AS MUCH WATER AS POSSIBLE WITH GREEN ROOF, HYDRODYNAMIC SEPARATORS AND SAND FILTER. SEE THE 'BEST MANAGEMENT PRACTICES - STORMWATER QUALITY CALCULATION REQUIREMENT NARRATIVE' ON THIS SHEET FOR MORE INFORMATION.

NOTE: FOR BMP PURPOSES, THE GREEN ROOF IS CONSIDERED IMPERVIOUS COVER.

**STORMWATER QUANTITY (CHANNEL PROTECTION / FLOOD PROTECTION)**

SEE SHEET C704 FOR NARRATIVE AND COMPUTATIONS.

**VIRGINIA VRRM SPREADSHEET DRAINAGE AREAS**

THE FOLLOWING DRAINAGE AREAS WERE USED TO FOR THE VRRM SPREADSHEET:

- DA A: MINOR OUTFALL 1
- DA B: MINOR OUTFALL 2
- DA C: MINOR OUTFALL 3

**NOTES:**

1) SEE SHEET C702 FOR LOCATION OF ALL DRAINAGE AREAS

**SANDFILTER NOTE:**

THE EXISTING SANDFILTER #1 LOCATED IN MANDEVILLE WILL BE PLUGGED AND ABANDONED IN PLACE. EXISTING SANDFILTER #2 LOCATED IN GRIST MILL PLACE WILL REMAIN OPERATION AND WILL CONTINUE TO TREAT A PORTION OF THIS SITE.

**BMP MAINTENANCE AGREEMENT NOTE:**

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

**DESIGN PROFESSIONAL INSPECTION NOTE**

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

**BEST MANAGEMENT PRACTICES (BMP) - STORMWATER QUALITY CALCULATION REQUIREMENTS NARRATIVE**

TO DETERMINE THE PHOSPHORUS REMOVAL REQUIREMENT FOR THIS SITE, TWO DIFFERENT CASES NEED TO BE ANALYZED AND THE MOST STRINGENT CASE WILL DETERMINE THE PHOSPHORUS REDUCTION REQUIREMENT.

**CASE #1:** A 20% REDUCTION OF PHOSPHORUS REMOVAL FROM THE SITE'S CURRENT CONDITION. THERE ARE TWO SANDFILTERS (ONE IN MANDEVILLE LANE AND ONE IN GRIST MILL PLACE) THAT CURRENTLY TREAT 4.73 ACRES (4.14 IMPERVIOUS ACRES). SINCE THESE SANDFILTERS WERE DESIGNED FOR THE 1/2" STORM, THE DEQ SPECIFICATION #11 CALLS FOR A 1" STORM DESIGN, FOR THIS REASON, THE PHOSPHORUS REMOVAL REQUIREMENT WILL BE REDUCED BY 50% TO TAKE INTO ACCOUNT THE CHANGE IN DESIGN STORM.

**CASE #2:** REQUIREMENT PER THE STATE'S DEQ VRRM RE-DEVELOPMENT COMPLIANCE SPREADSHEET.

\*\*\* AS DEMONSTRATED BELOW, THE PHOSPHORUS REMOVAL REQUIREMENT FOR THIS SITE WILL BE AS CALCULATED WITH CASE #1 AND WILL BE 3.35 LB/YR.

**CASE #1: ADDITIONAL 20% REMOVAL REQUIREMENT FROM EXISTING TREATMENT PROVIDED**

**Drainage Area B**

Drainage Area A Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.47	0.47	0.25
Impervious Cover (acres)				2.74	2.74	0.95
<b>Total</b>					<b>3.21</b>	

CLEAR BMP AREAS

'total Phosphorus Available for Removal in D.A. B (lb/yr)	6.20
Post Development Treatment Volume in D.A. B (ft <sup>3</sup> )	9,875

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft <sup>3</sup> )	Runoff Reduction (ft <sup>3</sup> )	Remaining Runoff Volume (ft <sup>3</sup> )	Total BMP Treatment Volume (ft <sup>3</sup> )	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed by Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
<b>11. Filtering Practices (no RR)</b>													
11.a.Filtering Practice #1 (Spec #12)	0	0.47	2.74	0	0	9,875	9,875	60	0.00	6.20	3.72	2.48	

**Drainage Area C**

Drainage Area A Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.12	0.12	0.25
Impervious Cover (acres)				1.40	1.40	0.95
<b>Total</b>					<b>1.52</b>	

CLEAR BMP AREAS

'total Phosphorus Available for Removal in D.A. C (lb/yr)	3.10
Post Development Treatment Volume in D.A. C (ft <sup>3</sup> )	4,937

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft <sup>3</sup> )	Runoff Reduction (ft <sup>3</sup> )	Remaining Runoff Volume (ft <sup>3</sup> )	Total BMP Treatment Volume (ft <sup>3</sup> )	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed by Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
<b>11. Filtering Practices (no RR)</b>													
11.a.Filtering Practice #1 (Spec #12)	0	0.12	1.40	0	0	4,937	4,937	60	0.00	3.10	1.86	1.24	

**BMP Water Quality Phosphorus Removal Requirement Calculation**

The removal requirement will be the most stringent of the following two cases:

**Case #1:** Additional 20% removal requirement from existing treatment provided

DA 'A'	0
DA 'B'	3.72
DA 'C'	1.86
<b>Total</b>	<b>5.58 lb/yr</b>

50% reduction from 1/2" Sandfilter design to 1" Sandfilter Spec#11 design criteria  
 5.58 x 0.5 = 2.79 lb/yr

Additional 20% reduction requirement  
 2.79 x 1.2 = 3.35 lb/yr

3.35 lbs/yr <---- More stringent \*\*\*

**Case #2:** Removal requirement per the VRRM Re-Development Spreadsheet

3.31 lbs/yr

**CASE #2: VRRM RE-DEVELOPMENT COMPLIANCE SPREADSHEET**

Project Name: Hoffman Town Center - Blocks 4 & 5  
 Date: 4/20/2017  
 Linear Development Project? No

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) -> 5.07

Maximum reduction required: 20%  
 The site's net increase in impervious cover (acres) is: 0.84  
 Post-Development TP Load Reduction for Site (lb/yr): 3.31

Check:  
 BMP Design Specifications List: 2013 Draft Stds & Specs  
 Linear project? No  
 Land cover areas entered correctly?   
 Total disturbed area entered?

Pre-ReDevelopment Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) - undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) - disturbed, graded for roads or other turf to be				0.84	0.84
Impervious Cover (acres)				4.23	4.23
<b>Total</b>					<b>5.07</b>

Post-Development Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) - undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) - disturbed, graded for roads or other turf to be				0.00	0.00
Impervious Cover (acres)				5.07	5.07
<b>Total</b>					<b>5.07</b>

Constants	A Soils	B Soils	C Soils	D Soils
Annual Rainfall (inches)	43			
Target Rainfall Event (inches)	1.00			
Total Phosphorus (TP) EMC (mg/L)	0.26			
Total Nitrogen (TN) EMC (mg/L)	1.86			
Target TP Load (lb/acre/yr)	0.41			
TP Justness correction factor	0.90			

Land Cover Summary-- PRE-REDEVELOPMENT	Listed	Adjusted
Pre-Development Treatment Volume (acre-ft)	0.00	0.00
Pre-Development Treatment Volume (cubic feet)	15,349	14,587
Pre-Development TP Load (lb/yr)	9.64	9.17
Pre-Development TP Load per acre (lb/acre/yr)	1.89	2.17
Baseline TP Load (lb/yr) (0.41 lb/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		2.73

Land Cover Summary-- POST DEVELOPMENT	Post-Development	Post-Development New Impervious
Post-Development Treatment Volume (acre-ft)	0.3349	0.0665
Post-Development Treatment Volume (cubic feet)	14,587	2,897
Post-Development TP Load (lb/yr)	9.17	1.82
Post-Development TP Load per acre (lb/acre/yr)	2.17	
Max. Reduction Required (Below Pre-Development Load)	20%	
TP Load Reduction Required for Redeveloped Area (lb/yr)	1.83	1.48

THE SITE'S PHOSPHORUS REMOVAL REQUIREMENT IS 3.35 LB/YR \*\*\*

Post-Development Requirement for Site Area	
TP Load Reduction Required (lb/yr)	3.31

Nitrogen Loads (Informational Purposes Only)	
Pre-Development TN Load (lb/yr)	68.99
Final Post-Development TN Load (Post-Development & New Impervious) (lb/yr)	78.59

Drainage Area	Impervious	Pervious	Total
Site Area	5.07	0.00	5.07
On-Site Treated	5.01	0.00	5.01
Off-Site Treated	0.07	0.00	0.07
<b>Total Treated</b>	<b>5.01</b>	<b>0.00</b>	<b>5.06</b>

BMP Type	Area Treated by BMP (acres)	Impervious Area treated by BMP (acres)	BMP Efficiency (%)
Greenroof	1.79	1.79	0%
HDS	4.23	4.23	20%
Ex. SF #2	1.59	1.59	60%

TREATMENT NOTE:  
 GREEN ROOF AREA FLOW OF 0.98 ACRE (DA 'B') IN SERIES TO THE HYDODYNAMIC SEPARATORS AND 0.91 ACRE (DA 'C') IN SERIES TO EXISTING SANDFILTER #2.

Miscellaneous Information  
 Total WQV treated  yes  no  
 Detention on Site  yes  no  
 Project is within which watershed? TIMBER BRANCH  
 Project Discharges to which body of water? CAMERON RUN

**APPROVED**  
 SPECIAL USE PERMIT NO. 2016-0043  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
 DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
 SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHARMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

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**ELI GOLDMAN**  
 Lic. No. 55868  
 10/19/2017  
 PROFESSIONAL ENGINEER

**PRELIMINARY BMP COMPUTATIONS**

**PRELIMINARY PLAN - STAGE 1**  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO. 98085.049.00  
 SCALE: N/A  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: AJB  
 CHECKED: K1W  
 SHEET No.  
**C700**  
 107540

**Drainage Area A (ON-SITE)**

**Drainage Area A Land Cover (acres)**

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.00	0.00	0.00
Impervious Cover (acres)				0.20	0.20	0.95
<b>Total</b>				<b>0.20</b>		

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr) 0.43  
 Post Development Treatment Volume in D.A. A (ft³) 690

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
<b>14. Manufactured Treatment Devices (no RR)</b>													
14.a. Manufactured Treatment Device-Hydrodynamic	0	0.00	0.18	0	0	621	621	20	0.00	0.39	0.08	0.31	

**Drainage Area B (ON-SITE)**

**Drainage Area A Land Cover (acres)**

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.00	0.00	0.00
Impervious Cover (acres)				3.26	3.26	0.95
<b>Total</b>				<b>3.26</b>		

CLEAR BMP AREAS

total Phosphorus Available for Removal in D.A. B (lb/yr) 7.06  
 Post Development Treatment Volume in D.A. B (ft³) 11,242

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
<b>1. Vegetated Roof (RR)</b>													
1.b. Vegetated Roof #2 (Spec #5)	60		0.98		2,028	1,352	3,380	0		2.12	1.27	0.85	14.a. MTD - Hydrodynamic
<b>14. Manufactured Treatment Devices (no RR)</b>													
14.a. Manufactured Treatment Device-Hydrodynamic	0		2.26	1,352	0	9,145	9,145	20	0.85	4.89	1.15	4.59	

**Drainage Area C (ON-SITE)**

**Drainage Area A Land Cover (acres)**

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.00	0.00	0.00
Impervious Cover (acres)				1.60	1.60	0.95
<b>Total</b>				<b>1.60</b>		

CLEAR BMP AREAS

total Phosphorus Available for Removal in D.A. C (lb/yr) 3.47  
 Post Development Treatment Volume in D.A. C (ft³) 5,518

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
<b>1. Vegetated Roof (RR)</b>													
1.b. Vegetated Roof #2 (Spec #5)	60		0.40		828	552	1,379	0		0.87	0.52	0.35	11.a. Filtering Practice #1
<b>11. Filtering Practices (no RR)</b>													
11.a. Filtering Practice #1 (Spec #12)	0		0.39	552	0	1,897	1,897	60	0.35	0.84	0.71	0.48	

ACTUAL IMPERVIOUS AREA = 0.81 AC.  
 ACTUAL IMPERVIOUS AREA = 0.78 AC.

NOTE: SINCE THE SANDFILTER DRAINAGE AREA 'C' IS EXISTING AND WAS DESIGNED AND BUILT FOR A 1/2" STORM AS OPPOSED TO A 1" STORM (PER DEO SPEC. #11), THE TOTAL DRAINAGE AREAS DRAINING TO THE FILTER IS DIVIDED IN HALF TO ACCOUNT FOR THIS DESIGN CHANGE. THE VEGETATED ROOF IS ALSO DIVIDED IN HALF TO BE CONSERVATIVE AS IT ALSO DRAINS TO THE EXISTING SANDFILTER.

**VIRGINIA RUNOFF REDUCTION METHOD SPREADSHEET (OFF-SITE FOR BMP TREE WELLS)**

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
<b>6. Bioretention (RR)</b>													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40		0.03	0	41	62	103	25	0.00	0.06	0.04	0.03	

ACTUAL IMPERVIOUS AREA = 0.07 AC.

PHOSPHORUS REMOVED FROM OFF-SITE PRACTICE

**Site Results (Water Quality Compliance)**

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK
IMPERVIOUS COVER (ac)	0.20	3.26	1.60	0.00	0.00	OK
IMPERVIOUS COVER TREATED (ac)	0.18	3.24	0.79	0.00	0.00	OK
MANAGED TURF AREA (ac)	0.00	0.00	0.00	0.00	0.00	OK
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK
AREA CHECK	OK	OK	OK	OK	OK	

Site Treatment Volume (ft³) 17,484

**Runoff Reduction Volume and TP By Drainage Area**

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft³)	0	2,028	828	0	0	2,855
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.43	7.06	3.47	0.00	0.00	10.96
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.08	2.42	1.23	0.00	0.00	3.73
TP LOAD REMAINING (lb/yr)	0.36	4.64	2.23	0.00	0.00	7.23
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	9.10	6.27	0.00	0.00	15.37

**Total Phosphorus**

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	10.99
TP LOAD REDUCTION REQUIRED (lb/yr)	3.31
TP LOAD REDUCTION ACHIEVED (lb/yr)	3.73
TP LOAD REMAINING (lb/yr)	7.25
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr)	0.00

PHOSPHORUS REMOVED ON-SITE = 3.73 LB/YR  
 PHOSPHORUS REMOVED OFF-SITE = 0.04 LB/YR  
 TOTAL PHOSPHORUS REMOVED = 3.77 LB/YR > 3.35 LB/YR

**Total Nitrogen (For Information Purposes)**

POST-DEVELOPMENT LOAD (lb/yr)	78.59
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	15.37
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	63.21

SEE SHEET C700 FOR PHOSPHORUS REMOVAL REQUIREMENT OF 3.35 LB/YR

**Site Land Cover Summary**

**Pre-Development Land Cover (acres)**

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.84	0.84	17
Impervious Cover (acres)	0.00	0.00	0.00	4.23	4.23	83
					5.07	100

**Post-Development Land Cover (acres)**

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.00	0.00	0
Impervious Cover (acres)	0.00	0.00	0.00	5.07	5.07	100
					5.07	100

**Site Tn and Land Cover Nutrient Loads**

	Final Post-Development (Post-Development & New Impervious)	Post-Development (New Impervious)	Post-Development (New Impervious)	Adjusted Pre-Development
Site Rv	0.95	0.95	0.95	0.95
Treatment Volume (ft³)	17,484	14,587	2,897	14,587
TP Load (lb/yr)	10.99	9.17	1.82	9.17

Pre-Development TP Load per acre (lb/acre/yr)	Final Post-Development TP Load per acre (lb/acre/yr)	Post-Development TP Load per acre (lb/acre/yr)
2.17	2.17	2.17

Total TP Load Reduction Required (lb/yr)	3.31	1.83	1.48
--	------	------	------

	Final Post-Development Load (Post-Development & New Impervious)	Pre-Development
TN Load (lb/yr)	78.59	68.99

	BMP Area Tabulations						Total - On-Site		Off-Site		Grand Total	
	DA 'A'	Acres	SF	Acres	SF	Acres	SF	Acres	SF	Acres	SF	Acres
Green Roof (level 2)	0	0.00	42,689	0.98	35,284	0.81	77,972	1.79	-	-	77,972	1.79
HDS	7,841	0.18	98,446	2.26	0	0.00	106,286	2.44	-	-	106,286	2.44
To Ex. SF #2 Only	0	0.00	0	0.00	33,977	0.78	33,977	0.78	-	-	33,977	0.78
BMP Tree Wells	0	0.00	0	0.00	0	0.00	0	0.00	3,049	0.07	3,049	0.07
<b>Total Treated</b>	<b>7,841</b>	<b>0.18</b>	<b>141,134</b>	<b>3.24</b>	<b>69,260</b>	<b>1.59</b>	<b>218,236</b>	<b>5.01</b>	<b>3,049</b>	<b>0.07</b>	<b>221,285</b>	<b>5.08</b>
Untreated (on-site)	871	0.02	871	0.02	436	0.01	2,178	0.05	-	-	-	-
<b>Total Area</b>	<b>8,712</b>	<b>0.20</b>	<b>142,006</b>	<b>3.26</b>	<b>69,696</b>	<b>1.60</b>	<b>220,414</b>	<b>5.06</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Notes:

- All green roof area for DA 'B' flow in series to the hydrodynamic separators.
- All green roof areas for DA 'C' flow in series to Existing Sandfilter #2.
- All untreated area is assumed to be impervious.
- The off-site impervious area being treated is greater than the untreated on-site area, therefore, the WQVd is met and not contribution to the WQIF is required.

**WQVd CALCULATIONS**

REQUIRED = (1816 CU FT/ACRE) \* (5.07 ACRES) = 9,207 CU FT  
 PROVIDED (ON-SITE) = (1816 CU FT/ACRE) \* (5.01 ACRES) = 9,098 CU FT  
 PROVIDED (OFF-SITE) = (1816 CU FT/ACRE) \* (0.07 ACRES) = 127 CU FT  
 TOTAL CAPTURED WQVd = 9,098 + 127 = 9,225 CU FT > 9,207 CU FT OK  
**IMPERVIOUS AREA COVERAGE**  
 TOTAL IMPERVIOUS AREA = 5.07 ACRES  
 TOTAL IMPERVIOUS TREATED (ON-SITE) = 5.01 ACRES  
 TOTAL IMPERVIOUS TREATED (OFF-SITE) = 0.07 ACRES  
 TOTAL IMPERVIOUS AREA TREATED = 5.01 + .07 = 5.08 AC > 5.07 AC OK  
 NOTE: A CONTRIBUTION TO THE WQIF IS NOT REQUIRED BECAUSE THE WQVd IS SATISFIED THROUGH TREATMENT PROVIDED BY THIS PLAN.

**APPROVED**  
 SPECIAL USE PERMIT NO. 2016-0043  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
 DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
 SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
 CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
 DATE RECORDED \_\_\_\_\_  
 INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

**christopher consultants**  
 9900 main street (suite 400) · fairfax, va 22031  
 phone 703.273.6820 · fax 703.273.6820

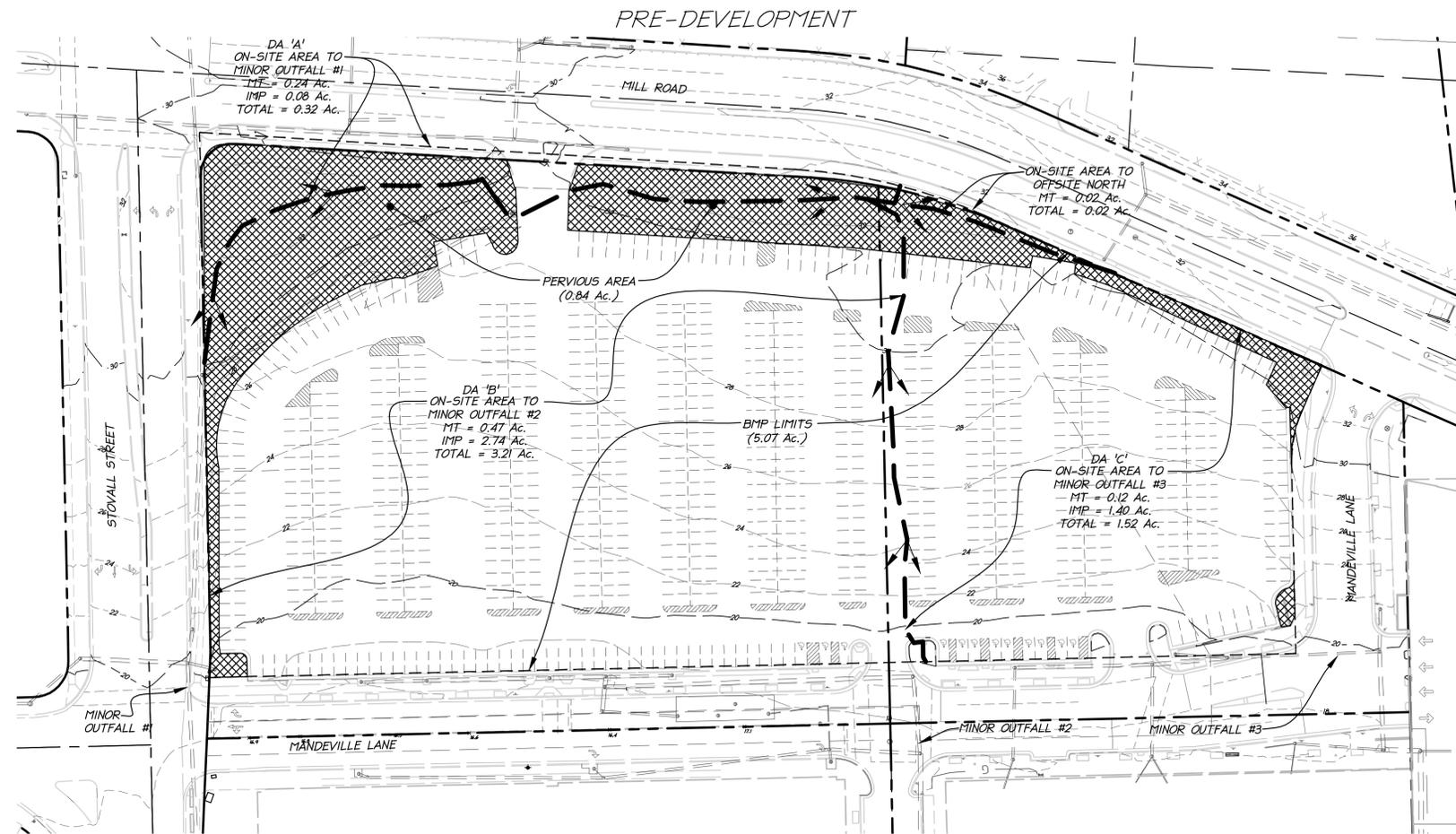


**PRELIMINARY BMP COMPUTATIONS**

**PRELIMINARY PLAN - STAGE 1**  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO. 98085.049.00  
 SCALE: N/A  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: AJB  
 CHECKED: K1W  
 SHEET NO.

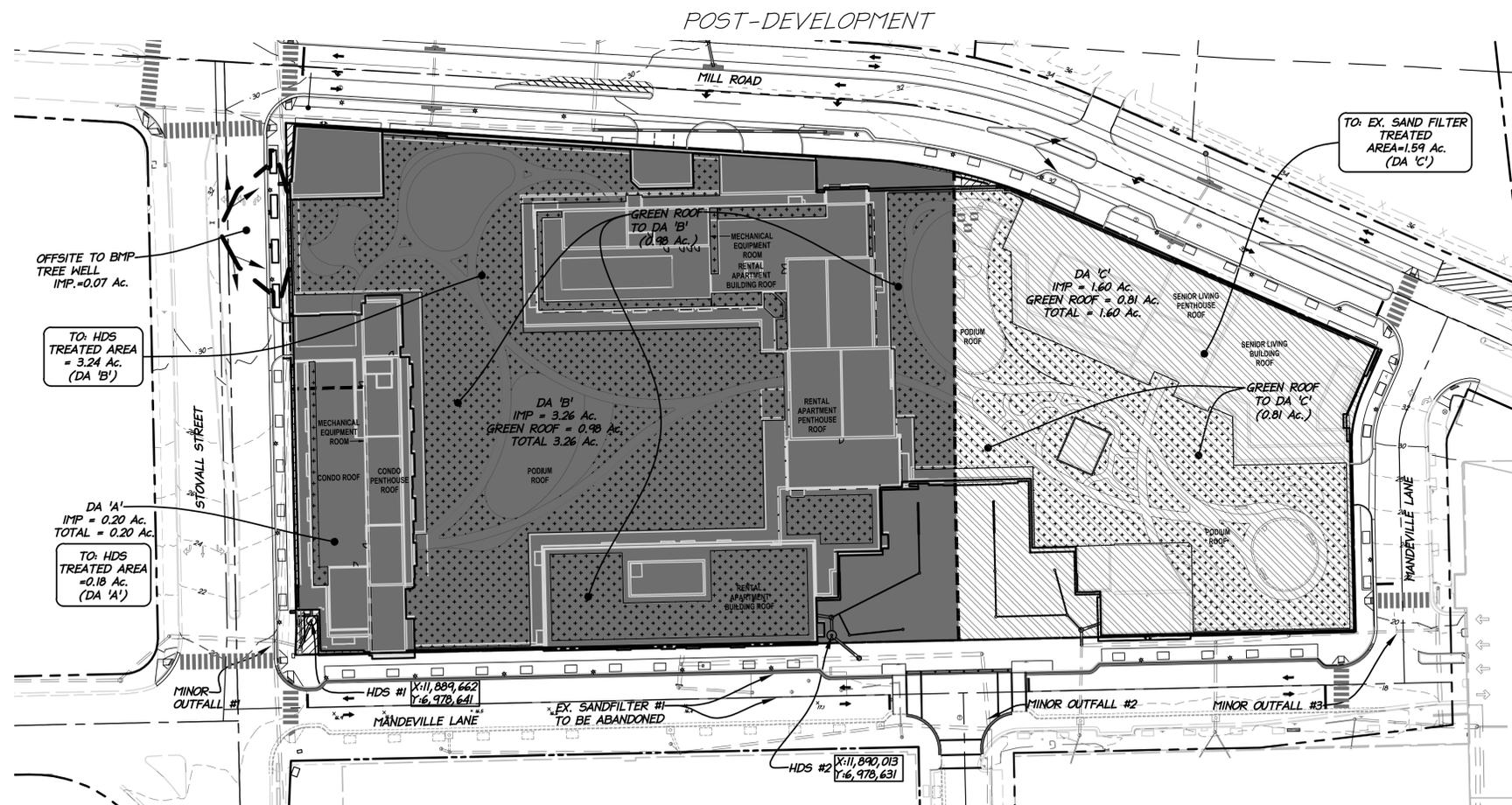
**C701**  
 107540



**LEGEND**

MANAGED TURF GROUND COVER

**NOTE:** IT IS ASSUMED THAT THE ENTIRE ON-SITE DRAINAGE AREAS 'B' AND 'C' DRAIN TO THE EXISTING SANDFILTERS.



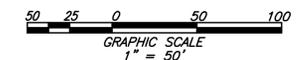
**LEGEND**

GREEN ROOF AREA

AREA TO HYDRODYNAMIC SEPARATOR (HDS)

AREA TO SAND FILTER

UNTREATED IMPERVIOUS AREA



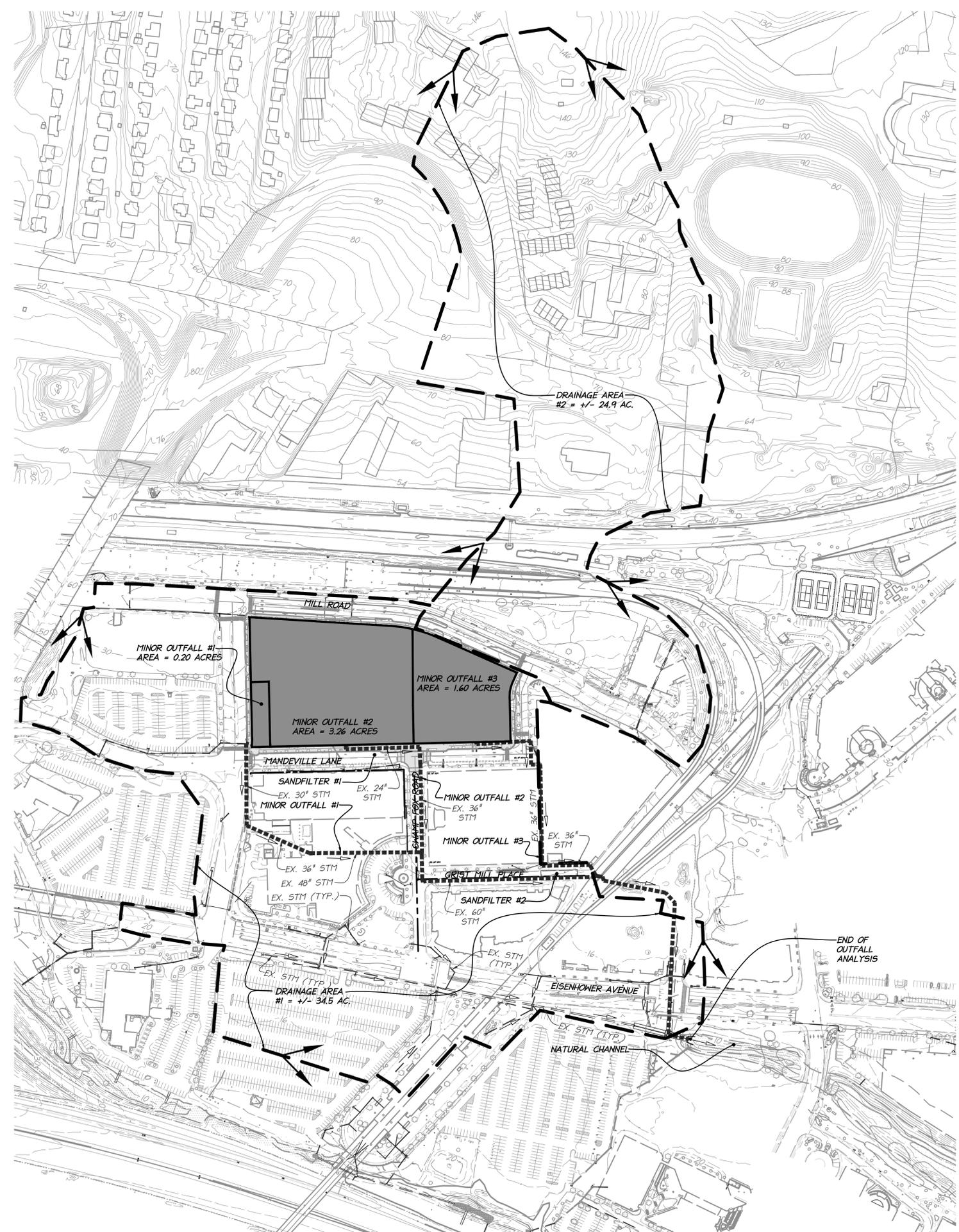
<b>APPROVED</b>	
SPECIAL USE PERMIT NO. 2016-0043	
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. --	
DIRECTOR _____	DATE _____
CHAIRMAN, PLANNING COMMISSION	
DATE _____	
DATE RECORDED _____	
INSTRUMENT NO. _____	DEED BOOK NO. _____
PAGE NO. _____	



P:\Projects\88085 Hoffman\0400 Block 4 & 5\107540\Drawings\C702 BMP MAP.dwg, 10/18/2017 5:55:34 PM, jperkins, 1:1, christopher consultants, ltd



Virginia State Grid North  
NAD 83/98



**CONCEPTUAL STORM WATER MANAGEMENT NARRATIVE**

TO MEET THE CITY STORMWATER MANAGEMENT REQUIREMENTS FOR CHANNEL PROTECTION AND FLOOD PROTECTION, EACH OF THE 3 OUTFALLS WERE ANALYZED SEPARATELY. THE CHANNEL PROTECTION FOR ONE OF THE THREE OUTFALLS (#1) IS MET BY BEING PIPED THE ENTIRE DURATION OF THE EXTENT OF THE REVIEW (13-109-F-1-a-1). THE CHANNEL PROTECTION FOR TWO OF THE THREE OUTFALLS (#2 AND #3) ARE MET BY USING THE ENERGY BALANCE EQUATION WITH THE IMPROVEMENT FACTOR (13-109-F-1-c-1). BY USING THIS EQUATION IT WAS DETERMINED NO DETENTION IS REQUIRED FOR THE 1-YEAR 24-HOUR STORM. THE FLOOD PROTECTION IS MET BY THE POST-DEVELOPMENT 10-YEAR 24-HOUR STORM EVENT BEING LOWER THAN THE PRE-DEVELOPMENT. THE 10-YEAR 24-HOUR STORM EVENT IS REDUCED FOR ALL THREE OUTFALLS, THEREFORE NO DETENTION IS REQUIRED.

**STORMWATER QUANTITY (CHANNEL PROTECTION / FLOOD PROTECTION)**

THE SITE HAS THREE OUTFALLS THAT WERE ALL ANALYZED FOR BOTH CHANNEL PROTECTION AND FLOOD PROTECTION. REFER TO THE MAP ON THIS SHEET FOR LOCATION OF THE OUTFALLS.

**OUTFALL 1**  
**CHANNEL PROTECTION** - EQUATION 13-109-F-1-a-1 IN THE CITY CODE WAS USED TO DETERMINE THAT THE POST-DEVELOPMENT 2-YEAR 24-HOUR STORM DOES NOT CAUSE ANY EROSION TO THE SYSTEM SINCE IT IS PIPE FOR THE DURATION OF THE EXTENT OF REVIEW.  
**FLOOD PROTECTION** - THE POST-DEVELOPMENT PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT IS REQUIRED TO BE LESS THAN THE PREDEVELOPMENT PEAK FLOW RATE OF THE SAME STORM EVENT. THE PRE-DEVELOPMENT FLOW RATE AT THIS OUTFALL WAS 2.03 CFS AND THE POST DEVELOPMENT FLOW RATE IS 1.54 CFS. SINCE THE POST-DEVELOPMENT RATE IS LESS THAN THE PRE-DEVELOPMENT, NO DETENTION IS REQUIRED.

**OUTFALL 2**  
**CHANNEL PROTECTION** - EQUATION 13-109-F-1-c-1 IN THE CITY CODE WAS USED TO DETERMINE THAT THE POST-DEVELOPMENT 1-YEAR 24-HOUR STORM MEETS THE REQUIREMENTS AND DOES NOT NEED ANY DETENTION.  
**FLOOD PROTECTION** - THE POST-DEVELOPMENT PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT IS REQUIRED TO BE LESS THAN THE PREDEVELOPMENT PEAK FLOW RATE OF THE SAME STORM EVENT. THE PRE-DEVELOPMENT FLOW RATE AT THIS OUTFALL WAS 24.12 CFS AND THE POST DEVELOPMENT FLOW RATE IS 22.44 CFS. SINCE THE POST-DEVELOPMENT RATE IS LESS THAN THE PRE-DEVELOPMENT, NO DETENTION IS REQUIRED.

**OUTFALL 3**  
**CHANNEL PROTECTION** - EQUATION 13-109-F-1-c-1 IN THE CITY CODE WAS USED TO DETERMINE THAT THE POST-DEVELOPMENT 1-YEAR 24-HOUR STORM MEETS THE REQUIREMENTS AND DOES NOT NEED ANY DETENTION.  
**FLOOD PROTECTION** - THE POST-DEVELOPMENT PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT IS REQUIRED TO BE LESS THAN THE PREDEVELOPMENT PEAK FLOW RATE OF THE SAME STORM EVENT. THE PRE-DEVELOPMENT FLOW RATE AT THIS OUTFALL WAS 11.62 CFS AND THE POST DEVELOPMENT FLOW RATE IS 11.58 CFS. SINCE THE POST-DEVELOPMENT RATE IS LESS THAN THE PRE-DEVELOPMENT, NO DETENTION IS REQUIRED.

	Pre-Development		Post-Development	
	Area	CN	Area	CN (1-yr) / CN (10-yr)
DA 'A'	0.32	85	0.2	98 / 98
DA 'B'	3.21	95	3.26	88 / 90
DA 'C'	1.52	97	1.6	81 / 85

**NOTE:** PER THE DEQ STORMWATER SPEC #5, THE FOLLOWING CURVE NUMBER (CN) SHOULD BE USED FOR THE DESIGNATED DESIGN STORM:

- 1-YEAR STORM: 64
- 2-YEAR STORM: 66
- 10-YEAR STORM: 72
- 100-YEAR STORM: 75

	Pre-Development				Post-Development				
	1 - Year		10 - Year		1 - Year		10 - Year		
	Q (cfs)	Rv (cf)	Q (cfs)	Rv (cf)	Q (cfs)	Rv (cf) / Rv (for IF)	Q (cfs)	Rv (cf)	
DA 'A'	0.8	1605	2.03	4257	0.79	1849	N/A	1.54	3716
DA 'B'	11.83	25922	24.12	55488	8.87	18062	17785	22.44	48371
DA 'C'	5.89	13436	11.62	27576	5.15	10741	10204	11.58	25664

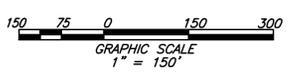
Channel Protection (1-year storm):

DA 'A':	review ends in a pipe	No Detention Required
DA 'B':	Improvement Factor Equation	
	$Q_{dev} < IF * (Q_{pre} * RV_{pre}) / RV_{dev}$	
	9.27 < 13.7939729	No Detention Required
DA 'C':	Improvement Factor Equation	
	$Q_{dev} < IF * (Q_{pre} * RV_{pre}) / RV_{dev}$	
	3.24 < 6.20447197	No Detention Required

Flood Protection (10-year storm):

DA 'A'	$Q_{post} < Q_{pre}$	1.54 < 2.03	No Detention Required	-0.49
DA 'B'	$Q_{post} < Q_{pre}$	22.84 < 24.12	No Detention Required	-1.28
DA 'C'	$Q_{post} < Q_{pre}$	10.14 < 11.62	No Detention Required	-1.48

- NOTES:**
- THE RUNOFF CALCULATIONS ABOVE DO NOT TAKE INTO ACCOUNT ANY FLOW ROUTINGS THROUGH THE LEVEL 2 GREEN ROOFS. THE GREEN ROOFS ARE ACCOUNTED FOR IN THE REDUCED CURVE NUMBERS.
  - THE FOLLOWING RAINFALL VALUES WERE USED TO CALCULATE THE ABOVE NOTED PEAK RUNOFFS USING THE NRCS TR-55 METHOD:
    - 1-YEAR 24-HOUR: 2.7 INCHES
    - 2-YEAR 24-HOUR: 3.2 INCHES
    - 10-YEAR 24-HOUR: 5.2 INCHES



**APPROVED**  
 SPECIAL USE PERMIT NO. 2016-0043  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
 DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
 SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
 CHARMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
 DATE RECORDED \_\_\_\_\_  
 INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

**christopher consultants**  
 9900 main street (suite 400) · fairfax, va 22031  
 phone 703.273.6820 · fax 703.273.6820

COMMONWEALTH OF VIRGINIA  
 ELI GOLDMAN  
 Lic. No. 55868  
 10/19/2017  
 PROFESSIONAL ENGINEER

PRELIMINARY SWM AND OUTFALL ANALYSIS

PRELIMINARY PLAN - STAGE 1  
 HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5  
 CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO. 98085.049.00  
 SCALE: 1"=150'  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: AJB  
 CHECKED: KYN  
 SHEET No.  
**C704**  
 107540

PRE-DEVELOPMENT HYDROGRAPHS

<p><b>Hydrograph Report</b> 4</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 1</b> Site - Pre (Outfall 'A')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 0.795 cfs                  Storm frequency = 1 yrs Time to peak = 718 min                  Time interval = 1 min Hyd. volume = 1,605 cuft                  Drainage area = 0.320 ac Curve number = 85*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(0.080 x 98) + (0.240 x 80)] / 0.320</p>	<p><b>Hydrograph Report</b> 5</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 2</b> Site - Pre (Outfall 'B')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 11.83 cfs                  Storm frequency = 1 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 25,922 cuft                  Drainage area = 3.210 ac Curve number = 95*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(2.740 x 98) + (0.470 x 80)] / 3.210</p>	<p><b>Hydrograph Report</b> 6</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 3</b> Site - Pre (Outfall 'C')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 5.890 cfs                  Storm frequency = 1 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 13,436 cuft                  Drainage area = 1.520 ac Curve number = 97*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(1.400 x 98) + (0.120 x 80)] / 1.520</p>
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<p><b>Hydrograph Report</b> 26</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 1</b> Site - Pre (Outfall 'A')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 2.028 cfs                  Storm frequency = 10 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 4,257 cuft                  Drainage area = 0.320 ac Curve number = 85*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 5.20 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(0.080 x 98) + (0.240 x 80)] / 0.320</p>	<p><b>Hydrograph Report</b> 27</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 2</b> Site - Pre (Outfall 'B')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 24.12 cfs                  Storm frequency = 10 yrs Time to peak = 719 min                  Time interval = 1 min Hyd. volume = 55,488 cuft                  Drainage area = 3.210 ac Curve number = 95*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 5.20 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(2.740 x 98) + (0.470 x 80)] / 3.210</p>	<p><b>Hydrograph Report</b> 28</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 3</b> Site - Pre (Outfall 'C')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 11.62 cfs                  Storm frequency = 10 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 27,576 cuft                  Drainage area = 1.520 ac Curve number = 97*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 5.20 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(1.400 x 98) + (0.120 x 80)] / 1.520</p>
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<p><b>Hydrograph Report</b> 10</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 7</b> Site - Post (Outfall 'B') [1-yr] Pre A Post CN</p> <p>Hydrograph type = SCS Runoff Peak discharge = 8.738 cfs                  Storm frequency = 1 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 17,785 cuft                  Drainage area = 3.210 ac Curve number = 87*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(2.220 x 98) + (1.110 x 80)] / 3.210</p>	<p><b>Hydrograph Report</b> 11</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 8</b> Site - Post (Outfall 'C') Pre A Post CN</p> <p>Hydrograph type = SCS Runoff Peak discharge = 4.888 cfs                  Storm frequency = 1 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 10,204 cuft                  Drainage area = 1.520 ac Curve number = 91*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(1.320 x 98) + (0.190 x 80)] / 1.520</p>
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POST-DEVELOPMENT HYDROGRAPHS

<p><b>Hydrograph Report</b> 9</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 6</b> Site - Post (Outfall 'A')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 0.789 cfs                  Storm frequency = 1 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 1,849 cuft                  Drainage area = 0.200 ac Curve number = 98*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(0.200 x 98)] / 0.200</p>	<p><b>Hydrograph Report</b> 7</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 4</b> Site - Post (Outfall 'B') [1-yr]</p> <p>Hydrograph type = SCS Runoff Peak discharge = 9.267 cfs                  Storm frequency = 1 yrs Time to peak = 718 min                  Time interval = 1 min Hyd. volume = 18,966 cuft                  Drainage area = 3.260 ac Curve number = 85*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(2.280 x 98) + (0.980 x 84)] / 3.260</p>	<p><b>Hydrograph Report</b> 8</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 5</b> Site - Post (Outfall 'C') [1-yr]</p> <p>Hydrograph type = SCS Runoff Peak discharge = 3.244 cfs                  Storm frequency = 1 yrs Time to peak = 718 min                  Time interval = 1 min Hyd. volume = 6,513 cuft                  Drainage area = 1.500 ac Curve number = 81*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 2.70 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(0.790 x 98) + (0.810 x 84)] / 1.600</p>
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<p><b>Hydrograph Report</b> 31</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 6</b> Site - Post (Outfall 'A')</p> <p>Hydrograph type = SCS Runoff Peak discharge = 1.538 cfs                  Storm frequency = 10 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 3,716 cuft                  Drainage area = 0.200 ac Curve number = 98*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 5.20 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(0.200 x 98)] / 0.200</p>	<p><b>Hydrograph Report</b> 34</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 9</b> Site - Post (Outfall 'B') [10-yr]</p> <p>Hydrograph type = SCS Runoff Peak discharge = 22.84 cfs                  Storm frequency = 10 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 49,662 cuft                  Drainage area = 3.260 ac Curve number = 90*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 5.20 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(2.280 x 98) + (0.980 x 72)] / 3.260</p>	<p><b>Hydrograph Report</b> 35</p> <p>Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 09 / 14 / 2017</p> <p><b>Hyd. No. 10</b> Site - Post (Outfall 'C') [10-yr]</p> <p>Hydrograph type = SCS Runoff Peak discharge = 10.14 cfs                  Storm frequency = 10 yrs Time to peak = 717 min                  Time interval = 1 min Hyd. volume = 21,283 cuft                  Drainage area = 1.600 ac Curve number = 85*                  Basin Slope = 0.0 % Hydraulic length = 0 ft                  Tc method = User Time of conc. (Tc) = 5.00 min                  Total precip. = 5.20 in Distribution = Type II                  Storm duration = 24 hrs Shape factor = 484</p> <p>* Composite (Area/CN) = [(0.790 x 98) + (0.810 x 72)] / 1.600</p>
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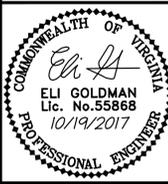
HYDROGRAPH SUMMARY

Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 2

Hyd. No.	Hydrograph Type (Origin)	Inflow (cfs)	Peak Outflow (cfs)						Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	100-yr	
1	SCS Runoff	---	0.795	1.034	---	---	2.028	---	Site - Pre (Outfall 'A')
2	SCS Runoff	---	11.83	14.32	---	---	24.12	---	Site - Pre (Outfall 'B')
3	SCS Runoff	---	5.890	7.044	---	---	11.62	---	Site - Pre (Outfall 'C')
4	SCS Runoff	---	8.267	11.71	---	---	22.84	---	Site - Post (Outfall 'B') [1-yr]
5	SCS Runoff	---	3.244	4.974	---	---	6.513	---	Site - Post (Outfall 'C') [1-yr]
6	SCS Runoff	---	0.789	0.940	---	---	1.538	---	Site - Post (Outfall 'A')
7	SCS Runoff	---	8.738	11.83	---	---	24.12	---	Site - Post (Outfall 'B') [1-yr] Pre A Post CN
8	SCS Runoff	---	4.888	6.002	---	---	10.14	---	Site - Post (Outfall 'C') Pre A Post CN
9	SCS Runoff	---	9.267	12.83	---	---	22.84	---	Site - Post (Outfall 'B') [10-yr]
10	SCS Runoff	---	3.244	4.974	---	---	6.513	---	Site - Post (Outfall 'C') [10-yr]

Proj. file: Site pre-post (107540) - 3 outfalls.gpw Thursday, 09 / 14 / 2017

**christopher consultants**  
 9900 main street (suite 400) · Fairfax, VA 22031  
 phone 703.273.6820 · fax 703.273.6820



**SWM COMPUTATIONS**

PRELIMINARY PLAN - STAGE I  
**HOFFMAN TOWN CENTER**  
**BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

**APPROVED**  
 SPECIAL USE PERMIT NO. 2016-0043  
 DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHARMAN, PLANNING COMMISSION DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

PROJECT NO. 98085.049.00  
 SCALE: 1"=150'  
 DATE: 05/02/17  
 DESIGN: EG  
 DRAWN: AJB  
 CHECKED: KTW  
 SHEET No.

**C705**  
 107540

**SANITARY DESIGN FLOWS**

EXISTING: 0 SF (PARKING LOT)  
 PROPOSED: 730 MULTI-FAMILY/RESIDENTIAL/SENIOR LIVING UNITS  
 220,000 SF RETAIL/COMMERCIAL

**CITY OF ALEXANDRIA RECOMMENDED AVERAGE DESIGN FLOWS:**

300 GPD/UNIT (FOR MULTIFAMILY/RESIDENTIAL)  
 200 GPD/1000 SF (FOR RETAIL/COMMERCIAL)

**EXISTING FLOW:**

$Q = (0 \text{ GPD} / 7.48 \text{ GAL/CF}) * (\text{DAY}/86,400 \text{ SEC}) = 0 \text{ C.F.S.}$

PEAK FACTOR FOR LATERALS = 4.0  
 DESIGN FLOW =  $0 * 4.0 = 0 \text{ C.F.S. (0 GPD)}$

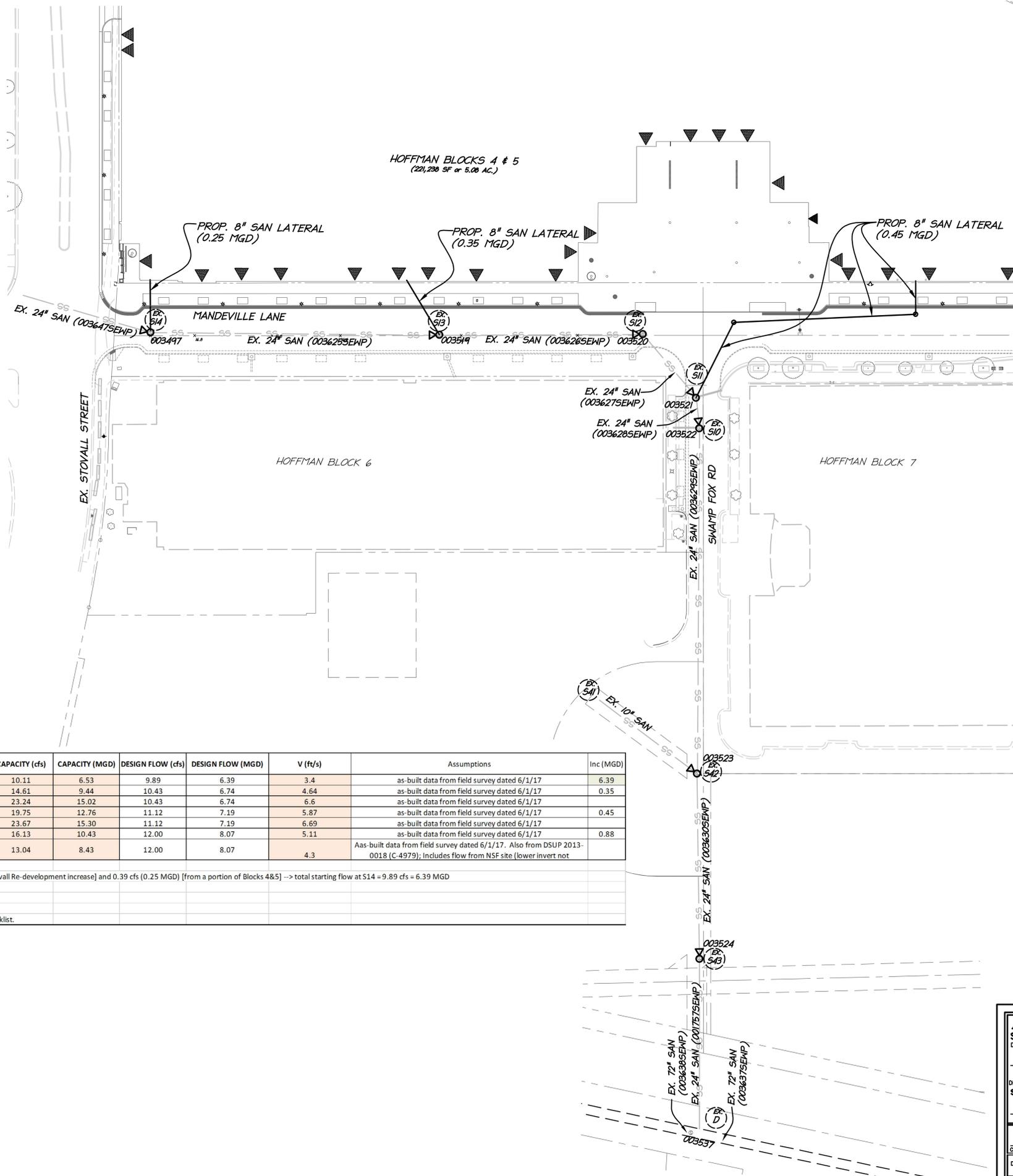
**PROPOSED FLOW:**

300 GPD/UNIT X 730 UNITS = 219,000 GPD  
 200 GPD/1000 SF X 220,000 SF = 44,000 GPD  
 SUB-TOTAL = 219,000 GPD + 44,000 GPD = 263,000 GPD

$Q = (263,000 \text{ GPD} / 7.48 \text{ GAL/CF}) * (\text{DAY}/86,400 \text{ SEC}) = 0.407 \text{ C.F.S.}$

PEAK FACTOR FOR LATERALS = 4.0  
 DESIGN FLOW =  $0.407 * 4.0 = 1.628 \text{ C.F.S. (1,052,000 GPD)}$

NET INCREASE IN FLOW =  $1,052,000 \text{ GPD} - 0 \text{ GPD} = 1,052,000 \text{ GPD}$



**SANITARY COMPUTATION:**

FROM	TO	UPPER INV	LOWER INV	L (FT)	SLOPE (%)	DIA (IN)	MATERIAL	N	CAPACITY (cfs)	CAPACITY (MGD)	DESIGN FLOW (cfs)	DESIGN FLOW (MGD)	V (ft/s)	Assumptions	Inc (MGD)
Ex. S14 (003497)	Ex. S13 (003519)	7.62	7.11	220.63	0.23	24	RCP	0.015	10.11	6.53	9.89	6.39	3.4	as-built data from field survey dated 6/1/17	6.39
Ex. S13 (003519)	Ex. S12 (003520)	7.01	6.26	155.29	0.48	24	RCP	0.015	14.61	9.44	10.43	6.74	4.64	as-built data from field survey dated 6/1/17	0.35
Ex. S12 (003520)	Ex. S11 (003521)	6.16	5.82	62.59	0.54	24	PVC	0.010	23.24	15.02	10.43	6.74	6.6	as-built data from field survey dated 6/1/17	0.45
Ex. S11 (003521)	Ex. S10 (003522)	5.72	5.63	23.34	0.39	24	PVC	0.010	19.75	12.76	11.12	7.19	5.87	as-built data from field survey dated 6/1/17	0.88
Ex. S10 (003522)	Ex. S42 (003523)	5.53	4.06	262.66	0.56	24	PVC	0.010	23.67	15.30	11.12	7.19	6.69	as-built data from field survey dated 6/1/17	0.88
Ex. S42 (003523)	Ex. S43 (003524)	3.96	3.60	140.53	0.26	24	PVC	0.010	16.13	10.43	12.00	8.07	5.11	as-built data from field survey dated 6/1/17	0.88
Ex. S43 (003524)	Ex. D (003537)	3.40	3.18	132.74	0.17	24	PVC	0.010	13.04	8.43	12.00	8.07	4.3	As-built data from field survey dated 6/1/17. Also from DSUP 2013-0018 (C-4979); Includes flow from NSF site (lower invert not	

- Notes:
1. Assumption for starting flow: 9.46 cfs (6.11 MGD) given with DSUP 2013-0018 and an increase of 0.04 cfs (0.03 MGD) [From 200 Stovall Re-development increase] and 0.39 cfs (0.25 MGD) [from a portion of Blocks 4&5] --> total starting flow at S14 = 9.89 cfs = 6.39 MGD
  2. All capacities shown on the chart are full flow capacities, approximately 93% of the maximum capacity.
  3. Information shown above was gathered during topographic survey performed June 2017.
  4. All velocities shown are calculated per a partial flow analysis.
  5. A 'n' value of 0.010 was used for all smooth pipes and a value of 0.15 for concrete pipes (diameter smaller than 36") per the ESI checklist.



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 DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
 SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

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 9900 main street (suite 400) · Fairfax, VA 22031  
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COMMONWEALTH OF VIRGINIA  
 ELI GOLDMAN  
 Lic. No. 55868  
 10/19/2017  
 PROFESSIONAL ENGINEER

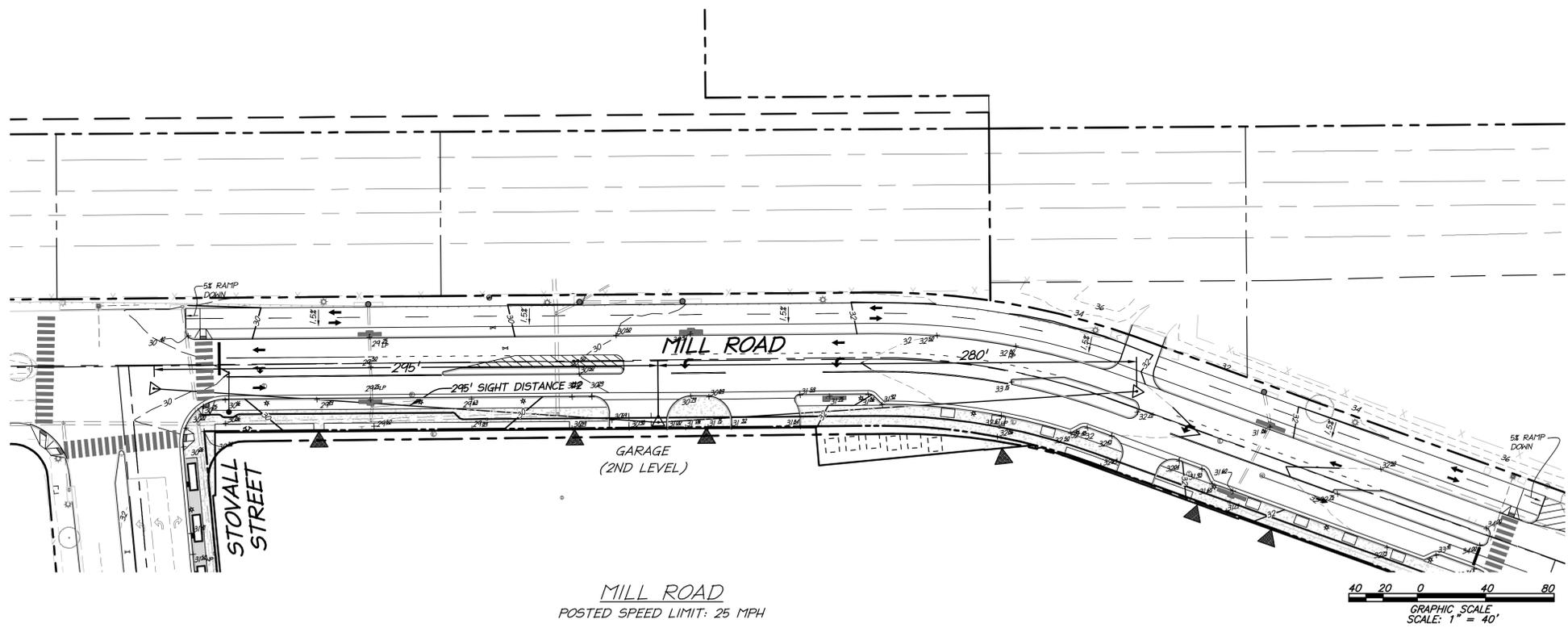
**SANITARY SEWER AND  
 OUTFALL ANALYSIS**

PRELIMINARY PLAN - STAGE 1  
**HOFFMAN TOWN CENTER  
 BLOCKS 4 & 5**  
 CITY OF ALEXANDRIA, VIRGINIA

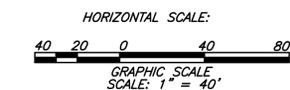
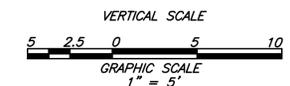
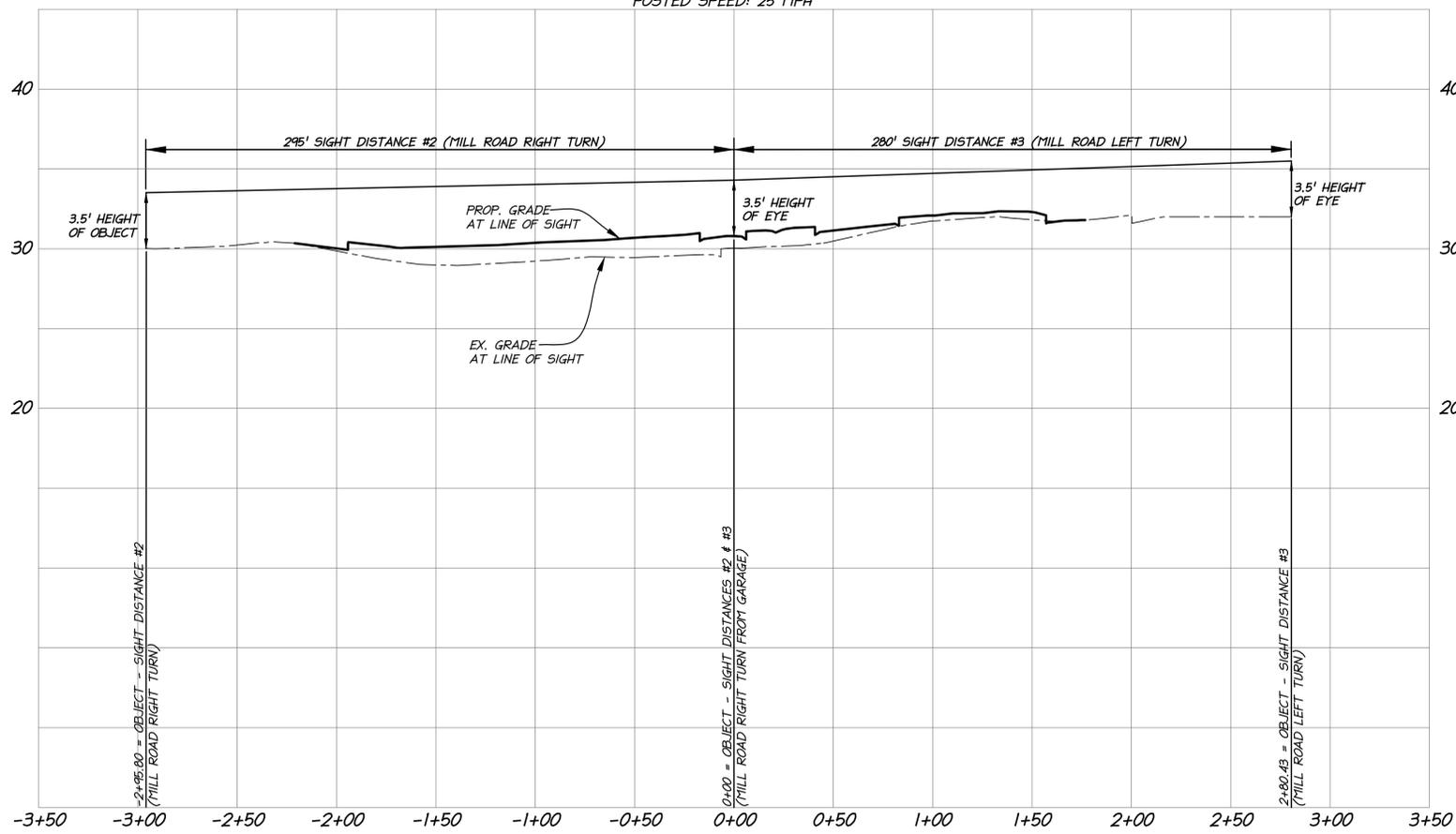
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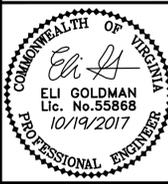




MILL ROAD SIGHT DISTANCE (FROM GARAGE)  
POSTED SPEED: 25 MPH



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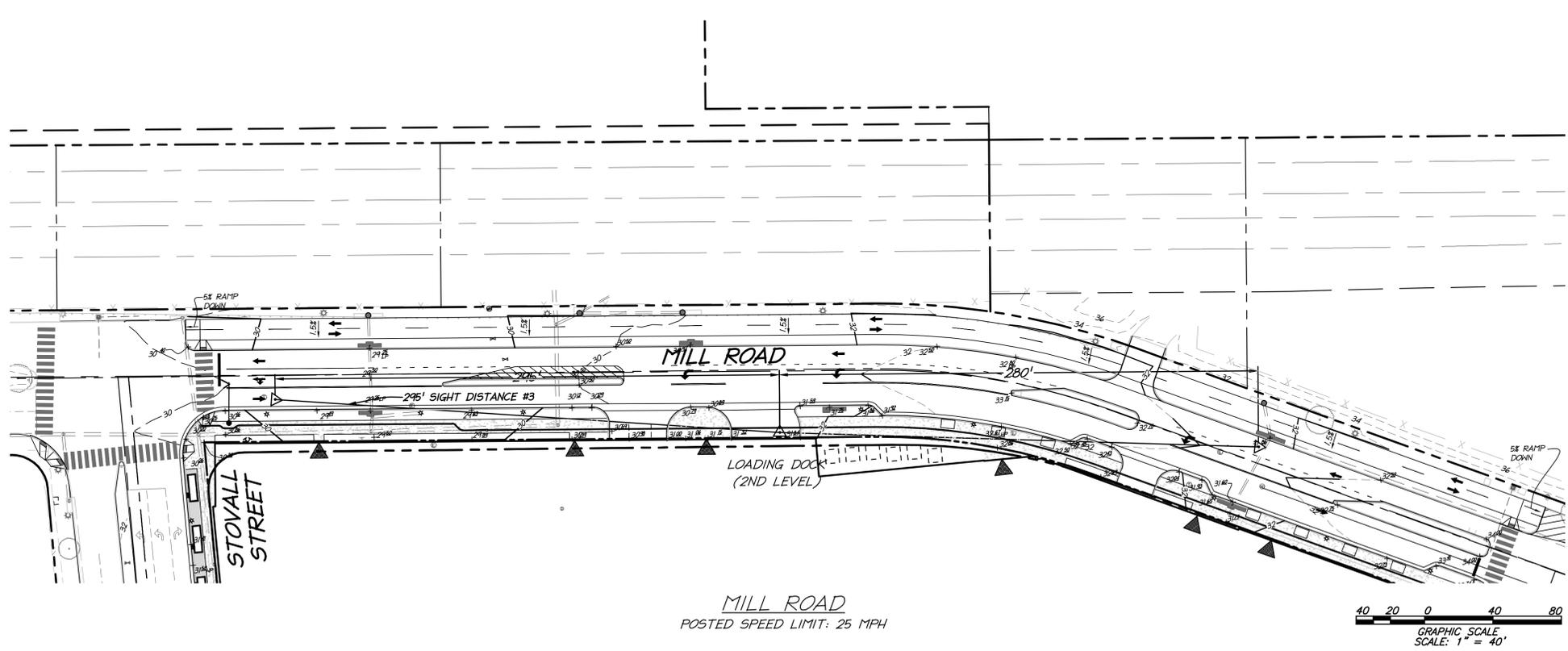


SIGHT DISTANCE PROFILE

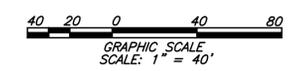
PRELIMINARY PLAN - STAGE 1  
HOFFMAN TOWN CENTER  
BLOCKS 4 & 5  
CITY OF ALEXANDRIA, VIRGINIA

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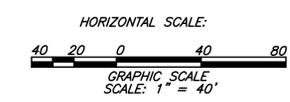
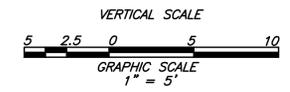
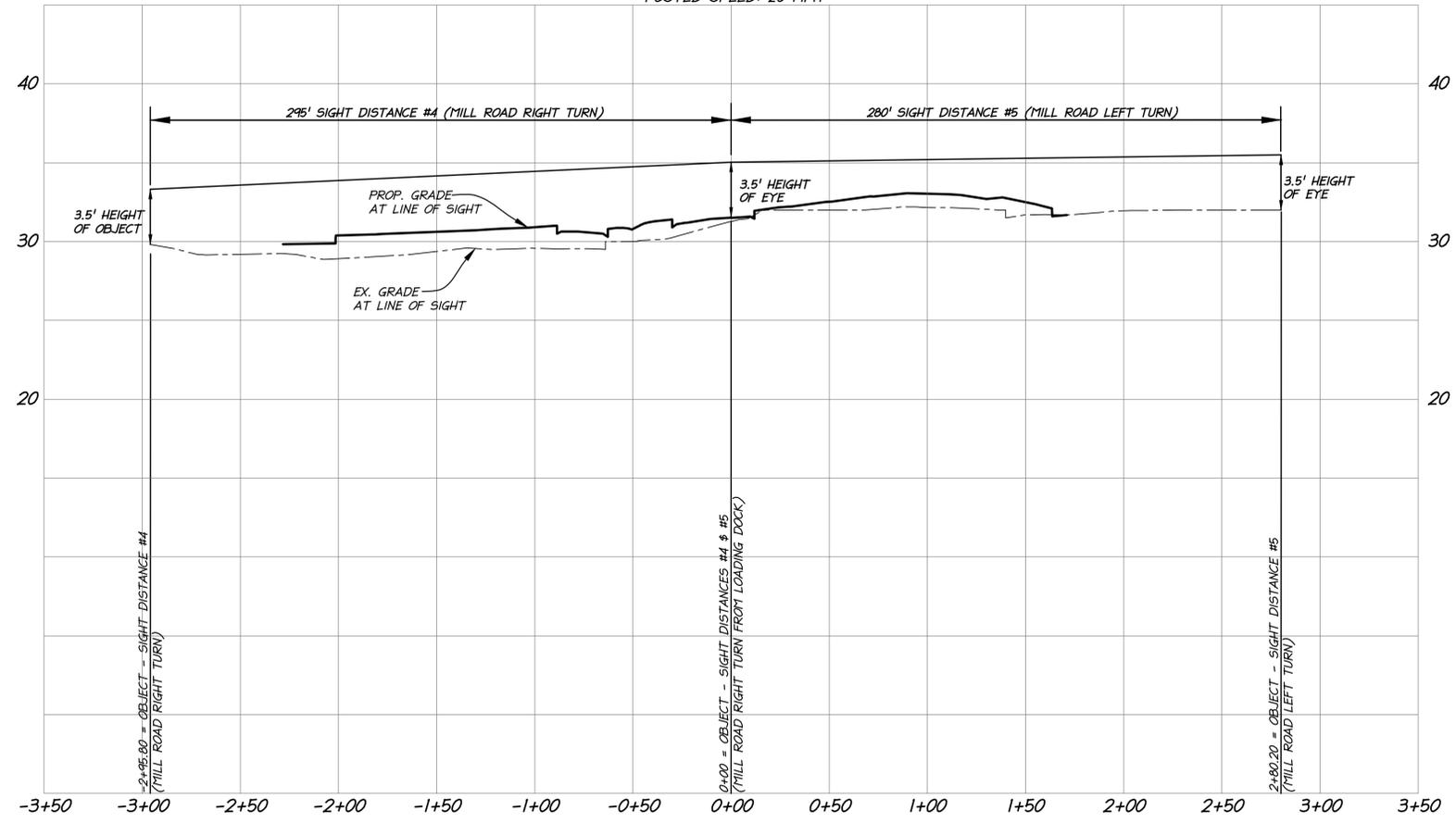
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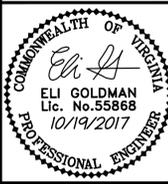
MILL ROAD  
POSTED SPEED LIMIT: 25 MPH



MILL ROAD SIGHT DISTANCE (FROM LOADING DOCK)  
POSTED SPEED: 25 MPH



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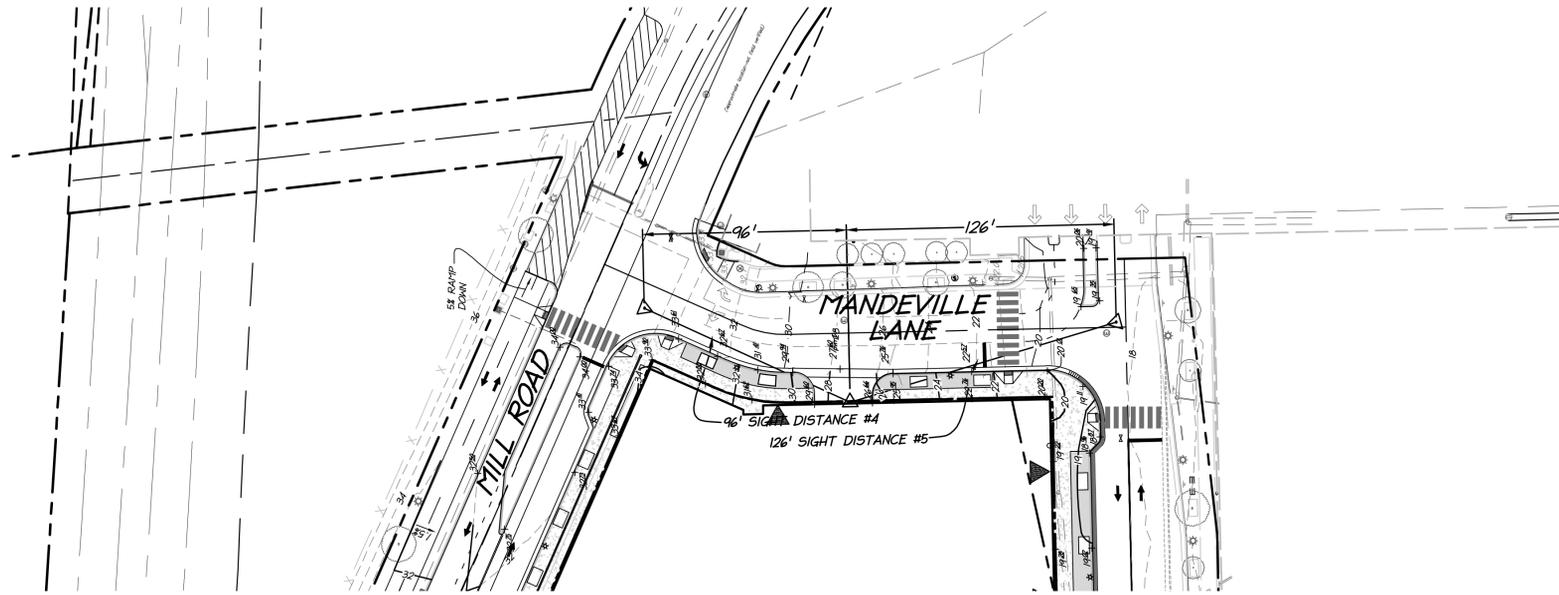


SIGHT DISTANCE PROFILE

PRELIMINARY PLAN - STAGE 1  
HOFFMAN TOWN CENTER  
BLOCKS 4 & 5  
CITY OF ALEXANDRIA, VIRGINIA

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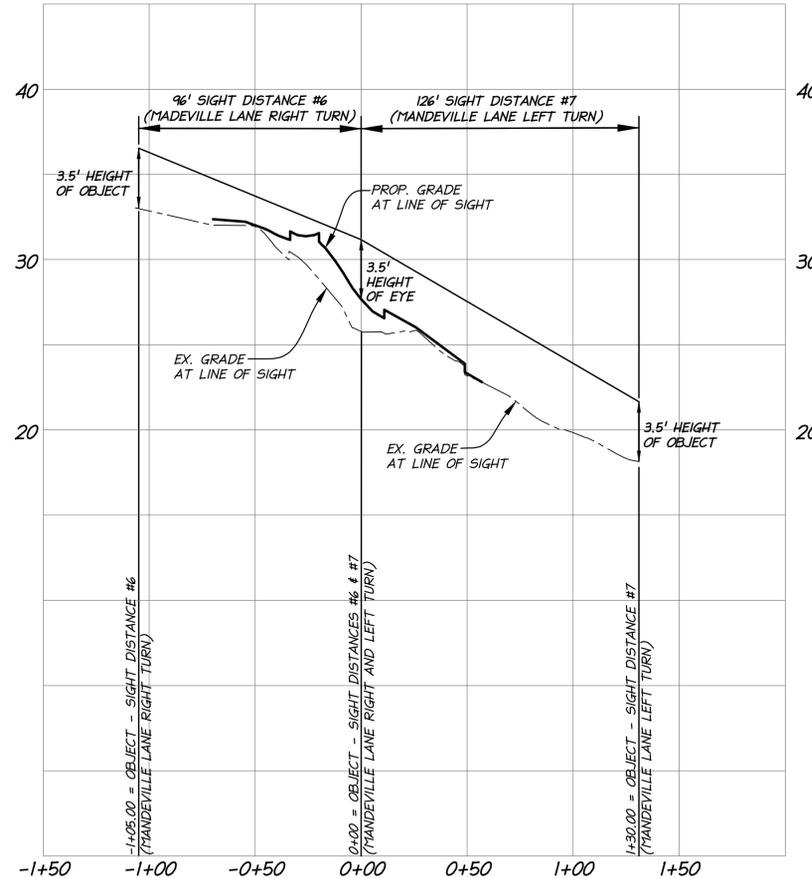
SHEET No.  
**C902**  
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**MANDEVILLE LANE**  
SPEED LIMIT: 25 MPH

40 20 0 40 80  
GRAPHIC SCALE  
SCALE: 1" = 40'

**MANDEVILLE LANE SIGHT DISTANCE**  
POSTED SPEED: 25 MPH

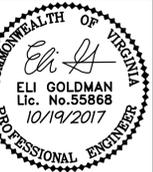


VERTICAL SCALE  
5 2.5 0 5 10  
GRAPHIC SCALE  
1" = 5'

HORIZONTAL SCALE:  
40 20 0 40 80  
GRAPHIC SCALE  
SCALE: 1" = 40'

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SIGHT DISTANCE PROFILE

PRELIMINARY PLAN - STAGE I  
**HOFFMAN TOWN CENTER**  
BLOCKS 4 & 5  
CITY OF ALEXANDRIA, VIRGINIA

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SCALE: N/A  
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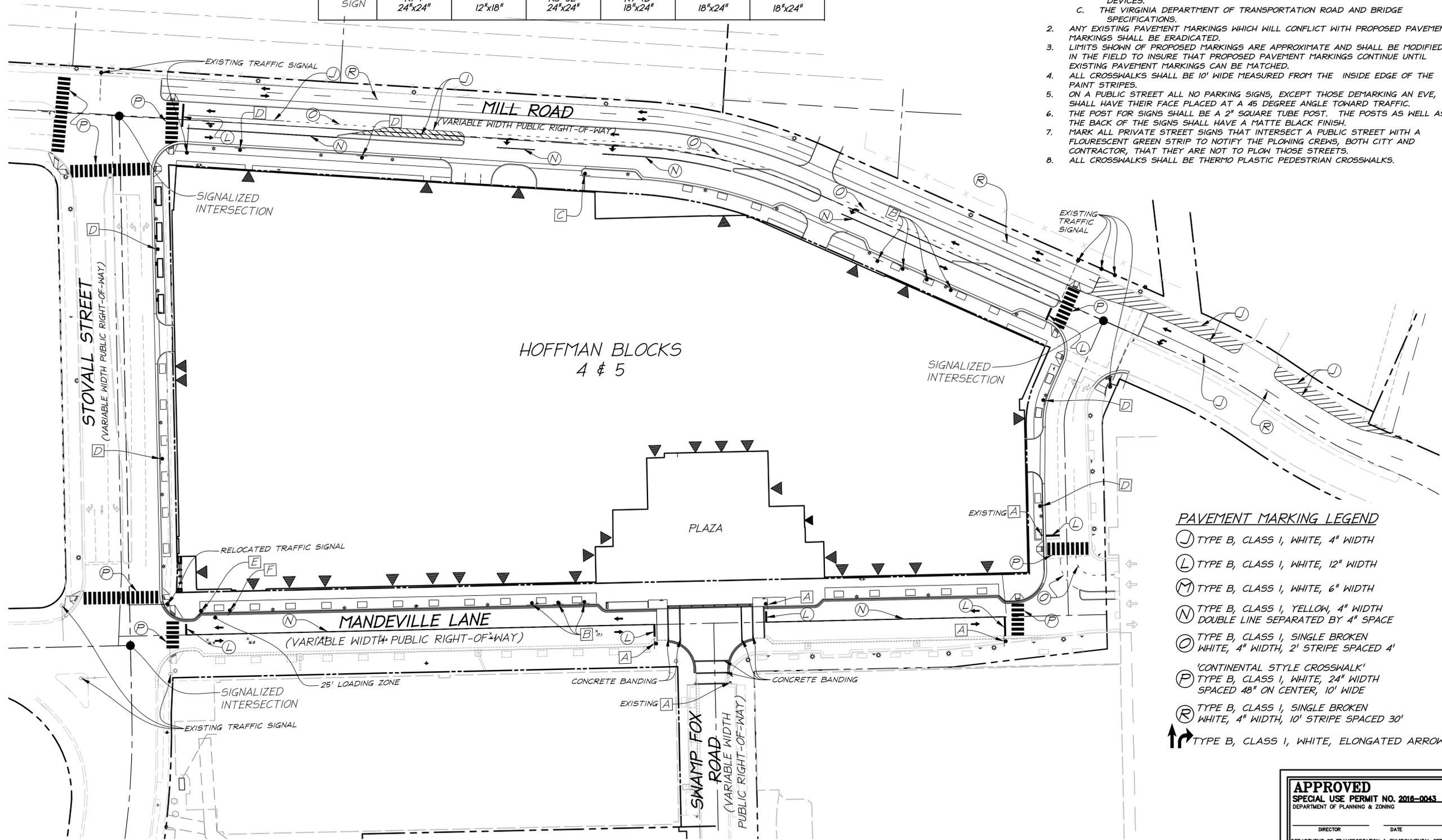
**SIGN LEGEND**

SIGN	A	B	C	D	E	F
SYMBOL						
SIGN	R1-1 24"x24"	12"x18"	R3-5L 24"x24"	R7-1D 18"x24"	18"x24"	18"x24"

**SIGNING & PAVEMENT MARKING NOTES:**

PROPOSED SIGN LOCATIONS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE FIELD TO AVOID CONFLICT WITH THE UNDERGROUND UTILITIES OR OTHER OBSTRUCTIONS AND TO COMPLY WITH STANDARDS REFERENCED IN NOTE 1.  
FOR COLOR COMBINATION AND/OR LETTERING SIZE, REFER TO THE VIRGINIA SUPPLEMENT TO THE MUTCD.

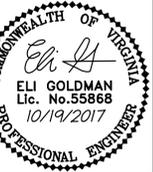
- ALL PROPOSED SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF EACH OF THE FOLLOWING AND ANY REVISION THERETO:
  - MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
  - THE VIRGINIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
- ANY EXISTING PAVEMENT MARKINGS WHICH WILL CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE ERADICATED.
- LIMITS SHOWN OF PROPOSED MARKINGS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE FIELD TO INSURE THAT PROPOSED PAVEMENT MARKINGS CONTINUE UNTIL EXISTING PAVEMENT MARKINGS CAN BE MATCHED.
- ALL CROSSWALKS SHALL BE 10' WIDE MEASURED FROM THE INSIDE EDGE OF THE PAINT STRIPES.
- ON A PUBLIC STREET ALL NO PARKING SIGNS, EXCEPT THOSE DEMARKING AN EVE, SHALL HAVE THEIR FACE PLACED AT A 45 DEGREE ANGLE TOWARD TRAFFIC.
- THE POST FOR SIGNS SHALL BE A 2" SQUARE TUBE POST. THE POSTS AS WELL AS THE BACK OF THE SIGNS SHALL HAVE A MATTE BLACK FINISH.
- MARK ALL PRIVATE STREET SIGNS THAT INTERSECT A PUBLIC STREET WITH A FLOURESCENT GREEN STRIP TO NOTIFY THE FLOWING CREWS, BOTH CITY AND CONTRACTOR, THAT THEY ARE NOT TO PLOW THOSE STREETS.
- ALL CROSSWALKS SHALL BE THERMO PLASTIC PEDESTRIAN CROSSWALKS.



**PAVEMENT MARKING LEGEND**

- (J) TYPE B, CLASS 1, WHITE, 4" WIDTH
- (L) TYPE B, CLASS 1, WHITE, 12" WIDTH
- (M) TYPE B, CLASS 1, WHITE, 6" WIDTH
- (N) TYPE B, CLASS 1, YELLOW, 4" WIDTH DOUBLE LINE SEPARATED BY 4" SPACE
- (O) TYPE B, CLASS 1, SINGLE BROKEN WHITE, 4" WIDTH, 2' STRIPE SPACED 4'
- (P) 'CONTINENTAL STYLE CROSSWALK' TYPE B, CLASS 1, WHITE, 24" WIDTH SPACED 48" ON CENTER, 10' WIDE
- (R) TYPE B, CLASS 1, SINGLE BROKEN WHITE, 4" WIDTH, 10' STRIPE SPACED 30'
- (↑) TYPE B, CLASS 1, WHITE, ELONGATED ARROW.

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CHAIRMAN, PLANNING COMMISSION _____ DATE _____	
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PRELIMINARY STRIPING AND SIGNAGE PLAN

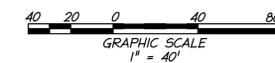
PRELIMINARY PLAN - STAGE 1  
HOFFMAN TOWN CENTER  
BLOCKS 4 & 5

CITY OF ALEXANDRIA, VIRGINIA

PROJECT NO: 98085.049.00  
SCALE: 1"=40'  
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DRAWN: A.JB  
CHECKED: K.M.W.  
SHEET No.

C904  
107540

**THIS SHEET IS FOR PAVEMENT STRIPING AND MARKING PURPOSES ONLY!**



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