PRELIMINARY SITE PLAN REVIEW PACKAGE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT

AREA TABULATIONS

PRE-DEVELOPMENT PARCEL AREA
TOTAL PRE-DEVELOPMENT PARCEL AREA = ±2.98 AC OR ±129,807 SF
(TOTAL RIGHT-OF-WAY DEDICATED = ±0.07 AC OR ±2,845 SF)
(TOTAL RIGHT-OF-WAY VACATED = ±0.20 AC OR ±8,888 SF)

PARCEL AREA AFTER CONSOLIDATION
TOTAL PARCEL AREA = ±2.98 AC OR ±129,807 SF

PARCEL AREA AFTER RIGHT-OF-WAY VACATION
TOTAL PARCEL AREA = ±3.18 AC OR ±138,695 SF

PARCEL AREAS AFTER SUBDIVISION (USED FOR FAR AND DENSITY CALCULATION)
EAST LOT = ±1.80 AC OR ±78,447 SF
WEST LOT = ±1.38 AC OR ±60,248 SF

PARCEL AREAS AFTER RIGHT-OF-WAY DEDICATION (CURRENT PARCEL AREAS)
EAST LOT = ±1.77 AC OR ±77,284 SF
WEST LOT = ±1.34 AC OR ±58,566 SF

NOTE: CONSOLIDATION, VACATION AND DEDICATION COMPLETED WITH PHASE 1 OF DEVELOPMENT.

TOTAL EXISTING IMPERVIOUS AREA = ±0.88 AC OR ±38,384 SF
EAST LOT = ±0.55 AC OR ±24,192 SF (THIS APPLICATION)
WEST LOT = ±0.33 AC OR ±14,192 SF

TOTAL PROPOSED IMPERVIOUS AREA = ±1.97 AC OR ±85,647 SF
EAST LOT = ± 1.24 AC OR ±54,010 SF (THIS APPLICATION)
WEST LOT = ±0.84 AC OR ±36,590 SF

TOTAL DISTURBED AREA = ±4.23 AC OR ±184,514 SF
EAST LOT = ±1.99 AC OR ±86,642 SF (THIS APPLICATION)
WEST LOT = ±2.31 AC OR ±100,750 SF

TAX PARCEL IDENTIFICATION = 010.02-02-48 (1.34 AC OR 58,566 SF)
011.01-01-06 (1.77 AC OR 77,284 SF)

ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING, AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT 703-838-4399.

2. 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 LANGUAGE NOTED ABOVE SHALL BE INCLUDED ON ALL FINAL SITE PLAN SHEETS INVOLVING ANY GROUND DISTURBING ACTIVITIES. (ARCHAEOLOGY)

3. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS. THE LANGUAGE NOTED ABOVE SHALL BE INCLUDED ON ALL FINAL SITE PLAN SHEETS INVOLVING ANY GROUND DISTURBING ACTIVITIES. (ARCHAEOLOGY)

BUILDING CODE ANALYSIS

JURISDICTION:	ALEXANDRIA, VA
BUILDING CODES:	2012 VIRGINIA CONSTRUCTION CODE± LOCAL JURISDICTION REQUIREMENTS
CONSTRUCTION TYPE:	V-B
FIRE SUPPRESSION:	FULLY SPRINKLERED PER VCC 903.3.1.2 AND NFPA 13R
STORIES:	4 / UL ALLOWABLE PER IBC W/ 13R SPRINKLER SYSTEM
USE GROUP:	R3
JOIST SIZE:	14" FLOOR JOIST
STAIRS DATA:	MAX 8 ¼" RISERS AND 10" MIN. TREADS PER VCC 2012

SQUARE FOOTAGES:		
	LOTS 2, 4, 25, 27, 30	2,927 NET SF
	LOTS 3, 5, 24, 26	2,966 NET SF
	LOTS 1, 28, 29, 31	2,994 NET SF
	LOTS 9, 10	2,968 NET SF
	LOTS 6, 8, 11, 13, 15, 17, 19, 21, 23	2,907 NET SF
	LOTS 7, 12, 14, 16, 18, 20, 22	2,933 NET SF

ENVIRONMENTAL SITE ASSESSMENT

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

THERE ARE POSSIBLE AREAS OF MARINE CLAY DEPOSITS ONSITE, ACCORDING TO THE CITY MARINE CLAYS MAP.

DEVELOPMENT TEAM INFORMATION

1. RECORD OWNER/DEVELOPER (WEST LOT):
FILLMORE LAND HOLDINGS LLC
2230 N. FAIRFAX DRIVE
ARLINGTON, VA 22201
JOHN WELSH

2. DEVELOPER/CONTRACT PURCHASER (EAST LOT):
CRAFTMARK HOMES
1355 BEVERLY ROAD
MCLEAN, VA 22101
ATTN: MR. KENNETH MALM

3. PLAN PREPARED BY:
WALTER L. PHILLIPS, INC.
207 PARK AVE.
FALLS CHURCH, VA 22046
ATTN: MR. BEN FLOOD

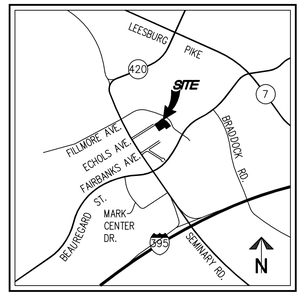
4. ARCHITECT:
PINNACLE DESIGN AND CONSULTING, INC.
11150 FAIRFAX BLVD, SUITE 402
FAIRFAX, VA 22030
ATTN: MR. STEVE JOHNSON

5. LANDSCAPE ARCHITECT:
STUDIO 39
6416 GROVEDALE DRIVE, SUITE 100-A
ALEXANDRIA, VIRGINIA 22310
ATTN: MR. LOREN HELGASON

6. LAND USE ATTORNEY:
LAND, CARROLL & BLAIR, P.C.
524 KING STREET
ALEXANDRIA, VIRGINIA 22314
ATTN: MR. DUNCAN BLAIR

LOCATION MAP

SCALE: 1"=2000'



PROJECT DESCRIPTION NARRATIVE

THIS APPLICATION PROPOSES AN AMENDMENT TO THE APPROVED DSUP 2014-0003, AS REVISED BY DSUP 2016-0007. THE ORIGINAL DSUP APPROVAL INCLUDED THE CONSTRUCTION OF A 132 UNIT MULTIFAMILY BUILDING ON THE EAST LOT. THIS APPLICATION PROPOSES TO CONVERT THE PREVIOUSLY PROPOSED MULTIFAMILY BUILDING ON THE EAST LOT TO A TOWNHOUSE DEVELOPMENT, CONSISTING OF 31 UNITS. THE CONSOLIDATION AND SUBDIVISION OF THE EXISTING PARCELS, A VACATION OF A PORTION OF THE ECHOLS AVENUE RIGHT-OF-WAY, ±0.20 AC, AS WELL AS THE DEDICATION OF ±0.07 AC ALONG FILLMORE AVENUE, PER DSUP 2016-0007, ARE UNCHANGED BY THIS AMENDMENT. IN ADDITION TO THE PROPOSED BUILDINGS, ALL NECESSARY SUPPORTING INFRASTRUCTURE AND OPEN SPACE FOR PHASE TWO OF THE DEVELOPMENT WILL BE PROVIDED WITH THIS APPLICATION.
THE SITE IS BORDERED TO THE NORTH BY FILLMORE AVENUE, TO THE EAST BY MULTIFAMILY RESIDENTIAL HOUSING, TO THE SOUTH BY SINGLE FAMILY DETACHED HOMES, AND TO THE WEST BY AN AFFORDABLE HOUSING DEVELOPMENT (PHASE 1).

SPECIAL USE PERMITS/ZONING MODIFICATIONS/WAIVERS REQUESTED

1. MAJOR AMENDMENT TO DSUP 2016-0007 IS REQUESTED TO ALLOW THE CONSTRUCTION OF 31 TOWNHOUSE UNITS ON THE EAST LOT.
2. A MODIFICATION TO REQUIRED FRONT, SIDE AND REAR SETBACK TO MATCH THE PROPOSED DEVELOPMENT IS REQUESTED. (Z.O. 5-211.C)
3. A SPECIAL USE PERMIT IS REQUESTED TO MEET THE STREET FRONTAGE REQUIREMENTS FOR BUILDABLE LOTS WITHOUT FRONTAGE ON A PUBLIC STREET. (Z.O. 7-1007)
4. A SPECIAL USE PERMIT IS REQUESTED TO ALLOW A MAXIMUM FLOOR AREA RATIO OF 2.0
5. A DSUP 2017-0007 AMENDMENT TO DSUP 2016-0007 TO ALLOW PHASE ONE AND PHASE TWO OF THE ST. JAMES PROJECT TO BE SPLIT INTO SEPARATE DSUP APPROVALS.

PREVIOUS LAND USE APPROVALS

1. A SMALL AREA PLAN AMENDMENT WAS APPROVED TO MAKE SMALL AREA PLAN REQUIREMENTS CONSISTENT WITH WHAT WAS PROPOSED ON THE PRELIMINARY SITE PLAN. [MPA#2014-0008]
2. REZONING OF EXISTING PARCELS 010.02-02-30 AND 011.01-01-05 FROM R-12 ZONING DISTRICT TO PROPOSED CRMU-M ZONING DISTRICT WAS APPROVED. [REZ#2014-0008]
3. A DEVELOPMENT SPECIAL USE PERMIT WITH SITE PLAN WAS APPROVED. [DSUP#2014-0003]
4. A SPECIAL USE PERMIT FOR MAXIMUM FLOOR AREA RATIO OF 2.0 WAS APPROVED [Z.O. 5-205(C)]. [DSUP#2014-0003]
5. A SPECIAL USE PERMIT FOR A TRANSPORTATION MANAGEMENT PLAN TIER 2 [Z.O. 8-100(A)(4)]. [TMP SUP#2014-0096]
6. A VACATION OF PUBLIC RIGHT-OF-WAY WAS APPROVED. [VAC#2014-0003; ORDINANCE 5000]
7. THE ABILITY TO CONSTRUCT THE DEVELOPMENT IN PHASES WAS APPROVED. [DSUP 2016-00007]
8. A MODIFICATION TO THE PARKING REQUIREMENTS TO MATCH THE CURRENT ZONING ORDINANCE RATES WAS APPROVED. [DSUP 2016-0007]

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ZONING TABULATIONS

ZONING:	EXISTING ZONE: CRMU-M
MASTER PLAN:	ALEXANDRIA WEST SMALL AREA PLAN
SITE AREA (SQ. FT) (ACRES):	±1.77 AC OR ±77,284 SF
USE:	EXISTING: VACANT (PREVIOUS USE: CHURCH) PROPOSED PHASE 2: RESIDENTIAL TOWNHOUSES (THIS APPLICATION)

	PERMITTED/REQUIRED	APPROVED DSUP 2016-0007 - PHASE 2 (MULTI-FAMILY)	PROPOSED - PHASE 2 (TOWN HOUSE)
	CRMU-M	CRMU-M	CRMU-M
FAR	MAX 2.00*	±132,304 SF / 78,447 SF = ±1.69* (MAX 2.0)	±92,000 SF / 78,447 SF = ±1.17* (MAX 2.0)
DENSITY	N/A	±132 UNITS / ±1.80 ACRE = ±73.33 DU/AC *	±31 UNITS / ±1.80 ACRE = ±17.22 DU/AC *
GROSS FLOOR AREA (SF)	N/A	±226,493 SF	±98,000 SF
NET FLOOR AREA (SF)	N/A	±223,292 SF	±92,000 SF
FAR FLOOR AREA (SF)	N/A	±132,304 SF	±92,000 SF
PARCEL AREA (SF) **	N/A	±77,284 SF OR ±1.77 AC	±77,284 SF OR ±1.77 AC
LOT AREA (SF)	N/A	N/A	VARIES (SEE LOT TABULATION THIS SHEET)
SETBACKS (FT)			
FRONT (TOWNHOUSE)	20 FT	5 FT	±4.33 FT TO ±4.92 (SEE TABLE BELOW)
REAR (TOWNHOUSE)	1:1 SETBACK RATIO MIN. 8'	25 FT	±0.00 TO ±1.43 FT (SEE TABLE BELOW)
SIDE (TOWNHOUSE)	1:3 SETBACK RATIO MIN. 8'	0 FT	±4.33 TO ±4.92 FT (SEE TABLE BELOW)
PARCEL FRONTAGE	N/A	N/A	±289.55 FT
LOT FRONTAGE	N/A	N/A	20 FT MIN. (SEE TABLE BELOW)
OPEN SPACE (SF)	30,914 SF OR 0.71 AC (40%)	±39,922 SF OR ±0.92 AC (±52%)	±30,914 SF OR ±0.71 AC (±40%)
GROUND LEVEL (SF)	N/A	±31,324 SF OR ±0.72 AC (±41%)	±26,350 SF OR ±0.60 AC (±34%)
ABOVE GROUND LEVEL (SF)	N/A	±8,598 SF OR ±0.20 AC (±11%)	±150 SF * 31 UNITS = ±4,650 SF OR ±0.11 AC (±6%)
AVERAGE FINISHED GRADE	N/A	±234.9	VARIES (SEE LOT TABULATION THIS SHEET)
HEIGHT (FT)	70' ****	65' MAX	±37.00 FT TO ±45.71 FT *** (SEE LOT TABULATION THIS SHEET)
PARKING TABULATIONS			
STANDARD (9' X 18.5')	62 SPACES	±193 SPACES	±62 SPACES
ADA	0	±6 SPACES	±0 SPACES
SURFACE SPACES	0	0	±0 SPACES
LOADING	0	0	0
TRIP GENERATION	0	±813 VPD*****	±243 VPD*****

NOTES
* A SPECIAL USE PERMIT IS REQUESTED TO PERMIT UP TO A 2.0 FAR. PARCEL AREA USED IN THIS COMPUTATION IS THE PROPOSED SUBDIVIDED SITE AREA FOLLOWING RIGHT-OF-WAY VACATION. THE RIGHT-OF-WAY TO BE DEDICATED IS INCLUDED IN THIS PARCEL AREA.
** PROPOSED PARCEL AREA FOLLOWING RIGHT-OF-WAY VACATION AND DEDICATION. PARCEL AREA USED FOR FAR AND DENSITY COMPUTATION, ±78,447 SF, INCLUDES AREA TO BE DEDICATED.
*** PROPOSED HEIGHT IS APPROXIMATE AND SUBJECT TO MINOR MODIFICATIONS PENDING FINAL DESIGN AND DETAILED SITE GRADING.
**** SMALL AREA PLAN AMENDED PER DSUP 2014-0003 TO REFLECT MAX. HEIGHT OF 70 FT. EAST PARCEL PROPOSES A MAXIMUM HEIGHT OF 45.80'.
***** AVERAGE DAILY TRAFFIC PROVIDED BY "INSTITUTE OF TRANSPORTATION ENGINEERS: TRIP GENERATION, 7TH EDITION VOLUME 2: APARTMENT AND RESIDENTIAL CONDOMINIUM/TOWNHOUSE".

LOT TABULATION

Lot	LOT AREA (SF)	GFA	NFA	AFG	ROOF ELEV	BLDG HT (FT)	LOT FRONTAGE (FT)	YARD SETBACKS			YARD SETBACK MODIFICATION REQUIRED		
								FRONT	REAR	SIDE	FRONT (20FT)	REAR (≥ 8 FT)	SIDE (≥8 FT)
1	1,293	3,176	2,994	218.53	262.76	44.23	25.30	4.33	0.00	4.33	✓	✓	✓
2	1,027	3,109	2,927	217.64	262.25	44.61	20.00	4.92	0.00	N/A	✓	✓	
3	1,027	3,148	2,966	216.74	261.35	44.61	20.00	4.33	0.00	N/A	✓	✓	
4	1,027	3,109	2,927	215.84	261.08	45.24	20.00	4.92	0.00	N/A	✓	✓	
5	1,283	3,148	2,966	214.86	260.57	45.71	25.00*	4.33	0.00	4.92	✓	✓	✓
6	1,283	3,109	2,907	223.62	263.29	39.67	25.00*	4.92	0.00	4.92	✓	✓	✓
7	1,027	3,135	2,933	224.86	263.89	39.03	20.00*	4.33	0.00	N/A	✓	✓	
8	1,027	3,109	2,907	225.42	264.49	39.07	20.00*	4.92	0.00	N/A	✓	✓	
9	1,300	3,150	2,968	224.88	264.39	39.51	25.30*	4.33	0.00	4.33	✓	✓	✓
10	1,300	3,150	2,968	227.02	269.78	42.76	25.30*	4.33	0.00	4.33	✓	✓	✓
11	1,027	3,109	2,907	231.23	269.81	38.58	20.00*	4.92	0.00	N/A	✓	✓	
12	1,027	3,135	2,933	232.40	270.81	38.41	20.00*	4.33	0.00	N/A	✓	✓	
13	1,283	3,109	2,907	232.80	271.81	39.01	25.00*	4.92	0.00	4.92	✓	✓	✓
14	1,283	3,135	2,933	235.08	274.56	39.48	25.00*	4.33	0.00	4.92	✓	✓	✓
15	1,027	3,109	2,907	237.19	275.56	38.37	20.00*	4.92	0.00	N/A	✓	✓	
16	1,027	3,135	2,933	238.19	276.56	38.37	20.00*	4.33	0.00	N/A	✓	✓	
17	1,027	3,109	2,907	239.15	277.56	38.41	20.00*	4.92	0.00	N/A	✓	✓	
18	1,283	3,135	2,933	240.67	278.56	37.89	25.00*	4.33	0.00	4.92	✓	✓	✓
19	1,283	3,109	2,907	241.96	278.96	37.00	25.00*	4.92	0.00	4.92	✓	✓	✓
20	1,027	3,135	2,933	238.82	277.96	39.14	20.00*	4.33	0.00	N/A	✓	✓	
21	1,027	3,109	2,907	237.47	276.96	39.49	20.00*	4.92	0.00	N/A	✓	✓	
22	1,027	3,135	2,933	236.16	275.96	39.80	20.00*	4.33	0.00	N/A	✓	✓	
23	1,283	3,109	2,907	233.78	274.96	41.18	25.00*	4.92	0.00	4.92	✓	✓	✓
24	1,283	3,148	2,966	228.88	272.78	43.90	25.00*	4.33	0.00	4.92	✓	✓	✓
25	1,027	3,109	2,927	227.98	271.78	43.80	20.00*	4.92	0.00	N/A	✓	✓	
26	1,027	3,148	2,966	227.02	270.78	43.76	20.00*	4.33	0.00	N/A	✓	✓	
27	1,027	3,109	2,927	226.06	269.78	43.72	20.00*	4.92	0.00	N/A	✓	✓	
28	1,260	3,176	2,994	225.29	268.78	43.49	25.30*	4.33	0.00	4.33	✓	✓	✓
29	1,395	3,176	2,994	223.71	267.41	43.70	25.30*	4.33	1.43	4.33	✓	✓	✓
30	1,028	3,109	2,927	223.18	267.06	43.88	20.00	4.92	0.00	N/A	✓	✓	
31	1,300	3,176	2,994	222.14	266.24	44.10	25.30	4.33	0.00	4.33	✓	✓	✓

* LOTS W/ FRONTAGES ON PRIVATE STREET

PARKING TABULATION

REQUIRED PARKING (PER Z.O.)
USE: TOWNHOUSE DWELLING
RATE: TOWNHOUSE DWELLING: 2.0 SP/UNIT

31 TOWNHOUSE UNITS @ 2 SP/UNIT: 31 UNITS * 2.0 SP/UNIT = 62 SPACES
REQUIREMENT = 62 SPACES

PARKING REQUIRED = 62 SPACES

PARKING PROVIDED

31 TOWNHOUSE UNITS WITH 2 CAR GARAGE = 62 SPACES
PROVIDED = 62 SPACES

PARKING PROVIDED = ±62 PARKING SPACES

COMPLETE STREETS TABLE

	NEW	UPGRADED	REQUIRED
CROSSWALKS (NUMBER)	1	N/A	N/A
STANDARD	1	N/A	N/A
HIGH VISIBILITY	N/A	N/A	N/A
CURB RAMPS	6	N/A	N/A
SIDEWALKS (LF)	±1,150	±250	N/A
BICYCLE PARKING (NUMBER SPACES)	33	N/A	11
PUBLIC/VISITOR (CLASS 3)	2	N/A	1
PRIVATE/GARAGE (CLASS 2)	MIN 31*	N/A	10
BICYCLE PATHS (LF)	N/A	N/A	N/A
PEDESTRIAN SIGNALS	N/A	N/A	N/A

NOTE: * CLASS 2 BICYCLE SPACES ARE PROVIDED WITHIN EACH GARAGE UNIT.

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: AS SHOWN | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER AARON M. VINSON Lic. No.041851 3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

COVER SHEET

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

MASTER LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
S	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
W	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND UTILITY (ELECT/COMM)	UE
G	GAS MAIN	G
	HVAC	
	UTILITY PEDESTAL	
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
X X X	FENCE	X X X
	TRAFFIC FLOW	
	STREET LIGHT	
	PEDESTRIAN LIGHT	
	COBRA HEAD LIGHT	
	DOOR	
	TREES	
	PROPERTY LINE	
	MANHOLE	
260 264	CONTOURS	260 264
+264 50	SPOT ELEVATION	+264 50
	DRAINAGE FLOW DIRECTION	
TC	TOP OF CURB	TC
BC	BOTTOM OF CURB	BC
TW	TOP OF WALL	TW
BW	BOTTOM OF WALL	BW
H.P.	HIGH POINT	H.P.
	LIMITS OF CLEARING AND GRADING	
	PHASE LINE	
	CONCRETE	
	BRICK	
	PROP. GRASSCRETE (OR APPROVED EQUIVALENT)	
	IMPROVEMENTS TO BE CONSTRUCTED BY OTHERS AND IN ACCORDANCE WITH APPROVED DSP 2014-0003)	

CATV.....CABLE TV BOX
CO.....CLEANOUT
CONC.....CONCRETE
DB, PG.....DEED BOOK, PAGE
DHF, DHS.....DRILL HOLE FOUND OR DRILL HOLE SET
[D] .....DUMPSTER PAD
EB.....ELECTRIC BOX
EM.....ELECTRIC METER
EP.....EDGE OF PAVEMENT
EPAD.....ELECTRIC PAD
ESMT.....EASEMENT
FC.....FACE OF CURB
FDC.....FIRE DEPARTMENT CONNECTION
FH.....FIRE HYDRANT
FCAP.....FILLER CAP
GM.....GAS METER
GV.....GAS VALVE
IPF.....IRON PIN FOUND
IPS.....IRON PIN SET
MB.....US MAILBOX
MH.....MANHOLE
MW.....MONITORING WELL
PKF, PKS.....PK NAIL FOUND, PK NAIL SET
POB.....POINT OF BEGINNING
RD.....ROOF DRAIN
SP.....SIGN POST
SS.....SANITARY SEWER MANHOLE
ST.....STORM STRUCTURE
SW.....SIDEWALK
[T] .....TRANSFORMER PAD
TB.....TELEPHONE BOOTH
TCB.....TRAFFIC CONTROL BOX
TP.....TELEPHONE PEDESTAL
TSP.....TRAFFIC SIGNAL POLE
WM.....WATER METER
WSP.....WATER STAND PIPE
WV.....WATER VALVE
.....HANDICAPPED PARKING SPACE
.....LIGHT POLE
—OH— .....OVERHEAD WIRES
—W— .....WATER LINE
—ST— .....STORM SEWER LINE
—S— .....SANITARY SEWER LINE
—T— .....UNDERGROUND TELEPHONE LINE
—E— .....UNDERGROUND ELECTRIC LINE
—> .....GUY WIRE
—X— .....FENCE

SITE NOTES

1. THE STORMWATER COLLECTION SYSTEM IS LOCATED WITHIN THE FOUR MILE RUN WATERSHED.
2. THERE ARE POSSIBLE AREAS OF MARINE CLAY ON THIS SITE ACCORDING TO THE CITY OF ALEXANDRIA MARINE CLAY MAP.
3. THIS PROJECT IS NOT LOCATED IN A COMBINED SEWER AREA.

RESOURCE PROTECTION AREA NOTES

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

FLOOD PLAIN NOTES

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

ENVIRONMENTAL NOTES

1. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY OTHERS) THERE IS NO KNOWN SOIL AND/OR GROUNDWATER CONTAMINATION WITHIN THE LIMITS OF THIS DEVELOPMENT.
2. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY OTHERS) THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS ON SITE.
3. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY OTHERS) THE PROPERTY IS NOT KNOWN TO BE LOCATED WITHIN 1,000 FEET OF A FORMER SANITARY LANDFILL, DUMP OR DISPOSAL AREA.
4. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY OTHERS) THERE ARE NO KNOWN AREAS WITH THE POTENTIAL OF GENERATING COMBUSTIBLE GASES ON SITE.

CEMETERY AND/OR BURIAL GROUNDS

THERE IS NO OBSERVABLE, HISTORICAL OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.

CITY STANDARD NOTES

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

2. ALL WELLS TO BE DEMOLISHED ON THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH STATE WELL REGULATION. CONTACT JOE FIANDER AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4400 AND THE ALEXANDRIA ENVIRONMENTAL HEALTH DIVISION AT 703-746-4400.

3. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 7AM TO 6PM AND
   SATURDAYS FROM 9AM TO 6PM
   NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
   PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 9AM TO 6PM
   AND SATURDAYS FROM 10AM TO 4PM

SANITARY SEWER OUTFALL NARRATIVE

IT IS ANTICIPATED THAT THE SANITARY FLOW RESULTING FROM THIS DEVELOPMENT WILL BE APPROXIMATELY 116,250 GPD, WHICH EXCEEDS 10,000 GPD. THE PHASE ONE DSP 2014-0003 PRELIMINARY OUTFALL ANALYSIS SHOWED THE OUTFALL TO BE INADEQUATE.

IN ORDER TO SATISFY THE REQUIREMENTS OF MEMO TO INDUSTRY NO. 06-14 FOR INADEQUATE OUTFALLS, THE PHASE ONE DSP 2014-0003 APPLICANT PROPOSED SANITARY SEWER IMPROVEMENTS SHOWN ON SHEET P-0901. WITH THE CONSTRUCTION OF THOSE IMPROVEMENTS BY OTHERS, AN ADEQUATE OUTFALL IS PRESENT TO HANDLE THE PHASE TWO DEVELOPMENT.

STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES (BMP) NARRATIVE

COVERAGE UNDER THE 2009 CONSTRUCTION GENERAL PERMIT (VAR 10) WAS ISSUED FOR THIS PROJECT ON JUNE 30/2014 FOR A 5 YEAR TERM (PERMIT NUMBER VAR10E144) WHICH WAS THEN REISSUED FOR COVERAGE UNDER THE 2014-2019 CGP. DUE TO THE EXPECTED INCREASE IN IMPERVIOUS AREA FROM WHAT WAS PERMITTED UNDER THE CGP COVERAGE, THE APPLICANT PROPOSES TO IMPLEMENT THE DESIGN STIPULATED IN SECTIONS 13-109F(1) AND 13-109F(2) FOR CHANNEL AND FLOOD PROTECTION, RESPECTIVELY AS WELL AS ALL PARAMETERS CONSISTENT WITH THE BEST MANAGEMENT PRACTICE REQUIREMENTS OF SECTION 13-109E OF THE OF ALEXANDRIA ZONING ORDINANCE.

BASED ON PRELIMINARY STUDIES, IT IS EXPECTED THAT A NATURAL STREAM IS LOCATED WITHIN 100 TIMES THE SITE AREA. IN ORDER TO COMPLY WITH THE CHANNEL PROTECTION CRITERIA OF SECTION 13-109F(1), STORMWATER MANAGEMENT PRACTICES WILL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING METHODOLOGY:

$$Q_{POST} <= \frac{0.8\ (Q_{PRE} \times V_{PRE})}{V_{POST}}, \text{ FOR THE 1 YR, 24 HR STORM}$$

IN ADDITION, A PRELIMINARY ANALYSIS SHOWS THAT THE EXISTING DOWNSTREAM SYSTEM DOES NOT EXPERIENCE LOCALIZED FLOODING. THEREFORE, IN ORDER TO MEET THE FLOOD PROTECTION REQUIREMENTS DESCRIBED IN Z.O. SECTION 13-109F(2)II AND AS DEMONSTRATED IN COMPUTATIONS PROVIDED ON SHEET P-0701, THE POST-DEVELOPMENT PEAK RELEASE FROM THE SITE FOR THE 10 YR, 24 HOUR STORM IS COMPLETELY CONTAINED WITHIN THE EXISTING RECEIVING SEWER SYSTEM. FINALLY BECAUSE THE SITE IS LOCATED WITHIN THE FOUR MILE WATERSHED, THE POST DEVELOPMENT PEAK RELEASE FROM THE 100 YR, 24 HOUR STORM WILL BE DETAINED TO NOT EXCEED THE 100 YR, 24 HOUR STORM PEAK RELEASE AT PRE-DEVELOPMENT.

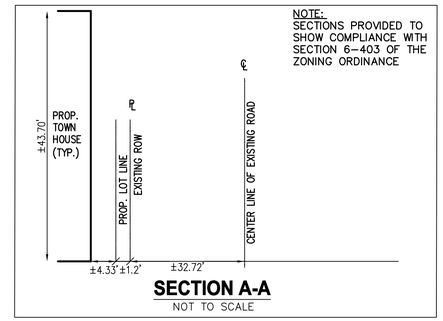
LASTLY, THE PROJECT ALSO PROPOSES THE USE OF SEVERAL BMP FACILITIES, IN ORDER TO SATISFY THE CITY OF ALEXANDRIA'S WATER QUALITY REQUIREMENT AND THE VIRGINIA RUNOFF REDUCTION METHOD SPREADSHEET, SEE P-0404 FOR APPROXIMATE LOCATION. ADDITIONALLY, THESE BMPS SHALL BE USED TO MEET THE CITY'S WATER QUALITY VOLUME REQUIREMENT. IT IS EXPECTED THAT A CONTRIBUTION TO THE WATER QUALITY EQUIVALENCY FUND MAY BE REQUIRED IN ORDER TO TREAT 100% OF THE WATER QUALITY VOLUME PER SECTION 13-110.

GEOTECHNICAL REPORT NOTE

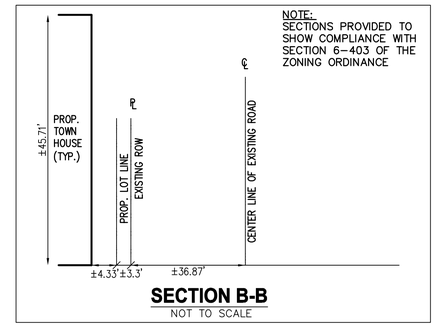
A SITE SPECIFIC GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS PROPERTY AND WAS PROVIDED WITH PHASE 1 OF DEVELOPMENT DSP 2014-0003, UNDER SEPARATE COVER.

GREEN BUILDING NARRATIVE

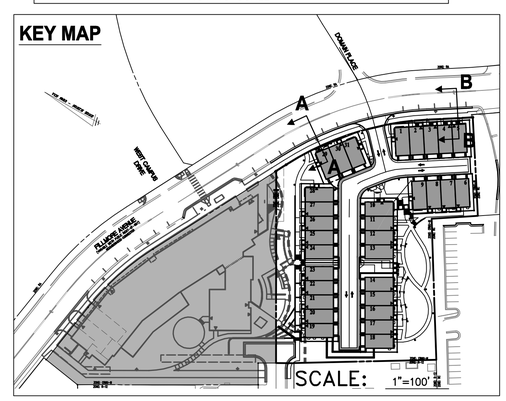
THE PROPOSED TOWNHOUSES WILL BE DESIGNED WITH ENVIRONMENTALLY CONSCIOUS STRATEGIES SUCH AS THOSE PROMOTED BY THE U.S. GREEN BUILDING COUNCIL. THE TOWNHOMES WILL BE ENERGY-STAR CERTIFIED AND INCLUDE ENERGY STAR RATED APPLIANCES AND FIXTURES. EXACT GREEN BUILDING TECHNIQUES WILL BE FURTHER EXPLORED AND DETAILED AS THE PROJECT EVOLVES THROUGHOUT THE DESIGN PROCESS.



SECTION A-A
NOT TO SCALE



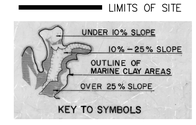
SECTION B-B
NOT TO SCALE



MARINE CLAY SOILS MAP

SCALE: 1"=500'

LIMITS OF SITE



KEY TO SYMBOLS

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: AS NOTED | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

NOTES AND TABULATIONS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

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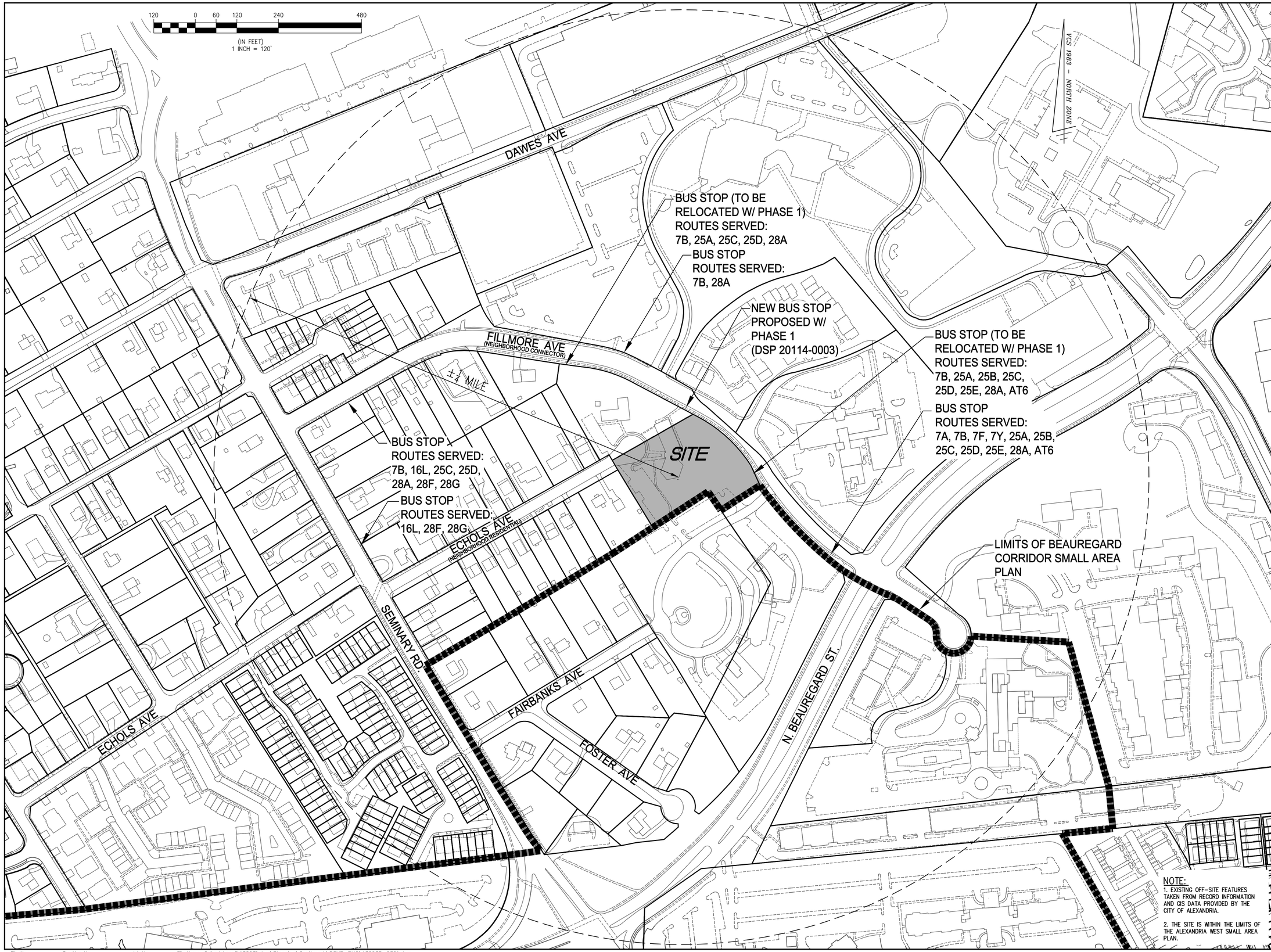
DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



NOTE:
1. EXISTING OFF-SITE FEATURES TAKEN FROM RECORD INFORMATION AND GIS DATA PROVIDED BY THE CITY OF ALEXANDRIA.
2. THE SITE IS WITHIN THE LIMITS OF THE ALEXANDRIA WEST SMALL AREA PLAN.

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SCALE: 1" = 120'
DATE: 3/10/2017
DRAWN: DP, DM
CHECKED: BF

COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON
Lic. No.041851
3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SITE CONTEXT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0301.dwg

SHEET: P-0301

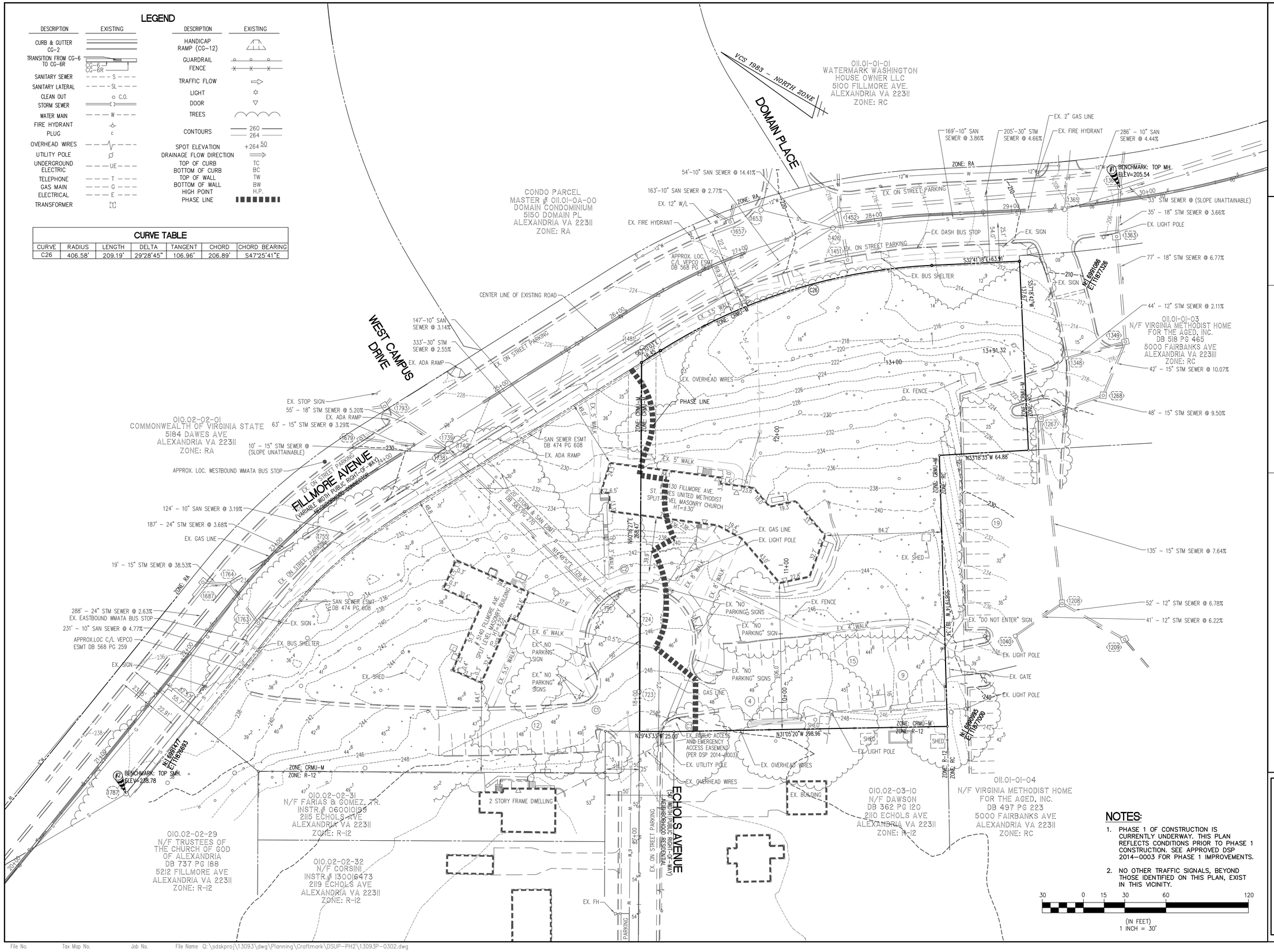
LEGEND

DESCRIPTION	EXISTING
CURB & GUTTER CG-2	
TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
SANITARY SEWER	S
SANITARY LATERAL	SL
CLEAN OUT	C.O.
STORM SEWER	
WATER MAIN	W
FIRE HYDRANT	
PLUG	P
OVERHEAD WIRES	
UTILITY POLE	
UNDERGROUND ELECTRIC	UE
TELEPHONE	T
GAS MAIN	G
ELECTRICAL	E
TRANSFORMER	

DESCRIPTION	EXISTING
HANDICAP RAMP (CG-12)	
GUARDRAIL	
FENCE	
TRAFFIC FLOW	
LIGHT	
DOOR	
TREES	
CONTOURS	260 264
SPOT ELEVATION	+264.50
DRAINAGE FLOW DIRECTION	
TOP OF CURB	TC
BOTTOM OF CURB	BC
TOP OF WALL	TW
BOTTOM OF WALL	BW
HIGH POINT	H.P.
PHASE LINE	

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C26	406.58'	209.19'	29°28'45"	106.96'	206.89'	S47°25'41"E



NOTES:

1. PHASE 1 OF CONSTRUCTION IS CURRENTLY UNDERWAY. THIS PLAN REFLECTS CONDITIONS PRIOR TO PHASE 1 CONSTRUCTION. SEE APPROVED DSP 2014–0003 FOR PHASE 1 IMPROVEMENTS.
2. NO OTHER TRAFFIC SIGNALS, BEYOND THOSE IDENTIFIED ON THIS PLAN, EXIST IN THIS VICINITY.

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SCALE: 1" = 30' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS PLAN

SHEET: P-0302

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0302.dwg

NOTES

1. THE PROPERTY DELINEATED HEREON IS DESIGNATED BY THE CITY OF ALEXANDRIA, VIRGINIA AS PARCEL 011.01-01-06 AND IS ZONED CRMU-M.

2. THE PROPERTY SHOWN HEREON, SAINT JAMES SUBDIVISION – LOT 2, AS RECORDED IN INSTRUMENT NUMBER 160009076, IS NOW IN THE NAME OF FILLMORE LAND HOLDINGS LLC AS RECORDED IN INSTRUMENT NUMBER 150018453 AMONG THE LAND RECORDS OF THE CITY OF ALEXANDRIA, VIRGINIA.

3. THIS PLAT AND THE SURVEY UPON WHICH IT IS BASED SHOWS ONLY THOSE IMPROVEMENTS THAT ARE OBSERVABLE AND CAN BE LOCATED USING NORMAL SURVEY METHODS. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, MISS UTILITY MARKINGS AND EXISTING RECORDS. THERE IS NO GUARANTEE, EITHER EXPRESS OR IMPLIED, THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED.

4. TOTAL AREA OF LOT 2 IS 77,284 SQUARE FEET OR 1.7742 ACRES.

5. THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM COMPLETED ON 11/25/13.

6. EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS, SHOWN AND/OR NOTED HEREON, ARE PER THE TITLE REPORT ISSUED BY EXPERT TITLE LLC, CASE NUMBER ECA13-5686, EFFECTIVE DATE OCTOBER 22, 2013 FOR PARCEL 010.02-02-30 AND CASE NUMBER ECA13-5685, EFFECTIVE DATE OCTOBER 22, 2013 FOR PARCEL 011.01-01-05.

7. THE PROPERTY SHOWN HEREON IS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY, AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(CORS96)(EPOCH:2002.0000)] AS COMPUTED FROM A FIELD SURVEY WHICH TIES THIS SUBDIVISION BOUNDARY TO NOAA/NGS MONUMENT PID NUMBER DH4144; LWXI STERLING CORS ARP. THE SCALE FACTOR (ELEVATION FACTOR X GRID FACTOR) WHICH HAS BEEN APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99994906. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES, AND IN THE PERFORMANCE OF THE FIELD SURVEY, IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS TWO FEET.

8. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF, DANNY E. POTEET, L.S., FROM AN ACTUAL [X] GROUND OR [ ] AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON NOVEMBER 25, 2013; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

9. THIS SURVEY WAS PERFORMED AT THE REQUEST OF AHC, INC.

10. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS FOR THE CITY OF ALEXANDRIA, VIRGINIA, MAP NUMBER 5155190028E, REVISED DATE JUNE 16, 2011, DESIGNATES THE PROPERTY AS BEING IN ZONE X, AREAS DETERMINED TO BE INSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

11. THE PROPERTY IS CURRENTLY UNDER CONSTRUCTION PER APPROVED DSP 2014-0003. ADDITIONAL EASEMENTS AND IMPROVEMENTS MAY EXIST.

AREA TABULATION

WEST LOT	58,566 SF OR 1.34 AC
EAST LOT	77,284 SF OR 1.77 AC
TOTAL	135,850 SF OR 3.11 AC

NOTE: PARCEL NUMBERS HAVE NOT BEEN ASSIGNED SINCE PROPERTY WAS SUBDIVIDED IN ACCORDANCE WITH DSP 2014-0003.

UTILITY CONTACTS

ELECTRIC:
VIRGINIA DOMINION POWER
C/O KEN HOLMES
907 WEST GLEBE ROAD
ALEXANDRIA, VA 22305
(703) 838-2437

NATURAL GAS:
WASHINGTON GAS
C/O RAY BAKER
6801 INDUSTRIAL ROAD
SPRINGFIELD, VA 22151
(703) 750-5953

WATER:
VIRGINIA AMERICAN WATER COMPANY
C/O HAO (STEVE) CHEN
2223 DUKE STREET
ALEXANDRIA, VA 22314
(703) 706-3889

TELEPHONE:
VERIZON
C/O VAL FISHER
2980 FAIRVIEW PARK N., 6TH FLOOR
FALLS CHURCH, VA 22042
(703) 204-5068

CATV/HS INTERNET:
COMCAST
C/O BRIAN SHADE
3900 WHEELER AVENUE
ALEXANDRIA, VA 22304
(703) 567-4449

AS-BUILT DATA

SANITARY SEWER

SMH 1787	
MANHOLE TOP =	238.78
10"INV IN (N.WEST)=	228.37
10" INV OUT (SMH 1755)=	228.27
SMH 1755	
MANHOLE TOP =	231.71
10" INV IN (SMH 1787)=	217.26
10" INV OUT (SMH 1740)=	216.41
SMH 2244	
MANHOLE TOP =	255.82
8" INV OUT (SMH 723)=	248.09
SMH 723	
MANHOLE TOP =	249.12
8"INV IN (SMH 2244)=	245.68
8"INV OUT (SMH 724)=	245.38
SMH 724	
MANHOLE TOP =	245.50
8"INV IN (SMH 723)=	238.76
8"INV OUT (SMH 1740)=	237.89
SMH 1740	
MANHOLE TOP =	228.59
8"INV IN (SMH 724)=	215.92
10" INV IN (SMH 1755)=	212.46
10" INV OUT (SMH 1481)=	212.36
SMH 1481	
MANHOLE TOP =	224.51
LAT IN (CHURCH)=	208.62
10"INV IN (SMH 1740)=	207.75
10"INV OUT (SMH 1426)=	207.70
SMH 1653	
MANHOLE TOP =	220.74
10"INV IN (N.EAST)=	214.10
10"INV OUT (SMH 1426)=	212.94
SMH 1426	
MANHOLE TOP =	218.30
10"IN TOP DROP(SMH 1653)=	211.60
10"IN BTTMDROP(SMH 1653)=	205.16
10"INV IN (SMH 1481)=	203.18
10"INV OUT (SMH 1365)=	203.08
SMH 1365	
MANHOLE TOP =	208.06
10"INV IN (SMH 1426)=	196.56
LAT IN (S.EAST)=	196.76
10" INV OUT (SMH 1486)=	196.26
SMH 1486	
MANHOLE TOP =	
10"INV IN (SMH 1365)=	
10"INV OUT (SMH 30496)=	
SMH 30496	
MANHOLE TOP =	
15"INV IN (WEST)=	
10"INV IN (S.EAST)=	
10"INV IN (SMH 1486)=	
15"INV OUT (EAST)=	

PIPE DIAMETERS FROM RECORD INFORMATION

STORM SEWER

SD 1718	
MANHOLE TOP =	242.04
15"RCP IN TOPDROP(NORTH)=	237.32
15"RCP IN BTMDROP(NORTH)=	231.28
24"RCP IN (S.WEST)=	230.54
24"RCP OUT (SD 1764)=	230.38
SD 1687	
CURB INLET TOP =	234.42
15"RCP IN (NORTH)=	229.98
15"RCP OUT (SD 1764)=	229.60
SD 1763	
CURB INLET TOP =	234.25
15"RCP OUT (SD 1764)=	229.82
SD 1764	
MANHOLE TOP =	234.09
24"RCP IN (SD 1718)=	222.80
15"RCP IN (SD 1763)=	228.35
15"RCP IN (SD 1687)=	222.28
24"RCP OUT (SD 1739)=	222.18
SD 1679	
CURB INLET TOP =	230.34
15"RCP OUT (SD 1739)=	224.81
SD 791	
CURB INLET TOP =	244.24
15"RCP OUT (SD 1738)=	238.43
SD 1738	
CURB INLET TOP =	238.86
STRUCTURE FILLED W/DEBRIS	
INVERTS INACCESSIBLE	
SD 1793	
CURB INLET TOP =	229.64
15"RCP IN (EAST)=	224.17
18"RCP IN (N.WEST)=	224.11
18"RCP OUT (SD 1739)=	224.02
SD 1739	
MANHOLE TOP =	228.75
15"RCP IN (SD 1738)=	215.46
30"RCP IN (SD 1764)=	215.30
18"RCP IN (SD 1793)=	221.16
15"RCP IN (SD 1679)=	222.74
30"RCP OUT (SD 1452)=	214.70

SD 1451	
CURB INLET TOP =	217.75
21"RCP OUT (SD 1452)=	208.18
SD 1452	
MANHOLE TOP =	217.87
18"RCP IN (EAST)=	212.52
21"RCP IN (SD 1451)=	207.60
30"RCP IN (SD 1739)=	206.21
30"RCP IN (SD 1364)=	206.48
SD 1040	
GRATE INLET TOP =	236.28
12"PVC IN (S.WEST)=	233.88
12"PVC OUT (SD 1208)=	233.67
SD 1209	
CURB INLET TOP =	235.60
12"PVC IN (S.WEST)=	230.87
15"RCP OUT (SD 1208)=	230.33
SD 1208	
CURB INLET TOP =	233.39
12"PVC IN (SD 1040)=	231.12
15"RCP IN (SD 1209)=	226.77
15"RCP OUT (SD 1267)=	226.73
SD 1267	
CURB INLET TOP =	223.18
15"RCP IN (SD 1208)=	216.41
15"RCP OUT (SD 1268)=	216.28
SD 1268	
CURB INLET TOP =	219.33
15"RCP IN (SD 1267)=	211.72
15"RCP OUT (SD 1349)=	210.90
SD 1348	
GRATE INLET TOP =	216.84
15"CMP IN (TRACK DRAIN)=	215.55
12"PVC OUT (SD 1349)=	213.86
SD 1349	
CURB INLET TOP =	216.28
12"PVC IN (SD 1348)=	212.93
15"PVC IN (SD 1268)=	206.67
18"RCP OUT (SD 1363)=	205.63

SD 1363	
CURB INLET TOP =	206.07
18"RCP IN (SD 1349)=	200.42
18"RCP OUT (SD 1364)=	199.72
SD 1364	
MANHOLE TOP =	205.54
15"RCP IN (EAST)=	197.59
18"RCP IN (SD 1363)=	198.44
30"RCP IN (SD 1452)=	196.92
33"RCP OUT (SOUTH)=	196.62

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SCALE: 1" = 30' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON
Lic. No.041851
3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONTIONS PLAN AS-BUILT DATA

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	WATER MAIN	W
	FIRE HYDRANT	
c	PLUG	c
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
X X X	FENCE	X X X
	TRAFFIC FLOW	
	LIGHT	
	DOOR	
	TREES	
260 264	CONTOURS	260 264
+264 50	SPOT ELEVATION	+264 50
	DRAINAGE FLOW DIRECTION	
TC	TOP OF CURB	TC
BC	BOTTOM OF CURB	BC
TW	TOP OF WALL	TW
BW	BOTTOM OF WALL	BW
HP	HIGH POINT	H.P.
	LIMITS OF CLEARING AND GRADING	
	PROPERTY LINE	
	PROP. SUBDIVISION LINE	
	AREA PERMITTED BY PHASE 1 SITE PLAN DSP #2014-0003 (WEST LOT)	

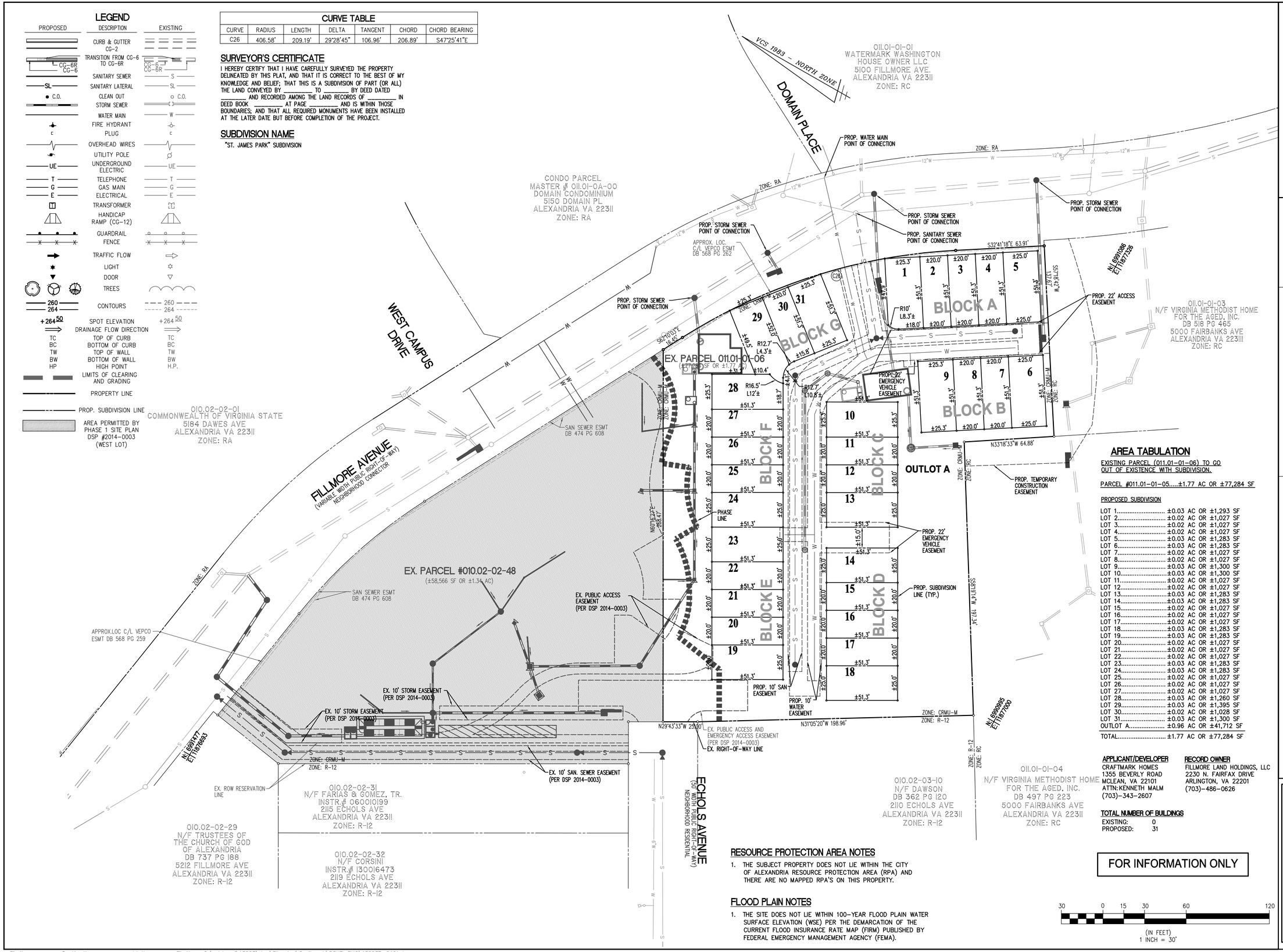
CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C26	406.58'	209.19'	29°28'45"	106.96'	206.89'	S47°25'41"E

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE CAREFULLY SURVEYED THE PROPERTY DELINEATED BY THIS PLAT, AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF; THAT THIS IS A SUBDIVISION OF PART (OR ALL) THE LAND CONVEYED BY _____ TO _____ BY DEED DATED _____ AND RECORDED AMONG THE LAND RECORDS OF _____ IN DEED BOOK _____ AT PAGE _____ AND IS WITHIN THOSE BOUNDARIES; AND THAT ALL REQUIRED MONUMENTS HAVE BEEN INSTALLED AT THE LATER DATE BUT BEFORE COMPLETION OF THE PROJECT.

SUBDIVISION NAME

"ST. JAMES PARK" SUBDIVISION



AREA TABULATION

EXISTING PARCEL (011.01-01-06) TO GO OUT OF EXISTENCE WITH SUBDIVISION.

PARCEL #011.01-01-05.....±1.77 AC OR ±77,284 SF

PROPOSED SUBDIVISION

LOT 1	±0.03 AC OR ±1,293 SF
LOT 2	±0.02 AC OR ±1,027 SF
LOT 3	±0.02 AC OR ±1,027 SF
LOT 4	±0.02 AC OR ±1,027 SF
LOT 5	±0.03 AC OR ±1,283 SF
LOT 6	±0.03 AC OR ±1,283 SF
LOT 7	±0.02 AC OR ±1,027 SF
LOT 8	±0.02 AC OR ±1,027 SF
LOT 9	±0.03 AC OR ±1,300 SF
LOT 10	±0.03 AC OR ±1,300 SF
LOT 11	±0.02 AC OR ±1,027 SF
LOT 12	±0.02 AC OR ±1,027 SF
LOT 13	±0.03 AC OR ±1,283 SF
LOT 14	±0.03 AC OR ±1,283 SF
LOT 15	±0.02 AC OR ±1,027 SF
LOT 16	±0.02 AC OR ±1,027 SF
LOT 17	±0.02 AC OR ±1,027 SF
LOT 18	±0.03 AC OR ±1,283 SF
LOT 19	±0.03 AC OR ±1,283 SF
LOT 20	±0.02 AC OR ±1,027 SF
LOT 21	±0.02 AC OR ±1,027 SF
LOT 22	±0.02 AC OR ±1,027 SF
LOT 23	±0.03 AC OR ±1,283 SF
LOT 24	±0.03 AC OR ±1,283 SF
LOT 25	±0.02 AC OR ±1,027 SF
LOT 26	±0.02 AC OR ±1,027 SF
LOT 27	±0.02 AC OR ±1,027 SF
LOT 28	±0.03 AC OR ±1,260 SF
LOT 29	±0.03 AC OR ±1,395 SF
LOT 30	±0.02 AC OR ±1,028 SF
LOT 31	±0.03 AC OR ±1,300 SF
OUTLOT A	±0.96 AC OR ±41,712 SF
TOTAL	±1.77 AC OR ±77,284 SF

APPLICANT/DEVELOPER
CRAFTMARK HOMES
1355 BEVERLY ROAD
MCLEAN, VA 22101
ATTN: KENNETH MALM
(703)-343-2607

RECORD OWNER
FILLMORE LAND HOLDINGS, LLC
2230 N. FAIRFAX DRIVE
ARLINGTON, VA 22201
(703)-486-0626

TOTAL NUMBER OF BUILDINGS
EXISTING: 0
PROPOSED: 31

FOR INFORMATION ONLY

RESOURCE PROTECTION AREA NOTES

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

FLOOD PLAIN NOTES

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

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

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COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER AARON M. VINSON Lic. No.041851 3/10/17

REVISION APPROVED BY						
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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY SUBDIVISION PLAT

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

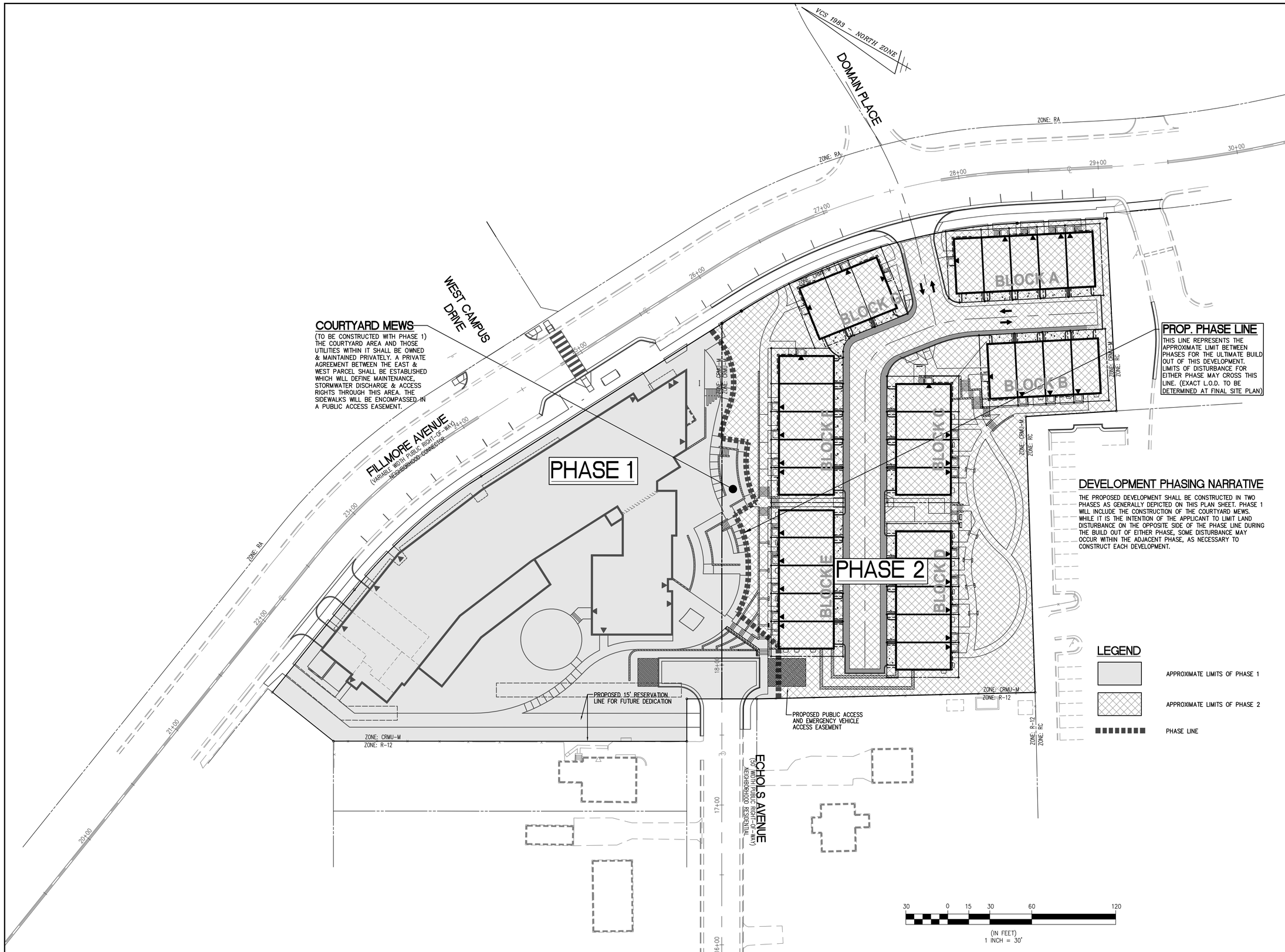
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



DEVELOPMENT PHASING NARRATIVE

THE PROPOSED DEVELOPMENT SHALL BE CONSTRUCTED IN TWO PHASES AS GENERALLY DEPICTED ON THIS PLAN SHEET. PHASE 1 WILL INCLUDE THE CONSTRUCTION OF THE COURTYARD MEWS. WHILE IT IS THE INTENTION OF THE APPLICANT TO LIMIT LAND DISTURBANCE ON THE OPPOSITE SIDE OF THE PHASE LINE DURING THE BUILD OUT OF EITHER PHASE, SOME DISTURBANCE MAY OCCUR WITHIN THE ADJACENT PHASE, AS NECESSARY TO CONSTRUCT EACH DEVELOPMENT.

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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY PHASING PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

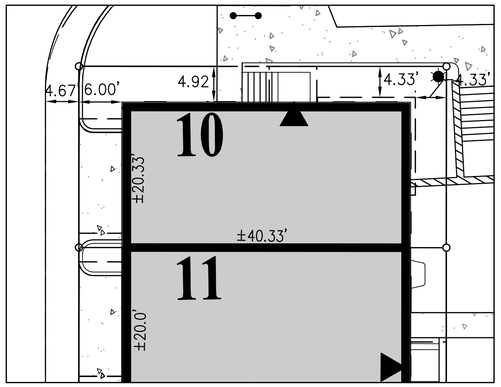
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0402.dwg

SHEET: P-0402

TYPICAL SIDE LOAD END UNIT (TYP.)

SCALE: 1" = 10'

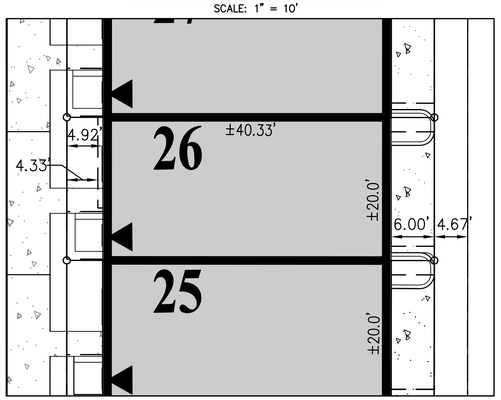


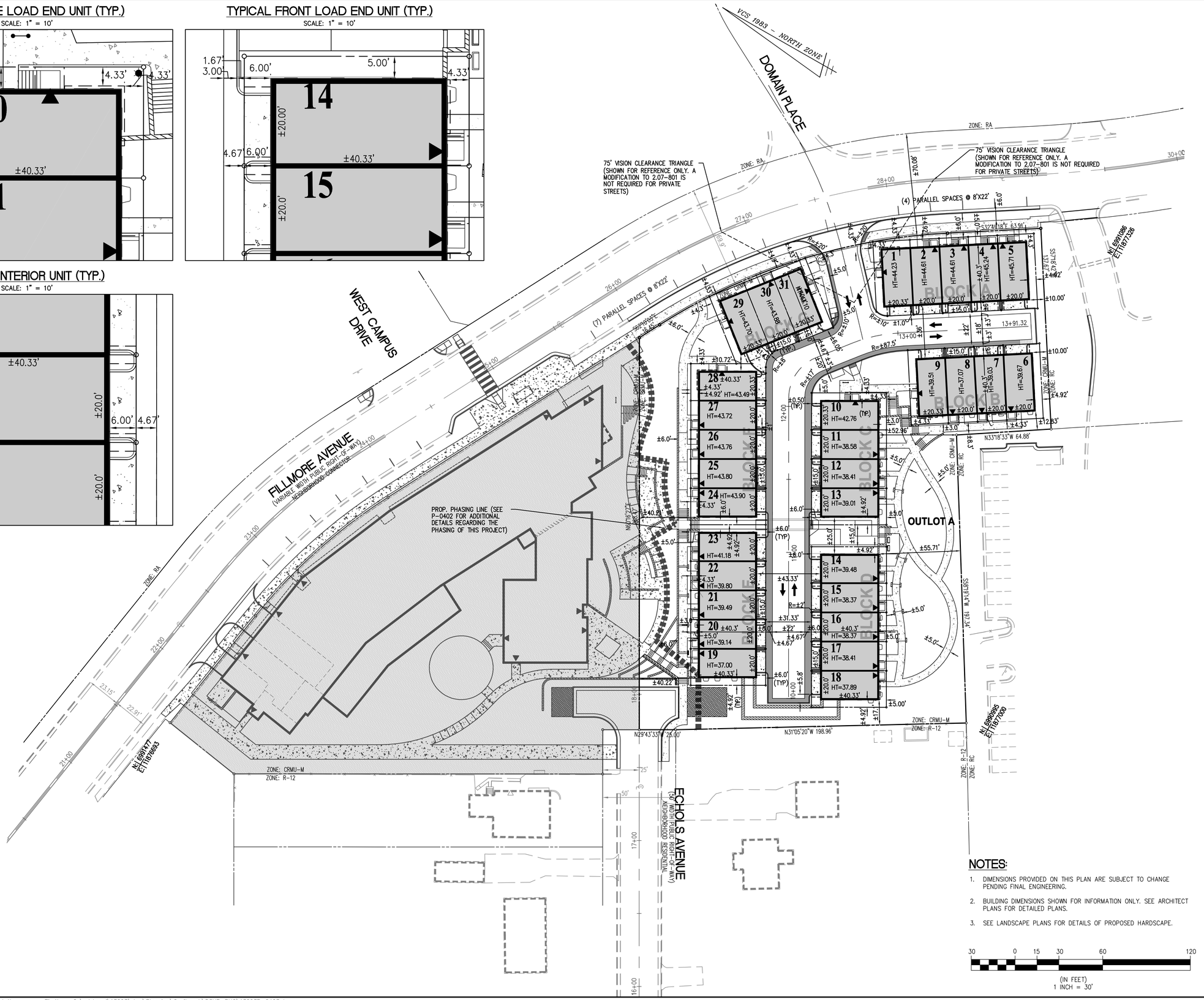
TYPICAL FRONT LOAD END UNIT (TYP.)

SCALE: 1" = 10'

TYPICAL INTERIOR UNIT (TYP.)

SCALE: 1" = 10'





NOTES:

1. DIMENSIONS PROVIDED ON THIS PLAN ARE SUBJECT TO CHANGE PENDING FINAL ENGINEERING.
2. BUILDING DIMENSIONS SHOWN FOR INFORMATION ONLY. SEE ARCHITECT PLANS FOR DETAILED PLANS.
3. SEE LANDSCAPE PLANS FOR DETAILS OF PROPOSED HARDSCAPE.

30 0 15 30 60 120

(IN FEET)
1 INCH = 30'

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COMMONWEALTH OF VIRGINIA BUSINESS CONDUCTED PROFESSIONALLY
AARON M. VINSON Lic. No.041851 3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMIMARY GEOMETRIC PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

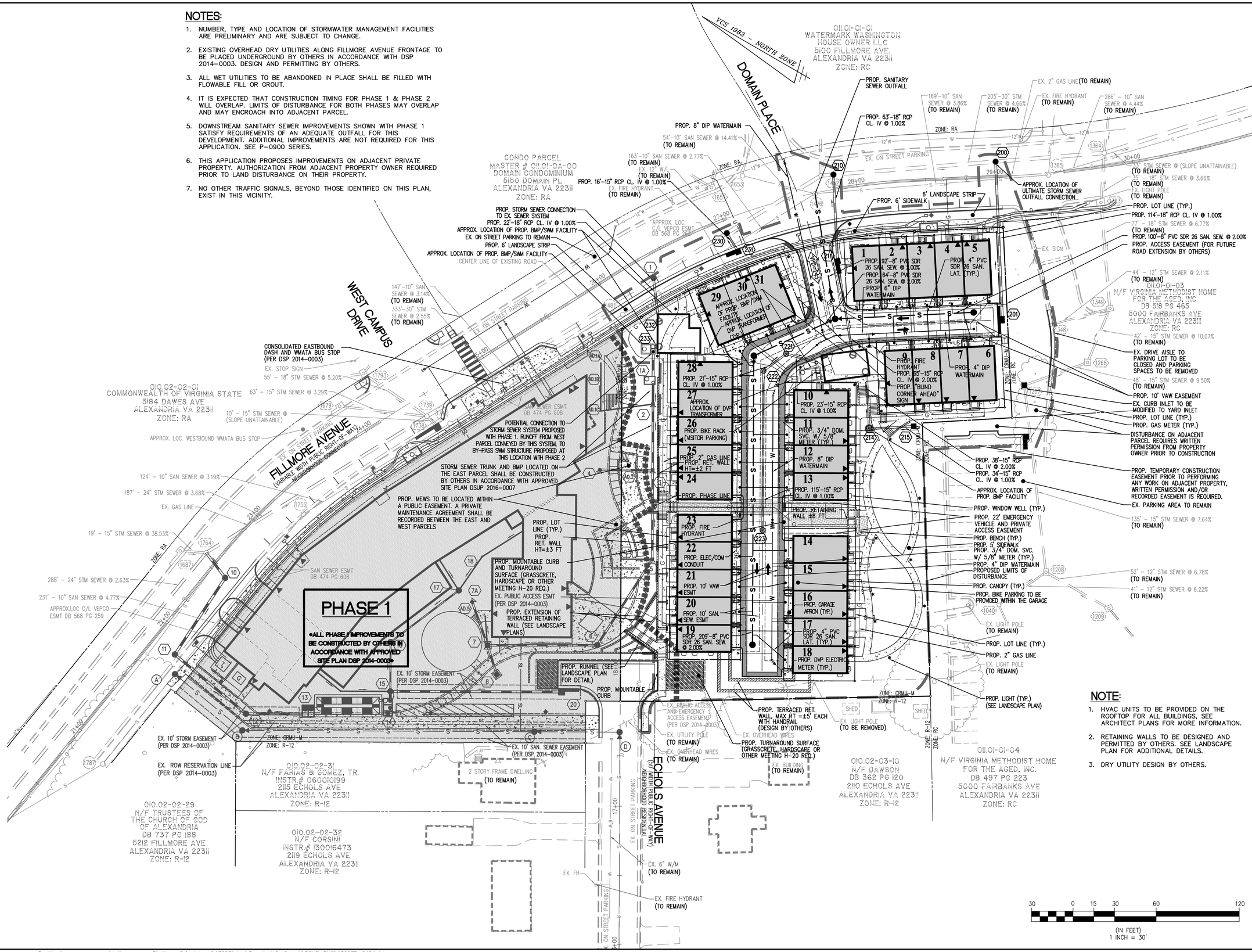
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0403.dwg

SHEET: P-0403

NOTES:

1. NUMBER, TYPE AND LOCATION OF STORMWATER MANAGEMENT FACILITIES ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.
2. EXISTING OVERHEAD DRY UTILITIES ALONG FILLMORE AVENUE FRONTAGE TO BE PLACED UNDERGROUND BY OTHERS IN ACCORDANCE WITH DSP 2014-0003. DESIGN AND PERMITTING BY OTHERS.
3. ALL WET UTILITIES TO BE ABANDONED IN PLACE SHALL BE FILLED WITH FLOWABLE FILL OR GROUT.
4. IT IS EXPECTED THAT CONSTRUCTION TIMING FOR PHASE 1 & PHASE 2 WILL OVERLAP. LIMITS OF DISTURBANCE FOR BOTH PHASES MAY OVERLAP AND MAY ENCROACH INTO ADJACENT PARCEL.
5. DOWNSTREAM SANITARY SEWER IMPROVEMENTS SHOWN WITH PHASE 1 SATISFY REQUIREMENTS OF AN ADEQUATE OUTFALL FOR THIS DEVELOPMENT. ADDITIONAL IMPROVEMENTS ARE NOT REQUIRED FOR THIS APPLICATION. SEE P-0900 SERIES.
6. THIS APPLICATION PROPOSES IMPROVEMENTS ON ADJACENT PRIVATE PROPERTY. AUTHORIZATION FROM ADJACENT PROPERTY OWNER REQUIRED PRIOR TO LAND DISTURBANCE ON THEIR PROPERTY.
7. NO OTHER TRAFFIC SIGNALS, BEYOND THOSE IDENTIFIED ON THIS PLAN, EXIST IN THIS VICINITY.



NOTE:

1. HVAC UNITS TO BE PROVIDED ON THE ROOFTOP FOR ALL BUILDINGS, SEE ARCHITECT PLANS FOR MORE INFORMATION.
2. RETAINING WALLS TO BE DESIGNED AND PERMITTED BY OTHERS. SEE LANDSCAPE PLAN FOR ADDITIONAL DETAILS.
3. DRY UTILITY DESIGN BY OTHERS.

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COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 3/10/17 — PROFESSIONAL ENGINEER

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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY LAYOUT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR — DATE

CHAIRMAN, PLANNING COMMISSION — DATE

DATE RECORDED _____

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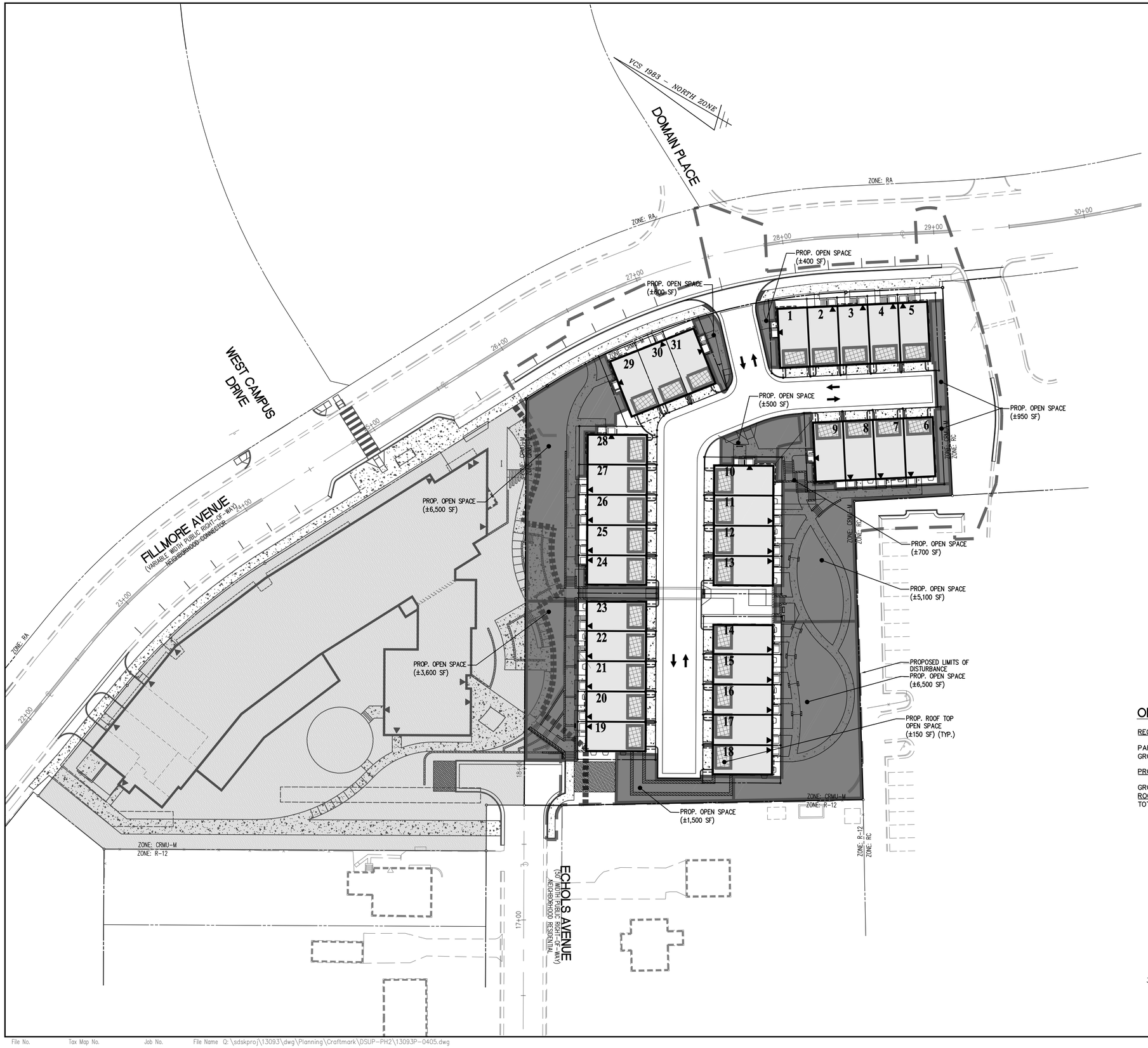

OPEN SPACE AREA TABULATIONS

REQUIRED

PARCEL AREA = ±77,284 SF (OR ±1.77 AC)
GROUND OPEN SPACE REQUIRED = ±30,914 SF OR ±0.71 AC (±40%)

PROVIDED

GROUND OPEN SPACE PROVIDED = ±26,350 SF OR ±0.60 AC (±34%)
ROOFTOP OPEN SPACE = ±4,650 SF OR ±0.11 AC (±6%)
TOTAL OPEN SPACE PROVIDED = ±31,000 SF OR ±0.71 AC (±40%)

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY OPEN SPACE PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

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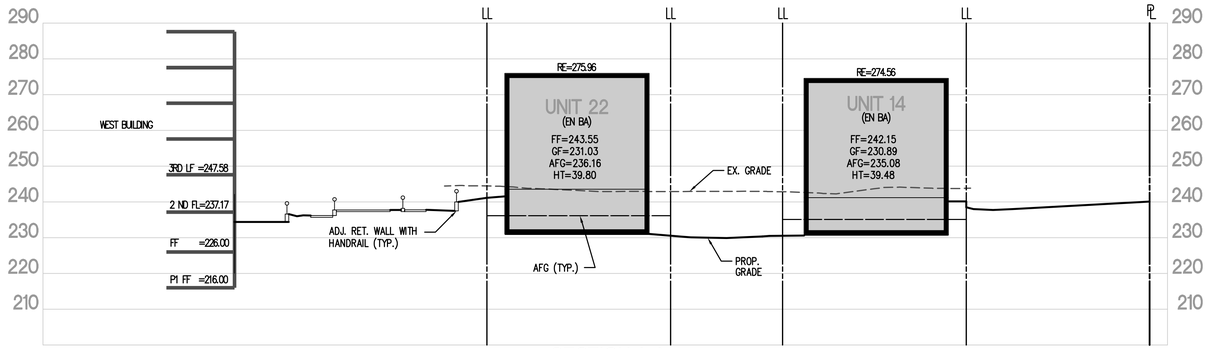
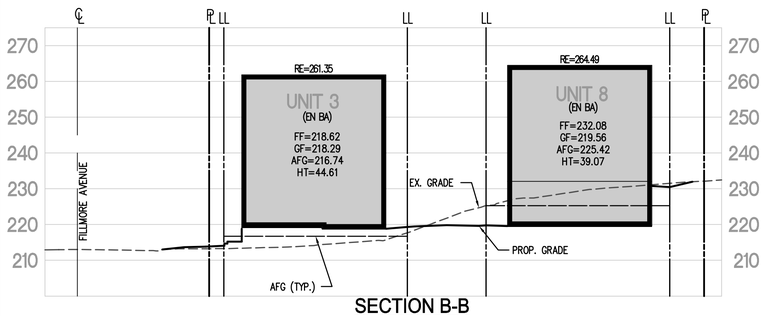
SHEET: P-0405



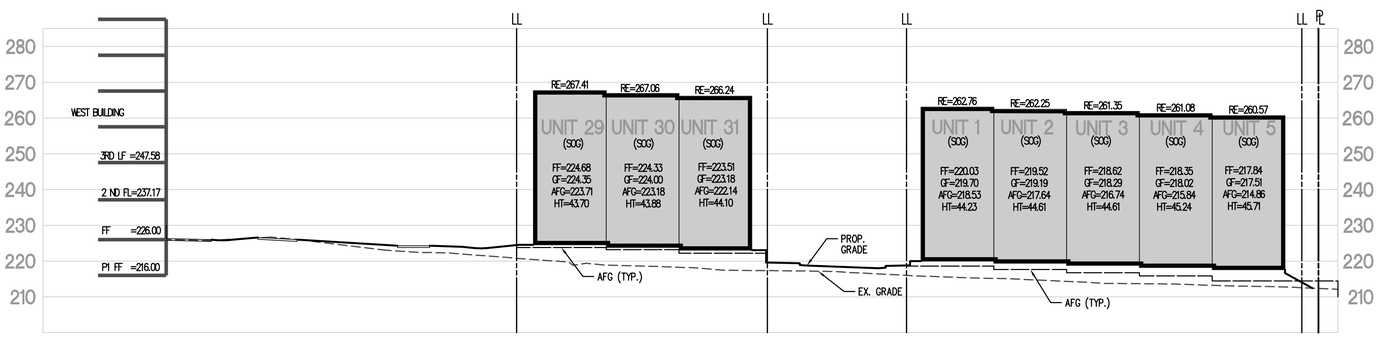
SECTION A-A

SCALE: 1" = 20'



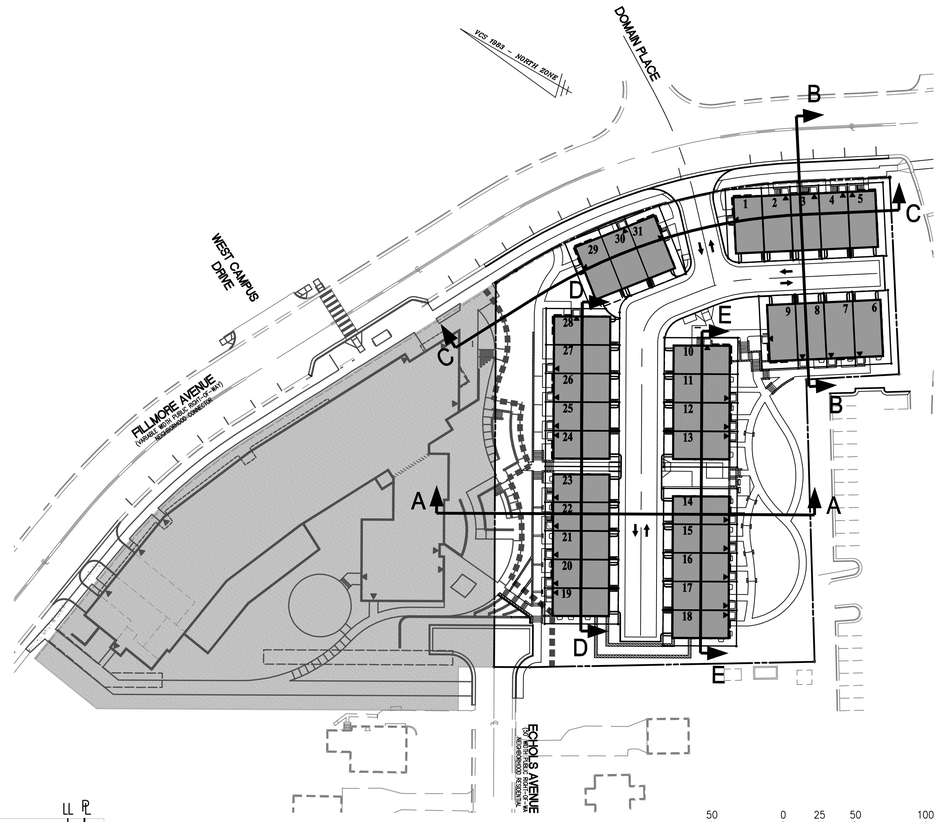
SECTION B-B

SCALE: 1" = 20'



SECTION C-C

SCALE: 1" = 20'



PLAN VIEW

SCALE: 1" = 50'

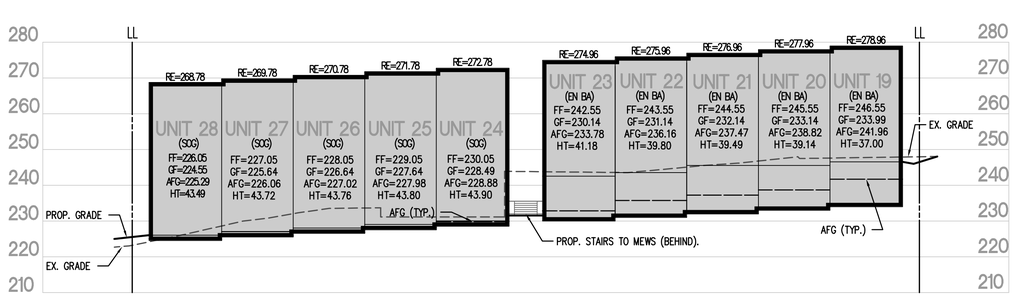
50 0 25 50 100
(IN FEET)
1 INCH = 50'

ABBREVIATIONS:

AFG = AVERAGE FINISHED GRADE
EN BA = ENGLISH BASEMENT
FF = FIRST FLOOR
GF = GARAGE FLOOR
HT = BUILDING HEIGHT
RE = ROOF ELEVATION
SOG = SLAB ON GRADE

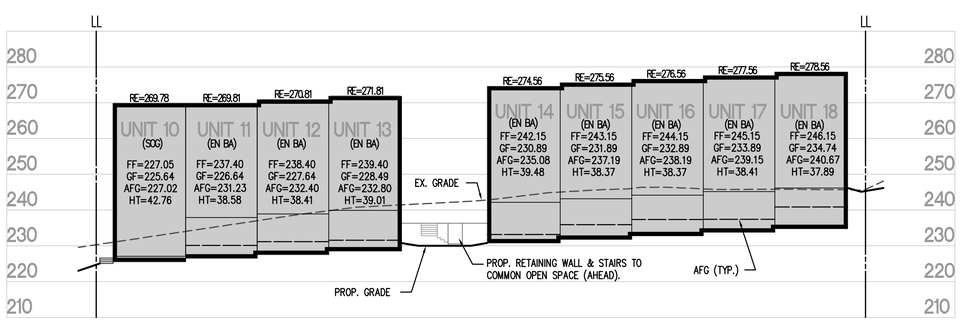
NOTE:

ROOF ELEVATION REFLECTS TOP OF PARAPET LINE. REFER TO ARCHITECT PLANS FOR DETAILED INFORMATION.



SECTION D-D

SCALE: 1" = 20'



SECTION E-E

SCALE: 1" = 20'

NOTE:

1. AFG COMPUTATIONS PROVIDED ON SHEETS P-0504 AND P-0505.

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3/10/17

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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

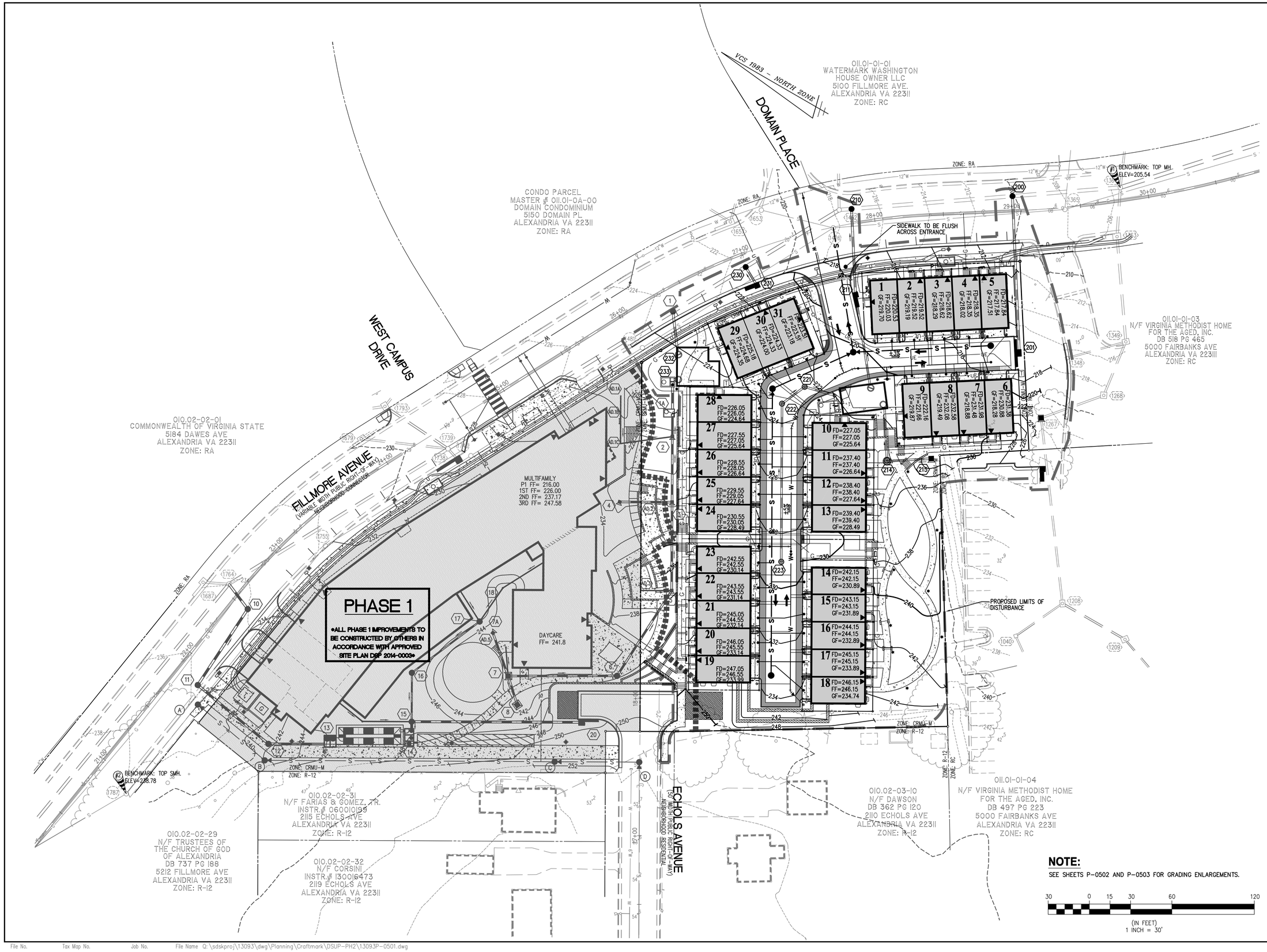
PRELIMINARY SITE SECTIONS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.



NOTE:
SEE SHEETS P-0502 AND P-0503 FOR GRADING ENLARGEMENTS.

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 30'
DATE: 3/10/2017
DRAWN: DP, DM
CHECKED: BF

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GRADING PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0501.dwg

SHEET: P-0501

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 10' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON Lic. No.041851 3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2
TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GRADING ENLARGEMENT

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0502.dwg

SHEET: P-0502

MATCH LINE - SHEET P-0502

27 FD=227.55 FF=227.05 GF=225.64
26 FD=228.55 FF=228.05 GF=226.64
25 FD=229.55 FF=229.05 GF=227.64
24 FD=230.55 FF=230.05 GF=228.49
23 FD=242.55 FF=242.55 GF=230.14
22 TYPICAL GRADING DETAIL FD=243.55 FF=243.55 GF=231.14
21 FD=245.05 FF=244.55 GF=232.14
20 FD=246.05 FF=245.55 GF=233.14
19 FD=247.05 FF=246.55 GF=233.99

10 FD=227.05 FF=227.05 GF=225.64
11 FD=237.40 FF=237.40 GF=226.64
12 FD=238.40 FF=238.40 GF=227.64
13 FD=239.40 FF=239.40 GF=228.49
14 FD=242.15 FF=242.15 GF=230.89
15 FD=243.15 FF=243.15 GF=231.89
16 FD=244.15 FF=244.15 GF=232.89
17 FD=245.15 FF=245.15 GF=233.89
18 FD=246.15 FF=246.15 GF=234.74

±5%

PROPOSED LIMITS DISTURBANCE

VCS 1983 - NORTH ZONE

ISOMETRIC VIEW (TYP.)
NOT TO SCALE
(PROVIDED FOR INFORMATION ONLY)

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COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON Lic. No.041851 3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

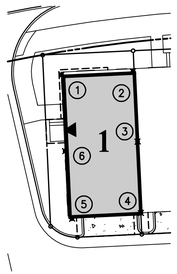
PRELIMINARY GRADING ENLARGMENT

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0502.dwg

SHEET: P-0503

LOT 1



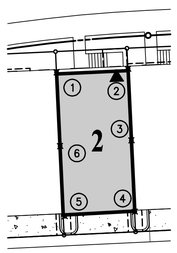
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 1

POINT	ELEVATION
1	217.53
2	216.21
3	218.16
4	219.87
5	219.82
6	219.61
AVG	218.53
FF	220.03

LOT 2



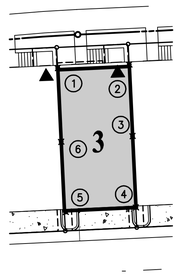
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 2

POINT	ELEVATION
1	216.21
2	214.97
3	217.24
4	219.36
5	219.87
6	218.16
AVG	217.64
FF	219.52

LOT 3



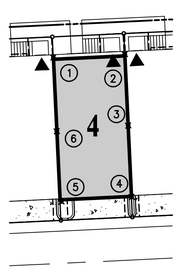
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 3

POINT	ELEVATION
1	214.97
2	213.74
3	216.32
4	218.79
5	219.36
6	217.24
AVG	216.74
FF	218.62

LOT 4



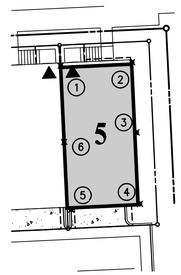
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 4

POINT	ELEVATION
1	213.74
2	212.55
3	215.43
4	218.19
5	218.79
6	216.32
AVG	215.84
FF	218.35

LOT 5



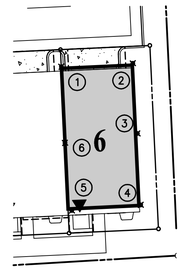
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 5

POINT	ELEVATION
1	212.55
2	212.00
3	214.01
4	216.96
5	218.19
6	215.43
AVG	214.86
FF	217.84

LOT 6



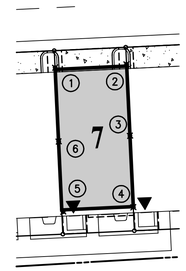
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 6

POINT	ELEVATION
1	219.05
2	218.00
3	221.81
4	228.22
5	230.05
6	224.56
AVG	223.62
FF	230.88

LOT 7



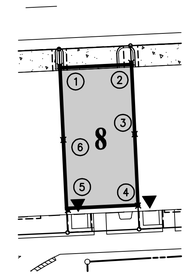
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 7

POINT	ELEVATION
1	219.66
2	219.05
3	224.56
4	230.05
5	230.65
6	225.16
AVG	224.86
FF	231.48

LOT 8



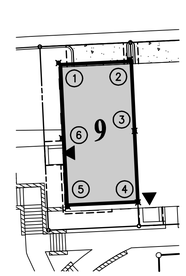
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 8

POINT	ELEVATION
1	220.04
2	219.66
3	225.16
4	230.65
5	231.25
6	225.76
AVG	225.42
FF	232.08

LOT 9



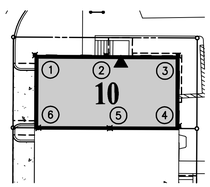
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 9

POINT	ELEVATION
1	220.49
2	220.04
3	225.76
4	231.25
5	231.25
6	220.5
AVG	224.88
FF	221.66

LOT 10



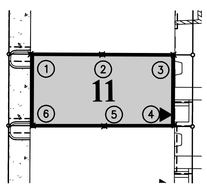
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 10

POINT	ELEVATION
1	225.1
2	222.32
3	222.4
4	234.71
5	230.76
6	226.81
AVG	227.02
FF	227.05

LOT 11



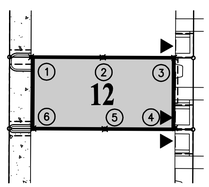
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 11

POINT	ELEVATION
1	226.81
2	230.76
3	234.71
4	235.57
5	231.69
6	227.81
AVG	231.23
FF	237.40

LOT 12



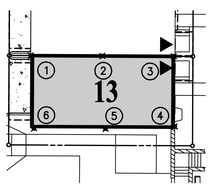
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 12

POINT	ELEVATION
1	227.81
2	231.69
3	235.57
4	237.56
5	233.11
6	228.66
AVG	232.40
FF	238.40

LOT 13



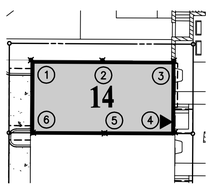
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 13

POINT	ELEVATION
1	228.66
2	233.11
3	237.56
4	238.56
5	230.04
6	228.84
AVG	232.80
FF	239.40

LOT 14



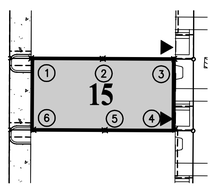
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 14

POINT	ELEVATION
1	230.86
2	231.03
3	238.50
4	241.32
5	236.69
6	232.06
AVG	235.08
FF	242.15

LOT 15



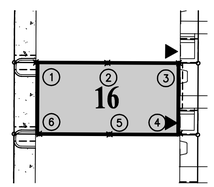
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 15

POINT	ELEVATION
1	232.06
2	236.69
3	241.32
4	242.32
5	237.69
6	233.06
AVG	237.19
FF	243.15

LOT 16



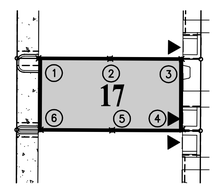
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 16

POINT	ELEVATION
1	233.06
2	237.69
3	242.32
4	243.32
5	238.69
6	234.06
AVG	238.19
FF	244.15

LOT 17



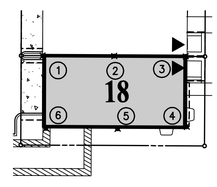
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 17

POINT	ELEVATION
1	234.06
2	238.69
3	243.32
4	244.32
5	239.62
6	234.91
AVG	239.15
FF	245.15

LOT 18

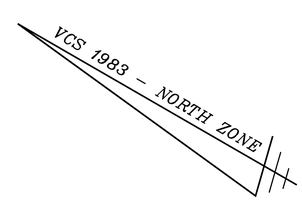


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

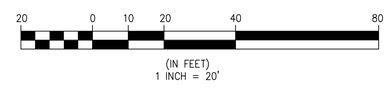
LOT 18

POINT	ELEVATION
1	234.91
2	239.62
3	244.32
4	245.00
5	245.15
6	235.00
AVG	240.67
FF	246.15



NOTE

1. AVERAGE FINISHED GRADE AND BUILDING HEIGHT AREA SUBJECT TO MINOR REVISIONS PENDING FINAL DESIGN AND DETAILED GRADING



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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20'
DATE: 3/10/2017
DRAWN: DP; DM
CHECKED: BF

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

AVERAGE FINISH GRADES

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

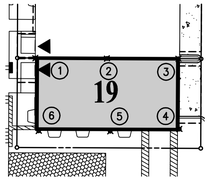
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

LOT 19



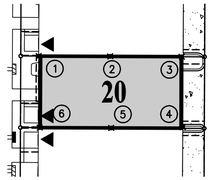
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 19

POINT	ELEVATION
1	244.72
2	239.44
3	234.16
4	235.50
5	248.38
6	249.55
AVG	241.96
FF	246.55

LOT 20



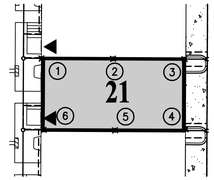
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 20

POINT	ELEVATION
1	243.10
2	238.21
3	233.31
4	234.16
5	239.44
6	244.72
AVG	238.82
FF	245.55

LOT 21



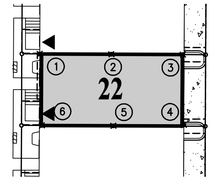
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 21

POINT	ELEVATION
1	241.22
2	236.66
3	232.31
4	233.31
5	238.21
6	243.10
AVG	237.47
FF	244.55

LOT 22



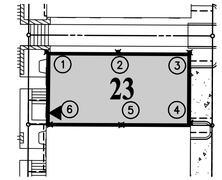
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 22

POINT	ELEVATION
1	239.88
2	235.60
3	231.31
4	232.31
5	236.66
6	241.22
AVG	236.16
FF	243.55

LOT 23



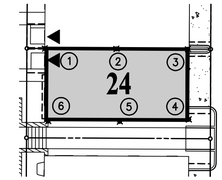
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 23

POINT	ELEVATION
1	236.20
2	229.97
3	229.71
4	231.31
5	235.60
6	239.88
AVG	233.78
FF	242.55

LOT 24



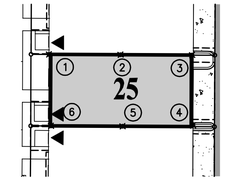
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 24

POINT	ELEVATION
1	228.22
2	228.44
3	228.60
4	228.89
5	229.89
6	229.22
AVG	228.88
FF	230.05

LOT 25



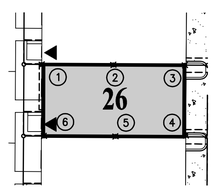
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 25

POINT	ELEVATION
1	227.22
2	227.52
3	227.81
4	228.66
5	228.44
6	228.22
AVG	227.98
FF	229.05

LOT 26



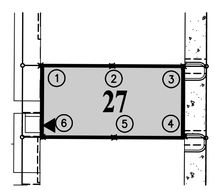
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 26

POINT	ELEVATION
1	226.22
2	226.52
3	226.81
4	227.81
5	227.52
6	227.22
AVG	227.02
FF	228.05

LOT 27



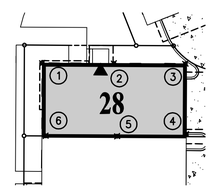
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 27

POINT	ELEVATION
1	225.39
2	225.60
3	225.81
4	226.81
5	226.52
6	226.22
AVG	226.06
FF	227.05

LOT 28



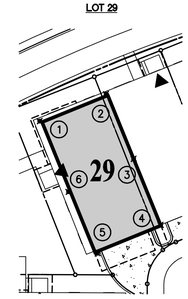
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 28

POINT	ELEVATION
1	225.21
2	224.95
3	224.78
4	225.81
5	225.60
6	225.39
AVG	225.29
FF	226.05

LOT 29



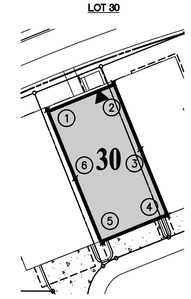
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 29

POINT	ELEVATION
1	223.02
2	222.36
3	223.51
4	224.52
5	224.66
6	224.17
AVG	223.71
FF	224.68

LOT 30



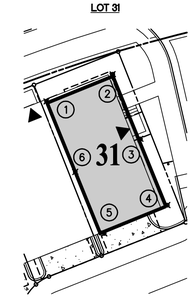
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 30

POINT	ELEVATION
1	222.36
2	221.52
3	222.97
4	224.17
5	224.52
6	223.51
AVG	223.18
FF	224.33

LOT 31

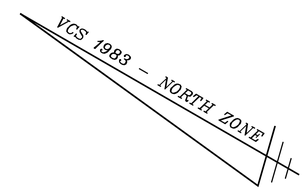


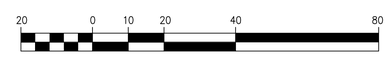
AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT 31

POINT	ELEVATION
1	221.52
2	220.43
3	220.67
4	223.08
5	224.17
6	222.97
AVG	222.14
FF	223.51





(IN FEET)
1 INCH = 20'

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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
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

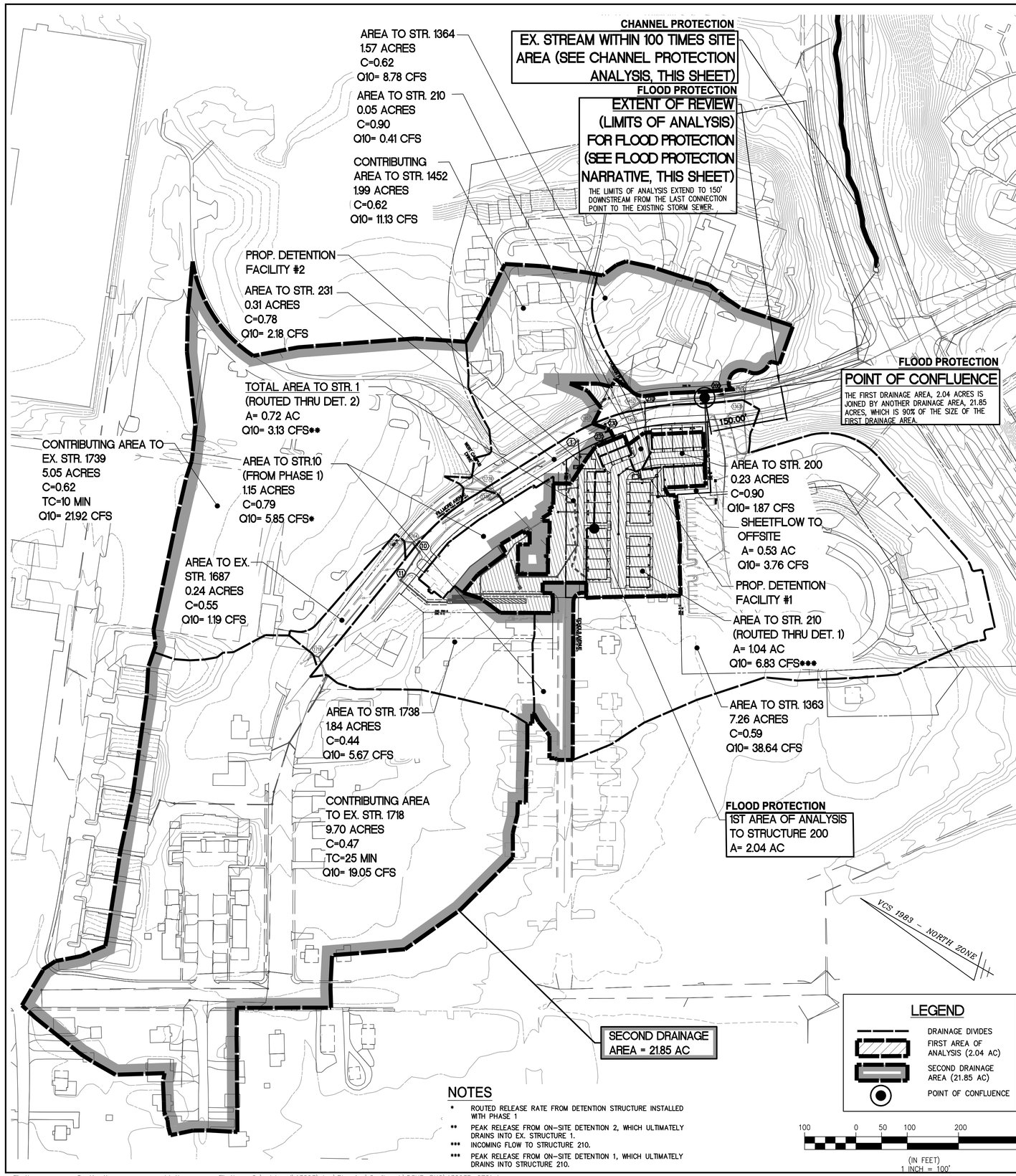
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

AVERAGE FINISH GRADES



NOTES

- * ROUTED RELEASE RATE FROM DETENTION STRUCTURE INSTALLED WITH PHASE 1
- ** PEAK RELEASE FROM ON-SITE DETENTION 2, WHICH ULTIMATELY DRAINS INTO EX. STRUCTURE 1.
- *** INCOMING FLOW TO STRUCTURE 210.
- *** PEAK RELEASE FROM ON-SITE DETENTION 1, WHICH ULTIMATELY DRAINS INTO STRUCTURE 210.

STORM SEWER OUTFALL ANALYSIS

EXISTING CONDITIONS

THE SITE IS LOCATED WITHIN THE FOUR MILE RUN WATERSHED. RUNOFF FROM THE SITE CURRENTLY SHEET FLOWS EAST TOWARDS FILLMORE AVENUE AND EVENTUALLY FLOWS SOUTH VIA STORM SEWER SYSTEM WHICH IS LOCATED WITHIN FILLMORE AVENUE. THERE IS ALSO A SMALL PORTION OF THE EXISTING SITE WHICH SHEET FLOWS OFFSITE TO THE SOUTH.

THERE IS AN EXISTING SEWER SYSTEM WHICH WAS CONSTRUCTED AS PART OF THE PHASE 1 DEVELOPMENT WHICH RUNS ALONG MEWS LOCATED AT THE WEST END OF THE DEVELOPMENT WHICH COLLECTS OFFSITE WATER FROM THE PHASE 1 DEVELOPMENT. THE EXISTING SYSTEM IS TO REMAIN IN PLACE; THEREFORE, ANY INFRASTRUCTURE PROPOSED DOWNSTREAM OF THE EXISTING SYSTEM AS PART OF THIS DEVELOPMENT WILL BE SIZED ACCORDINGLY TO ACCOUNT FOR THE ADDITIONAL OFFSITE FLOWS.

PROPOSED CONDITIONS

THIS DEVELOPMENT PROPOSES TO COLLECT ONSITE RUNOFF WHICH OUTFALLS INTO THE EXISTING SEWER SYSTEM WITHIN FILLMORE AVENUE AS SHOWN ON SHEET P-0404. THE PORTION OF THE PHASE 1 DEVELOPMENT (0.50 AC) THAT IS CURRENTLY ROUTED THROUGH THE SITE (PHASE 2) VIA PIPE SYSTEM WILL FLOW THROUGH THE PROPOSED STORMWATER FACILITY #2 AND CONTINUE TO DRAIN THROUGH THE SITE AND OUTFALL WITHIN THE EXISTING SEWER LINE LOCATED AT FILLMORE AVENUE VIA STRUCTURE 1. THIS ADDITIONAL OFFSITE AREA HAS BEEN ACCOUNTED FOR WHEN MODELING THE POST-DEVELOPMENT RUNOFF DRAINING INTO THE PROPOSED DETENTION FACILITY LOCATED WITHIN THE MEWS. A TOTAL OF 0.72 AC WILL BE ROUTED THROUGH THE PROPOSED DETENTION FACILITY #2, WHERE ONLY 0.22 ACRES ARE WILL RESULT FROM ON-SITE RUNOFF.

THIS PLAN DEMONSTRATES THE AVAILABILITY OF AN ADEQUATE STORM SEWER OUTFALL IN COMPLIANCE WITH THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (DCR) EROSION AND SEDIMENT CONTROL (ESC) REGULATIONS (4VAC50-30-40.19) MINIMUM STANDARD 19(MS-19) AND ARTICLE XI SECTION 11-410 (N) OF ALEXANDRIA ZONING ORDINANCE (A20).

STORM SEWER COMPUTATIONS PROVIDED BELOW SHOW THAT THE EXISTING SYSTEM WITHIN THE LIMITS OF ANALYSIS HAS SUFFICIENT CAPACITY TO CONVEY THE PROPOSED DEVELOPMENT PEAK RELEASE; THEREFORE AN ADEQUATE STORM SEWER OUTFALL IS ASSUMED TO BE AVAILABLE.

10 YR STORM SEWER COMPUTATIONS (FLOOD PROTECTION)

FROM POINT	TO POINT	AREA "A" ACRES	AREA ACCUM-ULATED	RUN-OFF COEF. C	CA INCRE-MENT	CA ACCUM-ULATED	INLET TIME MIN	RAIN FALL INHR	RUNOFF Q INCRE-MENT C.F.S.	RUNOFF Q ACCUM-ULATED C.F.S.	INVERT ELEV'S UPPER END	INVERT ELEV'S LOWER END	LENGTH FT.	SLOPE FT./FT.	MANNING'S 'n'	DIA. IN.	CAPA-CITY C.F.S.	VEL. F.P.S.	FLOW TIME SEC.	NORMAL DEPTH IN.
EX. 10	EX. 1764	0.00		0.00	0.00	0.34	5.00	9.00	0.00	5.53*	226.25	225.79	23	0.0200	0.015	18	12.83	7.02	3.28	8.23
EX.1718	EX.1764	9.70		0.46	4.46	4.80	25.00	4.27	19.05	19.05	230.38	222.80	288	0.0263	0.015	24	31.72	10.60	27.17	13.36
EX.1687	EX. 1764	0.24		0.55	0.13	0.47	5.00	9.00	1.19	1.19	229.60	222.28	19	0.3853	0.015	15	34.59	13.20	1.44	1.90
EX. 1764	EX. 1739	0.00		0.00	0.00	0.00	5.00	9.00	0.00	25.77	222.18	215.30	180	0.0382	0.015	30	69.35	13.13	13.71	12.63
EX. 1679	EX. 1739	5.05		0.62	3.13	3.13	10.00	7.00	21.92	21.92	PROVIDED FOR DRAINAGE INFORMATION ONLY									
EX.1738	EX. 1739	1.84		0.44	0.81	1.28	10.00	7.00	5.67	5.67	PROVIDED FOR DRAINAGE INFORMATION ONLY									
EX. 1739	EX. 1	0.00		0.00	0.00	0.00	5.00	9.00	0.00	53.35	214.70	208.82	192	0.0306	0.015	30	62.08	14.28	13.45	21.35
232	EX. 1	0.00		0.00	0.00	0.31	5.00	9.00	0.00	3.13**	210.24	209.92	32	0.0100	0.015	18	9.07	4.68	6.83	7.27
EX. 1	230	0.00		0.00	0.00	0.31	5.00	9.00	0.00	56.48	209.82	208.25	62	0.0254	0.015	30	56.53	13.19	4.70	24.44
230	EX.1452	0.31		0.78	0.24	0.55	5.00	9.02	2.18	58.67	208.15	206.21	80	0.0242	0.013	30	63.66	14.78	5.41	22.61
EX.1452	210	1.99		0.62	1.23	1.78	5.00	9.02	11.13	69.79	206.48	206.11	8	0.0466	0.013	30	88.38	20.03	0.40	20.04
210	200	0.05		0.90	0.05	1.32	5.00	9.02	0.41	77.03***	206.01	200.51	118	0.0466	0.013	30	88.34	20.36	5.79	21.60
200	EX.1364	0.23		0.90	0.21	1.53	5.00	9.02	1.87	78.90	200.41	196.92	79	0.0442	0.013	30	86.03	19.96	3.96	22.52
EX.1364	EX. 4142	7.26		0.47	3.41	4.94	5.00	9.02	30.78	109.68	196.62	186.54	231	0.0436	0.013	33	110.27	21.26	10.86	26.76

NOTES

- * INCOMING FLOW FROM STRUCTURE 10, OBTAINED FROM ROUTED RELEASE FROM PHASE 1 DETENTION FACILITY.
- ** INCOMING FLOW FROM STRUCTURE 1, SEE ROUTED RELEASE RATE FOR PROP. DETENTION FACILITY 2 LOCATED WITHIN MEWS. OFFSITE RUNOFF FROM PHASE 1 PARCEL IS TO BY-PASS PROP. DETENTION STRUCTURE 2 (TOTAL AREA TO EX. STR. 1 = ONSITE = 0.22 AC, OFFSITE = 0.50 AC.)
- *** INCOMING FLOW TO STR. 210, INCLUDES RELEASE FROM DETENTION STRUCTURE 1 AND SURFACE RUNOFF TO STR. 210. SEE ROUTED RELEASE RATE FOR PROP. DETENTION FACILITY 1.

STORMWATER MANAGMENT PLAN

THE OUTFALL ANALYSIS LOCATES THE MAIN DRAINAGE DIVIDE AREAS ALONG WITH THE STRUCTURES TO WHICH EACH OF THE MAIN SUBAREA DRAINS. THERE IS A STORM INLET AVAILABLE WITHIN 100' OF THE DEVELOPMENT SITE; THEREFORE, ALL PROPOSED ROOFS, SURFACE AND SUBSURFACE DRAINAGE ARE CONNECTED TO THE EXISTING RECEIVING STORM SEWER VIA A CONTINUOUS UNDERGROUND PIPE SYSTEM WHICH SATISFIES REQUIREMENTS OF THE CITY OF ALEXANDRIA, CODE SECTION 8-1.22. THE COMPUTATIONS PROVIDED ON SHEETS P-0702 DEMONSTRATE THAT THE SITE HAS BEEN DEVELOPED TO INCREASE IMPERVIOUS AREAS AND THEREFORE, THE POST-DEVELOPMENT PEAK RUNOFF RATE FOR THE 1YR-YEAR, THE 2-YEAR AND THE 10-YEAR STORM, EACH MODELED AND CONSIDERED INDIVIDUALLY. PER REQUIREMENTS OF ARTICLE 13-109 OF ALEXANDRIA ZONING ORDINANCE, STORMWATER DETENTION IS PROPOSED ON SITE WITH THIS DEVELOPMENT, IN ORDER TO KEEP THE RUNOFF RELEASE RESULTING FROM THE SITE AT LOWER RATES THAN THE ALLOWED PER PARAMETERS DESCRIBED IN SECTION 13-109(F)(1) AND (2) FOR CHANNEL AND FLOOD PROTECTION.

AN ADEQUATE OUTFALL ANALYSIS IS PROVIDED IN THIS SHEET TO DEMONSTRATE THAT THE STORMWATER IS DISCHARGED INTO AN ADEQUATE OUTFALL PER REQUIREMENTS OF ARTICLE 13.

CHANNEL PROTECTION ANALYSIS

BASED ON SITE'S CONTRIBUTING AREA (1.77 ACRES), THE LIMITS OF ANALYSIS FOR CHANNEL PROTECTION SHALL EXTEND TO A POINT IN WHICH THE WATERSHED IS 100 TIMES THE SITE'S CONTRIBUTING AREA (177 ACRES). AS SHOWN IN THE OUTFALL ANALYSIS MAP THERE IS A NATURAL STREAM PRESENT WITHIN THE LIMITS OF ANALYSIS. THEREFORE, THE DESIGN PARAMETERS OF SECTION 13-107(F)(1)(C) FOR NATURAL STORMWATER CONVEYANCE SYSTEM HAVE BEEN UTILIZED IN ORDER TO COMPLY WITH THE CHANNEL PROTECTION REQUIREMENTS.

THE ALLOWABLE PEAK RELEASE FOR THE 1-YR, 24-HR STORM FOR THE SITE UNDER POST-DEVELOPMENT CONDITIONS HAS BEEN CALCULATED WITH THE FOLLOWING METHODOLOGY:

$$Q1\ POST \leq \frac{0.8\ (Q1\ PRE \times V1\ PRE)}{V1\ POST}$$

BASED ON THE COMPUTATIONS PROVIDED ON SHEET P-0702, THE DESIGN CRITERIA FOR A NATURAL STORMWATER CONVEYANCE SYSTEM HAS BEEN SATISFIED, THEREFORE, THE OUTFALL IS DETERMINED TO BE ADEQUATE IN ACCORDANCE WITH THE CHANNEL PROTECTION PARAMETERS.

FLOOD PROTECTION ANALYSIS

THE RECEIVING CONVEYANCE SYSTEM DOES NOT EXPERIENCE LOCALIZED FLOODING WITHIN THE LIMITS OF ANALYSIS AS SHOWN IN THE COMPUTATIONS ON THIS SHEET. AS SHOWN IN THE OUTFALL ANALYSIS MAP, THE OUTFALL PIPE RECEIVING DISCHARGES FROM THE SITE JOINS A DRAINAGE AREA THAT IS AT LEAST 90% IN SIZE OF THE FIRST CONTRIBUTING AREA.

THERE ARE THREE PROPOSED CONNECTIONS TO THE EXISTING SEWER LINE WITHIN FILLMORE AVENUE VIA STRUCTURES 1, 210 AND STRUCTURE 200. EACH CONNECTION SATISFIES THE CONDITIONS OF A CONFLUENCE POINT AS IN EACH CASE, THE FIRST AREA IS JOINED BY ANOTHER AREA (SECOND AREA) WHICH IS AT LEAST 90% OF THE SIZE OF THE FIRST DRAINAGE AREA. FOR THE PURPOSES OF THIS ANALYSIS, THE POINT OF CONFLUENCE HAS BEEN IDENTIFIED AT THE LAST CONNECTION POINT OR STRUCTURE 200, WHERE THE FIRST AREA (2.04 ACRES) IS JOINED BY A SECOND AREA OF 21.85 ACRES. THE EXISTING SEWER SYSTEM HAS BEEN ANALYZED TO A POINT THAT IS 150' DOWNSTREAM FROM THE LAST CONNECTION POINT. BASED ON PRELIMINARY ANALYSIS AND THE COMPUTATIONS PROVIDED ABOVE, THE EXISTING STORM SEWER SYSTEM WITHIN THE LIMITS OF ANALYSIS CONVEYS THE POST-DEVELOPMENT PEAK FLOW OF THE 10-YR, 24 HR STORM FROM THE SITE.

SHEET FLOW

PORTIONS OF THE DEVELOPED SITE SHALL CONTINUE TO SHEET FLOW OFFSITE IN THE POST DEVELOPMENT CONDITION. THE POST DEVELOPMENT PEAK RUNOFF AND TOTAL VOLUME LEAVING THE SITE VIA SHEET FLOW IS BELOW PRE-DEVELOPMENT. THEREFORE, IN ACCORDANCE WITH Z.O 13-109F(3), NO FURTHER ANALYSIS IS REQUIRED.

DESIGN RAINFALL DEPTHS

2-YR STORM	I = 3.2 INCHES
10-YR STORM	I = 5.2 INCHES
100-YR STORM	I = 8.2 INCHES

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AARON M. VINSON
Lic. No.041851
3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2
TOWNHOUSE DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STORMWATER MANAGMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____
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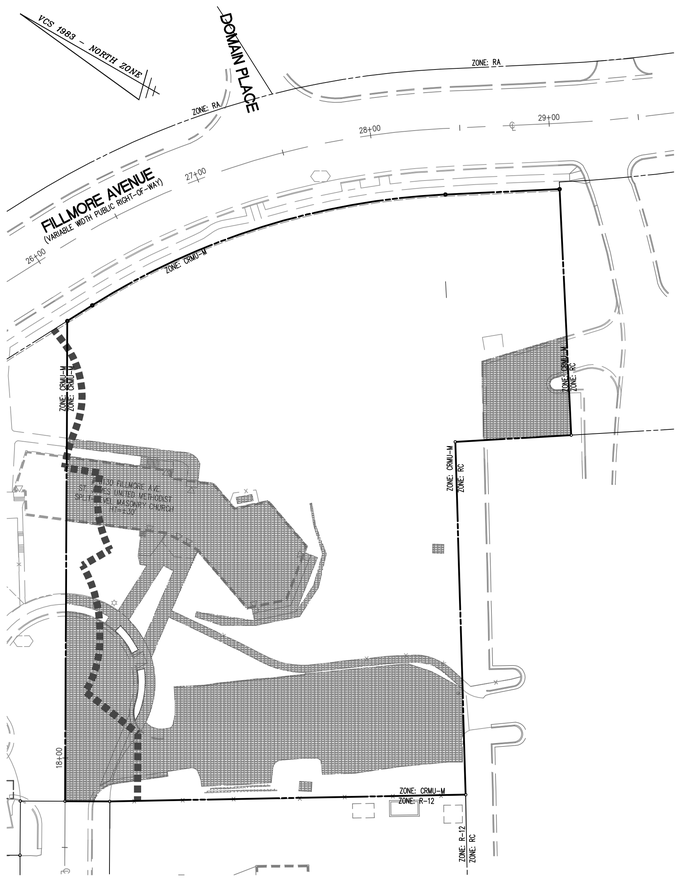
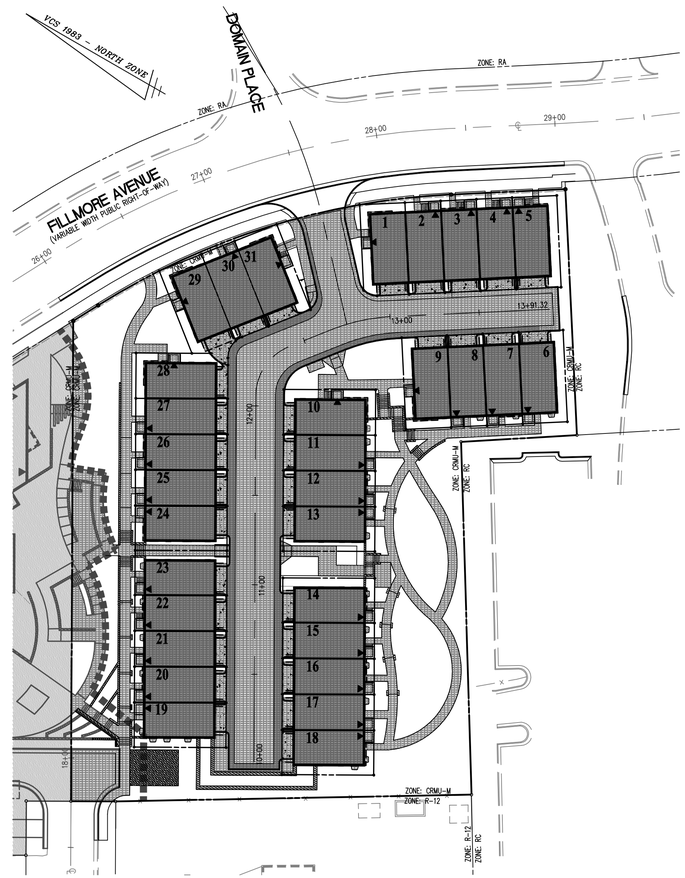


PRE-DEVELOPMENT- IMPERVIOUS AREA MAP

IMPERVIOUS AREA (0.55 ACRES)



POST-DEVELOPMENT- IMPERVIOUS AREA MAP

IMPERVIOUS AREA (1.24 ACRES)

40 0 20 40 80 160

(IN FEET)
1 INCH = 40'

STORMWATER MANAGEMENT COMPUTATIONS

OUTFALL 1

I. PRE-DEVELOPMENT CONDITION (OVERALL)

SITE AREA = 1.77 AC

A. CONTRIBUTING AREAS:	HSG D AC	HSG D CN
PERVIOUS	1.22	80
IMPERVIOUS	0.55	98

B. WEIGHTED CN = 83

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
- Q1 = 4.20 CFS (V1 = 8,485 CF)
- Q2 = 5.44 CFS
- Q10 = 10.53 CFS
- Q100 = 18.16 CFS

II. POST-DEVELOPMENT CONDITION (OVERALL)

SITE AREA = 1.77 AC

A. CONTRIBUTING AREAS:	HSG D AC	HSG D CN
PERVIOUS	0.53	80
IMPERVIOUS	1.24	98

B. WEIGHTED CN = 93

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
- Q1 = 5.62 CFS (V1 = 11,856 CF)
- Q2 = 6.90 CFS
- Q10 = 11.93 CFS
- Q100 = 19.36 CFS

POST DEVELOPMENT CONDITIONS – AREA BREAKDOWN

III. UNDETAINED RUNOFF

UNDETAINED AREA = 0.53 AC

A. CONTRIBUTING AREAS:	HSG D AC	HSG D CN
PERVIOUS	0.30	80
IMPERVIOUS	0.23	98

B. WEIGHTED CN = 90

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
- Q1 = 1.50 CFS (V1 = 3,085 CF)
- Q2 = 1.88 CFS
- Q10 = 3.41 CFS
- Q100 = 5.67 CFS

IV. RUNOFF TO DETENTION 1

DETAINED AREA = 1.04 AC

A. CONTRIBUTING AREAS:	HSG D AC	HSG D CN
PERVIOUS	0.26	80
IMPERVIOUS	0.78	98

B. WEIGHTED CN = 94

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
- Q1 = 3.42 CFS (V1 = 7,294 CF)
- Q2 = 4.16 CFS
- Q10 = 7.10 CFS
- Q100 = 11.45 CFS

V. RUNOFF TO DETENTION 2 FROM OFFSITE

DETAINED AREA = 0.50 AC

A. CONTRIBUTING AREAS:	HSG D AC	HSG D CN
PERVIOUS	0.38	80
IMPERVIOUS	0.12	98

B. WEIGHTED CN = 84

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
- Q1 = 1.07 CFS (V1 = 2,167 CF)
- Q2 = 1.42 CFS
- Q10 = 2.84 CFS
- Q100 = 5.00 CFS

VI. RUNOFF TO DETENTION 2 FROM SITE

DETAINED AREA = 0.22 AC

A. CONTRIBUTING AREAS:	HSG D AC	HSG D CN
PERVIOUS	0.06	80
IMPERVIOUS	0.16	98

B. WEIGHTED CN = 94

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
- Q1 = 0.72 CFS (V1 = 1,543 CF)
- Q2 = 0.88 CFS
- Q10 = 1.50 CFS
- Q100 = 2.42 CFS

VII. STORMWATER MANAGEMENT REQUIREMENT – ALLOWABLE RELEASE FROM DEVELOPMENT

A. $Q1 = \frac{0.8\ (4.20\ CFS \times 8{,}485\ CF)}{11{,}856\ CF} = 2.41\ CFS$

B. Q10 = 10.53 CFS

C. Q100 = 18.16 CFS

CHANNEL PROTECTION REQUIREMENT
– ENERGY BALANCE EQUATION PER SECTION 109(F)(1)(c)(i) (NATURAL CHANNEL WITHIN 100x SITE AREA)

FLOOD PROTECTION
– PREDEVELOPMENT SITE RELEASE FOR 10YR, 24 HR STORM

FOUR MILE RUN WATERSHED
– PREDEVELOPMENT SITE RELEASE FOR 100YR, 24 HR STORM

VIII. ALLOWABLE RELEASE ADJUSTED TO INCLUDE OFFSITE AREA FLOWING THROUGH THE SITE

INCLUDES PEAK RELEASE FROM OFFSITE AREAS FROM THE WEST PARCEL WHICH FLOWS THROUGH THE DETENTION STRUCTURE #2. (SEE SECTION V ABOVE)

Q(ALLOW) = Q(OFFSITE) + Q(COMPUTED ALLOWABLE PER SECTION VII ABOVE)

- Q1 = 1.07 CFS + 2.41 CFS = 3.48 CFS
- Q2 = 1.42 CFS + 5.44 CFS = 6.86 CFS
- Q10 = 2.84 CFS + 10.53 CFS = 13.37 CFS
- Q100 = 5.00 CFS + 18.16 CFS = 23.16 CFS

IX. STORMWATER RELEASES FROM DETENTION

RELEASES FROM DETENTION STRUCTURE 1
- Q1 = 1.79 CFS
- Q2 = 3.59 CFS
- Q10 = 6.83 CFS
- Q100 = 11.13 CFS

RELEASES FROM DETENTION STRUCTURE 2 (INCLUDING OFFSITE RUNOFF FROM THE WEST PARCEL)
- Q1 = 0.19 CFS
- Q2 = 1.18 CFS
- Q10 = 3.13 CFS
- Q100 = 6.36 CFS

X. COMPLIANCE

DEMONSTRATE THAT RELEASES FROM THE SITE (INCLUDES RELEASES FROM DETENTION AND UNDETAINED RUNOFF FROM THE SITE) DO NOT EXCEED STORMWATER REQUIREMENT OF SECTION VIII.

	FROM DETENTION 1		FROM DETENTION 2		UNDETAINED		TOTAL FROM SITE		ALLOWABLE (ADJ.)*
Q1	= 1.79 CFS	+	0.19 CFS	+	1.50 CFS	=	3.48 CFS	≤	3.48 CFS
Q2	= 3.59 CFS	+	1.18 CFS	+	1.88 CFS	=	6.65 CFS	≤	6.86 CFS
Q10	= 6.83 CFS	+	3.13 CFS	+	3.41 CFS	=	13.37 CFS	≤	13.37 CFS
Q100	= 11.13 CFS	+	6.36 CFS	+	5.67 CFS	=	23.16 CFS	≤	23.16 CFS

* SEE SECTION VIII FOR COMPUTATION OF "ADJUSTED" ALLOWABLE RELEASE FROM THE SITE.

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SCALE: 1" = 40' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER
AARON M. VINSON
Lic. No.041851
3/10/17

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

STORMWATER MANAGEMENT COMPUTATIONS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

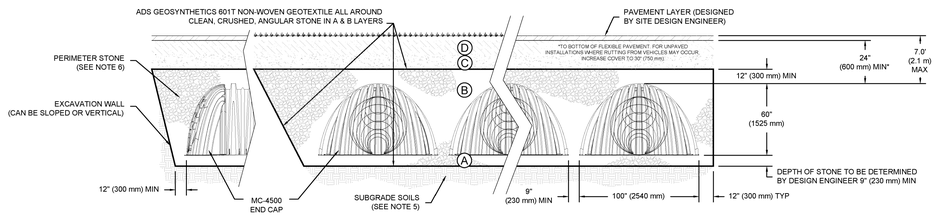
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

STORMTECH FACILITY 1 DETAILS

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

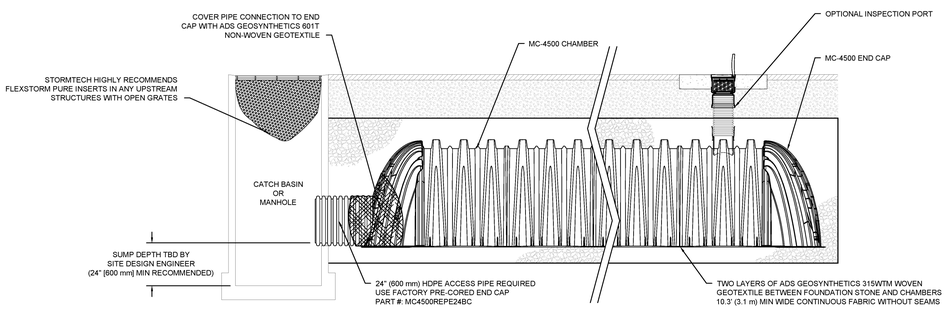
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2 3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. MC-4500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

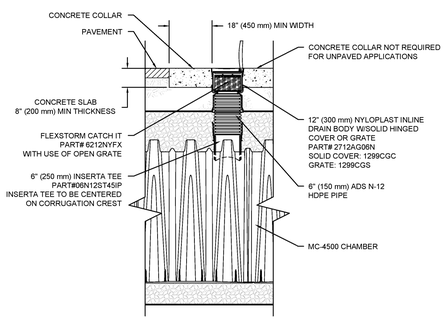
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

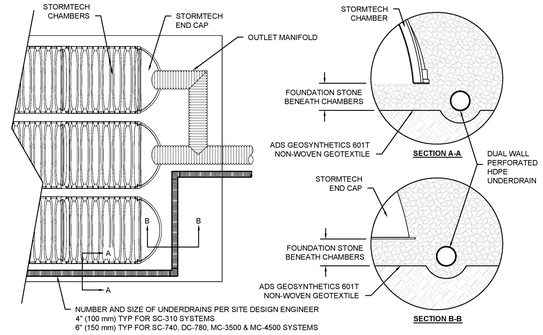
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

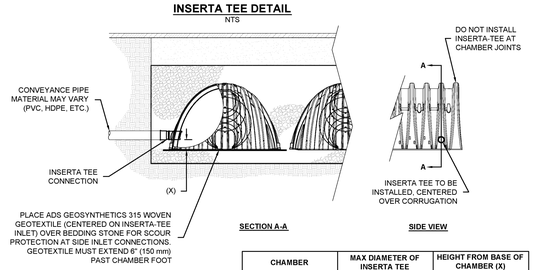


MC-4500 6" INSPECTION PORT DETAIL
NTS

UNDERDRAIN DETAIL
NTS



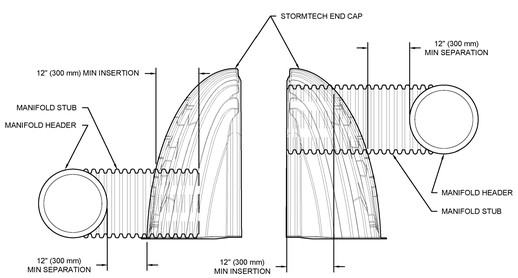
INSERTA TEE DETAIL
NTS



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SCH 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

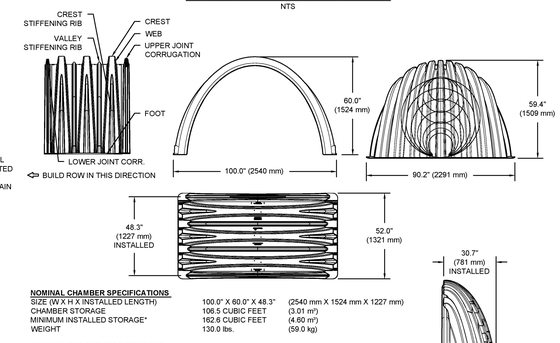
NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-4500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT	130.0 lbs.	(59.0 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	90.2" X 59.4" X 30.7"	(2291 mm X 1509 mm X 781 mm)
END CAP STORAGE	35.7 CUBIC FEET	(1.01 m³)
MINIMUM INSTALLED STORAGE*	108.7 CUBIC FEET	(3.08 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

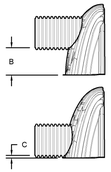
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC4500REPE06T	6" (150 mm)	42.54" (1.081 m)	---
MC4500REPE06B		---	0.86" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1.029 m)	---
MC4500REPE08B		---	1.01" (26 mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	---
MC4500REPE10B		---	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.69" (907 mm)	---
MC4500REPE12B		---	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	---
MC4500REPE15B		---	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.36" (746 mm)	---
MC4500REPE18BC		---	1.97" (50 mm)
MC4500REPE24TC	24" (600 mm)	23.05" (585 mm)	---
MC4500REPE24BC		---	2.26" (57 mm)
MC4500REPE30BC	30" (750 mm)	---	2.95" (75 mm)
MC4500REPE36BC	36" (900 mm)	---	3.25" (83 mm)
MC4500REPE42BC	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS.
CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm)
THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHTEST POSSIBLE FOR THE PIPE SIZE.



NOTES

NUMBER, TYPE AND LOCATION OF STORMWATER MANAGEMENT FACILITIES ARE SUBJECT TO CHANGE

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COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 3/10/17 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

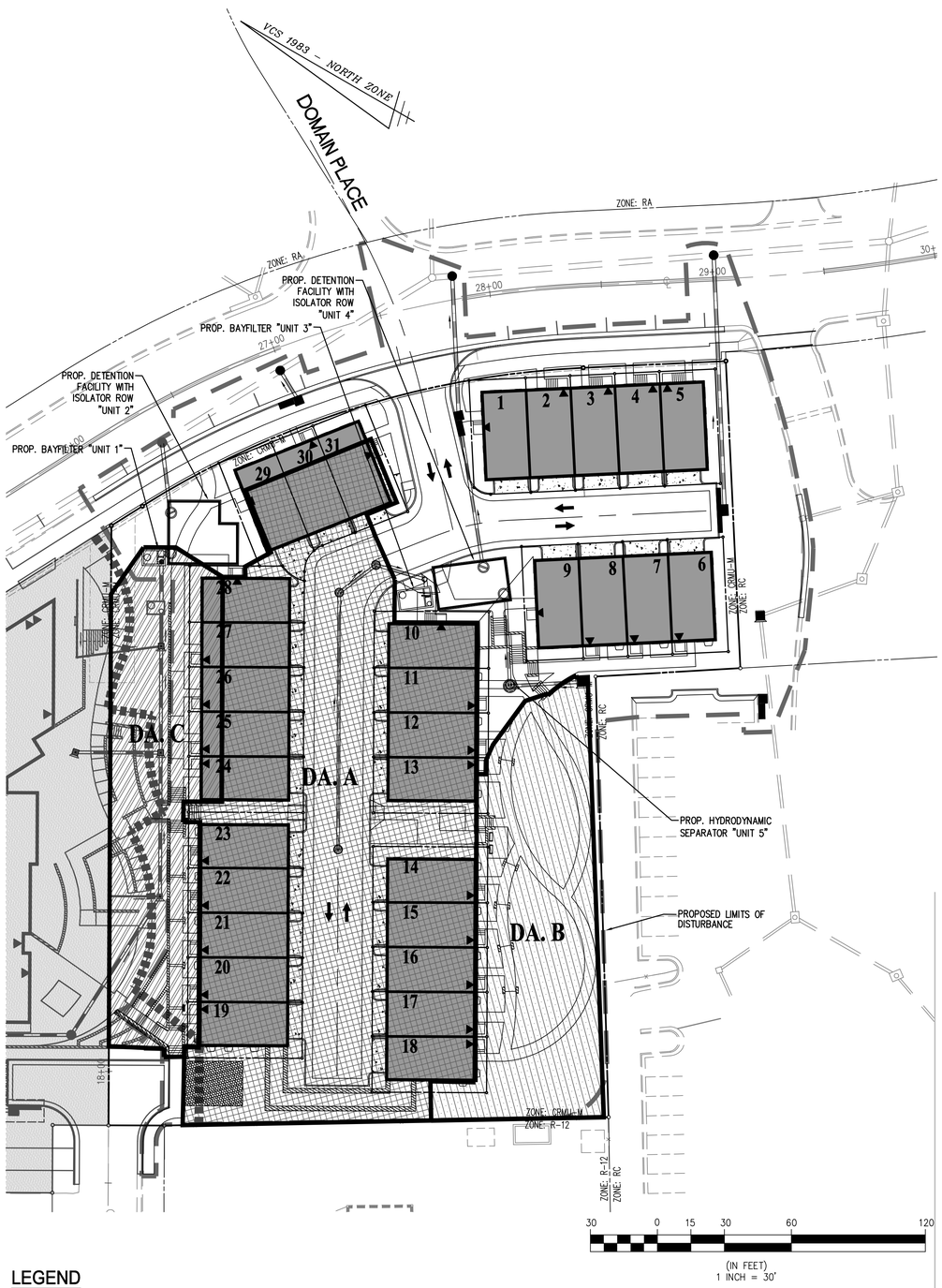
REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STORMTECH DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

BMP AREA SERVICE MAP



LEGEND

- DA A – TO BE TREATED WITH 50% BAYFILTER (UNIT 3) AND 40% ISOLATOR ROW WITHIN STORMTECH SYSTEM (UNIT 4) (TOTAL AREA = 0.80 AC)
- DA B – TO BE TREATED WITH 20% HYDRODYNAMIC SEPARATOR (UNIT 5) (TOTAL AREA = 0.24 AC)
- DA C – TO BE TREATED WITH 50% BAYFILTER (UNIT 1) AND 40% ISOLATOR ROW STORMTECH FACILITY (UNIT 2) (TOTAL AREA = 0.22 AC)

PROJECT DESCRIPTION

DEVELOPMENT OR REDEVELOPMENT

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL
SITE AREA	1.24 AC	0.53 AC	1.77 AC
ON-SITE TREATED	0.94 AC	0.32 AC	1.26 AC
OFF-SITE TREATED	0.00 AC	0.00 AC	0.00 AC
TOTAL IMPERVIOUS AREA TREATED	0.94 AC		
ON-SITE IMPERVIOUS AREAS DISCONNECTED BY A VEGETATED BUFFER	0.00 AC		
TOTAL IMPERVIOUS AREA TREATED OR DISCONNECTED	0.94 AC		

WATER TREATMENT ON SITE

BMP No.	BMP TYPE	AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)	BMP EFFICIENCY (%)	LATITUDE	LONGITUDE	
1	BAYFILTER	0.22	0.16	50	38.837923°	−77.115851°	TREATMENT TRAIN IN DRAINAGE AREA C
2	STORMTECH W/ ISOLATOR ROW			40	38.838197°	−77.115820°	
3	BAYFILTER	0.80	0.72	50	38.837978°	−77.115791°	TREATMENT TRAIN IN DRAINAGE AREA A
4	STORMTECH W/ ISOLATOR ROW			40	38.837945°	−77.115716°	
5	HYDRODYNAMIC SEPARATOR	0.24	0.06	20	38.837871°	−77.115883°	TREATMENT TRAIN IN DRAINAGE AREA B
4	STORMTECH W/ ISOLATOR ROW			40	38.837945°	−77.115716°	

MISCELLANEOUS

TOTAL WQV TREATED: YES [NO]

DETENTION ON SITE: [YES] NO

PROJECT IS WITHIN WHICH WATERSHED? FOUR MILE RUN

DISCHARGES TO WHICH BODY OF WATER? FOUR MILE RUN

WQV TREATMENT REQUIRED= 1,816 CF/AC OF IMPERVIOUS AREA
= 1,816 X 1.24 AC
= 2,252 CF (0.052 AC*FT)

% WQV PROVIDED= 1,816 CF/AC X 0.94 AC
= 1,707 CF (0.039 AC*FT) =75% WQV PROVIDED

* A MONETARY CONTRIBUTION MAY BE MADE FOR THE REMAINING WATER QUALITY VOLUME IF FULL WATER QUALITY TREATMENT IS NOT PROVIDED AT THE TIME OF FINAL SITE PLAN

WATER QUALITY NARRATIVE

THIS APPLICATION INCLUDES THE IMPROVEMENTS PROPOSED FOR THE PHASE 2 DEVELOPMENT. THE PHASE 2 DEVELOPMENT IS SUBJECT TO THE STORMWATER MANAGEMENT CRITERIA DESCRIBED IN SECTION 13-109 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE (NEW STORMWATER MANAGEMENT CRITERIA) FOR RE-DEVELOPMENT. COMPLIANCE FOR THE APPLICABLE STORMWATER QUALITY REQUIREMENTS, HAS BEEN DETERMINED USING THE DEQ RUNOFF REDUCTION METHOD (VRRM) SPREADSHEET, PROVIDED ON SHEET P-0705, AND THE USE OF STORMWATER BMPS ESTABLISHED IN 9VAC25-870 AND FOUND UNDER THE VIRGINIA BMP CLEARING HOUSE WEBSITE.
AS SHOWN IN THE COMPUTATIONS ON THIS SHEET AND SHEET P-0705, THE AMOUNT OF IMPERVIOUS AREA ON SITE WILL INCREASE WITH THE PROPOSED DEVELOPMENT BY 0.69 ACRES. THE SITE AREA USED FOR THE STORMWATER MANAGEMENT ANALYSIS IS THE PARCEL AREA. AS COMPUTED USING THE DEQ VRRM SPREADSHEET, THE REQUIRED PHOSPHOROUS REMOVAL TO BE PROVIDED ON SITE SHALL BE AT LEAST 1.51 LB/YR. THE REQUIRED PHOSPHOROUS REMOVAL IS PROPOSED TO BE ACHIEVED BY TREATING APPROXIMATELY 1.26 ACRES ON SITE WITH A VARIETY OF FILTERING PRACTICES THAT ARE TO BE USED IN SERIES, FORMING TREATMENT TRAINS.
THE COMPUTED PHOSPHOROUS REMOVAL ACHIEVED ONSITE IS EQUAL TO 1.51 LB/YR, WHICH SATISFIES THE WATER QUALITY CONTROL REQUIREMENTS. AN ELECTRONIC COPY OF THE DEQ VRRM SPREADSHEET HAS BEEN PROVIDED WITH THIS SUBMISSION, SHOWING PRELIMINARY BMP ANALYSIS.

IT IS EXPECTED THAT ONLY A PORTION OF THE WATER QUALITY VOLUME AS DESCRIBED IN SECTION 19-103(E)(1) OF THE ZONING ORDINANCE, WILL BE TREATED WITH THE PROPOSED BMP FACILITIES. THEREFORE THE APPLICANT MAY PROPOSE TO MAKE A CONTRIBUTION TO THE WATER QUALITY EQUIVALENCY FUND TO COMPENSATE FOR THE UNTREATED IMPERVIOUS AREAS IF THE ENTIRE WATER QUALITY VOLUME IS NOT TREATED AT THE TIME OF FINAL SITE PLAN.

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)	0.72	0.06	0.16	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.72	0.06	0.16	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.08	0.18	0.06	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.08	0.18	0.06	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3): 4,757

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	1.61	0.23	0.38	0.00	0.00	2.22
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.12	0.12	0.27	0.00	0.00	1.51
TP LOAD REMAINING (lb/yr)	0.48	0.11	0.11	0.00	0.00	0.71
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

PHOSPHORUS REMOVAL ACHIEVED PER DRAINAGE AREA (SEE SHEET P-0705 FOR DRAINAGE AREA BREAKDOWN)

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	2.99
TP LOAD REDUCTION REQUIRED (lb/yr)	1.51
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.51
TP LOAD REMAINING (lb/yr):	1.48
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

**No further TP load reduction required (Required - Achieved < 0.005 lb/yr)

TOTAL PHOSPHORUS REDUCTION ACHIEVED ON SITE

COMPLIANCE VERIFICATION

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	21.38
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	21.38

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 30' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA BUSINESS CERTIFICATE PROFESSIONAL ENGINEER AARON M. VINSON Lic. No.041851 3/10/17

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BMP PLAN & COMPUTATIONS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

VRRM SPREADSHEET COMPUTATIONS

Project Name:	St. James Townhouse Redevelopment
Date:	3/3/2017
Linear Development Project?	No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 1.77

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0.69*
Post-Development TP Load Reduction for Site (lb/yr):	*1.51*

Check:
BMP Design Specifications List: 2011 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 yards or other turf to be				1.22	1.22
Impervious Cover (acres)				0.55	0.55
					1.77

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.53	0.53
Impervious Cover (acres)				1.24	1.24
Area Check	OK.	OK.	OK.	OK.	1.77

Constants

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

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre

Pre-ReDevelopment	Listed	Adjusted[1]
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	1.22	0.53
Weighted Rv(turf)	0.25	0.25
% Managed Turf	69%	49%
Impervious Cover (acres)	0.55	0.55
Rv(impervious)	0.95	0.95
% Impervious	31%	51%
Total Site Area (acres)	1.77	1.08
Site Rv	0.47	0.61

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0690	0.0546
Pre-ReDevelopment Treatment Volume (cubic feet)	3,004	2,378
Pre-ReDevelopment TP Load (lb/yr)	1.89	1.49
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.07	1.38
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.44*

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

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

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

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)

Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.53
Weighted Rv (turf)	0.25
% Managed Turf	30%
Impervious Cover (acres)	1.24
Rv(impervious)	0.95
% Impervious	70%
Final Site Area (acres)	1.77
Final Post Dev Site Rv	0.74

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.53
Weighted Rv (turf)	0.25
% Managed Turf	49%
ReDev. Impervious Cover (acres)	0.55
Rv(impervious)	0.95
% Impervious	51%
Total ReDev. Site Area (acres)	1.08
ReDev Site Rv	0.61

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	0.69
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.1092	Post-ReDevelopment Treatment Volume (acre-ft)	0.0546	Post-Development Treatment Volume (acre-ft)	0.0546
Final Post-Development Treatment Volume (cubic feet)	4,757	Post-ReDevelopment Treatment Volume (cubic feet)	2,378	Post-Development Treatment Volume (cubic feet)	2,379
Final Post-Development TP Load (lb/yr)	2.99	Post-ReDevelopment Load (TP) (lb/yr)*	1.49	Post-Development TP Load (lb/yr)	1.50
Final Post-Development TP Load per acre (lb/acre/yr)	1.69	Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.38		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	0.30	TP Load Reduction Required for New Impervious Area (lb/yr)	1.21

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	1.51

← **PHOSPHOROUS REDUCTION REQUIRED**

Drainage Area A

CLEAR BMP AREAS

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)				0.08	0.08	0.25
Impervious Cover (acres)				0.72	0.72	0.95
				Total	0.80	

Total Phosphorus Available for Removal in D.A. A (lb/yr)	1.61
Post Development Treatment Volume in D.A. A (ft^3)	2,556

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Bayfilter (Unit 3)	0	0.08	0.72	0	0	2,556	2,556	50	0.00	1.60	0.80	0.80	14.b. MTD - Filtering (Isolator Row-Unit 4)
14.b. Manufactured Treatment Device-Filtering Isolator Row (Unit 4)	0			2,556	0	2,556	2,556	40	0.80	0.00	0.32	0.48	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.72	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.08	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	1.51
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	1.61
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	1.12
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	1.12
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	0.48

Drainage Area B

CLEAR BMP AREAS

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)				0.18	0.18	0.25
Impervious Cover (acres)				0.06	0.06	0.95
				Total	0.24	

Total Phosphorus Available for Removal in D.A. B (lb/yr)	0.23
Post Development Treatment Volume in D.A. B (ft^3)	370

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Hydrodynamic (Unit 5)	0	0.18	0.06	0	0	370	370	20	0.00	0.23	0.05	0.19	14.b. MTD - Filtering (Isolator Row-Unit 4)
14.b. Manufactured Treatment Device-Filtering Isolator Row (Unit 4)	0			370	0	370	370	40	0.19	0.00	0.07	0.11	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.06	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.18	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	1.51
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. B (lb/yr)	0.23
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.12
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.00
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. B (lb/yr)	0.12
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. B (lb/yr)	0.11

Drainage Area C

CLEAR BMP AREAS

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)				0.06	0.06	0.25
Impervious Cover (acres)				0.16	0.16	0.95
				Total	0.22	

Total Phosphorus Available for Removal in D.A. C (lb/yr)	0.38
Post Development Treatment Volume in D.A. C (ft^3)	606

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Bayfilter (Unit 1)	0	0.06	0.16	0	0	606	606	50	0.00	0.38	0.19	0.19	14.b. MTD - Filtering (Isolator Row-Unit 2)
14.b. Manufactured Treatment Device-Filtering Isolator Row (Unit 2)	0			606	0	606	606	40	0.19	0.00	0.08	0.11	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.16	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.06	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	1.51
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. C (lb/yr)	0.38
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. C (lb/yr)	0.27
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. C (lb/yr)	0.00
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. C (lb/yr)	0.27
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. C (lb/yr)	0.11

NOTES

1. INFORMATION PROVIDED ON THIS SHEET IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FINAL DESIGN.
2. ALTERNATIVE BMPS MAY BE PROVIDED SO LONG AS REQUIREMENTS OF THE DEQ VRRM SHREADSHEET ARE MET.

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DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF | SCALE: NONE

COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 3/10/17 — PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

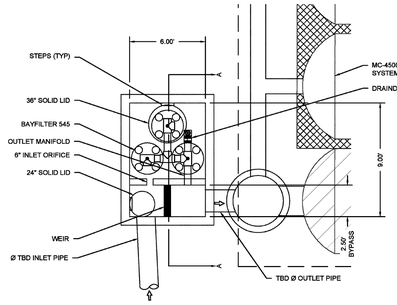
REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

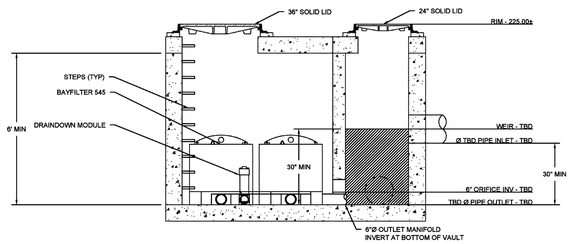
PRELIMINARY BMP DESIGN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

BAYFILTER "UNIT 1" DETAILS



BAYFILTER "UNIT 1" PLAN



SECTION A-A

CONCEPTUAL SIZING SUMMARY BAYFILTER TREATMENT SYSTEM	
PROJECT	AREA 3
LOCATION	Alexandria, VA.
WATER QUALITY FLOW	0.30 CFS
DRAINAGE AREA	TBD
CARTRIDGE DESIGN FLOW RATE	45 GPM
# BAYFILTER CARTRIDGES	3

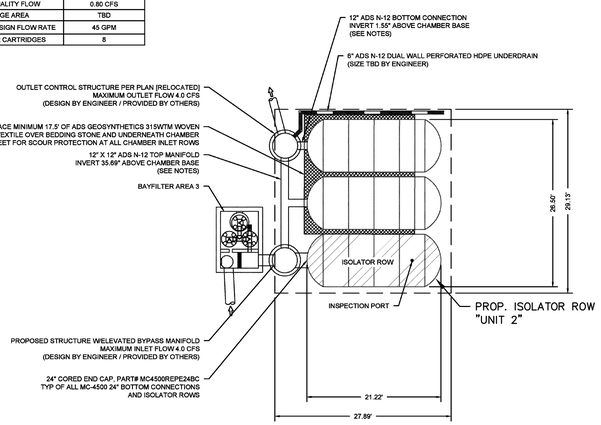
CONCEPTUAL LAYOUT - STM-2

(12) STORMTECH MC-4500 CHAMBERS
(8) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 3,090 CF (PERIMETER STONE INCLUDED)
AREA OF SYSTEM: 813 FT*
PERIMETER OF SYSTEM: 114 FT

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST REVIEW THE PROXIMITY OF THE CHAMBERS TO THE BUILDING/STRUCTURE. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS. THE SITE DESIGN ENGINEER MUST CONSIDER EFFECTS OF POSSIBLE SATURATED SOILS ON BEARING CAPACITY OF SOILS AND SEEPAGE INTO BASEMENTS.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

CONCEPTUAL SIZING SUMMARY BAYFILTER TREATMENT SYSTEM	
PROJECT	AREA 2B
LOCATION	Alexandria, VA.
WATER QUALITY FLOW	0.80 CFS
DRAINAGE AREA	TBD
CARTRIDGE DESIGN FLOW RATE	45 GPM
# BAYFILTER CARTRIDGES	8



BAYFILTER "UNIT 3" & "UNIT 5" DETAILS

CONCEPTUAL LAYOUT - STM-1

(10) STORMTECH MC-4500 CHAMBERS
(4) STORMTECH MC-4500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 2,536 CF (PERIMETER STONE INCLUDED)
AREA OF SYSTEM: 671 FT*
PERIMETER OF SYSTEM: 107 FT

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST REVIEW THE PROXIMITY OF THE CHAMBERS TO THE BUILDING/STRUCTURE. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS. THE SITE DESIGN ENGINEER MUST CONSIDER EFFECTS OF POSSIBLE SATURATED SOILS ON BEARING CAPACITY OF SOILS AND SEEPAGE INTO BASEMENTS.
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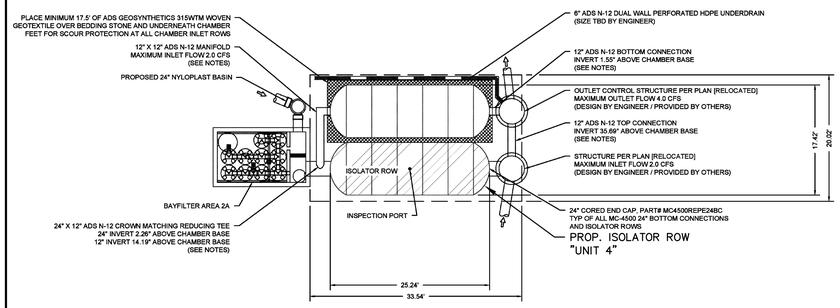
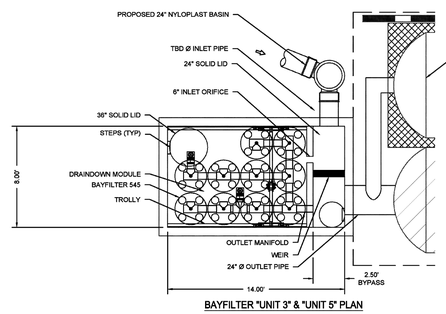
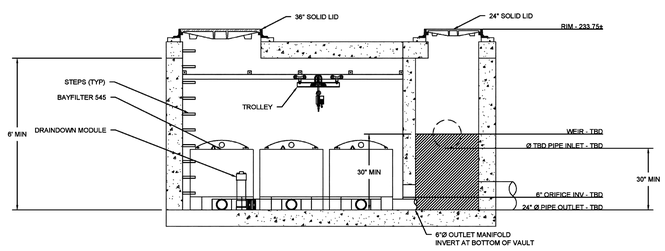




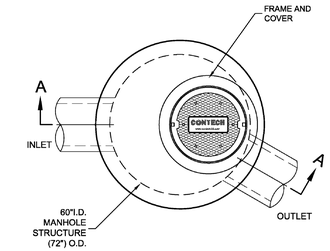
BAYFILTER "UNIT 3" & "UNIT 5" PLAN

CONCEPTUAL SIZING SUMMARY BAYFILTER TREATMENT SYSTEM	
PROJECT	AREA 2A
LOCATION	Alexandria, VA.
WATER QUALITY FLOW	1.00 CFS
DRAINAGE AREA	TBD
CARTRIDGE DESIGN FLOW RATE	45 GPM
# BAYFILTER CARTRIDGES	10

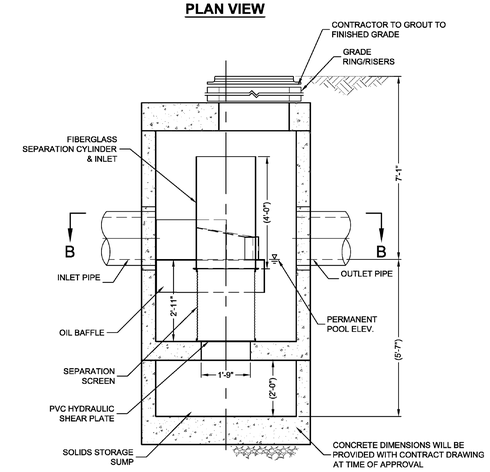


SECTION A-A

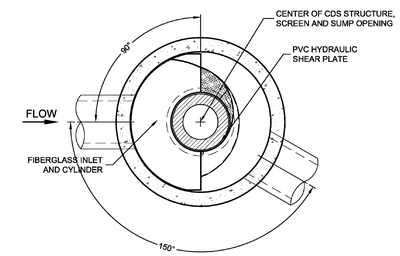
HYDRODYNAMIC SEPARATOR - "UNIT 5" DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

MATERIALS LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
1	FIBERGLASS INLET & CYLINDER	CONTECH
1	2400 MICRON SEP. SCREEN	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	GRADE RINGS/ RISERS	CONTRACTOR
1	Ø30"x4" FRAME AND COVER	CONTRACTOR

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 9,000 LBS.

CONTECH
PROPOSAL
DRAWING

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

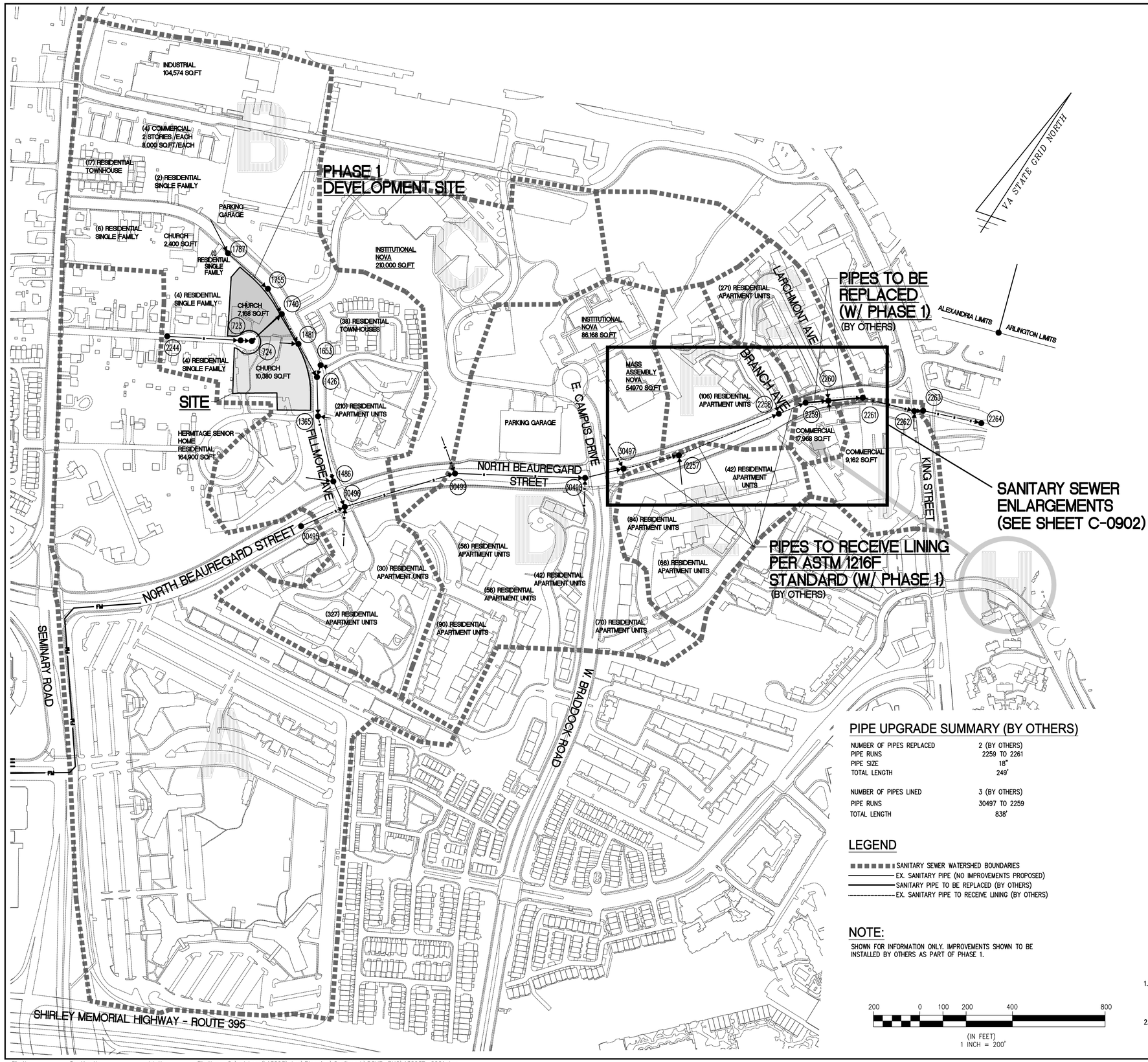
CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BMP DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-0704.dwg

SHEET: P-0706



PIPE UPGRADE SUMMARY (BY OTHERS)

NUMBER OF PIPES REPLACED	2 (BY OTHERS)
PIPE RUNS	2259 TO 2261
PIPE SIZE	18"
TOTAL LENGTH	249'
NUMBER OF PIPES LINED	3 (BY OTHERS)
PIPE RUNS	30497 TO 2259
TOTAL LENGTH	838'

LEGEND

- SANITARY SEWER WATERSHED BOUNDARIES
- EX. SANITARY PIPE (NO IMPROVEMENTS PROPOSED)
- SANITARY PIPE TO BE REPLACED (BY OTHERS)
- EX. SANITARY PIPE TO RECEIVE LINING (BY OTHERS)

NOTE:

SHOWN FOR INFORMATION ONLY. IMPROVEMENTS SHOWN TO BE INSTALLED BY OTHERS AS PART OF PHASE 1.

200 0 100 200 400 800

(IN FEET)
1 INCH = 200'

Subshed B

West	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
1787	INDUSTRIAL	200	104.574	20,915
	COMMERCIAL	200	32	6,400
	RESIDENTIAL (TH)	350	17	5,950
	RESIDENTIAL (SF)	350	2	700
	RESIDENTIAL (SF)	350	6	2,100
	CHURCH COMMERCIAL	200	2.4	480
	RESIDENTIAL (SF)	350	1	350
1755	*CHURCH COMMERCIAL * (FROM SITE-EX)*	*200*	*7.168*	*0*
	*RESIDENTIAL ** (TOWNHOMES)*	*350*	*31*	10,850
	*RESIDENTIAL ** (FROM SITE-PROP)*	300	93	27,900
1740	RESIDENTIAL (SF)	350	4	1,400
	RESIDENTIAL (SF)	350	4	1,400
1481	*CHURCH COMMERCIAL * (FROM SITE-EX)*	*200*	*10.38*	*0*
1426	RESIDENTIAL (TH)	350	38	13,300
1365	RESIDENTIAL (APTS)	300	210	63,000
1486	HERMITAGE SENIOR HOME (APTS)	200	164.9	32,980
				187,725

East	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
30496	RESIDENTIAL (APTS)	300	327	98,100
	RESIDENTIAL (APTS)	300	30	9,000
				107,100
		TOTAL SUBSHED B =		294,825

Subshed C

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
30499	INSTITUTIONAL	200	210	42,000
		TOTAL SUBSHED C =		42,000

Subshed D

West	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
30497	INSTITUTIONAL	200	86.168	17,234
	INSTITUTIONAL	200	54.97	10,994
				28,228

East	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
30498	RESIDENTIAL (APTS)	300	90	27,000
	RESIDENTIAL (APTS)	300	56	16,800
	RESIDENTIAL (APTS)	300	56	16,800
	RESIDENTIAL (APTS)	300	42	12,600
	RESIDENTIAL (APTS)	300	70	21,000
				94,200
		TOTAL SUBSHED D =		122,428

Subshed E

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
2257	RESIDENTIAL (APTS)	300	42	12,600
	RESIDENTIAL (APTS)	300	84	25,200
	RESIDENTIAL (APTS)	300	66	19,800
				57,600
		TOTAL SUBSHED E =		57,600

Subshed F

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
2258	RESIDENTIAL (APTS)	300	106	31,800
		TOTAL SUBSHED F =		31,800

Subshed G

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
2260	RESIDENTIAL (APTS)	300	271	81,300
		TOTAL SUBSHED G =		81,300

Subshed H

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
2260	COMMERCIAL	200	17.968	3,594
		TOTAL SUBSHED H =		3,594

Subshed I

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
2262	COMMERCIAL	200	9.162	1,832
		TOTAL SUBSHED I =		1,832

* EX. CHURCH TO BE REMOVED WITH THIS DEVELOPMENT
** PROPOSED DEVELOPMENT (93 MULTIFAMILY UNITS AND 31 TOWNHOUSE UNITS)

NOTES:

* EX. CHURCH TO BE REMOVED WITH PHASE 1 OF DEVELOPMENT (WEST PARCEL).

** PROPOSED RESIDENTIAL DEVELOPMENT SHOWN WITHIN THE SANITARY DESIGN FLOWS TABULATION REPRESENTS COMPLETE BUILD OUT OF PHASE 1 (93 MULTIFAMILY UNITS) AND PHASE 2 (31 TOWNHOUSE UNITS). ALL SEWER UPGRADES ARE TO BE CONSTRUCTED DURING PHASE 1 OF THIS DEVELOPMENT BY OTHERS.

1. DOWNSTREAM SANITARY SEWER IMPROVEMENTS SHOWN WITH PHASE 1 SATISFY REQUIREMENTS OF AN ADEQUATE OUTFALL FOR THIS DEVELOPMENT. ADDITIONAL IMPROVEMENTS ARE NOT REQUIRED FOR THIS APPLICATION. SEE P-0900 SERIES.
2. ALL PROPOSED SANITARY SEWER IMPROVEMENTS ARE PROPOSED IN PHASE 1 OF DEVELOPMENT BY OTHERS (DSP #2014-0003)

FOR INFORMATION ONLY

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 200' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON
Lic. No.041851
3/10/17

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

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY SANITARY SEWER OUTFALL ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

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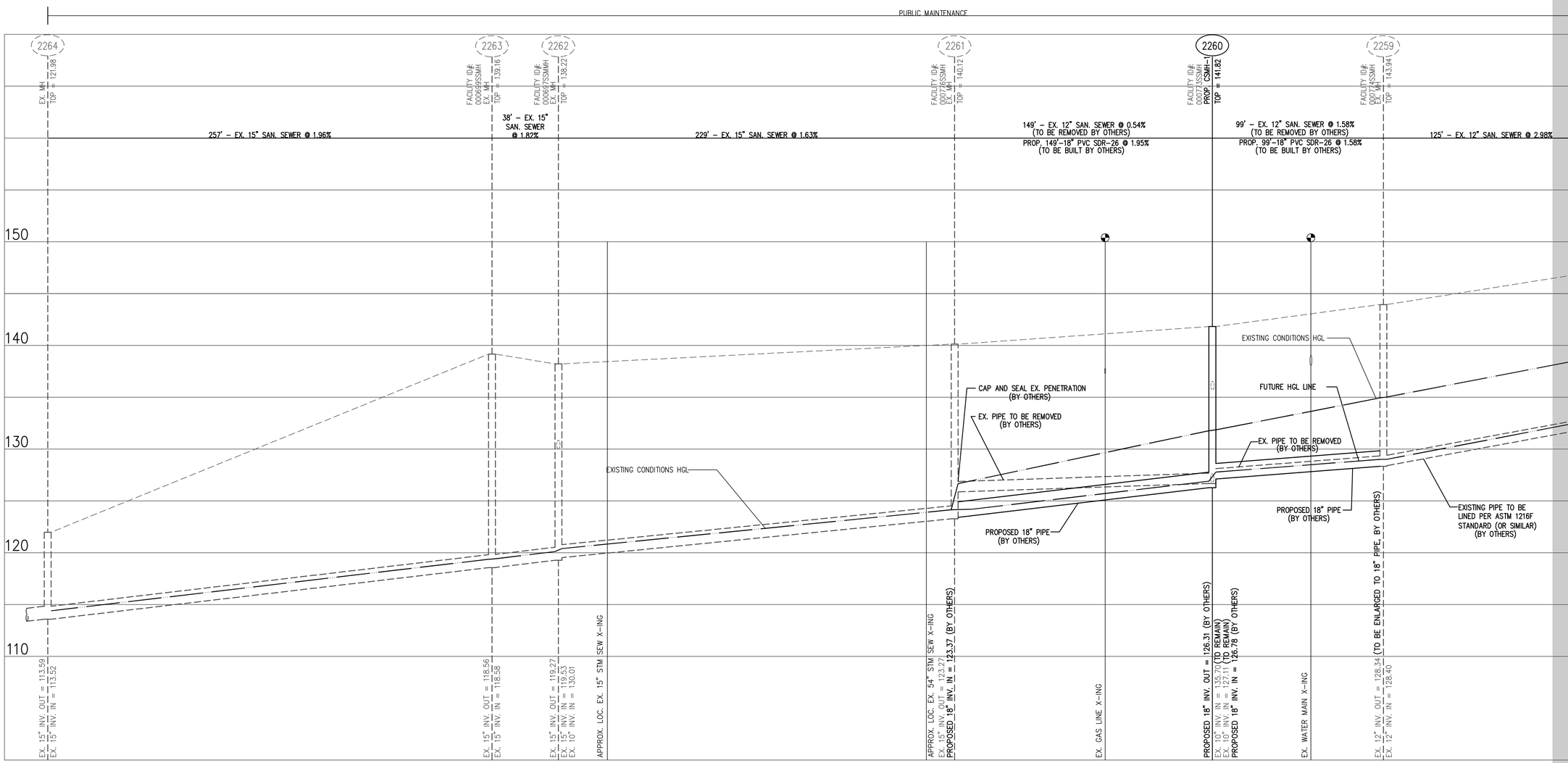

SCALE

VERT: 1"=5'
HORZ: 1"=30'

NOTES:

1. DOWNSTREAM SANITARY SEWER IMPROVEMENTS SHOWN WITH PHASE 1 SATISFY REQUIREMENTS OF AN ADEQUATE OUTFALL FOR PHASE 2 OF DEVELOPMENT. ADDITIONAL IMPROVEMENTS ARE NOT REQUIRED FOR THIS APPLICATION. SEE P–0900 SERIES.
2. ALL PROPOSED SANITARY SEWER IMPROVEMENTS ARE PROPOSED IN PHASE 1 OF DEVELOPMENT BY OTHERS (DSP #2014–0003)

30 0 15 30 60 120

(IN FEET)
1 INCH = 30'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PROPOSED SANITARY SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2016–0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
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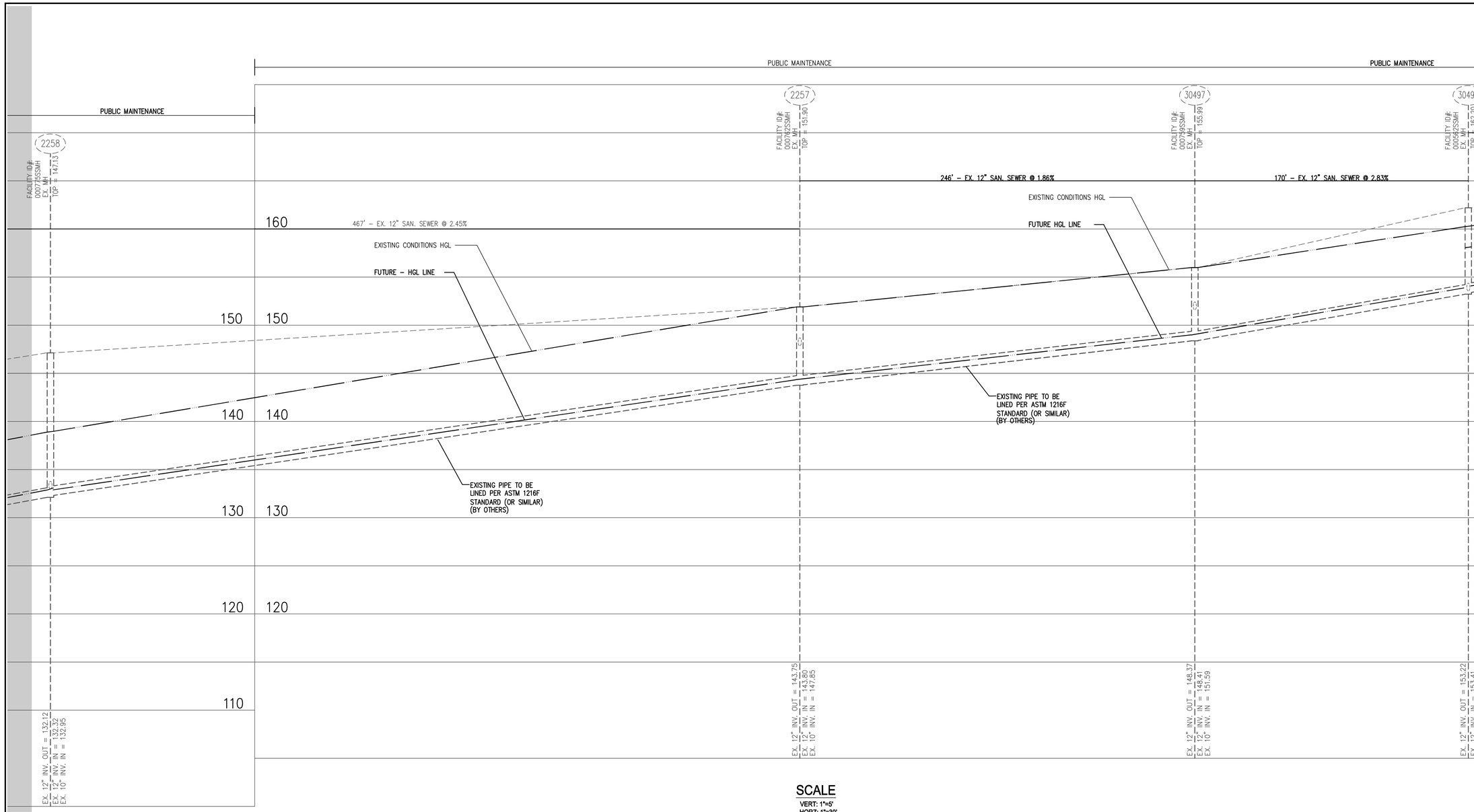

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CITY OF ALEXANDRIA, VIRGINIA

PROPOSED SANITARY SEWER PROFILES

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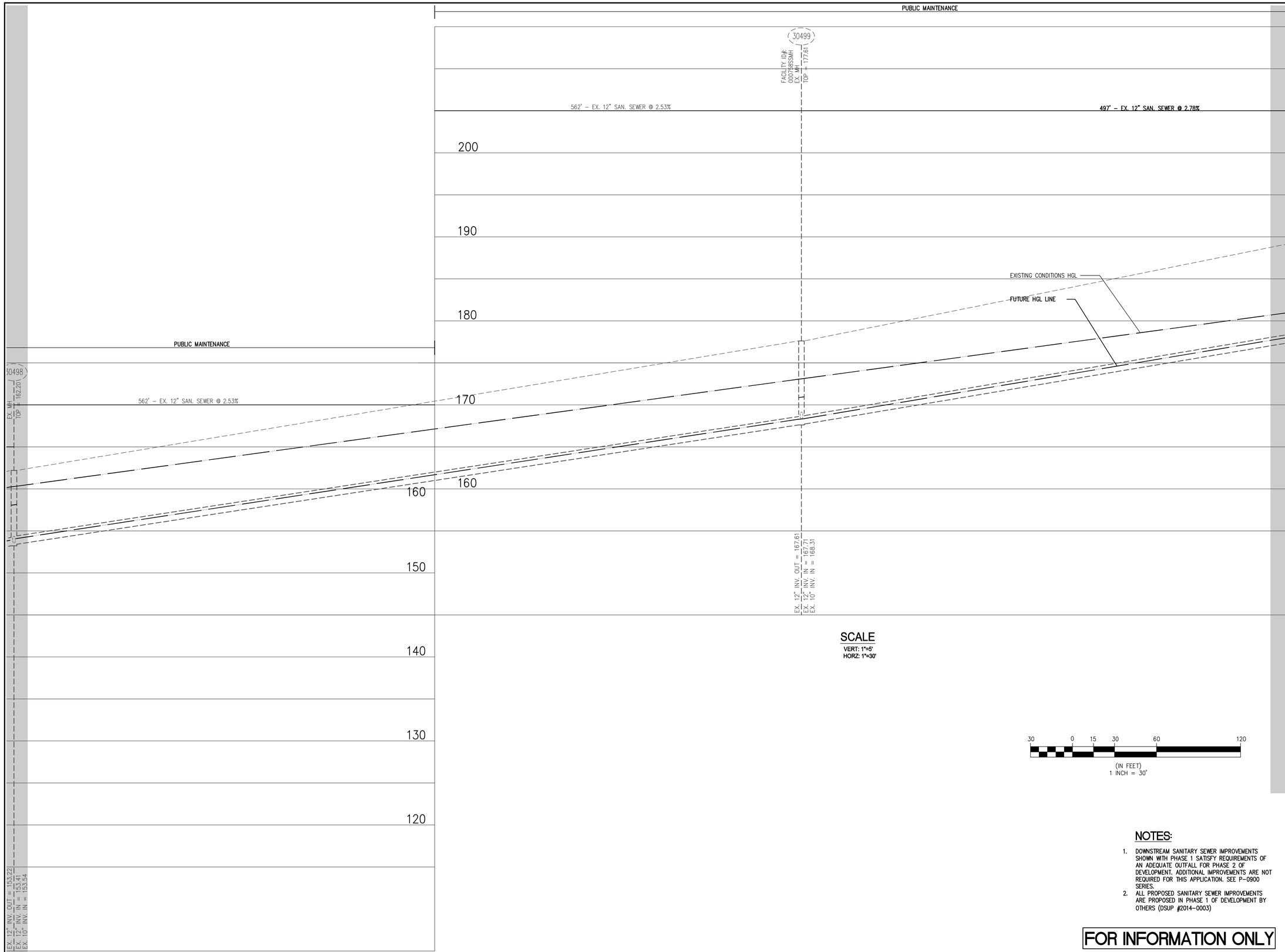

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CITY OF ALEXANDRIA, VIRGINIA

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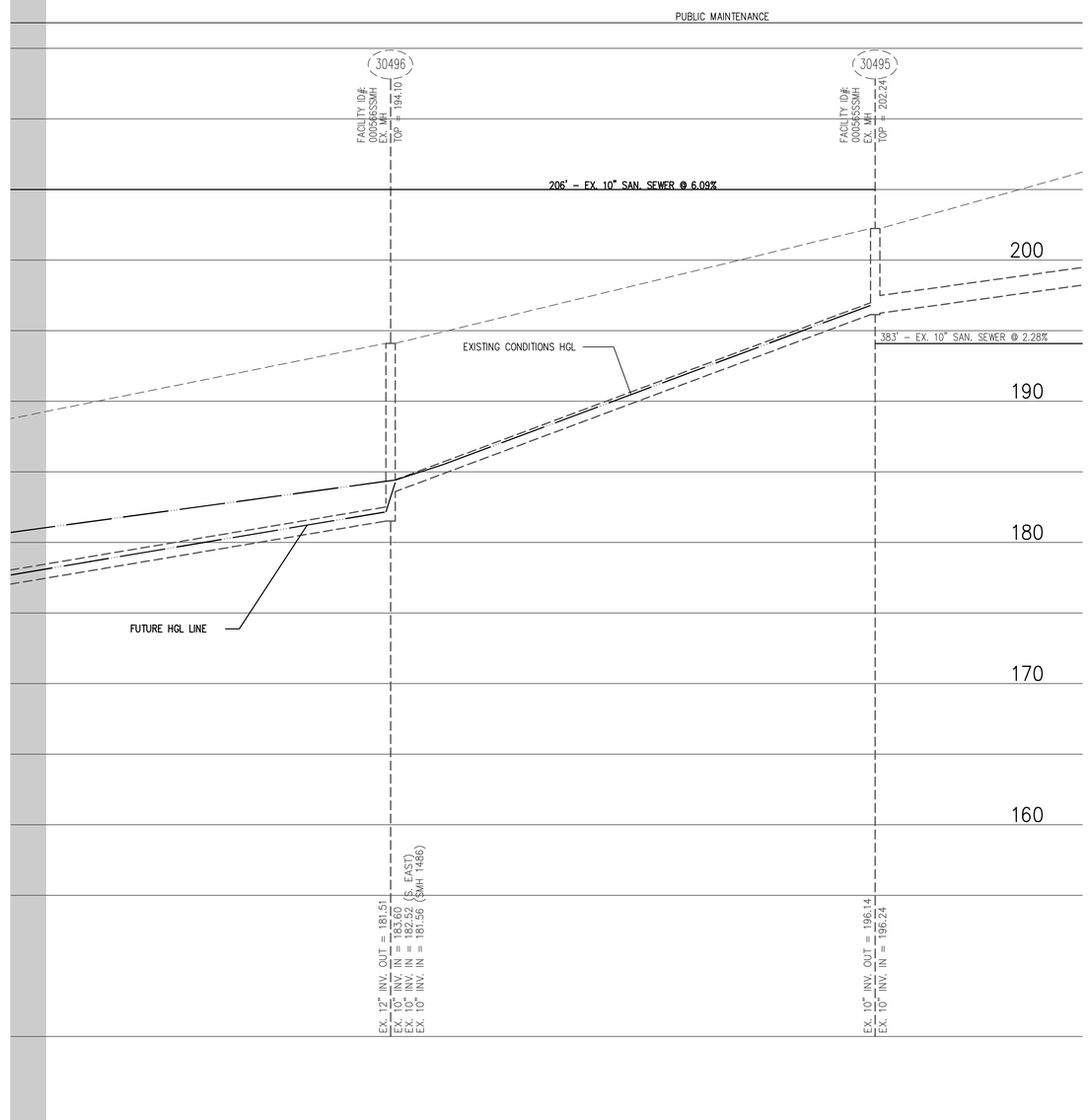

SCALE

VERT: 1"=5'
HORZ: 1"=30'

30 0 15 30 60 120

(IN FEET)
1 INCH = 30'

NOTES:

1. DOWNSTREAM SANITARY SEWER IMPROVEMENTS SHOWN WITH PHASE 1 SATISFY REQUIREMENTS OF AN ADEQUATE OUTFALL FOR PHASE 2 OF DEVELOPMENT. ADDITIONAL IMPROVEMENTS ARE NOT REQUIRED FOR THIS APPLICATION. SEE P-0900 SERIES.
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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PROPOSED SANITARY SEWER PROFILES

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EXISTING CONDITIONS

FROM	TO	INCREMENTAL CONTRIBUTING	MODELED FLOW FROM CITY (GPM)	INCREMENTAL FLOW (GPD)	CUMULATIVE (GDP)	PEAK FLOW FACTOR	CUMULATIVE PEAK FLOW (GPD)	CUMULATIVE PEAK FLOW (CFS)	INVERTS UPPER END	INVERTS LOWER END	PIPE SIZE (IN)	AREA (SF)	PIPE LENGTH (FT)	PIPE SLOPE (FT)	MANNINGS n	CAPACITY (CFS)	VELOCITY AT PEAK (FPS)	FLOW DEPTH (IN)
1787	1755	-		36,895	36,895	3	110,684	0.171	228.27	217.26	10	0.55	236	0.0467	0.015	4.08	3.71	1.39
1755	1740	-		1,434	38,328	3	114,985	0.178	216.41	212.46	10	0.55	123	0.0321	0.015	3.38	3.30	1.55
1740	1481	-		2,800	41,128	3	123,385	0.191	212.36	207.75	10	0.55	148	0.0311	0.015	3.33	3.32	1.62
1481	1426	-		2,076	43,204	3	129,613	0.201	207.70	203.18	10	0.55	163	0.0277	0.015	3.14	3.24	1.71
1426	1365	-		13,300	56,504	3	169,513	0.262	203.08	196.56	10	0.55	167	0.0390	0.015	3.73	3.96	1.79
1365	1486	-		63,000	119,504	3	358,513	0.555	196.26	183.55	10	0.55	289	0.0440	0.015	3.96	5.15	2.52
1486	30496	-		32,980	152,484	3	457,453	0.708	186.45	181.56	10	0.55	123	0.0398	0.015	3.76	5.33	2.93
30495	30496	subshed A	1621		2,334,240 (1)	1	2,334,240	3.612	196.14	183.60	10	0.55	206	0.0609	0.015	5.04	9.50	6.57
30496	30499	subshed B	2026		2,917,440	1	2,917,440	4.514	181.51	167.71	12	0.79	497	0.0278	0.015	5.54	7.41	8.70
30499	30498	Subshed C	2033		2,927,520	1	2,927,520	4.529	167.61	153.41	12	0.79	562	0.0253	0.015	5.28	7.11	9.07
30498	30497	Subshed D (East)	2137		3,077,280	1	3,077,280	4.761	153.22	148.41	12	0.79	170	0.0283	0.015	5.59	7.52	9.02
30497	2257	Subshed D (West)	2241		3,227,040	1	3,227,040	4.993	148.37	143.80	12	0.79	246	0.0186	0.015	4.53		
2257	2258	Subshed E	2330		3,355,200	1	3,355,200	5.191	143.75	132.32	12	0.79	467	0.0245	0.015	5.20		
2258	2259	Subshed F	2384		3,432,960	1	3,432,960	5.311	132.12	128.40	12	0.79	125	0.0298	0.015	5.73		
2259	2260	-	2392		3,444,480	1	3,444,480	5.329	128.34	126.78	12	0.79	99	0.0158	0.015	4.17		
2260	2261	Subshed G and H	2510		3,614,400	1	3,614,400	5.592	126.68	125.87	12	0.79	149	0.0054	0.015	2.44		
2261	2262	-	2602		3,746,880	1	3,746,880	5.797	123.27	119.53	15	1.23	229	0.0163	0.015	7.69	6.51	10.22
2262	2263	Subshed I	2612		3,761,280	1	3,761,280	5.819	119.27	118.58	15	1.23	38	0.0182	0.015	8.12	6.80	9.87
2263	2264	-	2612		3,761,280	1	3,761,280	5.819	118.56	113.52	15	1.23	257	0.0196	0.015	8.43	7.01	9.61

PIPES UNDER PRESSURE

PROPOSED - REPLACE 2 PIPES AND LINE 3 PIPES

FROM	TO	INCREMENTAL CONTRIBUTING	MODELED FLOW FROM CITY (GPM)	INCREMENTAL FLOW (GPD)	CUMULATIVE (GDP)	PEAK FLOW FACTOR	CUMULATIVE PEAK FLOW (GPD)	CUMULATIVE PEAK FLOW (CFS)	INVERTS UPPER END	INVERTS LOWER END	PIPE SIZE (IN)	AREA (SF)	PIPE LENGTH (FT)	PIPE SLOPE (FT)	MANNINGS n	MAX CAPACITY (CFS)	VELOCITY AT PEAK (FPS)	FLOW DEPTH (IN)
1787	1755	-		36,895	36,895	3	110,684	0.171	228.27	217.26	10	0.55	236	0.0467	0.015	4.08	3.71	1.39
1755	1740	-		38,750	75,645	3	226,934	0.351	216.41	212.46	10	0.55	123	0.0321	0.015	3.38	4.03	2.17
1740	1481	-		2,800	78,445	3	235,334	0.364	212.36	207.75	10	0.55	148	0.0311	0.015	3.33	4.03	2.23
1481	1426	-		0	78,445	3	235,334	0.364	207.70	203.18	10	0.55	163	0.0277	0.015	3.14	3.86	2.29
1426	1365	-		13,300	91,745	3	275,234	0.426	203.08	196.56	10	0.55	167	0.0390	0.015	3.73	4.57	2.27
1365	1486	-		63,000	154,745	3	464,234	0.718	196.26	183.55	10	0.55	289	0.0440	0.015	3.96	5.55	2.87
1486	30496	-		32,980	187,725	3	563,174	0.871	186.45	181.56	10	0.55	123	0.0398	0.015	3.76	5.65	3.26
30495	30496	subshed A	1621		2,334,240 (1)	1	2,334,240	3.612	196.14	183.60	10	0.55	206	0.0609	0.015	5.040	9.50	6.57
30496	30499	subshed B	2026		3,033,690 (2)	1	3,033,690	4.694	181.51	167.71	12	0.79	497	0.0278	0.015	5.540	7.44	8.98
30499	30498	Subshed C	2033		3,043,770 (2)	1	3,043,770	4.709	167.61	153.41	12	0.79	562	0.0253	0.015	5.280	7.13	9.40
30498	30497	Subshed D (East)	2137		3,193,530 (2)	1	3,193,530	4.941	153.22	148.41	12	0.79	170	0.0283	0.015	5.590	7.54	9.33
30497	2257	Subshed D (West)	2241		3,343,290 (2)	1	3,343,290	5.173	148.37	143.80	11.4 (4)(5)	0.71	246	0.0186	0.010	5.980	8.87	8.71
2257	2258	Subshed E	2330		3,471,450 (2)	1	3,471,450	5.371	143.75	132.32	11.4 (4)(5)	0.71	467	0.0245	0.010	6.870	10.04	8.03
2258	2259	Subshed F	2384		3,549,210 (2)	1	3,549,210	5.491	132.12	128.40	11.4 (4)(5)	0.71	125	0.0298	0.010	7.540	10.92	7.59
2259	2260	-	2392		3,560,730 (2)	1	3,560,730	5.509	128.34	126.78	18 (3)	1.77	99	0.0158	0.010	11.350	8.66	7.01
2260	2261	Subshed G and H	2510		3,730,650 (2)	1	3,730,650	5.772	126.68	123.37	18 (3)	1.77	149	0.0222	0.010	13.460	9.93	6.55
2261	2262	-	2602		3,863,130 (2)	1	3,863,130	5.977	123.27	119.53	15	1.23	229	0.0163	0.015	7.690	6.54	10.46
2262	2263	Subshed I	2612		3,877,530 (2)	1	3,877,530	5.999	119.27	118.58	15	1.23	38	0.0182	0.015	8.120	6.84	10.08
2263	2264	-	2612		3,877,530 (2)	1	3,877,530	5.999	118.56	113.52	15	1.23	257	0.0196	0.015	8.430	7.05	9.81

Notes:
1. Flow data provided by City of Alexandria
2. Cumulative flows from 30496 to 2264 includes proposed 93 multifamily units and 31 TH units of flow (peaked) from proposed development (116,250 GPD)
3. Development proposes the replacement of 2 pipes (2259 to 2260 and 2260 to 2261)
4. Development proposes the linning of 3 pipes (30497 to 2257, 2257 to 2258 and 2258 to 2259)
5. Assumes liner thickness of 0.28" for a total diameter reduction of 0.56" (per ASTM 1216F)
6. Ultimate build out of surrounding areas have not been accounted for in the analysis.
7. Junction head loss assumed to be 1" in all structures per direction from City Staff.

PIPES TO BE LINED (BY OTHERS)

PIPES TO BE REPLACED (BY OTHERS)

NOTES

1. COMPUTATIONS SHOWN ON THIS SHEET REFLECT ULTIMATE BUILD OUT OF PROPERTY.

2. INCLUDING PROPOSED IMPROVEMENTS BY OTHERS, THE DOWNSTREAM SYSTEM ADEQUATELY CONVEYS THE PROPOSED DEVELOPMENT.

NOTES:

1. DOWNSTREAM SANITARY SEWER IMPROVEMENTS SHOWN WITH PHASE 1 SATISFY REQUIREMENTS OF AN ADEQUATE OUTFALL FOR PHASE 2 OF DEVELOPMENT. ADDITIONAL IMPROVEMENTS ARE NOT REQUIRED FOR THIS APPLICATION. SEE P-0900 SERIES.
2. ALL PROPOSED SANITARY SEWER IMPROVEMENTS ARE PROPOSED IN PHASE 1 OF DEVELOPMENT BY OTHERS (DSUP #2014-0003)

30 0 15 30 60 120

(IN FEET)
1 INCH = 30'

FOR INFORMATION ONLY

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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 30'
DATE: 3/10/2017
DRAWN: DP; DM
CHECKED: BF

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PROPOSED SANITARY SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

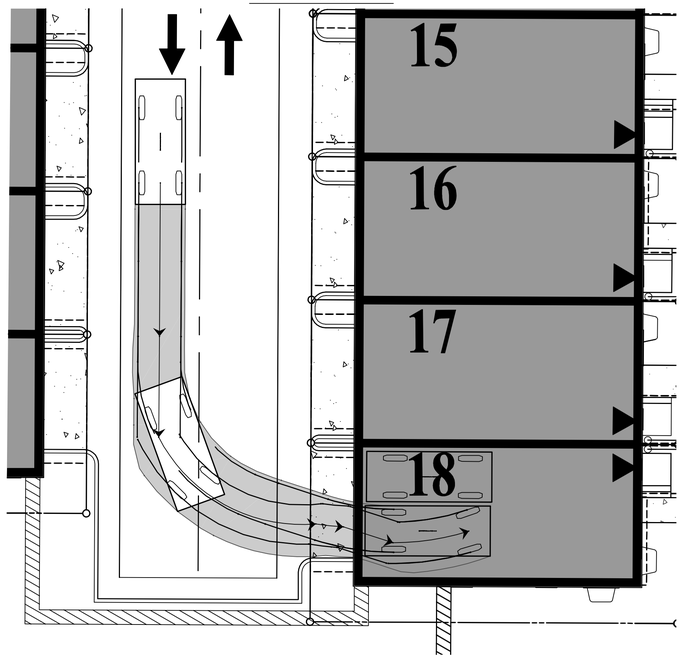
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

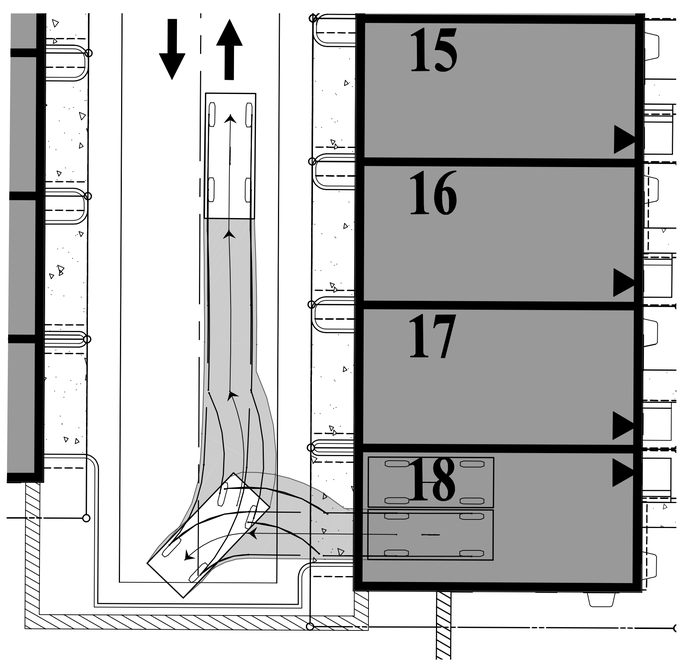
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

VCS 1983 - NORTH ZONE

PASSENGER VEHICLE ENTERING TOWNHOUSE 18

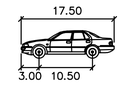


PASSENGER VEHICLE EXITING TOWNHOUSE 18



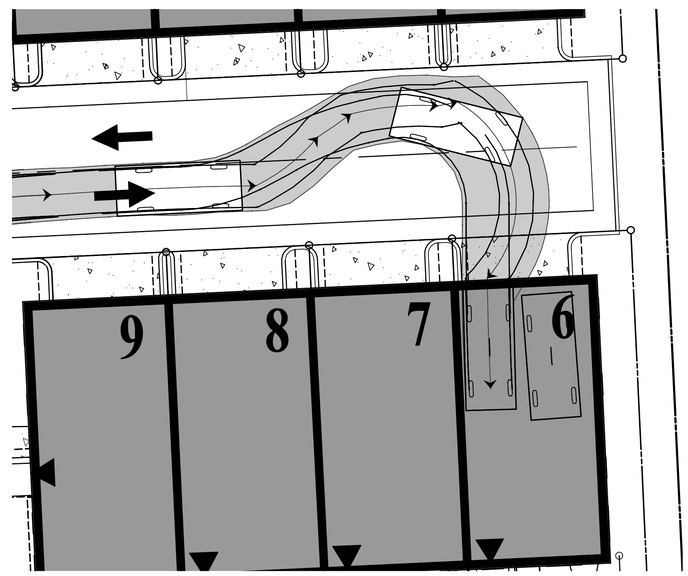
VCS 1983 - NORTH ZONE

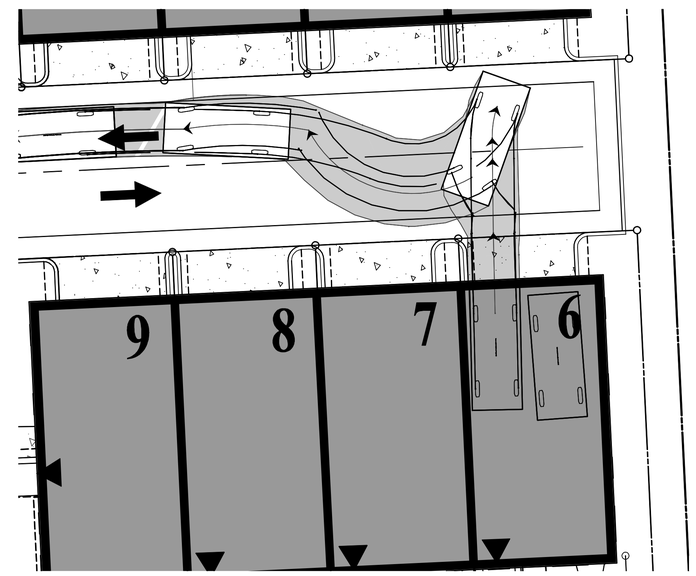
VEHICLE PROFILE



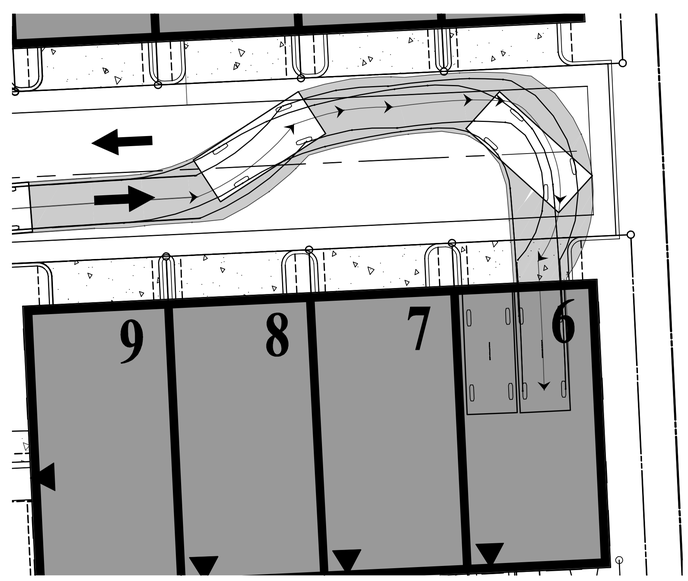
17.5' LARGE CAR	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 41.0

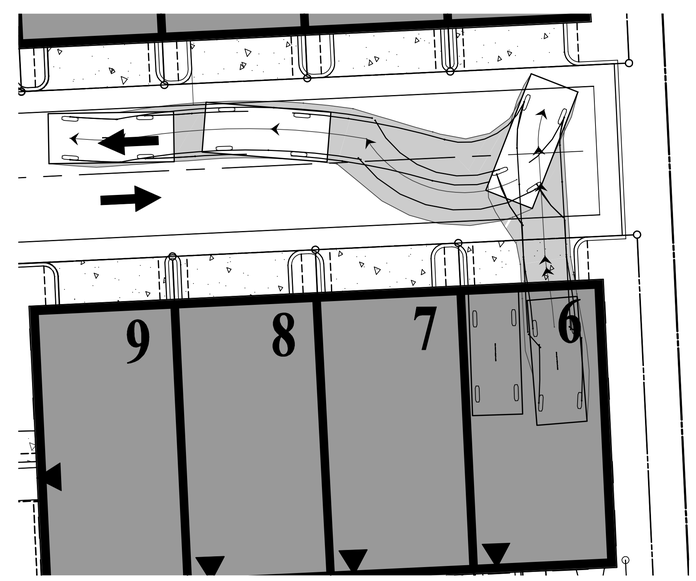
PASSENGER VEHICLE ENTERING AND EXITING TOWNHOUSE 6 - BAY 1





PASSENGER VEHICLE ENTERING AND EXITING TOWNHOUSE 6 - BAY 2





10 0 5 10 20
(IN FEET)
1 INCH = 10'

NOTE

TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE.

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COMMONWEALTH OF VIRGINIA BUSINESS CERTIFICATE PROFESSIONAL ENGINEER AARON M. VINSON Lic. No.041851 3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

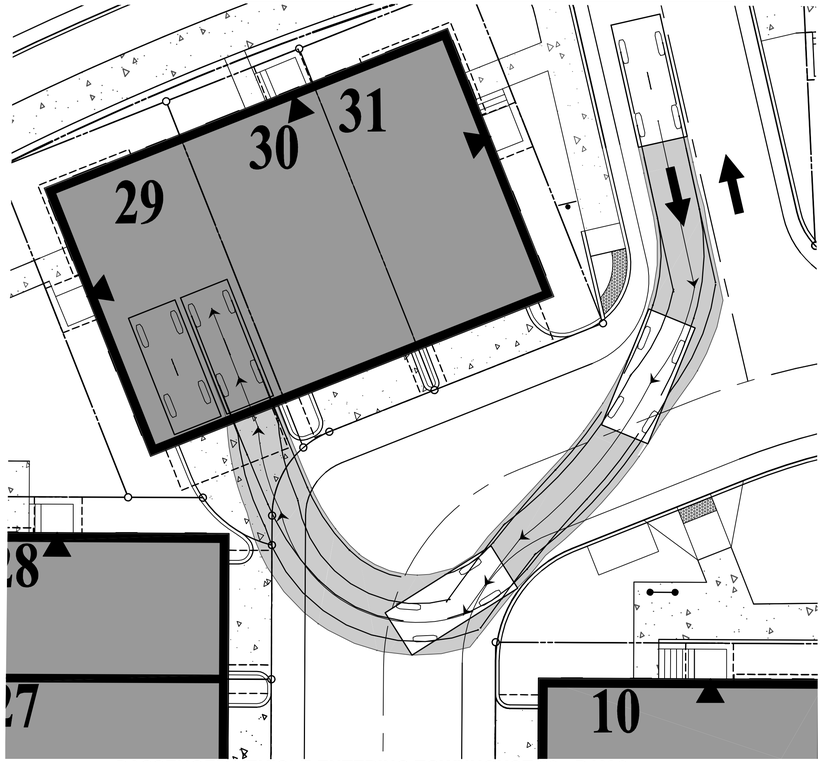
CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

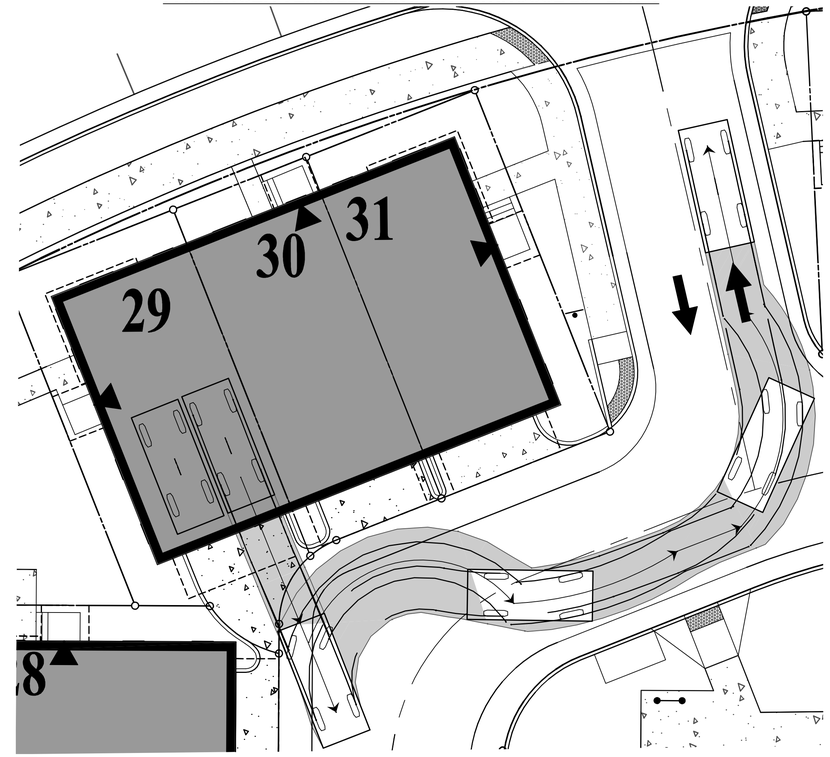
PRELIMINARY VECHICLE MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

PASSENGER VEHICLE ENTERING TOWNHOUSE 29 - BAY 1

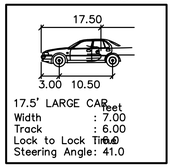


PASSENGER VEHICLE EXITING TOWNHOUSE 29 - BAY 1

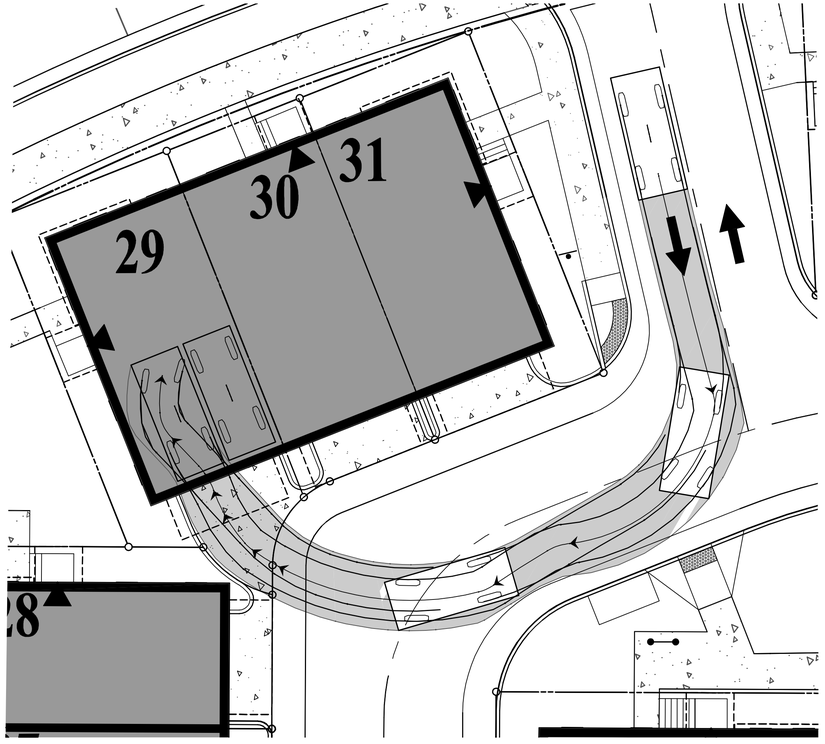


VCS 1983 - NORTH ZONE

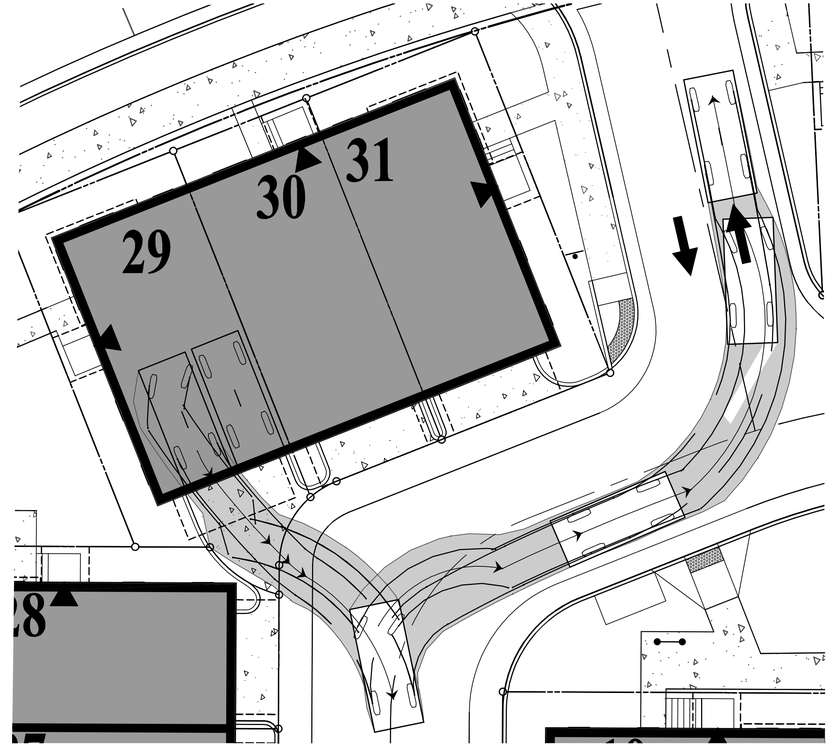
VEHICLE PROFILE



PASSENGER VEHICLE ENTERING TOWNHOUSE 29 - BAY 2



PASSENGER VEHICLE EXITING TOWNHOUSE 29 - BAY 2



10 0 5 10 20
(IN FEET)
1 INCH = 10'

NOTE
TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE.

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COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON
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3/10/17

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY VECHICLE MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING
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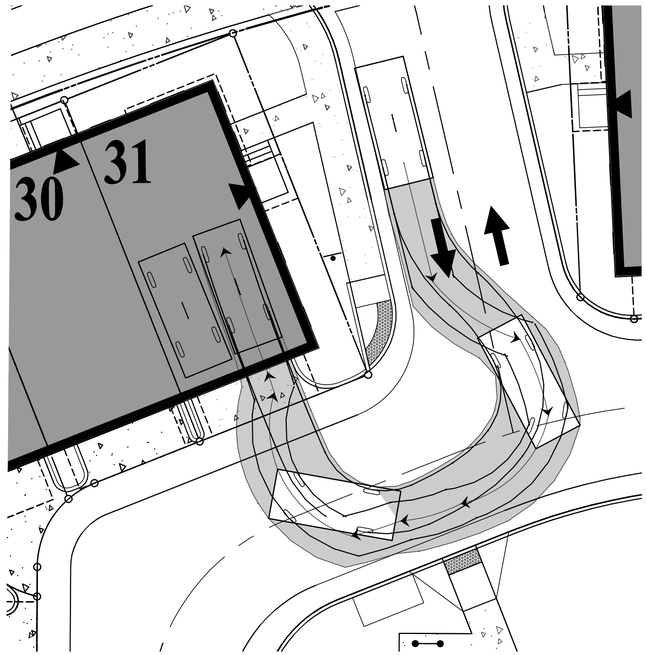
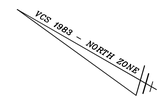
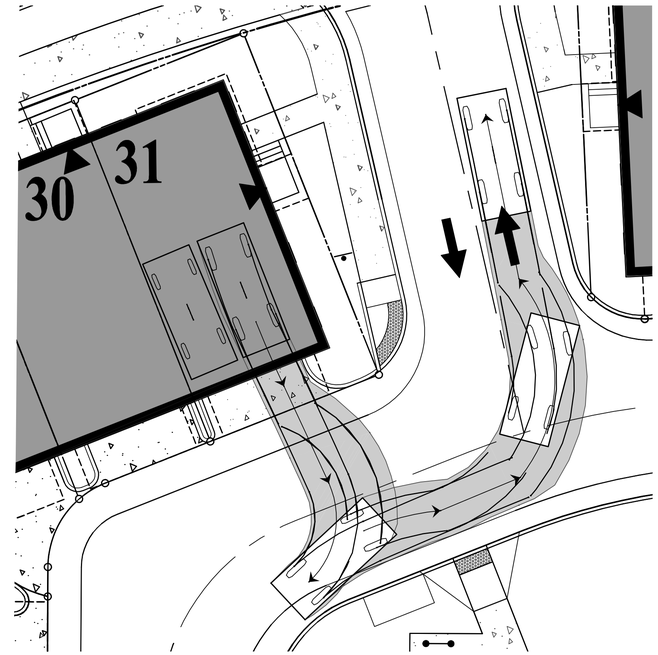
PASSENGER VEHICLE ENTERING TOWNHOUSE 31 - BAY 1

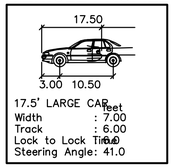




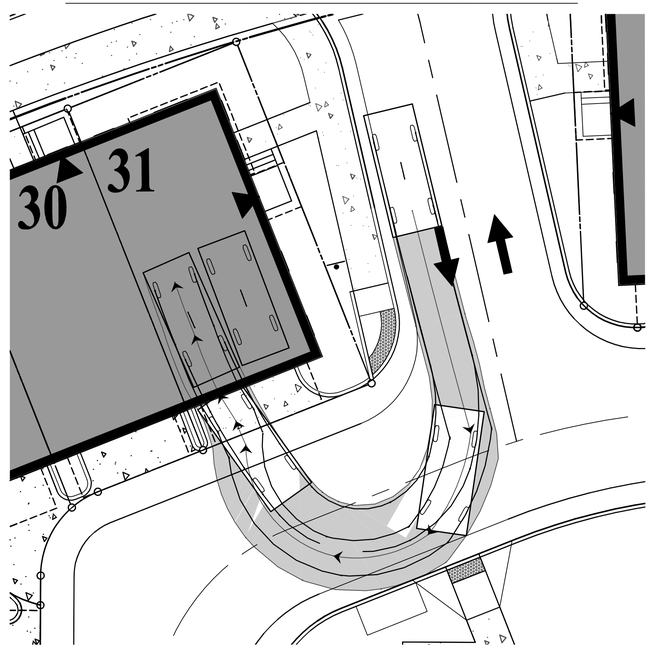
PASSENGER VEHICLE EXITING TOWNHOUSE 31 - BAY 1



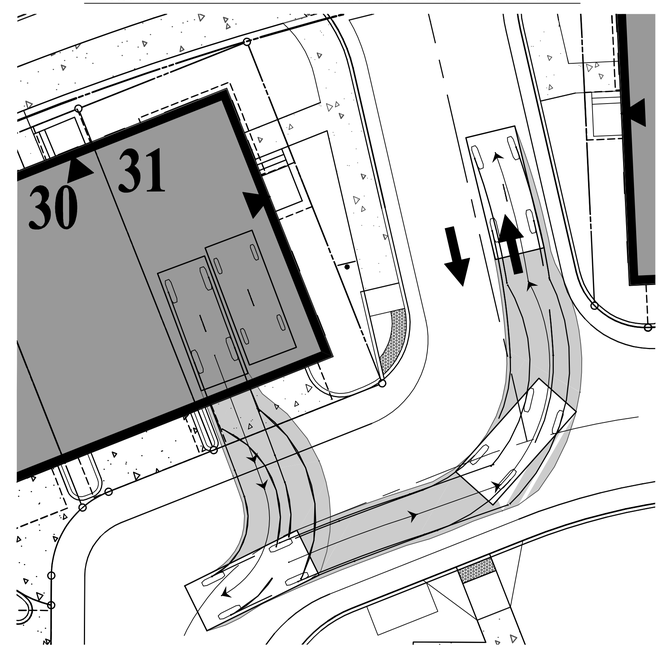
VEHICLE PROFILE



PASSENGER VEHICLE ENTERING TOWNHOUSE 31 - BAY 2



PASSENGER VEHICLE EXITING TOWNHOUSE 31 - BAY 2



10 0 5 10 20
(IN FEET)
1 INCH = 10'

NOTE

TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE.

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SCALE: 1" = 10' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER
AARON M. VINSON
Lic. No.041851
3/10/17

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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY VECHICLE MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

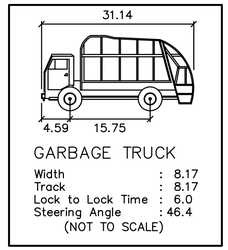
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

VEHICLE PROFILE



NOTES

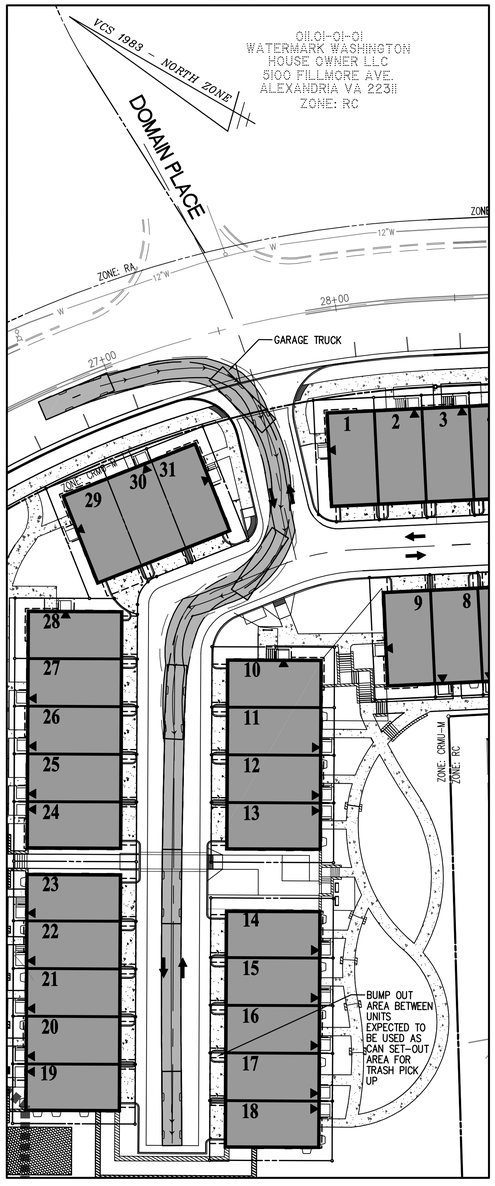
1. TRASH CONTAINERS TO BE KEPT WITHIN UNITS UNTIL PICK UP DAY
2. TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE

30 0 15 30 60 120

(IN FEET)
1 INCH = 30'

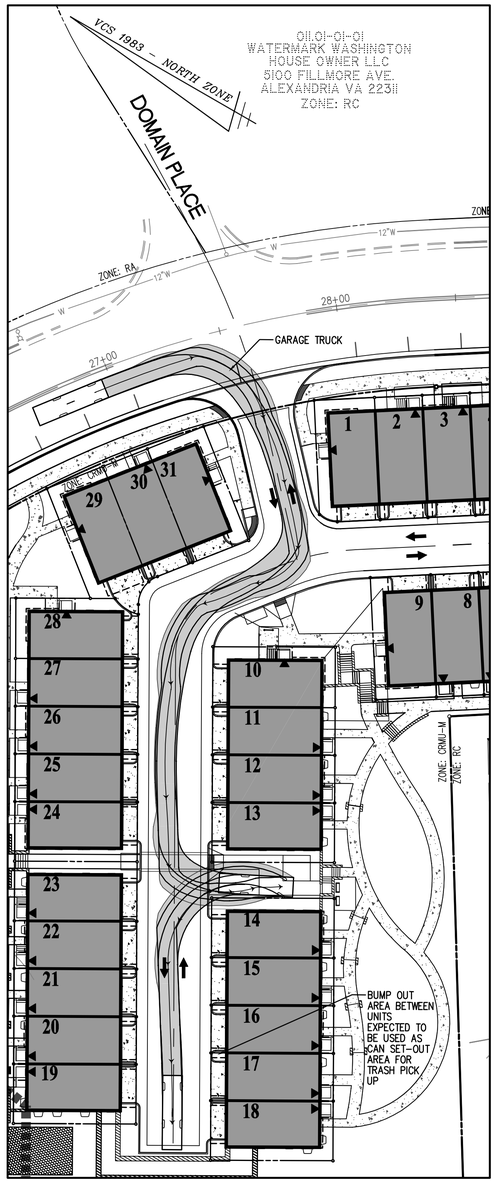
GARBAGE TRUCK MOVEMENT 1 - ENTER

SCALE: 1" = 30'



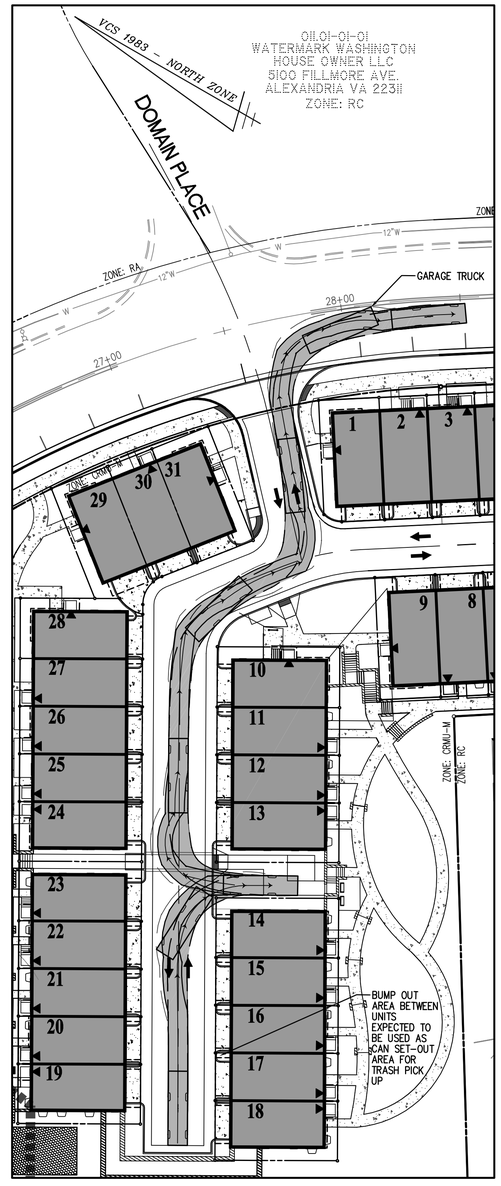
GARBAGE TRUCK MOVEMENT 2 - ENTER

SCALE: 1" = 30'



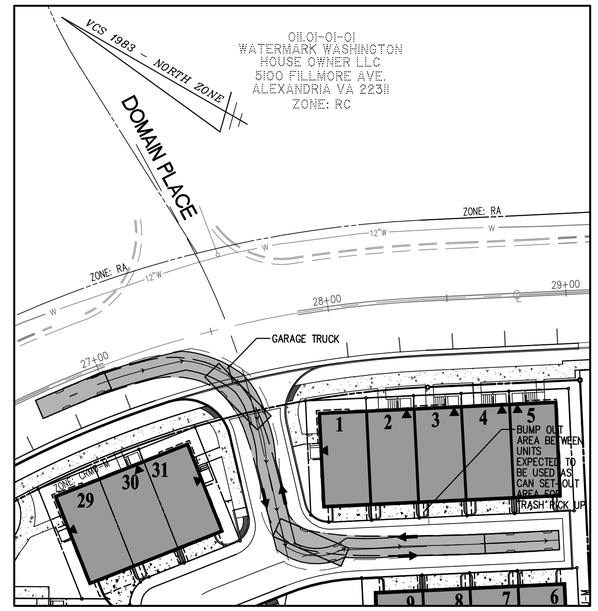
GARBAGE TRUCK MOVEMENT 1 - EXIT

SCALE: 1" = 30'



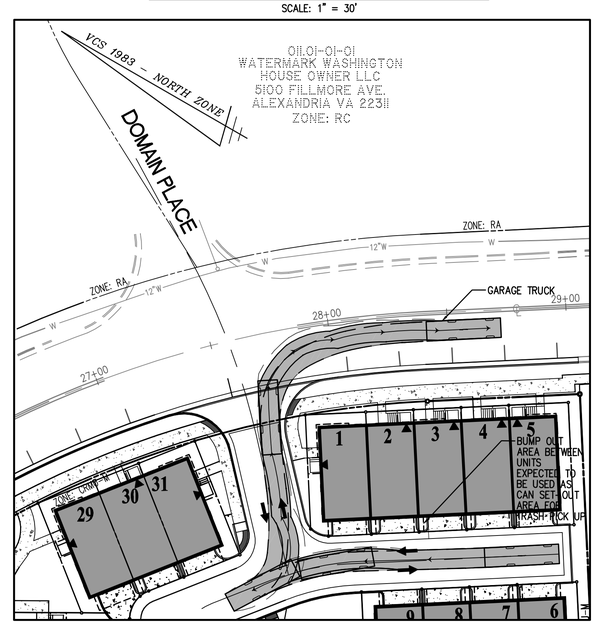
GARBAGE TRUCK MOVEMENT 2 - ENTER

SCALE: 1" = 30'



GARBAGE TRUCK MOVEMENT 2 - EXIT

SCALE: 1" = 30'



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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GARBAGE TRUCK MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

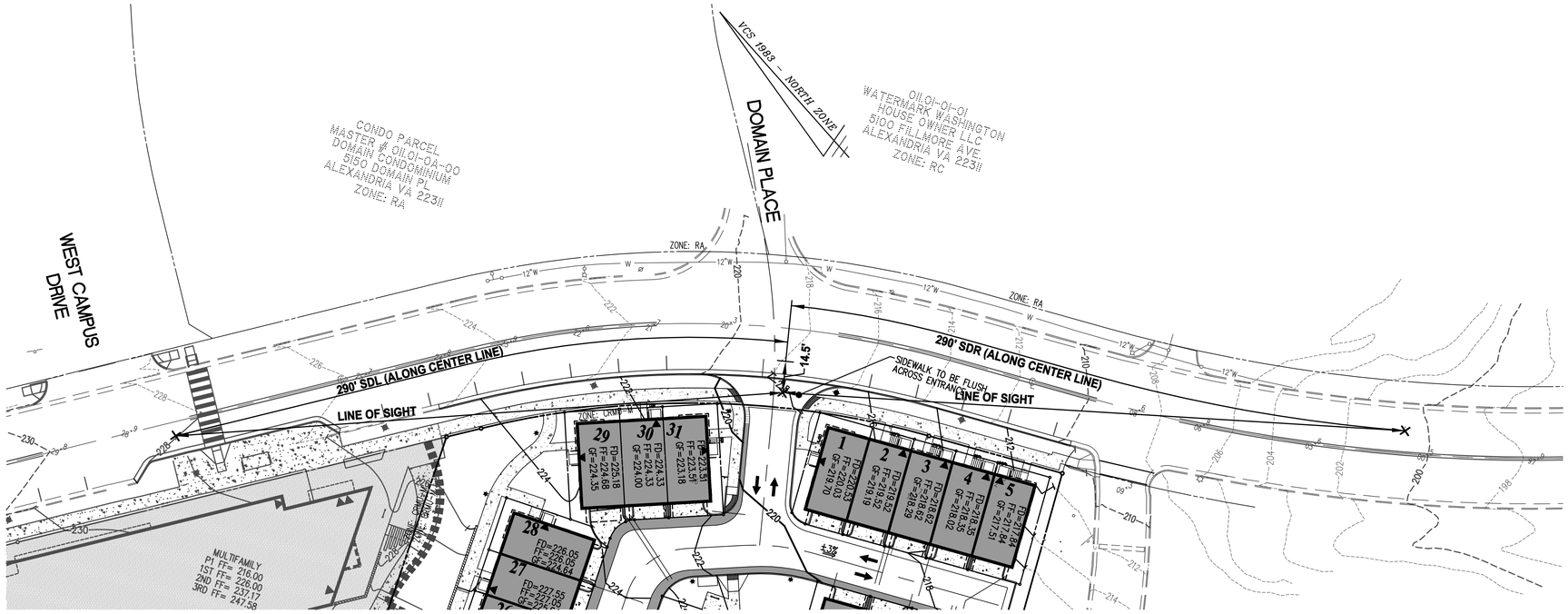
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

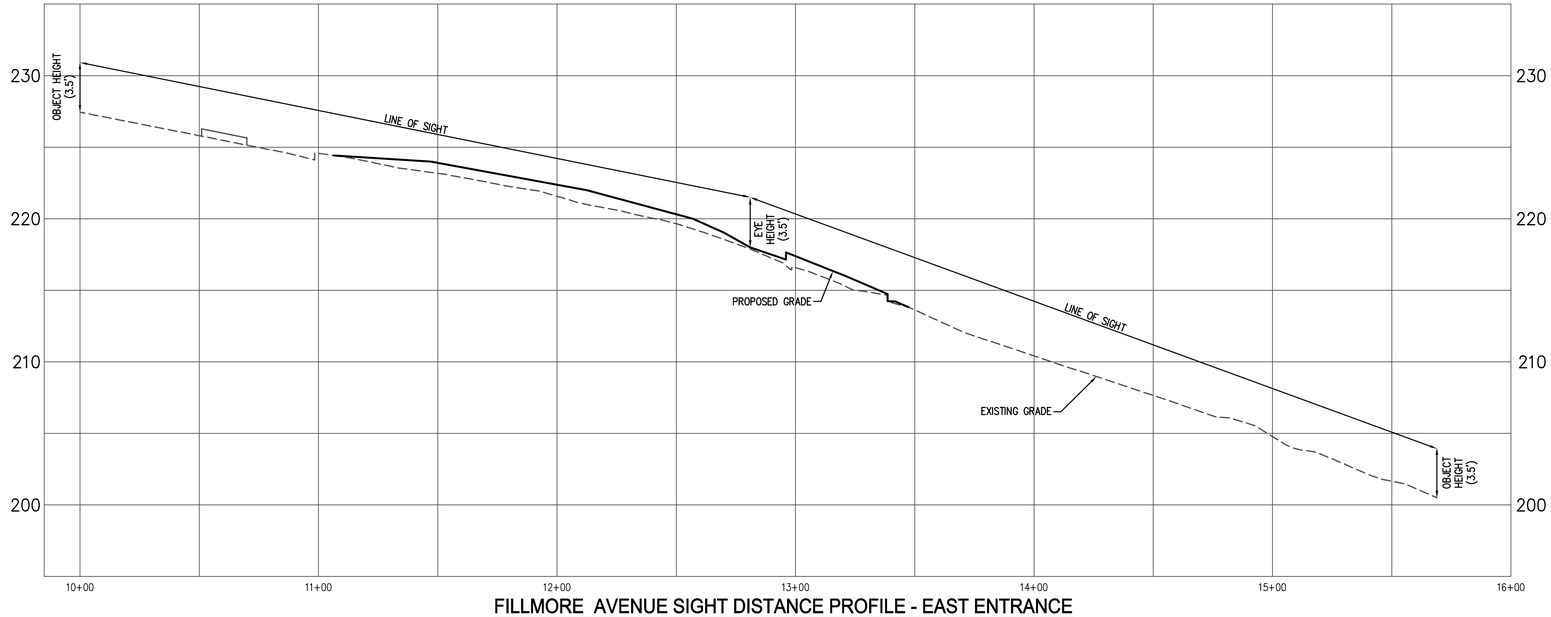
DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



PLAN VIEW

POSTED SPEED = 25 MPH
DESIGN SPEED = 30 MPH
SCALE: 1" = 30'



FILLMORE AVENUE SIGHT DISTANCE PROFILE - EAST ENTRANCE

POSTED SPEED = 25 MPH
DESIGN SPEED = 30 MPH
SCALE: HOR. 1" = 30'
VERT. 1" = 5'

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

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COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER
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3/10/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SIGHT DISTANCE PLAN AND PROFILE

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

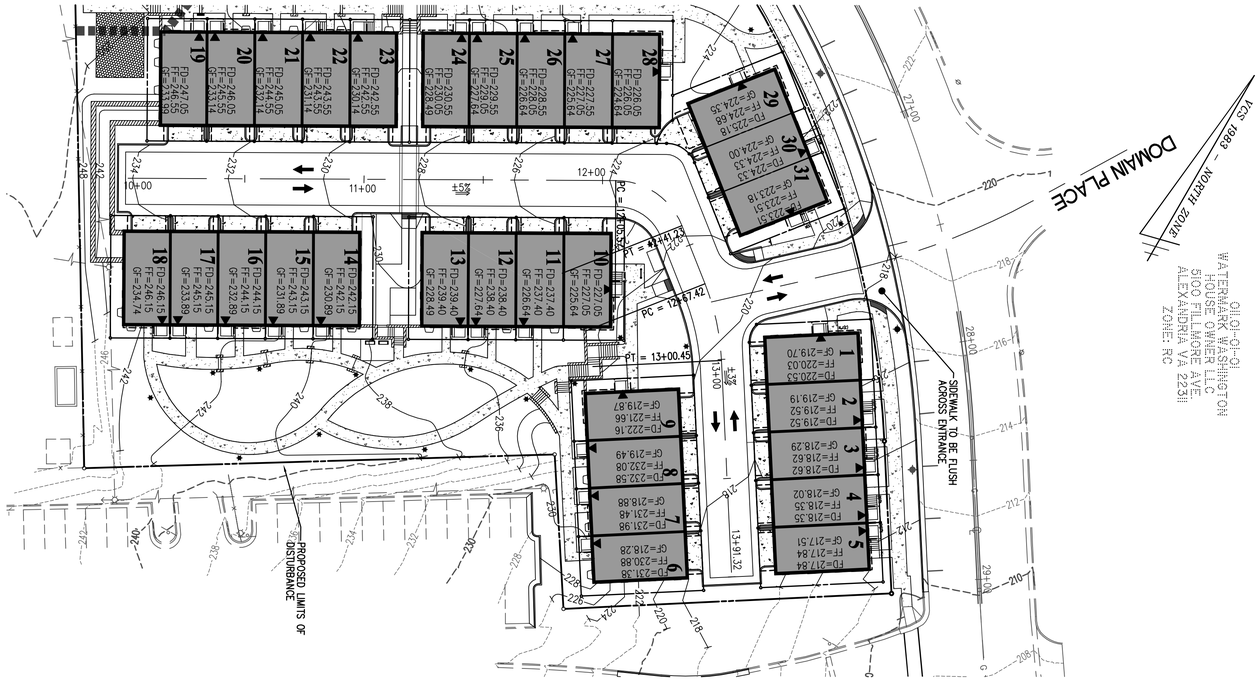
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

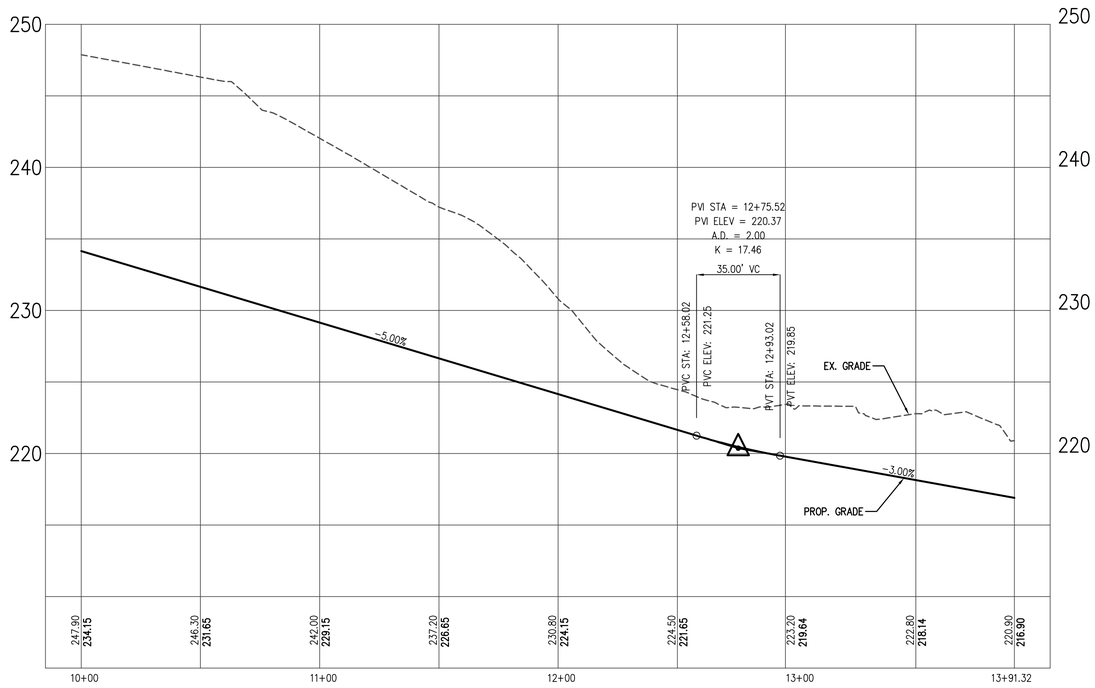
File No. Tax Map No. Job No. File Name Q:\sdskproj\13093\dwg\Planning\Craftmark\DSUP-PH2\13093P-1105.dwg

SHEET: P-1105



PLAN VIEW

POSTED SPEED = 15 MPH
DESIGN SPEED = 20 MPH
SCALE: 1" = 30'



PROFILE VIEW

POSTED SPEED = 15 MPH
DESIGN SPEED = 20 MPH
SCALE: 1" = 30' (H)
1" = 5' (V)

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
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PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

ALLEY ROAD PROFILE

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

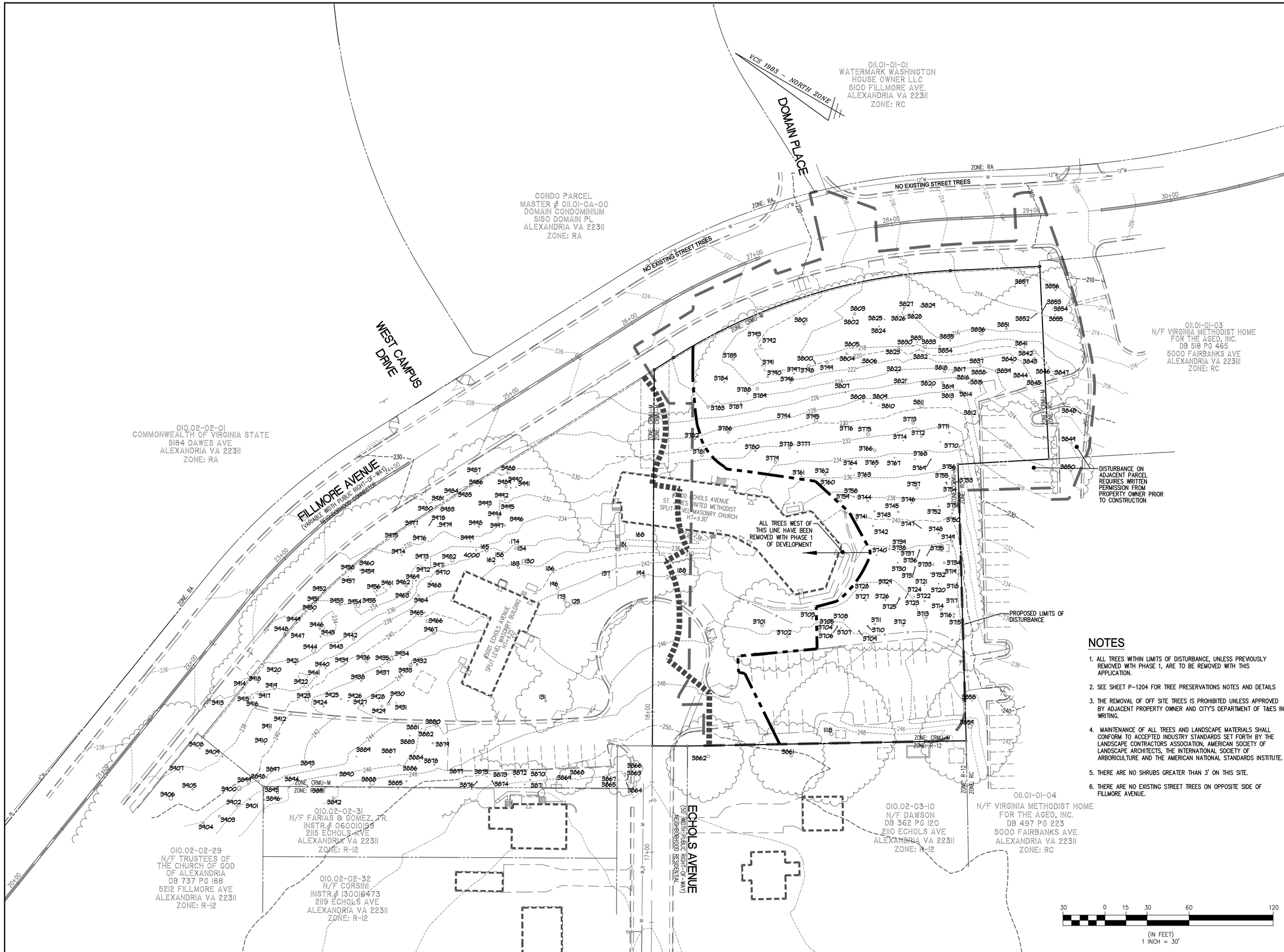
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



NOTES

1. ALL TREES WITHIN LIMITS OF DISTURBANCE, UNLESS PREVIOUSLY REMOVED WITH PHASE 1, ARE TO BE REMOVED WITH THIS APPLICATION.
2. SEE SHEET P-1204 FOR TREE PRESERVATIONS NOTES AND DETAILS
3. THE REMOVAL OF OFF SITE TREES IS PROHIBITED UNLESS APPROVED BY ADJACENT PROPERTY OWNER AND CITY'S DEPARTMENT OF T&ES IN WRITING.
4. MAINTENANCE OF ALL TREES AND LANDSCAPE MATERIALS SHALL CONFORM TO ACCEPTED INDUSTRY STANDARDS SET FORTH BY THE LANDSCAPE CONTRACTORS ASSOCIATION, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, THE INTERNATIONAL SOCIETY OF ARBORICULTURE AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.
5. THERE ARE NO SHRUBS GREATER THAN 3' ON THIS SITE.
6. THERE ARE NO EXISTING STREET TREES ON OPPOSITE SIDE OF FILLMORE AVENUE.

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COMMONWEALTH OF VIRGINIA
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Lic. No.041851
3/10/17
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

EXISTING VEGETATION SURVEY

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

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SITE PLAN No. _____

DIRECTOR DATE

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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Tree Survey Information Completed by Walter L. Phillips, Inc. – Arborist Ben Schitter –ISA #MA-5385A

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %
125	Quercus alba	White oak	37"	37'	80%	56%
130	Quercus prinus	Chestnut oak	19"	19'	60%	50%
131	Acer rubrum	Red maple	17"	17'	55%	56%
134	Quercus rubra	Northern red oak	21"	21'	60%	50%
137	Picea pungens	Blue spruce	6"	8'	30%	53%
158	Quercus alba	White oak	9"	9'	80%	53%
162	Quercus alba	White oak	9"	9'	80%	53%
165	Quercus prinus	chestnut oak	24"	24'	60%	53%
168	Acer rubrum	Red maple	12"	12'	55%	53%
173	Quercus alba	White oak	21"	21'	80%	56%
174	Quercus prinus	Chestnut oak	6"	8'	60%	53%
181	Prunus spp.	Ornamental Cherry	18"	18'	35%	53%
183	Quercus rubra	Red oak	19"	19'	60%	53%
186	Picea abies	Norway spruce	9"	9'	30%	53%
188	Cornus florida	Flowering dogwood	13"	13'	40%	47%
194	Pinus strobus	Eastern white pine	20"	20'	30%	53%
196	Quercus palustris	Pin oak	26"	26'	50%	53%
1118	Quercus rubra	Northern red oak	27"	27'	60%	50%
3701	Quercus alba	White oak	25"	25'	80%	53%
3702	Quercus alba	White oak	16"	16'	80%	50%
3703	Quercus alba	White oak	17"	17'	80%	50%
3704	Quercus alba	White oak	16"	16'	80%	56%
3705	Quercus alba	White oak	10"	10'	80%	53%
3706	Quercus alba	White oak	12"	12'	80%	53%
3707	Quercus alba	White oak	9"	9'	80%	53%
3708	Quercus alba	White oak	8"	8'	80%	50%
3709	Quercus alba	White oak	12"	12'	80%	50%
3710	Quercus alba	White oak	9"	9'	80%	50%
3711	Quercus alba	White oak	14"	14'	80%	56%
3712	Quercus alba	White oak	14"	14'	80%	50%
3713	Quercus alba	White oak	19"	19'	80%	53%
3714	Quercus alba	White oak	15"	15'	80%	47%
3715	Quercus alba	White oak	21"	21'	80%	50%
3717	Quercus alba	White oak	15"	15'	80%	47%
3718	Prunus serotina	Black cherry	8"	8'	35%	47%
3719	Quercus alba	White oak	12"	12'	80%	50%
3720	Quercus alba	White oak	8"	8'	80%	53%
3721	Quercus alba	White oak	7"	8'	80%	59%
3722	Quercus alba	White oak	13"	13'	80%	50%
3723	Quercus alba	White oak	9"	9'	80%	47%
3724	Quercus alba	White oak	6"	8'	80%	53%
3725	Quercus alba	White oak	21"	21'	80%	56%
3726	Quercus alba	White oak	9"	9'	80%	56%
3727	Quercus alba	White oak	11"	11'	80%	53%
3728	Quercus rubra	Northern red oak	9"	9'	60%	44%
3729	Quercus alba	White oak	10"	10'	80%	53%
3730	Quercus alba	White oak	11"	11'	80%	56%
3731	Quercus alba	White oak	8"	8'	80%	53%
3732	Quercus alba	White oak	11"	11'	80%	50%
3733	Quercus alba	White oak	14"	14'	80%	56%
3734	Quercus alba	White oak	15"	15'	80%	53%
3735	Quercus alba	White oak	9"	9'	80%	50%
3736	Quercus alba	White oak	14"	14'	80%	50%
3737	Nyssa sylvatica	Blackgum	6"	8'	70%	53%
3738	Quercus alba	White oak	11"	11'	80%	53%
3740	Quercus rubra	red oak	10"	10'	60%	44%
3741	Quercus rubra	red oak	9"	9'	60%	44%
3742	Quercus alba	White oak	11"	11'	80%	59%
3743	Quercus rubra	red oak	13"	13'	60%	47%
3744	Quercus alba	White oak	15"	15'	80%	53%
3745	Quercus alba	White oak	15"	15'	80%	56%

Tree Survey Information Completed by Walter L. Phillips, Inc. – Arborist Ben Schitter –ISA #MA-5385A

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %
3746	Quercus alba	White oak	9"	9'	80%	53%
3747	Quercus alba	White oak	5"	8'	80%	47%
3748	Quercus alba	White oak	12"	12'	80%	50%
3749	Quercus alba	White oak	17"	17'	80%	56%
3750	Quercus alba	White oak	13"	13'	80%	53%
3751	Quercus rubra	red oak	18"	18'	60%	47%
3752	Quercus alba	White oak	10"	10'	80%	53%
3753	Quercus alba	White oak	18"	18'	80%	53%
3754	Nyssa sylvatica	Blackgum	7"	8'	70%	56%
3755	Quercus alba	White oak	8"	8'	80%	56%
3756	Quercus alba	White oak	14"	14'	80%	53%
3757	Quercus alba	White oak	21"	21'	80%	59%
3758	Quercus alba	White oak	6"	8'	80%	50%
3759	Quercus alba	White oak	17"	17'	80%	53%
3760	Carya spp.	hickory	6"	8'	NONE	50%
3761	Quercus rubra	Northern red oak	10"	10'	60%	47%
3762	Quercus alba	White oak	18"	18'	80%	53%
3763	Carya spp.	hickory	6"	8'	NONE	53%
3764	Quercus alba	White oak	9"	9'	80%	50%
3765	Quercus rubra	Northern red oak	12"	12'	60%	53%
3766	Quercus prinus	Chestnut oak	24"	24'	60%	56%
3767	Quercus alba	White oak	9"	9'	80%	56%
3768	Quercus alba	White oak	5"	8'	80%	47%
3769	dead	Dead	9"	0'	0%	
3770	Carya spp.	hickory	8"	8'	NONE	50%
3771	Quercus alba	White oak	14"	14'	80%	44%
3772	Quercus prinus	Chestnut oak	15"	15'	60%	56%
3773	Quercus alba	White oak	20"	20'	80%	56%
3774	dead	Dead	6"	0'	0%	
3775	Quercus prinus	Chestnut oak	20"	20'	60%	47%
3776	Quercus alba	White oak	11"	11'	80%	53%
3777	Quercus rubra	Northern red oak	8"	8'	60%	50%
3778	Quercus alba	White oak	13"	13'	80%	50%
3779	Quercus rubra	Northern red oak	21"	21'	60%	56%
3780	Quercus rubra	Northern red oak	19"	19'	60%	50%
3781	Quercus rubra	Northern red oak	24"	24'	60%	53%
3782	Quercus alba	White oak	13"	13'	80%	53%
3783	Quercus alba	White oak	17"	17'	80%	56%
3784	Pinus virginiana	Virginia pine	9"	9'	30%	44%
3785	Catalpa spicosa	NONE	20"	20'	NONE	53%
3786	dead	Dead	17"	0'	0%	
3787	Quercus rubra	Northern red oak	12"	12'	60%	59%
3788	Quercus alba	White oak	11"	11'	80%	50%
3789	Quercus rubra	Northern red oak	19"	19'	60%	53%
3790	Quercus alba	White oak	17"	17'	80%	53%
3791	dead	Dead	12"	0'	0%	
3792	Prunus serotina	Black cherry	10"	10'	35%	56%
3793	Robinia pseudoacacia	Black locust	8"	8'	45%	44%
3794	Quercus alba	White oak	6"	8'	80%	50%
3795	Quercus alba	White oak	22"	22'	80%	63%
3796	dead	Dead	8"	0'	0%	
3797	dead	Dead	10"	0'	0%	
3798	Quercus rubra	Northern red oak	22"	22'	60%	56%
3799	Carya spp.	NONE	9"	9'	NONE	56%
3800	Quercus prinus	Chestnut oak	18"	18'	60%	53%
3801	Populus deltoides	Eastern cottonwood	22"	22'	35%	47%
3802	Catalpa spicosa	NONE	9"	9'	NONE	53%
3803	Platanus occidentalis	American sycamore	21"	21'	45%	56%
3804	Quercus prinus	Chestnut oak	15"	15'	60%	56%
3805	Carya spp.	hickory	6"	8'	NONE	44%
3806	Quercus alba	White oak	9"	9'	80%	56%

Tree Survey Information Completed by Walter L. Phillips, Inc. – Arborist Ben Schitter –ISA #MA-5385A

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %
3807	Quercus alba	White oak	10"	10'	80%	56%
3808	Quercus alba	White oak	15"	15'	80%	53%
3809	Quercus alba	White oak	16"	16'	80%	56%
3810	Quercus alba	White oak	6"	8'	80%	59%
3811	Quercus alba	White oak	28"	28'	80%	63%
3812	Pinus virginiana	Virginia pine	7"	8'	30%	44%
3813	Quercus alba	White oak	6"	8'	80%	50%
3814	Quercus rubra	Northern red oak	16"	16'	60%	50%
3815	Quercus rubra	Northern red oak	12"	12'	60%	44%
3816	dead	Dead	5"	0'	0%	
3817	Quercus prinus	Chestnut oak	12"	12'	60%	56%
3818	Quercus prinus	Chestnut oak	13"	13'	60%	53%
3819	dead	Dead	15"	0'	0%	
3820	Quercus alba	White oak	6"	8'	80%	47%
3821	Quercus alba	White oak	11"	11'	80%	50%
3822	Quercus alba	White oak	9"	9'	80%	47%
3823	Quercus alba	White oak	18"	18'	80%	59%
3824	Nyssa sylvatica	Blackgum	8"	8'	70%	47%
3825	Robinia pseudoacacia	Black locust	7"	8'	45%	50%
3826	dead	Dead	6"	0'	0%	
3827	Prunus spp.	Ornamental Cherry	12"	12'	35%	50%
3828	Prunus spp.	Ornamental Cherry	9"	9'	35%	50%
3829	Betula spp.	birch	12"	12'	NONE	50%
3830	Quercus alba	White oak	9"	9'	80%	50%
3831	Quercus alba	White oak	7"	8'	80%	53%
3832	dead	Dead	5"	0'	0%	
3833	dead	Dead	21"	0'	0%	
3834	Quercus prinus	Chestnut oak	14"	14'	60%	47%
3835	Quercus prinus	Chestnut oak	11"	11'	60%	53%
3836	Quercus alba	White oak	25"	25'	80%	56%
3837	Quercus rubra	Northern red oak	17"	17'	60%	56%
3838	Quercus rubra	Northern red oak	10"	10'	60%	56%
3839	Quercus rubra	Northern red oak	21"	21'	60%	53%
3840	Quercus rubra	Northern red oak	11"	11'	60%	47%
3841	Quercus alba	White oak	11"	11'	80%	56%
3842	Quercus rubra	Northern red oak	36"	36'	60%	59%
3843	Quercus alba	White oak	13"	13'	80%	47%
3844	Ilex x Nellie Stevens	Nellie Stevens holly	5"	8'	0%	47%
3845	Ilex x Nellie Stevens	Nellie Stevens holly	5"	8'	0%	47%
3846	Ilex x Nellie Stevens	Nellie Stevens holly	5"	8'	0%	47%
3847	Ilex x Nellie Stevens	Nellie Stevens holly	5"	8'	0%	47%
3848	Cornus florida	Flowering dogwood	10"	10'	40%	56%
3849	Prunus spp.	Ornamental Cherry	12"	12'	35%	56%
3850	Prunus spp.	Ornamental Cherry	12"	12'	35%	56%
3851	Quercus prinus	chestnut oak	16"	16'	60%	56%
3852	Pinus virginiana	Virginia pine	9"	9'	30%	47%
3853	Pinus virginiana	Virginia pine	7"	8'	30%	47%
3854	Robinia pseudoacacia	Black locust	6"	8'	45%	50%
3855	Morus alba	White mulberry	6"	8'	30%	50%
3856	Castanea dentata	American chestnut	15"	15'	50%	56%
3857	Pinus virginiana	Virginia pine	16"	16'	30%	53%
3858	Ilex opaca	American holly	8"	8'	60%	44%
3859	Quercus phellos	willow oak	30"	30'	60%	53%
3861	Quercus alba	White oak	29"	29'	80%	56%
3862	Quercus alba	White oak	30"	30'	80%	59%
3863	Nyssa sylvatica	Blackgum	9"	9'	70%	56%
3864	Nyssa sylvatica	Blackgum	9"	9'	70%	56%
3865	Nyssa sylvatica	Blackgum	9"	9'	70%	56%
3866	Nyssa sylvatica	Blackgum	8"	8'	70%	53%
3867	Nyssa sylvatica	Blackgum	6"	8'	70%	56%
3868	Nyssa sylvatica	Blackgum	7"	8'	70%	56%

NOTES

1. ALL TREES FROM BOTH THE EAST AND WEST PARCELS ARE SHOWN ON TREE INVENTORIES PROVIDED. TREES WEST OF THE LINE DRAWN ON P-1201 HAVE BEEN REMOVED WITH PHASE 1 OF DEVELOPMENT.

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 30' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER AARON M. VINSON Lic. No.041851 3/10/17

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

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

EXISTING VEGETATION INVENTORY

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

Tree Survey Information Completed by Walter L. Phillips, Inc. – Arborist Ben Schitter –ISA #MA-5385A

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %
3869	Nyssa sylvatica	Blackgum	5"	8'	70%	56%
3870	Nyssa sylvatica	Blackgum	8"	8'	70%	53%
3871	Prunus serotina	Black cherry	10"	10'	35%	47%
3872	Nyssa sylvatica	Blackgum	5"	8'	70%	53%
3873	Nyssa sylvatica	Blackgum	6"	8'	70%	56%
3874	Quercus palustris	Pin oak	12"	12'	50%	53%
3875	Nyssa sylvatica	Blackgum	7"	8'	70%	50%
3876	Ulmus americana	American elm	11"	11'	35%	53%
3877	Nyssa sylvatica	Blackgum	7"	8'	70%	50%
3878	Robinia pseudoacacia	Black locust	10"	10'	45%	47%
3879	Acer rubrum	Red maple	10"	10'	55%	50%
3880	Quercus phellos	Willow oak	19"	19'	60%	47%
3881	Ulmus americana	American elm	6"	8'	35%	53%
3882	Robinia pseudoacacia	Black locust	10"	10'	45%	47%
3883	Celtis occidentalis	Hackberry	8"	8'	50%	56%
3884	Acer rubrum	Red maple	9"	9'	55%	53%
3885	Robinia pseudoacacia	Black locust	12"	12'	45%	41%
3886	Quercus phellos	Willow oak	7"	8'	60%	56%
3887	Ulmus americana	American elm	5"	8'	35%	41%
3888	Quercus prinus	Chestnut oak	26"	26'	60%	53%
3889	Acer rubrum	Red maple	7"	8'	55%	41%
3890	Robinia pseudoacacia	Black locust	7"	8'	45%	41%
3891	Quercus alba	White oak	15"	15'	80%	56%
3892	Quercus alba	White oak	24"	24'	80%	63%
3893	Robinia pseudoacacia	Black locust	11"	11'	45%	41%
3894	Quercus alba	White oak	8"	8'	80%	50%
3895	dead	Dead	17"	0'	0%	
3896	Quercus alba	White oak	11"	11'	80%	50%
3897	Quercus prinus	Chestnut oak	7"	8'	60%	53%
3898	Quercus prinus	Chestnut oak	7"	8'	60%	56%
3899	Quercus alba	White oak	12"	12'	80%	41%
3900	Quercus prinus	Chestnut oak	25"	25'	60%	53%
3901	Quercus prinus	Chestnut oak	11"	11'	60%	41%
3902	Quercus prinus	Chestnut oak	14"	14'	60%	53%
3903	Quercus prinus	Chestnut oak	16"	16'	60%	56%
3904	Quercus prinus	Chestnut oak	16"	16'	60%	53%
3905	Pinus virginiana	Virginia pine	15"	15'	30%	56%
3906	Acer saccharinum	Silver maple	28"	28'	30%	56%
3907	Ilex opaca	American holly	8"	8'	60%	56%
3908	Acer rubrum	Red maple	14"	14'	55%	50%
3909	Prunus serotina	Black cherry	7"	8'	35%	47%
3910	Prunus serotina	Black cherry	6"	8'	35%	50%
3911	Quercus prinus	Chestnut oak	5"	8'	60%	50%
3912	Robinia pseudoacacia	Black locust	7"	8'	45%	41%
3913	Robinia pseudoacacia	Black locust	8"	8'	45%	47%
3914	Pinus virginiana	Virginia pine	10"	10'	30%	53%
3915	Pinus virginiana	Virginia pine	6"	8'	30%	44%
3916	Pinus virginiana	Virginia pine	9"	9'	30%	44%
3917	Pinus virginiana	Virginia pine	11"	11'	30%	50%
3918	Robinia pseudoacacia	Black locust	11"	11'	45%	50%
3919	Robinia pseudoacacia	Black locust	10"	10'	45%	44%
3920	Prunus serotina	Black cherry	6"	8'	35%	50%
3921	Ulmus americana	American elm	6"	8'	35%	50%
3922	Quercus prinus	Chestnut oak	7"	8'	60%	50%
3923	Quercus prinus	Chestnut oak	29"	29'	60%	50%
3924	Quercus alba	White oak	13"	13'	80%	56%
3925	Quercus alba	White oak	10"	10'	80%	56%
3926	Quercus rubra	Northern red oak	10"	10'	60%	56%
3927	Quercus alba	White oak	9"	9'	80%	47%
3928	Quercus alba	White oak	6"	8'	80%	50%
3929	Quercus alba	White oak	16"	16'	80%	50%

Tree Survey Information Completed by Walter L. Phillips, Inc. – Arborist Ben Schitter –ISA #MA-5385A

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %
3930	Quercus alba	White oak	23"	23'	80%	50%
3931	Quercus rubra	Northern red oak	6"	8'	60%	47%
3932	cut	NONE	0"	8'	NONE	
3933	Quercus alba	White oak	23"	23'	80%	50%
3934	Quercus prinus	Chestnut oak	9"	9'	60%	53%
3935	Quercus alba	White oak	7"	8'	80%	56%
3936	Quercus alba	White oak	19"	19'	80%	53%
3937	Quercus prinus	Chestnut oak	5"	8'	60%	47%
3938	Quercus alba	White oak	17"	17'	80%	50%
3939	Quercus alba	White oak	15"	15'	80%	39%
3940	Quercus rubra	Northern red oak	56"	56'	60%	
3941	Quercus alba	White oak	5"	8'	80%	41%
3942	Quercus rubra	Northern red oak	20"	20'	60%	56%
3943	Quercus prinus	Chestnut oak	5"	8'	60%	50%
3944	Quercus prinus	Chestnut oak	20"	20'	60%	47%
3945	Quercus rubra	Northern red oak	10"	10'	60%	53%
3946	Quercus rubra	Northern red oak	12"	12'	60%	53%
3947	Robinia pseudoacacia	Black locust	6"	8'	45%	47%
3948	Robinia pseudoacacia	Black locust	10"	10'	45%	47%
3949	Prunus serotina	Black cherry	6"	8'	35%	50%
3950	Pinus virginiana	Virginia pine	9"	9'	30%	50%
3951	Pinus virginiana	Virginia pine	7"	8'	30%	38%
3952	Pinus virginiana	Virginia pine	7"	8'	30%	47%
3953	Quercus alba	White oak	12"	12'	80%	53%
3954	Quercus prinus	Chestnut oak	19"	19'	60%	53%
3955	Quercus prinus	Chestnut oak	6"	8'	60%	56%
3956	Quercus prinus	Chestnut oak	10"	10'	60%	41%
3957	Pinus virginiana	Virginia pine	7"	8'	30%	41%
3958	Pinus virginiana	Virginia pine	6"	8'	30%	41%
3959	Pinus virginiana	Virginia pine	11"	11'	30%	44%
3960	Platanus occidentalis	American sycamore	7"	8'	45%	50%
3961	Quercus alba	White oak	7"	8'	80%	50%
3962	Quercus rubra	Northern red oak	17"	17'	60%	56%
3963	Quercus rubra	Northern red oak	16"	16'	60%	53%
3964	Quercus alba	White oak	18"	18'	80%	56%
3965	Quercus alba	White oak	9"	9'	80%	56%
3966	Quercus alba	White oak	16"	16'	80%	56%
3967	Quercus alba	White oak	22"	22'	80%	59%
3968	Quercus rubra	Northern red oak	11"	11'	60%	53%
3969	Quercus prinus	Chestnut oak	11"	11'	60%	50%
3970	Quercus alba	White oak	12"	12'	80%	53%
3971	Quercus alba	White oak	9"	9'	80%	47%
3972	Dead	Dead	4"	0'	0%	
3973	Quercus alba	White oak	7"	8'	80%	50%
3974	Prunus serotina	Black cherry	9"	9'	35%	38%
3975	Robinia pseudoacacia	Black locust	12"	12'	45%	38%
3976	Pinus virginiana	Virginia pine	7"	8'	30%	53%
3977	Pinus virginiana	Virginia pine	10"	10'	30%	50%
3978	Pinus virginiana	Virginia pine	9"	9'	30%	50%
3979	Pinus virginiana	Virginia pine	7"	8'	30%	47%
3980	Prunus serotina	Black cherry	6"	8'	35%	44%
3981	Pinus virginiana	Virginia pine	6"	8'	30%	41%
3982	Quercus rubra	Northern red oak	28"	28'	60%	50%
3983	Robinia pseudoacacia	Black locust	9"	9'	45%	41%
3984	Prunus serotina	Black cherry	8"	8'	35%	47%
3985	Robinia pseudoacacia	Black locust	12"	12'	45%	41%
3986	Quercus alba	White oak	10"	10'	80%	56%
3987	Robinia pseudoacacia	Black locust	10"	10'	45%	50%
3988	Acer rubrum	Red maple	10"	10'	55%	53%
3989	Populus deltoides	Eastern cottonwood	18"	18'	35%	53%
3990	Populus deltoides	Eastern cottonwood	8"	8'	35%	53%

Tree Survey Information Completed by Walter L. Phillips, Inc. – Arborist Ben Schitter –ISA #MA-5385A

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %
3991	Prunus serotina	Black cherry	9"	9'	35%	50%
3992	Prunus serotina	Black cherry	6"	8'	35%	44%
3993	Prunus serotina	Black cherry	10"	10'	35%	47%
3994	Platanus occidentalis	American sycamore	12"	12'	45%	50%
3995	Prunus serotina	Black cherry	5"	8'	35%	47%
3996	Prunus serotina	Black cherry	6"	8'	35%	47%
3997	Quercus prinus	Chestnut oak	15"	15'	60%	50%
3998	Prunus serotina	Black cherry	12"	12'	35%	44%
3999	Carya spp.	hickory	7"	8'	NONE	47%
4000	Quercus alba	White oak	11"	11'	80%	50%

NOTES

1. ALL TREES FROM BOTH THE EAST AND WEST PARCELS ARE SHOWN ON TREE INVENTORIES PROVIDED. TREES WEST OF THE LINE DRAWN ON P-1201 HAVE BEEN REMOVED WITH PHASE 1 OF DEVELOPMENT.

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SCALE: 1" = 30' | DATE: 3/10/2017 | DRAWN: DP, DM | CHECKED: BF

COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON Lic. No.041851
3/10/17

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

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

EXISTING VEGETATION INVENTORY

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
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.

LANDSCAPE NOTES

1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE AND PENALTIES SHALL BE PREPARED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA AND APPROVED BY THE CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING AND CONSTRUCTION ACTIVITIES.

2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED / VERIFIED IN FIELD BY CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.

3. LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON DEMOLITION, SEDIMENT AND EROSION CONTROL AND LANDSCAPE PLAN SHEETS.

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

5. APPLICANT MUST INCLUDE ON THE PLAN DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPERTY OWNER(S) VERIFYING NOTIFICATION OF AND AGREEMENT WITH CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFECTED BY THE PROJECT WORK.

6. INCLUDE SPECIFIC CONSTRUCTION STAGING INFORMATION ON THE PLAN THAT INDICATES THE METHODS, AND PROCEDURES TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON-SITE AND OFF-SITE VEGETATION.

7. PROPOSED PLANTINGS SHALL BE PROVIDED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA.

8. SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP TO DATE EDITION OF ANSI-Z60.1, THE AMERICAN STANDARD FOR NURSERY STOCK AS PRODUCED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, WASHINGTON, DC.

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

10. IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.

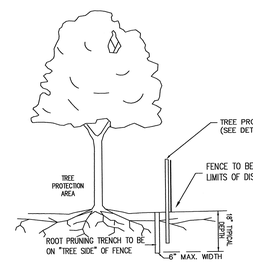
11. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.

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

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

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

ROOT PRUNING DETAIL (TYPICAL)



NOTE:

TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN THE FILED BY PROJECT FORESTER.

EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.

TRENCH SHOULD BE BACKFILLED IMMEDIATELY.

ROOTS SHALL BE SEVERED BY TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. ROOTS OVER 1.0" DIAMETER SHALL BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT IMPACTS.

TREE PRESERVATION TECHNIQUES
(Both techniques described below can be combined with the pruning of roots that may occur beyond the area of treatment).

#1 – For Use in Areas Where Equipment Must Operate in Areas That Will Remain at Existing Grade:

- In the woodchip and plywood or chainlink fence area shown in figure 1 below, spread 10-15" of wood chips by hand.
- On top of the wood chips, lay 5/8 to ¾ inch plywood or heavy-gauge chain link fence to provide a path for equipment and workers to operate.

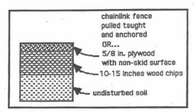


Figure 1

#2 – For Use in Areas Where Fill Soil Will Be Placed Over the Root Zone:

- An aeration system shall be installed in the area shown in figure 2 below prior to grading. The aeration system (see diagram below) shall consist of *geotextile* fabric laid on top of the undisturbed ground; with not less than six inches of river rock on top of it; and with a second layer of *geotextile* fabric laid on top of the rock.
- Fill dirt can then be placed on top of the *geotextile* fabric.

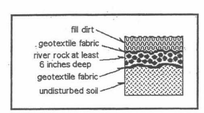


Figure 2

Standards and Requirements

Figure I-A. Required Notes on Drawing Submissions

1. All protection and preservation measures for existing vegetation, including maintenance shall be approved by the City Arborist in-field prior to commencement of any site disturbing activity.

2. Specification for all plantings shall be in accordance with the current and most up to date edition of ANSI-Z60.1, The American Standard for Nursery Stock as produced by the American Association of Nurserymen; Washington, DC.

3. The applicant has made suitable arrangements for pre-selection tagging, pre-contract growing, or is undertaking specialized planting stock development with a nursery or grower that is conveniently located to the project site, other procedures that will ensure availability of specified materials. In the event that shortages and/or inability to obtain specified plantings occurs, remedial efforts including species changes, additional plantings and modification to the landscape plan shall be undertaken by the applicant. All remedial efforts shall, with prior approval by the city, be performed to the satisfaction of the Directors of Planning & Zoning, Recreation, Parks & Cultural Activities and Transportation & Environmental Services.

4. In lieu of more strenuous specifications, all landscape related work shall be installed and maintained in accordance with the current and most up-to-date edition (at time of construction) of Landscape Specification Guidelines as produced by the Landscape Contractors Association of Maryland, District of Columbia and Virginia; Gaithersburg, Maryland.

5. Prior to commencement of landscape installation/planting operations, a pre-installation/construction meeting will be scheduled with the City's Arborist and Landscape Architects to review the scope of installation procedures and processes.

6. Maintenance for this project shall be performed in perpetuity, in compliance with City of Alexandria Landscape Guidelines and/or as conditioned by project approval.

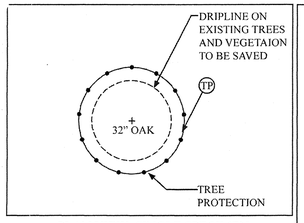
7. A certification letter for tree wells, tree trenches and plantings above structure shall be provided by the project's Landscape Architect. The letter shall certify that all below grade construction is in compliance with approved drawings and specifications. The letter shall be submitted to the City Arborist and approved prior to approval of the last and final Certificate of Occupancy for the project. The letter shall be submitted by the owner/applicant/successor and sealed and dated as approved by the project's Landscape Architect.

8. As-built drawings for this landscape and/or irrigation/water management system will be provided in compliance with City of Alexandria Landscape Guidelines. As-built drawings shall include clear identification of all variation(s) and changes from approved drawings including location, quantity and specification of all project elements.

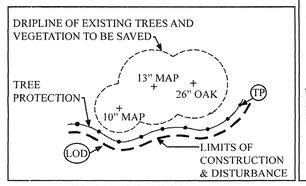
9. MAINTENANCE OF ALL TREES AND LANDSCAPE MATERIALS SHALL CONFORM TO ACCEPTED INDUSTRY STANDARDS SET FORTH BY THE LANDSCAPE CONTRACTORS ASSOCIATION, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, THE INTERNATIONAL SOCIETY OF ARBORICULTURE, AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.

1. Standards and Requirement

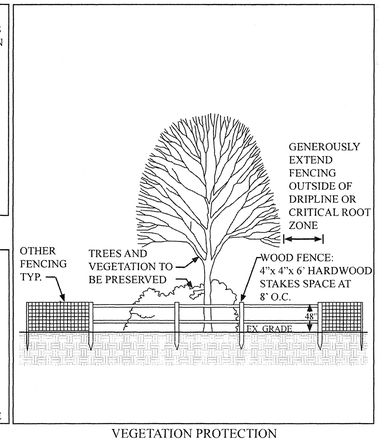
Figure I-B. Tree Protection



PLAN VIEW: SINGLE SPECIMEN



PLAN VIEW: VEGETATION



VEGETATION PROTECTION AND PRESERVATION DETAIL SECTION

TREE PRESERVATION AREA

KEEP OUT

NO EQUIPMENT OR MATERIALS ARE TO BE STORED OR DEPOSITED IN THIS AREA

(COMPANY NAMES AND CONTACT NUMBERS)

PENALTY FOR VIOLATIONS STRICTLY ENFORCED

- MINIMUM DIMENSION: 11 X 8 INCHES (W X H)
- BACKGROUND COLOR: RED OR YELLOW

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COMMONWEALTH OF VIRGINIA — AARON M. VINSON Lic. No.041851 — 3/10/17 — PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

TREE PRESERVATION NOTES & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

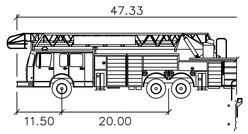
DIRECTOR — DATE

CHAIRMAN, PLANNING COMMISSION — DATE

DATE RECORDED _____

INSTRUMENT NO. — DEED BOOK NO. — PAGE NO.

FIRE TRUCK PROFILE



Fire Truck Alexandria 203

Width	: 8.17
Track	: 8.00
Lock to Lock Time	: 6.00
Steering Angle	: 28.5

FIGURE A107.2 FIRE LANE SIGN

FIGURE A107.1 FIRE LANE SIGN

FIRE LANE SIGN SPECIFICATIONS

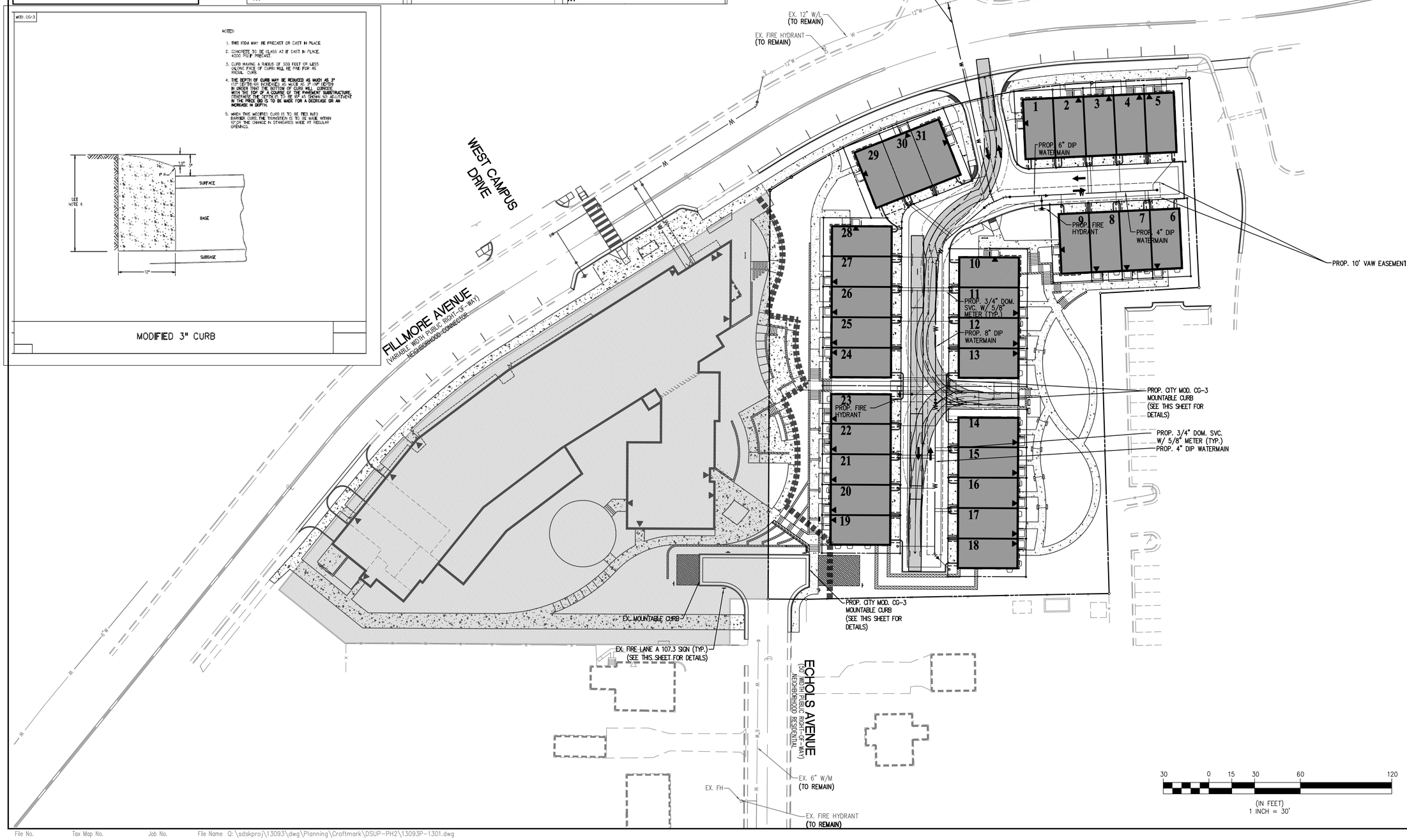
A107.2 Sign Specifications. Emergency vehicle easement signs shall be metal construction, 12-inches wide and 18 inches in height. Provide red letters on reflective white background with a 3/8 inch red trim strip around the entire outer edge of the sign. The lettering shall be "NO PARKING,"," "EMERGENCY VEHICLE EASEMENT," "EM. VEH. EAS.," and "City of Alex." placed as shown in Figure 3. Lettering size shall be as follows: "NO PARKING" – 2 inches, "EMERGENCY VEHICLE EASEMENT" – 2 1/2 inches. EM. VEH. EAS. – 1 inch, CITY OF ALEX. – 1/2 inch. Directional Arrows – 1 inch by 6 inches solid shaft with solid head 1 1/2 inches wide and 2 inches deep (See Figures A107.1, A107.2, A107.3 for examples). Signs shall be mounted with the bottom of the sign 7 feet above the roadway, and shall be properly attached to a signpost or other approved structure as designated by the Director of Code Enforcement. Posts for signs, when required, shall be metal and securely mounted. Signs shall face in the direction of vehicle travel. In areas where emergencyvehicle easements involve two-way traffic, double mounted signs shall be provided. The maximum distance between signs shall be 100 feet. Other special signs or modifications to emergency vehicle easement signs shall be approved by the Director of Code Enforcement.

MOD. CG-3

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS SPECIAL CURB.
4. **THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (TOP DEPTH MAY BE INCREASED AS MUCH AS 3) (TOP DEPTH IN ORDER THAT THE BOTTOM OF CURB WILL CORRESPOND WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE THE DEPTH IS TO BE 19" AS SHOWN) NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.**
5. WHEN THIS MODIFIED CURB IS TO BE TIED INTO BARRIER CURB, THE TRANSITION IS TO BE MADE WITHIN 10'OF THE CHANGE IN STANDARDS MADE AT REGULAR OPENINGS.

MODIFIED 3" CURB



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COMMONWEALTH OF VIRGINIA BUSINESS PROFESSIONAL
AARON M. VINSON
Lic. No.041851
2/16/17

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY FIRE SERVICE PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

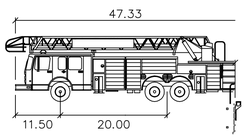
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

FIRE TRUCK PROFILE

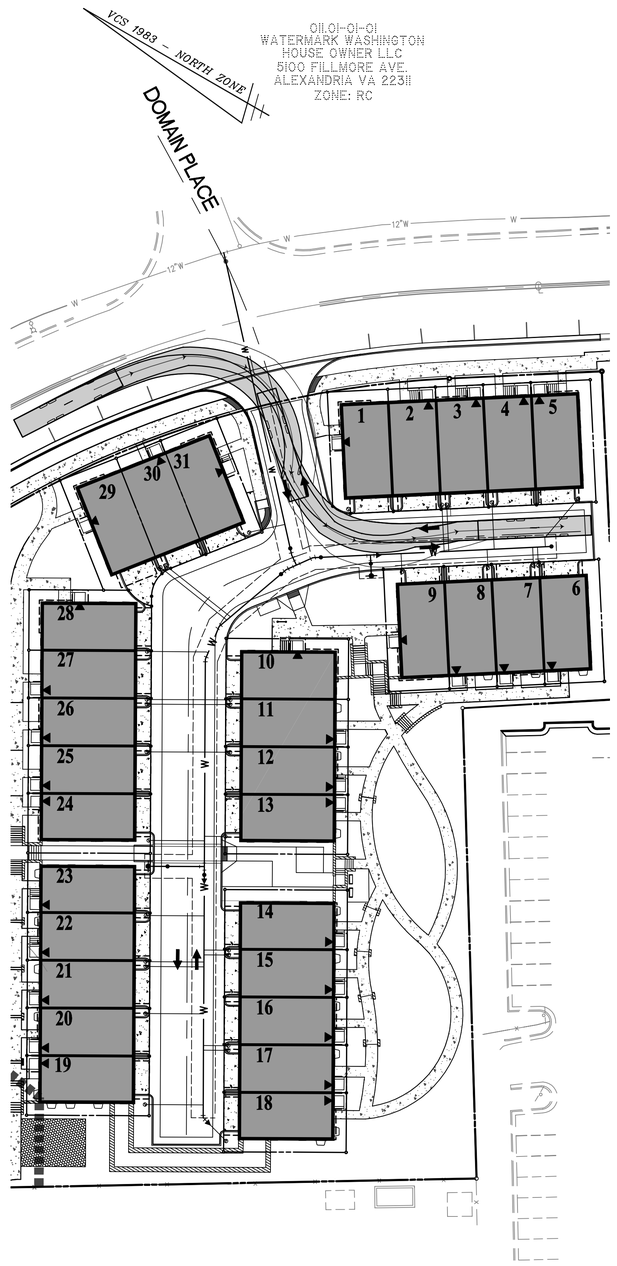


Fire Truck Alexandria 203

Width	: 8.17
Track	: 8.00
Lock to Lock Time	: 6.00
Steering Angle	: 28.5

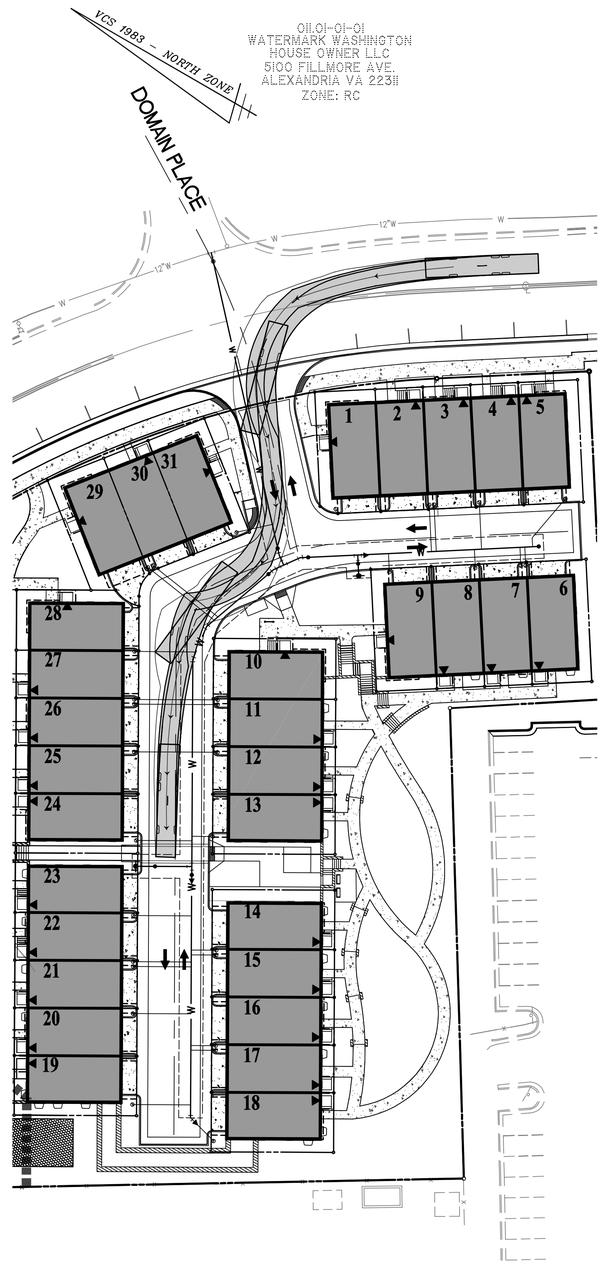
30 0 15 30 60

(IN FEET)
1 INCH = 30'



ADDITIONAL FIRE TRUCK MOVEMENT #1

SCALE: 1" = 30'



ADDITIONAL FIRE TRUCK MOVEMENT #2

SCALE: 1" = 30'

ADDITIONAL FIRE TRUCK MOVEMENT #3

SCALE: 1" = 30'

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PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

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CRAFTMARK - ST. JAMES PHASE 2 TOWNHOUSE DEVELOPMENT PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

FIRE TRUCK MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

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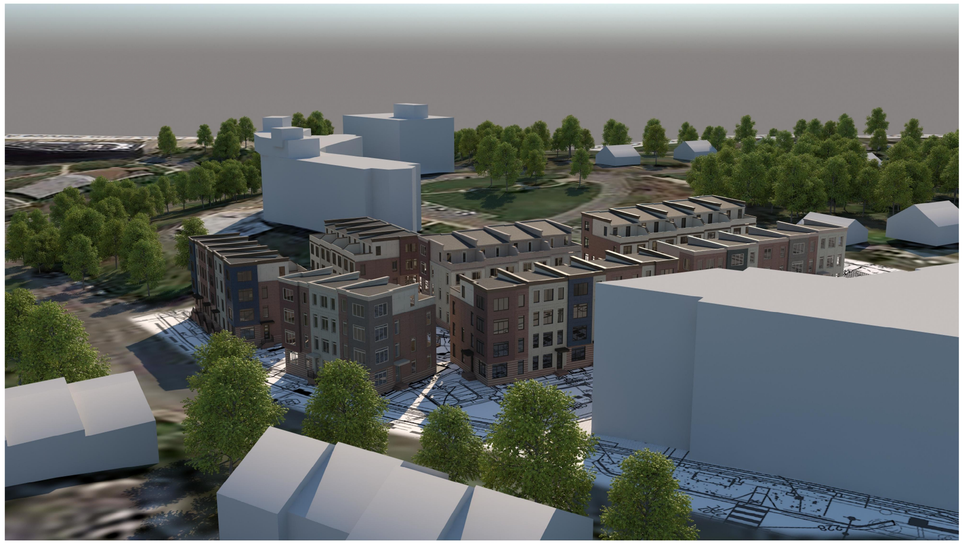
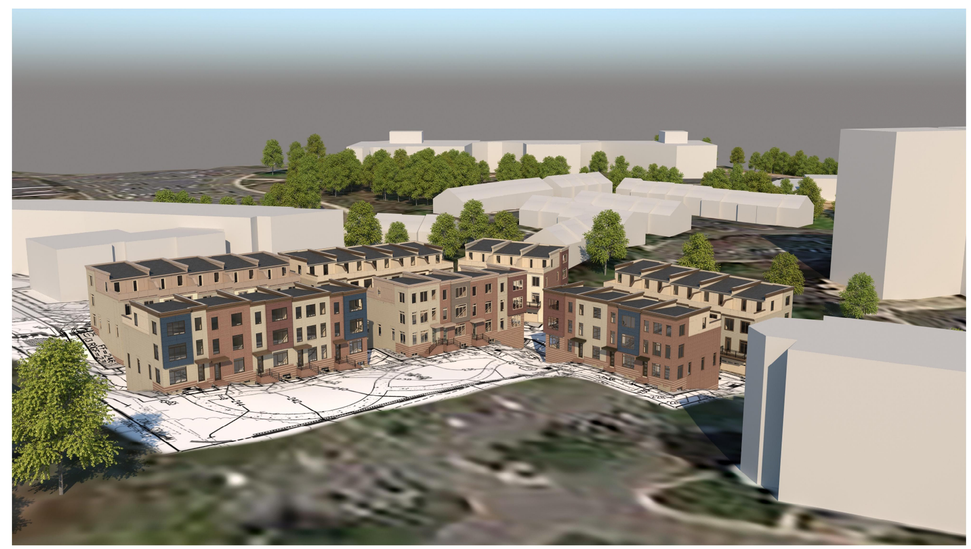
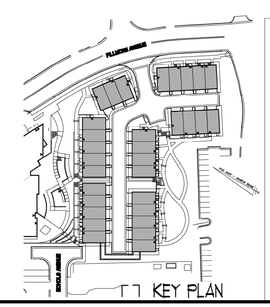




AERIAL VIEWS

NOTE: THE SOLE PURPOSE OF THIS EXHIBIT IS TO DEMONSTRATE THE SCALED RELATIONSHIP OF THE PROJECT TO THE SURROUNDING PROPERTIES AND SRUCTURES. SEE THE ARCHITECTURAL DRAWINGS AND RENDERINGS FOR SPECIFIC DETAILS, COLORS AND MATERIALS.



KEY PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0021
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
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SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

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STEVEN B. DUNN
Lic. No. 0806
03/10/2017
ARCHITECT

SHEET TITLE: MASSING / AERIAL VIEWS

CLIENT INFORMATION: CRAFTMARK HOMES - ST. JAMES PROPERTY

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DRAWN BY:

03/10/2017

REV No.	DATE

P40940320

SHEET No. 1.00

LOT 5

LEFT SIDE ELEVATION

LOT 5 LOT 4 LOT 3 LOT 2 LOT 1

FRONT ELEVATION

LOT 1

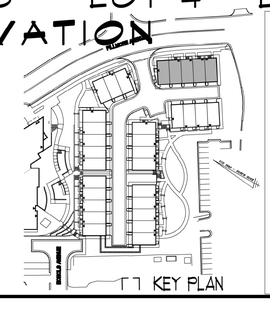
RIGHT SIDE ELEVATION

PERSPECTIVE

LOT 1 LOT 2 LOT 3 LOT 4 LOT 5

REAR ELEVATION

BLOCK A



KEY PLAN

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COMMONWEALTH OF VIRGINIA
STEVEN B. SCHUMAN
Lic. No. 008671
03/10/2017
ARCHITECT

SHEET TITLE:
BLOCK A - STRIP ELEVATIONS - COLOR

CLIENT INFORMATION:
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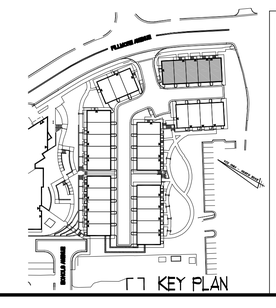
SHEET No.

1.10

BLOCK A FRONT ELEVATION

1/4" = 1'-0"

	LOT #5	LOT #4	LOT #3	LOT #2	LOT #1
AVERAGE FINISHED GRADE (A)	214.86'	215.84'	216.74'	217.64'	218.53'
ENTRY FLOOR ELEVATION (B)	217.84'	218.35'	218.62'	219.52'	220.03'
AVERAGE GRADE TO ROOF (C)	45.03'	44.56'	43.93'	43.93'	43.55'
AVERAGE GRADE TO PARAPET (D)	45.71'	45.24'	44.61'	44.61'	44.23'
NET SQUARE FOOTAGE	2966 SQ. FT.	2927 SQ. FT.	2966 SQ. FT.	2927 SQ. FT.	2927 SQ. FT.



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SHEET TITLE:
BLOCK A - FRONT ELEVATION

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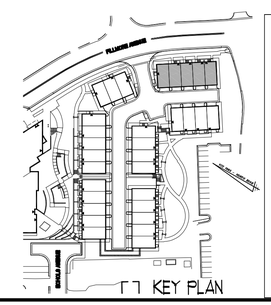
SHEET No.

1:11

BLOCK A
REAR ELEVATION
1/4" = 1'-0"

	LOT #1	LOT #2	LOT #3	LOT #4	LOT #5
AVERAGE FINISHED GRADE (A)	218.53'	217.64'	216.74'	215.84'	214.86'
ENTRY FLOOR ELEVATION (B)	220.03'	219.52'	218.62'	218.35'	217.84'
AVERAGE GRADE TO ROOF (C)	43.55'	43.93'	43.93'	44.56'	45.03'
AVERAGE GRADE TO PARAPET (D)	44.23'	44.61'	44.61'	45.24'	45.71'
NET SQUARE FOOTAGE	2927 SQ. FT.	2927 SQ. FT.	2966 SQ. FT.	2927 SQ. FT.	2966 SQ. FT.



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SHEET TITLE:
BLOCK A - REAR ELEVATION

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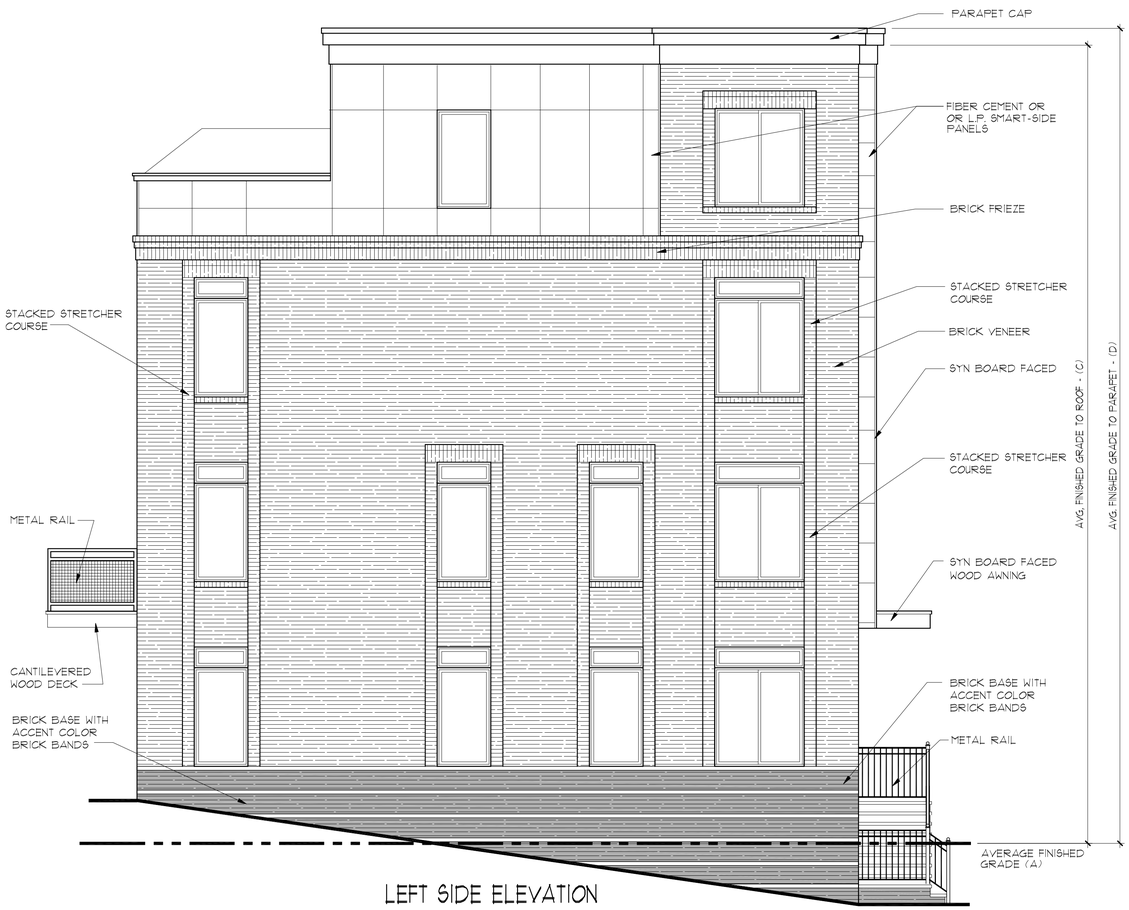


LEFT SIDE ELEVATION

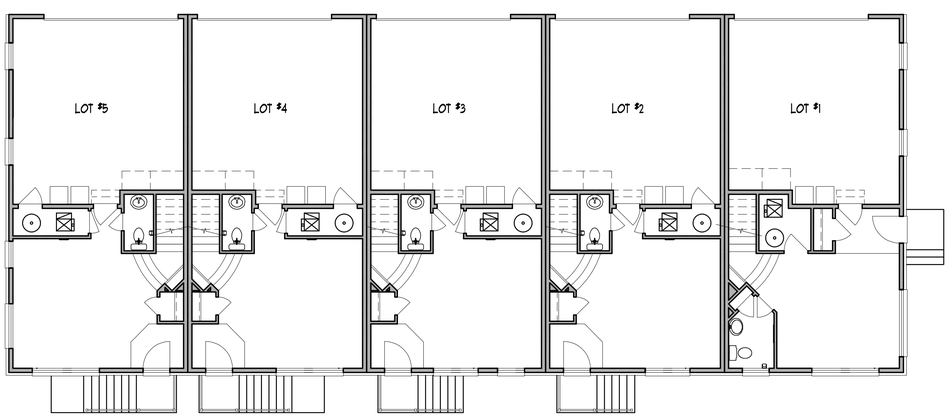
1/4" = 1'-0"

RIGHT SIDE ELEVATION

1/4" = 1'-0"

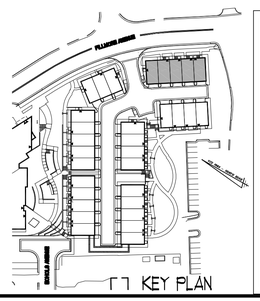
	LOT #5
AVERAGE FINISHED GRADE (A)	214.86'
ENTRY FLOOR ELEVATION (B)	217.84'
AVERAGE GRADE TO ROOF (C)	45.03'
AVERAGE GRADE TO PARAPET (D)	45.71'
NET SQUARE FOOTAGE	2966 SQ. FT.

	LOT #1
AVERAGE FINISHED GRADE (A)	218.53'
ENTRY FLOOR ELEVATION (B)	220.03'
AVERAGE GRADE TO ROOF (C)	43.55'
AVERAGE GRADE TO PARAPET (D)	44.23'
NET SQUARE FOOTAGE	2994 SQ. FT.



BLOCK A PLAN

1/8" = 1'-0"



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SHEET TITLE:
BLOCK A - PLAN & SIDE ELEVATIONS

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SHEET No.
1.13

LOT 9

LEFT SIDE ELEVATION

LOT 9 LOT 8 LOT 7 LOT 6

FRONT ELEVATION

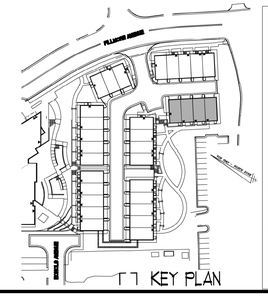
LOT 6

RIGHT SIDE ELEVATION

LOT 6 LOT 7 LOT 8 LOT 9

REAR ELEVATION

BLOCK B



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BLOCK B - STRIP ELEVATIONS - COLOR

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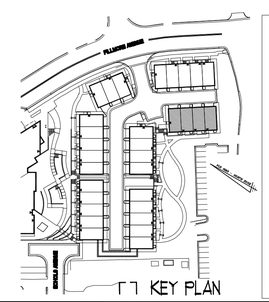
SHEET No.
1.20

BLOCK B
FRONT ELEVATION
1/4" = 1'-0"

	LOT #9	LOT #8	LOT #7	LOT #6
AVERAGE FINISHED GRADE (A)	224.88'	225.42'	224.86'	223.62'
ENTRY FLOOR ELEVATION (B)	221.66'	232.08'	231.48'	230.88'
AVERAGE GRADE TO ROOF (C)	38.83'	38.39'	38.35'	38.99'
AVERAGE GRADE TO PARAPET (D)	39.51'	39.07'	39.03'	39.67'
NET SQUARE FOOTAGE	2968 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.



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SHEET TITLE:
BLOCK B - FRONT ELEVATION

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SHEET No.

121

BLOCK B
REAR ELEVATION
1/4" = 1'-0"

	LOT #6	LOT #7	LOT #8	LOT #9
AVERAGE FINISHED GRADE (A)	223.62'	224.86'	225.42'	224.88'
ENTRY FLOOR ELEVATION (B)	230.88'	231.48'	232.08'	221.66'
AVERAGE GRADE TO ROOF (C)	38.99'	38.35'	38.39'	38.83'
AVERAGE GRADE TO PARAPET (D)	39.67'	39.03'	39.07'	39.51'
NET SQUARE FOOTAGE	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.	2968 SQ. FT.

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SHEET TITLE:
BLOCK B - REAR ELEVATION

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SHEET No.
1.22

LEFT SIDE ELEVATION

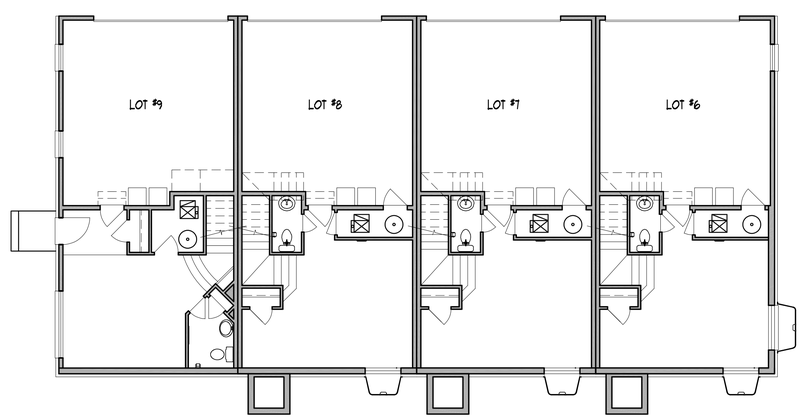
1/4" = 1'-0"

RIGHT SIDE ELEVATION

1/4" = 1'-0"

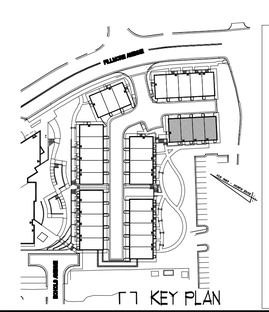
	LOT #9
AVERAGE FINISHED GRADE (A)	224.88'
ENTRY FLOOR ELEVATION (B)	221.66'
AVERAGE GRADE TO ROOF (C)	38.83'
AVERAGE GRADE TO PARAPET (D)	39.51'
NET SQUARE FOOTAGE	2968 SQ. FT.

	LOT #6
AVERAGE FINISHED GRADE (A)	223.62'
ENTRY FLOOR ELEVATION (B)	230.88'
AVERAGE GRADE TO ROOF (C)	38.99'
AVERAGE GRADE TO PARAPET (D)	39.67'
NET SQUARE FOOTAGE	2907 SQ. FT.



BLOCK B PLAN

1/8" = 1'-0"



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SHEET TITLE:
BLOCK B - PLAN & SIDE ELEVATIONS

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SHEET No.

1.23

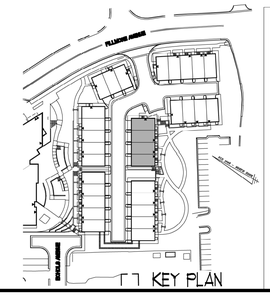
LOT 13
LEFT SIDE ELEVATION

LOT 13 LOT 12 LOT 11 LOT 10
FRONT ELEVATION

LOT 10
RIGHT SIDE ELEVATION

LOT 10 LOT 11 LOT 12 LOT 13
REAR ELEVATION

BLOCK C



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SHEET TITLE:
BLOCK C - STRIP ELEVATIONS - COLOR

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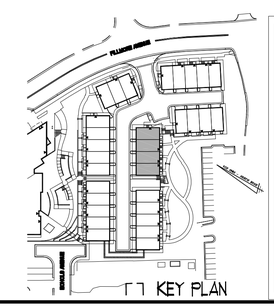
SHEET No.
1.30

BLOCK C
FRONT ELEVATION
1/4" = 1'-0"

	LOT #13	LOT #12	LOT #11	LOT #10
AVERAGE FINISHED GRADE (A)	232.80'	232.40'	231.23''	227.02'
ENTRY FLOOR ELEVATION (B)	239.40'	238.40'	237.40'	227.05'
AVERAGE GRADE TO ROOF (C)	38.33'	37.73'	38.90'	42.08'
AVERAGE GRADE TO PARAPET (D)	39.01'	38.41'	38.58'	42.76'
NET SQUARE FOOTAGE	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.	2968 SQ. FT.



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SHEET TITLE:
BLOCK C - FRONT ELEVATION

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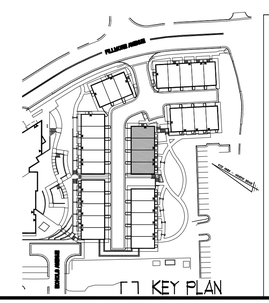
P40940320

SHEET No.
1.3

BLOCK C
REAR ELEVATION

1/4" = 1'-0"

	LOT #10	LOT #11	LOT #12	LOT #13
AVERAGE FINISHED GRADE (A)	227.02'	23123''	232.40'	232.80'
ENTRY FLOOR ELEVATION (B)	227.05'	237.40'	238.40'	239.40'
AVERAGE GRADE TO ROOF (C)	42.08'	38.90'	37.73'	38.33'
AVERAGE GRADE TO PARAPET (D)	42.76'	38.58'	38.41'	39.01'
NET SQUARE FOOTAGE	2968 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.



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SHEET TITLE:
BLOCK C - REAR ELEVATION

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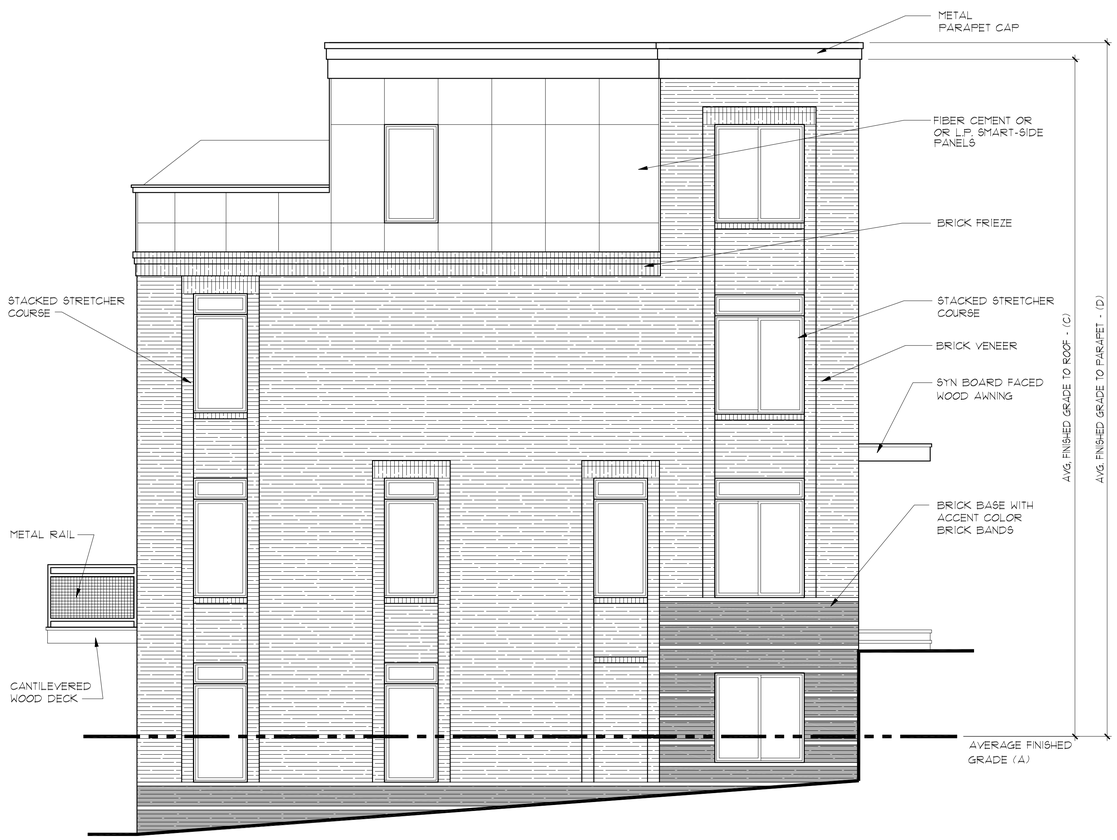
SHEET No.
132



LEFT SIDE ELEVATION

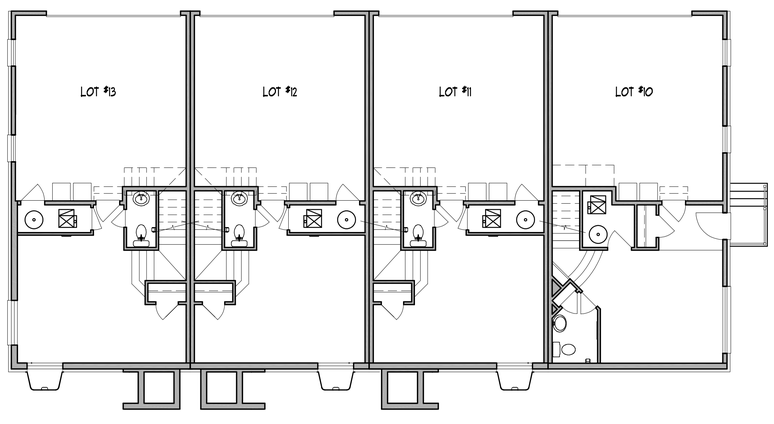
1/4" = 1'-0"

RIGHT SIDE ELEVATION

1/4" = 1'-0"

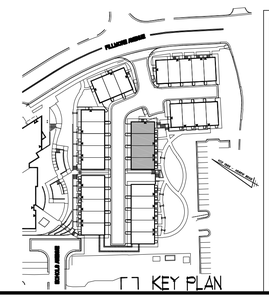
	LOT #13
AVERAGE FINISHED GRADE (A)	232.80'
ENTRY FLOOR ELEVATION (B)	239.40'
AVERAGE GRADE TO ROOF (C)	38.33'
AVERAGE GRADE TO PARAPET (D)	39.01'
NET SQUARE FOOTAGE	2907 SQ. FT.

	LOT #10
AVERAGE FINISHED GRADE (A)	227.02'
ENTRY FLOOR ELEVATION (B)	227.05'
AVERAGE GRADE TO ROOF (C)	42.08'
AVERAGE GRADE TO PARAPET (D)	42.76'
NET SQUARE FOOTAGE	2968 SQ. FT.



BLOCK C PLAN

1/8" = 1'-0"



KEY PLAN

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SPECIAL USE PERMIT NO.
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

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STEVEN B. BUCHANAN
Lic. No. 008671
03/10/2017
ARCHITECT

SHEET TITLE:
BLOCK C - PLAN & SIDE ELEVATIONS

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P40940320

SHEET No.
1.33

LOT 18

LEFT SIDE ELEVATION

LOT 18 LOT 17 LOT 16 LOT 15 LOT 14

FRONT ELEVATION

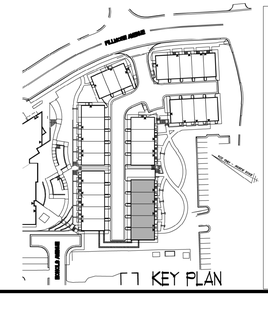
LOT 14

RIGHT SIDE ELEVATION

LOT 14 LOT 15 LOT 16 LOT 18 LOT 18

REAR ELEVATION

BLOCK D



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SHEET TITLE:
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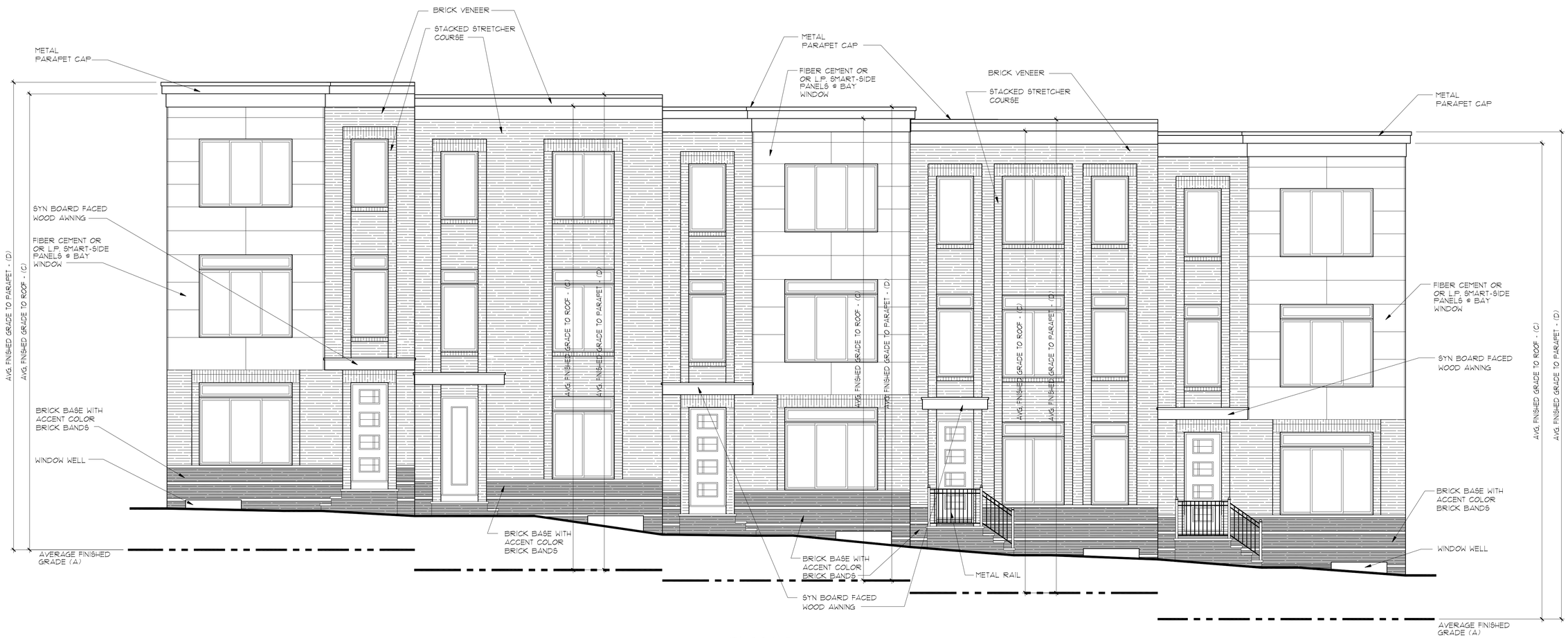
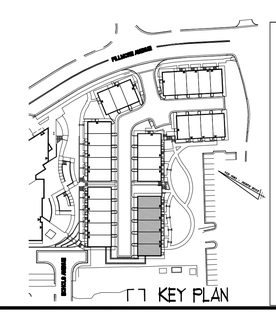
SHEET No.
1.40



BLOCK D
FRONT ELEVATION
1/4" = 1'-0"

	LOT #18	LOT #17	LOT #16	LOT #15	LOT #14
AVERAGE FINISHED GRADE (A)	240.67'	239.15'	238.19'	237.19'	235.08'
ENTRY FLOOR ELEVATION (B)	246.15'	245.15	244.15'	243.15'	242.15'
AVERAGE GRADE TO ROOF (C)	37.21'	37.73'	37.69'	37.69'	38.80'
AVERAGE GRADE TO PARAPET (D)	37.89'	38.41'	38.37'	38.37'	39.48'
NET SQUARE FOOTAGE	2933 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.



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SHEET TITLE:
BLOCK D - FRONT ELEVATION

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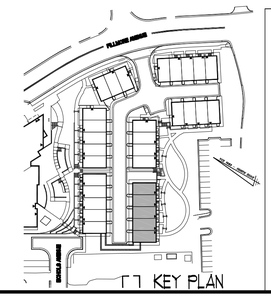
SHEET No.
1.4

BLOCK D
REAR ELEVATION
1/4" = 1'-0"

	LOT #14	LOT #15	LOT #16	LOT #17	LOT #18
AVERAGE FINISHED GRADE (A)	235.08'	237.19'	238.19'	239.15'	240.67'
ENTRY FLOOR ELEVATION (B)	242.15'	243.15'	244.15'	245.15	246.15'
AVERAGE GRADE TO ROOF (C)	38.80'	37.69'	37.69'	37.73'	37.21'
AVERAGE GRADE TO PARAPET (D)	39.48'	38.37'	38.37'	38.41'	37.89'
NET SQUARE FOOTAGE	2933 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.



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SHEET TITLE:
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P40940320

SHEET No.
1.42

LEFT SIDE ELEVATION

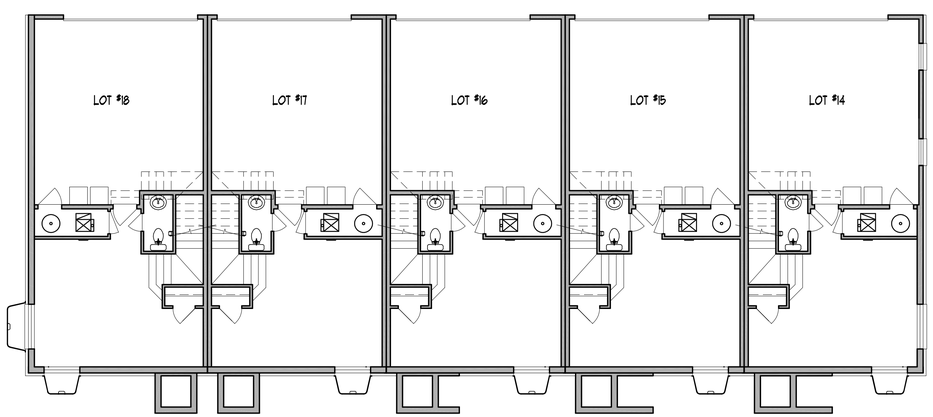
1/4" = 1'-0"

RIGHT SIDE ELEVATION

1/4" = 1'-0"

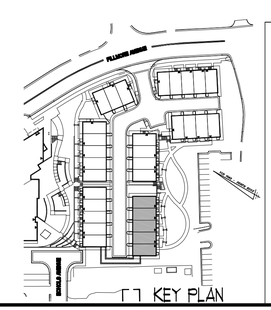
	LOT #18
AVERAGE FINISHED GRADE (A)	240.67'
ENTRY FLOOR ELEVATION (B)	246.15'
AVERAGE GRADE TO ROOF (C)	37.21'
AVERAGE GRADE TO PARAPET (D)	37.89'
NET SQUARE FOOTAGE	2933 SQ. FT.

	LOT #14
AVERAGE FINISHED GRADE (A)	235.08'
ENTRY FLOOR ELEVATION (B)	242.15'
AVERAGE GRADE TO ROOF (C)	38.80'
AVERAGE GRADE TO PARAPET (D)	39.48'
NET SQUARE FOOTAGE	2933 SQ. FT.



BLOCK D PLAN

1/8" = 1'-0"



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SHEET TITLE:
BLOCK D - PLAN & SIDE ELEVATIONS

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SHEET No.
1.43

LOT 23

LEFT SIDE ELEVATION

LOT 23 LOT 22 LOT 21 LOT 20 LOT 19

FRONT ELEVATION

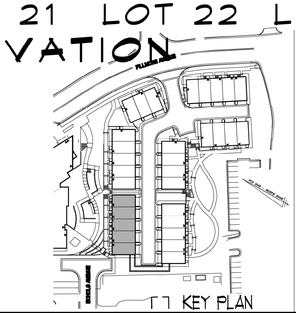
LOT 19

RIGHT SIDE ELEVATION

PERSPECTIVE

LOT 19 LOT 20 LOT 21 LOT 22 LOT 23

REAR ELEVATION



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BLOCK E

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SHEET TITLE:
BLOCK E - STRIP ELEVATIONS - COLOR

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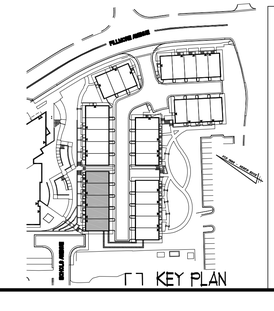
SHEET No.
1.50

BLOCK E
FRONT ELEVATION
1/4" = 1'-0"

	LOT #23	LOT #22	LOT #21	LOT #20	LOT #19
AVERAGE FINISHED GRADE (A)	233.78'	236.16'	237.47'	238.82'	241.96'
ENTRY FLOOR ELEVATION (B)	242.55'	243.55'	244.55'	245.55'	246.55'
AVERAGE GRADE TO ROOF (C)	40.50'	39.12'	38.81'	38.51'	36.32'
AVERAGE GRADE TO PARAPET (D)	41.18'	39.80'	39.49'	39.14'	37.00'
NET SQUARE FOOTAGE	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.



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SHEET TITLE:
BLOCK E - FRONT ELEVATION

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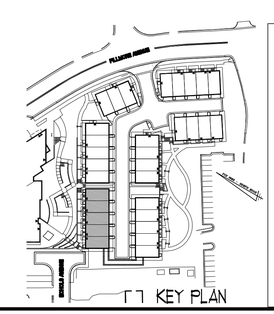
SHEET No.
1.5

BLOCK E
REAR ELEVATION

1/4" = 1'-0"

	LOT #19	LOT #20	LOT #21	LOT #22	LOT #23
AVERAGE FINISHED GRADE (A)	241.96'	238.82'	237.47'	236.16'	233.78'
ENTRY FLOOR ELEVATION (B)	246.55'	245.55'	244.55'	243.55'	242.55'
AVERAGE GRADE TO ROOF (C)	36.32'	38.51'	38.81'	39.12'	40.50'
AVERAGE GRADE TO PARAPET (D)	37.00'	39.14'	39.49'	39.80'	41.18'
NET SQUARE FOOTAGE	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.	2933 SQ. FT.	2907 SQ. FT.



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SHEET TITLE:
BLOCK E - REAR ELEVATION

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SHEET No.
1.52

LEFT SIDE ELEVATION

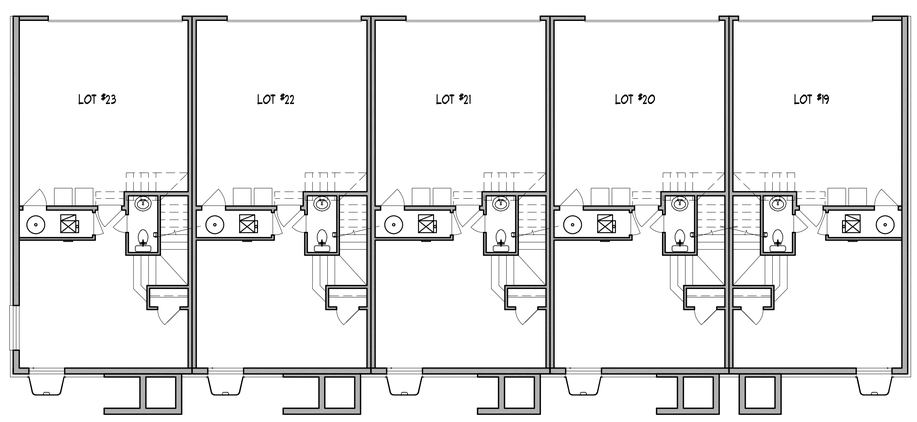
1/4" = 1'-0"

RIGHT SIDE ELEVATION

1/4" = 1'-0"

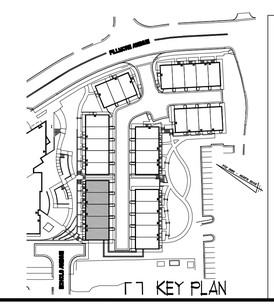
	LOT #23
AVERAGE FINISHED GRADE (A)	233.78'
ENTRY FLOOR ELEVATION (B)	242.55'
AVERAGE GRADE TO ROOF (C)	40.50'
AVERAGE GRADE TO PARAPET (D)	41.18'
NET SQUARE FOOTAGE	2907 SQ. FT.

	LOT #19
AVERAGE FINISHED GRADE (A)	241.96'
ENTRY FLOOR ELEVATION (B)	246.55'
AVERAGE GRADE TO ROOF (C)	36.32'
AVERAGE GRADE TO PARAPET (D)	37.00'
NET SQUARE FOOTAGE	2907 SQ. FT.



BLOCK E PLAN

1/8" = 1'-0"



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SHEET TITLE:
BLOCK E - PLAN & SIDE ELEVATIONS

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SHEET No.

1.53

LOT 28

LEFT SIDE ELEVATION

LOT 28 LOT 27 LOT 26 LOT 25 LOT 24

FRONT ELEVATION

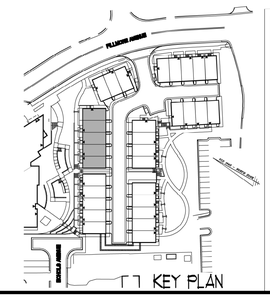
LOT 24

RIGHT SIDE ELEVATION

LOT 24 LOT 25 LOT 26 LOT 27 LOT 28

REAR ELEVATION

BLOCK F



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SHEET TITLE:
BLOCK F - STRIP ELEVATIONS - COLOR

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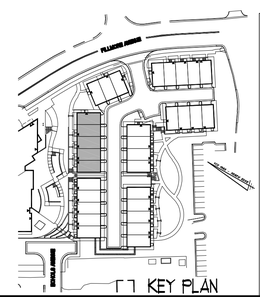
SHEET No.

1.60

BLOCK F
FRONT ELEVATION
1/4" = 1'-0"

	LOT #28	LOT #27	LOT #26	LOT #25	LOT #24
AVERAGE FINISHED GRADE (A)	225.29'	226.06'	227.02'	227.98'	228.88'
ENTRY FLOOR ELEVATION (B)	226.05'	227.05'	228.05'	229.05'	230.05'
AVERAGE GRADE TO ROOF (C)	42.81'	43.04'	43.08'	43.12'	43.22'
AVERAGE GRADE TO PARAPET (D)	43.49'	43.72'	43.76'	43.80'	43.90'
NET SQUARE FOOTAGE	2994 SQ. FT.	2927 SQ. FT.	2966 SQ. FT.	2927 SQ. FT.	2966 SQ. FT.



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SHEET TITLE:
BLOCK F - FRONT ELEVATION

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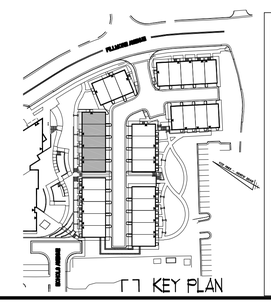
SHEET No.
16

BLOCK F
REAR ELEVATION
1/4" = 1'-0"

	LOT #24	LOT #25	LOT #26	LOT #27	LOT #28
AVERAGE FINISHED GRADE (A)	228.88'	227.98'	227.02'	226.06'	225.29'
ENTRY FLOOR ELEVATION (B)	230.05'	229.05'	228.05'	227.05'	226.05'
AVERAGE GRADE TO ROOF (C)	43.22'	43.12'	43.08'	43.04'	42.81'
AVERAGE GRADE TO PARAPET (D)	43.90'	43.80'	43.76'	43.72'	43.49'
NET SQUARE FOOTAGE	2966 SQ. FT.	2927 SQ. FT.	2966 SQ. FT.	2927 SQ. FT.	2994 SQ. FT.



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SHEET TITLE: BLOCK F - REAR ELEVATION

CLIENT INFORMATION: CRAFTMARK HOMES - ST. JAMES PROPERTY

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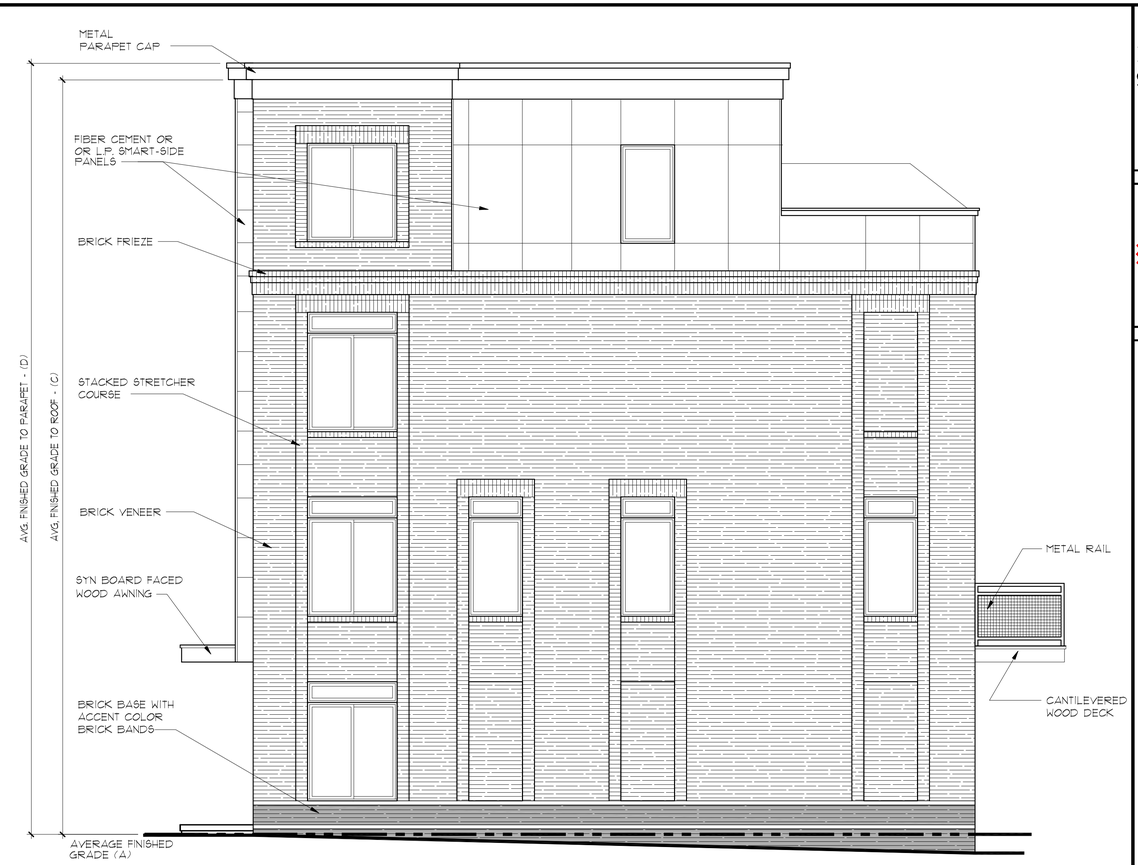
SHEET No. 1.62

LEFT SIDE ELEVATION

1/4" = 1'-0"

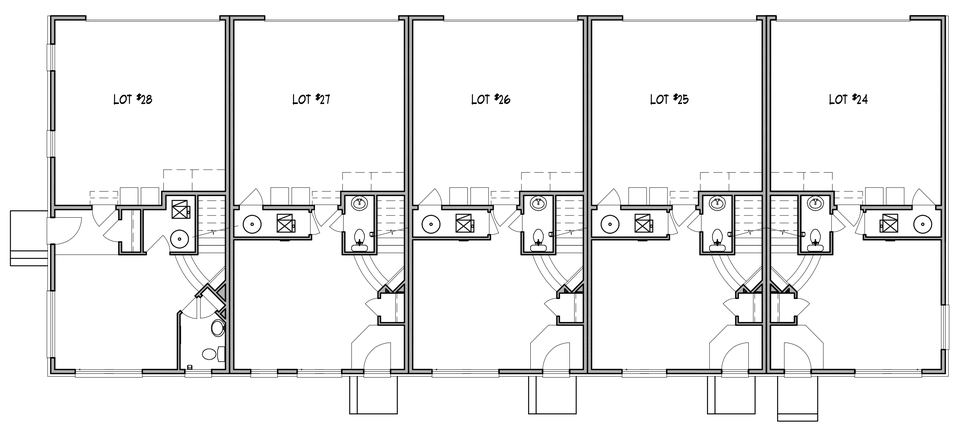
	LOT #28
AVERAGE FINISHED GRADE (A)	225.29'
ENTRY FLOOR ELEVATION (B)	226.05'
AVERAGE GRADE TO ROOF (C)	42.81'
AVERAGE GRADE TO PARAPET (D)	43.49'
NET SQUARE FOOTAGE	2994 SQ. FT.



RIGHT SIDE ELEVATION

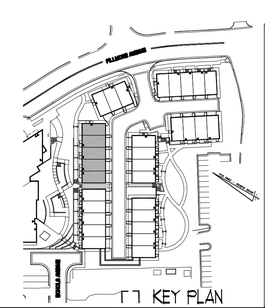
1/4" = 1'-0"

	LOT #24
AVERAGE FINISHED GRADE (A)	228.88'
ENTRY FLOOR ELEVATION (B)	230.05'
AVERAGE GRADE TO ROOF (C)	43.22'
AVERAGE GRADE TO PARAPET (D)	43.90'
NET SQUARE FOOTAGE	2966 SQ. FT.



BLOCK F PLAN

1/8" = 1'-0"



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SHEET TITLE:
BLOCK F - PLAN & SIDE ELEVATIONS

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1.63

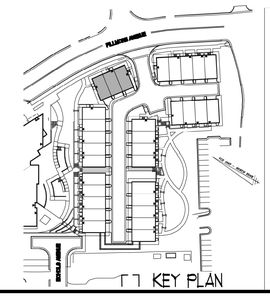
LOT 31
LEFT SIDE ELEVATION

LOT 31 LOT 30 LOT 29
FRONT ELEVATION

LOT 29
RIGHT SIDE ELEVATION

LOT 29 LOT 30 LOT 31
REAR ELEVATION

BLOCK G



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SHEET TITLE:
BLOCK G - STRIP ELEVATIONS - COLOR

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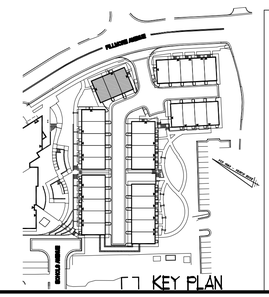
SHEET No.
1.70

BLOCK G
FRONT ELEVATION
1/4" = 1'-0"

	LOT #31	LOT #30	LOT #29
AVERAGE FINISHED GRADE (A)	222.14'	223.18'	223.71'
ENTRY FLOOR ELEVATION (B)	223.51'	224.33'	224.68'
AVERAGE GRADE TO ROOF (C)	43.42'	43.20'	43.02'
AVERAGE GRADE TO PARAPET (D)	44.10'	43.88'	43.70'
NET SQUARE FOOTAGE	2994 SQ. FT.	2927 SQ. FT.	2994 SQ. FT.



KEY PLAN

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SHEET TITLE:
BLOCK G - FRONT ELEVATION

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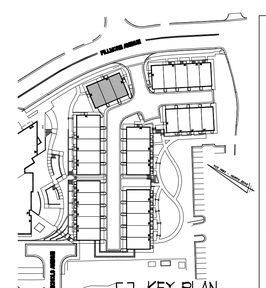
SHEET No.
1.7

BLOCK G
REAR ELEVATION
1/4" = 1'-0"

	LOT #29	LOT #30	LOT #31
AVERAGE FINISHED GRADE (A)	223.71'	223.18'	222.14'
ENTRY FLOOR ELEVATION (B)	224.68'	224.33'	223.51'
AVERAGE GRADE TO ROOF (C)	43.02'	43.20'	43.42'
AVERAGE GRADE TO PARAPET (D)	43.70'	43.88'	44.10'
NET SQUARE FOOTAGE	2994 SQ. FT.	2927 SQ. FT.	2994 SQ. FT.



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BLOCK G - REAR ELEVATION

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SHEET No.
1.72

LEFT SIDE ELEVATION

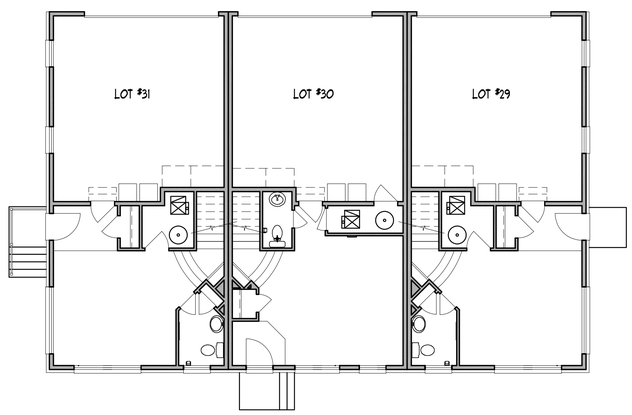
1/4" = 1'-0"

	LOT #31
AVERAGE FINISHED GRADE (A)	222.14'
ENTRY FLOOR ELEVATION (B)	223.51'
AVERAGE GRADE TO ROOF (C)	43.42'
AVERAGE GRADE TO PARAPET (D)	44.10'
NET SQUARE FOOTAGE	2994 SQ. FT.

RIGHT SIDE ELEVATION

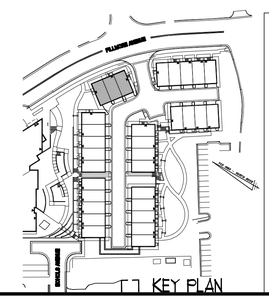
1/4" = 1'-0"

	LOT #29
AVERAGE FINISHED GRADE (A)	223.71'
ENTRY FLOOR ELEVATION (B)	224.68'
AVERAGE GRADE TO ROOF (C)	43.02'
AVERAGE GRADE TO PARAPET (D)	43.70'
NET SQUARE FOOTAGE	2994 SQ. FT.



BLOCK G PLAN

1/8" = 1'-0"



KEY PLAN

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BLOCK G - PLAN & SIDE ELEVATIONS

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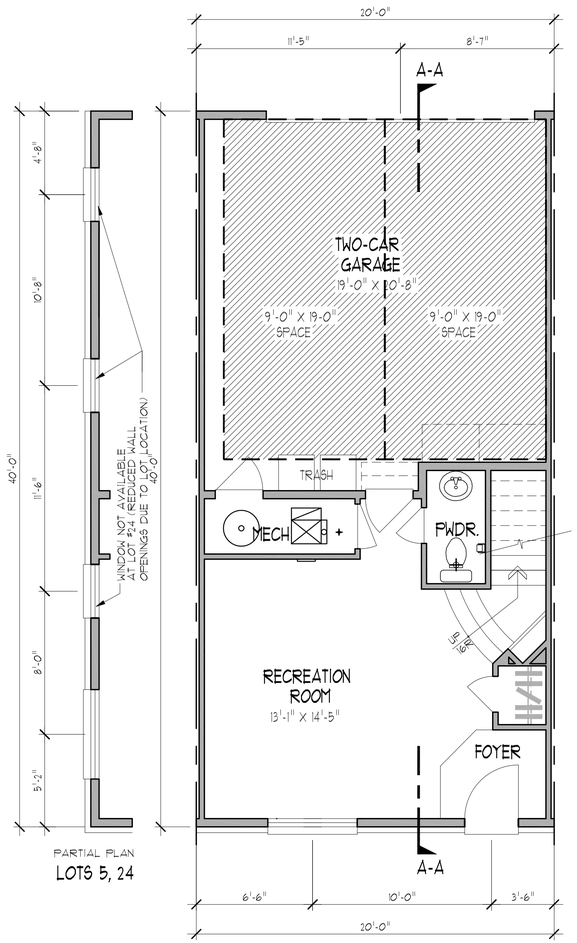
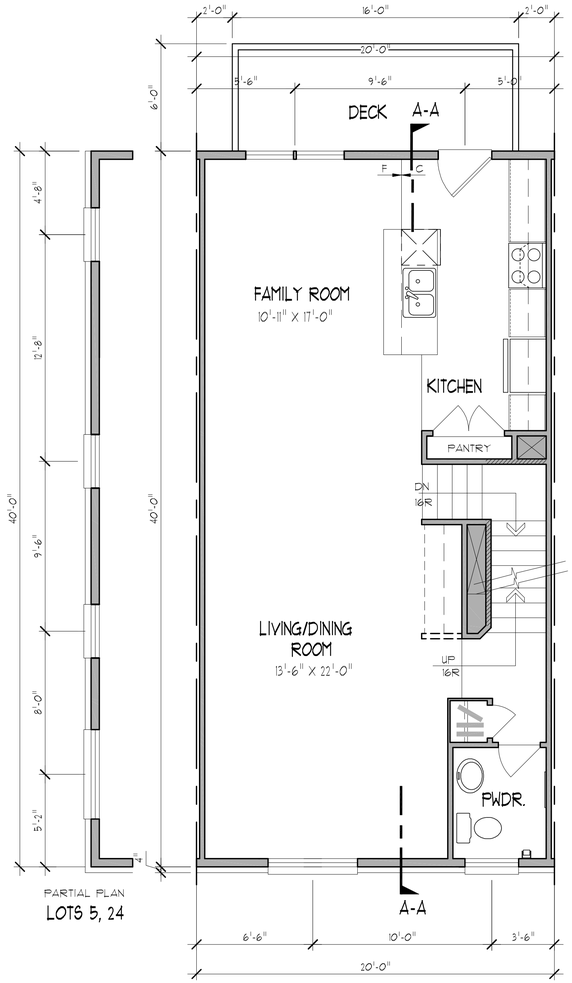


PARTIAL PLAN
LOTS 5, 24

GROUND LEVEL

1/4" = 1'-0" LOTS 2, 25 — 828 SF (GROSS) 793 SF (NET)

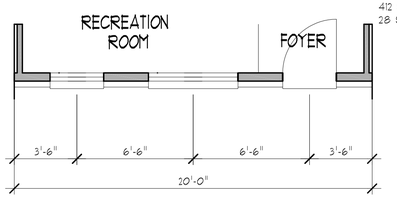
GROSS SF BREAKDOWN
388 SF LIVING
412 SF GARAGE
28 SF COVERED ENTRY



PARTIAL PLAN
LOTS 5, 24

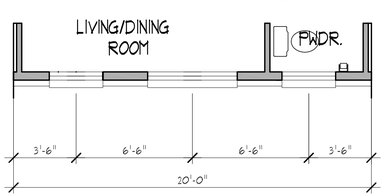
FIRST FLOOR PLAN

1/4" = 1'-0" LOTS 2, 25 — 800 SF (GROSS) 760 SF (NET) — DECK 96 SF



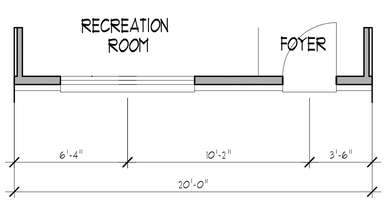
PARTIAL
GROUND LEVEL

1/4" = 1'-0" LOTS 4, 27, 30 — 828 SF (GROSS) 793 SF (NET)



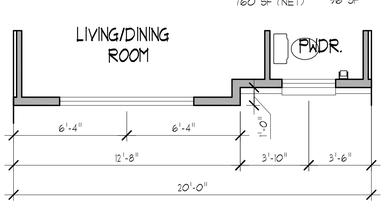
PARTIAL
FIRST FLOOR PLAN

1/4" = 1'-0" LOTS 4, 27, 30 — 800 SF (GROSS) 760 SF (NET) — DECK 96 SF



PARTIAL
GROUND LEVEL

1/4" = 1'-0" LOTS 3, 5, 24, 26 — 828 SF (GROSS) 793 SF (NET)



PARTIAL
FIRST FLOOR PLAN

1/4" = 1'-0" LOTS 3, 5, 24, 26 — 813 SF (GROSS) 773 SF (NET) — DECK 96 SF

FLOOR PLANS

LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

CODE ANALYSIS

JURISDICTION:	ALEXANDRIA , VA
BUILDING CODES:	2012 VIRGINIA CONSTRUCTION CODE+ LOCAL JURISDICTION REQUIREMENTS.
CONSTRUCTION TYPE:	V-B
FIRE SUPPRESSION:	FULLY SPRINKLERED PER VCC 903.3.1.2 AND NFPA 13R
STORIES:	4 / UL ALLOWABLE PER IBC W/ 13R SPRINMKLER SYSTEM
USE GROUP:	R3
JOIST SIZE:	14" FLOOR JOIST
STAIRS DATA:	MAX 8 1/4" RISERS AND 10" MIN. TREADS PER VCC 2012

SQUARE FOOTAGES:		
	LOTS 2, 4, 25, 27, 30	2927 NET SF
	LOTS 3, 5, 24, 26	2966 NET SF
	LOTS 1, 28, 29, 31	2994 NET SF
	LOTS 9, 10	2968 NET SF
	LOTS 6, 8, 11, 13, 15, 17, 19, 21, 23	2907 NET SF
	LOTS 7, 12, 14, 16, 18, 20, 22	2933 NET SF

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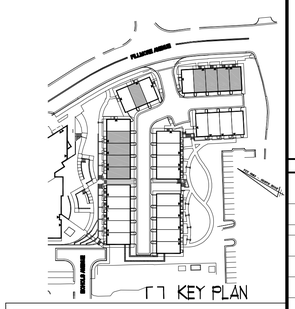

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SHEET TITLE:
FLOOR PLANS-LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30 - CODE ANALYSIS

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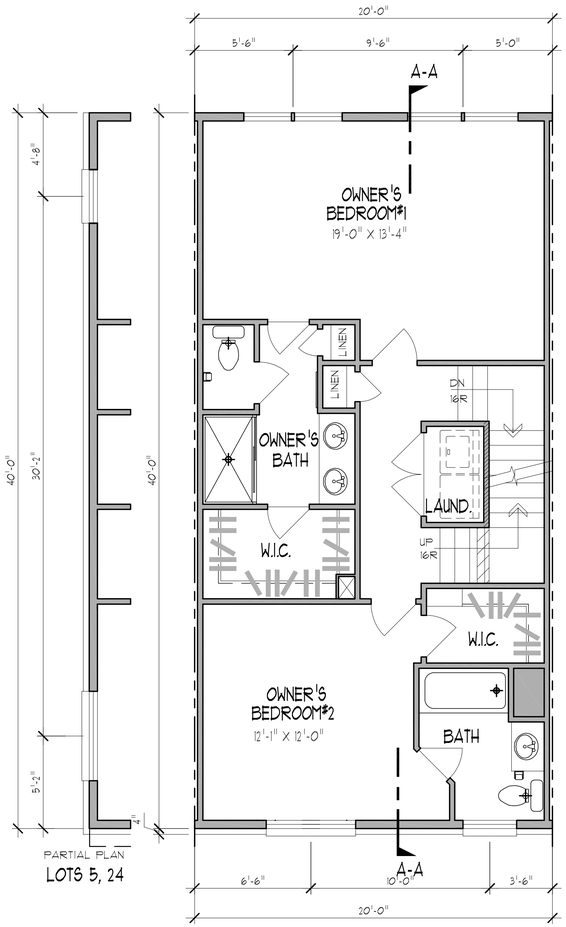
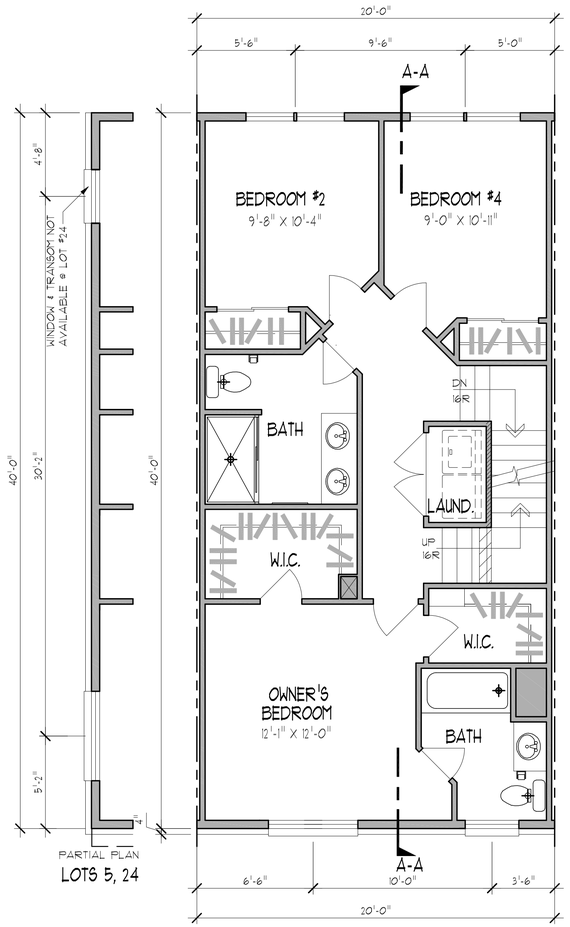


PARTIAL PLAN
LOTS 5, 24

SECOND FLOOR PLAN

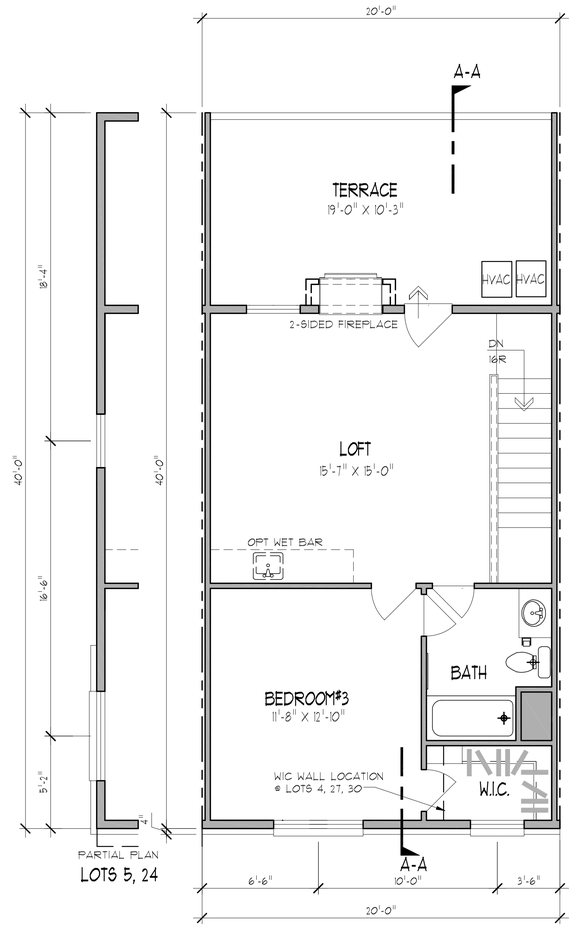
1/4" = 1'-0" LOTS 2, 25 — 800 SF (GROSS) 749 SF (NET)



PARTIAL PLAN
LOTS 5, 24

ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

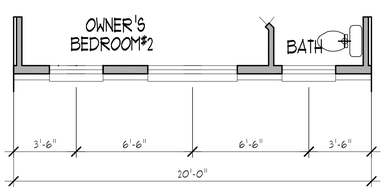
1/4" = 1'-0" LOTS 2, 25 — 800 SF (GROSS) 749 SF (NET)



PARTIAL PLAN
LOTS 5, 24

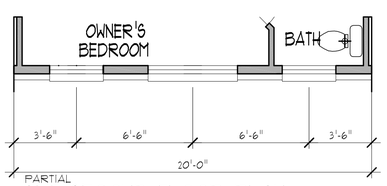
ATTIC FLOOR PLAN - A1

1/4" = 1'-0" LOTS 2, 25 — 585 SF (GROSS) 539 SF (NET) — TERRACE 215 SF



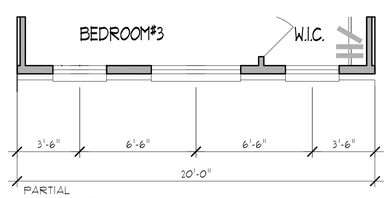
PARTIAL
SECOND FLOOR PLAN

1/4" = 1'-0" LOTS 4, 27, 30 — 800 SF (GROSS) 749 SF (NET)



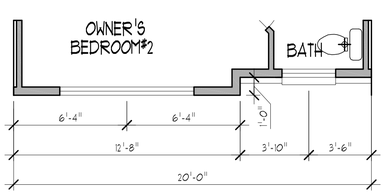
PARTIAL
ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0" LOTS 4, 27, 30 — 800 SF (GROSS) 749 SF (NET)



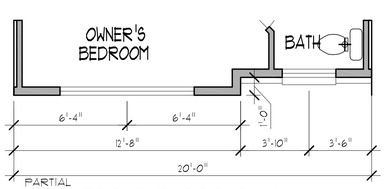
PARTIAL
ATTIC FLOOR PLAN

1/4" = 1'-0" LOTS 4, 27, 30 — 585 SF (GROSS) 539 SF (NET) — TERRACE 215 SF



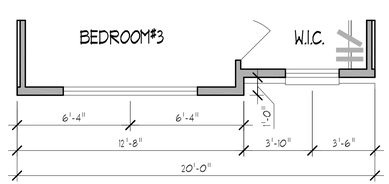
PARTIAL
SECOND FLOOR PLAN

1/4" = 1'-0" LOTS 3, 5, 24, 26 — 813 SF (GROSS) 762 SF (NET)



PARTIAL
ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0" LOTS 3, 5, 24, 26 — 813 SF (GROSS) 762 SF (NET)

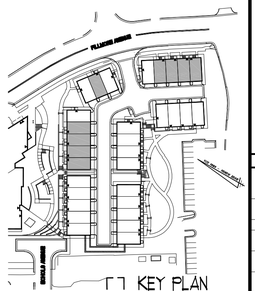


PARTIAL
ATTIC FLOOR PLAN

1/4" = 1'-0" LOTS 3, 5, 24, 26 — 598 SF (GROSS) 552 SF (NET) — TERRACE 215 SF

FLOOR PLANS

LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30



KEY PLAN

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SHEET TITLE:
FLOOR PLANS - LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

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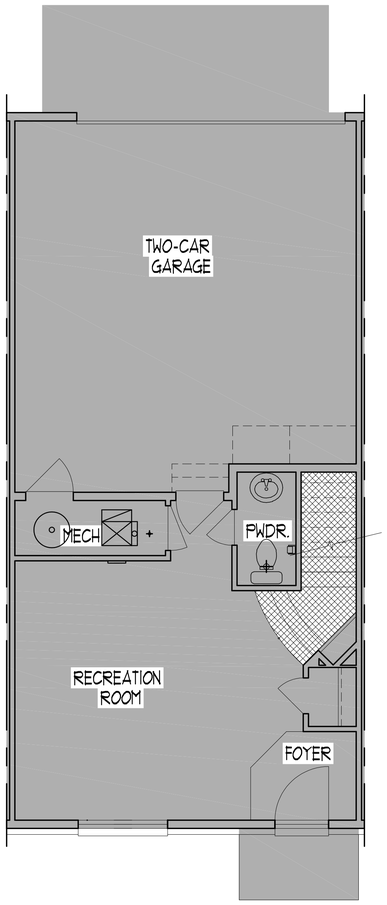
2.11



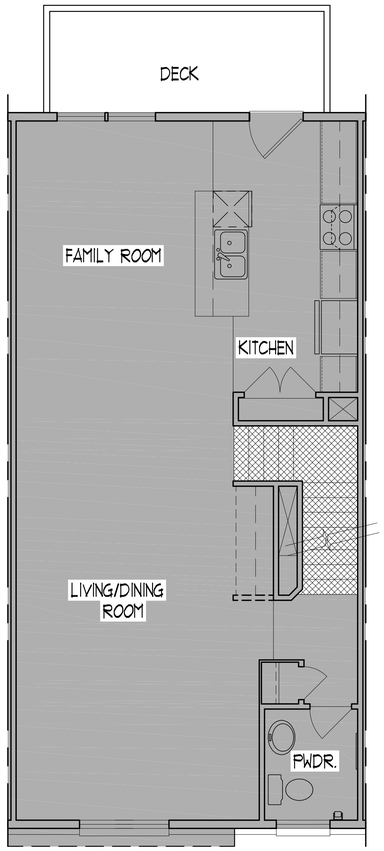
GROUND LEVEL

1/4" = 1'-0"

LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

924 SF (GROSS)
879 SF (NET)

GROSS SF BREAKDOWN
388 SF LIVING
412 SF GARAGE
28 SF COVERED ENTRY
96 SF AREA BELOW REAR DECK



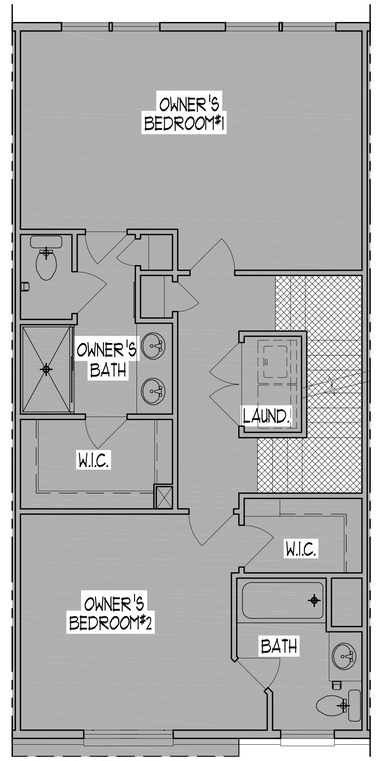
FIRST FLOOR PLAN

1/4" = 1'-0"

LOTS 2, 4, 25, 26, 27, 30
800 SF (GROSS)
760 SF (NET)

LOTS 3, 5, 24, 26
813 SF (GROSS)
773 SF (NET)

DECK
96 SF

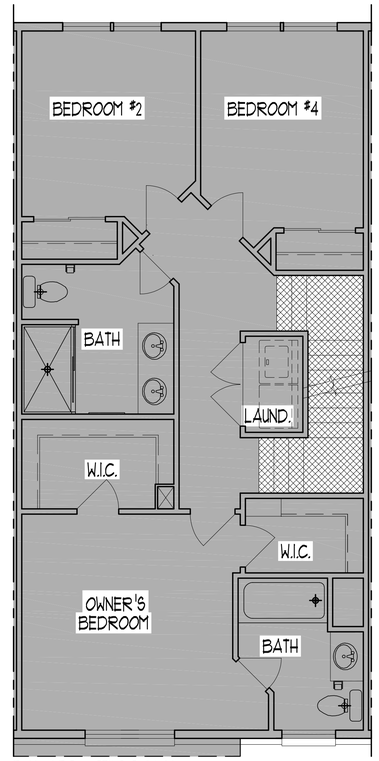


SECOND FLOOR PLAN

1/4" = 1'-0"

LOTS 2, 4, 25, 26, 27, 30
800 SF (GROSS)
749 SF (NET)

LOTS 3, 5, 24, 26
813 SF (GROSS)
762 SF (NET)

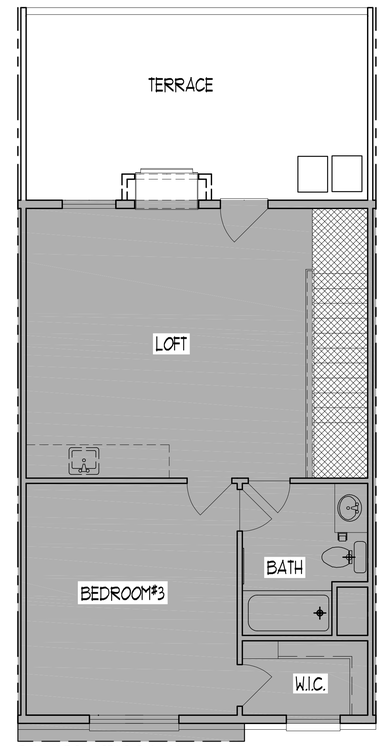


ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0"

LOTS 2, 4, 25, 26, 27, 30
800 SF (GROSS)
749 SF (NET)

LOTS 3, 5, 24, 26
813 SF (GROSS)
762 SF (NET)



ATTIC FLOOR PLAN

1/4" = 1'-0"

LOTS 2, 4, 25, 26, 27, 30
583 SF (GROSS)
539 SF (NET)

LOTS 3, 5, 24, 26
598 SF (GROSS)
552 SF (NET)

TERRACE
215 SF

FAR PLANS

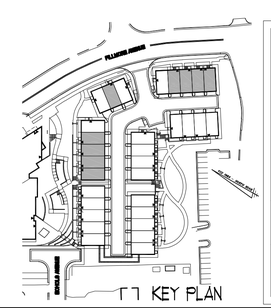
LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

NET SF

STAIR EXCLUSION

SQUARE FOOTAGE

PLAN	GROSS SF	NET SF
LOTS 2, 4, 25, 27, 30	3109	2927
LIVING	(2573)	(2391)
GARAGE	(412)	(412)
COVERED ENTRY	(28)	(28)
AREA BENEATH REAR DECK	(96)	(96)
LOTS 3, 5, 24, 26	3148	2966
LIVING	(2612)	(2430)
GARAGE	(412)	(412)
COVERED ENTRY	(28)	(28)
AREA BENEATH REAR DECK	(96)	(96)
FIRST FLOOR DECK	96	96
ATTIC TERRACE	215	215



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SHEET TITLE:
FAR PLANS - LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

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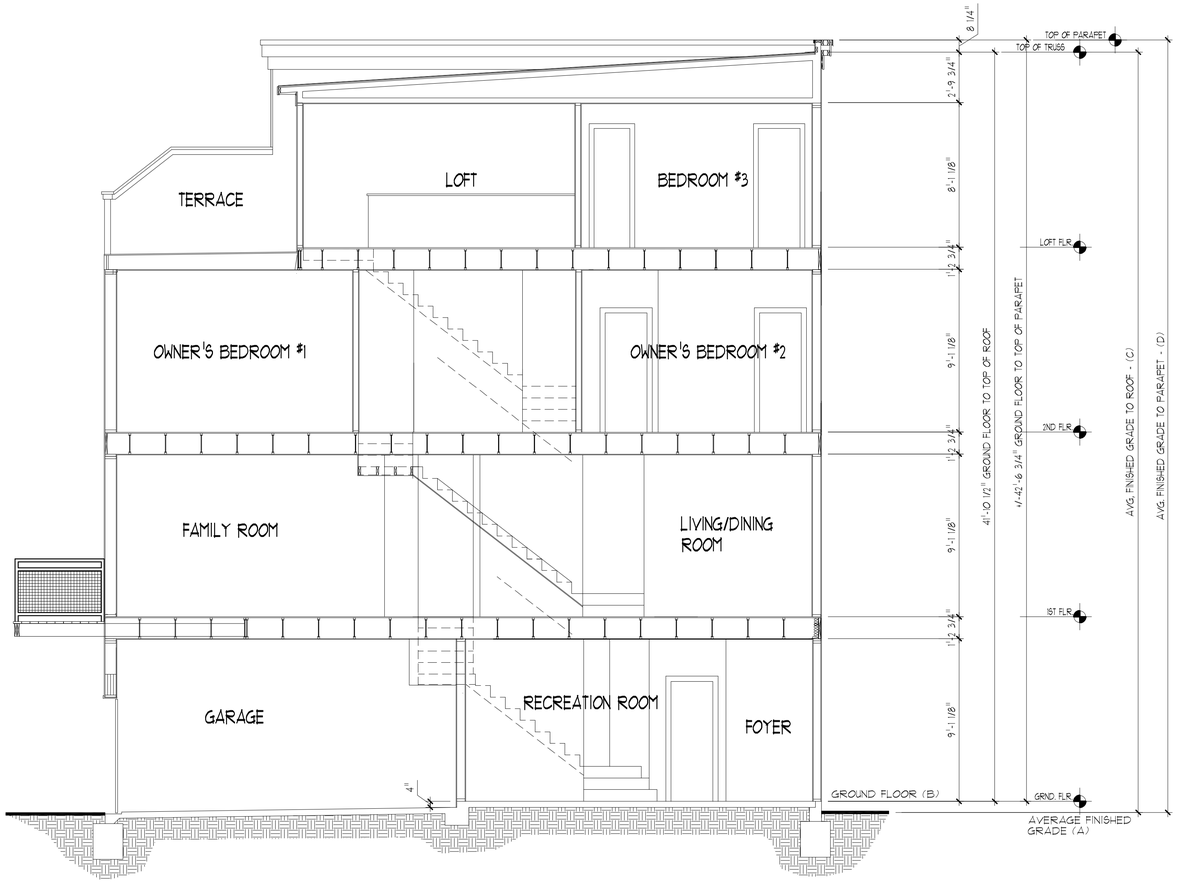


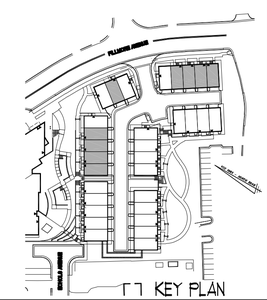
BUILDING SECTION - A-A

1/4" = 1'-0"

BUILDING SECTION

LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

LOT NO.	(A)	(B)	(C)	(D)
2	217.64'	219.52'	43.93'	44.61'
3	216.74'	218.62'	43.93'	44.61'
4	215.84'	218.35'	44.56'	45.24'
5	214.86'	217.84'	45.03'	45.71'
24	228.88'	230.05'	43.22'	43.90'
25	227.98'	229.05'	43.12'	43.80'
26	227.02'	228.05'	43.08'	43.76'
27	226.06'	227.05'	43.04'	43.72'
30	223.18'	224.33'	43.20'	43.88'



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SHEET TITLE: BUILDING SECTION - LOTS 2, 3, 4, 5, 24, 25, 26, 27, 30

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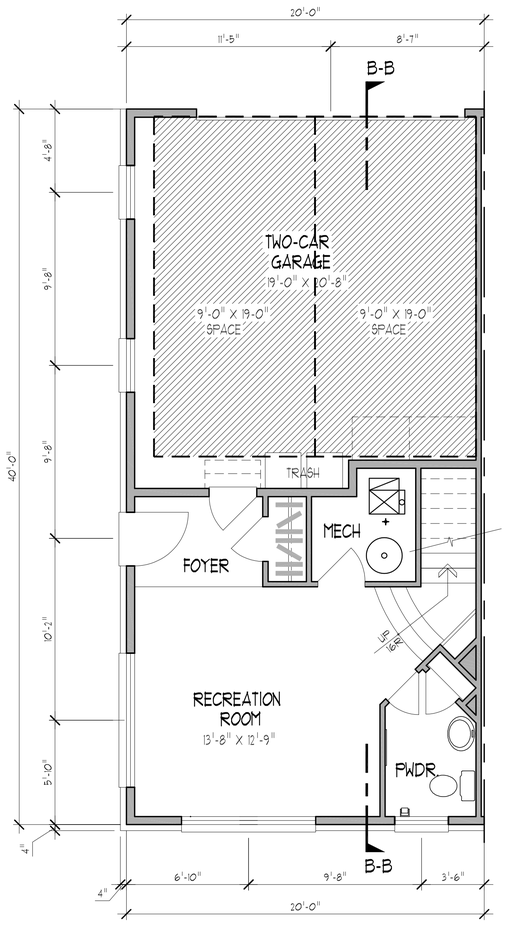
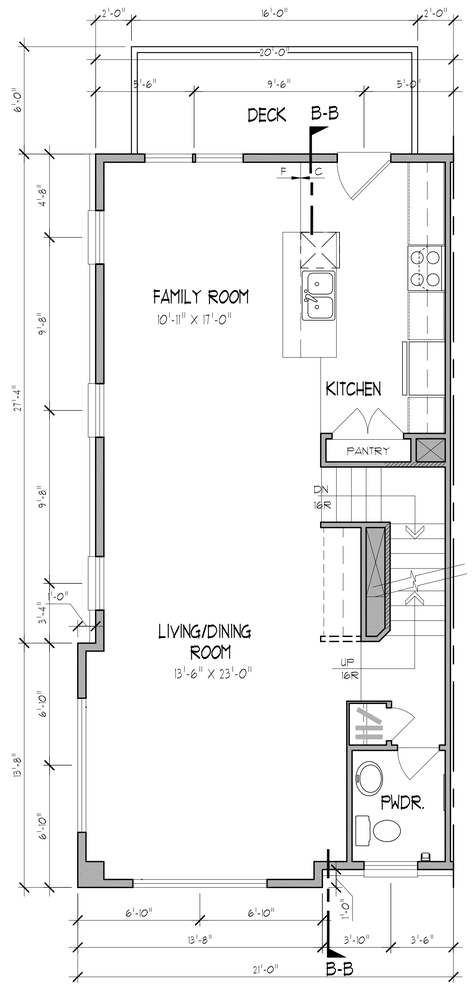


GROUND LEVEL

1/4" = 1'-0" LOTS 1, 9, 10, 28, 29, 31

828 SF (GROSS)
793 SF (NET)

GROSS SF BREAKDOWN
388 SF LIVING
412 SF GARAGE
28 SF COVERED ENTRY

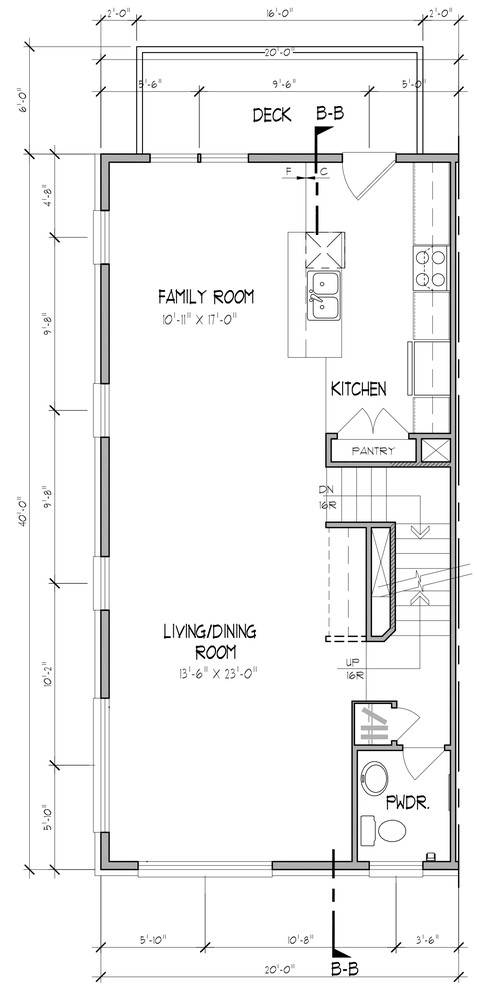


FIRST FLOOR PLAN

1/4" = 1'-0" LOTS 1, 28, 29, 31

827 SF (GROSS)
787 SF (NET)

DECK
96 SF



FIRST FLOOR PLAN - ELEV

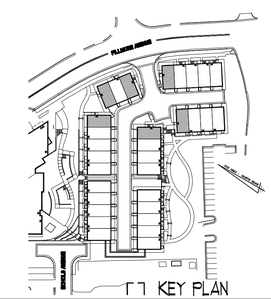
1/4" = 1'-0" LOTS 9, 10

801 SF (GROSS)
761 SF (NET)

DECK
96 SF

FLOOR PLANS

LOTS 1, 9, 10, 28, 29, 31



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FLOOR PLANS - LOTS 1, 9, 10, 28, 29, 31

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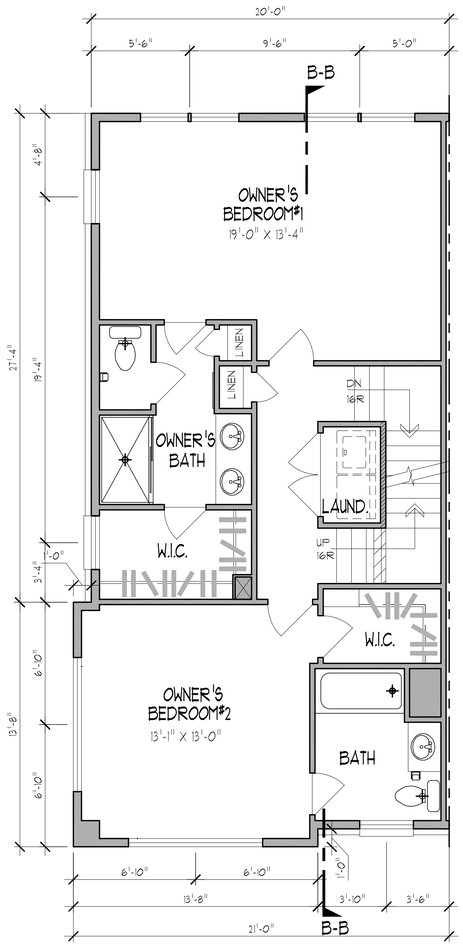
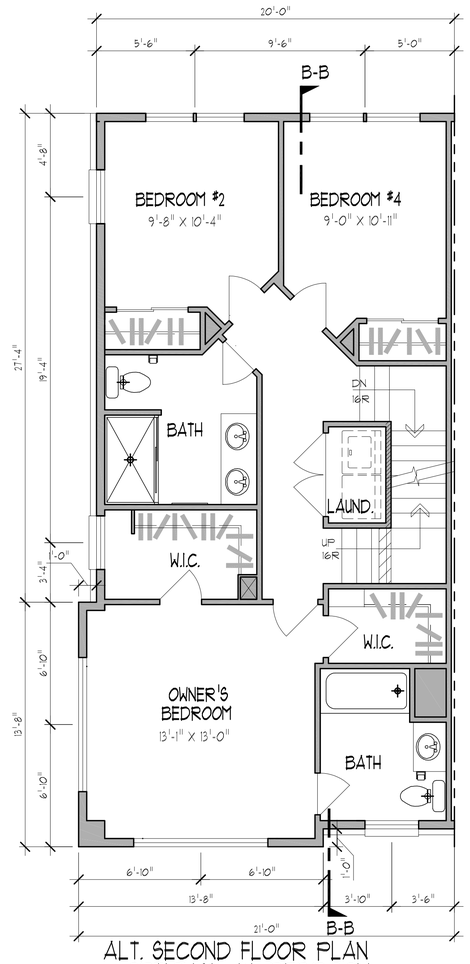


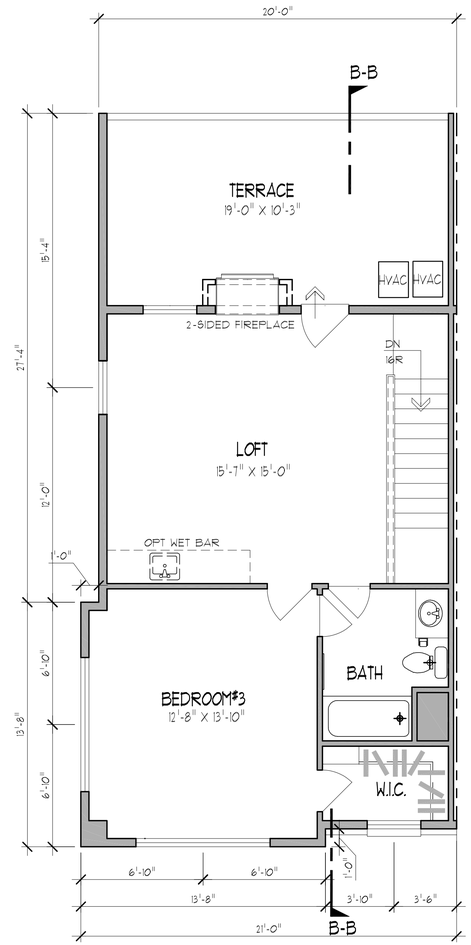
SECOND FLOOR PLAN

1/4" = 1'-0" LOTS 1, 9, 10, 28, 29, 31 827 SF (GROSS) 776 SF (NET)



ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0" LOTS 1, 9, 10, 28, 29, 31 827 SF (GROSS) 776 SF (NET)

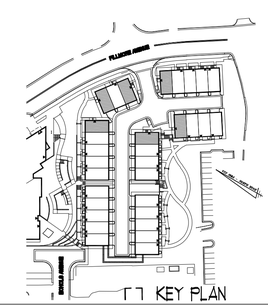


ATTIC FLOOR PLAN

1/4" = 1'-0" LOTS 1, 9, 10, 28, 29, 31 598 SF (GROSS) 552 SF (NET) TERRACE 215 SF

FLOOR PLANS

LOTS 1, 9, 10, 28, 29, 31



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FLOOR PLANS - LOTS 1, 9, 10, 28, 29, 31

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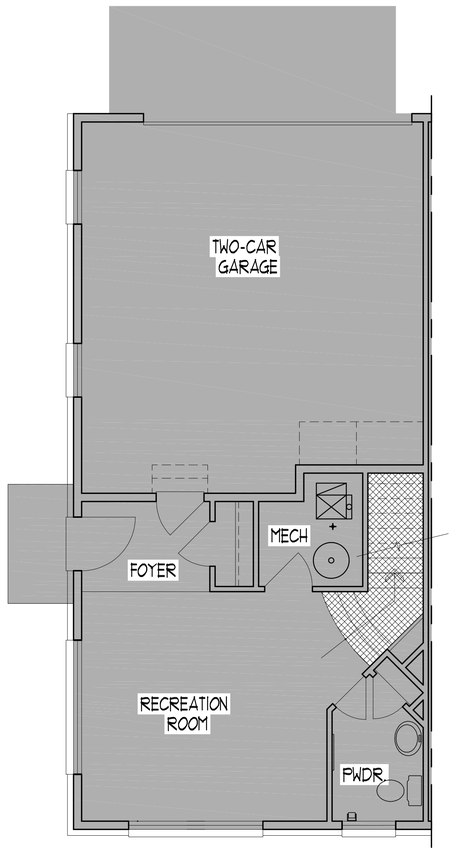


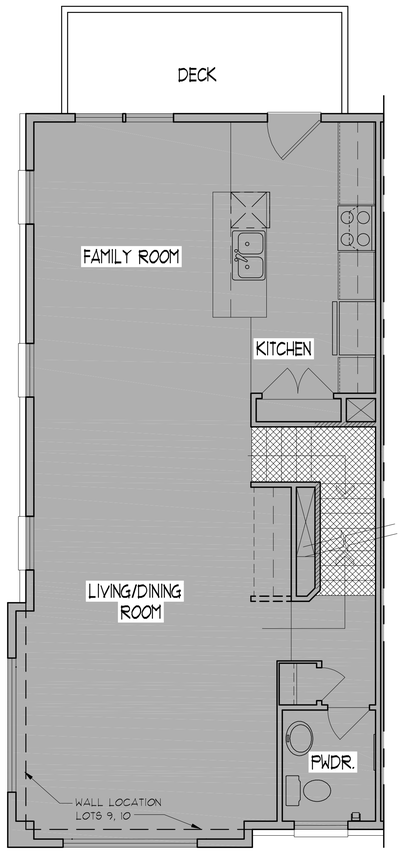
GROUND LEVEL

1/4" = 1'-0"

LOTS 1, 9, 10, 28, 29, 31

924 SF (GROSS)
879 SF (NET)

GROSS SF BREAKDOWN
388 SF LIVING
412 SF GARAGE
28 SF COVERED ENTRY
96 SF AREA BELOW REAR DECK



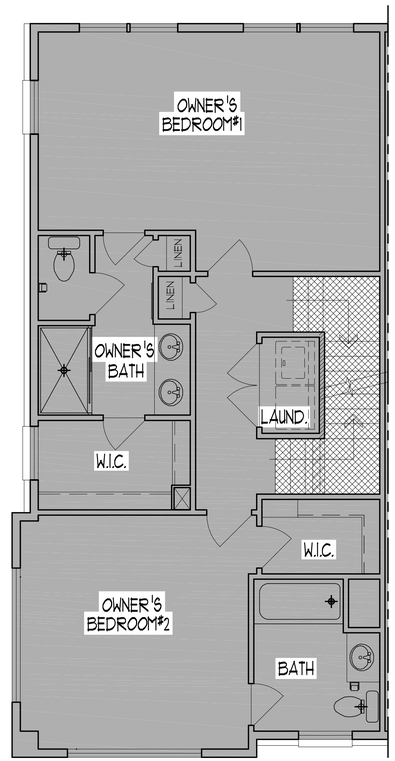
FIRST FLOOR PLAN

1/4" = 1'-0"

LOTS 1, 28, 29, 31
827 SF (GROSS)
787 SF (NET)

LOTS 9, 10
801 SF (GROSS)
761 SF (NET)

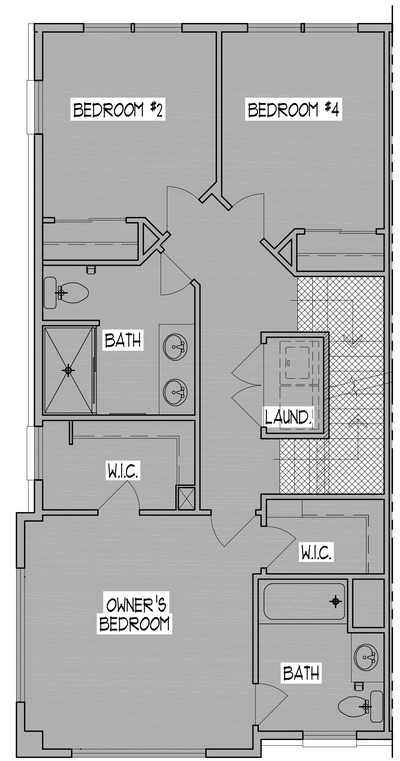
DECK
96 SF



SECOND FLOOR PLAN

1/4" = 1'-0"

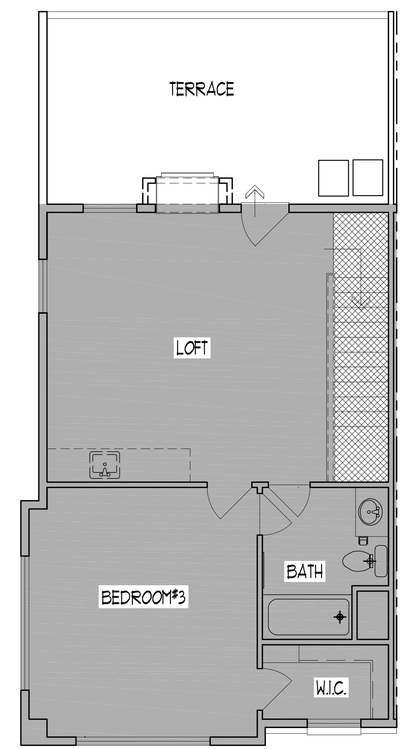
LOTS 1, 9, 10, 28, 29, 31
827 SF (GROSS)
776 SF (NET)



ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0"

LOTS 1, 9, 10, 28, 29, 31
827 SF (GROSS)
776 SF (NET)



ATTIC FLOOR PLAN

1/4" = 1'-0"

LOTS 1, 9, 10, 28, 29, 31
598 SF (GROSS)
552 SF (NET)

TERRACE
215 SF

FAR PLANS

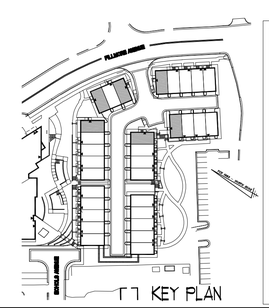
LOTS 1, 9, 10, 28, 29, 31

NET SF

STAIR EXCLUSION

SQUARE FOOTAGE

PLAN	GROSS SF	NET SF
LOTS 1, 28, 29, 31	3176	2994
LIVING	(2640)	(2458)
GARAGE	(412)	(412)
COVERED ENTRY	(28)	(28)
AREA BELOW REAR DECK	(96)	(96)
LOTS 9, 10	3150	2968
LIVING	(2614)	(2432)
GARAGE	(412)	(412)
COVERED ENTRY	(28)	(28)
AREA BELOW REAR DECK	(96)	(96)
FIRST FLOOR DECK	96	96
ATTIC TERRACE	215	215



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FAR PLANS - LOTS 1, 9, 10, 28, 29, 31

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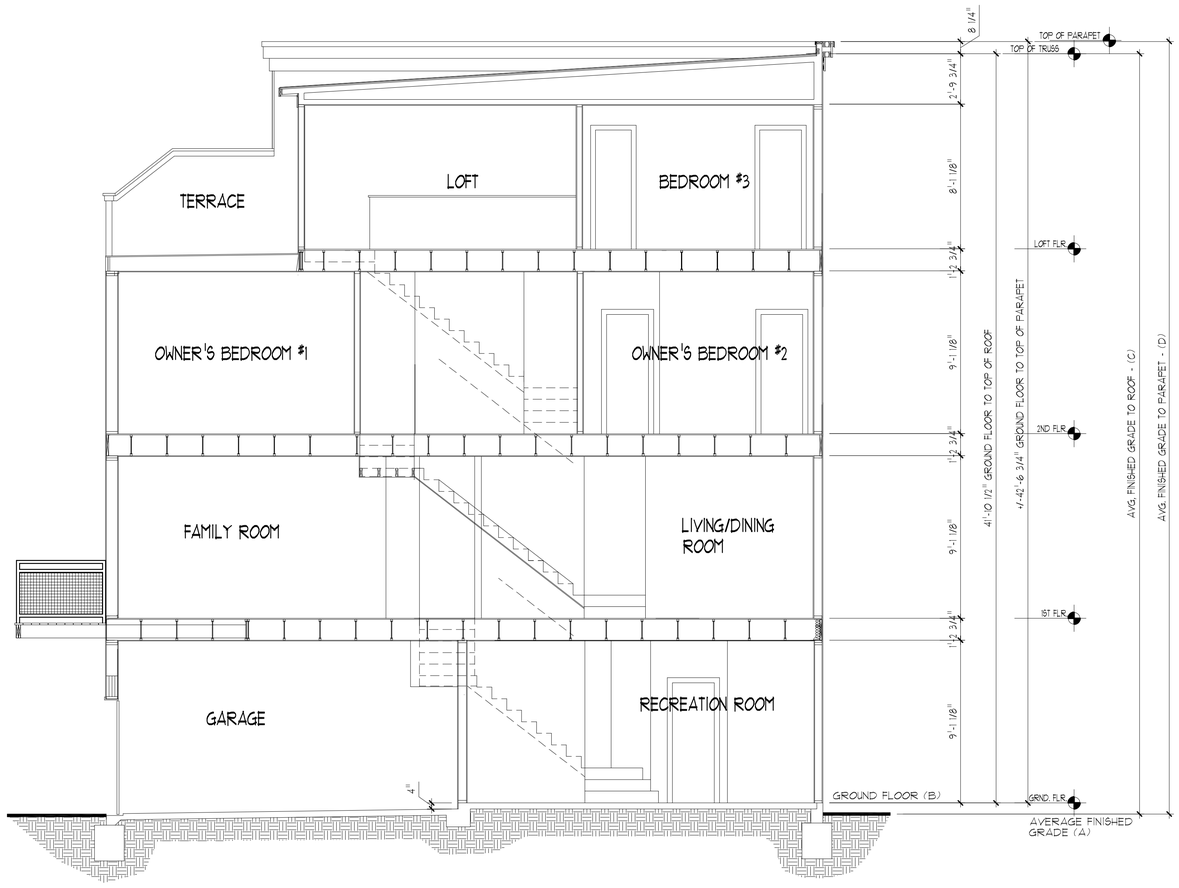


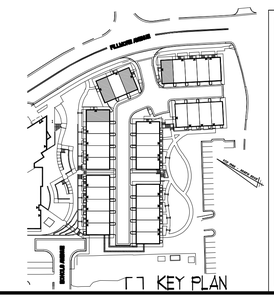
BUILDING SECTION - B-B

1/4" = 1'-0"

LOT NO.	(A)	(B)	(C)	(D)
1	218.53'	220.33'	43.55'	44.23'
28	225.29'	226.05'	42.81'	43.49'
29	223.71'	224.33'	43.02'	43.70'
31	222.14'	223.51'	43.42'	44.10'

BUILDING SECTION

LOTS 1, 28, 29, 31



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SHEET TITLE:
BUILDING SECTION - LOTS 1, 28, 29, 31

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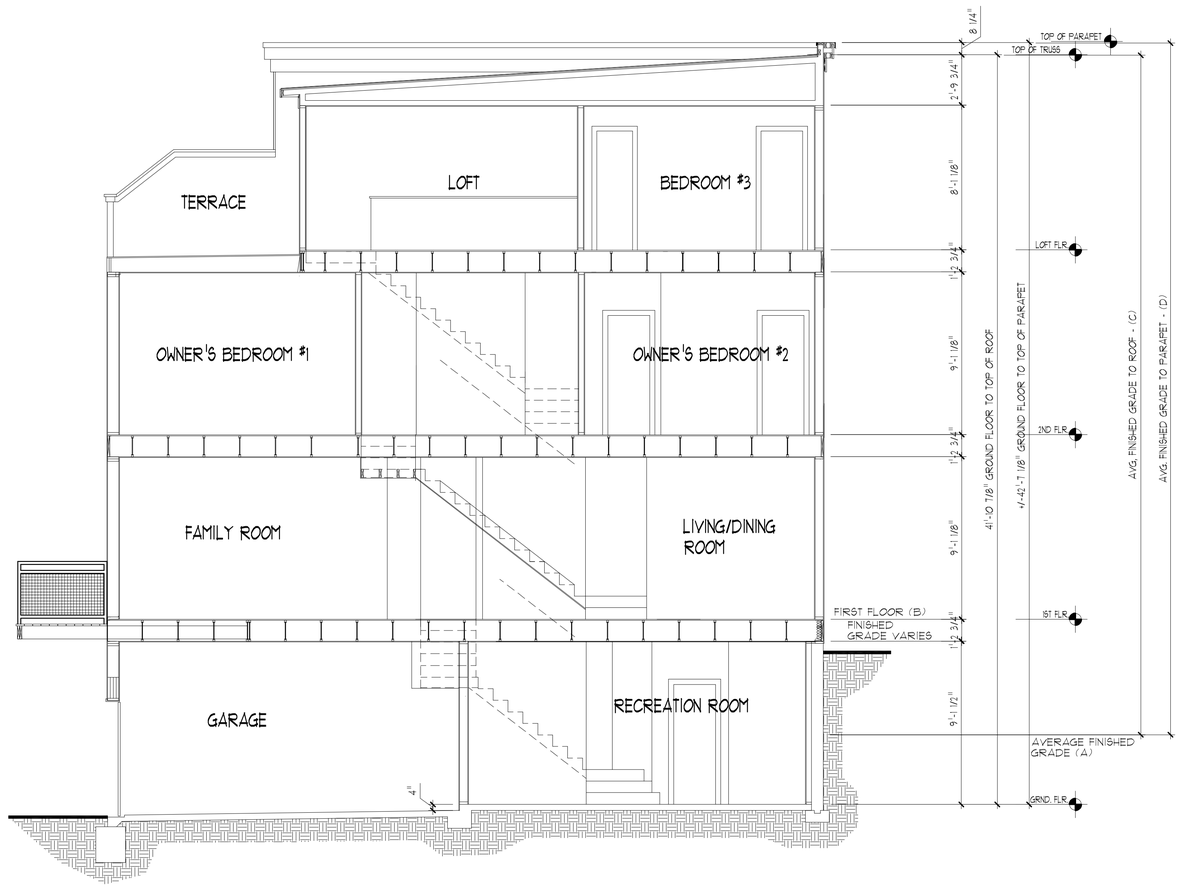


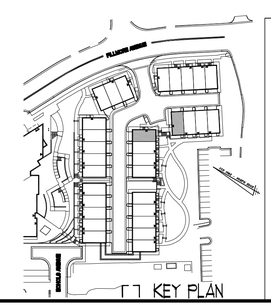
BUILDING SECTION - B-B

1/4" = 1'-0"

LOT NO.	(A)	(B)	(C)	(D)
9	224.88'	221.66'	38.83'	39.51'
10	227.02'	227.05'	42.08'	42.76'

BUILDING SECITON

LOTS 9, 10



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SHEET TITLE: BUILDING SECTION - LOTS 9, 10

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P40940231

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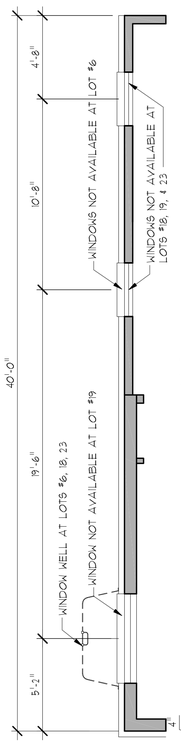
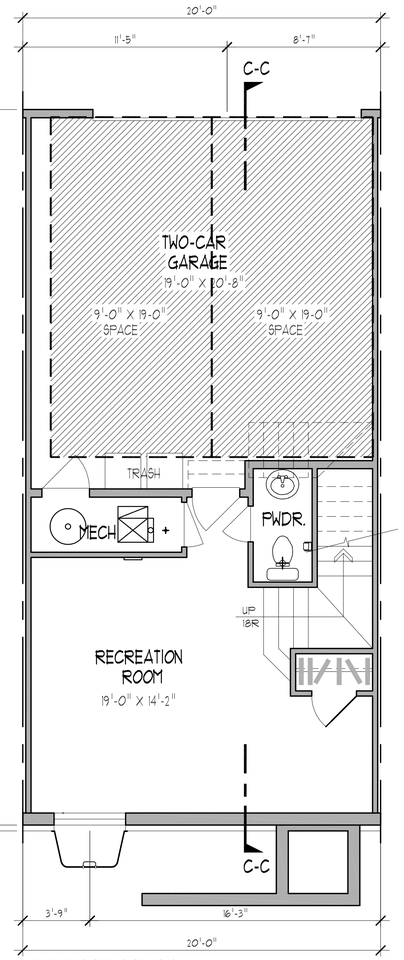


PARTIAL PLAN
LOTS 6, 13, 14, 18, 19, 23

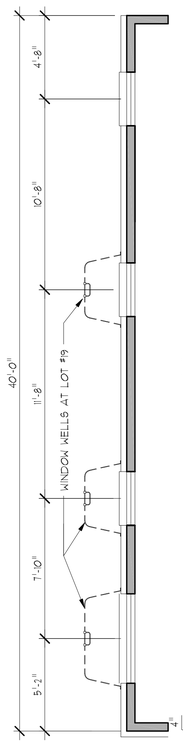


GROUND LEVEL
1/4" = 1'-0" LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 828 SF (GROSS) 785 SF (NET)

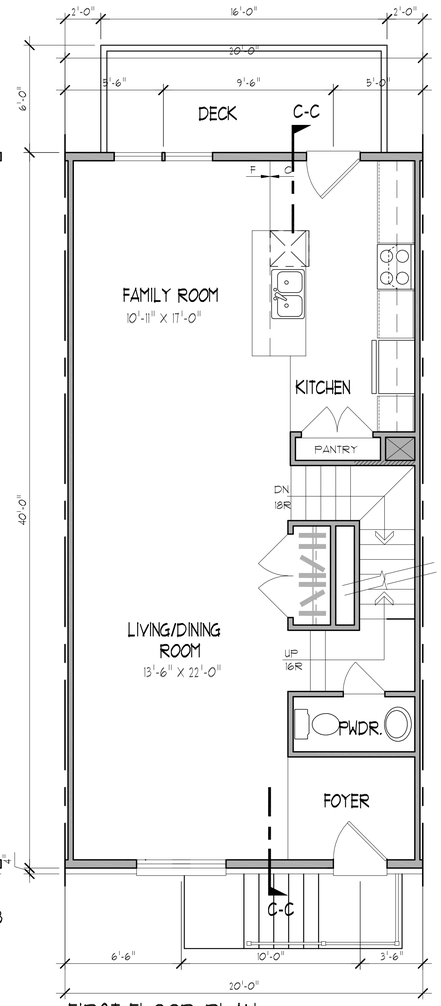
GROSS SF BREAKDOWN
388 SF LIVING
412 SF GARAGE
28 SF COVERED ENTRY

FLOOR PLANS

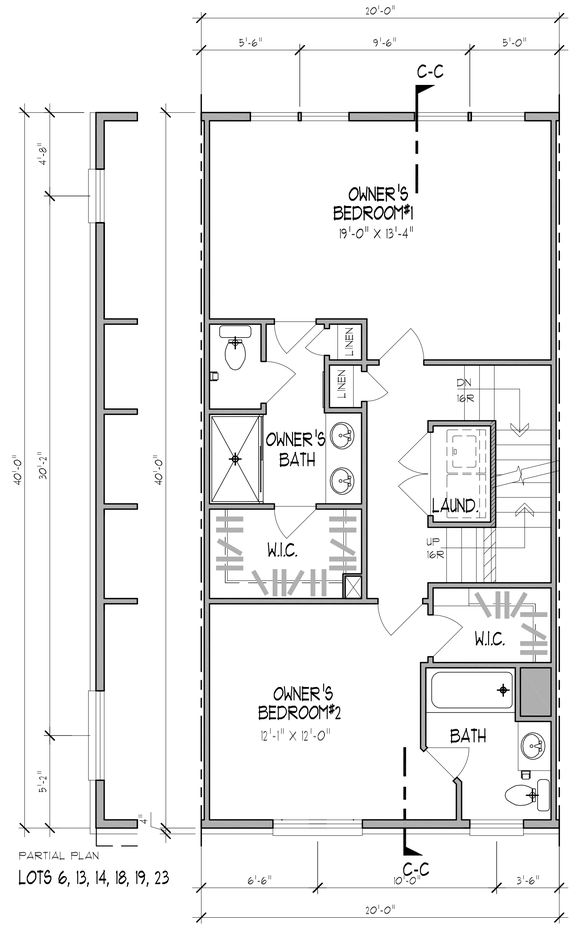
LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23



PARTIAL PLAN
LOTS 6, 13, 14, 18, 19, 23

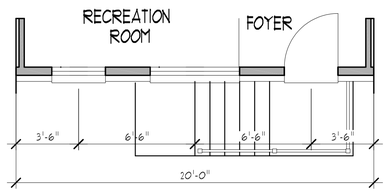


FIRST FLOOR PLAN
1/4" = 1'-0" LOTS 8, 11, 17, 21 800 SF (GROSS) 740 SF (NET) DECK 96 SF

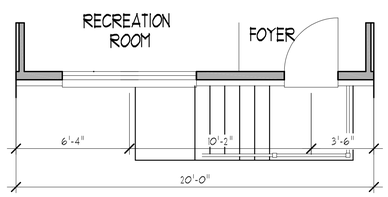


PARTIAL PLAN
LOTS 6, 13, 14, 18, 19, 23

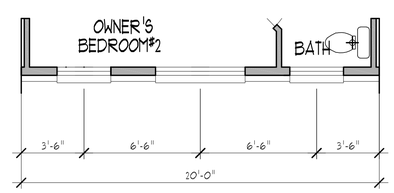
SECOND FLOOR PLAN
1/4" = 1'-0" LOTS 8, 11, 17, 21 800 SF (GROSS) 749 SF (NET)



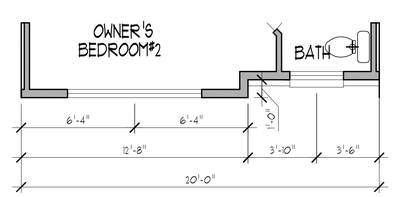
PARTIAL
GROUND LEVEL
1/4" = 1'-0" LOTS 6, 13, 15, 19, 23 800 SF (GROSS) 740 SF (NET)



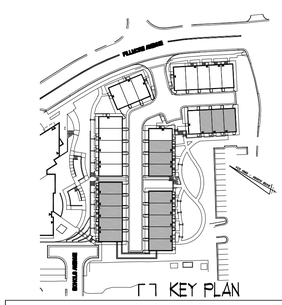
PARTIAL
GROUND LEVEL
1/4" = 1'-0" LOTS 7, 12, 14, 16, 18, 20, 22 800 SF (GROSS) 740 SF (NET)



PARTIAL
SECOND FLOOR PLAN
1/4" = 1'-0" LOTS 6, 13, 15, 19, 23 800 SF (GROSS) 749 SF (NET)



PARTIAL
SECOND FLOOR PLAN
1/4" = 1'-0" LOTS 7, 12, 14, 16, 18, 20, 22 813 SF (GROSS) 762 SF (NET)



KEY PLAN

APPROVED 2016-0021
SPECIAL USE PERMIT NO.
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
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COMMONWEALTH OF VIRGINIA
STEVEN B. MOFFATT
Lic. No. 10867
03/10/2017
ARCHITECT

SHEET TITLE:
FLOOR PLANS-LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

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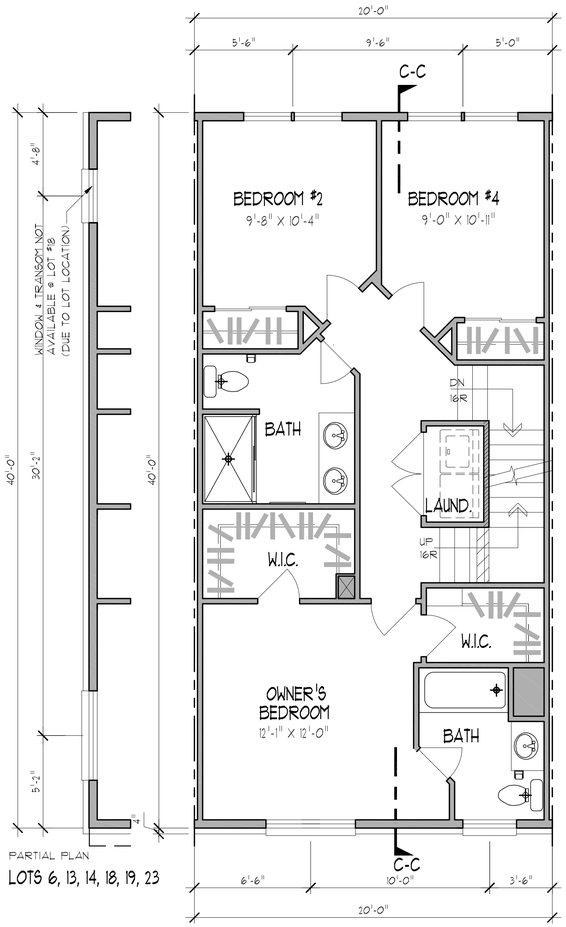
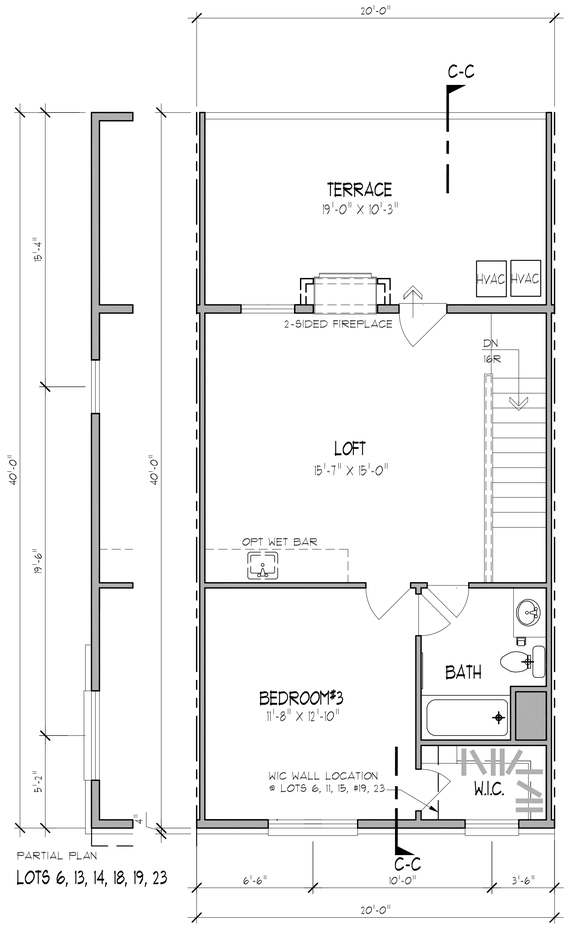


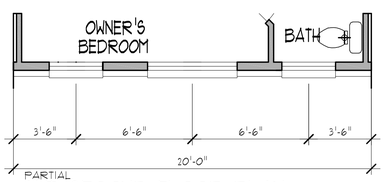
ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0" LOTS 8, 11, 17, 21 — 800 SF (GROSS) 749 SF (NET)



ATTIC FLOOR PLAN

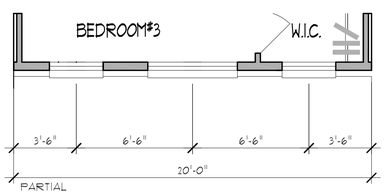
1/4" = 1'-0" LOTS 8, 11, 17, 21 — 585 SF (GROSS) 539 SF (NET) — TERRACE 215 SF



PARTIAL

ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

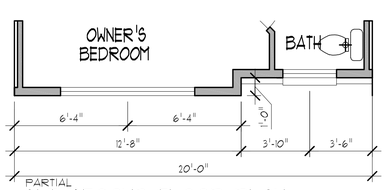
1/4" = 1'-0" LOTS 6, 13, 15, 19, 23 — 800 SF (GROSS) 749 SF (NET)



PARTIAL

ATTIC FLOOR PLAN

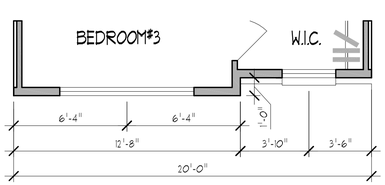
1/4" = 1'-0" LOTS 6, 13, 15, 19, 23 — 585 SF (GROSS) 539 SF (NET) — TERRACE 215 SF



PARTIAL

ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0" LOTS 7, 12, 14, 16, 18, 20, 22 — 813 SF (GROSS) 762 SF (NET)



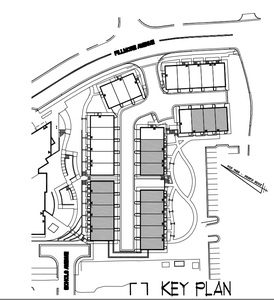
PARTIAL

ATTIC FLOOR PLAN

1/4" = 1'-0" LOTS 7, 12, 14, 16, 18, 20, 22 — 598 SF (GROSS) 552 SF (NET) — TERRACE 215 SF

FLOOR PLANS

LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23



KEY PLAN

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STEVEN B. MORRISON
Lic. No. 10867
03/10/2017
ARCHITECT

SHEET TITLE:
FLOOR PLANS-LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

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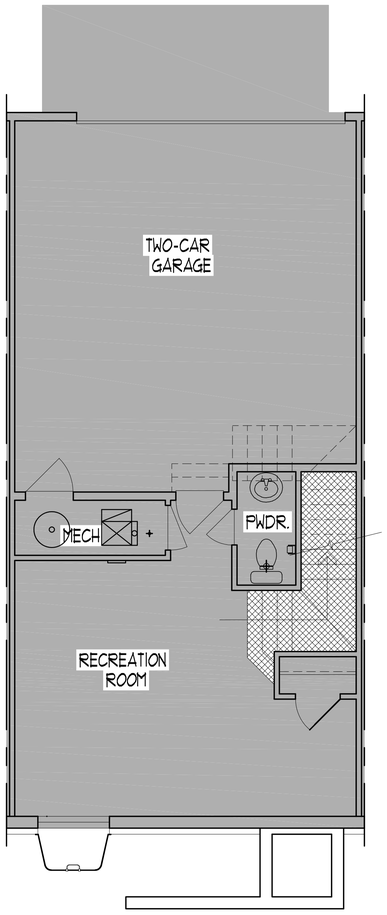
A-11



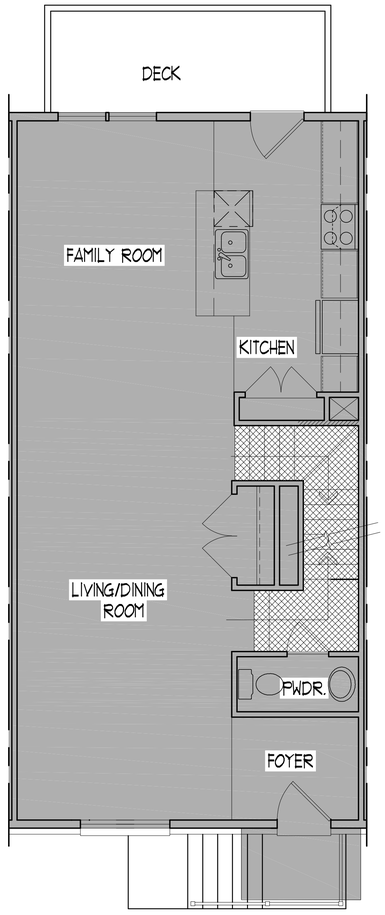
GROUND LEVEL

1/4" = 1'-0"

924 SF (GROSS)
879 SF (NET)

LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

GROSS SF BREAKDOWN
388 SF LIVING
412 SF GARAGE
28 SF COVERED ENTRY
96 SF AREA BELOW REAR DECK



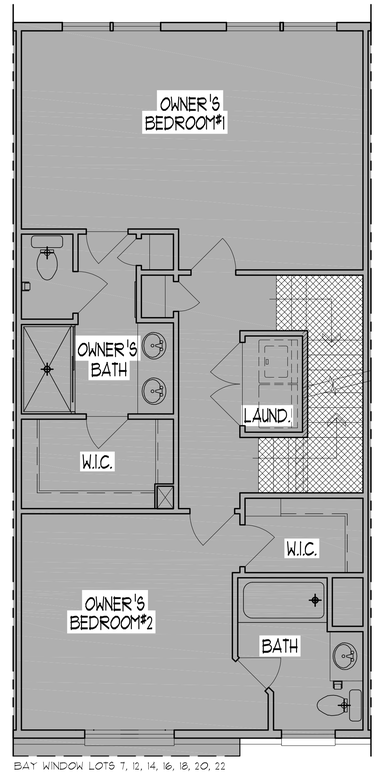
FIRST FLOOR PLAN

1/4" = 1'-0"

800 SF (GROSS)
740 SF (NET)

DECK
96 SF

LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23



SECOND FLOOR PLAN

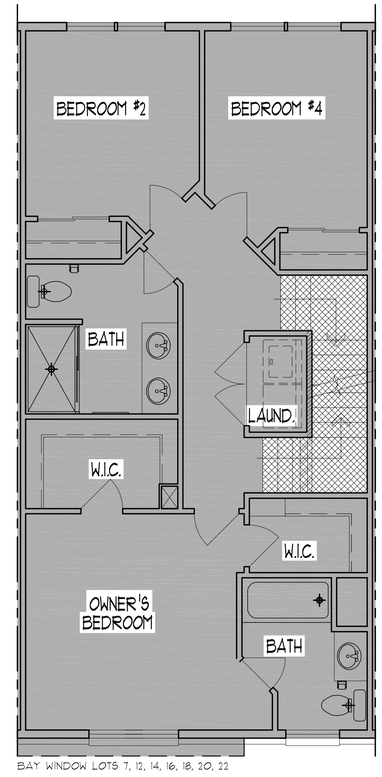
1/4" = 1'-0"

LOTS 6, 8, 11, 13, 15, 17, 19, 21, 23
800 SF (GROSS)
749 SF (NET)

LOTS 7, 12, 14, 16, 18, 20, 22
813 SF (GROSS)
762 SF (NET)

FAR PLANS

LOTS 1, 9, 10, 28, 29, 31

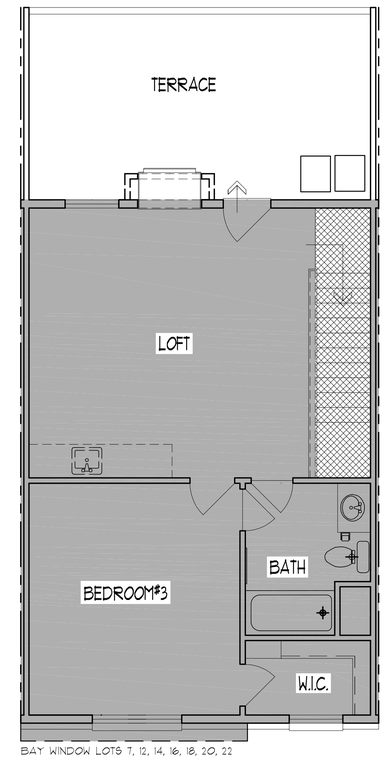


ALT. SECOND FLOOR PLAN @ OPTIONAL 4th BEDROOM

1/4" = 1'-0"

LOTS 6, 8, 11, 13, 15, 17, 19, 21, 23
800 SF (GROSS)
749 SF (NET)

LOTS 7, 12, 14, 16, 18, 20, 22
813 SF (GROSS)
762 SF (NET)



ATTIC FLOOR PLAN

1/4" = 1'-0"

LOTS 6, 8, 11, 13, 15, 17, 19, 21, 23
585 SF (GROSS)
539 SF (NET)

LOTS 7, 12, 14, 16, 18, 20, 22
598 SF (GROSS)
552 SF (NET)

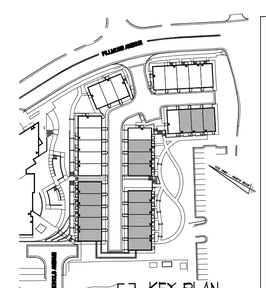
TERRACE
215 SF

NET SF

STAIR EXCLUSION

SQUARE FOOTAGE

PLAN	GROSS SF	NET SF
LOTS 6, 8, 11, 13, 15, 17, 19, 21, 23	3109	2907
LIVING	(2573)	(2371)
GARAGE	(412)	(412)
COVERED ENTRY	(28)	(28)
AREA BELOW REAR DECK	(96)	(96)
LOTS 7, 12, 14, 16, 18, 20, 22	3135	2933
LIVING	(2599)	(2397)
GARAGE	(412)	(412)
COVERED ENTRY	(28)	(28)
AREA BELOW REAR DECK	(96)	(96)
FIRST FLOOR DECK	96	96
ATTIC TERRACE	215	215



KEY PLAN

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STEVEN B. MOTSON
Lic. No. 10867
03/10/2017
ARCHITECT

SHEET TITLE:
FAR PLANS - LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

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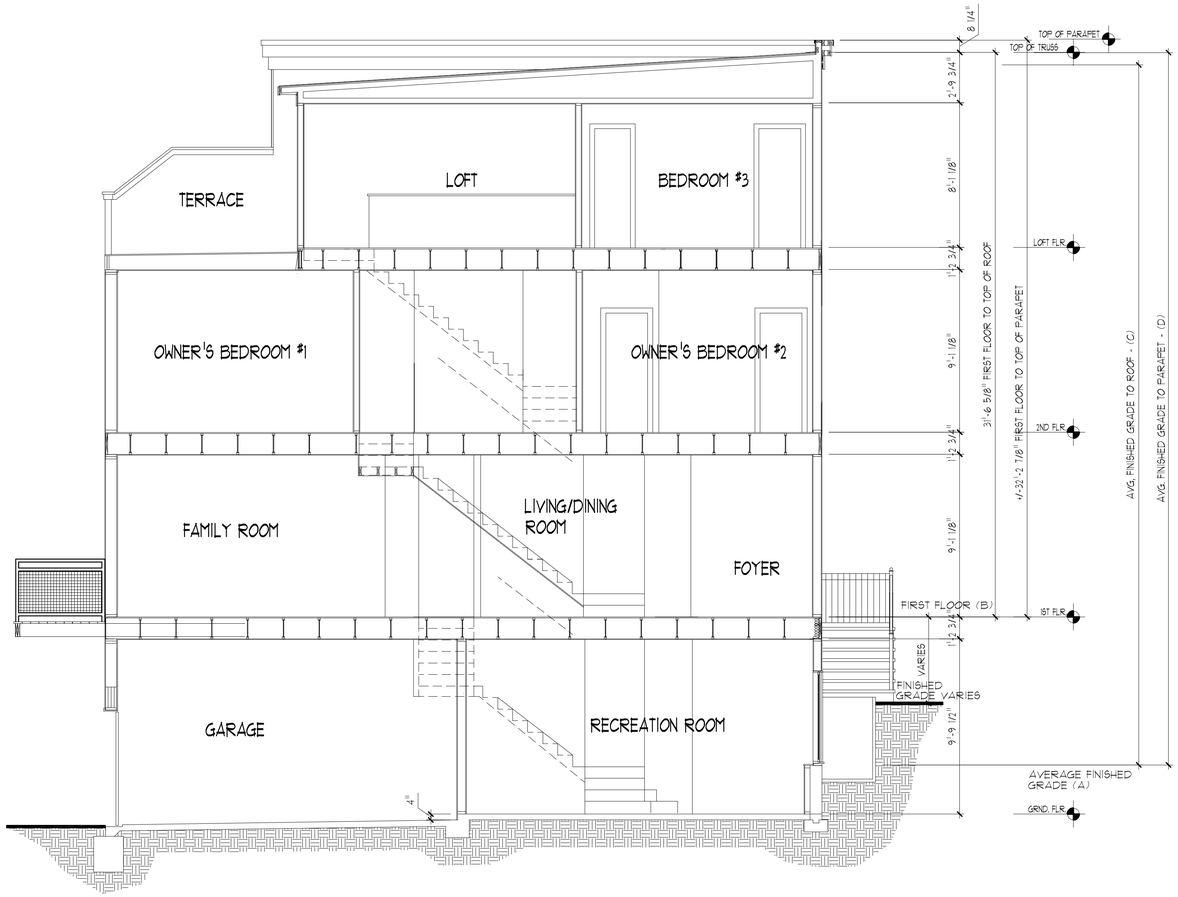


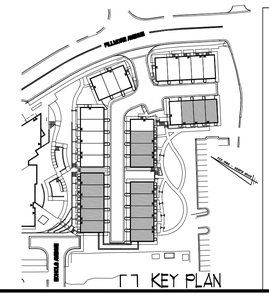
BUILDING SECTION - C-C

1/4" = 1'-0"

LOT NO.	(A)	(B)	(C)	(D)
6	223.62'	230.88'	38.99'	39.67'
7	224.86'	231.48'	38.35'	39.03'
8	225.42'	232.08'	38.39'	39.07'
11	231.23'	237.40'	38.90'	38.58'
12	232.40'	238.40'	37.73'	38.41'
13	232.80'	239.40'	38.33'	39.01'
14	235.08'	242.15'	38.80'	39.48'
15	237.19'	243.15'	37.69'	38.37'
16	238.19'	244.15'	37.69'	38.37'
17	239.15'	245.15'	37.73'	38.41'
18	240.67'	246.15'	37.21'	37.89'
19	241.96'	246.55'	36.32'	37.00'
20	238.82'	245.55'	38.51'	39.14'
21	237.47'	244.55'	38.81'	39.49'
22	236.16'	243.55'	39.12'	39.80'
23	233.78'	242.55'	40.50'	41.18'

BUILDING SECTION

LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23



KEY PLAN

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03/10/2017
ARCHITECT

SHEET TITLE:
BUILDING SECTION LOTS 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

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P40940230

SHEET No.
A-20

LANDSCAPE GUIDELINES:

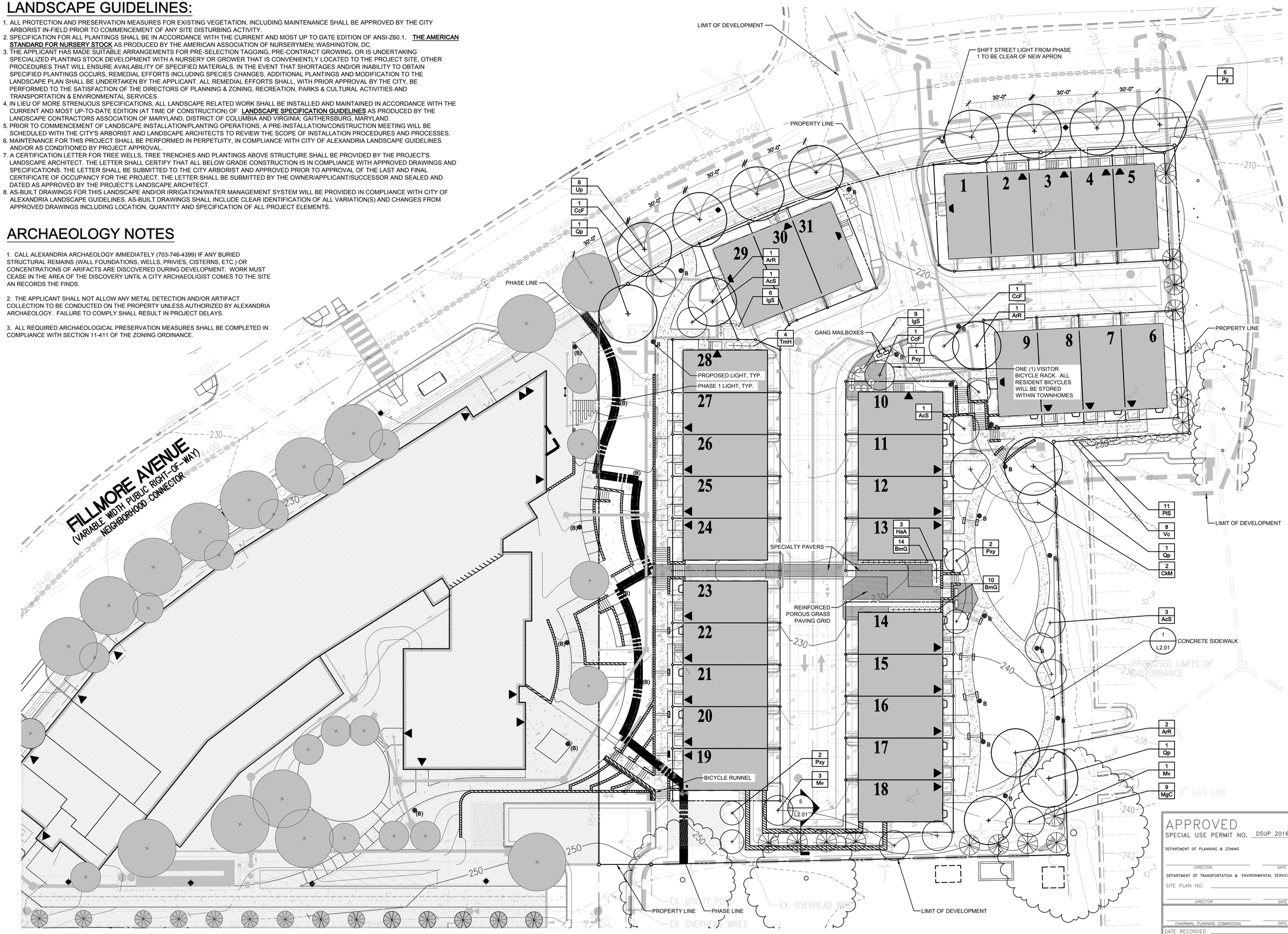
1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE SHALL BE APPROVED BY THE CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING ACTIVITY.
2. SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP TO DATE EDITION OF ANSI-Z60.1, **THE AMERICAN STANDARD FOR NURSERY STOCK** AS PRODUCED BY THE AMERICAN ASSOCIATION OF NURSERYMEN; WASHINGTON, DC.
3. THE APPLICANT HAS MADE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROWING, OR IS UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVENIENTLY LOCATED TO THE PROJECT SITE, OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPECIFIED MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCURS, REMEDIAL EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLAN SHALL BE UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL, WITH PRIOR APPROVAL BY THE CITY, BE PERFORMED TO THE SATISFACTION OF THE DIRECTORS OF PLANNING & ZONING, RECREATION, PARKS & CULTURAL ACTIVITIES AND TRANSPORTATION & ENVIRONMENTAL SERVICES.
4. IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF **LANDSCAPE SPECIFICATION GUIDELINES** AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.
5. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.
6. MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED IN PERPETUITY, IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY PROJECT APPROVAL.
7. A CERTIFICATION LETTER FOR TREE WELLS, TREE TRENCHES AND PLANTINGS ABOVE STRUCTURE SHALL BE PROVIDED BY THE PROJECT'S LANDSCAPE ARCHITECT. THE LETTER SHALL CERTIFY THAT ALL BELOW GRADE CONSTRUCTION IS IN COMPLIANCE WITH APPROVED DRAWINGS AND SPECIFICATIONS. THE LETTER SHALL BE SUBMITTED TO THE CITY ARBORIST AND APPROVED PRIOR TO APPROVAL OF THE LAST AND FINAL CERTIFICATE OF OCCUPANCY FOR THE PROJECT. THE LETTER SHALL BE SUBMITTED BY THE OWNER/APPLICANT/SUCCESSOR AND SEALED AND DATED AS APPROVED BY THE PROJECT'S LANDSCAPE ARCHITECT.
8. AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

ARCHAEOLOGY NOTES

1. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLIGIST COMES TO THE SITE AN RECORDS THE FINDS.

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

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



APPROVED
SPECIAL USE PERMIT NO. DSUP 2016-0021
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. DATE

STUDIO39
Landscape Architecture, P.C.
6416 Grovedale Drive, Suite 100-A
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FILLMORE - ST. JAMES: PHASE 2 TOWNHOMES
CITY OF ALEXANDRIA, VIRGINIA
CRAFTMARK HOMES

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COMMONWEALTH OF VIRGINIA
JOSEPH J. PLUMPE
Lic.No.000802
03.09.2017
LANDSCAPE ARCHITECT

REVISIONS:

LANDSCAPE SITE PLAN

NORTH

DESIGN:	AT, LH
DRAWN:	AT
CHECKED:	LH
SCALE:	1" = 20'-0"

0 10 20 40

PROJECT NO:	16029
DATE:	03.09.2017

L1.01

DSUP

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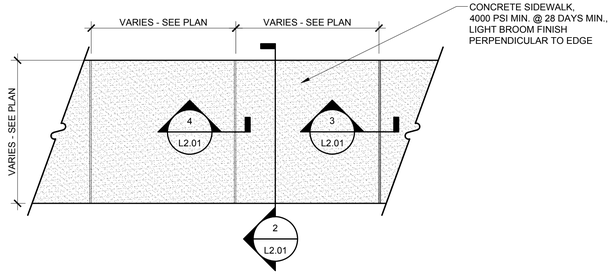
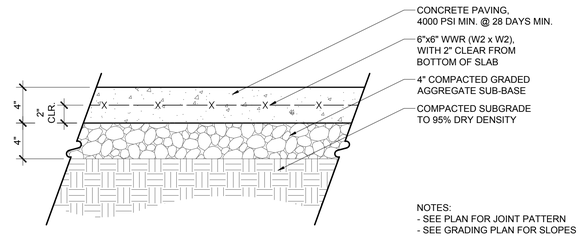


1 / L2.01 CONCRETE SIDEWALK — PLAN
Scale: 1/2" = 1'-0"



2 / L2.01 CONCRETE PAVING - PEDESTRIAN RATED — SECTION
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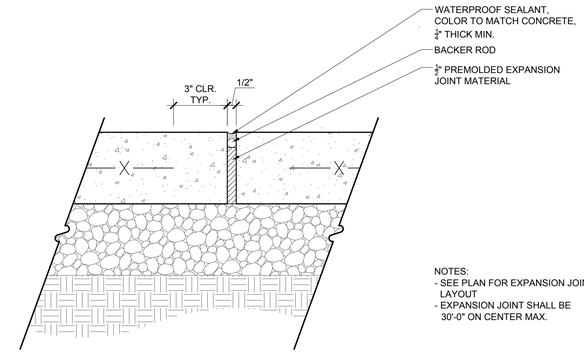

3 / L2.01 CONCRETE PAVING EXPANSION JOINT - TYPICAL — SECTION
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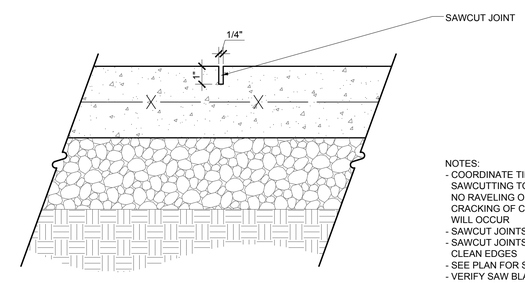

4 / L2.01 SAWCUT CONTROL JOINT — SECTION
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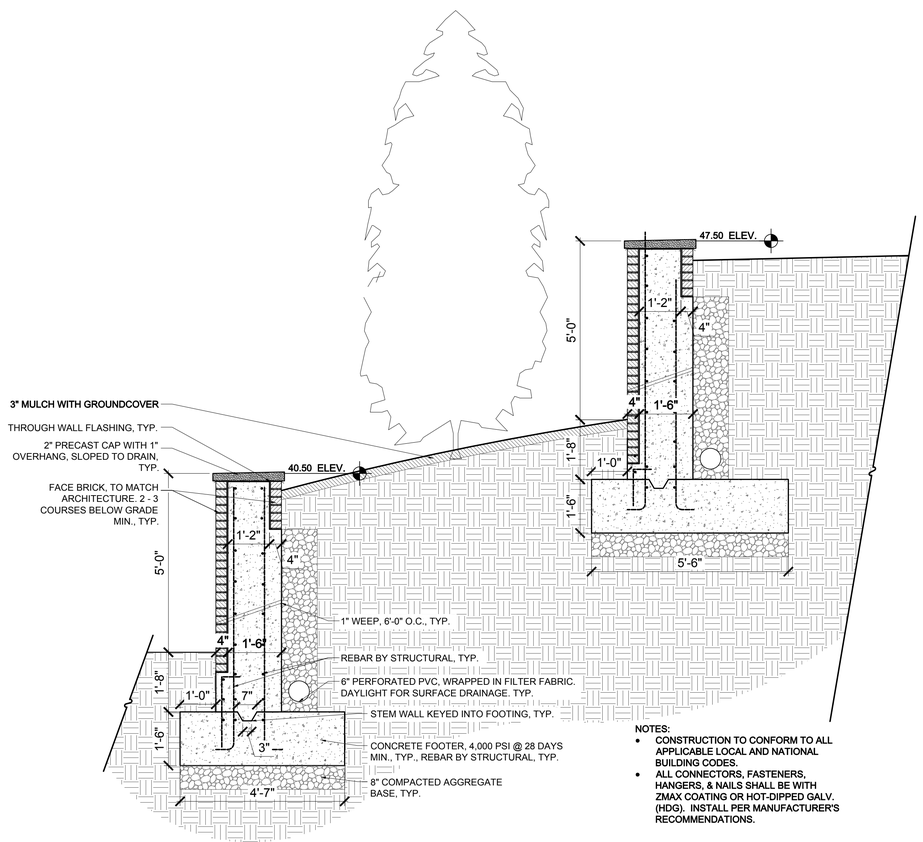

NOTES:
- CONSTRUCTION TO CONFORM TO ALL APPLICABLE LOCAL AND NATIONAL BUILDING CODES.
- ALL CONNECTORS, FASTENERS, HANGERS, & NAILS SHALL BE WITH ZMAX COATING OR HOT-DIPPED GALV. (HDG). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

5 / L2.01 TERRACED RETAINING WALLS — SECTION
Scale: 1/2" = 1'-0"

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COMMONWEALTH OF VIRGINIA
JOSEPH J. PLUMPE
Lic.No.000802
03.09.2017
LANDSCAPE ARCHITECT

REVISIONS:

HARDSCAPE DETAILS

NORTH
DESIGN: AT, LH
DRAWN: AT
CHECKED: LH
SCALE: AS SHOWN
PROJECT NO: 16029
DATE: 03.09.2017

L2.01

DSUP

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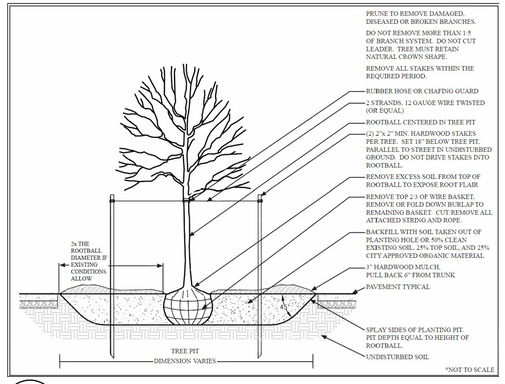
PLANTING NOTES:

1. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED, INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT. LAYOUT TO BE APPROVED BY OWNERS' REPRESENTATIVE PRIOR TO INSTALLATION.
3. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS, WELL-DEVELOPED DENSELY FOLIATED BRANCHES, AND VIGOROUS ROOT SYSTEMS; AND BE FREE FROM DEFECTS AND INJURIES.
4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO GROWTH OF PLANT MATERIAL.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE FOR TREES, SHRUBS, GROUNDCOVER AND PERENNIALS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
6. PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY IF/WHEN PRACTICAL. IN THE EVENT THAT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE-DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD SHALL BE REJECTED, UNLESS OWNER AND CONTRACTOR PROVIDE OTHERWISE BY WRITTEN AGREEMENT.
7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF ROOT BALL SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF ANSI Z60 "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
8. ALL PLANTS SHALL BE PLANTED IN AMENDED TOP SOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACK-FILLING PROCESSES. PLANTING MIX TO BE AS SHOWN ON PLANTING DETAILS. LARGE PLANTING AREAS TO INCORPORATE FERTILIZER AND SOIL CONDITIONERS AS STATED IN PLANTING SPECIFICATIONS.
9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FORM THE BOTTOM OF THE BALL ONLY.
10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOP SOIL THAT IS IN A MUDDY OR FROZEN CONDITION. ALL PLANT MATERIAL SHALL BE SPRAYED WITH "WILT-PRUF" OR EQUAL AS PER MANUFACTURER'S INSTRUCTIONS.
11. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND SIDEWALKS.
12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT A NORMAL OR NATURAL RELATIONSHIP TO THE GROUND IF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE THE PLANT IN THE CENTER OF THE PIT.
13. ALL INJURED ROOTS SHALL BE PRUNED TO MAKE CLEAN ENDS BEFORE PLANTING UTILIZING CLEAN, SHARP TOOLS. IT IS ADVISABLE TO PRUNE APPROXIMATELY 1/3 OF THE GROWTH OF LARGE TREES (2" CALIPER AND GREATER) BY THE REMOVAL OF SUPERFLUOUS BRANCHES, THOSE WHICH CROSS, THOSE WHICH RUN PARALLEL, ETC. MAIN LEADER OF TREES SHALL NOT BE CUT BACK. LONG SIDES BRANCHES SHALL BE SHORTENED.
14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE THE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
15. TREES SHALL BE SUPPORTED IMMEDIATELY AFTER PLANTING. ALL TREES 6" AND GREATER IN CALIPER SHALL BE GUYED. SMALLER TREES SHALL BE STAKED. GUYING WIRES AND STAKES SHALL BE INSTALLED AS INDICATED. THE LANDSCAPE CONTRACTOR SHALL REMOVE STAKING, GUYING AND TREE WRAP AT THE END OF ONE YEAR MAINTENANCE AND GUARANTEE PERIOD.
16. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" LAYER OF MULCH.
17. NEW PLANTING AREAS AND SOD SHALL BE ADEQUATELY WATERED TO ESTABLISH THE PROPOSED PLANTS AND LAWN.
18. ALL PLANTS SHOWN ON THE APPROVED LANDSCAPE PLAN SHALL BE INSTALLED, INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT OR HIS REPRESENTATIVE. THE LANDSCAPE ARCHITECT SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD. TREES, SHRUBS, VINES AND GROUNDCOVER AS REQUIRED BY OR ASSOCIATED WITH A SUBDIVISION OR SITE PLAN APPROVED BY THE PLANNING AUTHORITIES SHALL BE INSTALLED DURING THE FOLLOWING PLANTING SEASONS: LAWNS: 03/15 TO 06/15 AND 09/15 TO 12/01. THE FOLLOWING TREE VARIETIES SHALL NOT BE PLANTED DURING THE FALL PLANTING SEASON DUE TO THE HAZARDS ASSOCIATED WITH PLANTING THESE TREES IN THIS SEASON: ACER RUBRUM POPULUS SPP.; BETULA SPP. PRUNUS SPP.; CARPINUS SPP. PYRUS SPP.; CRATECUS SPP.; QUERCUS SPP.; KOELREUTERIA PANICULATA SALIX SPP.; LIQUIDAMBAR STYRACIFLUA TILIA TOMENTOSA; LIRIODENDRON TULIPIFERA ZELKOVA; PLATANUS ACERIFOLIA; ANY PLANTING INSTALLED IN CONFLICT WITH THIS REQUIREMENT MUST RECEIVE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL REQUIRE THE REMOVAL OF THE PLANTING IN QUESTION. THIS REQUIREMENT DOES NOT APPLY TO SEEDING OR SODDING OR PLANTINGS SPECIFICALLY FOR SOIL STABILIZATION PURPOSES. PLANTINGS ASSOCIATED WITH ANY LOT GIVEN A CERTIFICATE OF OCCUPANCY OUTSIDE THESE PERIODS SHALL BE PROVIDED DURING THE PREVIOUS OR NEXT APPROPRIATE SEASON.
19. ALL DISTURBED AREAS SHALL BE TREATED WITH 4" TOP SOIL SODDED OR SEEDED AS NOTED IN ACCORDANCE WITH PERMANENT STABILIZATION METHODS INDICATED ON SOIL EROSION AND SEDIMENT CONTROL SHEET.
20. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL PLANT MAINTENANCE; INCLUDING SHRUBS AND GROUNDCOVER, AND SHALL MAINTAIN AREA IN A WEED AND DEBRIS FREE CONDITION THROUGHOUT THE ONE-YEAR GUARANTEE PERIOD, UNLESS OTHERWISE SPECIFIED.
21. CONTRACTOR SHALL LAYOUT AND CLEARLY STAKE ALL PROPOSED IMPROVEMENTS INCLUDED ON THIS PLAN.
22. CONTRACTOR TO VERIFY PLANT LIST TOTALS WITH QUANTITIES SHOWN ON PLAN. LANDSCAPE ARCHITECT SHALL BE ALERTED BY CONTRACTOR OF ANY DISCREPANCIES PRIOR TO FINAL BID NEGOTIATION. UNIT PRICES FOR ALL MATERIAL SHALL BE SUPPLIED TO THE OWNER AT BIDDING TIME.
23. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT. OWNER SHALL RECEIVE TAG FROM EACH PLANT SPECIES AND A LIST OF PLANT SUPPLIERS. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL MEET THE NORMAL REQUIREMENTS FOR THE VARIETY PER THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN). PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.
24. SIZES SPECIFIED IN THE PLANT LIST ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE JUDGED. FAILURE TO MEET MINIMUM SIZE ON ANY PLANT WILL RESULT IN REJECTION OF THAT PLANT.
25. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL BRANCHED, FREE OF DISEASE, INSECT EGGS, AND LARVAE, AND SHALL HAVE ADEQUATE ROOT SYSTEMS.
26. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.
27. GROUPS OF SHRUBS SHALL BE PLACED IN A CONTINUOUS MULCH BED WITH SMOOTH CONTINUOUS LINES. ALL MULCHED BED EDGES SHALL BE CURVILINEAR IN SHAPE FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN FOUR FEET OF SHRUB BEDS SHALL SHARE SAME MULCH BED.
28. TREES SHALL BE LOCATED A MINIMUM OF 3' - 4' FROM WALLS AND WALKS WITHIN THE PROJECT. IF CONFLICTS ARISE BETWEEN ACTUAL SIZE OF AREA AND PLANS, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE OWNER OR LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE MATERIALS.
29. TREE STAKING AND GUYING SHALL BE DONE PER DETAILS. CONTRACTOR SHALL ENSURE THAT TREES REMAIN VERTICAL AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD.
30. CROWN OF ROOT BALL SHALL BE HIGHER (AFTER SETTLING) THAN ADJACENT SOIL.
31. TAGS AND TWINE ARE TO BE REMOVED AND BURLAP IS TO BE ROLLED BACK ONE-THIRD ON ALL B&B PLANT MATERIAL. REMOVE BURLAP IF IT IS NON-BIODEGRADABLE. FOR STREET TREES TAGS, TWINE, CORD, BURLAP AND WIRE BASKET TO BE CUT 12" DOWN SIDE OF ROOT BALL AND REMOVED FROM PROJECT SITE.
32. SHRUBS AND GROUND COVERS SHALL BE TRIANGULARLY SPACED AT SPACING SHOWN ON PLANTING PLANS.
33. SHADE TREES: HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE TOP OF MATURE GROWTH. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION. SHRUBS: HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE AVERAGE HEIGHT OF THE TOP OF THE PLANT. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE SHRUB MASS. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH.
34. ALL SUBSTITUTIONS OF PLANT MATERIAL ARE TO BE REQUESTED IN WRITING TO THE LANDSCAPE ARCHITECT AND APPROVED BY THE OWNER. IF CONTRACTOR FAILS TO SUBMIT A WRITTEN REQUEST, IT WILL RESULT IN LIABILITY TO THE CONTRACTOR.
35. ALL CONTRACTORS SHALL BE REQUIRED TO COMPLETELY REMOVE ALL TRASH, DEBRIS AND EXCESS MATERIALS FROM THE WORK AREA AND THE PROPERTY, ESPECIALLY AT ALL CURB, GUTTERS AND SIDEWALKS DAILY DURING INSTALLATION.
36. DEAD PLANTS ARE TO BE REMOVED FROM THE JOB BY THE CONTRACTOR WEEKLY. CONTRACTOR SHALL MAINTAIN AN UPDATED, COMPREHENSIVE LIST OF ALL DEAD MATERIALS REMOVED FROM THE JOB SITE. A COPY OF THE LIST IS TO BE SUBMITTED TO THE OWNER AT THE END OF EVERY MONTH DURING THE CONTRACT PERIOD.
37. TOPSOIL REQUIRED FOR SOIL MIXES AND SPECIAL SEEDING AREAS SHALL BE PROVIDED BY LANDSCAPE CONTRACTOR. CONTRACTOR MUST LOAD, HAUL, MIX, AND SPREAD ALL TOPSOIL AND OTHER SOIL ADDITIVES ARE REQUIRED.
38. CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE IMPROVEMENTS, INCLUDING SEEDING, FOR ONE FULL YEAR AS REQUIRED BY THE SPECIFICATIONS. CONTRACTOR MUST CONTACT THE OWNER AT LEAST TEN WORKING DAYS IN ADVANCE TO SCHEDULE ACCEPTANCE INSPECTION(S). CONTRACTOR MUST REPLACE ALL DEAD OR UNACCEPTABLE PLANTS DURING THE FOLLOWING RECOMMENDED PLANTING SEASON.
39. THE SPECIFICATIONS FOR ALL WORK INCLUDED IN THIS CONTRACT SHALL BE LANDSCAPE SPECIFICATIONS GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREA, CURRENT EDITION, UNLESS OTHERWISE NOTED ON THESE PLANS.

PLANTING MIX NOTES:

1. THE RECOMMENDED PLANTING MEDIUM SHOULD CONTAIN GOOD TOP SOIL THAT WILL SUSTAIN PLANT GROWTH.
2. THE TOP SOIL SHALL NOT BE LACKING IN POTASSIUM, PHOSPHORUS, MAGNESIUM OR CALCIUM. THE TOP SOIL SHALL NOT CONTAIN ANY MATERIALS TOXIC TO PLANT GROWTH.
3. THE TOP SOIL SHALL BE A SANDY CLAY LOAM OR A SILTY CLAY LOAM WITH WELL AGGREGATED CLAYS AND A MINIMUM OF 4% (FOUR PERCENT) ORGANIC MATTER.
4. THE SOILS PH RANGE SHOULD BE WITHIN 5.5 TO 7.0 AND ADJUSTED AS NECESSARY FOR INDIVIDUAL PLANT SPECIES REQUIREMENTS.
5. A SOIL TEST SHALL BE PERFORMED BY A FULL-SERVICE TESTING COMPANY AND THE RESULTS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF PLANTING MEDIUM.
6. IF A LOCAL, REPUTABLE TESTING COMPANY CANNOT BE EMPLOYED, A&L LABS IS AVAILABLE TO CONDUCT THE TESTING. CONTACT THEM AT:
   A&L ANALYTICAL LABORATORIES, INC.
   2790 WHITTEN ROAD
   MEMPHIS, TN 38133
   1-800-264-4522
7. THE LAB SHALL PERFORM AN S1A TEST AND SUBMIT THE RESULTS TO STUDIO 39 LANDSCAPE ARCHITECTURE, PC.



1 L2.02 STREET TREE PLANTING — SECTION
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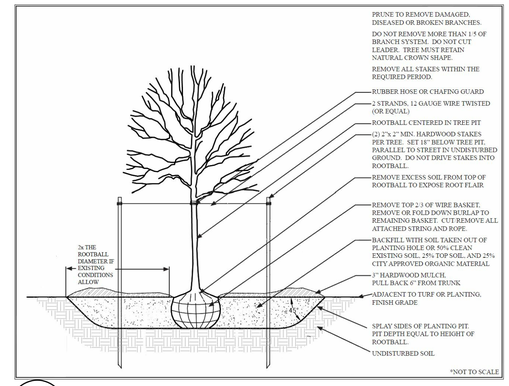
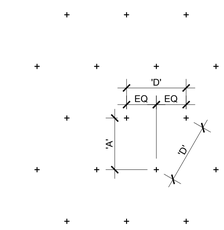


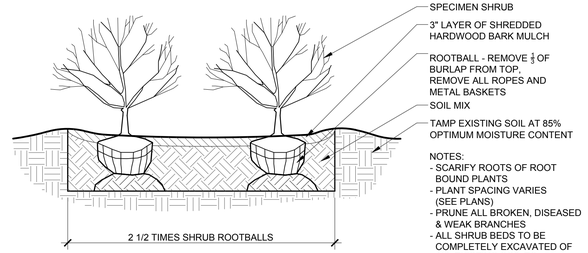
2 L2.02 TREE PLANTING DETAIL — SECTION
Scale: NTS



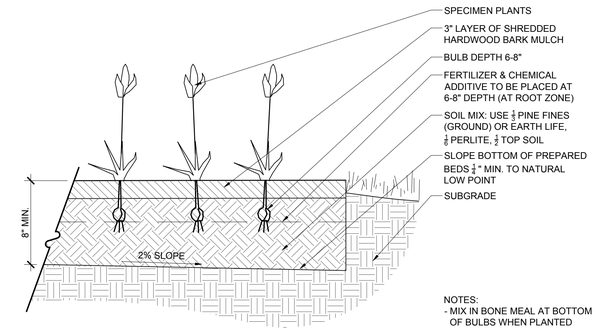
PLANT SPACING CHART
AS SPECIFIED ON PLANT LIST

SPACING 'D'	ROW 'A'	NUMBER OF PLANTS PER SQUARE FOOT
6" o.c.	5 1/4" o.c.	4.62
8" o.c.	6 7/8" o.c.	2.60
10" o.c.	8 5/8" o.c.	1.66
12" o.c.	10 3/8" o.c.	1.15
15" o.c.	13" o.c.	0.74
18" o.c.	15 5/8" o.c.	0.51
24" o.c.	20 3/4" o.c.	0.29
30" o.c.	26" o.c.	0.18
36" o.c.	31 1/8" o.c.	0.13
42" o.c.	36 3/8" o.c.	0.09
48" o.c.	41 5/8" o.c.	0.07

3 L2.02 TRIANGULAR SPACING FOR SHRUBS - GROUND COVERS - BULBS AND PERENNIALS — PLAN
Scale: 1" = 1'-0"



4 L2.02 SHRUB PLANTING — SECTION
Scale: 1/2" = 1'-0"



5 L2.02 ANNUAL & PERENNIAL PLANTING — SECTION
Scale: 1" = 1'-0"

PLANT SCHEDULE

DECIDUOUS SHADE TREES	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD		REMARKS	CCA	TOTAL
ArR	4	Acer rubrum `Red Sunset`	Red Sunset Maple	14`-16`	3" - 3 1/2"			B&B, full uniform crown, symmetrical branching, full specimen	1,250	5,000
Qp	3	Quercus phellos	Willow Oak	14`-16`	3" - 3 1/2"			B&B, full uniform crown, symmetrical branching, full specimen	1,250	3,750
									SUBTOTAL	8,750

DECIDUOUS STREET TREES	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD		REMARKS
Up	8	Ulmus parvifolia	Chinese Elm	14`-16`	3" - 3 1/2"			B&B, full uniform crown, symmetrical branching, full specimen

* STREET TREES IN R.O.W. NOT INCLUDED IN CCA CALCULATIONS

EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD		REMARKS	CCA	TOTAL
MgC	9	Magnolia grandiflora `Claudia Wannamaker`	Claudia W. Magnolia	8`-10`	1 1/2" min.			B&B, full to ground with good seasonal flush	500	4,500
Pg	6	Picea glauca	White Spruce	6`-8`		3 1/2 - 5`		B&B, full to ground with good seasonal flush	500	3,000
									SUBTOTAL	7,500

ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD		REMARKS	CCA	TOTAL
AcS	5	Amelanchier canadensis	Shadblow Serviceberry Multitrunk	8`-10`	1 1/2" min.			B&B, multi-trunk, 3 trunk minimum, full symmetrical branching	500	2,500
CcF	3	Cercis canadensis `Forest Pansy` (can only count 2)	Forest Pansy Redbud	8`-10`	1 1/2" min.			B&B, multi-trunk, 3 trunk minimum, full symmetrical branching	500	1,000
CkM	2	Cornus kousa `Milky Way`	Milky Way Kousa Dogwood	8`-10`	1 1/2" min.			B&B, multi-trunk, 3 trunk minimum, full symmetrical branching	250	500
Mv	4	Magnolia virginiana	Sweet Bay	8`-10`	1 1/2" min.			B&B, multi-trunk, 3 trunk minimum, full symmetrical branching	250	1,000
Pxy	5	Prunus x yedoensis	Yoshino Cherry	8`-10`	2 1/2" min.			B&B, uniform branching, full specimen	500	2,500
									SUBTOTAL	7,500

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	SPREAD	SIZE	SPACING	REMARKS	CCA	TOTAL
BmG	24	Buxus microphylla `Green Velvet`	Green Velvet Boxwood	18"-24"	18"-24"	#3 cont.	2.5` o.c.	healthy vigorous, well-rooted & established in container	2	48
HaA	3	Hydrangea arborescens `Annabelle`	Annabelle Smooth Hydrangea	18"-24"	18"-24"	#3 cont.	4` o.c.	healthy, vigorous, well-rooted & established in container	2	6
IgS	15	Ilex glabra `Shamrock` (used as screening, can't count)	Shamrock Inkberry	24"-30"	18"-24"	#3 cont.	3` o.c.	healthy, vigorous, well-rooted & established in container	0	0
PIS	11	Prunus laurocerasus `Schipkaensis`	Schipka Laurel	24"-30"	18"-24"	B&B	4` o.c.	healthy vigorous, well-rooted & established	2	22
TmH	4	Taxus x media `Hicksii`	Hicks Yew	18"-24"	18"-24"	B&B	4` o.c.	healthy vigorous, well-rooted & established	2	8
Vc	8	Viburnum carlesii	Korean Spice Viburnum	24"-36"	18"-24"	B&B	4` o.c.	healthy, vigorous, well-rooted & established	2	16
									SUBTOTAL	100
									TOTAL	23,850

CROWN COVERAGE	
SITE AREA	77,284 SF
REQUIRED CROWN COVERAGE (25%)	19,321 SF
EXISTING CROWN COVERAGE TO REMAIN	0 SF (0%)
PROPOSED COVERAGE FROM TREES	23,750 SF (99.6%)
PROPOSED COVERAGE FROM SHRUBS	100 SF (0.4%)
TOTAL PROPOSED COVERAGE	23,850 SF

APPROVED
SPECIAL USE PERMIT NO. DSUP 2016-0021
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. DATE

STUDIO39
Landscape Architecture, P.C.
6416 Grovedale Drive, Suite 100-A
Alexandria, Virginia 22310
Tel: 703.719.6500 Fax: 703.719.6503
Email: frontdesk@studio39.com

FILLMORE - ST. JAMES: PHASE 2
TOWNHOMES
CITY OF ALEXANDRIA, VIRGINIA
CRAFTMARK HOMES

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COMMONWEALTH OF VIRGINIA
JOSEPH J. PLUMPE
Lic.No.000802
03.09.2017
LANDSCAPE ARCHITECT

REVISIONS:

LANDSCAPE DETAILS, NOTES AND PLANT SCHEDULE

NORTH
DESIGN: AT, LH
DRAWN: AT
CHECKED: LH
SCALE: AS SHOWN

PROJECT NO: 16029
DATE: 03.09.2017

L2.02

DSUP

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p:\2016\16029 st. james craftmark\6.0 cad files\concept ii - dsup\L2.02 LANDSCAPE DETAILS, NOTES AND PLANT SCHEDULE.dwg

LIGHT SCHEDULE

LABEL	SYMBOL	DESCRIPTION	MANUFACTURER	PRODUCT NUMBER	LAMP	MOUNTING HEIGHT	REF.
A		STREET LIGHT	CITY OF ALEXANDRIA STANDARD GLOBE BY PHILIPS HADCO	R54 B A N N 1 A F R G 150S E	150W HPS	14 FT	1/L4.01
B		PEDESTRIAN LIGHT	PHILIPS LUMEC SLEEKVISION	VLC-29350WW-G1-3-CAGE-HS	33W LED	10 FT	3/L4.01
X15		EXISTING	CITY OF ALEXANDRIA STANDARD COBRAHEAD		150W HPS	30 FT	
X10		EXISTING	CITY OF ALEXANDRIA STANDARD COBRAHEAD		100W HPS	25 FT	

MODEL: OA405 - 14 WASHINGTON 405

HEIGHT: 12' MOUNTING HEIGHT, FIBERGLASS ANCHOR BASE

QUANTITY: PER PLAN

COLOR: BLACK

MANUFACTURER: W.J. WHATLEY, INC
3550 ODESSA WAY STE A
AURORA, CO 80011

CONTACT: DON HOFFMAN
P: 301.621.1650

NOTE: CONTRACTOR TO VERIFY QUANTITIES. INSTALL PER MANUFACTURER'S RECOMMENDATION AND GOVERNING MUNICIPAL REQUIREMENTS. OR APPROVED EQUAL

1 / L4.01 STREET LIGHT POLE — PROD. INFO.
Scale: NTS

MODEL: R54BANNATRD100SE

DESCRIPTION: VICTORIAN SERIES TYPE III

QUANTITY: PER PLAN

COLOR: N/A

MANUFACTURER: HADCO
100 CRAFTWAY
LITTLESTOWN, PA 17340

CONTACT: DAVE DEPORTER
P: 703.530.9255

NOTE: CONTRACTOR TO VERIFY QUANTITIES. INSTALL PER MANUFACTURER'S RECOMMENDATION AND GOVERNING MUNICIPAL REQUIREMENTS. OR APPROVED EQUAL

2 / L4.01 STREET LIGHT FIXTURE — PROD. INFO.
Scale: NTS

MODEL: SPECTRA SMALL SCALE

DESCRIPTION: LED PEDESTRIAN LAMP

FINISH: TBD

QUANTITY: PER PLAN

MANUFACTURER: ARCHITECTURAL AREA LIGHTING
16555 EAST GALE AVENUE
CITY OF INDUSTRY, CA 91745
P: 626.369.2695

NOTE: CONTRACTOR TO VERIFY QUANTITIES. INSTALL PER MANUFACTURER'S RECOMMENDATION AND GOVERNING MUNICIPAL REQUIREMENTS. OR APPROVED EQUAL

3 / L4.01 PEDESTRIAN LIGHTS — PROD. INFO.
Scale: NTS

4 / L4.01 LIGHTING PLAN — PLAN
Scale: 1:20

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FILLMORE - ST. JAMES: PHASE 2 TOWNHOMES

CITY OF ALEXANDRIA, VIRGINIA

CRAFTMARK HOMES

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COMMONWEALTH OF VIRGINIA
JOSEPH J. PLUMPE
Lic.No.000802
03.09.2017
LANDSCAPE ARCHITECT

REVISIONS:

LIGHTING PLAN

NORTH

DESIGN: AT, LH
DRAWN: AT
CHECKED: LH

SCALE: Viewport Scale

PROJECT NO: 16029

DATE: 03.09.2017

L4.01

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

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DIRECTOR — DATE

CHAIRMAN, PLANNING COMMISSION — DATE

DATE RECORDED

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1 L5.01 ELEVATIONS REFERENCE PLAN
Scale: 1:20

PLAN

2 L.501 UNITS 1-5
Scale: 1:10 (APPROX)

ELEVATION

3 L5.01 UNITS 29-31
Scale: 1:10 (APPROX)

ELEVATION

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COMMONWEALTH OF VIRGINIA
JOSEPH J. PLUMPE
Lic.No.000802
03.09.2017
LANDSCAPE ARCHITECT

REVISIONS:

SITE ELEVATIONS

NORTH

DESIGN: AT, LH
DRAWN: AT
CHECKED: LH

SCALE: 1"=10'-0"
0 5 10 20

PROJECT NO: 16029
DATE: 03.09.2017

L5.01

DSUP

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