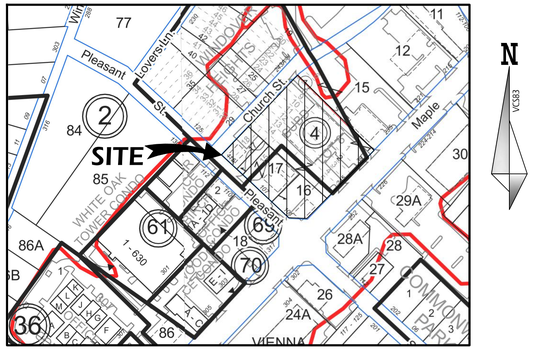
EXISTING CONDITIONS/CONCEPT PLAN

VIENNA MARKET

TOWN OF VIENNA, VIRGINIA



SOILS MAP

SCALE: 1"=200'

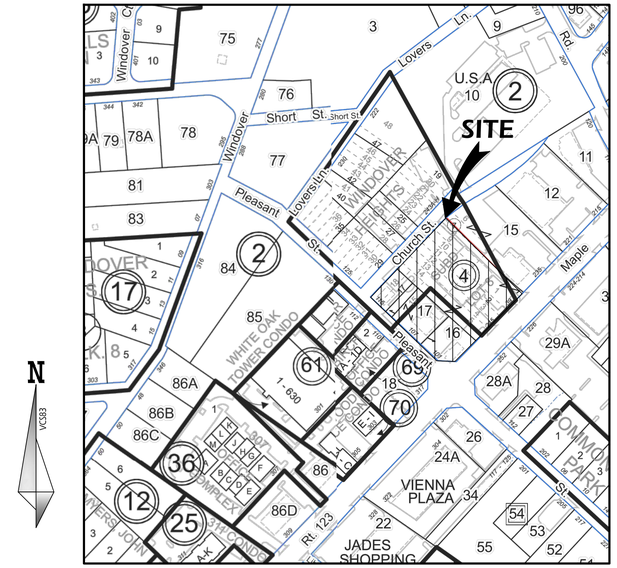
LOT NO	SOIL NO	SOIL NAME	FOUNDATION SUPPORT	EROSION POTENTIAL	PROBLEM CLASS	
					OLD	NEW
85	95	URBAN LAND	N/A	N/A	N/A	IVB
85	105B	WHEATON - GLENELG COMPLEX	GOOD	HIGH	C	IVB

(SOIL INFORMATION PER FAIRFAX COUNTY MAPPING)

SOIL TABULATION

A SOILS REPORT IS REQUIRED

THE GEOTECHNICAL ENGINEER SHALL FURNISH HIS PROFESSIONAL OPINION TO THE TOWN OF VIENNA THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH TOWN CODES. CONSTRUCTION INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE BUILDING CODES AND PFM BY A LICENSED GEOTECHNICAL ENGINEER FOR THE PLACEMENT OF ONSITE FILL MATERIAL, FOUNDATIONS, SLAB SUBGRADE, WALL BACKFILL, WATERPROOFING, SUBSURFACE DRAINAGE SYSTEMS, ENGINEERED FILL AND OTHER RELATED BACKFILLING OPERATIONS THAT ARE CONSTRUCTED FOR THIS PROJECT AND SHALL BE PERFORMED UNDER FULL-TIME SUPERVISION OF A LICENSED GEOTECHNICAL ENGINEER.



VICINITY & ZONING MAP

SCALE: 1"=200'

TAX MAP NOs: 0384-04-0017, 0384-02-0016, 0384-02-0017, 0384-02-0016, 0384-02-0002

APPLICANT

VIENNA VISION, LLC
8011 AMSTERDAM COURT
GAINESVILLE, VIRGINIA 20155
CONTACT: DOUG D'ALEXANDER
703-795-5570
EMAIL: doug.d@mac.com

CONTRACTOR PURCHASER

DOUG D'ALEXANDER
8011 AMSTERDAM COURT
GAINESVILLE, VIRGINIA 20155
(703) 795-5570
EMAIL: doug.d@mac.com

ARCHITECT

KYLLO + PATTANA ARCHITECTS
ARCHITECTURE - PLANNING - INTERIORS - LEED
340 MILL STREET, SUITE F
VIENNA, VIRGINIA 22180
(703) 242-6603
CONTACT: THOMAS F. KYLLO
EMAIL : tomkyllo@kyllopattana.com

OWNERS

*MAPLE AVENUE WEST ASSOCIATES, LLC
DEED BOOK 4536, PAGE 111
MAP No. 0384-04-0002

**PLEASANT STREET ASSOCIATES
DEED BOOK 4536, PAGE 105
MAP No. 0384-04-0017
DEED BOOK 4536, PAGE 109
MAP No. 0384-02-0016

**DAPHNE D. SLOAN
BOOK 4536, PAGE 107
MAP No. 0384-02-0017

*MAPLE AVENUE WEST ASSOCIATES, LLC IS WHOLLY OWNED BY VIENNA VISION, LLC.

**DOUGLAS D'ALEXANDER (CONTRACT PURCHASER) IS THE CONTRACT PURCHASER FOR THESE PARCELS. AS THE CONTRACT PURCHASER DOUGLAS D'ALEXANDER HAS THE LEGAL RIGHT TO PROCESS THIS SITE PLAN APPLICATION ON BEHALF OF THE TWO PROPERTIES WHICH ARE UNDER CONTRACT FOR PURCHASE.

CIVIL ENGINEER

SMITH ENGINEERING
14901 BOGLE DRIVE
SUITE 202
CHANTILLY, VIRGINIA 20151
(703) 956-6204
CONTACT: BLAKE A. SMITH, P.E.
EMAIL: Blake@smithengineeringva.com

SURVEYOR

TARGET SURVEYS INC.
8807 SUDLEY RD. SUITE 201
MANASSAS, VIRGINIA 20110
(703)368-8828 EXT. 2#
CONTACT: DAVID WHEELING, L.S.
E-MAIL: dwheeling@targetsurveys.com

SHEET INDEX

SHEET NO.	SHEET TITLE
1	COVER SHEET
2	NOTES & DETAILS
3	EXISTING CONDITIONS PLAN
4	FLOOR PLANS
5	OPEN SPACE & IMPERVIOUS AREA
6	CONCEPTUAL GRADING PLAN
7	UTILITY PLAN
8	FIRE TRUCK TURNING MOVEMENT
9	LANDSCAPE PLAN
10	TREE PRESERVATION PLAN
11	PHOTOMETRIC PLAN
12	COMMERCIAL VEHICLE TURNING MOVEMENT
13	CONCEPTUAL BUILDING ELEVATIONS
14	CONCEPTUAL BUILDING ELEVATIONS
15	CONCEPTUAL BUILDING ELEVATIONS
16	CONCEPTUAL BUILDING ELEVATIONS
17	PRELIMINARY VRRM SPREADSHEET

LEGEND

EXISTING INTERMEDIATE CONTOUR (102)
EXISTING INDEX CONTOUR (100)
PROPOSED CONTOUR (20)
EXISTING EDGE OF PAVEMENT
PROPOSED EDGE OF PAVEMENT
EXISTING CURB AND GUTTER (EX C&G)
PROPOSED CURB AND GUTTER (CG-6)
TRANSITION FROM CG-6 TO CG-6R (CG-6 CG-6R)
EXISTING STORM SEWER (15" RCP)
PROPOSED STORM SEWER (15" RCP)
EXISTING SANITARY SEWER
PROPOSED SANITARY SEWER
PROPOSED SANITARY SEWER MANHOLE
EXISTING FENCELINE
PROPOSED FENCE LINE
PROPERTY LINE
EASEMENT LINE
CENTERLINE
LIMITS OF CLEARING AND GRADING (LCG)
EXISTING SPOT ELEVATION (+412.56)
PROPOSED SPOT ELEVATION (12.56)
EXISTING TREE DRIP LINE
EXISTING TREE (15" OAK)
PROPOSED TREE (OAK)
PAINTED CURB FOR FIRE LANE
EXISTING UTILITY POLE
PROPOSED UTILITY POLE
EXISTING WATERLINE W/ TEE
PROPOSED WATERLINE W/ TEE
EXISTING FIRE HYDRANT
PROPOSED FIRE HYDRANT
EXISTING WATER VALVE
PROPOSED WATER VALVE
PROPOSED WATER METER
EXISTING REDUCER
PROPOSED REDUCER
STOP SIGN
HANDICAP RAMP (CG-12) DENOTES LOCATION OF STD VDOT CG-12 AND/OR JURISDICTIONAL STD RAMP CONSTRUCTION
PARKING INDICATOR INDICATES THE NUMBER OF TYPICAL PARKING SPACES (12)
TEST PIT LOCATION
VEHICLES PER DAY COUNT (VPD)
PROPOSED BUILDING ENTRANCE
EXISTING STREET LIGHT
PROPOSED STREET LIGHT
PROPOSED STREET NAME SIGN
PROPOSED SANITARY LATERAL CLEANOUT
SANITARY MANHOLE IDENTIFIER (A)
STORM DRAIN STRUCTURE IDENTIFIER (10)
LOADING SPACE
EXISTING GAS LINE

LEGAL DESCRIPTION:

THIS LEGAL DESCRIPTION ENCOMPASSES THE PERIMETER OF ALL PROPERTIES IN THEIR CURRENT STATE WHICH WILL BE CONSOLIDATED WITH THE SUBJECT APPLICATION PRIOR TO ANY RIGHT OF WAY DEDICATIONS.
BEGINNING AT A POINT, IRON PIPE FOUND, AT THE EASTERN MOST CORNER OF THE SAID PARCEL (0384-04-002) ALONG THE NORTH WESTERLY RIGHT OF WAY LINE OF MAPLE AVENUE WEST - STATE ROUTE 123, SAID POINT BE SOUTHERNMOST CORNER OF PARCEL 0384-02-0015 NOW OR FORMERLY FIRST NATIONAL BANK OF VIENNA RECORDED IN DEED BOOK: 2102 PAGE 261; THENCE TRAVERSING THE FOLLOWING BEARING AND DISTANCES:
SOUTH 43 DEGREES, 42 MINUTES, 00 SECONDS WEST, 172.89 FEET TO AN IRON PIPE FOUND; THENCE
SOUTH 43 DEGREES, 42 MINUTES, 00 SECONDS WEST, 89.97 FEET TO AN IRON PIPE FOUND; THENCE
SOUTH 81 DEGREES, 22 MINUTES, 23 SECONDS WEST, 21.71 FEET TO AN IRON PIPE FOUND; THENCE
NORTH 50 DEGREES, 54 MINUTES, 04 SECONDS WEST, 43.10 FEET TO A PK NAIL HELD; THENCE
NORTH 46 DEGREES, 54 MINUTES, 37 SECONDS WEST, 245.11 FEET TO AN IRON PIPE FOUND; THENCE
NORTH 43 DEGREES, 42 MINUTES, 23 SECONDS EAST, 110.01 FEET TO A POINT; THENCE
NORTH 43 DEGREES, 42 MINUTES, 8 SECONDS EAST, 176.35 FEET TO A POINT; TO AN IRON PIPE FOUND; THENCE
SOUTH 46 DEGREES, 30 MINUTES, 27 SECONDS EAST, 158.08 FEET TO THE POINT OF BEGINNING AND CONTAINING 85,654 SQUARE FEET OR 1.96635 ACRES OF LAND.

CHESAPEAKE BAY PRESERVATION ORDINANCE CERTIFICATE:

I HEREBY CERTIFY THAT I HAVE EXAMINED THE ABOVE REFERENCE PLAN(S) AND FIND THEM TO BE IN GENERAL CONFORMANCE WITH THE REQUIREMENTS OF THE CHESAPEAKE BAY PRESERVATION ORDINANCE (COUNTY CODE CHAPTER 118). I FURTHER CERTIFY THAT THERE ARE NO RESOURCE PROTECTION AREAS (RPA) LOCATED ON THE LOT BASED ON AN EXAMINATION OF THE AFOREMENTIONED PLANS AND THE OFFICIAL CHESAPEAKE BAY PRESERVATION AREA MAPS ADOPTED BY THE BOARD OF SUPERVISORS ON JULY, 7 2003 AND EFFECTIVE NOVEMBER 18, 2003 THROUGH MAY 22, 2007.

TOWN OF VIENNA
PLAN APPROVAL

Dept. of Planning and Zoning
_____ Date _____

Dept. of Public Works
_____ Date _____

SMITH ENGINEERING

COVER SHEET

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT

TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
BLAKE A. SMITH
Lic. No. 033994
PROFESSIONAL ENGINEER

SMITH ENGINEERING
14901 BOGLE DRIVE SUITE 202
CHANTILLY, VA 20151
PHONE: 703-956-6204

PROJECT: 194-02

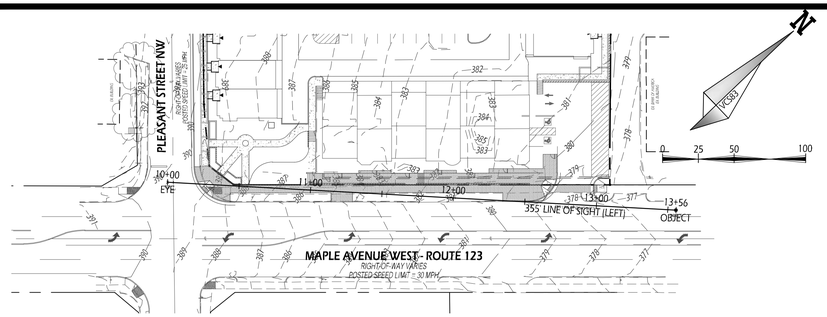
BLAKE A. SMITH, P.E.
Blake@SMITHEngineeringVA.com

PLAN SUBMISSIONS	
10/02/17	1ST SUB.
12/14/17	RESUB. TO TOWN
01/19/18	RESUB. TO TOWN
01/29/18	RESUB. TO TOWN
02/07/18	RESUB. TO TOWN
02/14/18	RESUB. TO TOWN
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

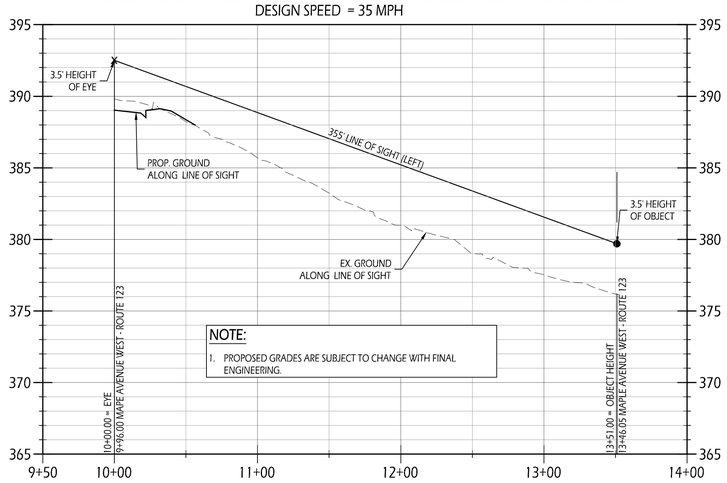
SCALE: AS NOTED
DATE: OCTOBER 2, 2017
SHEET 1 OF 17

P:\194-02 Vienna Market\Zoning\Eng\Sheets\194-02_Cover.dwg 09/29/18_8:49



SIGHT DISTANCE PROFILE - MAPLE AVENUE WEST - ROUTE 123

DESIGN SPEED = 35 MPH



GENERAL NOTES:

1. THIS PROPERTY MAY BE SUBJECT TO COVENANTS AND OTHER PRIVATE LEGAL RESTRICTIONS, ENCUMBRANCES AND EASEMENTS LOCATED IN THE LAND RECORDS OF THE LOCAL JURISDICTION. REDEVELOPING THE SUBJECT PROPERTY AND PROVIDING DEMONSTRATION OF CODE COMPLIANCE WITH PUBLICLY PUBLISHED ORDINANCES RELATED TO SITE DEVELOPMENT DESIGN AND SHALL BE USED WITH THAT UNDERSTANDING.
2. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF VIENNA AND FAIRFAX COUNTY STANDARDS AND SPECIFICATIONS, WHERE APPLICABLE AND APPROPRIATE.
3. TO THE BEST OF THIS FIRM'S KNOWLEDGE, NO GRAVESITES, OBJECTS OR STRUCTURES MARKING A PLACE OF BURIAL EXISTS ON THE PROPERTY WITHIN THE PROPOSED LIMITS OF CLEARING AND GRADING.
4. THE TOTAL PROPERTY ACREAGE IS 85,654 S.F. (1.97 AC.) AND CONSISTS OF PARCELS 0384-04-0017, 0384-02-0016, 0384-02-0017, 0384-02-0016, AND 0384-02-0002.
5. THE SUBJECT PROPERTY IS UTILIZING PUBLIC WATER SUPPLY.
6. THE SUBJECT PROPERTY IS UTILIZING PUBLIC SEWER SERVICE.
7. THE EXISTING PERIPHERAL BOUNDARY LINES SHOWN HEREON ARE FROM A FIELD RUN BOUNDARY SURVEY PERFORMED BY TARGET SURVEYS, INC. FURTHERMORE, THE BEARINGS SHOWN HEREON ARE REFERENCED TO VIRGINIA STATE GRID NORTH-NAD 83 PER GPS SURVEY PERFORMED ON JANUARY 19, 2016.
8. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A FIELD RUN SURVEY BY TARGET SURVEYS, INC., ON FEBRUARY 2, 2016. THE VERTICAL DATUM IS NAVD 88 AND THE CONTOUR INTERVAL IS 1' (ONE FOOT).
9. THE PROPERTY IS SHOWN ON FAIRFAX COUNTY FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 51059C0145E (EFFECTIVE DATE: SEPTEMBER 17, 2010) AS BEING IN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOOD PLAN).
10. THE SUBJECT PROPERTY IS LOCATED IN THE MAPLE AVENUE CORRIDOR DISTRICT.
11. TO THE BEST OF OUR KNOWLEDGE, THE SUBJECT PROPERTY DOES NOT CONTAIN ANY WETLANDS .
12. OWNER RESERVES THE RIGHT TO MAKE MODIFICATIONS TO THE VERTICAL AND HORIZONTAL LOCATION OF THE STRUCTURES AND ASSOCIATED GRADES SHOWN HEREON.
13. THE EXISTING PARCELS SHALL BE CONSOLIDATED AS PART OF THE SITE PLAN AND PLAT APPROVAL.
14. ALL PRIVATE STREETS SHALL BE PRIVATELY MAINTAINED.

ZONING REQUIREMENTS:

Date: 4-12-2018

PROJECT AREAS

Site Area:		85,654 sf		#### acres *
ROW Dedication:	±	2,287 sf	±	#### acres
Remaining Site Area:	±	83,367 sf	±	#### acres
Existing Zone:		C-1A		
Proposed Zone:		MAC		
Residential:		44 units		
Retail Area:		± 8,200 gross sf		

TAX MAP NO	S.F.	AC
0384-04-0017	6,199	0.14
0384-02-0016	2,601	0.06
0384-02-0017	15,547	0.36
0384-02-0016	8,583	0.20
0384-02-0002	52,724	1.21
TOTAL SITE	85,654	1.97

* TOTAL SITE AREA SHOWN WITHIN ZONING TABULATIONS AND SITE PLAN DIFFERS FROM TAX RECORDS BASED ON CURRENT BOUNDARY SURVEY BY TARGET SURVEYS,

SITE INFORMATION:

Required Open Space Setaside Area:	15% of Total Developed Area			
Remaining Site Area:	83,367 sf	Required:	Provided:	
Total Open Space Area:		12,505 sf	19,869 sf	23.8%
Minimum Pervious Surface:	15%			
Pervious Surface Area:		12,505 sf	12,939 sf	15.5%

MAPLE AVENUE COMMERCIAL (MAC) ZONING INFORMATION:

Permitted use: (18-95.4)
Multi- family dwellings, if they are not located on a ground floor façade facing Maple Avenue.
Retail sales use under 65,000 square feet of floor area, including department stores, variety stores, and shopping centers.

Area Requirements: (Sec. 18-95.7)
A. Lot Area: None
B. Lot Width: None
C. Front Yard: Require Provided:
1. Front yards on Maple Avenue: (from face of curb)
a. Minimum Front Yard: 20ft more than 20' on Maple Avenue
b. Maximum Front Yard: 64 ft less than 64' on Maple Avenue
2. Front yards on side streets: (from face of curb)
a. Minimum Front Yard: 15 ft more than 15' on Pleasant St
b. Maximum Front Yard: 64 ft less than 64' on Pleasant St
D. Minimum side yard:
1. Building wall has no windows or doors: None 0' setback for garage on Northeast side of building (no windov
2. Building with 3 stories or more: 8 ft 8'
3. Building abuts a street or right-of-way: 15 ft measured from face of curb
E. Minimum rear yard: 20' when the development abuts a single-family residential lot
10' in all other instances
F. Maximum impervious surface: 80% of the lot Provided: 84.2% (See Incentives Below)

Height Limits (Sec 18-95.9)
Maximum height: lesser than 4 stories or 54' See Sheet 6 for Provided
Minimum height: first story of a princilple building shall be 15'

PARKING:

			Required:	Provided:
Retail Parking	+/-8,200 of leasable area	1 space/200sf	41 spaces	30 spaces in garage
			÷ 1.25 Str. Pkg. Incentive	3 spaces surface
			33 spaces	33 Total spaces
Residential Parking	Townhouse/Multi-Family (2 or 3 bedrooms)	2 spaces/unit	88 spaces	88 spaces in garage
	Visitor Parking	1 space/5 T	9 spaces	9 spaces surface
			97 Total	97 Total spaces
Additional Parking	Pleasant Street/Church Street	Parallel Parking	N/A	17 Total spaces
Bicycle Parking	Residential	1 space/10	5 spaces	5 spaces
		1 space/50	1 space	1 space
	Retail	1 space/5,0	2 spaces	9 spaces
		1 space/25,	1 space	1 space
			9 spaces	16 Total spaces
Loading	Retail Building Width	+/- 138'	Loading Required	
			138' ÷ 50' = 2.76	
			2.76 x 15'w = 41.4'	
	Loading Provided:	+/- 12' x +/- 66' = 792 s.f.	41.4' x 25'd = +/-1,035 sf	
		+/- 18' x +/- 17' = 306 s.f.		
		+/-1,098 s.f.		

INCENTIVES

Incentive Requests	5% increase in impervious area (85% Total)
Minimum Incentive Feature Credits Required	AA BB
Selected Incentives Features	Incentive Credits
Inclusion of underground parking or parking structures sufficient to accommodate 51 percent or more of the off-street parking	AA
Closure of one existing accessway, vehicular entrance or driveway on Maple Avenue	AA
Provision of Rain Gardens or other appropriate stormwater infiltration system(s) of at least two percent of the total site area	B
Provision of at least one enclosed recylcing station per building suitable for storage and collection of recyclables generated on-site	B

Proffers
PF-68-17-PMAC
February 12, 2018

Pursuant to Section 15.2-2303(a) of the 1950 Code of Virginia, as amended, and Section 18-249. 1 of the Zoning Ordinance of the Town of Vienna, Virginia, **Vienna Vision LLC**, the owner of the property described as Fairfax County TAX MAP #0384-04-0002 a 1.21037 AC. Deed Book 4536, Page 111 and **Douglas D'Alexander** Contract Owner of the property described as Fairfax County TAX MAP #0384-04-0017 a 0.14230 AC. Deed Book 4536, Page 105 and TAX MAP #0384-02-0016 a 0.05977 AC. Deed Book 4536, Page 109 and TAX MAP #0384-02-0017 a 0.35691 AC. Deed Book 4536, Page 107 and TAX MAP #0384-02-0016 a 0.19704 AC. Deed Book 4536, Page 109 (collectively, the "Property") and its developer, for itself and it's successors and assigns (collectively, "Applicant "), agrees that the redevelopment and use of the property that is the subject of Zoning Map Amendment application **PF-68-17-PMAC** shall be in accordance with the following Proffers if the Zoning Map Amendment is granted and the Property is rezoned to the Maple Avenue Commercial ("MAC") District:

1. Conformance to Concept Site Plan. The general character of the redevelopment of the Property shall be in substantial conformance with the Concept Site Plan Documents prepared by Smith Engineering dated October 2, 2017, (the "Concept Site Plan"). The Concept Site Plan is composed of multiple sheets.

2. Architectural Design. The architectural design of the building on the Property shall conform generally with the character and quality of the design shown on the elevations which are Sheets 13 and 14 of the Site Plan, subject to the approval of and direction of the Board of Architectural Review ("BAR") of the Town of Vienna.

3. ROW Improvements. Prior to issuance of building permit the Applicant shall dedicate in fee simple varying widths at the corner of Pleasant Street and along Church Street for the purpose of increasing the ROW to 29' curb to curb on both Streets, as shown on the site plan.

4. Underground Utilities. Prior to issuance of occupancy permit Applicant shall place underground at the property line or within the adjacent off-site ROW all the existing and proposed DRY utility lines and poles that serve the new project, at no cost to the Town of Vienna.

5. Donation. The Applicant shall make a donation of $10,000.00 to Vienna Parks and Recreation to supply for 10 years commercially stocked trout for a family fishing event in Wolftrap Creek sponsored by the TOV, Trout Unlimited and Virginia Department of Game and Inland Fisheries.

6. ADA Improvements. Prior to issuance of occupancy permit Applicant shall update the HANDICAP ramps for all adjacent crosswalks, including on the opposite side of the property at the corner of Maple Avenue North West and Pleasant Street North West, at no cost to the Town of Vienna.

7. Art Commission. The Applicant shall enter into an agreement between Town of Vienna and Developer to allow the Art Commission to create at their expense Public Art (Statue), in the space provided in the park setting at the corner of Maple Avenue North West and Pleasant Street North West, the design to be mutually agreed upon.

8. Storm Drainage Maintenance Agreement. A maintenance agreement shall be recorded between the Applicant and the Town of Vienna specifying the maintenance responsibilities of the owner for storm drainage elements within the limits of proposed structure.

9. Irrigation Maintenance Agreement. The Applicant to provide irrigation and perpetual maintenance of the irrigation system for planting areas which are located across the Maple Avenue frontage of the subject property.

10. Curb Cut Removal. Prior to issuance of occupancy permit Applicant shall close one existing accessway, vehicular entrance or driveway on Maple Avenue, as shown on the site plan.

11. Additional Sidewalk curb and gutter. Prior to issuance of occupancy permit Applicant shall tie into and complete approximately 60' of off-site sidewalk, curb and gutter with substantially same building material in the public ROW along Church Street adjacent to the project. On Fairfax County TAX MAP #0384-02-0015.

12. Funding of CIP Projects. At the issuance of each residential occupancy permit, 44 in total, the Applicant will contribute a one time fee per unit of Four Hundred Forty-Four and 00/100's Dollars ($444.00) towards the Capital Improvement Projects listed on the Town of Vienna's CIP dated June 30th, 2017. The contributions will go to these 3 CIP's listed below:

SRTS Old Courthouse Rd NE
W&OD Trail Connections
Curb, Gutter & Sidewalk Project – Ayr Hill Avenue NW

Douglas D'Alexander
Principal & Managing Partner
Vienna Vision, LLC.
TAX MAP#0384-04-0002

Douglas D'Alexander
Contract Owner
TAX MAP#0384-02-0016
TAX MAP#0384-02-0017
TAX MAP#0384-04-0017

SMITH ENGINEERING

NOTES & DETAILS

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
BLAKE A. SMITH
Lic. No. 033994
PROFESSIONAL ENGINEER

SMITH ENGINEERING
14901 BOGLE DRIVE SUITE 202
CHANTILLY, VA 20151
PHONE: 703-956-6204
PROJECT: 194-02
BLAKE A. SMITH, P.E.
Blake@SMITHEngineeringVA.com

PLAN SUBMISSIONS	
10/02/17	1ST SUB.
12/14/17	RESUB. TO TOWN
01/19/18	RESUB. TO TOWN
01/29/18	RESUB. TO TOWN
02/07/18	RESUB. TO TOWN
02/14/18	RESUB. TO TOWN
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: AS SHOWN
DATE: OCTOBER 2, 2017
SHEET 2 OF 17

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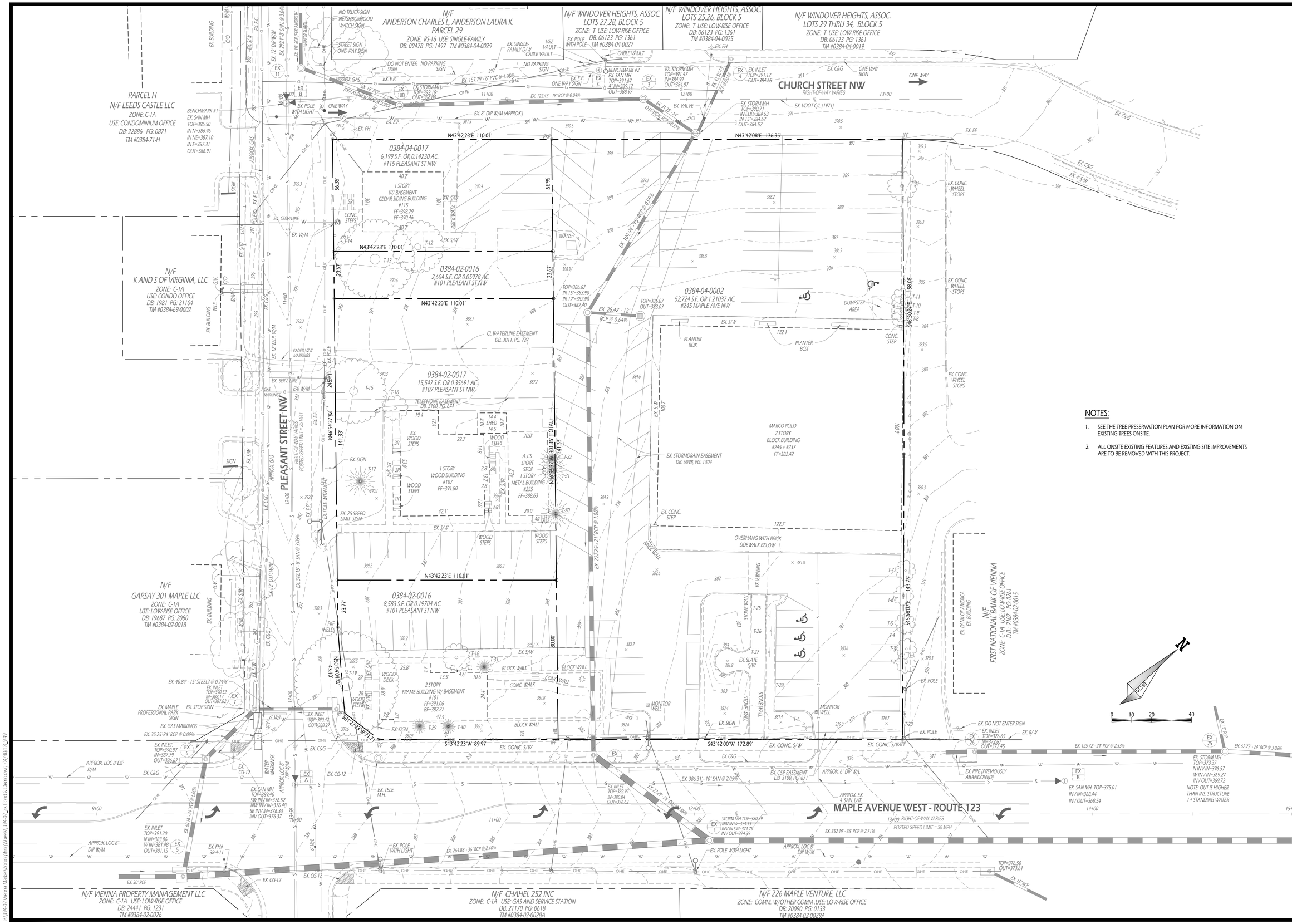

NOTES:

1. SEE THE TREE PRESERVATION PLAN FOR MORE INFORMATION ON EXISTING TREES ONSITE.
2. ALL ONSITE EXISTING FEATURES AND EXISTING SITE IMPROVEMENTS ARE TO BE REMOVED WITH THIS PROJECT.

SMITH ENGINEERING

EXISTING CONDITIONS PLAN

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA — BLAKE A. SMITH Lic. No. 033994 — PROFESSIONAL ENGINEER

SMITH ENGINEERING
14901 BOGLE DRIVE SUITE 202
CHANTILLY, VA 20151
PHONE: 703-956-6204
PROJECT: 194-02

BLAKE A. SMITH, P.E.
Blake@SMITHEngineeringVA.com

PLAN SUBMISSIONS	
10/02/17	1ST SUB.
12/14/17	RESUB. TO TOWN
01/19/18	RESUB. TO TOWN
01/29/18	RESUB. TO TOWN
02/07/18	RESUB. TO TOWN
02/14/18	RESUB. TO TOWN
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'

DATE: OCTOBER 2, 2017

SHEET 3 OF 17

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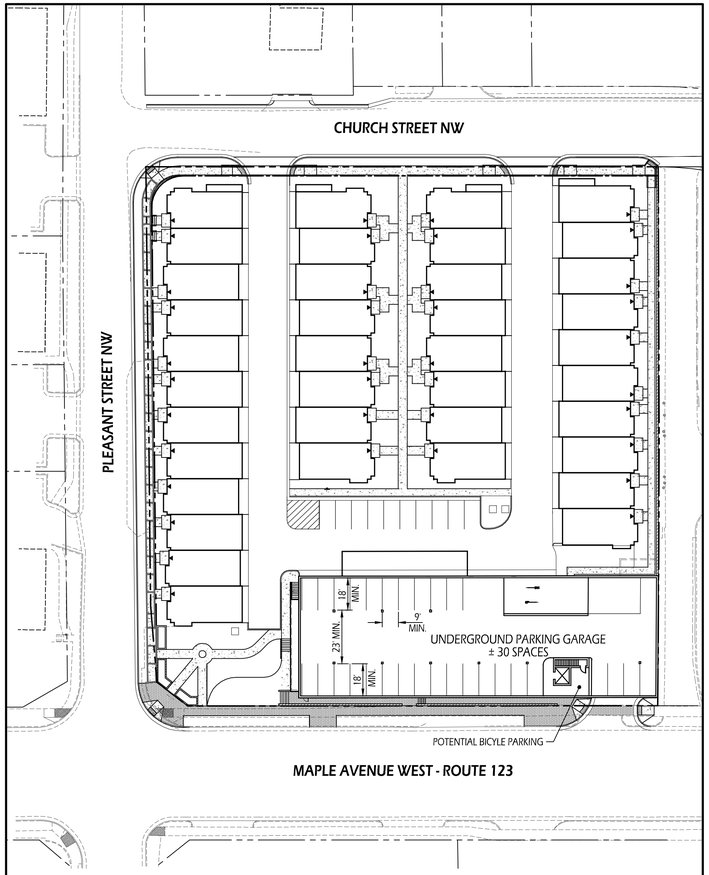
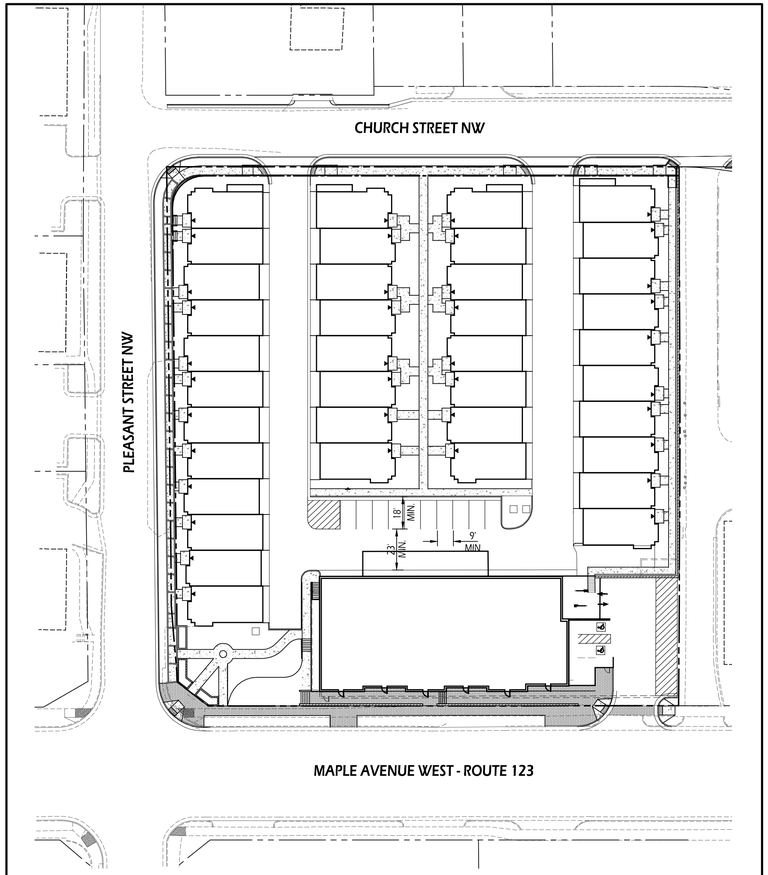
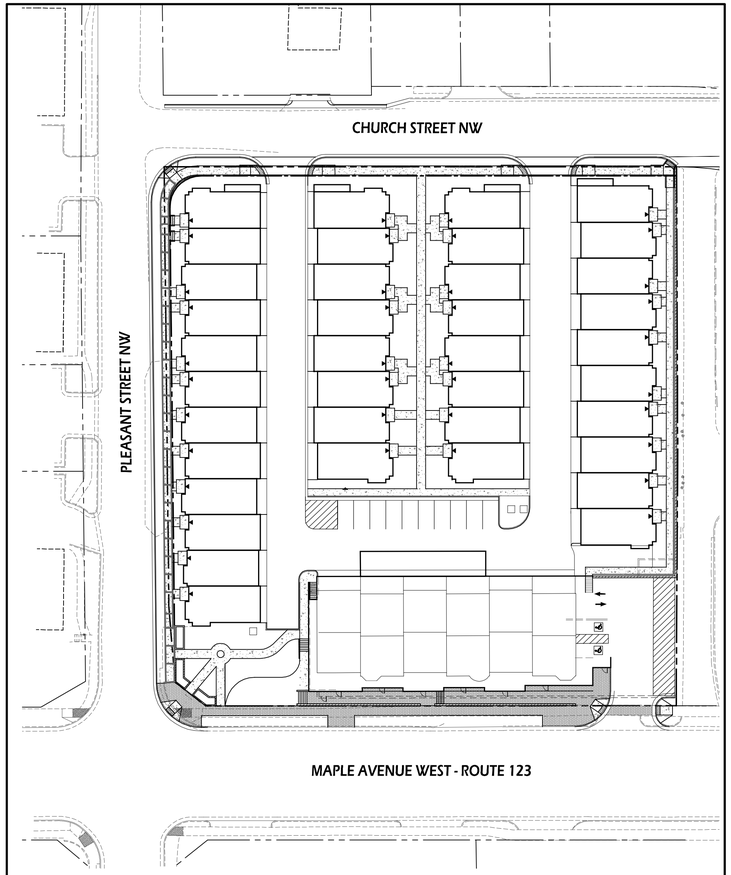


BELOW GRADE RETAIL PARKING



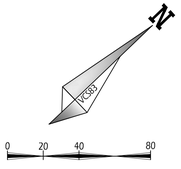
GRADE LEVEL



SECOND LEVEL

NOTES:

1. FLOOR PLANS ARE SUBJECT TO CHANGES AND ADJUSTMENTS UPON FINAL ENGINEERING.
2. PARKING COUNT SHOWN HEREON IS SUBJECT TO ADJUSTMENT PROVIDED THAT MINIMUM AMOUNT OF PARKING FOR PROPOSED USES ARE MET.



SMITH ENGINEERING

FLOOR PLANS

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT

TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
BLAKE A. SMITH
Lic. No. 033994
PROFESSIONAL ENGINEER

SMITH ENGINEERING
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CHANTILLY, VA 20151
PHONE: 703-956-6204
PROJECT: 194-02
BLAKE A. SMITH, P.E.
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PLAN SUBMISSIONS	
10/02/17	1ST SUB.
12/14/17	RESUB. TO TOWN
01/19/18	RESUB. TO TOWN
01/29/18	RESUB. TO TOWN
02/07/18	RESUB. TO TOWN
02/14/18	RESUB. TO TOWN
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 40'

DATE: OCTOBER 2, 2017

SHEET 4 OF 17

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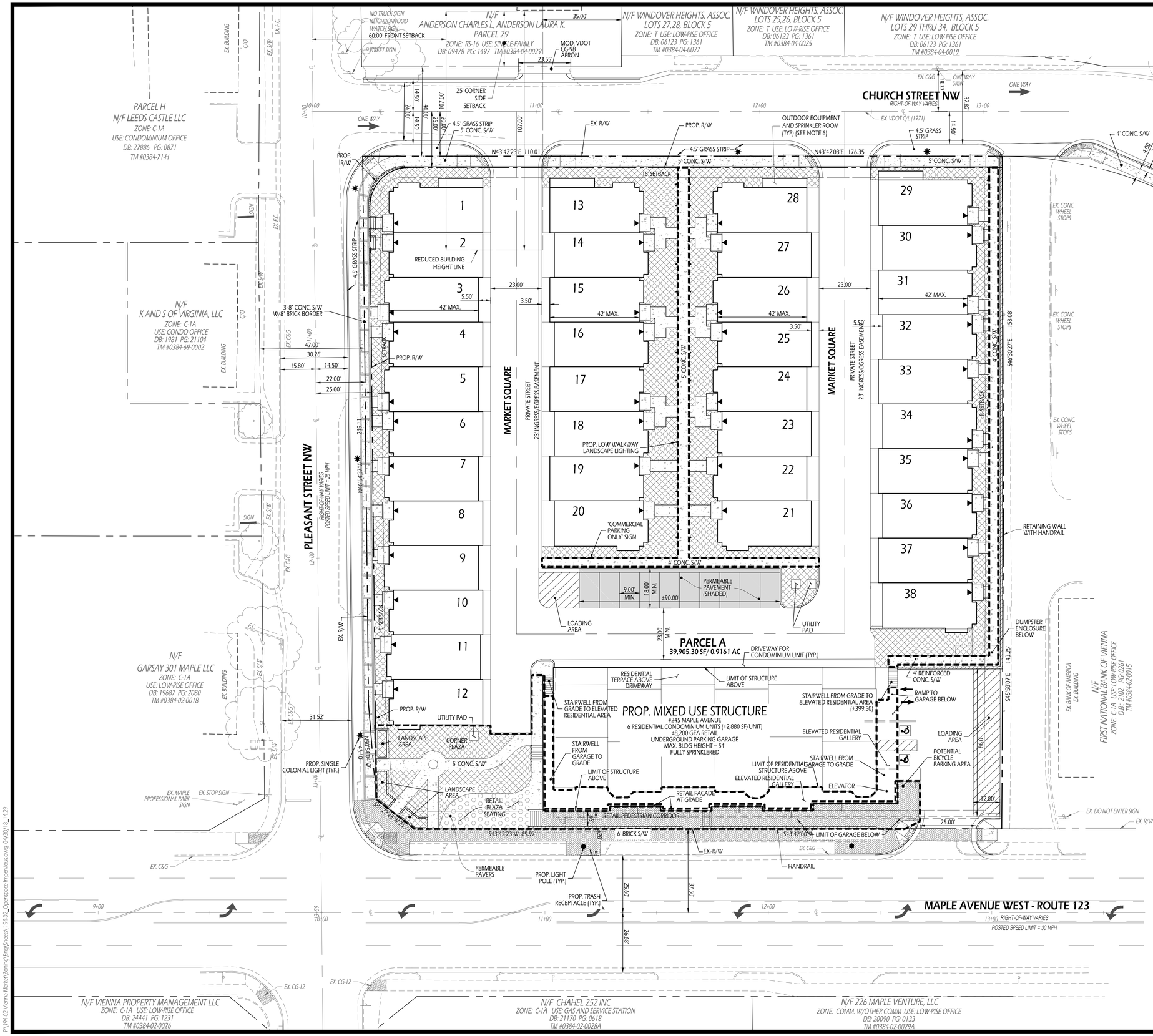

* OPEN SPACE SET-ASIDES:

10,657	S.F.	AREAS OCCUPIED BY LANDSCAPING
9,212	SF	PUBLIC ACCESSIBLE PLAZA
19,869	SF	TOTAL (24.2% OF SITE AREA)

* IMPERVIOUS AREA CALCULATION

83,367	SF	SITE AREA (AFTER ROW DEDICATION)
10,657	SF	PERVIOUS SURFACE AREA
608	SF	PERMEABLE PAVER AREA
1,674	SF	PERMEABLE SURFACE (MIN. 2% OF SITE AREA)
70,728	SF	IMPERVIOUS SURFACE

IMPERVIOUS SURFACE = 84.5% OF SITE AREA

NOTES:

1. DIMENSIONS ARE TAKEN TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. SEE ARCHITECTURAL BUILDING PLANS FOR MORE DETAILED INFORMATION AND DIMENSIONS FOR PROPOSED ON-STRUCTURE FEATURES.
3. EACH RESIDENTIAL UNIT WILL HAVE A 2-CAR GARAGE WITH HOA / COA COVENANTS RESTRICTING THEIR USE FOR STORAGE OR OTHER ACTIVITY WHICH WOULD PREVENT THE ABILITY TO PARK TWO CARS.
4. EXTERNAL SPRINKLER ROOMS MAY BE INCLUDED ON UNITS 1, 13, 28, 29, 20, 21, AND/OR 38.
5. NO PARKING SHALL BE ALLOWED ALONG THE PROPOSED PRIVATE STREETS, EXCEPT FOR THE LEAD-IN PARKING SHOWN ON THIS PLAN.
6. OUTDOOR EQUIPMENT AND SPRINKLER ROOMS SHALL NOT ENCROACH INTO REQUIRED YARD MORE THAN THREE FEET PER ZONING ORDINANCE SECTION 18-95.8.

* AREAS MAY CHANGE WITH FINAL ENGINEERING SO LONG AS MINIMUM REQUIREMENTS ARE MET.

SMITH ENGINEERING

OPEN SPACE & IMPERVIOUS AREA

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA — BLAKE A. SMITH Lic. No. 033994 — PROFESSIONAL ENGINEER

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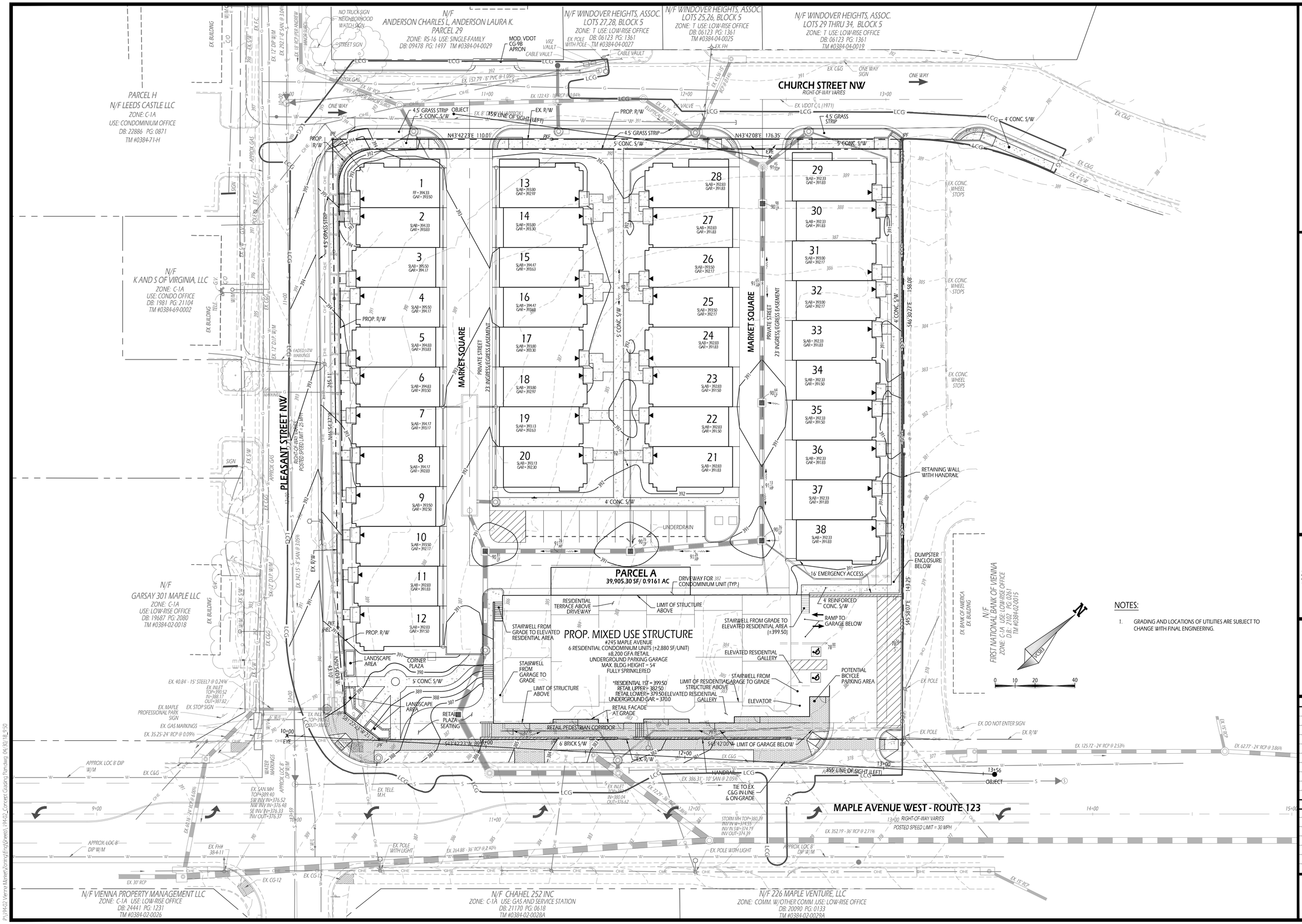
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'
DATE: OCTOBER 2, 2017
SHEET 5 OF 17

P:\194-02 Vienna Market\Contrig\Eng\Sheets\194-02_Openspace Impervious.dwg 09/20/18_14:29



SMITH ENGINEERING

CONCEPTUAL GRADING PLAN

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
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03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'
DATE: OCTOBER 2, 2017
SHEET 6 OF 17

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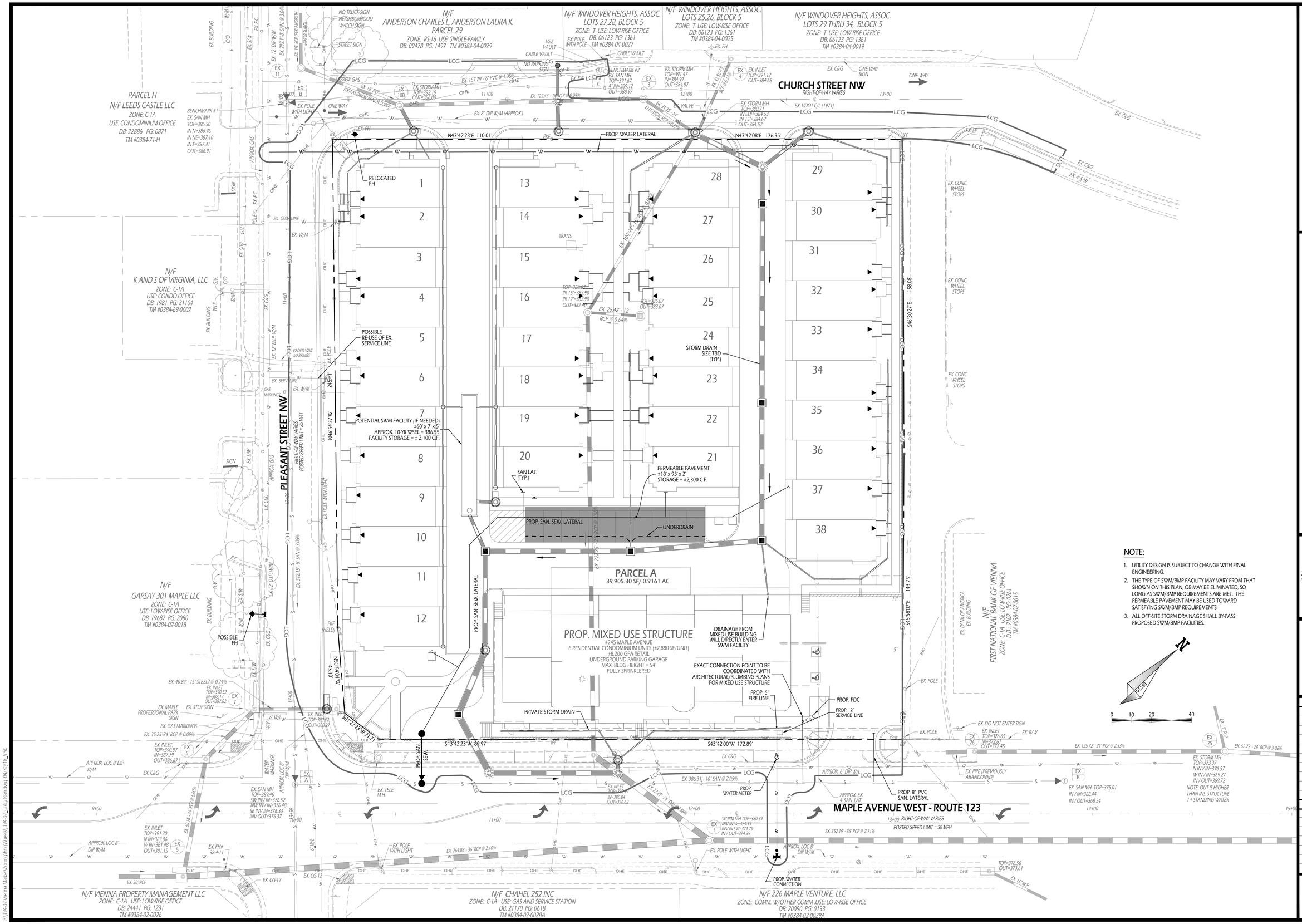

NOTE:

1. UTILITY DESIGN IS SUBJECT TO CHANGE WITH FINAL ENGINEERING.
2. THE TYPE OF SWM/BMP FACILITY MAY VARY FROM THAT SHOWN ON THIS PLAN, OR MAY BE ELIMINATED, SO LONG AS SWM/BMP REQUIREMENTS ARE MET. THE PERMEABLE PAVEMENT MAY BE USED TOWARD SATISFYING SWM/BMP REQUIREMENTS.
3. ALL OFF-SITE STORM DRAINAGE SHALL BY-PASS PROPOSED SWM/BMP FACILITIES.

SMITH ENGINEERING

UTILITY PLAN

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
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04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'
DATE: OCTOBER 2, 2017
SHEET 7 OF 17

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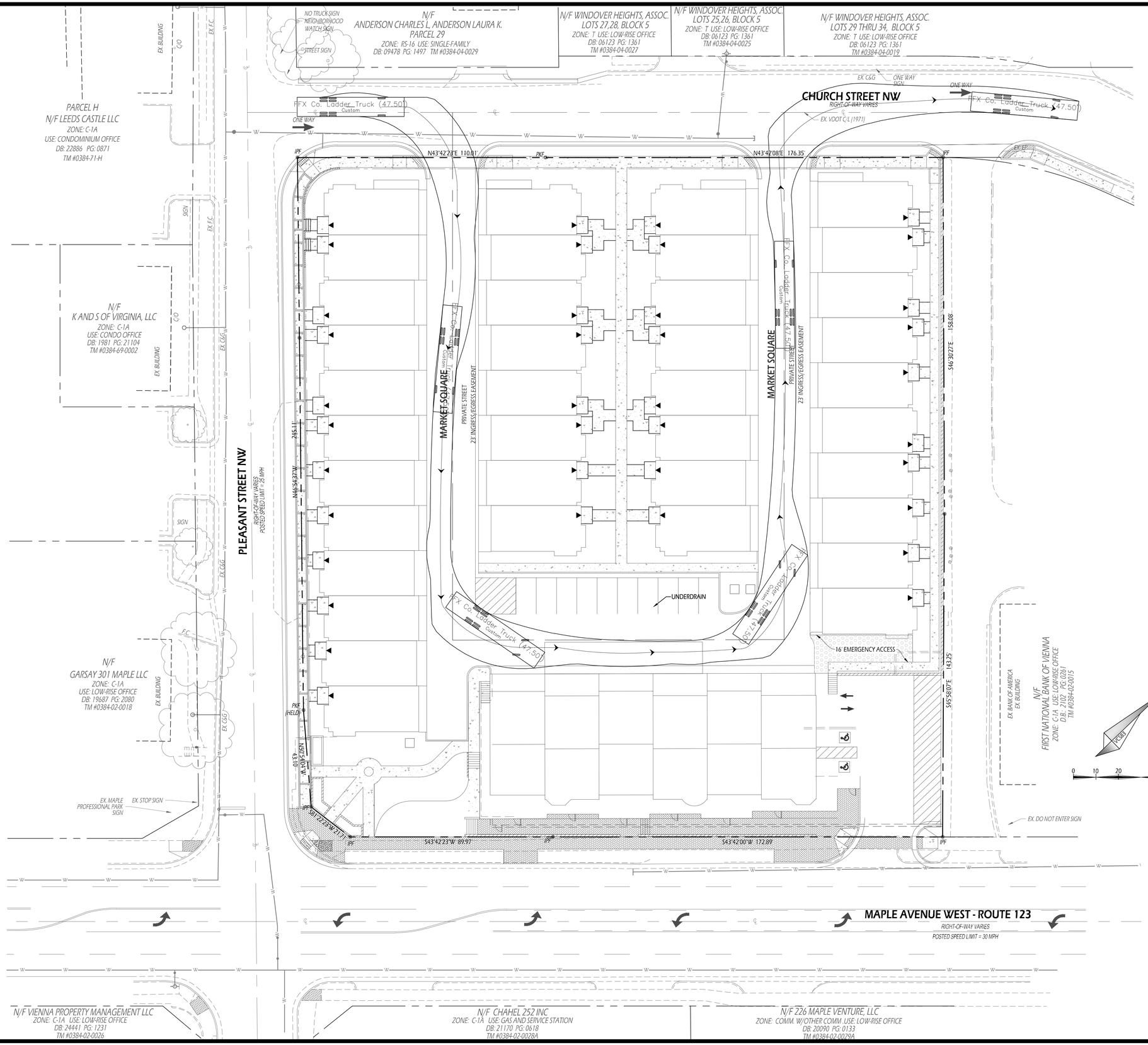

SMITH ENGINEERING

FIRE TRUCK TURNING MOVEMENT

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
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04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS	

SCALE: 1" = 20'
DATE: OCTOBER 2, 2017
SHEET 8 OF 17

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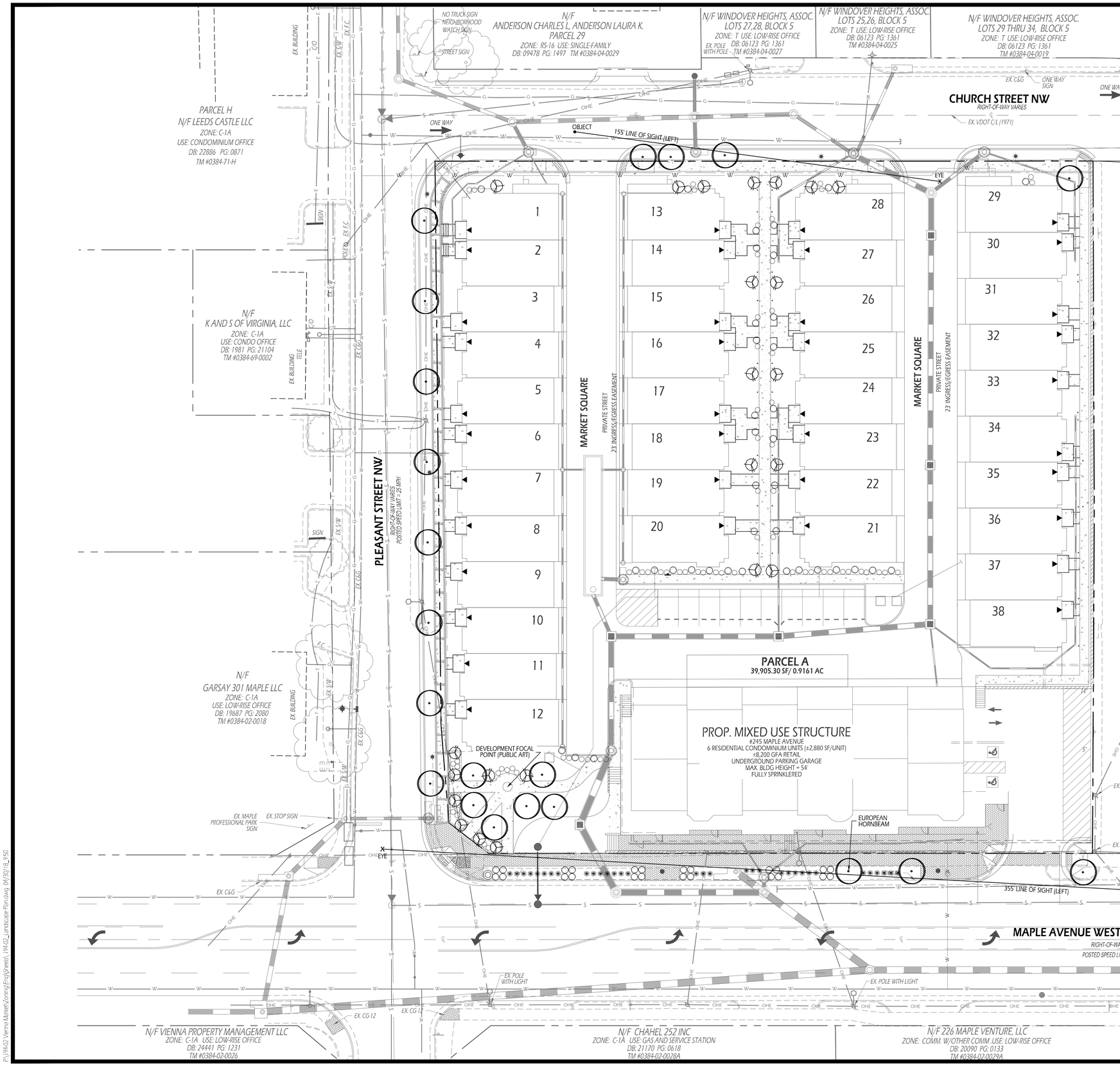

PLANT SCHEDULE

SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	QTY.
	LARGE SHADE STREET TREES	ACER RUBRUM	RED MAPLE	20
		NYSSA SYLVATICA	BLACK GUM	
		GINKGO BILOBA	GINKGO	
		TILIA TOMENTOSA	SILVER LINDEN	
		QUERCUS ACUTISSIMA	SAWTOOTH OAK	
		CARPINUS BETULUS	EUROPEAN HORNBEAM	
	ORNAMENTAL TREES	CERCIS CANADENSIS	EASTERN REDBUD	23
		AMELANCHIER ARBOREA	SERVICE BERRY	
		CRATAEGUS VIRIDIS	WINER KING HAWTHRON	
	SHRUBS	EUONYMUS JAPONICUS HYDRANGEA QUERCIFOLIA PRUNUS LAUROCERASUS	JAPAENSE EUONYMUS OAKLEAF HYDRANGEA OTTO LUYKEN	120
	GRASS AND/OR PERENNIALS	TO BE DETERMINED AT TIME OF FINAL SITE PLAN. THE FULL-GROWN HEIGHT SHALL NOT EXCEED 36''.		

LEGEND:

- LARGE SHADE STREET TREE
- SMALL ORNAMENTAL TREE
- SHRUBS
- ORNAMENTAL GRASS AND/OR PERENNIALS
- STREET LIGHT (SEE SHEET 11)
- STREET LIGHT (SEE SHEET 11) (WHATELY 14' TALL FLUTED TAPERED DARK GREEN LIGHT POLE WITH HADCO VITORIAN POST TOP)
- TRASH RECEPTACLE (VICTOR STANLEY MODEL RS-12 CONTAINER CONSTRUCTED OF 1/4" STEEL WITH POWDER COAT FINISH)
- PATHWAY LIGHTING

NOTES:

1. ALL TREES WITHIN SIGHT DISTANCE AREAS SHALL BE LIMBED UP 6' FROM THE GROUND.

SMITH ENGINEERING

LANDSCAPE PLAN

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
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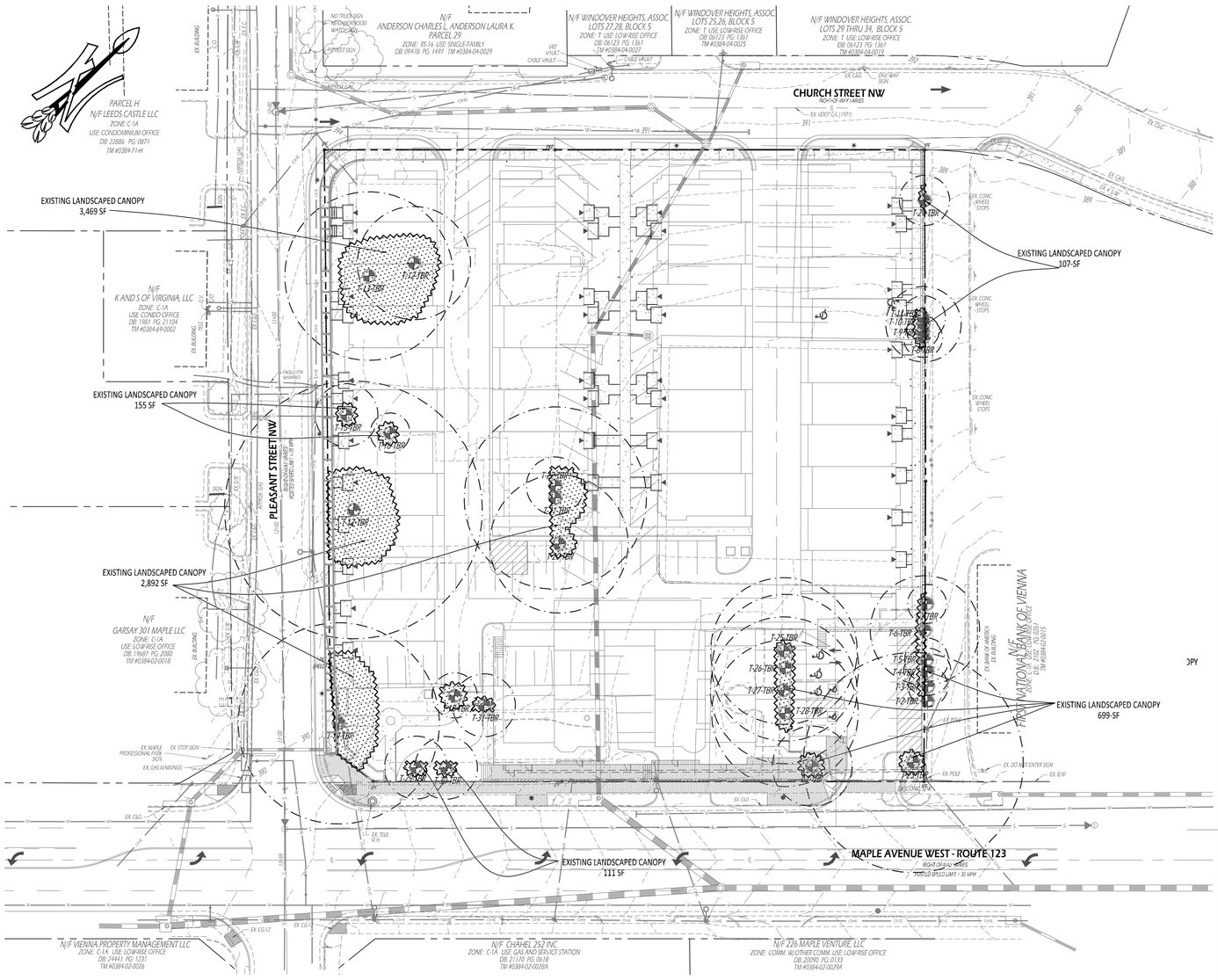
OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'
DATE: OCTOBER 2, 2017
SHEET 9 OF 17

P:\194-02 Vienna Market\Contig\Eng\Sheets\194-02_Landscape Plan.dwg 04/20/18_8:50



LEGEND

- TREELINE
- EXISTING LANDSCAPED CANOPY (7,433 SF)
- TREE PRESERVATION AREAS (0-SF)
- CRITICAL ROOT ZONE (CRZ)
- TREE LOCATION
- T-37 TREE PROTECTION FENCING
- ROOT PRUNING

Tree Number	Common Name	Size (inches DBH)	Critical Root Zone (feet)	Condition	Remove	Notes
1	Palm	12.7	19.1	Poor	x	Deadwood noted, dieback
2	Dead Tree	4.5	0.0	Dead	x*	Shared, Dead tree
3	Dogwood	6.3	9.5	Fair	x*	Shared, Improperly pruned for power lines
4	Dogwood	7.5	11.3	Fair	x*	Shared, Some deadwood
5	Dogwood	7.0	10.5	Fair	x*	Shared, Improperly pruned for power lines
6	Magnolia	17.4	26.1	Good	x*	Shared, English Ivy at the base
7	Dogwood	6.2	9.3	Fair	x*	Shared, English Ivy at the base
8	Eastern Redcedar	6.2	9.3	Fair	x*	Shared, One-sided
9	White Pine	5.1	7.7	Fair	x*	Shared, Leaning
10	White Pine	12.0	18.0	Fair	x*	Shared, Shallow roots
11	White Pine	7.0	10.5	Fair	x*	Shared, Small dead limbs
12	Red Maple	18.0	27.0	Fair	x	Some English Ivy, some dead limbs
13	Red Mulberry	26.8	40.2	Poor	x	Deadwood noted, dieback
15	Red Maple	10.0	15.0	Fair/Poor	x	Improperly pruned, Multi-trunk
16	Eastern Hemlock	6.3	9.5	Fair	x	English Ivy present
17	Norway Spruce	41.0	61.5	Fair	x	Significant vines and small dead limbs
18	Eastern Redcedar	7.2	10.8	Good	x	Growing into the fence
19	Pin Oak	32.0	48.0	Fair	x	Some dead limbs
20	Evergreen Shrub	22.0	33.0	Fair	x	Multi-trunk, one-sided
21	Eastern Redcedar	29.0	43.5	Fair/Poor	x	Multi-trunk, vines, one dead leader, some rot at base
22	Eastern Redcedar	9.2	13.8	Fair	x	One-sided, some English Ivy
23	Crepe Myrtle	35.0	52.5	Fair	x	Multi-trunk, suckers
24	Eastern Redcedar	8.0	12.0	Fair	x*	Shared
25	Crepe Myrtle	35.0	52.5	Fair	x	Multi-trunk, suckers, improperly pruned
26	Crepe Myrtle	35.0	52.5	Fair	x	
27	Crepe Myrtle	35.0	52.5	Fair	x	
28	Crepe Myrtle	35.0	52.5	Fair	x	
29	Ornamental Holly	10.0	15.0	Good	x	
30	Ornamental Holly	10.0	15.0	Good	x	
31	Ornamental Holly	10.0	15.0	Good	x	

SCALE (IN FEET)
15 30
30 0

NOTES:
1. THE PROPERTY DELINEATED HEREON IS LOCATED AT 237 AND 245 MAPLE AVENUE W, AND 101, 107 AND 117 PLEASANT STREET NW.
2. BOUNDARY AND TOPOGRAPHIC INFORMATION FROM FIELD SURVEY BY OTHERS (2016).
3. PROPOSED DEVELOPMENT PLAN BY SMITH ENGINEERING (2016).
4. TREE EVALUATIONS AND COMPUTATIONS BY TNT ENVIRONMENTAL, INC., FEBRUARY 2016 (MR. AVI M. SAREEN, CERTIFICATION #: MA-4727A).
5. CRZ MEASUREMENTS IN RADIUS.
6. TOTAL EXISTING CANOPY COVER: 5,638 SQUARE FEET.
7. TOTAL SITE AREA: 85,654 SQUARE FEET.
8. PERCENT OF SITE COVERED: 6.6%
9. PERCENT COVER REQUIRED BY ZONING: 20%
10. CANOPY TO BE PRESERVED: 0 SQUARE FEET x 1.25 MULTIPLIER = 0-SF (0%)
11. MINIMUM CANOPY AREA TO BE PLANTED TO MEET REQUIREMENT: 17,131 SF (20%)

NOTES:
*1. *SHARED TREES SHALL NOT BE REMOVED WITHOUT WRITTEN PERMISSION FROM AFFECTED ADJACENT PROPERTY OWNERS.
2. TREES NOTED FOR REMOVAL WITHIN THE SAVE AREAS SHALL BE DONE SO BY HAND WITHOUT THE USE OF HEAVY MACHINERY.
3. OFFSITE TREES WERE ASSESSED FROM THE SUBJECT PROPERTY SO NOT TO TRESPASS ONTO ADJACENT PROPERTY. DBH MEASUREMENTS ARE APPROXIMATE.
4. TREES LOCATED WITHIN OR ON THE LIMITS OF DISTURBANCE, OR RATED AS BEING "POOR" IN CONDITION, ARE RECOMMENDED FOR REMOVAL BY TNT ARBORISTS DUE TO THE LIKELIHOOD OF TREE FAILURE. HOWEVER, AT THE DISCRETION OF THE APPLICANT, SOME OF THESE MAY BE PRESERVED DURING CONSTRUCTION WITH THE APPROVAL OF THE TOWN ARBORIST.

NOTE: THERE WILL BE NO PRESERVATION OF EXISTING VEGETATION WITH THE PROPOSED DEVELOPMENT.

COMMONWEALTH OF VIRGINIA
BLAKE A. SMITH
Lic. No. 033994
PROFESSIONAL ENGINEER

CERTIFIED ARBORIST ISA
Avinash M. Sareen
Certified Arborist
Certification # MA-4727A

TNT ENVIRONMENTAL
13996 Parkeast Circle, Suite 101
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM

MAPLE AVENUE WEST
TOWN OF VIENNA

TREE PRESERVATION PLAN

REVISIONS

DATE	COMMENTS
2-6-18	REV (LAD)

SHEET 10 OF 17

SCALE: 1":30'

PROJECT DATE: 2/25/16

DRAFT: LAD | CHECK: AMS

FILE NUMBER: 521

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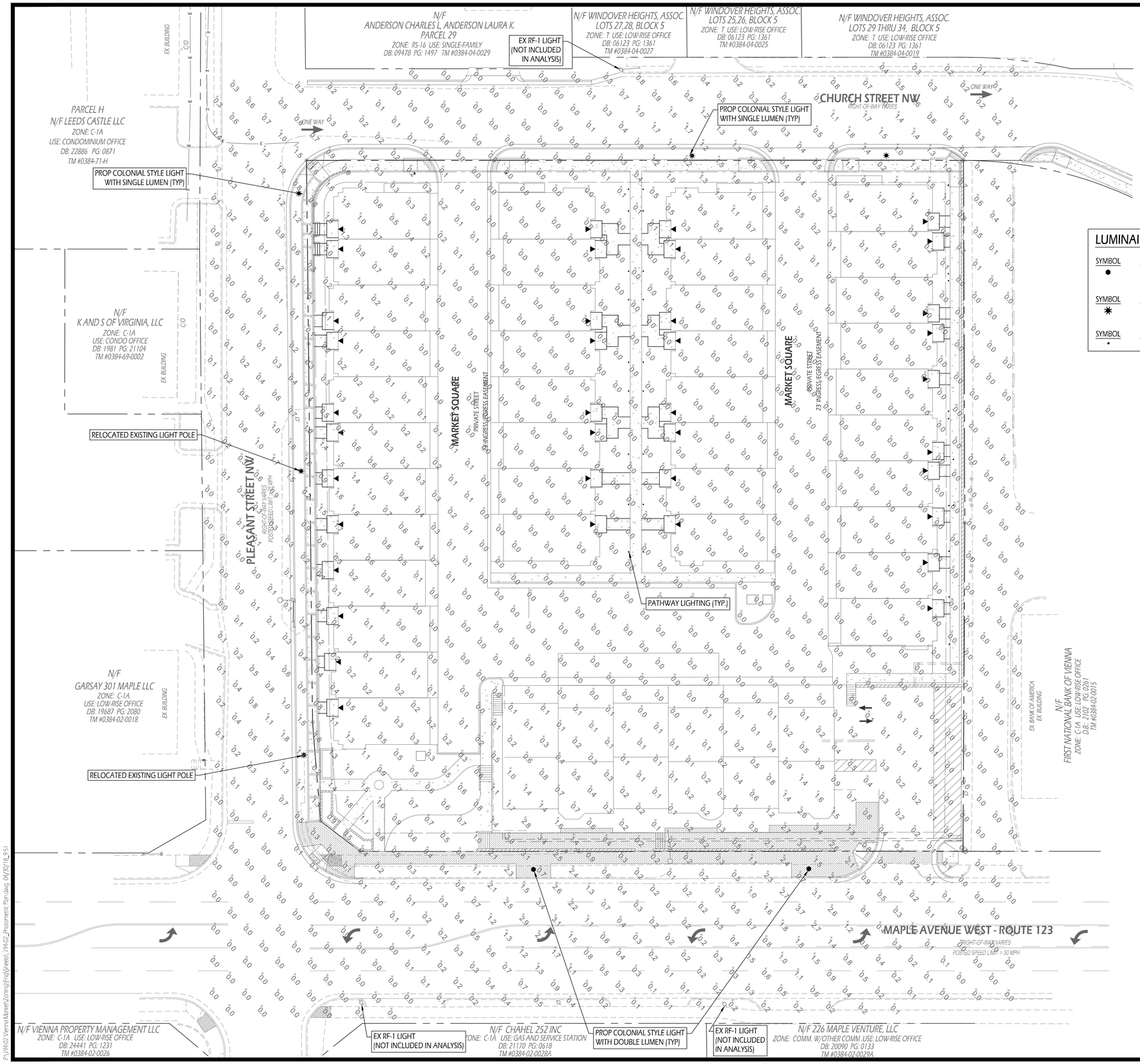

LUMINAIRE SCHEDULE

SYMBOL	QTY	DESCRIPTION	LAMP	LUMENS	LLF	WATTS
●	2	HADCO DECORATIVE POST TOP DOUBLE LIGHT	2 - LED-8046M57	6,497	0.81	130
✳	5	HADCO DECORATIVE POST TOP SINGLE LIGHT	1 - LED-8046M57	6,497	0.81	65
•	30	LANDSCAPING LIGHTS				

STATISTICS

AVG	MIN	MAX
0.3 fc	0.0 fc	3.7 fc

LIGHTING NOTES:

1. SINGLE POST TOP LIGHTS SHALL BE LESS THAN OR EQUAL TO 20' IN HEIGHT AND DOUBLE LIGHTS SHALL BE 16' IN HEIGHT.
2. ALL POLES, POLE SKIRTS, BRACKETS AND FIXTURES ARE TO BE PER TOWN OF VIENNA REQUIREMENTS.
3. LUMINAIRES MAY VARY FROM THOSE SHOWN ON THIS SHEET.

NOTE:

THE REQUIREMENTS OF NOT EXCEEDING 2.0 LUMENS OFF OF THE SITE MAY BEEN MET IN ALL LOCATIONS EXCEPT ONE PORTION OF THE FRONTAGE WITHIN MAPLE AVENUE. IN ADDITION, PATHWAY LIGHTING SHALL BE INCORPORATED TO ILLUMINATE THE INTERIOR SIDEWALK AREAS AS SHOWN ON THIS PLAN. THIS INCREASED LIGHTING LEVEL SHALL WILL HAVE NO ADVERSE IMPACTS ON NEIGHBORING PROPERTIES.

THIS SHEET IF FOR SITE LIGHTING PURPOSES ONLY

SMITH ENGINEERING

PHOTOMETRIC PLAN

VIENNA MARKET CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT

TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
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OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'

DATE: OCTOBER 2, 2017

SHEET 11 OF 17

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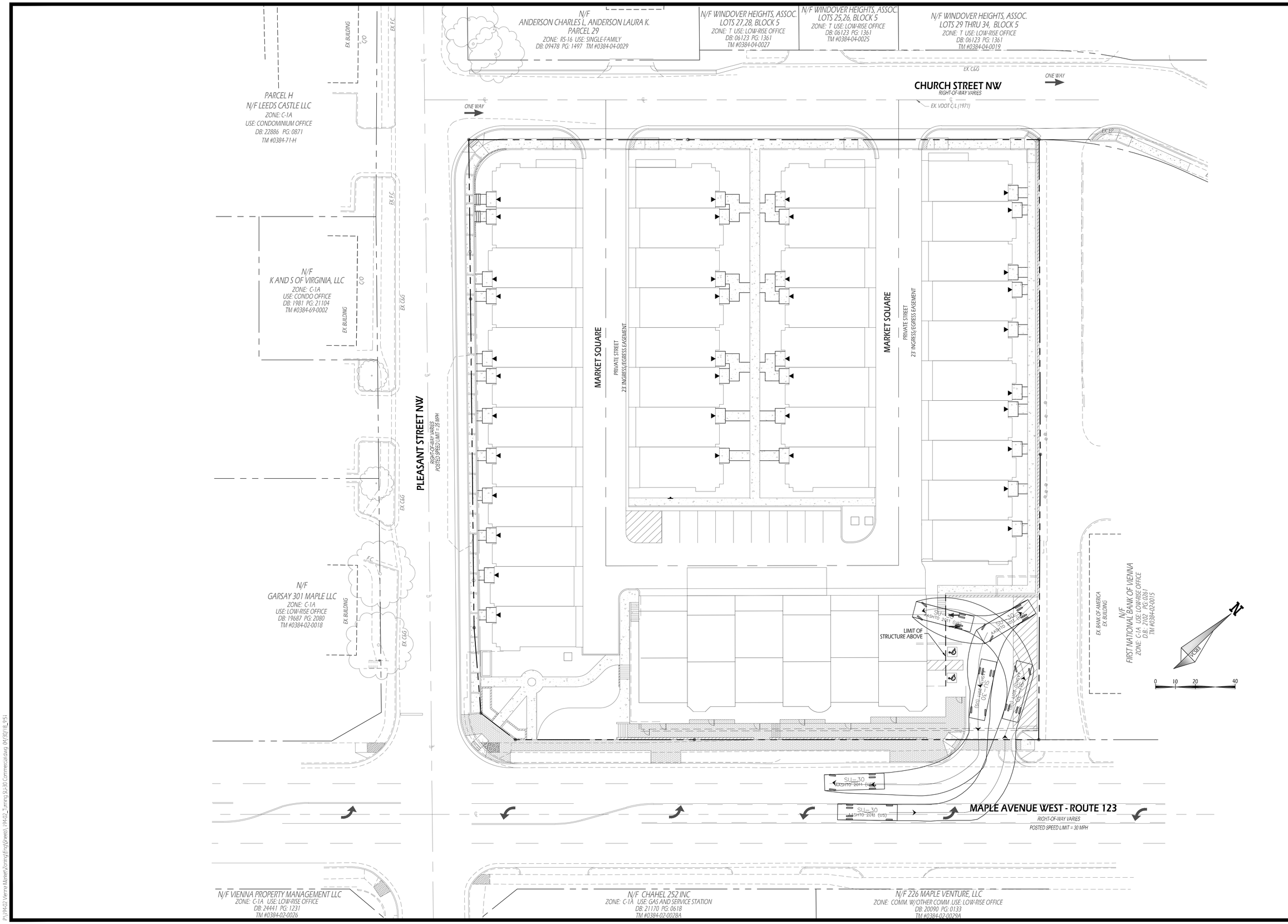

SMITH ENGINEERING

COMMERCIAL VEHICLE TURNING MOVEMENT

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT

TOWN OF VIENNA, VIRGINIA

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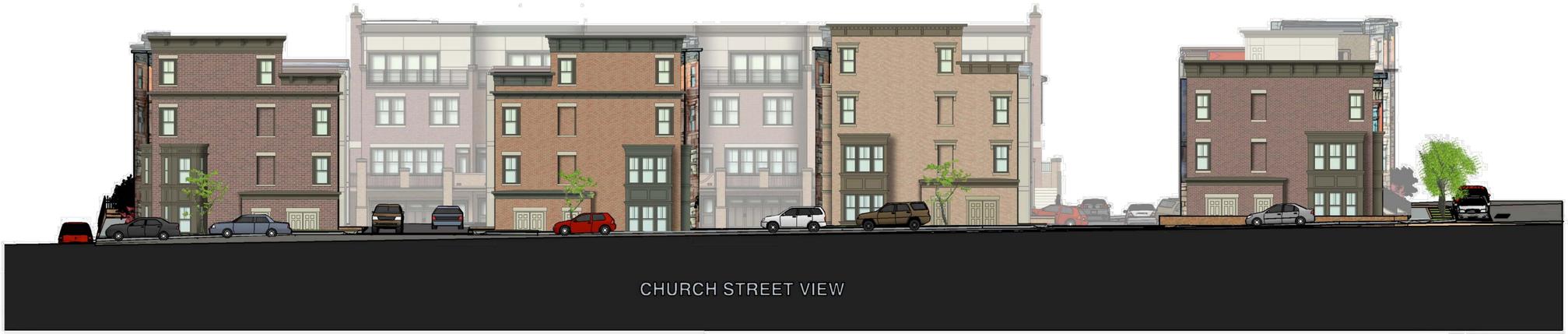
OTHER PLAN DISTRIBUTIONS

SCALE: 1" = 20'

DATE: OCTOBER 2, 2017

SHEET 12 OF 17

P:\194-02 Vienna Market\Zoning\Eng\Sheets\194-02_Turning SU-30 Commercial.dwg 04/30/18_9:51



lessard DESIGN
8521 LEESBURG PIKE, SUITE 700, VIENNA, VA 22182
P:571.830.1800 | F: 571.830.1801 | LESSARDDESIGN.COM

COLOR STREETSCAPE

TOWNS OVER RETAIL

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MARCO POLO DEVELOPMENT

03/05/18
NV.060

E1

NVURBAN

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

SMITH ENGINEERING

CONCEPTUAL BUILDING ELEVATIONS

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT
TOWN OF VIENNA, VIRGINIA

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OTHER PLAN DISTRIBUTIONS

SCALE: AS SHOWN
DATE: OCTOBER 2, 2017
SHEET 13 OF 17

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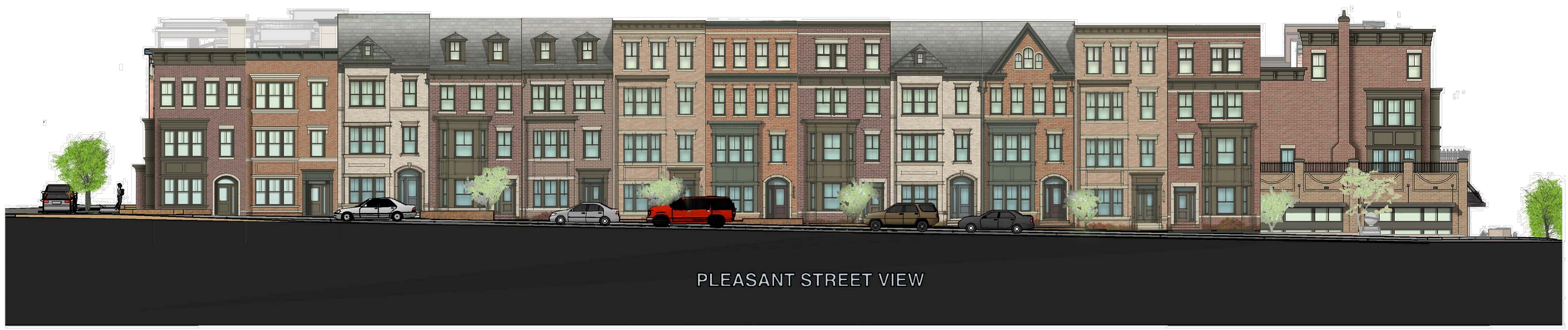

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COLOR STREETSCAPE

TOWNS OVER RETAIL

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MARCO POLO DEVELOPMENT

03/05/18
NV.060

NVURBAN

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

E2

SMITH ENGINEERING

CONCEPTUAL BUILDING ELEVATIONS

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT — TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
BLAKE A. SMITH
Lic. No. 033994
PROFESSIONAL ENGINEER

SMITH ENGINEERING
14901 BOGLE DRIVE SUITE 202
CHANTILLY, VA 20151
PHONE: 703-956-6204
PROJECT: 194-02

BLAKE A. SMITH, P.E.
Blake@SMITHEngineeringVA.com

PLAN SUBMISSIONS	
10/02/17	1ST SUB.
12/14/17	RESUB. TO TOWN
01/19/18	RESUB. TO TOWN
01/29/18	RESUB. TO TOWN
02/07/18	RESUB. TO TOWN
02/14/18	RESUB. TO TOWN
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS	

SCALE: AS SHOWN
DATE: OCTOBER 2, 2017
SHEET 14 OF 17

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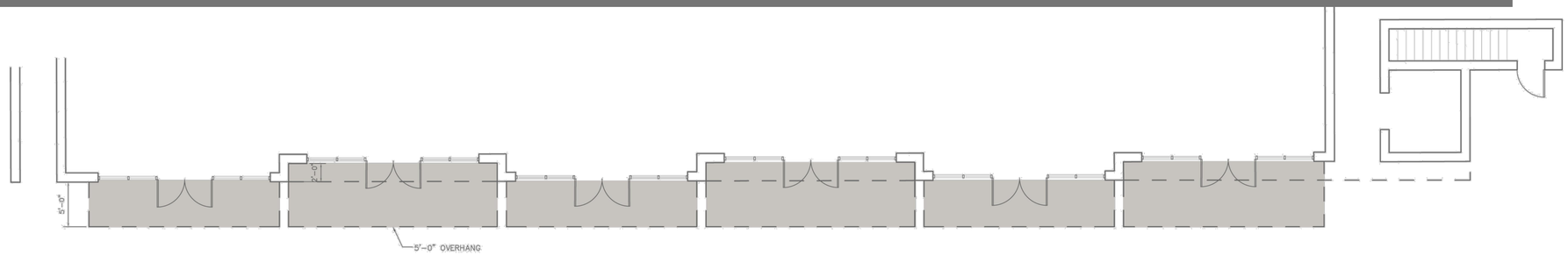
RETAIL ELEVATION TRANSPARENCY



RETAIL ELEVATION TRANSPARENCY - 74%

CHURCH STREET HEIGHT RESTRICTION

SMITH ENGINEERING

CONCEPTUAL BUILDING ELEVATIONS

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04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS

SCALE: NONE
DATE: OCTOBER 2, 2017
SHEET 15 OF 17

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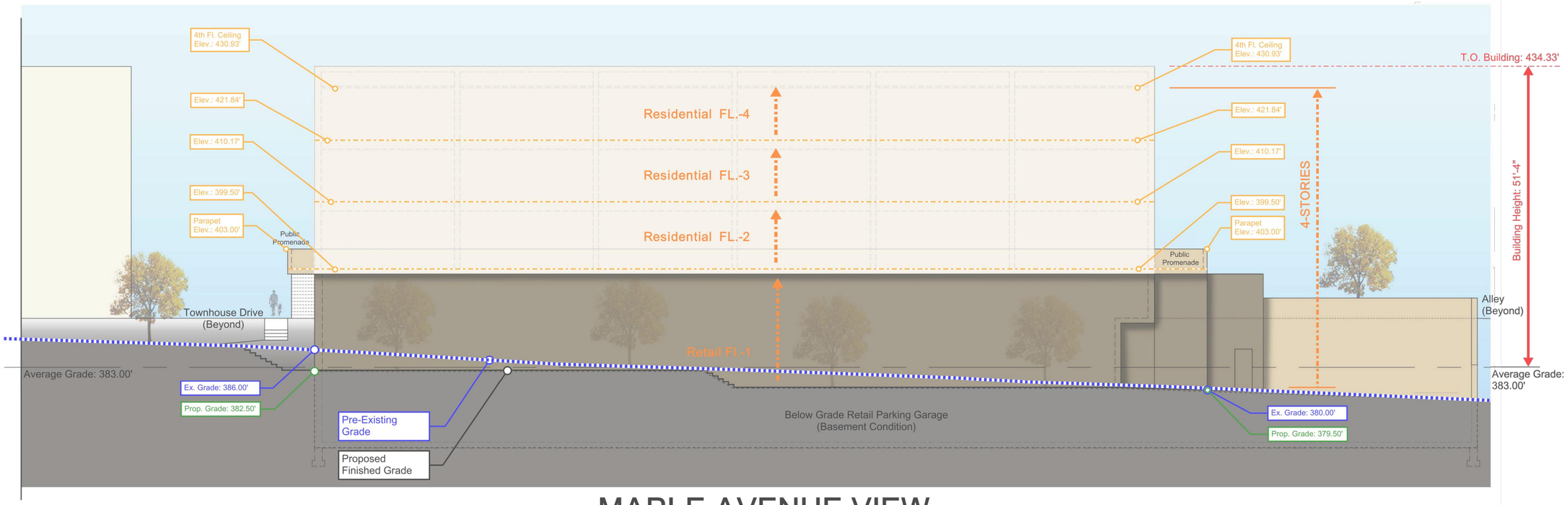

MAPLE AVENUE VIEW

Article 2 - Definitions
Sec. 18-4

- Story means that portion of a building included between the surface of any floor and the surface of the next floor directly above it, or if there is no floor above it, then the space between such floor and ceiling next above it.

- Basement means that a portion of a building, partly underground, which has more than one-half (1/2) its height measured from finished floor to finished ceiling above the average grade of the adjoining ground, and not deemed a story unless the ceiling is six (6) feet or more above the average grade.

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CONCEPTUAL SITE ELEVATION - FRONT (MAPLE AVENUE)

VIENNA MARKETPLACE
VIENNA, VA
NV Urban

02.26.2018
NVR060A

A.16

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CONCEPTUAL BUILDING ELEVATIONS

VIENNA MARKET
CONCEPT PLAN

MAPLE AVENUE CORRIDOR DISTRICT
TOWN OF VIENNA, VIRGINIA

COMMONWEALTH OF VIRGINIA
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02/14/18	RESUB. TO TOWN
03/01/18	RESUB. TO TOWN
04/13/18	RESUB. TO TOWN

OTHER PLAN DISTRIBUTIONS	

SCALE: NONE
DATE: OCTOBER 2, 2017
SHEET 16 OF 17

Project Name:	VIENNA MARKET
Date:	4/9/2018
Linear Development Project?	No

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* →	2.48
Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0.06*
Post-Development TP Load Reduction for Site (lb/yr):	*0.84*

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				0.34	0.34
Impervious Cover (acres)				1.63	1.63
					1.97

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				0.28	0.28
Impervious Cover (acres)				1.69	1.69
Area Check	**OK.**	**OK.**	**OK.**	**OK.**	1.97

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

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.02	0.02	0.25
Impervious Cover (acres)				0.05	0.05	0.95
				Total	0.07	

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

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		0.05	0	78	95	172	25	0.00	0.11	0.06	0.04	
3.b. Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00	

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.05	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.05	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.02	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 6,082

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)	78	0	0	0	0	78
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.12	0.00	0.00	0.00	0.00	0.12
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.06	0.00	0.00	0.00	0.00	0.06
TP LOAD REMAINING (lb/yr)	0.06	0.00	0.00	0.00	0.00	0.06
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.45	0.00	0.00	0.00	0.00	0.45

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	3.82
TP LOAD REDUCTION REQUIRED (lb/yr)	0.84
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.06
TP LOAD REMAINING (lb/yr):	3.76
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.78

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	27.34
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.45
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	26.88

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre

Pre-ReDevelopment	Listed	Adjusted[1]
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	0.34	0.28
Weighted Rv(turf)	0.25	0.25
% Managed Turf	17%	15%
Impervious Cover (acres)	1.63	1.63
Rv(impervious)	0.95	0.95
% Impervious	83%	85%
Total Site Area (acres)	**1.97**	**1.91**
Site Rv	**0.83**	**0.85**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.1361	0.1349
Pre-ReDevelopment Treatment Volume (cubic feet)	5,930	5,875
Pre-ReDevelopment TP Load (lb/yr)	**3.73**	**3.69**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.89	1.93
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.78*

[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)	0.28
Weighted Rv (turf)	0.25
% Managed Turf	14%
Impervious Cover (acres)	1.69
Rv(impervious)	0.95
% Impervious	86%
Final Site Area (acres)	**1.97**
Final Post Dev Site Rv	**0.85**

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.1396
Final Post-Development Treatment Volume (cubic feet)	6,082
Final Post-Development TP Load (lb/yr)	**3.82**
Final Post-Development TP Load per acre (lb/acre/yr)	1.94

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.28
Weighted Rv (turf)	0.25
% Managed Turf	15%
ReDev. Impervious Cover (acres)	1.63
Rv(impervious)	0.95
% Impervious	85%
Total ReDev. Site Area (acres)	**1.91**
ReDev Site Rv	**0.85**

Treatment Volume and Nutrient Load

Post-ReDevelopment Treatment Volume (acre-ft)	0.1349
Post-ReDevelopment Treatment Volume (cubic feet)	5,875
Post-ReDevelopment Load (TP) (lb/yr)*	**3.69**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.93
Max. Reduction Required (Below Pre-ReDevelopment Load)	**20%**
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.74**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	0.06
Rv(impervious)	0.95
Post-Development Treatment Volume (acre-ft)	0.0048
Post-Development Treatment Volume (cubic feet)	207
Post-Development TP Load (lb/yr)	**0.13**
TP Load Reduction Required for New Impervious Area (lb/yr)	**0.11**

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.84

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.62	3.17	4.87

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

Drainage Area Curve Numbers and Runoff Depths*

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

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.02
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.05
	CN	98	98	98	98

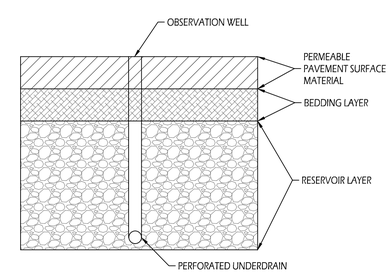
Total Area (acres):	0.07
Runoff Reduction Volume (ft^3):	78

$CN_{(D.A. A)}$ 93

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.89	2.42	4.07
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.59	2.11	3.76
Adjusted CN*	89	90	90

NOTES:

1. TARGET FOR TOTAL PHOSPHOROUS REDUCTION IS SUBJECT TO CHANGE WITH FINAL DESIGN OF SWM/BMP FACILITY.
2. THE DEVELOPER SHALL BE ALLOWED TO PURCHASE NUTRIENT CREDITS TO SATISFY THE ENTIRE REQUIRED TP LOAD REDUCTION.



TYPICAL SECTION PERMEABLE PAVEMENT LEVEL 1
(NOT TO SCALE)

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PRELIMINARY VRRM SPREADSHEET

VIENNA MARKET
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MAPLE AVENUE CORRIDOR DISTRICT
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SHEET 17 OF 17

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