

PERSEUS AT SPRING HILL METRO RZ-2011-HM-0000 CONCEPTUAL DEVELOPMENT PLAN



VICINITY MAP: 1"=1000'

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HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

AUGUST 23, 2011



PERSEUS AT SPRING HILL METRO

CONCEPTUAL DEVELOPMENT RENDERING

TAX MAP NO. 29-3 (I)
PARCEL NO. 2F

APPLICANT

QR SPRINGHILL LLC
2099 PENNSYLVANIA AVE, SUITE 950
WASHINGTON, D.C. 20006

APPLICANT'S REPRESENTATIVE

WALSH, COLUCCI, LUBELEY, EMERICH AND WALSH, PC
2200 CLARENDON BOULEVARD, 13TH FLOOR
ARLINGTON, VA 22201
G. EVAN PRITCHARD
MARTIN WALSH
703-525-3197

ARCHITECT

WDG ARCHITECTURE
1025 CONNECTICUT AVE, NW SUITE 300
WASHINGTON, D.C. 20036
GEORGE DOVE
202-857-8300

ENGINEER

VIKA INC.
8180 GREENSBORO DRIVE, SUITE 200
MCLEAN, VIRGINIA 22102
ROBERT COCHRAN
(703) 442-7800

LANDSCAPE ARCHITECT

LAND DESIGN, INC
200 SOUTH PAYTON STREET
ALEXANDRIA, VA 22314
PETER CROWLEY
703-549-7784

TRANSPORTATION

WELLS AND ASSOCIATES, LLC
11441 ROBERTSON DRIVE, SUITE 201
MANASSAS, VA 20109
ROBIN ANTONUCCI
703-365-9262

NOTES

1. THE PROPERTY THAT IS THE SUBJECT OF THIS ZONING CONVEYS PARCELS IDENTIFIED ON THE FAIRFAX COUNTY TAX ASSESSMENT MAP AS 29-3 (11) PARCEL 2F. THE PROPERTY IS CURRENTLY ZONED C-7, HC AND SC. THE PURPOSE OF THIS APPLICATION IS TO REZONE THE PROPERTY FROM C-7, HC AND SC TO PTC AND TO DEVELOP THE PROPERTY AS SHOWN ON THE CDP.
2. THE HORIZONTAL DATUM IS VIRGINIA STATE GRID NORTH.
3. THE TOPOGRAPHY SHOWN HEREON WAS FIELD VERIFIED BY VIKI, INC. AND THE CONTOUR INTERVAL IS TWO (2) FEET (SEE SHEET C-3, NOTE 7 FOR SOURCE OF TOPOGRAPHIC INFORMATION).
4. THE BOUNDARY INFORMATION WAS PREPARED BY VIKI, INC.
5. THE PROPERTY IS LOCATED IN THE SUB-DISTRICT OF THE TYSONS CORNER URBAN CENTER OF THE FAIRFAX COMPREHENSIVE PLAN.
6. PUBLIC WATER AND SANITARY SEWER ARE AVAILABLE AND WILL BE EXTENDED TO SERVE THE DEVELOPMENT.
7. STORM WATER MANAGEMENT AND BMP FACILITIES FOR PROPOSED DEVELOPMENT WILL BE PROVIDED ON SITE AND WILL BE CONSTRUCTED AS A BELOW GROUND SYSTEM UNLESS CONSTRUCTED AS A TEMPORARY FACILITY TO ALLOW PHASED CONSTRUCTION. IN EITHER CASE AN ADEQUATE STORM DRAINAGE SYSTEM IN ACCORDANCE WITH THE PUBLIC FACILITIES MANUAL STANDARDS AND DESIGN CRITERIA OF FAIRFAX COUNTY WILL BE PROVIDED. THE APPLICANT THEREFORE RESERVES THE RIGHT TO PROVIDE TEMPORARY STORM WATER MANAGEMENT AND BMP FACILITIES SHOULD THE DEVELOPMENT BE COMPLETED IN PHASES. THESE FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, PONDS, INFILTRATION FACILITIES OR UNDERGROUND VAULTS. THESE TEMPORARY FACILITIES SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE CURRENT FAIRFAX COUNTY SWM/BMP STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION FOR THE SPECIFIED FACILITY.
8. TO THE BEST OF OUR KNOWLEDGE, NO GRAVE SITES OR STRUCTURES MARKING A BURIAL SITE ARE PRESENT ON THE SUBJECT PROPERTY.
9. TO THE BEST OF OUR KNOWLEDGE, NO HAZARDOUS OR TOXIC SUBSTANCES ARE KNOWN TO EXIST ON THE SUBJECT PROPERTY.
10. THERE ARE NO EXISTING RESIDENTIAL STRUCTURES ON THE PARCELS.
11. THE ENTIRE SUBJECT PROPERTY IS LOCATED WITHIN AN RMA ZONE, NO FLOOD PLANS, R.P.A. OR ENVIRONMENTAL QUALITY CORRIDOR CURRENTLY EXIST ON PARCEL 2F.
12. DEVELOPMENT WILL COMMENCE UPON COMPLETION OF ALL REQUIRED FAIRFAX COUNTY PLAN PROCESSING AND APPROVALS. COMMENCEMENT OF DEVELOPMENT IS ALSO SUBJECT TO MARKET TRENDS.
13. THE DEVELOPMENT CONFORMS TO THE PROVISIONS OF ALL APPLICABLE STANDARDS WITH THE EXCEPTION OF WAIVERS AND MODIFICATIONS REQUESTED ON THIS SHEET.
14. LANDSCAPED OPEN SPACE AREAS SHOWN HEREON MAY BE MODIFIED AT THE TIME OF FINAL DEVELOPMENT PLAN.
15. THE BUILDING FOOTPRINTS, GARAGES, PLAZAS, PARKS AND ROADS REPRESENTED HEREON ARE APPROXIMATE AND ARE BEING PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. THESE FEATURES MAY BE ALTERED, MOVED AND INCREASED OR DECREASED IN SIZE OR QUANTITY AT THE TIME OF FINAL DEVELOPMENT PLAN WITHOUT THE NEED TO AMEND THE CONCEPT DEVELOPMENT PLAN SO LONG AS THE APPROVED FAR, UNIT COUNT OR PARKING PROVIDED DOES NOT EXCEED THE RANGES PROVIDED IN THE CHARTS ON THIS SHEET.
16. ADDITIONAL SITE FEATURES SUCH AS PLAZAS, GAZEBOS, FENCING CORNICES, TRELLISES, ENTRANCE SIGNS, LIGHTS AND/OR WALLS NOT REPRESENTED HEREON MAY BE PROVIDED.
17. NO DEDICATION TO THE PUBLIC RIGHT(S) OF WAY ON LEESBURG PIKE IS PROPOSED WITH THIS APPLICATION.
18. THE PROPOSED DEVELOPMENT ON THE SUBJECT PROPERTY WILL NOT POSE ANY ADVERSE EFFECT ON ADJACENT OR NEIGHBORING PROPERTIES.
19. THE PROJECT WILL MEET THE PARKING REQUIREMENTS AS SET FORTH IN THE PTC ZONE PER ARTICLE 8 OF THE ZONING ORDINANCE AND SHALL BE PROVIDED IN A COMBINATION OF ABOVE AND BELOW GRADE PARKING STRUCTURES AND SURFACE SPACES. THE NUMBER OF PARKING SPACES PROVIDED HEREON WILL BE ADJUSTED BASED ON THE ACTUAL AMOUNT OF GFA FOR OFFICE AND/OR OTHER SECONDARY USES (HOTEL).
20. SIGNAGE WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING ORDINANCE OR A COMPREHENSIVE SIGN PLAN.
21. THERE ARE NO SCENIC ASSETS OR NATURAL FEATURES ON THIS SITE WORTHY OF DELINEATION.
22. TRANSITIONAL SCREENING AGAINST ADJACENT PROPERTIES IS NOT REQUIRED AS SET FORTH IN Z.O. SEC. 13-500 AND THE SUPPLEMENTAL SCREENING AND BARRIER MATRIX.
23. DEVELOPER RESERVES THE RIGHT TO PROVIDE INTERIM SURFACE PARKING IN AREAS RESERVED FOR FUTURE DEVELOPMENT AS THE PHASING OF DEVELOPMENT PROGRESSES.
24. THERE ARE NO EXISTING UTILITY ABOVE GRADE EASEMENTS HAVING A WIDTH OF TWENTY FIVE (25) FEET OR GREATER. THERE ARE NO MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED ON THIS SITE.
25. APPLICANT RESERVES THE RIGHT TO DETERMINE THE FINAL GFA OF EACH BUILDING WITH THE FDP.
26. MINOR MODIFICATIONS MAY BE MADE TO THE CONSTRUCTION PLANS FOR THE SUBJECT PROPERTY PER SECTION 18-204 OF THE ZONING ORDINANCE.
27. THE SUBJECT PROPERTY MAY BE SUBDIVIDED IN THE FUTURE FOR THE PURPOSE OF SALE, JOINT VENTURE, OR PHASING. ANY PROPOSED SUBDIVISION SHOWN ON CDP OR FDP MAY BE MODIFIED ADMINISTRATIVELY BY THE DIRECTOR OF CPW/EAS WITHOUT REQUIRING MODIFICATION OF THE CDP/FAT OR PRELIMINARY PLAN.
28. ACCESSORY USES AS IDENTIFIED UNDER ARTICLE 3 OF THE ZONING ORDINANCE MAY BE PROVIDED WITHOUT REQUIRING MODIFICATION OF THE CDP. THESE USES MAY INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
 1. ACCESSORY STRUCTURES;
 2. FLAG POLES;
 3. FENCES;
 4. CORNICES, CANOPIES, AWNINGS, EAVES AND OTHER SIMILAR FEATURES;
 5. OPEN FIRE RACKS, FIRE ESCAPES, UNCOVERED STAIRS AND STAIRS;
 6. AIR CONDITIONERS, HEAT PUMPS, EMERGENCY GENERATORS AND OTHER SIMILAR EQUIPMENT;
 7. BAY WINDOWS, GRILLS AND CHIMNEYS;
 8. ACCESSIBILITY IMPROVEMENTS AND LAY-BY PARKING SPACE IN FRONT OF THE PROPOSED BUILDINGS;
 9. OUTDOOR PATIOS NOT EXCEED (4) FOUR FEET IN HEIGHT ABOVE THE FINISHED GRADE;
 10. DECORATIVE WALLS FOR LANDSCAPING NOT OVER 3 FEET IN HEIGHT ABOVE THE FINISHED GRADE;
 11. OUTDOOR CAFE SEATING AREAS.
29. ALL PRIVATE STREETS SHALL BE DESIGNED TO MEET PFM CRITERIA. THE DESIGN SPEED SHALL BE DETERMINED AT TIME OF FDP.
30. PHASING OF PROPOSED IMPROVEMENTS MAY BE UNDERTAKEN IN ANY SEQUENTIAL ORDER OR AS STAND ALONE OPTION(S).
31. AREAS OF SHARED PARKING, MANAGED PARKING OR TANDEM PARKING SHALL BE DEMONSTRATED ON THE FDP.

WORK FORCE HOUSING NOTE:

20% OF ALL THE DWELLING UNITS SHALL BE WORK FORCE DWELLING UNITS AND SHALL MEET THE REQUIREMENTS AS OUTLINED IN THE TYSONS CORNER COMPREHENSIVE PLAN. SAID UNITS MAY BE LOCATED ON OR OFF-SITE AS OUTLINED IN THE PROFFERS.

DEVELOPMENT TABULATIONS OVERALL PARCEL C

Site Tabulations (Perseus)

Existing Zoning	C-7, HC, SC
Proposed Zoning	PTC, HC, SC
Total Site Area	153,192 sq ft or 3.51679 acres

Development Tabulations

Building	Maximum Building Height (ft) / Floors (F)	Use	GFA by Use	Building GSF (F)	Dwelling Units	Hotel Rooms	Required Parking 0.5-1.0 mile / Min / Max	Total Required Parking	Parking provided (S)	Loading Spaces Provided
A	330 / 28	office retail hotel	353,000 25,200 131,000	509,200			0 569 101 131	0-797	797	2
B	240 / 20	residential retail	341,000 5,300	346,300	341		341 0 2	341-406	428	2
TOTAL			855,500		341	175		341-1,203	1,225	4

- [1] Maximum building height excludes penthouses. Penthouses may be provided as set forth in Section 2-506 and shall not exceed 30 feet.
- [2] The numbers of floors shown are conceptual and may be adjusted provided the maximum building height is not exceeded.
- [3] The square footage for individual buildings shown is conceptual. The Applicant reserves the right to bank square footage between buildings provided the maximum overall site GSF is not exceeded.
- [4] Residential parking requirements were calculated assuming 1,000 square feet per unit and (a) an average mix of 80% 0-1 bedroom units and 40% 2-bedroom units. At the time of site plan, the actual number of units, mix of bedroom types and specific parking will be determined.
- [5] Parking provided is estimated; the Applicants reserve the right to provide more or less parking with each building at the time of FDP approval provided the maximum parking shown set forth in Section 6-500 are not exceeded at the build-out of the overall development.

SITE AREA/DENSITY TABULATIONS

EXISTING ZONING: C-7, HC AND SC
 PROPOSED ZONING: PTC, HC AND SC
 WEST SITE AREA: PARCEL C: 153,192 SF OR 3.51679 AC.

EXISTING BUILDING CHART:

TAX MAP/PARCEL NO.	YEAR BUILT	BUILDING TO BE REMOVED	EXISTING USE
1. 29-3(11) 2F	1983	YES	OFFICE

(SEE EXISTING CONDITIONS SHEETS FOR BUILDING LOCATIONS IDENTIFIED ABOVE)

PFM WAIVERS REQUESTED

1. The applicant requests modification of Section 7-0802.2 of the PFM and Section 11.102.12 of the Zoning Ordinance to allow for the projection, by no more than 4%, of the stall area of structural columns into parking stalls in parking structures. Such parking spaces shall count toward the number of parking spaces required by the Zoning Ordinance.
2. A modification of Public Facilities Manual (PFM) Section 7-0800 and Zoning Ordinance Section 11-102 Paragraph (12) to allow tandem spaces with valet services for non-residential uses. Such stacked parking spaces, in accordance with Section 11-101 Paragraph (1), shall count toward required parking specified in the Zoning Ordinance.
3. A waiver to allow Storm Water Management (SWM) and Best Management Practices (BMPs) to be satisfied by underground systems for the proposed residential development, as referenced in Section 6-0303.8 of the PFM.
4. The applicant requests a waiver of the 10 year Tree Canopy requirements as set out in PFM Section 12-0509 due to the overall urban nature and intensities in this area. The waiver is requested in favor of the Tysons Corner Urban Center Area wide and District Recommendations pertaining to urban design guidelines as it relates to streetscape design. These guidelines layout the intent of trees, landscaping and streetscapes in Tysons Corner and are specified with the CDP application.
5. The applicant requests a modification from the Tree Preservation Target. This modification is permitted based on two (2) allowable deviations in the Fairfax County Public Facilities Manual. The first is § 12-0507.3A(1), which states, "Meeting the Tree Preservation Target would preclude the development of uses or densities otherwise allowed by the Zoning Ordinance." The second is § 12-0507.3A(3), which states, "construction activities could be reasonably expected to impact existing trees or forested areas used to meet the tree preservation target to the extent they would not likely survive in a healthy and structurally sound manner for a minimum of 10 years in accordance with the post-development standards for trees and forested areas provided in § 12-0403." Specific trees to be preserved are identified with the CDP application.

DEVELOPMENT INTENSITY CHART

Use	GSF	Percentage of Total	FAR
Building A	509,200	60%	3.32
--Office	353,000		
--Retail	25,200		
--Hotel	131,000		
Building B	346,300	40%	2.26
--Residential	341,000		
--Retail	5,300		
Total	855,500		5.58
--Office	353,000	41%	2.30
--Residential	341,000	40%	2.27
--Retail	30,500	4%	.20
--Hotel	131,000	15%	.86

Intensity Tiers and FARs

Intensity Tiers	Land Area and Density Credits	GFA	FAR
1/4 mile	136,589 SF 89%	855,500	6.26
1/2 - 3/4 mile	16,636 SF 11%	0	0
TOTAL	153,192 SF	855,500	5.58

PARK TABULATIONS:

Perseus Realty Master Plan Park Area Tabulations

Comprehensive Plan park area recommendations:	
Non-Residential:	
1 acre park area per 10,000 employees	
Residential:	
1.0 acre park area per 1,000 residents	
Park area calculation based upon:	
Comprehensive Plan park area recommendations:	
Non-Residential:	
283,500 sq ft Non-Residential	
1 employee per 300 sq ft	
283,500 / 300 = 1,278 employees	8.13 ac
At 1 acre per 10,000 employees	
Residential:	
341 dwelling units	
1.7 residents per dwelling unit	
341 x 1.7 = 578 residents	
At 1.0 acre per 1,000 residents	
Hotel:	
Use allocation of urban park for hotel	
Total park area recommendation per Comprehensive Plan	1.00 ac

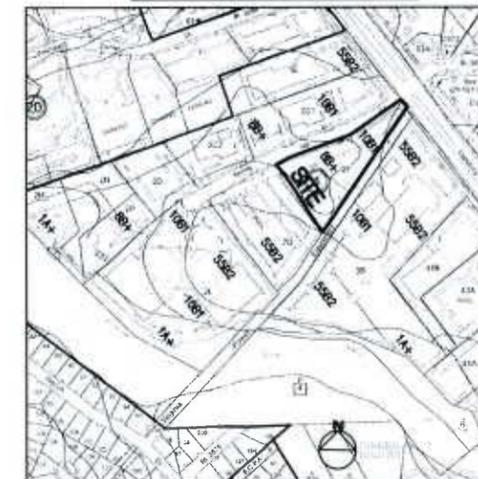
Park Area Provided By Building A,B

Blg	Open Space	Public Park at Grade	Public Park at Roof Level	Private Park	Other Public Park Improvements	Total Park Area
A	0	12,275 sq ft				12,275 sq ft
B	2			13,826 sq ft		7,462 sq ft
B	2			31,171 sq ft		31,171 sq ft
Subtotal Park Area Provided	43,446 sq ft	0 ac	0 ac	13,826 sq ft	0 ac	57,364 sq ft

ZONING ORDINANCE MODIFICATIONS AND WAIVERS REQUESTED

1. Modification of the Tyson's Corner Urban Center streetscape design in favor of that shown with the CDP application.
2. Waiver and/or modification of all trails and bike trails in favor of the streetscape and on-road bike trail system shown with the CDP application.
3. A waiver of Section 17-201 Paragraph (3) of the Zoning Ordinance to provide additional inter-parcel connection to adjoining parcels other than those specifically identified on the CDP.
4. The applicant requests a modification of Zoning Ordinance Section 17-201 Paragraph (4) to not require any further dedication, construction or widening of existing roads beyond that which is indicated on the CDP. Dedication and improvements shown on the CDP shall be deemed to meet all Comprehensive Plan Policy Plan requirements.
5. The applicant requests a modification of the Zoning Ordinance, Section 2 506. 1(A) and (C) to allow structures located on the building roof to occupy an area greater than 25% of the total roof and to exclude air conditioning units and cooling towers, located outside the penthouse or screened area, from being included in the maximum building height if, said structure, air conditioner or cooling tower is for the purpose of providing building infrastructure to meet LEED certification.
6. A waiver of the service drive requirement along Leesburg Pike, Route 7.
7. A waiver of section 6 506 paragraph 1 requiring a minimum district size of ten (10) acres.

SOILS MAP 1"=500'



SOIL TYPE CLASSIFICATIONS:

1. 8B+ WORSHAM SILT LOAM
2. 10B1 GLENVILLE SILT LOAM
3. 55B2 GLENELG SILT LOAM

VIKA
 ENGINEERS PLANNERS ARCHITECTS INTERIORS CONSTRUCTION INSPECTORS
 1300 GREENBURG DRIVE SUITE 200 WALKER, VIRGINIA 22122
 (703) 441-7070
 WALKER, VA. ■ FREDERICKS, MD

PERSEUS PROPERTY
TYSONS SPRING HILL METRO
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

NOTES AND TABULATION OVERALL

VIKA REVISIONS

DATE	BY	DESCRIPTION
JULY 18, 2011		
AUGUST 23, 2011		
7/8/2011		
DATE	BY	DESCRIPTION
DEC 2011	DWN	CADD
ENG		
SCALE	AS NOTED	
PROJECT/FILE NO.	V707C	
SHEET NO.	C-2	

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NOTES:

1. THE PROPERTY SHOWN HEREON IS LOCATED ON TAX ASSESSMENT MAP 29-3--(11) AS PARCEL 2F AND IS ZONED C-7, H-C & SC.
2. THE HORIZONTAL DATUM SHOWN HEREON IS REFERENCED TO TRUE NORTH PER PLAT ENTITLED "PLAT SHOWING STREET DEDICATION, VACATION OF A PUBLIC STREET EASEMENT AND VACATION OF A PORTION OF A STORM DRAINAGE EASEMENT ON THE PROPERTY OF HARVEY & ARLENE CHERNER", DATED OCTOBER 12, 1984 AND PREPARED BY PATTON HARRIS RUST & ASSOCIATES AND RECORDED IN DEED BOOK 6101 AT PAGE 1090 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
3. THE VERTICAL DATUM SHOWN HEREON IS REFERENCE TO NAVD 1988, PROVIDED BY AERO-METRIC, MARCH 30, 2006.
4. THE PROPERTY SHOWN HEREON IS CURRENTLY IN THE NAME OF Q R SPRING HILL, LLC (PARCEL C) RECORDED BY INSTRUMENT IN DEED BOOK 15943 AT PAGE 2084 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
5. THE SUBJECT PROPERTY SHOWN HEREON IS LOCATED IN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOODPLAIN) AS SHOWN ON COMMUNITY PANEL NO. 515525-0100 D, FOR FAIRFAX COUNTY, VIRGINIA, OF THE FLOOD INSURANCE RATE MAP (FIRM) DATED MARCH 5, 1990.

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHD BNG	CHORD
C2	172.75'	2895.00'	86.40'	3°25'08"	N69°04'37"E	172.72'
C3	303.84'	951.61'	193.22'	18°17'38"	S81°40'38"W	303.59'

PARCEL C:

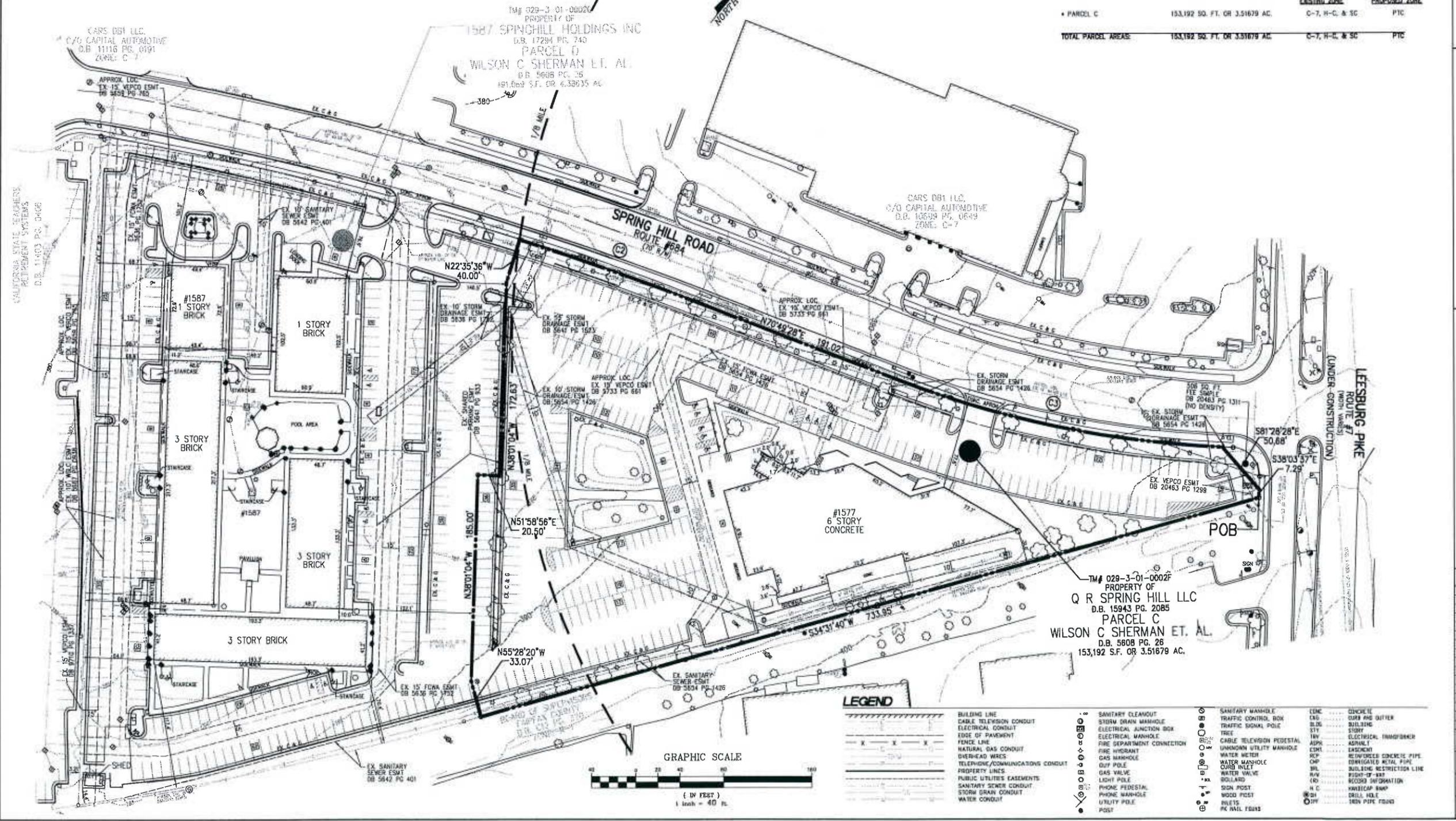
AREA WITHIN 1/8 MILE RADIUS
 AREA BETWEEN 1/4 & 1/8 MILE RADIUS
 TOTAL: 153,192 SQ. FT. OR 3.51679 AC

136,589 SQ. FT. OR 3.13487 AC.
 16,636 SQ. FT. OR 0.38192 AC.



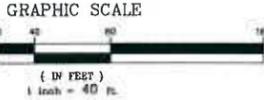
AREA/DENSITY TABULATION:

	EXISTING ZONE	PROPOSED ZONE
• PARCEL C	153,192 SQ. FT. OR 3.51679 AC. C-7, H-C & SC	PTC
TOTAL PARCEL AREAS:	153,192 SQ. FT. OR 3.51679 AC. C-7, H-C & SC	PTC



LEGEND

- BUILDING LINE
- CABLE TELEVISION CONDUIT
- ELECTRICAL CONDUIT
- EDGE OF PAVEMENT
- FENCE LINE
- NATURAL GAS CONDUIT
- OVERHEAD WIRES
- TELEPHONIC/COMMUNICATIONS CONDUIT
- PROPERTY LINES
- PUBLIC UTILITIES EASEMENTS
- SANITARY SEWER CONDUIT
- STORM DRAIN CONDUIT
- WATER CONDUIT
- SANITARY CLEANOUT
- STORM DRAIN MANHOLE
- ELECTRICAL JUNCTION BOX
- ELECTRICAL MANHOLE
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- NATURAL GAS MANHOLE
- GUY POLE
- GAS VALVE
- LIGHT POLE
- PHONE PEDESTAL
- PHONE MANHOLE
- UTILITY POLE
- POST
- SANITARY MANHOLE
- TRAFFIC CONTROL BOX
- TRAFFIC SIGNAL POLE
- TREES
- CABLE TELEVISION PEDESTAL
- UNKNOWN UTILITY MANHOLE
- WATER VALVE
- WATER MANHOLE
- CURB INLET
- POINT-OF-WAY
- BOLLARD
- SIGN POST
- WOOD POST
- INLETS
- UTILITY POLE
- WALL EDGES
- CONCRETE
- STAIR AND GUTTER
- BLDG
- STORY
- ELECTRICAL TRANSFORMER
- ASPH
- ADHESIVE
- EXCHL
- REINFORCED CONCRETE PIPE
- CONVIGATED METAL PIPE
- SHL
- SUBSIDING RESTRICTION LINE
- BNW
- RECORD INFORMATION
- H C
- KARIBCAP BWP
- DRILL HOLE
- IRON PIPE FOUND



VKA
 ARCHITECTS • PLANNERS • LANDSCAPERS • ARCHITECTS • ARCHITECTS • ARCHITECTS
 8140 GREENLEAF DRIVE, SUITE 300 • MULLAN, VIRGINIA 22115
 (703)442-7800 • FAX (703)761-0787
 MULLAN, VA • GEORGETOWN, MD

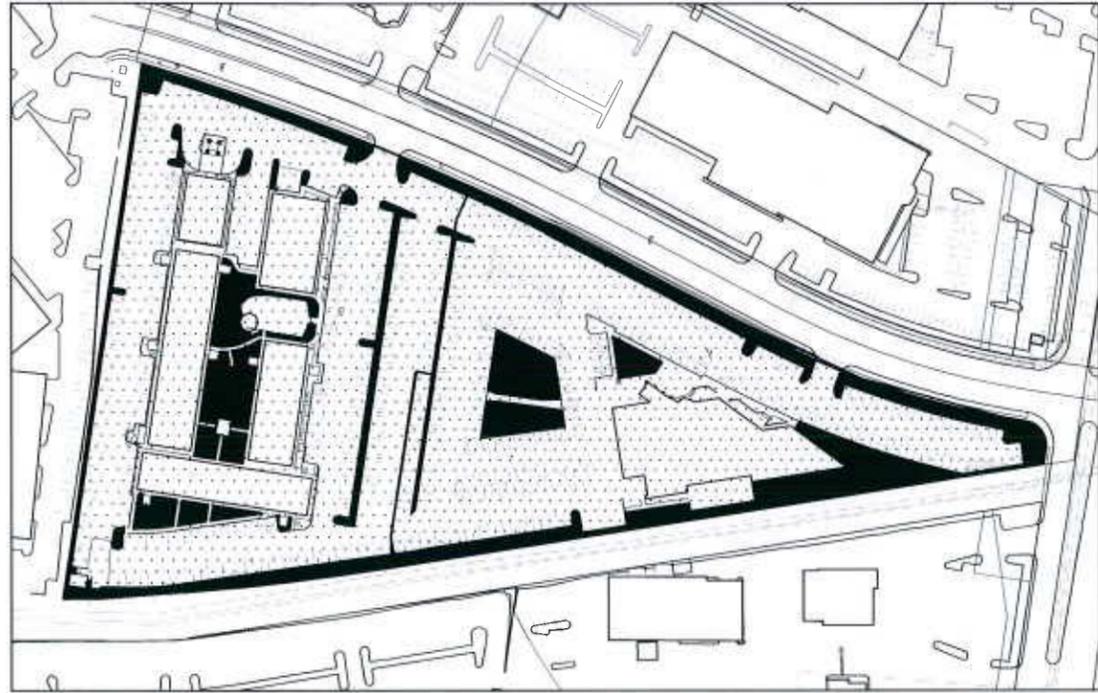
PERSEUS
TYSONS SPRING HILL STATION METRO
 HUNTER HILL DISTRICT
 FAIRFAX COUNTY, VIRGINIA

EXISTING CONDITIONS

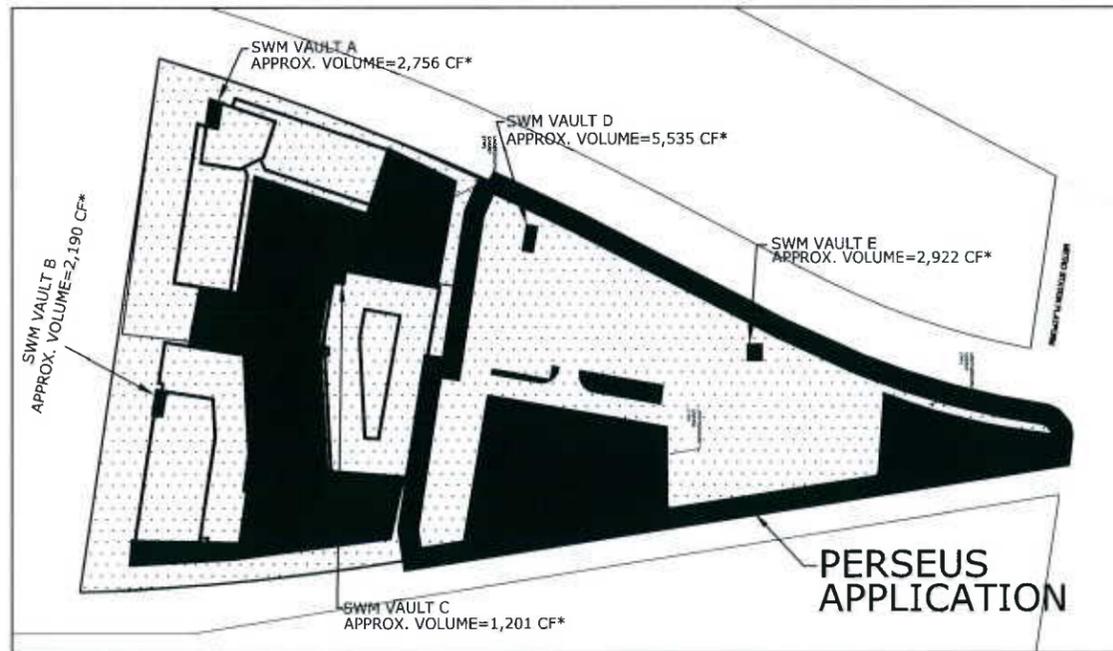
VKA REVISIONS

NO.	DATE	DESCRIPTION
1	AUGUST 23, 2011	

DATE: June, 2011
 DES. JMB DWN. JMB
 SCALE: 1"=40'
 PROJECT/FILE NO. 7071-SV
 SHEET NO. C-3

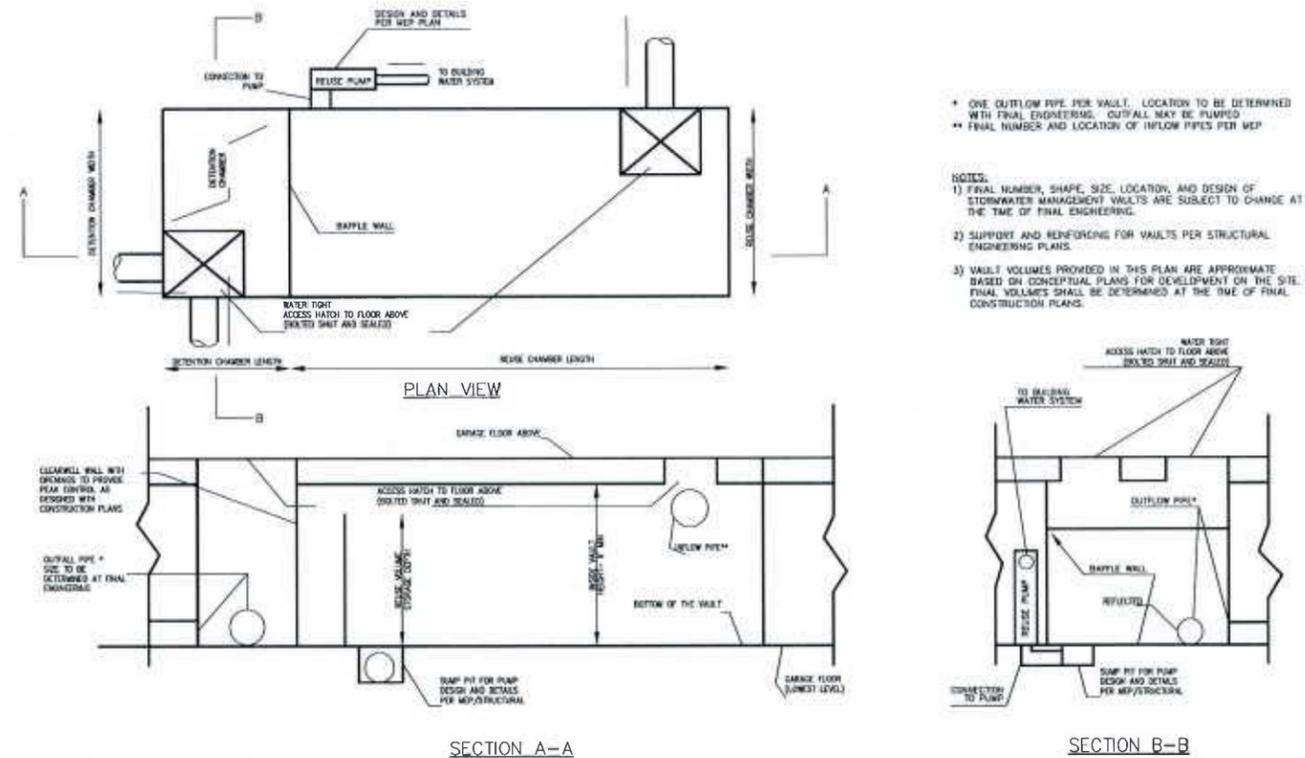


EXISTING CONDITIONS



PROPOSED CONDITIONS

*APPROXIMATE SIZE AND LOCATION OF STORMWATER VAULTS, SUBJECT TO CHANGE AT TIME OF FINAL ENGINEERING. BASED ON ALLOWABLE RELEASE FOR A TWO-YEAR STORM (14,604 CU. FT. FOR ENTIRE SITE, 8,457 FOR PERSEUS APPLICATION). SEE NEXT SHEET FOR CALCULATIONS.



EXISTING CONDITIONS

	IMPERVIOUS	PERVIOUS	TOTAL
SF	116,180	37,677	153,857
AC	2.67	0.86	3.53

PROPOSED CONDITIONS

	IMPERVIOUS	PERVIOUS	TOTAL
SF	108,640	44,227	152,867
AC	2.52	1.02	3.53



SWM NARRATIVE

FOR THE SUBJECT ENTITLEMENT PLAN, THE PRELIMINARY STORMWATER MANAGEMENT (SWM) DESIGN HAS BEEN BASED ON THE REQUIRED CONTROLS IN THE TYSONS CORNER DISTRICT. BECAUSE THE EXISTING CONDITION OF THE SITE SUBJECT TO THIS PLAN IS GREATER THAN 50% IMPERVIOUS, THE STORMWATER DESIGN WILL REDUCE THE TOTAL RUNOFF VOLUME LEAVING THE SITE IN ITS PROPOSED CONDITION TO A LEVEL EQUAL TO OR LESS THAN 75% OF THE TOTAL RUNOFF VOLUME LEAVING THE SITE IN THE EXISTING CONDITION FOR THE 2-YR, 24-HR STORM EVENT. FURTHERMORE, THE PEAK RELEASE RATE FOR THE POST DEVELOPED 2-YR STORM WILL BE REDUCED TO A LEVEL EQUAL TO OR LESS THAN 75% OF THE EXISTING CONDITION PEAK RELEASE RATE FOR THE 2-YR, 24-HR STORM EVENT.

IN ORDER TO ACHIEVE THIS VOLUMETRIC REDUCTION THE PROPOSED DEVELOPMENT WILL MAKE USE OF LOW IMPACT DEVELOPMENT (LID) TECHNIQUES. THE FINAL TECHNIQUES TO BE USED WILL BE FURTHER REFINED WITH THE FINAL DEVELOPMENT PLAN, AND WILL BE FINALIZED WITH FINAL CONSTRUCTION DOCUMENTS. TECHNIQUES CONTEMPLATED AT THIS TIME INCLUDE INFILTRATION WHERE FIELD CONDITIONS ARE PRACTICABLE, REUSE OF RUNOFF FOR IRRIGATION, REUSE OF RUNOFF FOR COOLING TOWER WATER SERVICE, AND REUSE OF RUNOFF FOR ALLOWABLE "GREY WATER" PURPOSES (I.E. TOILETS). IN ORDER TO FACILITATE THE REUSE COMPONENTS OF THESE LID OPTIONS, THE PROPOSED SWM SYSTEM WILL CONTAIN A CISTERN FOR HOLDING RUNOFF COLLECTED FROM THE SITE TO BE STORED UNTIL SUCH TIME AS IT IS PUMPED OUT FOR REUSE.

IN ORDER TO MEET THE PEAK RELEASE RATE REQUIREMENT, ALL OF THE PEAK FLOW CONTROL WILL BE PROVIDED THROUGH THE RUNOFF VOLUME BEING STORED IN THE CISTERN. THIS CAN BE ACHIEVED BECAUSE THE VOLUME REQUIRED FOR PEAK REDUCTION IS LESS THAN THE VOLUME PROVIDED FOR REUSE.

THE SPECIFIC METHODS OF SWM CONTROL, FINAL NUMBER & LOCATION OF SWM FACILITIES, SIZES OF EACH CHAMBER IN THE SWM VAULTS, AMOUNT OF VOLUME REDUCTION, PEAK RELEASE RATES, AND DETAILS FOR THE VAULTS ARE TO BE ESTABLISHED WITH FINAL CONSTRUCTION DOCUMENTS. SWM INFORMATION SHOWN IN THIS CDP IS PRELIMINARY AND SUBJECT TO CHANGE.

THE SIZING OF THE PRELIMINARY VAULTS SHOWN IN THIS CDP IS BASED ON ONE VAULT PER GARAGE IN EACH SUBAREA. THE NUMBER AND SIZE OF VAULTS IS SUBJECT TO CHANGE WITH FINAL CONSTRUCTION PLANS. VAULT CONSTRUCTION MAY BE PHASED, AND VAULTS MAY BE LOCATED WITHIN PROPOSED GARAGES.

NOTE: COMPUTATIONS BASED ON APPROXIMATIONS OF PROPOSED PERVIOUS/IMPERVIOUS AREA AT THE TIME OF FINAL CONSTRUCTION PLANS.

CONCEPTUAL SWM VAULT DETAIL

NOT TO SCALE

BMP NARRATIVE

DESPITE THE FACT THAT THE SUBJECT PROPERTY WOULD CLASSIFY AS REDEVELOPMENT PER THE PUBLIC FACILITIES MANUAL, TO COMPLY WITH THE TYSONS CORNER DISTRICT REGULATIONS, BEST MANAGEMENT PRACTICES (BMP) FOR THE SUBJECT PROPERTIES WILL MEET THE MORE STRINGENT STANDARDS FOR NEW DEVELOPMENT. AS SUCH, THE DEVELOPMENT PROPOSED ON THE SUBJECT SITE WILL PROVIDE A PHOSPHOROUS REMOVAL RATE OF 40% AT A MINIMUM. THIS WILL BE ACCOMPLISHED BY WAY OF LID TECHNIQUES DESCRIBED IN THE SWM NARRATIVE, OR THE USE OF STRUCTURAL FILTER SYSTEMS (POTENTIALLY LOCATED IN VAULTS WITHIN THE GARAGE), OR A COMBINATION THEREOF. FINAL DESIGN, LOCATION AND TYPES OF BMP SYSTEM(S) SHALL BE ESTABLISHED WITH FINAL CONSTRUCTION PLANS AND MAY BE REVISED TO ALTERNATES ALLOWED BY THE PFM.



VIKA REVISIONS

8/23/2011	DES.	ENG.	DWN.	CADD
DATE: JUNE, 2011				
SCALE: 1"=80'				
PROJECT/FILE NO. V707C				
SHEET NO. C-8				

EXP. PER		VERSION 2.10	
Project:	TYSONS WEST	State:	VA
County:	FAIRFAX	User:	KB
SubTitle:	EXISTING CONDITIONS-PERSEUS	Checked:	
Date:	07-12-2011		
Data:	Drainage Area: 3.53 Acres		
	Runoff Curve Number: 95		
	Time of Concentration: 0.10 Hours		
	Rainfall Type: II		
	Pond and Swamp Area: NONE		
Storm Number	1	2	3
Frequency (Yrs)	1	2	10
24-hr Rainfall (in)	2.2	2.6	4.2
T&P Ratio	0.04	0.03	0.02
	used	0.10	0.10
Runoff (in)	2.16	2.64	4.62
Unit Peak Discharge (cfs/acre/in)	1.578	1.578	1.578
Pond and Swamp Factor (0.0% ponds used)	1.00	1.00	1.00
Peak Discharge (cfs)	12	15	26

TOTAL RUNOFF VOLUME (EX. CONDITIONS)

1 YR STORM: 3.53 AC * 2.16 IN * (1FT/12IN) * 43560 = 27,678 CU. FT.
 2 YR STORM: 3.53 AC * 2.64 IN * (1FT/12IN) * 43560 = 33,829 CU. FT.
 10 YR STORM: 3.53 AC * 4.62 IN * (1FT/12IN) * 43560 = 59,200 CU. FT.

EXP. PER		VERSION 2.10	
Project:	TYSONS WEST	State:	VA
County:	FAIRFAX	User:	KB
SubTitle:	PROPOSED CONDITIONS-PERSEUS	Checked:	
Date:	07-12-2011		
Data:	Drainage Area: 3.53 Acres		
	Runoff Curve Number: 95		
	Time of Concentration: 0.10 Hours		
	Rainfall Type: II		
	Pond and Swamp Area: NONE		
Storm Number	1	2	3
Frequency (Yrs)	1	2	10
24-hr Rainfall (in)	2.2	2.6	4.2
T&P Ratio	0.04	0.03	0.02
	used	0.10	0.10
Runoff (in)	2.16	2.64	4.62
Unit Peak Discharge (cfs/acre/in)	1.578	1.578	1.578
Pond and Swamp Factor (0.0% ponds used)	1.00	1.00	1.00
Peak Discharge (cfs)	12	15	26

TOTAL RUNOFF VOLUME (PROP. CONDITIONS)

1 YR STORM: 3.53 AC * 2.16 IN * (1FT/12IN) * 43560 = 27,678 CU. FT.
 2 YR STORM: 3.53 AC * 2.64 IN * (1FT/12IN) * 43560 = 33,829 CU. FT.
 10 YR STORM: 3.53 AC * 4.62 IN * (1FT/12IN) * 43560 = 59,200 CU. FT.

TOTAL RUNOFF VOLUME (ALLOWABLE RELEASE)

1 YR STORM: 27,678 CU. FT. - 27,678 CU. FT. * (0.75) = 6,920 CU. FT.
 2 YR STORM: 33,829 CU. FT. - 33,829 CU. FT. * (0.75) = 8,457 CU. FT.

V7071C-PERSEUS
 Total Site Area (Ac)
 3.53

Amount of Site Area (Ac) Per Hydrologic Soil Group*			
Type A	Type B	Type C	Type D
0	0.15	1.41	1.97

*Per Soils Map

Note: 1-yr Storm Intensity ('I') taken as 60% of 2-yr storm 'I'

Base Line Flow Rates

Land Use = Proposed Conditions

Curve Number (CN) For Soil Type Per Land Use, Pervious			
Type A	Type B	Type C	Type D
68	79	86	89

Weighted CN for site
 95

S for CN to C Calcs.
 0.53

Design Storm 24-hr Rainfall Depth (in)

2-yr	10-yr	1-yr
3.2	5.2	2.7

Equivalent C

2-yr	10-yr	1-yr
0.83	0.89	0.80

Per County Adequate Outfall Presentation formula for the conversion from CN to rational method C-Factor (C) is:

$$C = 1 - \left\{ \frac{S \times [1.2 - (S / (P + 0.85))]}{P} \right\}$$

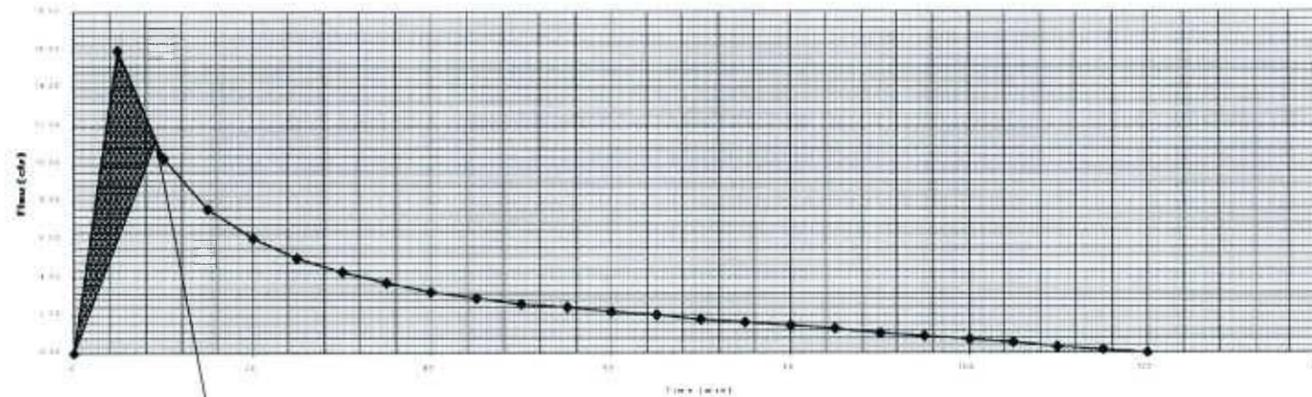
where:

P = 24-hr rainfall depth for design storm

$$S = (1000 / CN) - 10$$

5 Minute Tc Design Storm Rainfall Intensity (I)		
2-yr	10-yr	1-yr
5.45	7.27	3.27

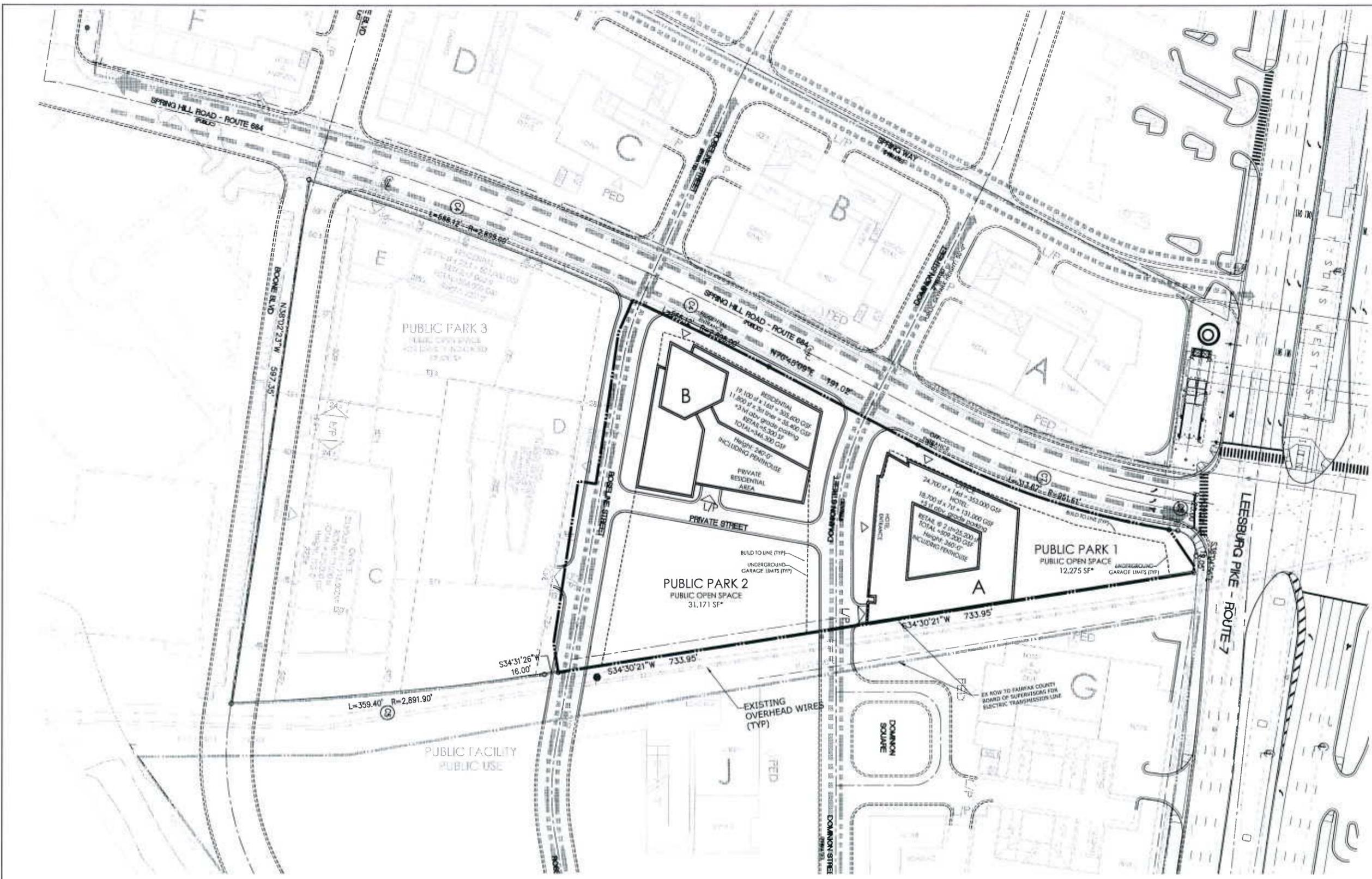
Proposed Conditions Peak Flow Rates cfs		
2-yr	10-yr	1-yr
15.90	22.79	9.22



75% OF EX. PEAK
 DISCHARGE = 11.25 CFS

75% OF EX. PEAK DISCHARGE (2 YR STORM) = 0.75 * 15 = 11.25 CFS
 APPROXIMATE VOLUME REQUIRED FOR PEAK REDUCTION = 46 CU. FT. **

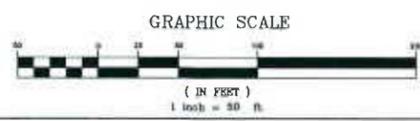
**VOLUME REQUIRED FOR PEAK REDUCTION IS LESS THAN
 VOLUME PROVIDED FOR REUSE, SO THE PEAK RELEASE RATE
 REQUIREMENT IS MET

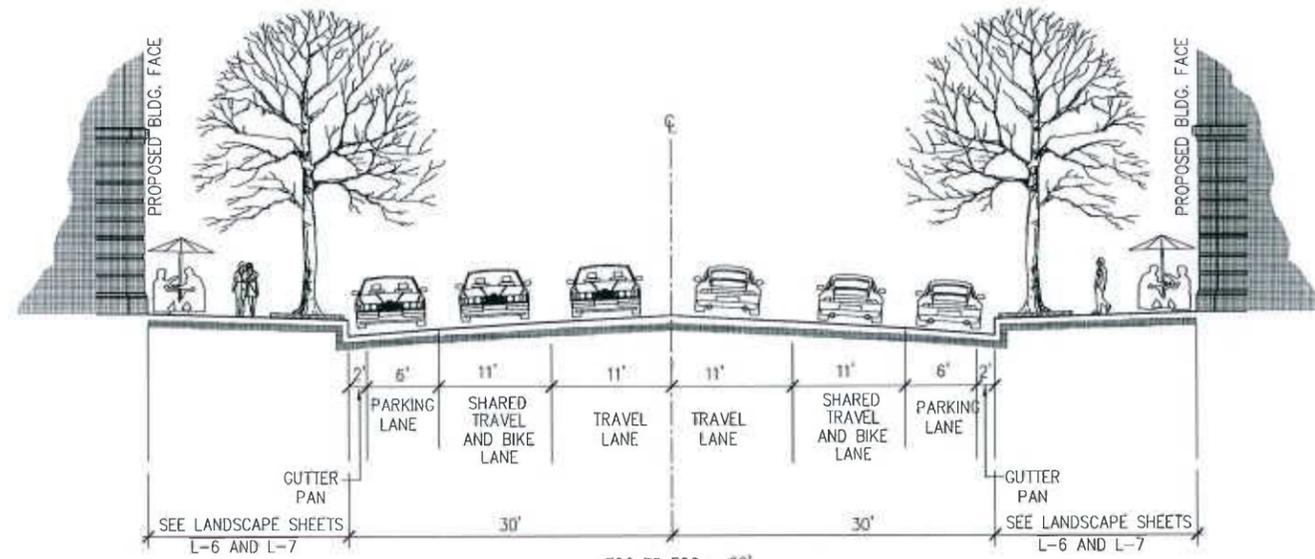


LEGEND

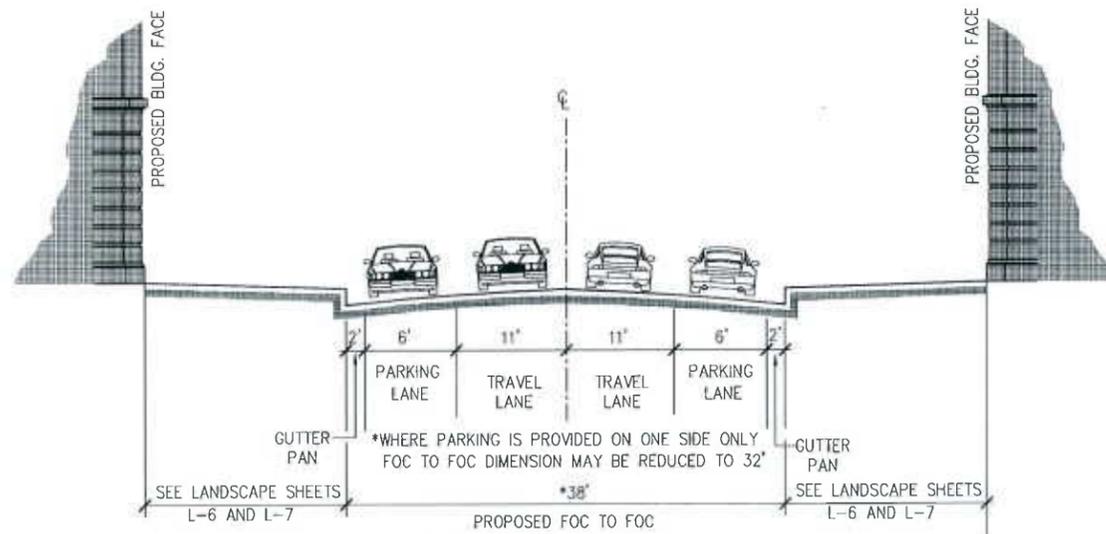
- AVENUE
- COLLECTOR WITH NON-PEAK PARKING AND BIKE LANE
- LOCAL STREET

NOTE:
 SPRING HILL ROAD, BOONE BOULEVARD AND ROUTE 7 ARE PUBLIC ROADS. ALL OTHER ROADS ARE PRIVATELY OWNED AND SHALL BE PRIVATELY MAINTAINED. PRIVATE STREET SHALL BE DESIGNED IN ACCORDANCE WITH THE PFM. THE DESIGN SPEED SHALL BE DETERMINED AT THE TIME OF THE FDP. SPRING HILL SECTION AND SOUTH-WESTERN TERMINUS TO BE COORDINATED WITH FGDOT AND/OR VDOT.

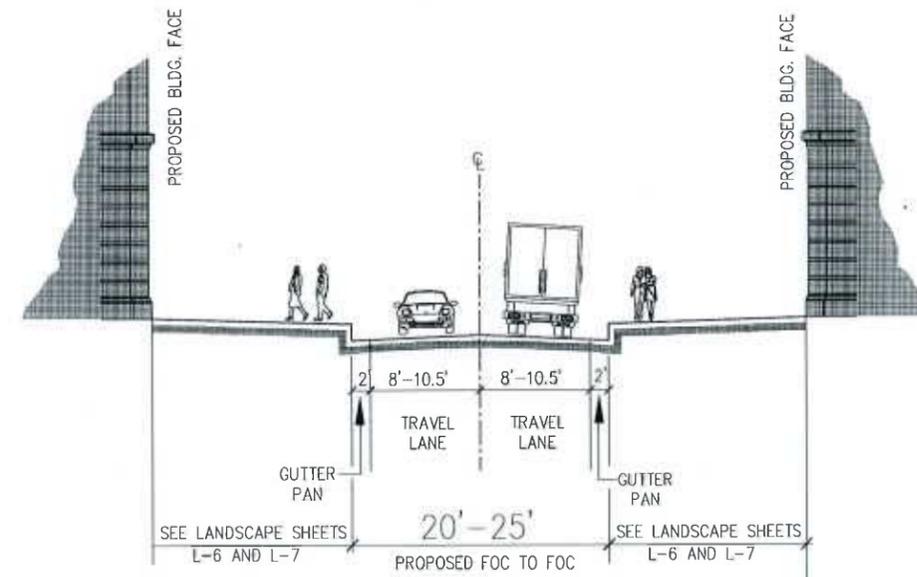




FOC TO FOC = 60'
**AVENUES
 (TYPICAL SECTION)
 SPRING HILL ROAD**



PROPOSED FOC TO FOC
**LOCAL STREETS
 (TYPICAL SECTION)
 ROSELINE STREET**



PROPOSED FOC TO FOC
**PRIVATE STREET
 (TYPICAL SECTION)**

