APPLICATION ACCEPTED: March 24, 2011
PLANNING COMMISSION: July 20, 2011
BOARD OF SUPERVISORS: July 26, 2011 @ 3:30 PM

County of Fairfax, Virginia

July 5, 2011

STAFF REPORT

APPLICATION PCA 87-P-038-05

PROVIDENCE DISTRICT

APPLICANT:	Fairfax County Board of Supervisors (Contract Purchaser)
PRESENT ZONING:	C-3
PARCEL(S):	49-3 ((1)) 141
ACREAGE:	16.14 Acres
FAR:	0.70
OPEN SPACE:	43% (with options to 50%)
PLAN MAP:	Office Use
PCA PROPOSAL:	The applicant seeks to amend the proffers for RZ 87-P-038, previously approved for office and/or public uses to permit modifications to the approved proffers and site design with an overall FAR of 0.70. The applicant proposes to retain the previously approved development options and add a fifth option (alternate layout) for Building G (Fairfax County Mid-County building) and Building F (INOVA Medical Office) on the INOVA Willow Oaks site. No additional FAR is proposed.

STAFF RECOMMENDATIONS:

Staff recommends approval of PCA 87-P-038-05 subject to the execution of proffers consistent with those contained in Appendix 1.

Staff recommends reaffirmation of the modification of transitional screening and a waiver of the barrier requirements along the south and east property lines in favor of that shown on the GDP.

William O'Donnell

Department of Planning and Zoning
Zoning Evaluation Division
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5509
Phone 703-324-1290 FAX 703-324-3924
www.fairfaxcounty.gov/dpz/

Staff recommends reaffirmation of the waiver of the service drive requirement along Route 50 (Arlington Boulevard).

Staff recommends approval of a modification of the loading space requirement for office uses to permit a maximum of three loading spaces per building shown on the GDP.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

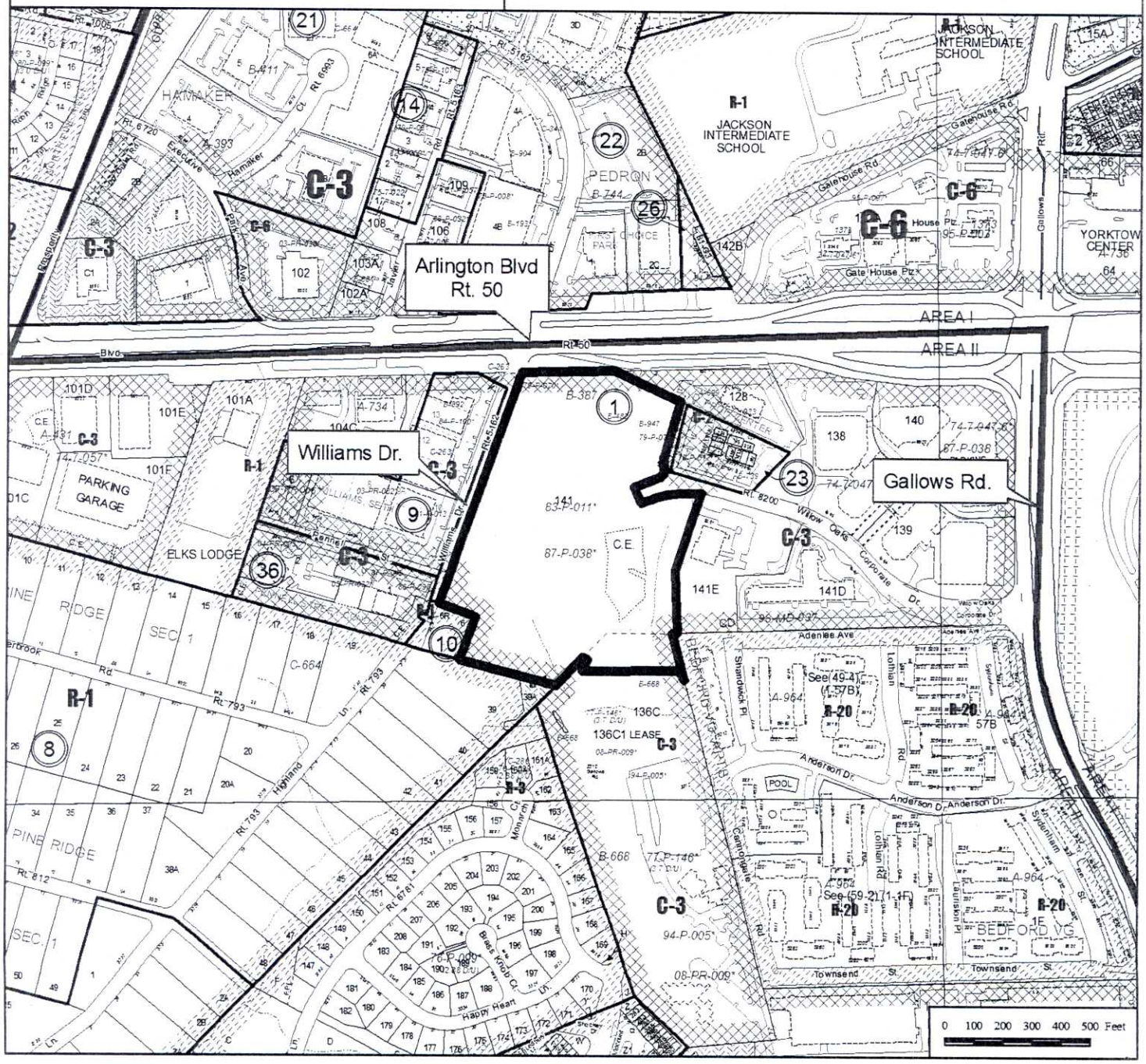
The approval of this rezoning does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application. For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 7 days advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

Proffered Condition Amendment

PCA 87-P-038-05

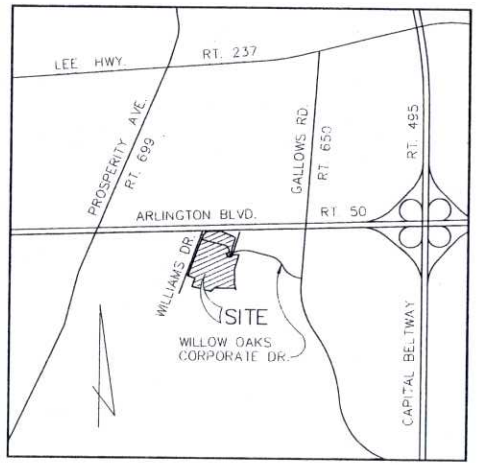
Applicant:	FAIRFAX COUNTY BOARD OF SUPERVISORS (CONTRACT PURCHASER)
Accepted:	03/24/2011
Proposed:	AMEND RZ-87-P-038 PREVIOUSLY APPROVED FOR COMMERCIAL DEVELOPMENT TO PERMIT SITE MODIFICATIONS
Area:	16.14 AC OF LAND; DISTRICT - PROVIDENCE
Located:	SOUTHEAST QUADRANT OF THE INTERSECTION OF ARLINGTON BOULEVARD AND WILLIAMS DRIVE
Zoning:	C- 3
Overlay Dist:	CRA
Map Ref Num:	049-3- /01/ /0141



INOVA WILLOW OAKS

Providence District Fairfax County, Virginia

Partial Generalized Development Plan Amendment - PCA 87-P-038-05



VICINITY MAP
SCALE : 1"= 1,000'

Sheet Index

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OWNER:

Inova Health Care Services
3300 Gallows Road
Falls Church, VA 22042

APPLICANT:

Fairfax County Planning & Design Division
Department of Public Works &
Environmental Services
1200 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052

RECEIVED
Department of Planning & Zoning
APR 27 2011
Zoning Evaluation Division

Inova Willow Oaks
Partial Generalized Development
Plan Amendment
PCA 87-P-038-05

Dewberry
Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

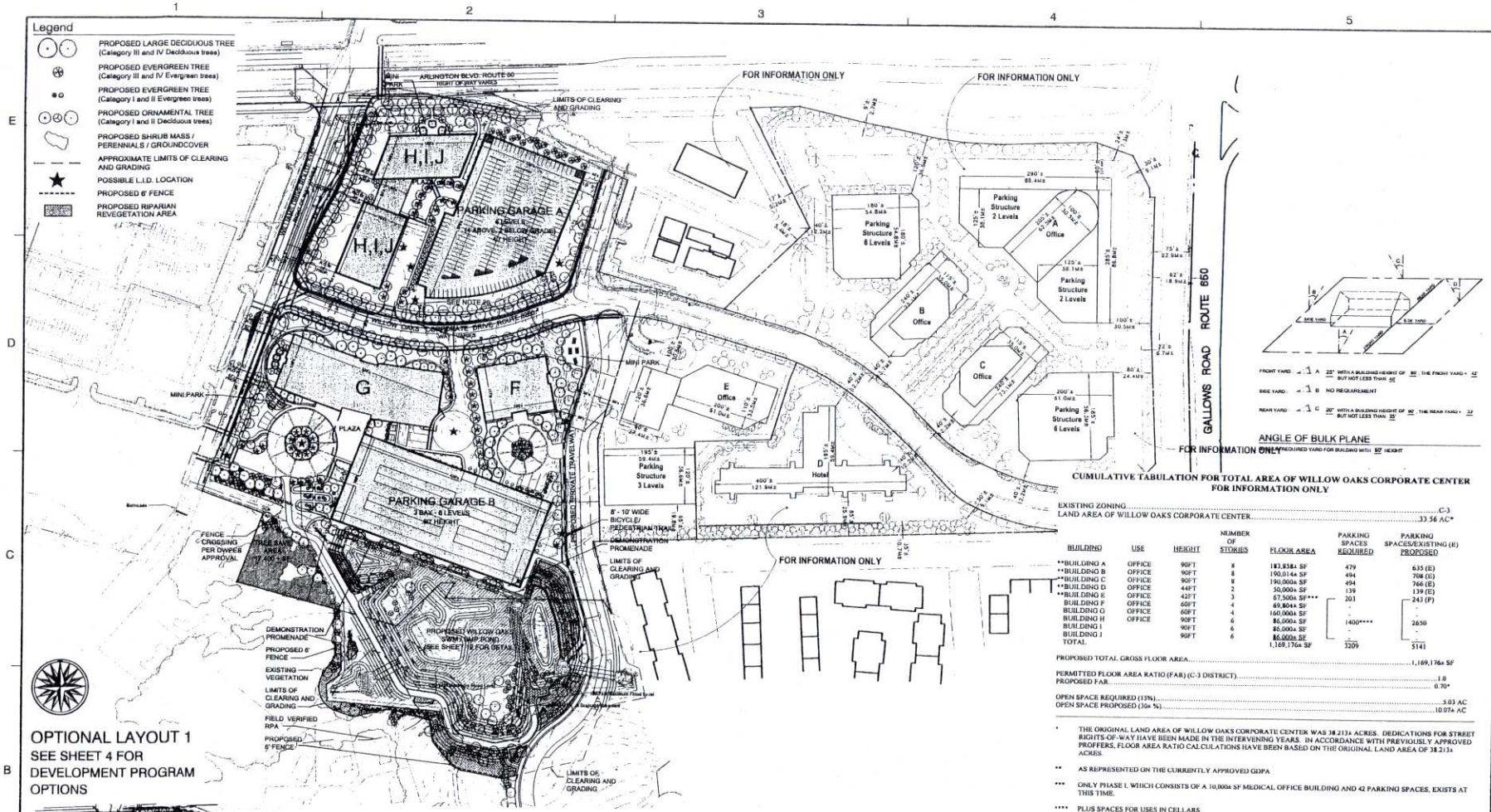
VIKA
ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ GPS SERVICES
VIKA INCORPORATED
8180 GREENSBORO DRIVE SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)848-2800 ■ FAX (703)761-2787
McLEAN, VA GAITHERSBURG, MD

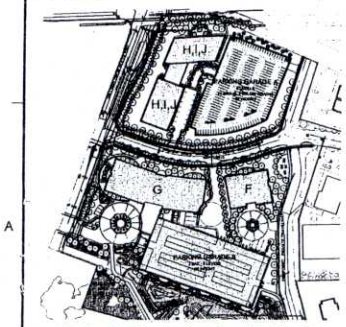
SEAL

COMMONWEALTH OF VIRGINIA
EDMUND J. IGNACIO
Lic. No. 33579
4/27/11
PROFESSIONAL ENGINEER

Revised April 27, 2011
Revised March 4, 2011
Revised June 10, 2009
Revised June 5, 2009
Revised May 20, 2009
Revised April 20, 2009
Revised March 26, 2009
Revised February 19, 2009
Revised January 23, 2009
Revised October 9, 2008
Revised August 28, 2008
Revised July 31, 2008
April 14, 2008

M-10690





Interior Parking Lot Landscaping Graphic
Not to Scale

Parking Lot Landscaping Tabulation

PARKING LOT AREA ..... 173,635 SF±
PARKING LOT LANDSCAPING REQUIRED (5%) ..... 8,682 SF±
PARKING LOT LANDSCAPING PROPOSED (5.2%) ..... 9,100 SF±
(52 PROPOSED TREES @ AVG. 175 SF EA)

TREE COUNTED TOWARD PARKING LOT LANDSCAPING REQUIREMENT

Tree Canopy Tabulation

SITE AREA ..... 703,058 SF±
POND WATER SURFACE ELEVATION (ON WILLOW OAKS SITE) ..... 18,849 SF±
ADJUSTED SITE AREA ..... 684,209 SF±
TREE CANOPY REQUIRED (10%) ..... 68,421 SF±
AREA OF EXISTING TREES (17,400 x1.25) ..... 21,750 SF±
AREA OF TREES PLANTED ON SITE:
163 TREES @ AVG. 175 SF EA = 28,525;
34 TREES @ AVG. 125 SF EA = 4,250;
101 TREES @ AVG. 75 SF EA = 7,575;
109 TREES @ AVG. 80 SF EA = 8,640
AREA OF PROPOSED LANDSCAPING ..... 46,890 SF±
TOTAL TREE CANOPY PROVIDED (10%) ..... 68,640 SF±

NOTE:

THE PARKING LOT LANDSCAPING AND TREE CANOPY TABULATIONS ARE PRELIMINARY. THE TABULATIONS ARE INTENDED TO REFLECT THE MINIMUM LANDSCAPE AND CANOPY REQUIREMENTS FOR THE PROPOSED DEVELOPMENT PROGRAM. FINAL CALCULATIONS WILL BE PROVIDED WITH THE BENEFIT OF SURVEYS AND FINAL ENGINEERING AT TIME OF SITE PLAN PREPARATION. AT TIME OF SITE PLAN, INDIVIDUAL TREES IDENTIFIED MAY VARY AND/OR ADDITIONAL TREES MAY BE IDENTIFIED AS CONTRIBUTING TOWARDS MEETING THE LANDSCAPE REQUIREMENT AND/OR ADDITIONAL TREE CANOPY MAY BE CLAIMED FOR EXISTING TREES WITH LARGER CALIPER/TREE COVERAGE.

RPA Revegetation

DISTURBED RPA AREA ..... 34,472.53 SF± (.79 ACRES)

REQUIRED DENSITY OF DECIDUOUS TREES ..... 100 PER ACRE
REQUIRED DENSITY OF UNDERSTORY TREES ..... 200 PER ACRE
REQUIRED DENSITY OF SHRUBS ..... 1088 PER ACRE

PROPOSED DENSITY OF DECIDUOUS TREES AT SITE PLAN: 79
PROPOSED DENSITY OF UNDERSTORY TREES AT SITE PLAN: 158
PROPOSED DENSITY OF SHRUBS AT SITE PLAN: 860

CUMULATIVE TABULATION FOR TOTAL AREA OF WILLOW OAKS CORPORATE CENTER FOR INFORMATION ONLY

EXISTING ZONING C-3
LAND AREA OF WILLOW OAKS CORPORATE CENTER ..... 33.56 AC*

BUILDING	USE	HEIGHT	NUMBER OF STORIES	FLOOR AREA	PARKING SPACES REQUIRED	PARKING SPACES/EXISTING (E) PROPOSED
**BUILDING A	OFFICE	90FT	8	183,858± SF	479	635 (E)
**BUILDING B	OFFICE	90FT	8	190,014± SF	494	708 (E)
**BUILDING C	OFFICE	90FT	8	190,000± SF	494	766 (E)
**BUILDING D	OFFICE	44FT	2	50,000± SF	139	139 (E)
**BUILDING E	OFFICE	42FT	3	67,500± SF***	201	243 (P)
BUILDING F	OFFICE	60FT	4	69,804± SF	-	-
BUILDING G	OFFICE	60FT	4	160,000± SF	-	-
BUILDING H	OFFICE	90FT	6	86,000± SF	1400****	2650
BUILDING I		90FT	6	86,000± SF	-	-
BUILDING J		90FT	6	86,000± SF	-	-
TOTAL				1,169,176± SF	3209	5141

PROPOSED TOTAL GROSS FLOOR AREA ..... 1,169,176± SF

PERMITTED FLOOR AREA RATIO (FAR) (C-3 DISTRICT) 1.0
PROPOSED FAR 0.70*

OPEN SPACE REQUIRED (15%) ..... 5.03 AC
OPEN SPACE PROPOSED (30± %) ..... 10.07± AC

* THE ORIGINAL LAND AREA OF WILLOW OAKS CORPORATE CENTER WAS 38.213± ACRES. DEDICATIONS FOR STREET RIGHTS-OF-WAY HAVE BEEN MADE IN THE INTERVENING YEARS. IN ACCORDANCE WITH PREVIOUSLY APPROVED PROFFERS, FLOOR AREA RATIO CALCULATIONS HAVE BEEN BASED ON THE ORIGINAL LAND AREA OF 38.213± ACRES.

** AS REPRESENTED ON THE CURRENTLY APPROVED GDPA

*** ONLY PHASE I, WHICH CONSISTS OF A 10,000± SF MEDICAL OFFICE BUILDING AND 42 PARKING SPACES, EXISTS AT THIS TIME.

**** PLUS SPACES FOR USES IN CELLARS

TABLE 12.3 TREE PRESERVATION TARGET CALCULATION

	REQUIREMENTS	RESULTS
A	PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY (FROM EXISTING VEGETATION MAP) =	378,186.13 SF OR 8.68 AC
B	PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY =	53.79%
C	PERCENTAGE OF 10-YEAR TREE CANOPY REQUIRED FOR SITE (SEE LEFT) =	10% OF 628,842 SF = 62,684 SF
D	PERCENTAGE OF THE 10-YEAR CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION =	53.79% = 33,718 SF
E	PROPOSED PERCENTAGE OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION (SEE LEFT) =	27.76% = 17,400 SF
F	HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	NO
G	IF NO FOR LINE F, THEN REQUEST A DEVIATE FROM THE TREE PRESERVATION TARGET SHALL BE PROVIDED ON THE PLAN THAT STATES ONE OF MORE OF THE JUSTIFICATIONS LISTING IN 12-0507.3 ALONG WITH A NARRATIVE THAT PROVIDES A SITE-SPECIFIC EXPLANATION OF WHY THE TREE PRESERVATION TARGET CANNOT BE MET. PROVIDE A SHEET NUMBER WHERE THE DEVIATION REQUEST IS LOCATED.	
H	IF STEP G REQUIRES A NARRATIVE, IT SHALL BE PREPARED IN ACCORDANCE WITH 12-0507.4	
I	PLACE THIS INFORMATION PRIOR TO THE 10-YEAR TREE CANOPY CALCULATIONS AS PER INSTRUCTIONS IN TABLE 12.12	

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

iNOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

KEY PLAN

SCALE
0' 100' 200'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE
Inova
Willow Oaks
Partial Generalized Development Plan Amendment
Overall

PROJECT NO.

2

SHEET NO. 2 OF 20

M-10690

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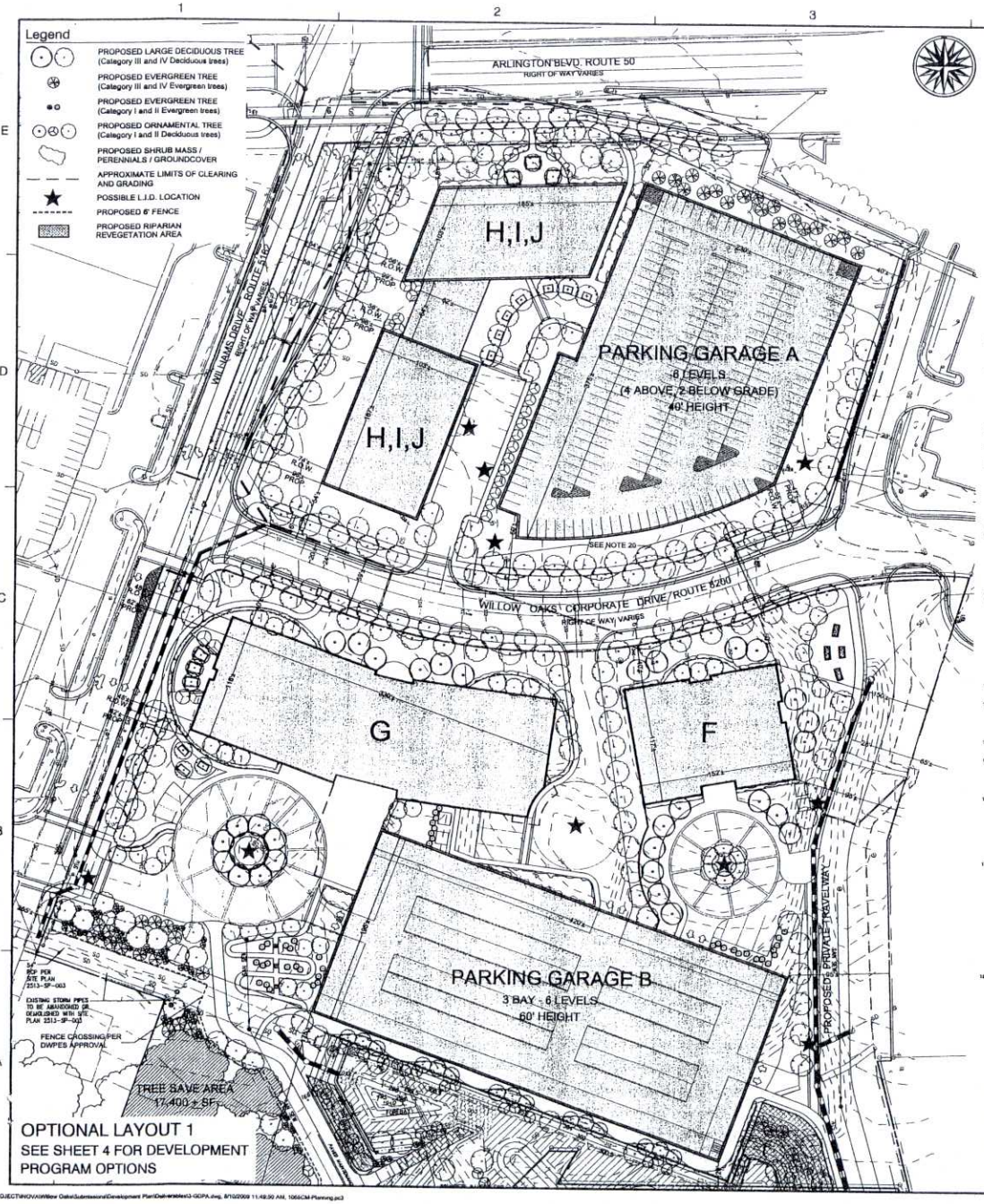


NOTES:

1. THE PROPERTY THAT IS THE SUBJECT OF THIS PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT (GDPA) IS IDENTIFIED ON THE FAIRFAX COUNTY ZONING MAP AS 49-3 301 141. THE LAND AREA IS APPROXIMATELY 16.14 ACRES. IT IS ZONED TO THE C-3 DISTRICT. IT IS PART OF THE WILLOW OAKS CORPORATE CENTER PROPERTY THAT WAS THE SUBJECT OF REZONING APPLICATION RZ 87-P-038 THAT WAS PROFFERED AND APPROVED BY THE BOARD OF SUPERVISORS ON MAY 1, 1989. RZ 87-P-038 WAS THE SUBJECT OF A PROFFERED CONDITION AMENDMENT (PCA) THAT WAS APPROVED ON AUGUST 5, 1996. A SECOND PCA (PCA 87-P-038-02) THAT WAS APPROVED ON AUGUST 2, 1999, AND A THIRD PCA (PCA 87-P-038-03) THAT WAS APPROVED ON OCTOBER 28, 1999.
2. THIS PARTIAL GDPA ACCOMPANIES A PARTIAL PCA THAT HAS BEEN FILED TO AMEND THE CURRENTLY APPROVED DEVELOPMENT PROGRAM FOR PARCEL 141, WHICH PARCEL IS OWNED BY INOVA HEALTH SYSTEM.

   THE CURRENTLY APPROVED DEVELOPMENT PROGRAM FOR PARCEL 141 CONSISTS OF THREE (3) PROPOSED OFFICE BUILDINGS (BUILDINGS F, I, AND H) AND ONE (1) PROPOSED ASSISTED LIVING FACILITY (MEDICAL CARE FACILITY) IN BUILDING G. THE CURRENTLY APPROVED GROSS FLOOR AREA FOR THESE FOUR (4) BUILDINGS IS 487,804 SQUARE FEET - WHICH APPROXIMATES A 0.66 FAR FOR THE SUBJECT PARCEL.

   THE PROPOSED REVISED DEVELOPMENT PROGRAM FOR THE SUBJECT PROPERTY WILL BE FOUR (4) BUILDINGS (BUILDINGS F, G, H, AND I) USED FOR OFFICES, MEDICAL OFFICES, EDUCATIONAL PROPOSED BUILDING (BUILDING G), CONSISTING OF UP TO 160,000 SQUARE FEET OF GROSS FLOOR AREA, MAY BE USED FOR A PUBLIC USE AND RELATED ACCESSORY SERVICES USES AS DESCRIBED IN THE PROFFERS.

   IF BUILDING G IS NOT USED FOR A MID-COUNTY COMMUNITY SERVICES CENTER, IT IS TO BE UNDERSTOOD BUILDING G MAY BE USED FOR THE SAME USES AS IDENTIFIED ABOVE FOR BUILDING F, H, I, AND J.

   IT IS TO BE NOTED THERE WILL BE NO ASSISTED LIVING FACILITY AND THERE WILL BE NO INCREASE IN THE CURRENTLY APPROVED GROSS FLOOR AREA (GFA) FOR THE SUBJECT PARCEL. THE COMBINED TOTAL GFA WILL REMAIN AT 487,804 SQUARE FEET.

   AS REPRESENTED ON SHEETS 3 AND 4, THERE ARE THREE (3) OPTIONAL DEVELOPMENT PROGRAMS PROPOSED FOR THE NORTH-BRIN LANDBAY OF THE SUBJECT PROPERTY, AND THERE ARE TWO (2) OPTIONAL DEVELOPMENT PROGRAMS PROPOSED FOR THE SOUTHERN LANDBAY. EACH OPTIONAL DEVELOPMENT PROGRAM WILL BE LIMITED TO THE TOTAL 487,804 SQUARE FEET OF GROSS FLOOR AREA. IT IS TO BE UNDERSTOOD THAT THE OPTION 4 DEVELOPMENT PROGRAM COULD BE DEVELOPED WITH EITHER OF THE OPTION 1, 2, OR 3 DEVELOPMENT PROGRAMS FOR THE NORTHERN LANDBAY.

   LASTLY, THE APPLICANT RESERVES THE RIGHT TO RELOCATE ABOVE GRADE PARKING SHOWN ON THE GDPA TO A BUILDSURFACE LOCATION PROVIDED THAT THE BUILDING HEIGHTS AND FOOTPRINTS OF BUILDINGS F, G, H, I AND J REMAIN IN SUBSTANTIAL CONFORMANCE WITH THOSE REPRESENTED ON THE GDPA.
3. THE GDPA GRAPHIC FOR THE REMAINDER OF THE WILLOW OAKS CORPORATE CENTER LAND AREA THAT WAS ORIGINALLY APPROVED WITH RZ 87-P-038 IS A REPRESENTATION OF THE CURRENTLY APPROVED DEVELOPMENT PLANS FOR THE REMAINDER OF THE WILLOW OAKS CORPORATE CENTER SITE. THERE IS NO CHANGE PROPOSED FOR THE REMAINDER OF THE SITE.
4. AS NOTED ABOVE, THE PRINCIPAL USE OF BUILDINGS F, H, I AND J AS REPRESENTED ON THE GRAPHIC WILL BE OFFICE/MEDICAL OFFICE/EDUCATIONAL/CANCER CENTER. AND THE PRINCIPAL USE OF BUILDING G MAY BE EITHER ONE OR A COMBINATION OF THESE USES OR PUBLIC USE. IT IS TO BE UNDERSTOOD THAT ACCESSORY SERVICE USES AS PRESCRIBED BY THE PROVISIONS SET FORTH IN PART 2 OF ARTICLE 10 OF THE ZONING ORDINANCE MAY ALSO BE ESTABLISHED IN THE PROPOSED BUILDINGS, AND THAT SPECIAL EXCEPTION AND SPECIAL PERMIT USES ALLOWED IN THE C-3 DISTRICT MAY ALSO BE ESTABLISHED SUBJECT TO APPROPRIATE APPROVALS WITHOUT THE NECESSITY OF FILING FOR A RELATED PROFFERED CONDITION AMENDMENT.
5. THE BOUNDARY INFORMATION SHOWN ON THE GRAPHIC FOR THE LIMITED AREA OF THE GDPA IS FROM A SURVEY PREPARED BY DEWBERRY AND DAVIS.
6. THE TOPOGRAPHIC INFORMATION SHOWN ON THE GRAPHIC FOR THE LIMITED AREA OF THE GDPA IS AT A CONTOUR INTERVAL OF TWO (2) FEET FROM BOTH AERIAL AND FIELD SURVEY.
7. TO THE BEST OF OUR KNOWLEDGE, WITHIN THE AREA OF THE PARTIAL GDPA, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY-FIVE (25) FEET OR MORE OR NO MAJOR UNDERGROUND UTILITY EASEMENTS REGARDLESS OF WIDTH.

   IT IS TO BE NOTED THERE IS A TEMPORARY CONSERVATION EASEMENT THAT HAS BEEN RECORDED ON THE SUBJECT PROPERTY FOR THE PURPOSE OF PROVIDING AN INTERIM BEST MANAGEMENT PRACTICE (BMP) FOR THE ADJACENT LIFE WITH CANCER DEVELOPMENT PROGRAM TO THE WEST. THIS CONSERVATION EASEMENT WILL BE VACATED WITH THE APPROVAL OF THE COUNTY WHEN IT CAN BE DEMONSTRATED THAT THE BMP REQUIREMENT IS OTHERWISE ACCOMMODATED.
8. THE SUBJECT PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.
9. THE MINIMUM YARD REQUIREMENTS SET FORTH IN THE ZONING ORDINANCE FOR THE C-3 DISTRICT ARE AS FOLLOWS (IT IS TO BE NOTED THAT THERE IS NO MINIMUM YARD REQUIREMENT ADJACENT TO THE PROPOSED CONNECTOR TRAVELWAY):

   FRONT YARD: CONTROLLED BY A 25° ANGLE OF BULK PLANE, BUT NOT LESS THAN 40 FEET
   SIDE YARD: NO REQUIREMENT
   REAR YARD: CONTROLLED BY A 25° ANGLE OF BULK PLANE, BUT NOT LESS THAN 25 FEET.
10. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.
11. THERE IS NO FLOODPLAIN DESIGNATED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY OR UNITED STATES GEOLOGICAL SURVEY LOCATED ON THE SUBJECT PROPERTY. FAIRFAX COUNTY DOES DESIGNATE A MINOR FLOODPLAIN AND RESOURCE PROTECTION AREA (RPA) ON THE SUBJECT PROPERTY IN THE LOCATION OF THE PROPOSED SWAMP POND (SEE NOTE 17). A WATER QUALITY IMPACT ASSESSMENT WILL BE FILED AT SITE PLAN TO ADDRESS PROPOSED IMPROVEMENTS IN THE RPA. IN ADDITION, A FLOODPLAIN STUDY WILL BE FILED AT SITE PLAN TO ADDRESS THE PROPOSED IMPROVEMENTS IN THE MINOR FLOODPLAIN.

    IT IS TO BE NOTED THAT THE RPA REPRESENTED ON THE GRAPHIC IS THE FIELD VERIFIED RPA. IT IS BASED ON AN RPA DELINEATION STUDY BEING PREPARED AND PROCESSED UNDER SEPARATE COVER.
12. OTHER THAN THE EXISTING VEGETATION, THERE ARE NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION OR PRESERVATION ON THE SUBJECT PROPERTY.
13. THERE ARE NO EXISTING BUILDINGS LOCATED IN THE AREA OF THE PARTIAL GDPA (SUBJECT PROPERTY). THERE ARE FIVE (5) EXISTING BUILDINGS IN THE REMAINING AREA OF THE WILLOW OAKS CORPORATE CENTER THAT IS OUTSIDE THE LIMITS OF THE PARTIAL GDPA. THEY ARE BUILDINGS A, B, C, D AND E. THEY WERE CONSTRUCTED IN 2001, 1984, 1988, 1998 AND 1998, RESPECTIVELY. THEY WILL BE RETAINED.
14. A STATEMENT CONFIRMING THE OWNERSHIP OF THE SUBJECT PROPERTY AND THE APPLICANT'S INTEREST IN SAME IS PROVIDED IN A SEPARATE DOCUMENT.
15. THE SUBJECT PROPERTY IS LOCATED IN SUB-UNIT L5 OF THE MERRIFIELD SUBURBAN CENTER COMPONENT OF THE FAIRFAX COUNTY COMPREHENSIVE PLAN. THE PROPOSED DEVELOPMENT PROGRAM IS IN ACCORDANCE WITH THE LAND USE RECOMMENDATIONS SET FORTH FOR SUB-UNIT L5. AS SUCH, THERE SHOULD BE NO ADVERSE EFFECTS ON ADJACENT OR NEIGHBORING PROPERTIES FROM THE PROPOSED DEVELOPMENT PROGRAM.
16. TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED USE(S) WILL NOT GENERATE, UTILIZE, STORE, TREAT OR DISPOSE OF HAZARDOUS AND TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4 AND 355; HAZARDOUS WASTE AS SET FORTH IN VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND/OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING, HOWEVER, ANY SUCH SUBSTANCE THAT MAY BE UTILIZED, STORED AND/OR DISPOSED OF IN CONJUNCTION WITH THE USE(S) AND THE MAINTENANCE OF THE PROPOSED BUILDINGS AND GROUNDS WILL BE IN ACCORDANCE WITH SAID REGULATIONS.
17. STORMWATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICES (BMPS) FOR THE PROPOSED DEVELOPMENT PROGRAM WILL BE PROVIDED IN THE PROPOSED WILLOW OAKS SWAMP POND LOCATED IN PART ON THE SOUTHERN EDGE OF THE SUBJECT PROPERTY. THE SWAMP POND WILL BE THE SUBJECT OF A MAJOR DEVELOPMENT PROGRAM. A MORE DETAILED STATEMENT AND ANALYSIS OF THE SWAMP PLAN IS PRESENTED ON SHEETS 10 THROUGH 18.

    THE APPLICANT WILL INSTALL FAIRFAX COUNTY ACCEPTED LOW IMPACT DEVELOPMENT (LID) FACILITIES ON THE APPLICATION PROPERTY IN AT LEAST ONE OF THE POSSIBLE LOCATIONS AS REPRESENTED ON THE GRAPHIC. THE LID FACILITIES (PERVIOUS PAVEMENT OR OTHER) WILL TREAT A TOTAL OF 20,000 SQUARE FEET OF IMPERVIOUS SURFACE AND WILL HAVE A MINIMUM PHOSPHORUS REMOVAL EFFICIENCY OF 49 PERCENT. THE LID FACILITIES WILL BE DESIGNED IN ACCORDANCE WITH THE PFM. THESE LID FACILITIES ARE INTENDED AS DEMONSTRATION FACILITIES AND WILL NOT FACTOR INTO THE REQUISITE CALCULATIONS FOR STORMWATER MANAGEMENT AND BMPS.
18. PARKING AND LOADING SPACES WILL BE PROVIDED ON SITE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS IN THE ZONING ORDINANCE.

    IT IS TO BE UNDERSTOOD THAT THE TOTAL NUMBER OF PARKING SPACES PROVIDED MAY BE ADJUSTED IN ACCORDANCE WITH THE FINAL DEVELOPMENT PROGRAM AS LONG AS THE MINIMUM NUMBER OF PARKING SPACES PROVIDED IS IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 11 OF THE ZONING ORDINANCE AND THE OPEN SPACE PROVIDED AS SET FORTH IN THE TABULATION AND THE MINIMUM DIMENSIONS TO THE PERIPHERAL LOT LINES ARE NOT DIMINISHED.

    IT IS TO BE FURTHER UNDERSTOOD THAT, IN ACCORDANCE WITH THE PROVISION SET FORTH IN PAR 1 OF SECT. 11-102 OF THE ZONING ORDINANCE, EIGHT (8) PARKING SPACES WILL BE PROVIDED ON THE SUBJECT PROPERTY TO SERVE THE EXISTING OFFICE BUILDING LOCATED ON PARCEL 49-3 301 128.

    GIVEN THAT THE PROPOSED NUMBER OF PARKING SPACES ON THE SITE EXCEEDS THE NUMBER OF SPACES REQUIRED BY THE PROVISIONS OF THE ZONING ORDINANCE, THE APPLICANT RESERVES THE RIGHT TO REDUCE THE NUMBER OF PARKING SPACES ON THE SITE WITHOUT A PCA OR ADMINISTRATIVE INTERPRETATION TO ALLOW FOR MINOR ENGINEERING ISSUES SUCH AS, BUT NOT LIMITED TO, RESTRIPING PARKING LOTS, STORAGE, CONSTRUCTION EQUIPMENT/TRAILERS, INTERIM STORMWATER MANAGEMENT PONDS, ETC. IN NO EVENT, HOWEVER, WILL THE TOTAL NUMBER OF PARKING SPACES ON THE ENTIRE SITE BE REDUCED BELOW THAT REQUIRED BY THE PROVISIONS OF THE ZONING ORDINANCE. FURTHERMORE, IT IS TO BE UNDERSTOOD THAT THE NUMBER OF PARKING SPACES MAY BE REDUCED IN NUMBER TO ACCOMMODATE FUTURE EXPANSION/ADDITIONS TO THE BUILDINGS, AS MAY BE APPROVED WITH FUTURE PCA APPLICATIONS, AS LONG AS IT CAN BE DEMONSTRATED THAT ADEQUATE PARKING IS PROVIDED.

    EXPERIENCE HAS INDICATED THAT THE LOADING SPACE REQUIREMENT SET FORTH IN ARTICLE 11 OF THE ZONING ORDINANCE IS EXCESSIVE FOR OFFICE USES. GIVEN THIS EXPERIENCE FACTOR, A REQUEST IS HEREBY MADE TO MODIFY THE REQUIREMENTS TO PROVIDE A MAXIMUM OF THREE (3) LOADING SPACES FOR EACH BUILDING ON EACH OF THE OPTIONAL DEVELOPMENT PROGRAMS.
19. IT IS TO BE UNDERSTOOD THAT THE PROPOSED PARKING GARAGE AND BUILDING SITES REPRESENTED ON THE GRAPHIC MAY BE USED AS INTERIM SURFACE PARKING LOTS TO SERVE THE PROPOSED USES ON THE SITE AND FOR CONSTRUCTION ON THE ADJACENT INOVA FAIRFAX HOSPITAL CAMPUS SITE.
20. LANDSCAPING AND SCREENING WILL BE PROVIDED IN ACCORDANCE WITH THAT REPRESENTED ON THE GRAPHIC, IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ARTICLE 13 OF THE ZONING ORDINANCE, IN ACCORDANCE WITH CHAPTER 122, TREE CONSERVATION ORDINANCE, AND IN ACCORDANCE WITH THE STREETSCAPE GUIDELINES THAT ARE SET FORTH IN THE MERRIFIELD SUBURBAN CENTER COMPONENT OF THE COMPREHENSIVE PLAN. THE INTERIOR PARKING LOT LANDSCAPING, PERIPHERAL PARKING LOT LANDSCAPING, TRANSITIONAL SCREENING AND TREE COVER CALCULATIONS THAT ARE PRESCRIBED BY THE PROVISIONS OF CHAPTER 122 AND ARTICLE 13 OF THE ZONING ORDINANCE WILL BE PROVIDED WITH THE SUBMISSION OF THE SITE PLAN(S) FOR THE SUBJECT DEVELOPMENT PROGRAM.

    THE LANDSCAPING REPRESENTED ON THE GRAPHIC IS ILLUSTRATIVE ONLY AND REPRESENTS THE LEVEL OF QUANTITY AND QUALITY OF LANDSCAPING THAT IS PROPOSED. THE ACTUAL LOCATION, LAYOUT, TYPE AND AMOUNT OF LANDSCAPE MATERIAL WILL BE DETERMINED PURSUANT TO MORE DETAILED LANDSCAPE PLANS TO BE PREPARED AND SUBMITTED IN CONJUNCTION WITH THE SITE PLAN(S). AS IDENTIFIED ON SHEETS 2, 3, AND 4, THERE IS A SECTION ALONG THE NORTH SIDE OF THE PROPOSED WILLOW OAKS CORPORATE DRIVE WHERE THE PROPOSED STREETSCAPE MAY BE SUBJECT TO ADJUSTMENT IN ORDER TO SATISFY ADEQUATE SIGHT DISTANCE STANDARDS. ANY NEEDED ADJUSTMENT WILL BE ADDRESSED AT TIME OF SITE PLAN WHEN MORE DETAILED INFORMATION IS AVAILABLE.

    IN ACCORDANCE WITH THE PRIOR APPROVALS, IN THAT AREA OF WILLOW OAKS CORPORATE CENTER THAT IS OUTSIDE OF THE SUBJECT PARTIAL GDPA, A WAIVER OF THE TRANSITIONAL SCREENING YARD AND BARRIER THAT IS REQUIRED ALONG THAT SECTION OF THE SOUTHERN PROPERTY LINE EAST OF BUILDING D WHERE WILLOW OAKS CORPORATE DRIVE IS ADJACENT AND PARALLEL TO THE SOUTHERN PROPERTY BOUNDARY IS REAFFIRMED.

    TO THE WEST OF BUILDING G, WITHIN THE AREA OF THE PARTIAL GDPA, THERE IS A TRANSITIONAL SCREENING YARD 2 AND BARRIER REQUIRED ALONG THE SOUTHERN PROPERTY LINE. GIVEN THE EXISTING AND PROPOSED UTILITY EASEMENTS IN THE VICINITY OF THIS PROPERTY LINE, REQUEST IS HEREBY MADE FOR A MODIFICATION OF THE TRANSITIONAL SCREENING YARD 2 PLANTING SCHEDULE TO ALLOW THE REQUISITE NUMBER OF PLANT MATERIAL TO BE LOCATED OUTSIDE OF THE EXISTING/PROPOSED UTILITY EASEMENT(S).

    THERE ARE NO TRANSITIONAL SCREENING OR BARRIER REQUIREMENTS FOR THE WESTERN, NORTHERN OR EASTERN BOUNDARIES OF THE SUBJECT PROPERTY.

    PRELIMINARY CALCULATIONS SUGGEST THAT IT MAY NOT BE POSSIBLE TO SATISFY THE PRESCRIBED TREE PRESERVATION TARGET COMPONENT OF THE TREE CANOPY REQUIREMENT SET FORTH IN CHAPTER 122 OF THE CODE WITH THE PROPOSED DEVELOPMENT PROGRAM. A DEVIATION FROM THE TREE PRESERVATION TARGET MAY BE REQUESTED FROM THE DIRECTOR OF DPWES AT TIME OF SITE PLAN IN ACCORDANCE WITH THE PROVISION SET FORTH IN SECT. 122-2-3 OF CHAPTER 122.
21. A WAIVER OF THE SERVICE DRIVE ALONG THE FRONTAGE OF ROUTE 50 IS HEREBY REQUESTED PURSUANT TO THE PREVIOUS APPROVAL OF SUCH WAIVER.
22. THE FAIRFAX COUNTY COUNTRYWIDE TRAILS PLAN RECOMMENDS A MINOR PAVED TRAIL ON THE SOUTH SIDE OF ARLINGTON BOULEVARD, ROUTE 50. SUCH A TRAIL WOULD TRAVERSE THE NORTHERN EDGE OF THE SUBJECT PROPERTY. IT IS THE ONLY TRAIL RECOMMENDED WITHIN THE IMMEDIATE VICINITY OF THE SUBJECT PROPERTY.
23. IN ACCORDANCE WITH PRIOR APPROVALS, THE FLOOR AREA RATIO FOR THE TOTAL WILLOW OAKS CORPORATE PARK IS BASED ON THE ORIGINAL LAND AREA OF 38.21± ACRES. THE FLOOR AREA RATIO RELATED TO ALL FUTURE DEDICATIONS IS RESERVED FOR DEVELOPMENT OF THE SUBJECT PROPERTY IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN PAR. 4 OF SECT. 2-308 OF THE ZONING ORDINANCE.
24. THE FLOOR AREAS REPRESENTED IN THE TABULATION ARE GROSS FLOOR AREAS AS DEFINED IN THE FAIRFAX COUNTY ZONING ORDINANCE. IT IS UNDERSTOOD THAT THE BUILDINGS MAY HAVE CELLAR SPACES WHICH SPACES WILL BE CALCULATED FOR OFF-STREET PARKING REQUIREMENTS IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN PAR. 25 OF SECT. 11-102 OF THE ZONING ORDINANCE.
25. THE PROPOSED DEVELOPMENT PROGRAM WILL OCCUR IN PHASES WITH NO CURRENTLY ESTABLISHED BEGINNING OR ENDING DATES. AS NOTED ABOVE, IT IS TO BE UNDERSTOOD THAT DURING THE PHASED CONSTRUCTION, PROPOSED PARKING GARAGE AND BUILDING SITES MAY BE USED FOR INTERIM SURFACE PARKING AREAS FOR THE ADJACENT USES/BUILDINGS ON SITE AND FOR CONSTRUCTION ON THE ADJACENT INOVA FAIRFAX HOSPITAL CAMPUS SITE.
26. THE FOOTPRINTS OF THE BUILDING SHOWN ON THE GRAPHIC MAY BE INCREASED UP TO FIVE (5) PERCENT AS LONG AS THE OPEN SPACE PRESENTED IN THE TABULATION AND THE MINIMUM DISTANCES TO THE PERIPHERAL LOT LINES AS PRESENTED ON THE GRAPHIC ARE NOT DIMINISHED AND AS LONG AS THE RESULTANT PROPOSED DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THAT REPRESENTED ON THE GRAPHIC. THE SIZES AND SHAPES AND LOCATIONS OF THE PROPOSED BUILDINGS, STRUCTURES AND IMPROVEMENTS ARE PRELIMINARY AND SUBJECT TO MINOR MODIFICATION WITH FINAL ENGINEERING AND ARCHITECTURAL DESIGN IN ACCORDANCE WITH THE PROVISION SET FORTH IN SECT. 18-204 OF THE ZONING ORDINANCE.

    THE TOTAL GROSS FLOOR AREA AND MAXIMUM BUILDING HEIGHTS PRESENTED IN THE TABULATION ARE TO BE CONSIDERED MAXIMUM AND THE DIMENSIONS TO THE PERIPHERAL LOT LINES PRESENTED ON THE GRAPHIC ARE TO BE DEEMED MINIMUMS WITH THE UNDERSTANDING THAT ALL DIMENSIONS SHOWN ON THE GRAPHIC AND IN THE TABULATION ARE SUBJECT TO MINOR MODIFICATION IN ACCORDANCE WITH THE PROVISION SET FORTH IN SECT. 18-204 OF THE ZONING ORDINANCE. THE FLOOR AREAS OF THE INDIVIDUAL BUILDINGS AS PRESENTED IN THE TABULATION MAY VARY WITH FINAL ARCHITECTURAL DESIGN. HOWEVER, THE TOTAL COMBINED GROSS FLOOR AREA AS PRESENTED IN THE TABULATION WILL NOT BE EXCEEDED. GROSS FLOOR AREAS AND MAXIMUM BUILDING HEIGHTS WILL BE CALCULATED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS IN THE ZONING ORDINANCE.

    LASTLY, THE APPLICANT RESERVES THE RIGHT TO SHIFT GROSS FLOOR AREA THAT IS REPRESENTED ON THE TABULATION FROM ONE BUILDING TO ANOTHER WITH THE UNDERSTANDING THAT THE RESULTANT BUILDING FOOTPRINTS WILL BE IN SUBSTANTIAL CONFORMANCE WITH THE FOOTPRINTS REPRESENTED ON THE GRAPHIC AND THE MAXIMUM TOTAL GROSS FLOOR AREA REPRESENTED IN THE TABULATION WILL NOT BE EXCEEDED.
27. IS TO BE UNDERSTOOD THAT ADDITIONAL SITE FEATURES SUCH AS GAZEBOS, TRELLISES, SIGNS, FLAGPOLES, SIDEWALKS/TRAILS, LIGHT STANDARDS, PASSIVE AND ACTIVE RECREATIONS FACILITIES, WALLS, FENCES, AND/OR UTILITY AND/OR MAINTENANCE STRUCTURES NOT REPRESENTED ON THE GRAPHIC MAY BE PROVIDED AS LONG AS THE RESULTANT PROPOSED DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THAT REPRESENTED ON THE GRAPHIC.

    ALL SIGNS WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 12 OF THE ZONING ORDINANCE AND IN ACCORDANCE WITH PRIOR APPROVALS. IT IS ALSO UNDERSTOOD THAT MOBILE AND LAND BASED TELECOMMUNICATION FACILITIES MAY BE PROVIDED ON SITE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 2-514 OF THE ZONING ORDINANCE.
28. TO THE BEST OF OUR KNOWLEDGE, EXCEPT AS QUALIFIED ABOVE, THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS AND ADOPTED STANDARDS.

TABULATION FOR AREA OF PARTIAL GDPA OPTION 1

EXISTING/PROPOSED ZONING	C-3
LAND AREA OF PARTIAL GDPA	16.14 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	487,804 SF
BUILDING F	88,804± SF
BUILDING G	160,000± SF
BUILDING H, I, J	238,000± SF
PROPOSED FLOOR AREA RATIO (FAR)	0.69
MAXIMUM HEIGHT OF BUILDINGS	
BUILDING F	4 STORIES ..... 60 FT
BUILDING G	4 STORIES ..... 50 FT
BUILDING H, I, J	8 STORIES ..... 90 FT
PARKING SPACES REQUIRED	1297*
BUILDING F	@ 3.0 SPACES / 1000 SF GFA = 210
BUILDING G	@ 2.6 SPACES / 1000 SF GFA = 416
BUILDING H, I, J	@ 2.6 SPACES / 1000 SF GFA = 671
PARKING SPACES PROPOSED	2430
PARKING GARAGE A 6 LEVELS	1,280
PARKING GARAGE B 6 LEVELS	1150
OPEN SPACE REQUIRED (10% OF NET LAND AREA)	2.20 AC
OPEN SPACE PROPOSED (43% OF NET LAND AREA)	6.42 AC

* PLUS SPACES FOR USES IN CELLAR. SEE NOTE 24.

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703 849 0100
FAX: 703 849 0518
www.dewberry.com

INOVA WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CHARLES CULLEDGE
No. 20312
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
EDMUND J. BERGIN
No. 20317
4/27/11
PROFESSIONAL ENGINEER

SCALE

0' 50' 100'

No.	DATE	BY	Description
10	08.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY: JMC
APPROVED BY:
CHECKED BY: PGY
DATE: April 14, 2008

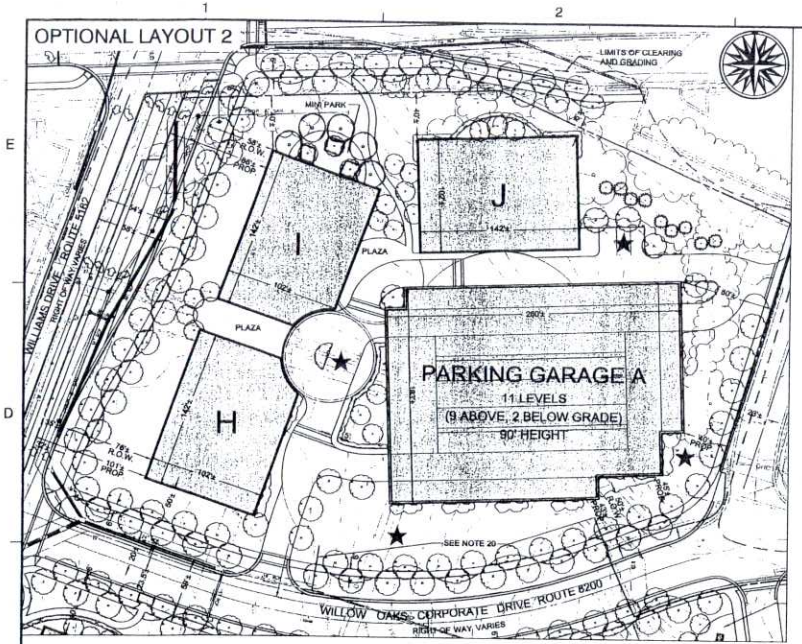
TITLE
Inova
Willow Oaks
Partial Generalized Development Plan Amendment

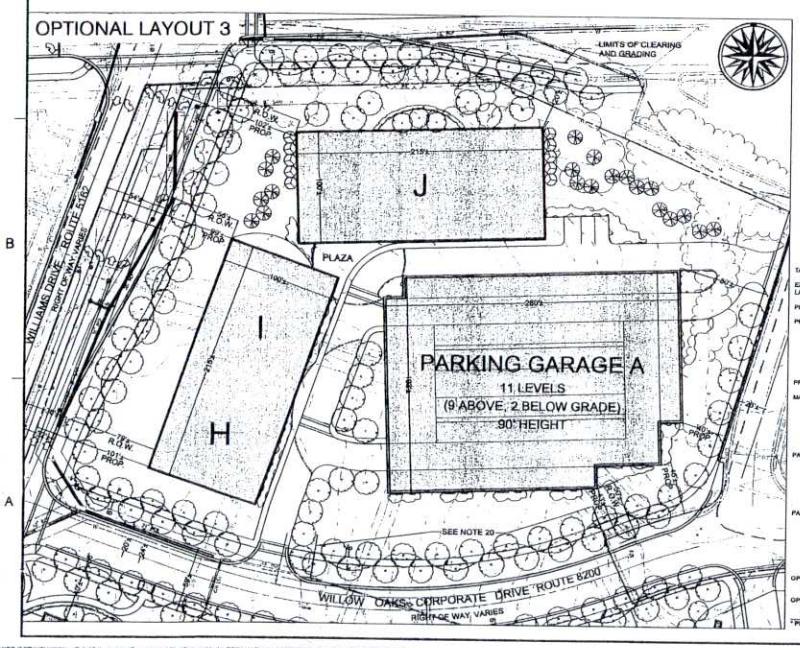
PROJECT NO.

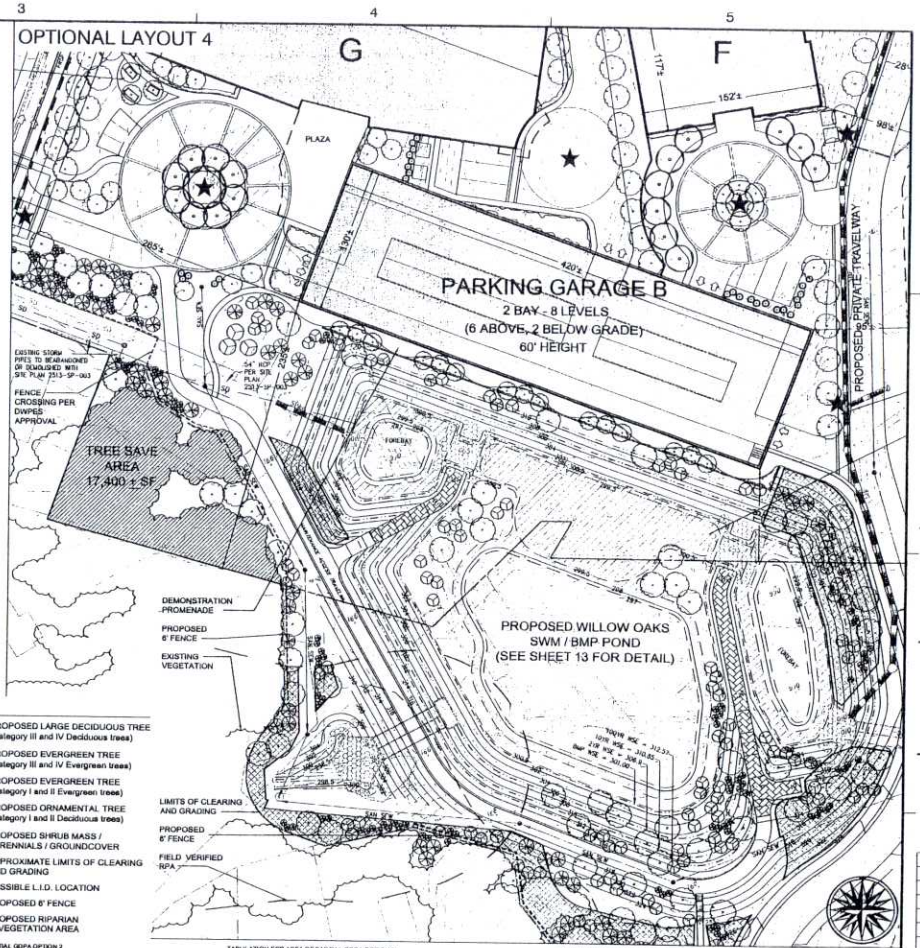
3

SHEET NO. 3 OF 20

M-10690







Legend

- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
- PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
- PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
- PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
- PROPOSED SHRUB MASS / PERENNIALS / GROUNDCOVER
- APPROXIMATE LIMITS OF CLEARING AND GRADING
- POSSIBLE L.I.D. LOCATION
- PROPOSED 6' FENCE
- PROPOSED RIPARIAN REVEGETATION AREA

TABULATION FOR AREA OF PARTIAL GDPA OPTION 2

EXISTING/PROPOSED ZONING	C-3
LAND AREA OF PARTIAL GDPA	16.14 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	487,804+SF
BUILDING F	89,804± SF
BUILDING G	160,000± SF
BUILDING H	86,000± SF
BUILDING I	86,000 ± SF
BUILDING J	86,000 ± SF
PROPOSED FLOOR AREA RATIO (FAR)	0.69
MAXIMUM HEIGHT OF BUILDINGS	
BUILDING F	4 STORIES ..... 50 FT
BUILDING G	4 STORIES ..... 50 FT
BUILDING H	7 STORIES ..... 90 FT
BUILDING I	7 STORIES ..... 90 FT
BUILDING J	7 STORIES ..... 90 FT
PARKING SPACES REQUIRED	1400*
BUILDING F	@ 3.0 SPACES / 1000 SF GFA = 210
BUILDING G	@ 2.6 SPACES / 1000 SF GFA = 416
BUILDING H	@ 3.0 SPACES / 1000 SF GFA = 258
BUILDING I	@ 3.0 SPACES / 1000 SF GFA = 258
BUILDING J	@ 3.0 SPACES / 1000 SF GFA = 258
PARKING SPACES PROPOSED	2650
PARKING GARAGE A	1500
9 LEVELS ABOVE GRADE	
2 LEVELS BELOW GRADE = TOTAL 11 LEVELS	
PARKING GARAGE B	1150
8 LEVELS	
OPEN SPACE REQUIRED (15% OF NET LAND AREA)	2.30 AC
OPEN SPACE PROPOSED (48% OF NET LAND AREA)	8.77 AC

* PLUS SPACES FOR USES IN CELLAR. SEE NOTE 24.

TABULATION FOR AREA OF PARTIAL GDPA OPTION 3

EXISTING/PROPOSED ZONING	C-3
LAND AREA OF PARTIAL GDPA	16.14 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	487,804+SF
BUILDING F	89,804± SF
BUILDING G	160,000± SF
BUILDING H & I	120,000± SF
BUILDING J	129,000± SF
PROPOSED FLOOR AREA RATIO (FAR)	0.69
MAXIMUM HEIGHT OF BUILDINGS	
BUILDING F	4 STORIES ..... 50 FT
BUILDING G	4 STORIES ..... 50 FT
BUILDING H & I	6 STORIES ..... 90 FT
BUILDING J	6 STORIES ..... 90 FT
PARKING SPACES REQUIRED	1298*
BUILDING F	@ 3.0 SPACES / 1000 SF GFA = 210
BUILDING G	@ 2.6 SPACES / 1000 SF GFA = 416
BUILDING H & I	@ 2.6 SPACES / 1000 SF GFA = 358
BUILDING J	@ 2.6 SPACES / 1000 SF GFA = 336
PARKING SPACES PROPOSED	2650
PARKING GARAGE A	1500
9 LEVELS ABOVE GRADE	
2 LEVELS BELOW GRADE = TOTAL 11 LEVELS	
PARKING GARAGE B	1150
6 LEVELS	
OPEN SPACE REQUIRED (15% OF NET LAND AREA)	2.30 AC
OPEN SPACE PROPOSED (49% OF NET LAND AREA)	8.79 AC

* PLUS SPACES FOR USES IN CELLAR. SEE NOTE 24.

TABULATION FOR AREA OF PARTIAL GDPA OPTION 4

EXISTING/PROPOSED ZONING	C-3
LAND AREA OF PARTIAL GDPA	16.14 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	487,804+SF
BUILDING F	89,804± SF
BUILDING G	160,000± SF
BUILDING H	86,000± SF
BUILDING I	86,000± SF
BUILDING J	86,000± SF
PROPOSED FLOOR AREA RATIO (FAR)	0.69
MAXIMUM HEIGHT OF BUILDINGS	
BUILDING F	4 STORIES ..... 50 FT
BUILDING G	4 STORIES ..... 50 FT
BUILDING H	6 STORIES ..... 90 FT
BUILDING I	6 STORIES ..... 90 FT
BUILDING J	6 STORIES ..... 90 FT
PARKING SPACES REQUIRED	1400*
BUILDING F	@ 3.0 SPACES / 1000 SF GFA = 210
BUILDING G	@ 2.6 SPACES / 1000 SF GFA = 416
BUILDING H	@ 3.0 SPACES / 1000 SF GFA = 258
BUILDING I	@ 3.0 SPACES / 1000 SF GFA = 258
BUILDING J	@ 3.0 SPACES / 1000 SF GFA = 258
PARKING SPACES PROPOSED	2650
PARKING GARAGE A (OPTION 2)	1500
9 LEVELS ABOVE GRADE	
2 LEVELS BELOW GRADE = TOTAL 11 LEVELS	
PARKING GARAGE B	1150
8 LEVELS ABOVE GRADE	
2 LEVELS BELOW GRADE = TOTAL 8 LEVELS	
OPEN SPACE REQUIRED (15% OF NET LAND AREA)	2.30 AC
OPEN SPACE PROPOSED (50% OF NET LAND AREA)	7.34 AC

* PLUS SPACES FOR USES IN CELLAR. SEE NOTE 24.

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0519
www.dewberry.com

INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
TIMOTHY CHARLES COLLISON
Lic. No. 70117
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
EDMOND J. YOM/CIO
Lic. No. 33579
4/27/11
PROFESSIONAL ENGINEER

SCALE

0' 50' 100'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development Plan Amendment
Optional Layouts

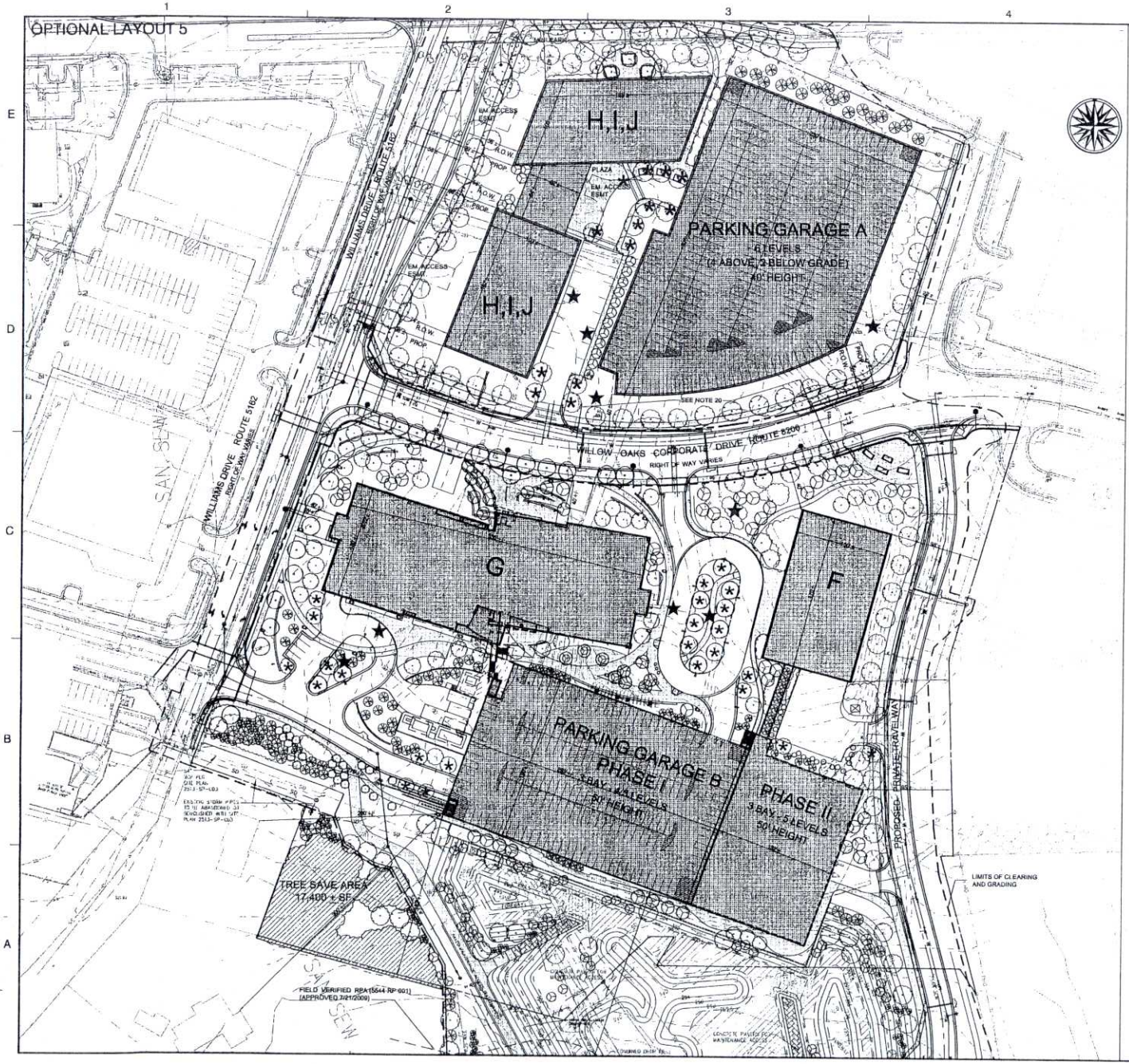
PROJECT NO.

4

SHEET NO. 4 OF 20

M-10690

OPTIONAL LAYOUT 5



Legend

- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
- PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
- PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
- PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
- PROPOSED SHRUB MASS / PERENNIALS / GROUNDCOVER
- APPROXIMATE LIMITS OF CLEARING AND GRADING
- POSSIBLE L.I.D. LOCATION
- PROPOSED 6' FENCE
- PROPOSED RIPARIAN REVEGETATION AREA

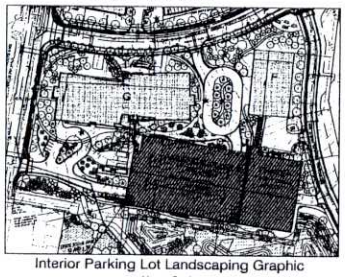
NOTES:

1. IN ADDITION TO THE INFORMATION PROVIDED IN NOTE 1 ON SHEET 3, IT IS HEREBY NOTED THAT A FOURTH PCA TO RZ 87-P-038 WAS APPROVED ON JULY 13, 2009. THE PURPOSE OF THIS FIFTH PCA IS TO PROVIDE FOR AN ADDITIONAL "OPTIONAL LAYOUT 5" AS SHOWN ON NEW SHEETS 4A AND 4B. ACCORDINGLY, NOTWITHSTANDING PAR. 8 OF NOTE 2 ON SHEET 3, THERE ARE NOW THREE (3) OPTIONAL DEVELOPMENT PROGRAMS PROPOSED FOR THE SOUTHERN LANDBAY. FURTHER, NOTWITHSTANDING THAT THE GDPA CALLS OUT "CONCRETE PAVERS" FOR THE POND MAINTENANCE ACCESS AREAS ON SHEETS 8 AND 10-14, THE GDPA IS HEREBY AMENDED TO ALLOW GRASS CRETE TO BE PROVIDED IN SUCH AREAS INSTEAD OF CONCRETE PAVERS. NO OTHER CHANGES TO THE GDPA APPROVED PURSUANT TO PCA-4 ARE PROPOSED.
2. AT TIME OF FINAL SITE PLAN ADJUSTMENTS TO THE PLANTINGS AS SHOWN SHALL BE MADE TO ENSURE THE MINIMUM WIDTH OF ANY PLANTING AREA IS 8' AND TREES ARE NOT PLANTED CLOSER THAN 4' TO ANY RESTRICTIVE BARRIER, UNLESS AN ACCEPTABLE ALTERNATE PLANTING PRACTICE IN CONFORMANCE WITH THE PFM IS USED. MINIMUM PLANTING AREAS SHALL BE PROVIDED IN ACCORDANCE WITH PFM SECTIONS 12-0510.4E(5) AND 12-0601.1B FOR ALL PLANTINGS ASSOCIATED WITH OPTIONAL LAYOUT 5, UNLESS AN ACCEPTABLE ALTERNATE PLANTING PRACTICE IN CONFORMANCE WITH THE PFM IS USED.
3. THE EMERGENCY ACCESS EASEMENTS SHOWN FOR BUILDINGS H, I & J ARE ALSO THE SAME FOR THE BASE BUILDING OPTION AS SHOWN ON SHEET 2 AS THE LAYOUT FOR H, I, J IS THE SAME.

Parking Lot Landscaping Tabulation - South of Willow Oaks Corporate Dr

PARKING LOT AREA ..... 78,260 SF±
PARKING LOT LANDSCAPING REQUIRED (5%) ..... 3,913 SF±
PARKING LOT LANDSCAPING PROPOSED (5.2%) ..... 4,200 SF±
(24 PROPOSED TREES @ AVG. 175 SF EA)

(*) TREE COUNTED TOWARD PARKING LOT LANDSCAPING REQUIREMENT



Interior Parking Lot Landscaping Graphic
Not to Scale

Area Counted Towards Interior Parking Lot

* Interior parking lot landscaping north of Willow Oaks Corporate Drive (Buildings H, I, J and Parking Garage A) is unchanged from the base option, see sheet 2 for calculations

TABULATION FOR AREA OF PARTIAL GDPA OPTION 5

EXISTING/PROPOSED ZONING C-3
LAND AREA OF PARTIAL GDPA ..... 16.14 AC

PROPOSED USE ..... OFFICE/EDUCATIONAL/PUBLIC

PROPOSED GROSS FLOOR AREA (GFA) ..... 487,844± SF

BUILDING F ..... 69,854 ± SF
BUILDING G ..... 168,990 ± SF
BUILDING H, I, J ..... 248,000± SF

PROPOSED FLOOR AREA RATIO (FAR) 0.69

MAXIMUM HEIGHT OF BUILDINGS

BUILDING F ..... 4 STORIES ..... 60 FT
BUILDING G ..... 4 STORIES ..... 60 FT
BUILDING H, I, J ..... 6 STORIES ..... 90 FT

PARKING SPACES REQUIRED 1297*

BUILDING F ..... @ 3.0 SPACES / 1000 SF GFA = 210
BUILDING G ..... @ 2.6 SPACES / 1000 SF GFA = 436
BUILDING H, I, J ..... @ 2.6 SPACES / 1000 SF GFA = 671

PARKING SPACES PROPOSED 2690

PARKING GARAGE A 1860

PARKING GARAGE B 1156
4/6 LEVELS

OPEN SPACE REQUIRED ..... 2.30 AC
(14% OF NET LAND AREA)

OPEN SPACE PROPOSED ..... 6.42 AC
(43% OF NET LAND AREA)

*PLUS SPACES FOR USES IN CELLAR. SEE NOTE 34

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0018
www.dewberry.com

VIKA

INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
EDMUND J. IGNACIO
Lic. No. 33579
4/27/11
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
0' 50' 100'

No.	DATE	BY	Description
12	04.27.11		
11	03.04.11		

REVISIONS

CRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE

Inova
Willow Oaks

Partial Generalized Development Plan Amendment
Optional Layouts

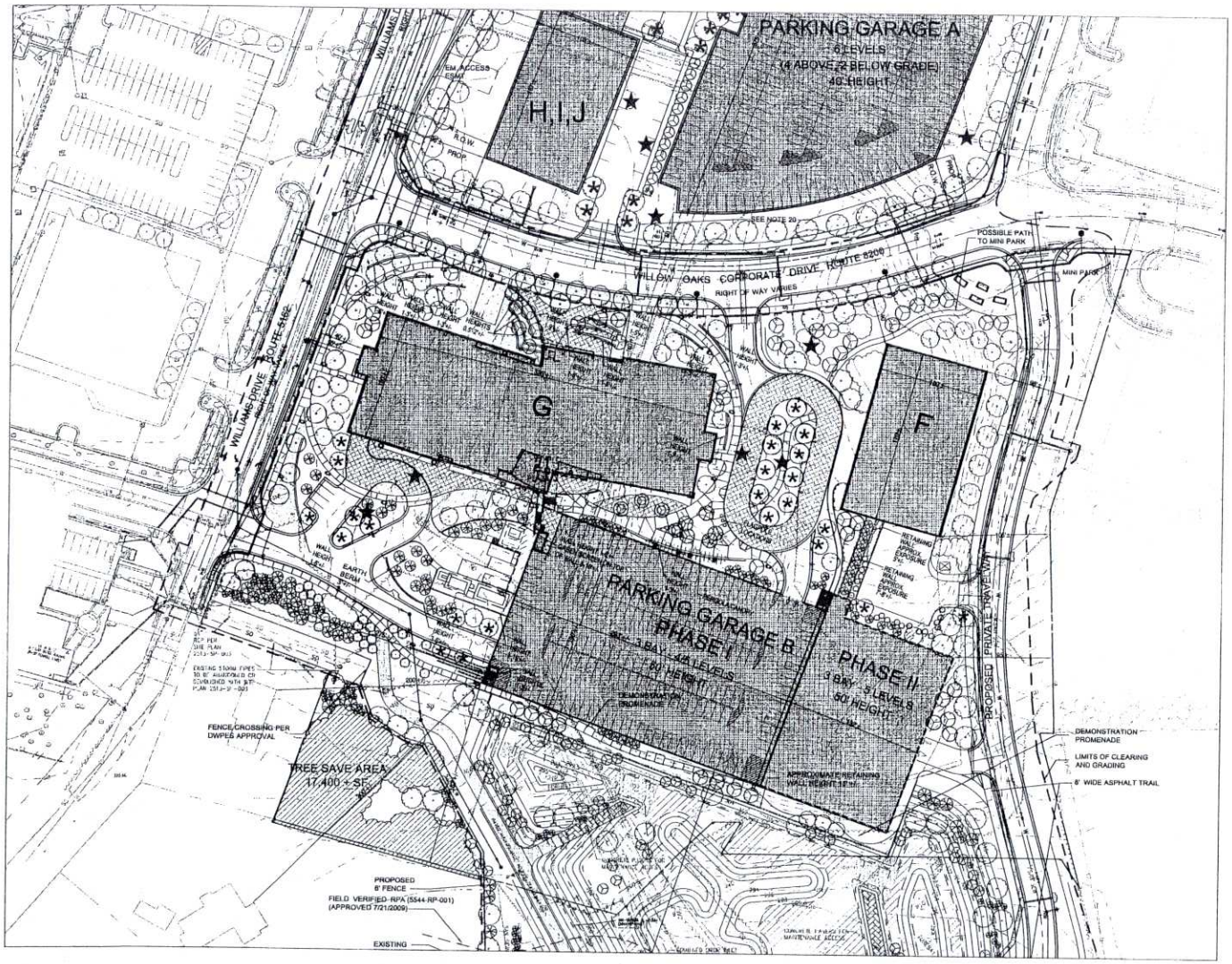
PROJECT NO

4A

SHEET NO. 4A OF 20

M-10690

OPTIONAL LAYOUT 5



Legend

- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
- PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
- PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
- PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
- PROPOSED SHRUB MASS / PERENNIALS / GROUNDCOVER
- PROPOSED SITE FURNITURE
- PROPOSED LAWN/SOD
- PROPOSED SPECIAL PAVING

NOTE:
THE DETAILS PROVIDED HEREON REPRESENT THE PROPOSED HARDSCAPE AND LANDSCAPE PLANS FOR THE INDIVIDUAL OPEN SPACE AREAS. MINOR DESIGN CHANGES MAY BE MADE WITH FINAL DESIGN AND ENGINEERING.

Dewberry

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FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
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INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
EDMUND J. IGNACIO
Lic. No. 33579
4/27/11
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
0' 50' 100'

No.	DATE	BY	Description
12	04.27.11		
11	03.04.11		

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

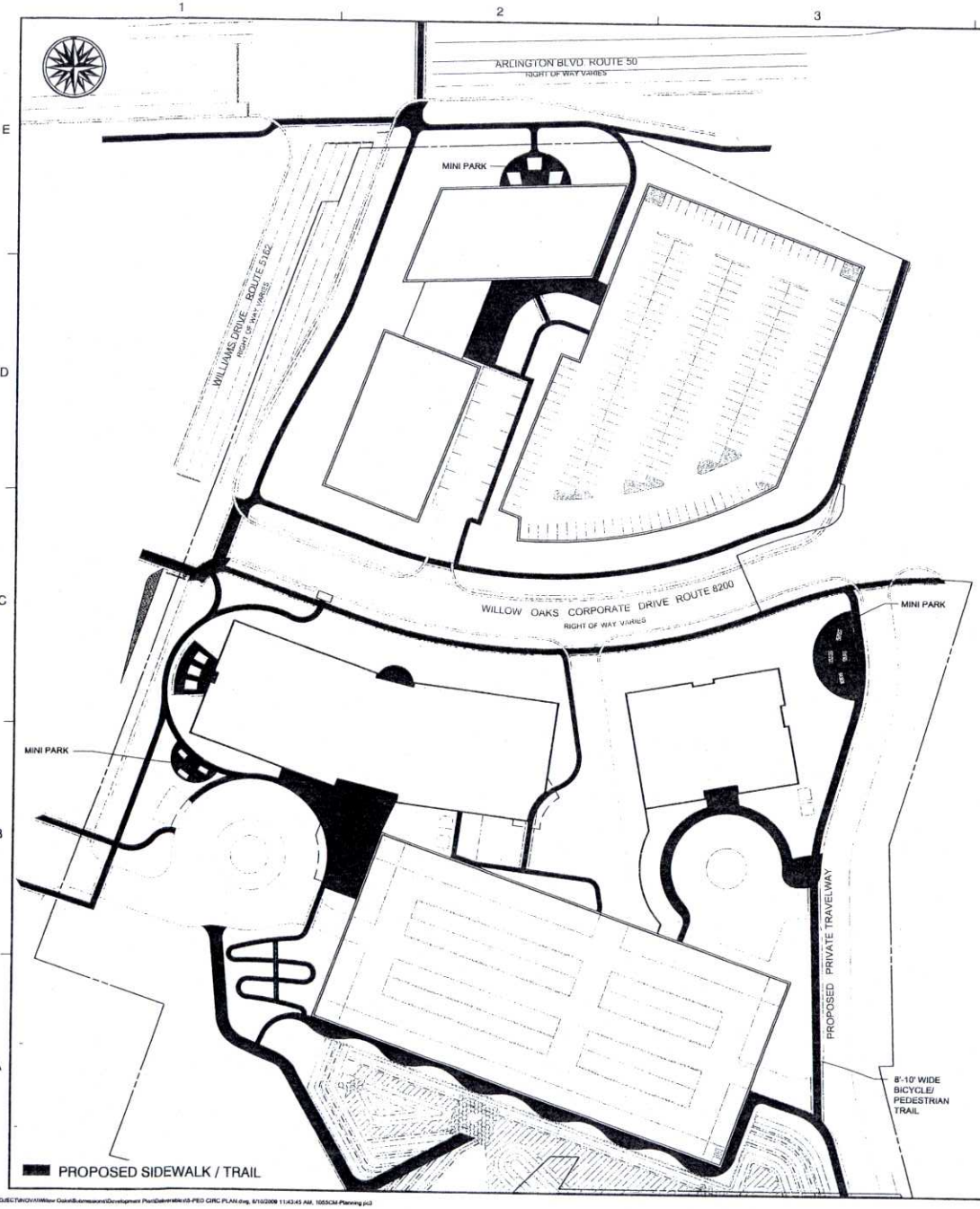
TITLE
Inova
Willow Oaks
Partial Generalized Development Plan Amendment
Detail Enlargements

PROJECT NO.

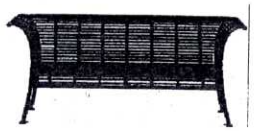
4B

SHEET NO. 4B OF 20

M-10690



NOTE: The typical site furniture presented on this sheet are shown to illustrate the general theme and character of the proposed development. They are subject to minor modification with final engineering and architectural design.



TYPICAL BENCH

TYPICAL DECORATIVE LIGHT

TYPICAL TRASH RECEPTACLE

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
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INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CHRISTOPHER CHARLES CULLEDGE
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
EDMUND J. [illegible]
Lic. No. [illegible]
4/21/11

SCALE

0' 50' 100'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development
Pedestrian Circulation Plan /
Site Furniture Details

PROJECT NO.

5

SHEET NO. 5 OF 20

M-10690

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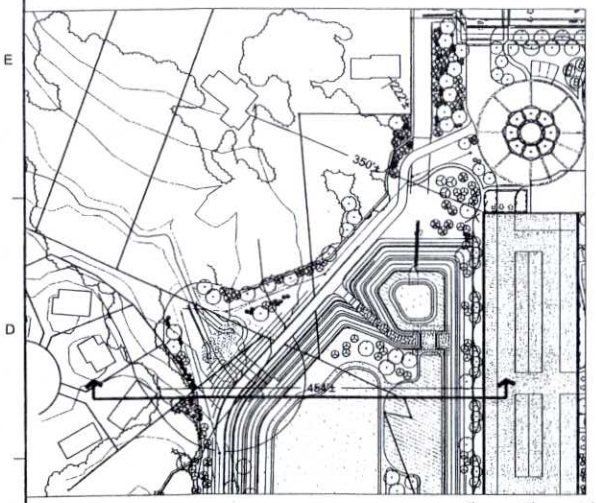
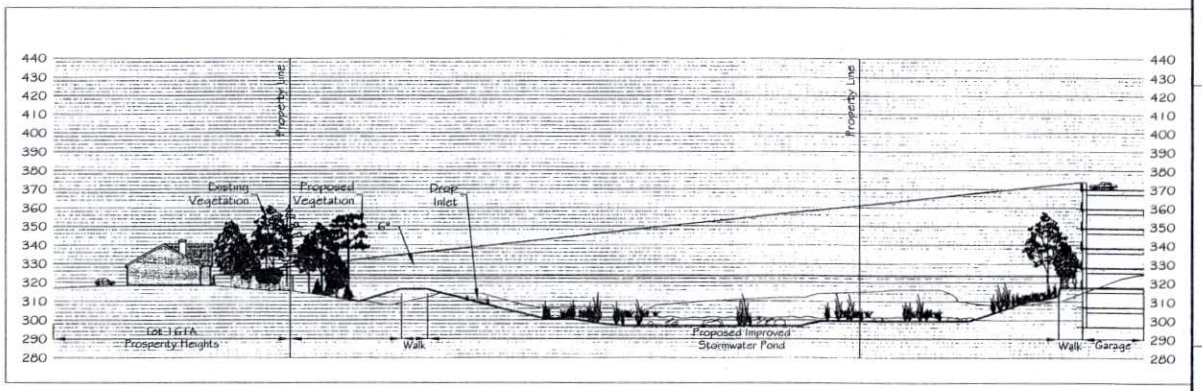
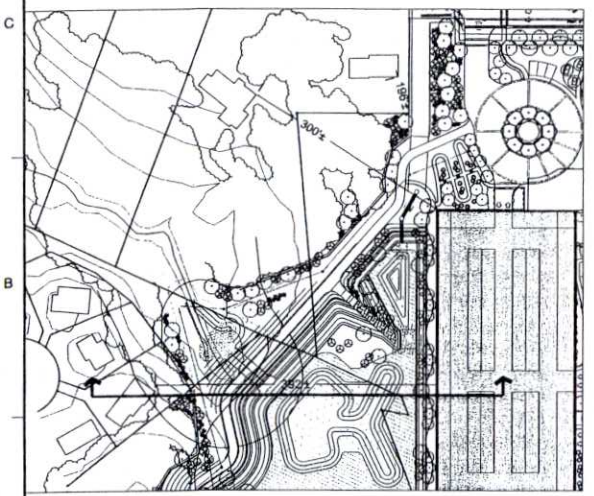


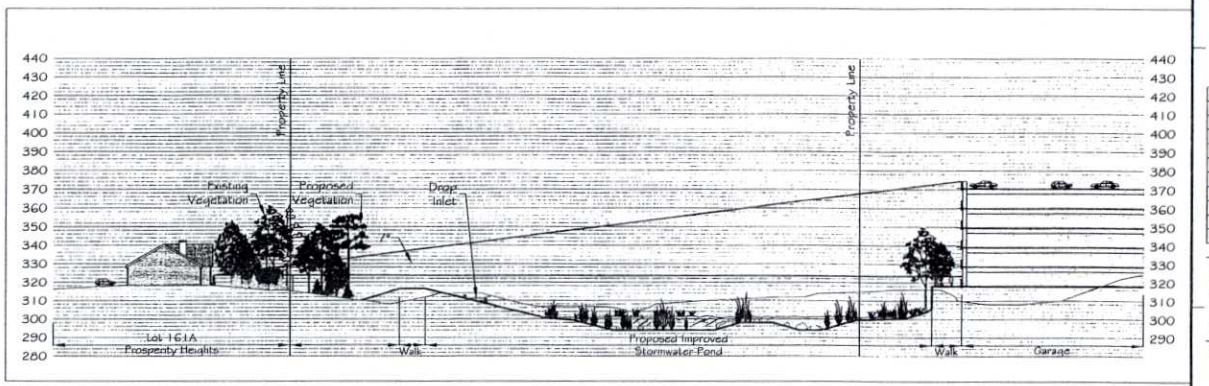
SECTION A-A'



A — 2 BAY GARAGE — A'



SECTION B-B'



B — 3 BAY GARAGE — B'

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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FAIRFAX, VA 22031
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INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CHRISTOPHER CHARLES CALLISTRIPE
Lic. No. 30112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
EDUARDO J. IGNACIO
Lic. No. 32579
4/27/10
PROFESSIONAL ENGINEER

SCALE

0' 30' 60'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
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3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks
Partial Generalized Development
Plan Amendment
Cross Sections

PROJECT NO.

6

SHEET NO. 6 OF 20

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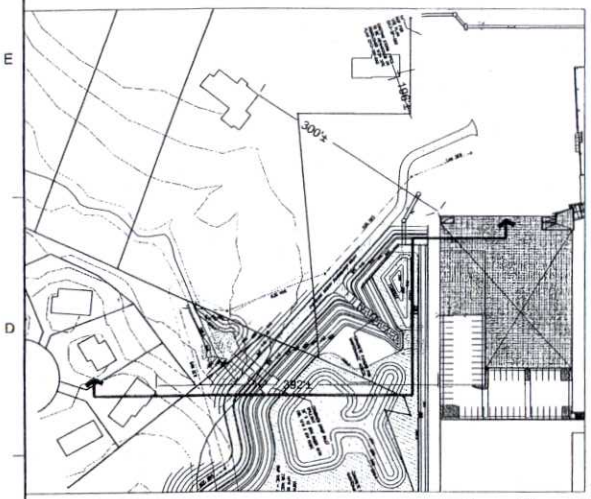
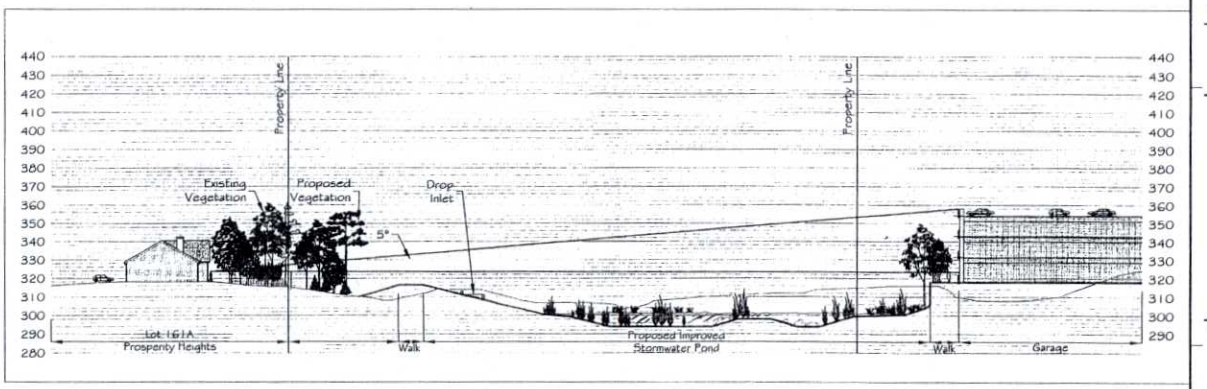
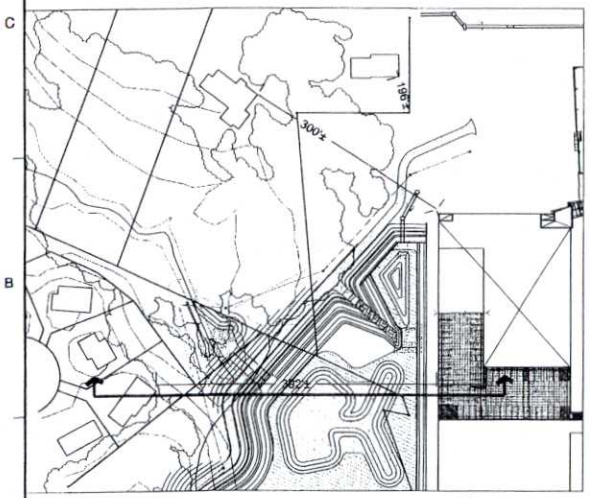


SECTION A-A'

0' 80' 160'



4 TIER GARAGE



SECTION B-B'

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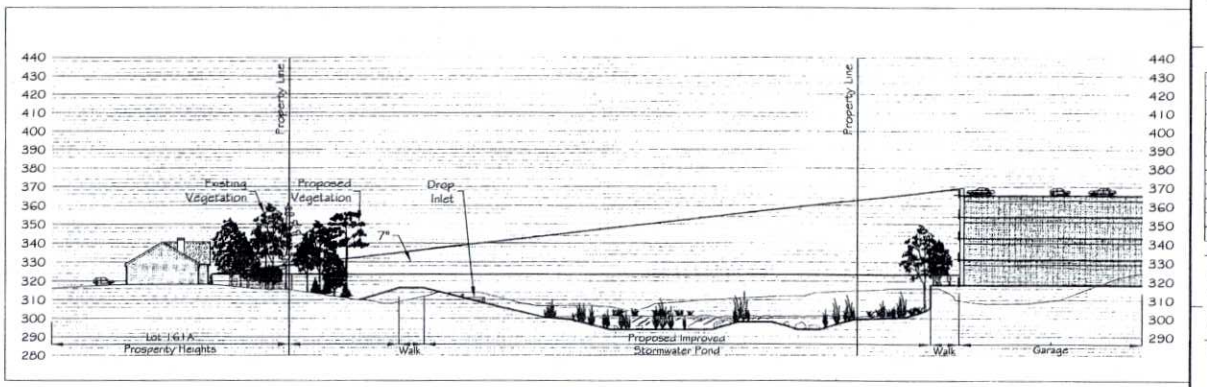

5 TIER GARAGE

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8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE 703.849.0100
FAX 703.849.0118
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INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
EDMUND J. IGNACIO
Lic. No. 33579
4/27/11
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'

No.	DATE	BY	Description
11	03.04.11		
10	06.10.09	ARW	
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4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks

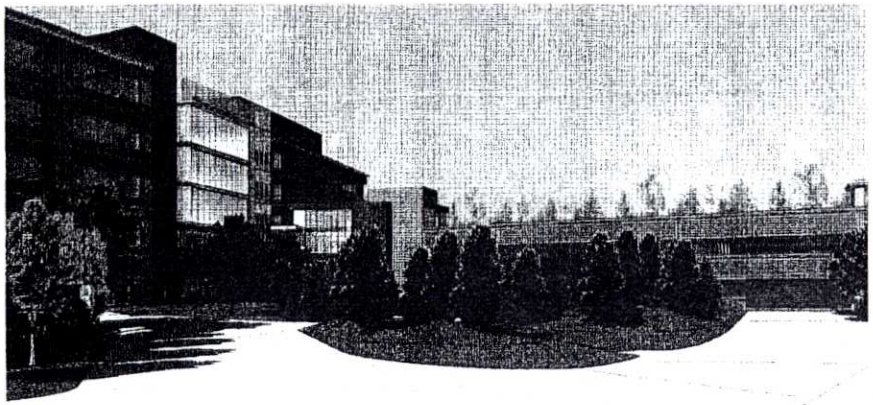
Partial Generalized Development
Plan Amendment
Cross Sections Option 5

PROJECT NO.

6A

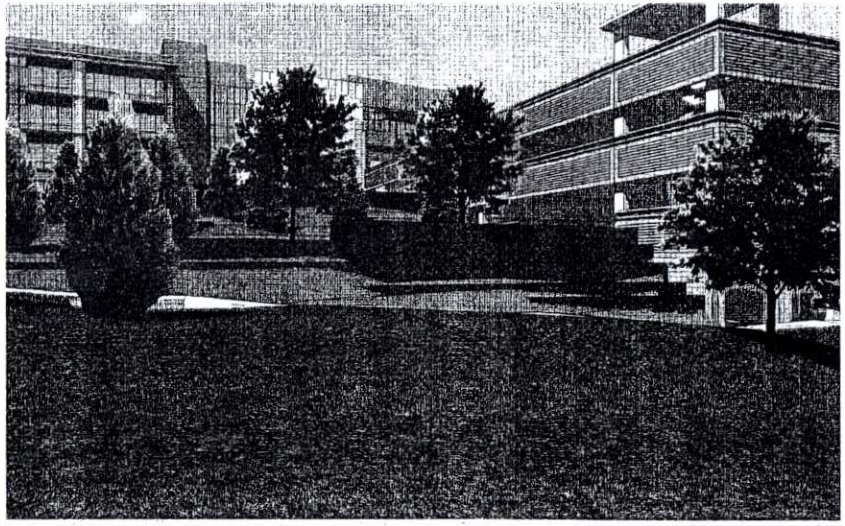
SHEET NO. 6A OF 20

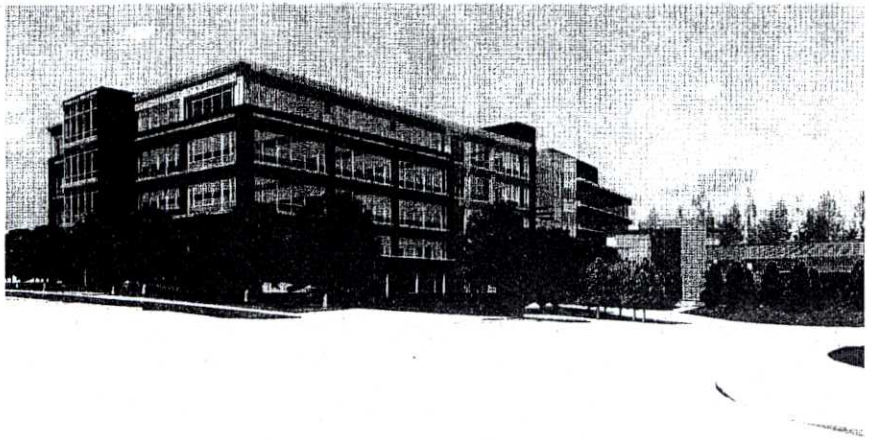
OPTIONAL LAYOUT 5



WOODBURN HUMAN SERVICES BUILDING
8221 WILLOW OAKS DRIVE, MERRIFIELD, VIRGINIA

NORITAKE associates





WOODBURN HUMAN SERVICES BUILDING
8221 WILLOW OAKS DRIVE, MERRIFIELD, VIRGINIA

NORITAKE associates

NOTE:
THESE 3D DETAIL ENLARGEMENTS ARE FOR OPTIONAL LAYOUT 5 AND ARE A VIEW FROM THE SOUTHWEST TOWARDS BUILDING G AND PARKING GARAGE B.

Dewberry

Dewberry & Davis LLC
8483 ARLINGTON BLVD
FAIRFAX, VA 22031
PHONE: 703 849 0100
FAX: 703 849 0518
www.dewberry.com

VIKA

INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
EDMUND J. IGNACIO
Lic. No. 33579
4/27/11
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

No.	DATE	BY	Description
12	04.27.11		

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

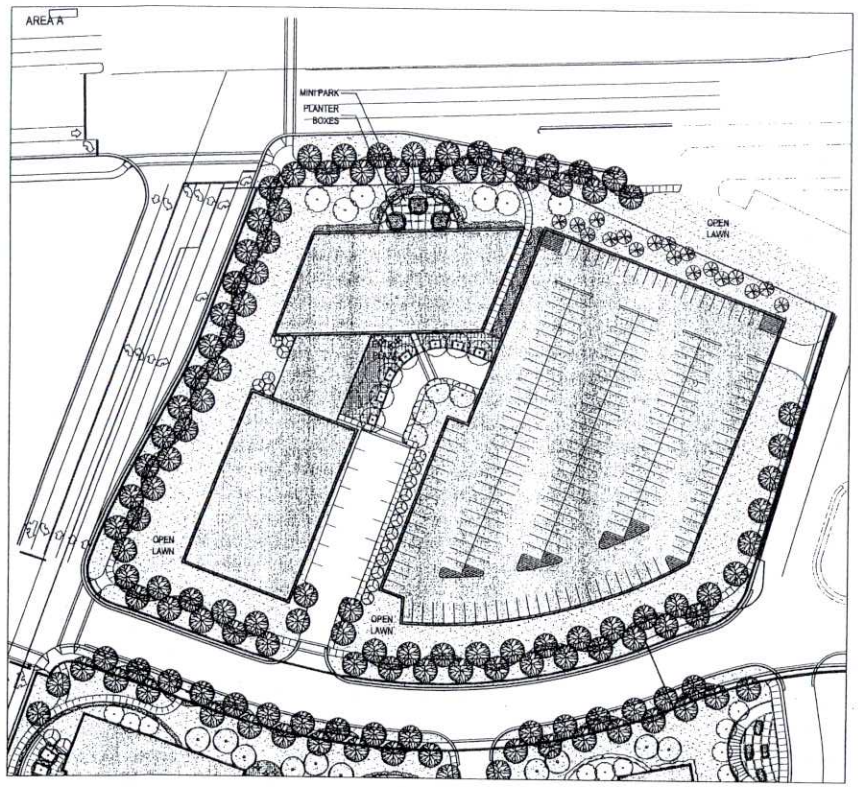
TITLE
Inova
Willow Oaks
Partial Generalized Development
Plan Amendment
3D Detail Enlargements Option 5

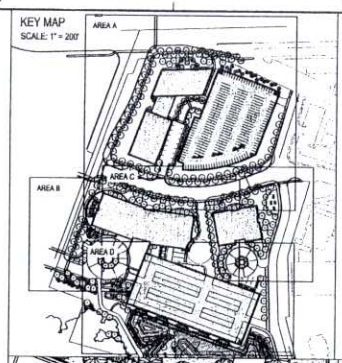
PROJECT NO.

6B

SHEET NO. 6B OF 20

M-10690





Legend

- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
- PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
- PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
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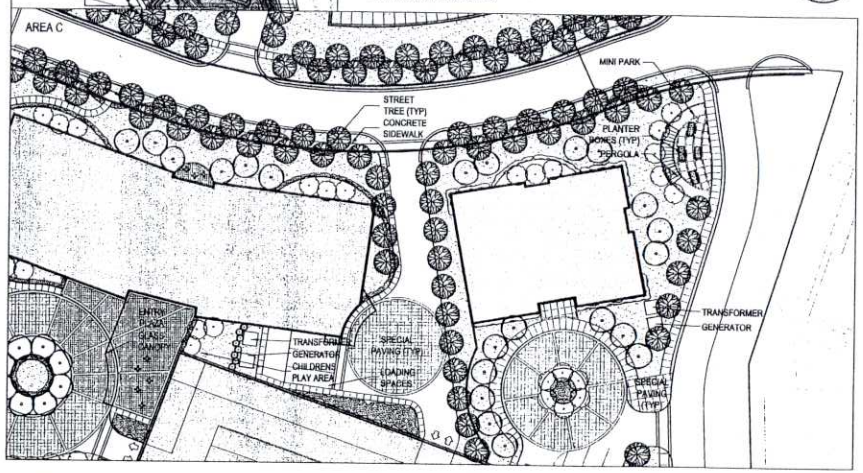

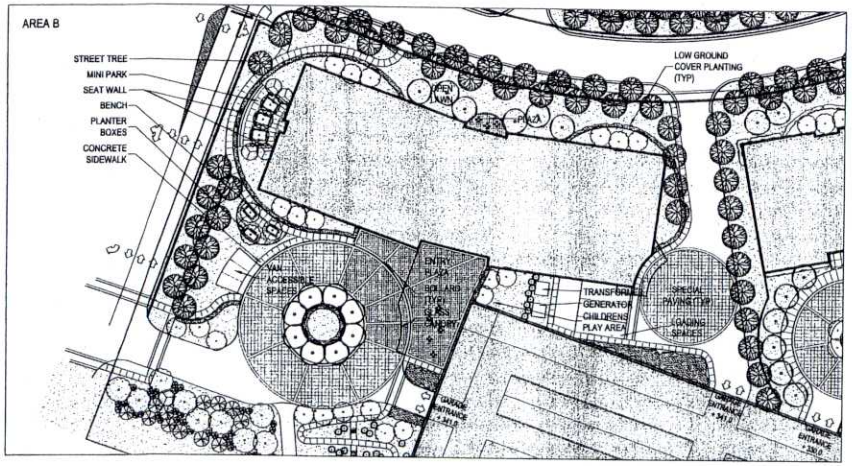

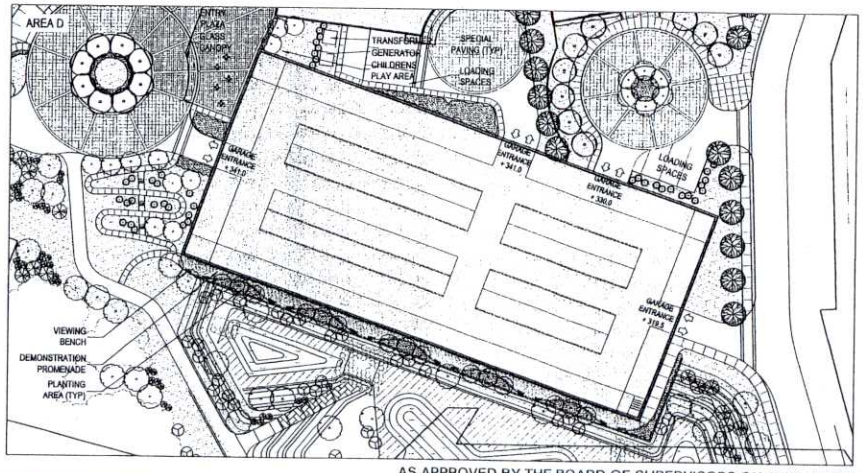

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0519
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INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CLIMENT CHARLES CULLEITON
Lic. No. 30112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
EDWARD J. KOSTO
Lic. No. 2[illegible]
4/27/11

SCALE

0' 50' 100'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
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4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development Plan Amendment
Detail Enlargements

PROJECT NO.

7

SHEET NO. 7 OF 20

M-10690

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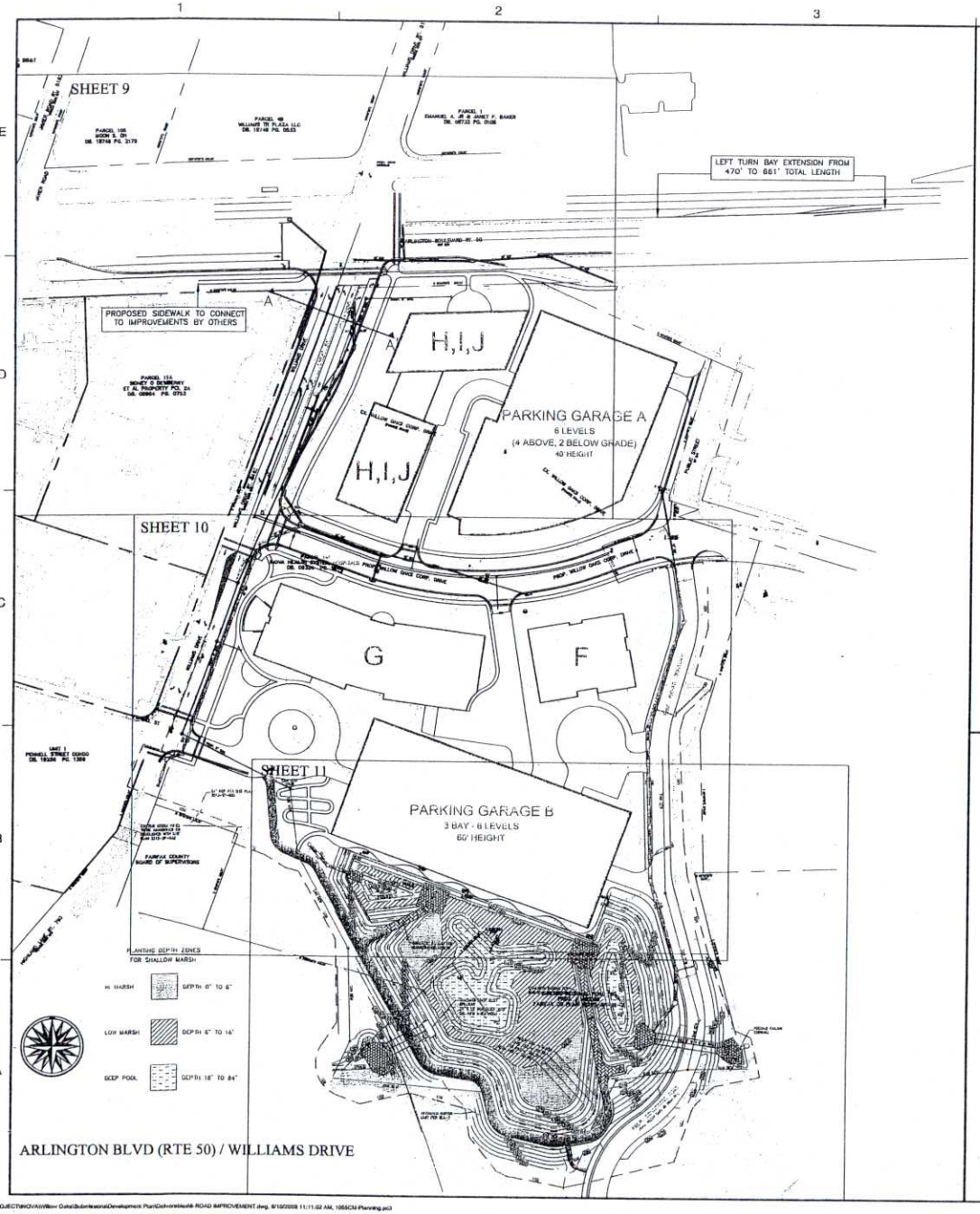


GENERAL NOTES

SHEET 8

THIS SHEET PROVIDES AND OVERALL VIEW OF THE PROPOSED IMPROVEMENTS AND ALL GENERAL NOTES

AN EXTENDED LEFT TURN BAY ON ROUTE 50 TO SOUTHBOUND WILLIAMS DRIVE IS SHOWN WITH AN INCREASE IN TURNBAY LENGTH FROM 470' TO 661' WITH TAPER. BASED ON COUNTY MAPPED INFORMATION, THERE IS NO CONFLICT WITH THE EXISTING STRUCTURES IN THE MEDIAN.

SHEET 9

THE IMPROVEMENTS SHOWN ON THIS SHEET INCLUDE:

IMPROVEMENTS TO WILLIAMS DRIVE NORTHBOUND INCLUDE TWO SEPARATE NORTHBOUND LEFTS, A SINGLE THROUGH, AND TWO RIGHT TURN LANES, AS WELL AS TRAFFIC SIGNAL IMPROVEMENTS.

IMPROVEMENTS TO EASTBOUND ROUTE 50, AFTER JAVIER ROAD INTERSECTION, INCLUDE AN ADDITIONAL THROUGH LANE EXTENDING TO THE GALLOWS ROAD OFF RAMP, AND A RIGHT TURN LANE ONTO SOUTHBOUND WILLIAMS DRIVE.

THE EXISTING RT. 50 WESTBOUND LEFT TURN LANE ONTO SOUTHBOUND WILLIAMS WILL BE EXTENDED BY 200'. GRAPHIC SHOWN ON SHEET 8

SOUTHBOUND WILLIAMS DRIVE, NORTH OF ROUTE 50, WILL BE RESTRIPED TO HAVE A THROUGH-RIGHT TURN LANE, AND A LEFT TURN LANE.

SHEET 10

THE IMPROVEMENTS SHOWN ON THIS SHEET INCLUDE:

WILLIAMS DRIVE TO PENNELL STREET, PROVIDE AN ADDITIONAL SOUTHBOUND LANE, AND AN ADDITIONAL NORTHBOUND LANE TO WILLIAMS DRIVE, WHICH EXTENDS FROM THE ROUTE 50 INTERSECTION, TO ITS TERMINATION AT PENNELL STREET. THE EASTERN MOST NORTHBOUND LANE WILL SERVE AS A TURN LANE FOR PROPOSED WILLOW OAKS CORPORATE DRIVE.

SHEET 11

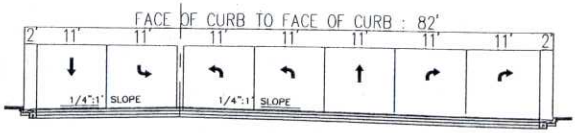
THE IMPROVEMENTS SHOWN ON THIS SHEET INCLUDE:

RELOCATE AND RESIZE THE REGIONAL POND TO PROVIDE STORMWATER MANAGEMENT FOR FUTURE DEVELOPMENT.

PROPOSED CONNECTOR ROAD TO TIE INTO EXISTING HOSPITAL FACILITY

NOTE:

SHEETS 8-11 WERE CREATED FOR VISUALIZING THE PROPOSED TRAFFIC IMPROVEMENTS SET FORTH IN THE PROFFERS. THE STORM SEWER SYSTEMS SHOWN WITH THE ROADWAY IMPROVEMENTS ARE APPROXIMATE AND ARE SUBJECT TO CHANGE UPON FINAL ENGINEERING. THE "EXISTING CONDITIONS" ARE SHOWN WITH TWO-FOOT CONTOURS AND WERE COMPILED THROUGH MULTIPLE SOURCES, INCLUDING FIELD SURVEYS, AIR FLOWN SURVEYS, COUNTY GIS, PROPOSED ROAD IMPROVEMENT PLANS BY OTHERS, AND DRAFTED LAYOUTS BASED ON AERIAL PHOTOGRAPHY. THESE DOCUMENTS ARE NOT FOR CONSTRUCTION PURPOSES



PROP. WILLIAMS DR. (NB)
TYPICAL SECTION A-A'

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Dewberry

Dewberry & Davis LLC
8403 ARLINGTON BLVD.
FAIRFAX, VA 22031
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INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
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SEAL

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ROBERT CHARLES CALLISTON
Lic. No. 2012
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
J. CHRISTOPHER JOHNSON
Lic. No. 32079
4/27/11
PROFESSIONAL ENGINEER

SCALE
0' 80' 160'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	CAP	
7	04.20.09	ARW	
6	03.26.09	ARW	
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4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE
Inova
Willow Oaks
Partial Generalized Development Plan Amendment
Road Improvements Detail

PROJECT NO.

8

SHEET NO. 8 OF 20

M-10690

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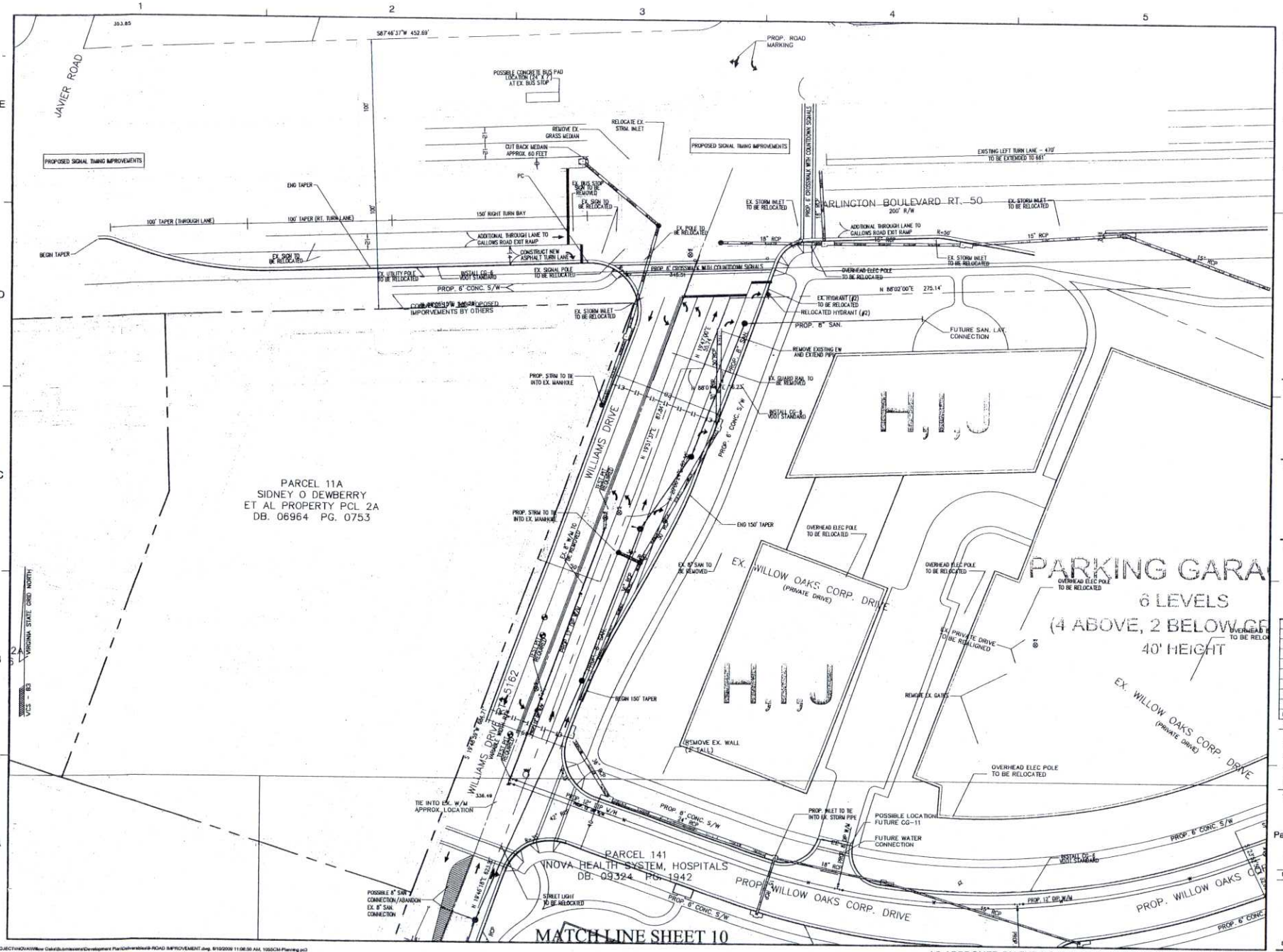

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CLIMENT CHARLES CULLETON
Lic. No. 2012
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

4/21/11

SCALE

0' 30' 60'

No.	DATE	BY	Description
7	06.10.09	ARW	
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4	04.20.09	ARW	
3	03.26.09	ARW	
2	02.19.09	ARW	
1	01.23.09	ARW	New Sheet

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks

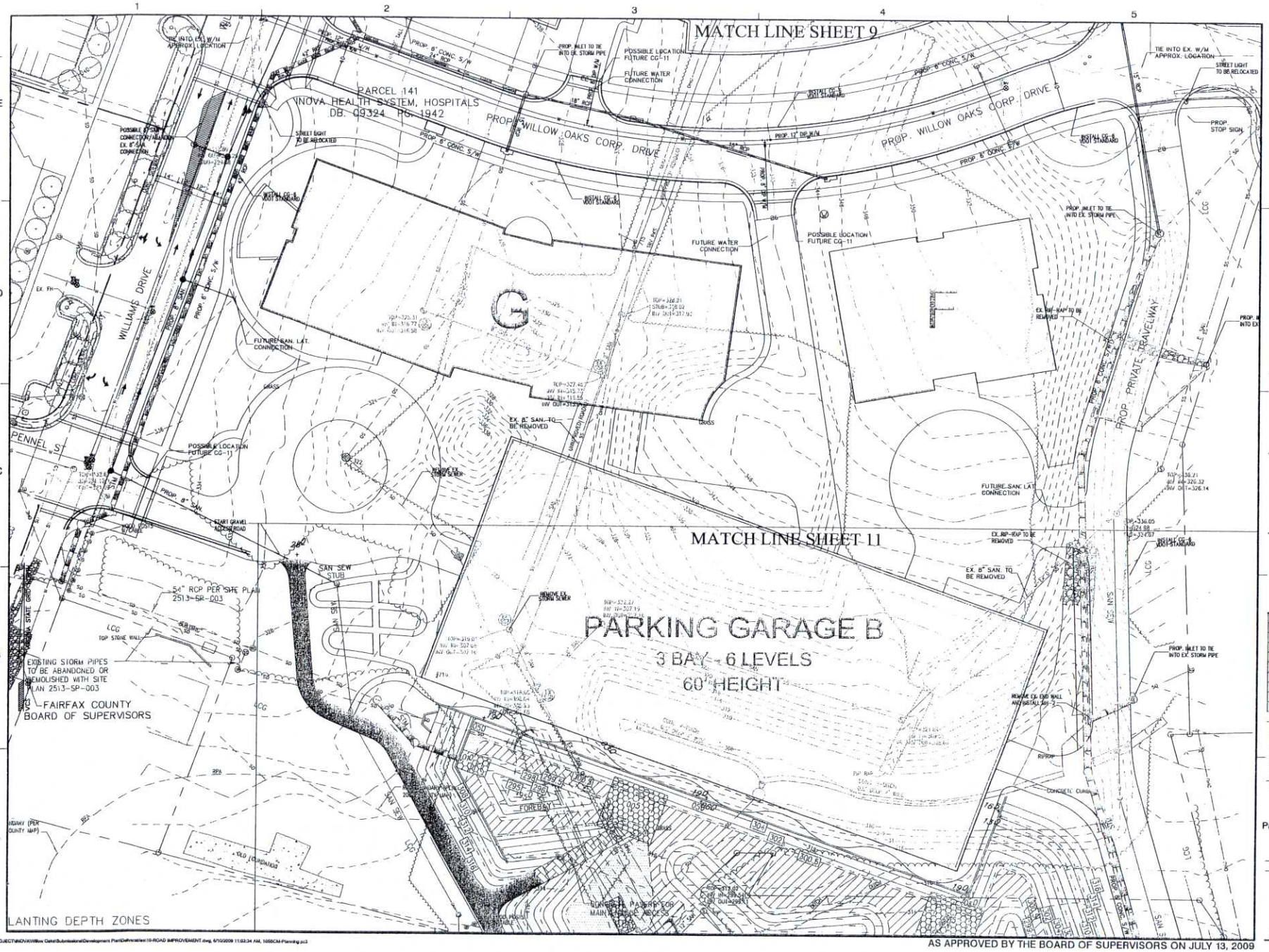
Partial Generalized Development
Plan Amendment
Road Improvements Detail

PROJECT NO.

9

SHEET NO. 9 OF 20

M-10690



AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

INOVA
WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CLIMONT CHARLES CULLITON
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

4/27/11

SCALE
0' 30' 60'

No.	DATE	BY	Description
6	06.10.09	ARW	
5	06.05.09	ARW	
4	05.20.09	ARW	
3	04.20.09	ARW	
2	03.26.09	ARW	
1	02.19.09	ARW	New Sheet

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

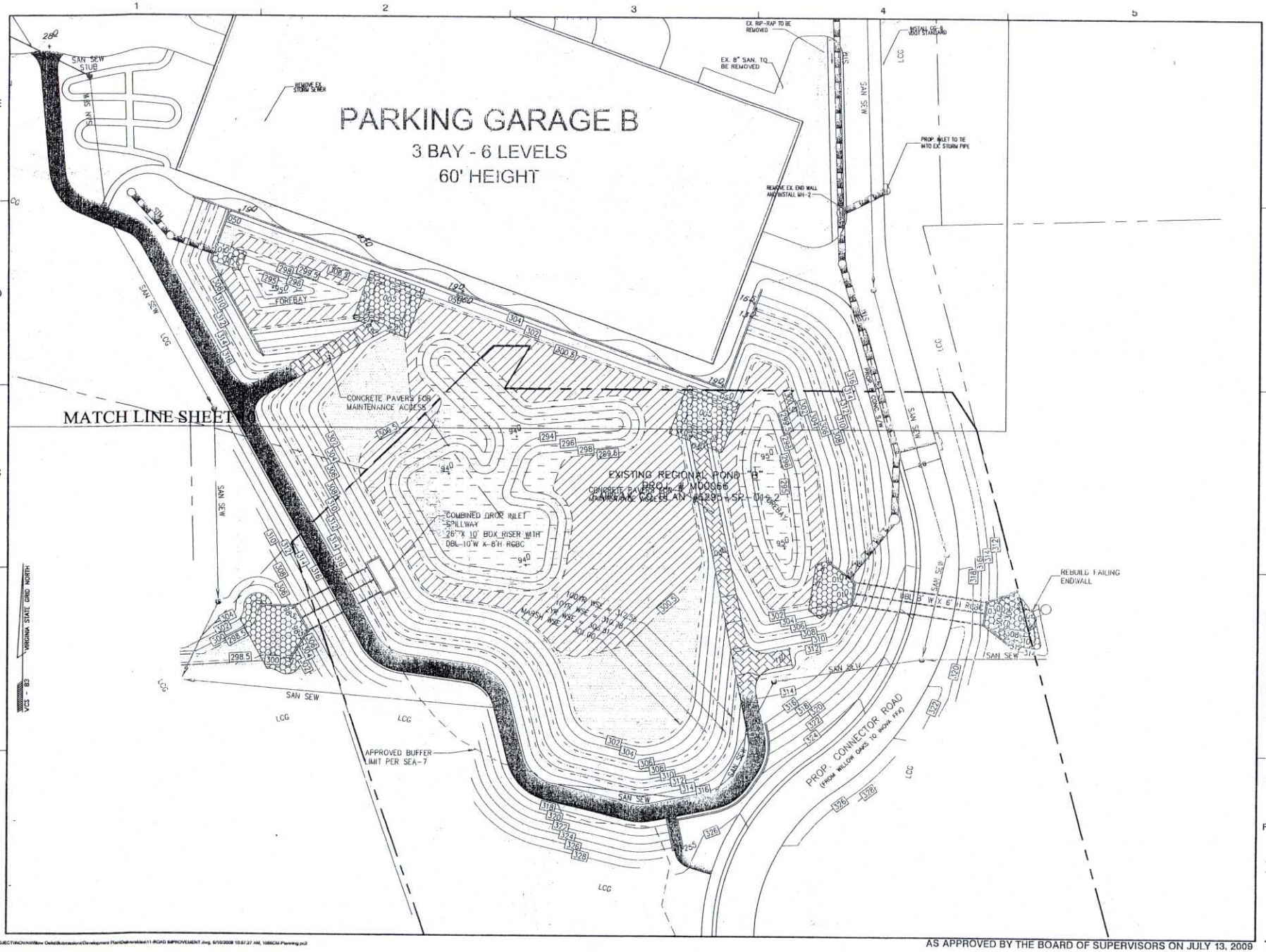
TITLE
Inova
Willow Oaks
Partial Generalized Development Plan Amendment
Road Improvements Detail

PROJECT NO.

10

SHEET NO. 10 OF 20

M-10690



AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
MARK CHARLES CULLEN
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

4/27/11

SCALE

0' 30' 60'

No.	DATE	BY	Description
6	06.10.09	ARW	
5	06.05.09	ARW	
4	05.20.09	ARW	
3	04.20.09	ARW	
2	03.26.09	ARW	
1	02.19.09	ARW	New Sheet

REVISIONS

DRAWN BY JMC

APPROVED BY

CHECKED BY PGY

DATE April 14, 2008

TITLE

Inova
Willow Oaks

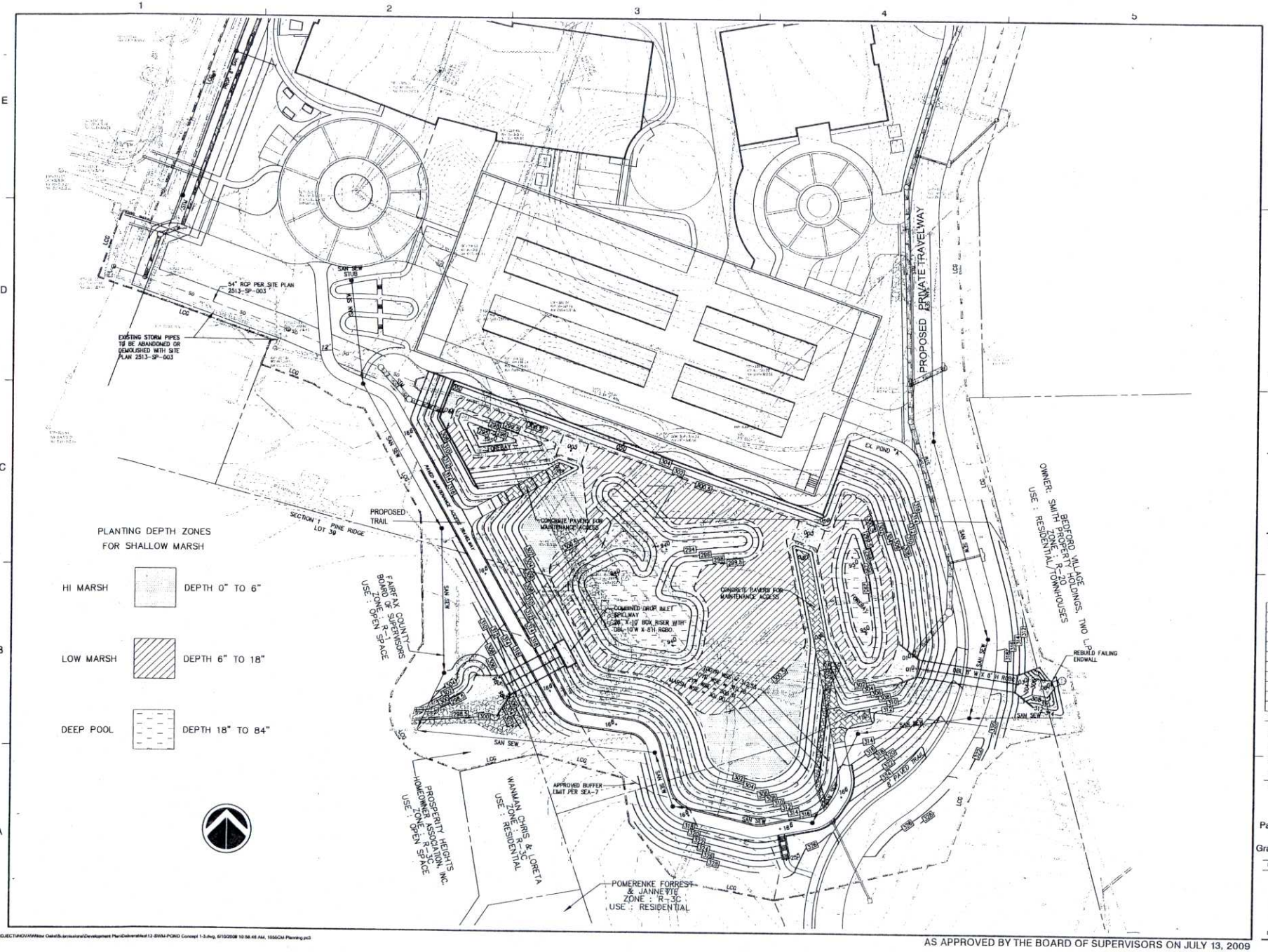
Partial Generalized Development
Plan Amendment
Road Improvements Detail

PROJECT NO.

11

SHEET NO. 11 OF 20

M-10690



Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703 849 0100
FAX: 703 849 0119
www.dewberry.com

iNOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CHARLES CULLEDGE
Lic. No. 30012
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

4/27/11

SCALE

0' 40' 80'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	11.23.08	ARW	
3	10.08.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY	SCC
APPROVED BY	PGY
CHECKED BY	TCC
DATE	April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development
Stormwater Management
Grading Plan - Pond Options 1,2,3

PROJECT NO.

12

SHEET NO. 12 OF 20

M-10690

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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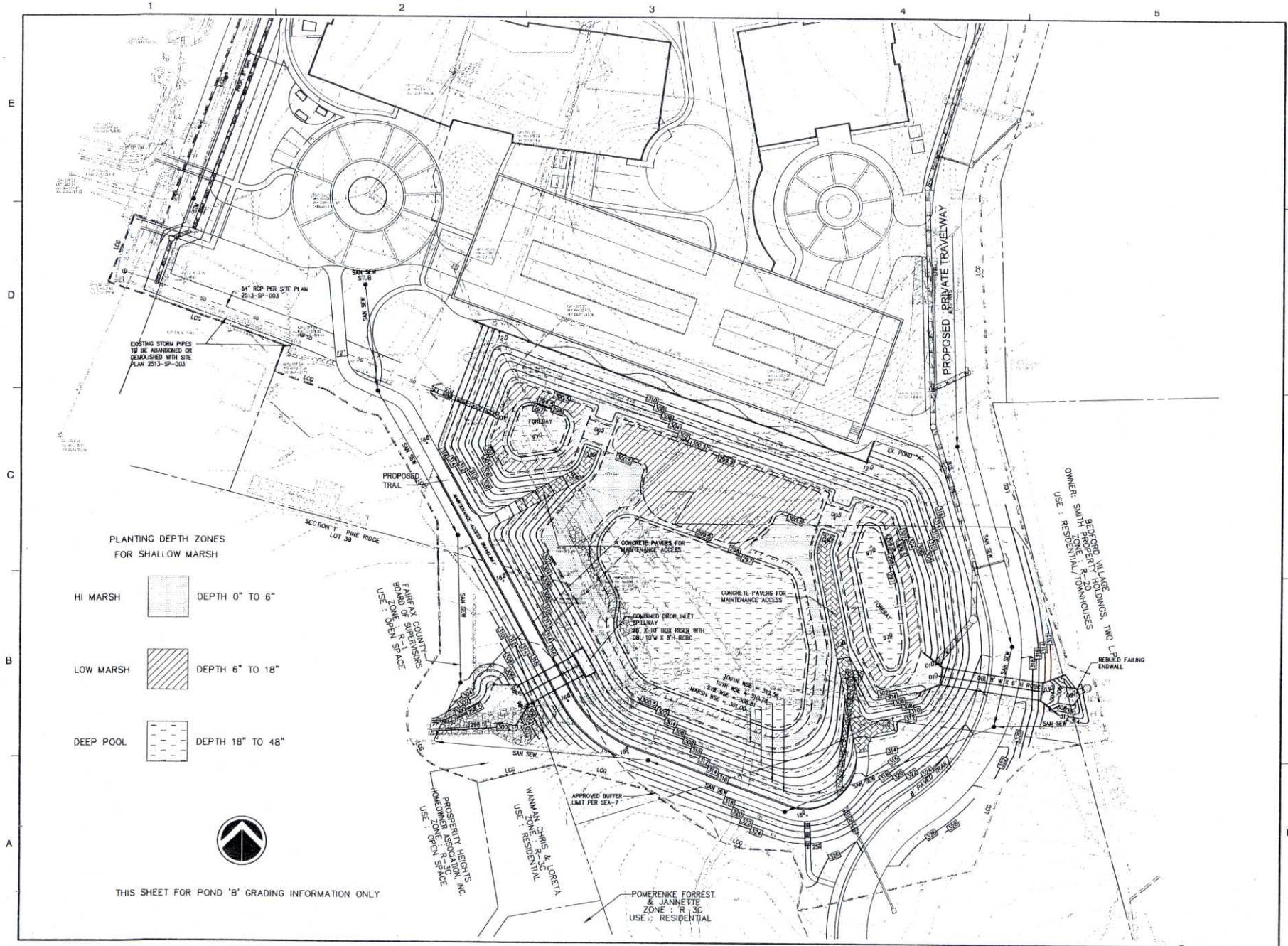

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD
FAIRFAX, VA 22031
PHONE: 703 849 0100
FAX: 703 849 0118
www.dewberry.com

INOVA WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT

FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
TIMOTHY CHARLES COLLOTZWIN
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

LEONARD J. RAVICH
Lic. No. 02375
4/27/11

SCALE

0' 40' 80'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.18.09	ARW	
4	01.23.09	ARW	
3	10.08.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY	SCC
APPROVED BY	PGY
CHECKED BY	TCC
DATE	April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development
Stormwater Management
Grading Plan - Pond Option 4

PROJECT NO.

13

SHEET NO. 13 OF 20

M-10690

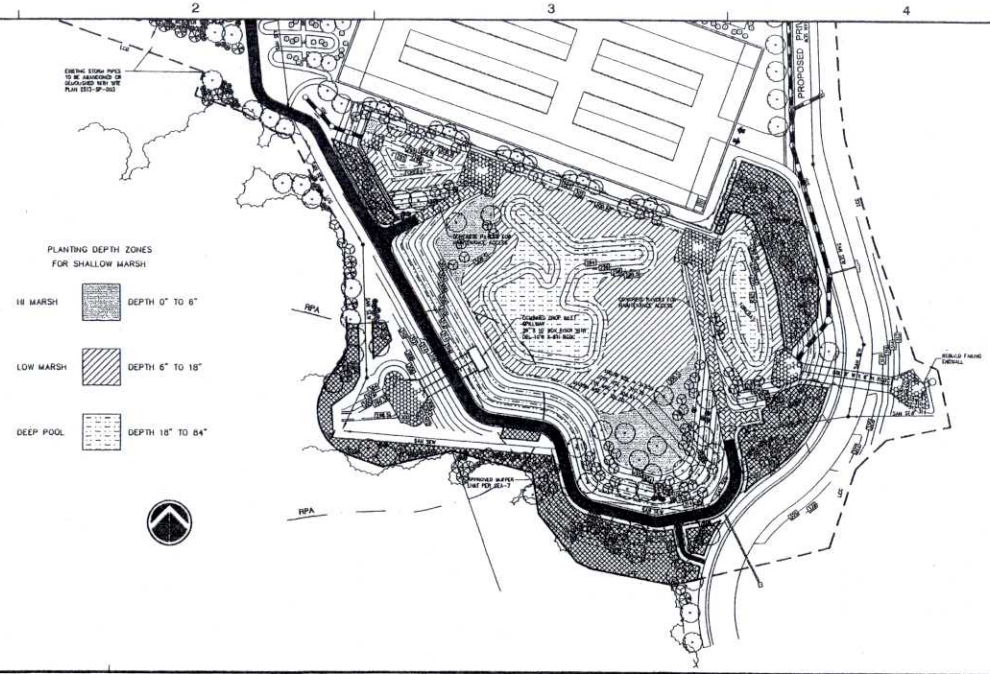
Option 1,2,3 - 3 Bay Garage

Legend

- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
- PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
- PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
- PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
- APPROXIMATE LIMITS OF CLEARING AND GRADING
- PROPOSED RIPARIAN REVEGETATION AREA

PLANTING DEPTH ZONES FOR SHALLOW MARSH

HI MARSH	DEPTH 0" TO 6"
LOW MARSH	DEPTH 6" TO 18"
DEEP POOL	DEPTH 18" TO 84"



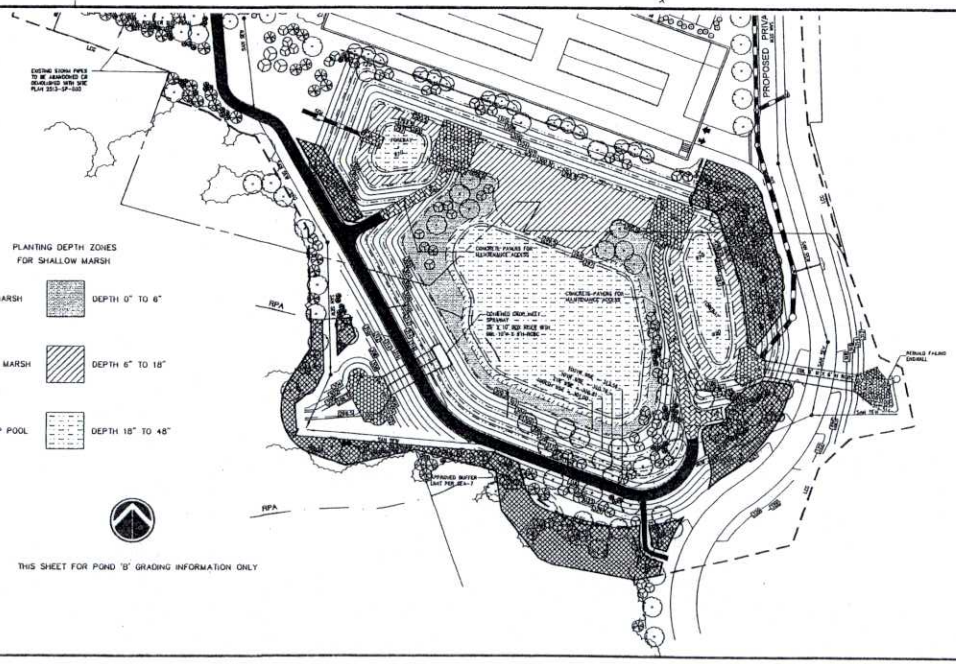
Option 4 - 2 Bay Garage

Legend

- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
- PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
- PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
- PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
- APPROXIMATE LIMITS OF CLEARING AND GRADING
- PROPOSED RIPARIAN REVEGETATION AREA

PLANTING DEPTH ZONES FOR SHALLOW MARSH

HI MARSH	DEPTH 0" TO 6"
LOW MARSH	DEPTH 6" TO 18"
DEEP POOL	DEPTH 18" TO 48"



THIS SHEET FOR POND 'B' GRADING INFORMATION ONLY

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0510
www.dewberry.com

INOVA WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CHRISTOPHER CHARLES CALLISON
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

CHRISTOPHER CALLISON
Lic No. 33379
4/27/11

SCALE

0' 60' 120'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	05.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY	SCC
APPROVED BY	PGY
CHECKED BY	TCC
DATE	April 14, 2008

TITLE

Inova
Willow Oaks
Partial Generalized Development
Landscape Plan -
Pond Option 1,2,3,4

PROJECT NO.

14

SHEET NO. 14 OF 20

M-10690

INOVA WILLOW OAKS

STORMWATER MANAGEMENT NARRATIVE

The INOVA Willow Oaks site is located in the Accotink Creek watershed. The existing site is mostly undeveloped woods. There are two existing dry ponds on the site: Pond A and Pond B, a quasi-regional pond. This plan proposes the development of the Willow Oaks. SWM is required for the proposed improvements in the form of quality and quantity control. Runoff from the site will be conveyed to an enhanced extended detention dry pond hereinafter referred to as the Willow Oaks SWM/BMP Pond.

Existing Conditions – Pond A and Pond B

Existing Pond B is located on the site east of Williams Drive and south of Willow Oaks Corporate Center Drive. This pond was designed by Rinker-Detwiler and Associates, P.C. in 1986 (Plan #6295-SP-01-2) and is one of the first "regional" facilities constructed in the County. It was designed as a detention only dry pond and currently does not provide BMP. New development in the watershed of Pond B is currently covered for detention, but BMP must be provided by other means (i.e. sand filters, dedicated conservation easements, etc.). In comparison to today's PFM requirements for pond facilities, criteria used in designing Pond B are outdated. For example, the hydrology used to size the outlet works, emergency spillway and set the top of dam are all based on 2-hour storm durations. Under current PFM criteria this is acceptable for drainage areas less than 20 acres but Pond B has a drainage area of approximately 130.1 acres. The outlet works of Pond B consists of a riser with outlet conduit and an emergency spillway placed in the fill section of the dam, which is armored by riprap covered by approximately 1'-2' of earth.

Immediately north and adjacent to existing Pond B is Pond A. Pond A, which drains into Pond B, is also a detention only dry pond. Pond A was designed in accordance with current PFM criteria by Dewberry in 1993 (Plan # 5544-SP-04). The outlet works of Pond A consists of a combined drop inlet principle/emergency spillway including a riser and outlet conduit. Willow Oaks, Bedford Village, north end of INOVA Fairfax Hospital Campus, and some businesses along Williams Drive as well as parts of VA Route 50 all drain to existing Pond A and/or Regional Pond B.

Proposed Willow Oaks SWM/BMP Pond

As part of this development application, it is proposed that existing Pond A and Pond B be combined into one SWM/BMP facility that consists of an enhanced extended detention dry pond that meets current PFM design criteria. The proposed facility will be privately owned and maintained. The proposed facility will include sediment forebays at major inflow points and a shallow marsh area consisting of a micro pool as well as high and low marshes. The outlet works will consist of a combined drop inlet principle/emergency spillway in the form of a riser and outlet conduit. The proposed dam embankment will be approximately 18' high with less than 50 ac-ft of storage to the top of the dam and will not be State regulated. Concept grading plans of the proposed facility are provided in this application.

The proposed facility is designed to provide peak flow reduction for the 2- and 10-year storms from developed conditions to good forested conditions for the entire 130.1 acre watershed it serves. Further, the proposed facility is designed to exceed the minimum phosphorous removal requirement for the 130.1 acre watershed it serves by providing 50 % phosphorous removal efficiency - the minimum required is 40 % for this particular location in the County. As demonstrated by the phosphorous removal computations provided, the proposed facility provides enough BMP to cover the entire 130.1 acre watershed it serves (including the INOVA Willow Oaks site) plus the INOVA Fairfax Hospital site. Though the southern portion of the INOVA Fairfax Hospital site along Woodburn Road does not drain to the proposed facility, BMP credit is requested as part of the INOVA Fairfax Hospital development application in lieu of having to design, build and maintain large sand filter systems.

Willow Oaks SWM/BMP Detention Summary

	Drainage Area (acres)	Peak Flow (cfs) 2-year	Peak Flow (cfs) 10-year
Good Forested Conditions	130.1	39	173
Ultimate Conditions	130.1		
• Into proposed facility		345	636
• Out of proposed facility		34	106
Over-detention provided		5	67

Willow Oaks SWM/BMP Water-Surface Elevation Summary

	Combined PSW/ESW PSW Top	ESW Top	Dam Top	WSE	Freeboard
Marsh pool	307.00 ft	310.75 ft	316.62 ft	301.00 ft	15.62 ft
BMP pool	307.00 ft	310.75 ft	316.62 ft	304.50 ft	12.12 ft
2-year pool	307.00 ft	310.75 ft	316.62 ft	306.81 ft	9.81 ft
10-year pool	307.00 ft	310.75 ft	316.62 ft	310.78 ft	5.84 ft
100-year pool	307.00 ft	310.75 ft	316.62 ft	312.56 ft	4.06 ft
1.5 x 100-year pool (S.D.F.)	307.00 ft	310.75 ft	316.62 ft	314.60 ft	2.02 ft
2.5 x 100-year pool (F.B.H)	307.00 ft	310.75 ft	316.62 ft	316.19 ft	0.43 ft

Where: PSW = Principal Spillway ESW = Emergency Spillway WSE = Water-surface elevation

Floodplain

There is a regulated minor floodplain onsite at the proposed Willow Oaks SWM/BMP Pond. Accordingly, a Floodplain Study will be prepared and submitted at Site Plan. The proposed Willow Oaks SWM/BMP Pond will reflect a decrease in its 100-year flood elevation when compared to existing conditions and will not impact adjacent properties. This decrease is a result of increased storage and spillway capacity associated with the proposed facility. A summary of the 100-year water-surface elevations is provided as follows:

100-Year Water-Surface Elevation Summary

Existing Pond A	316.28 ft	See Existing Conditions HEC-1 Model
Existing Regional Pond B	313.69 ft	See Existing Conditions HEC-1 Model
Proposed Willow Oaks SWM/BMP Pond	312.56 ft	See Ultimate Conditions HEC-1 Model

Low Impact Development

The Applicant shall install Fairfax County accepted Low Impact Development (LID) facilities on the Application Property in at least one of the potential locations shown on this development plan. The LID facilities (pervious pavement or other) shall treat a combined total of 20,000 square feet of impervious surface and shall have a minimum phosphorous removal efficiency of 40 percent. The LID facilities will be designed in accordance with the PFM. These LID facilities are intended as demonstration facilities and shall not factor into the requisite calculations for stormwater management and BMPs.

INOVA WILLOW OAKS

STORMWATER OUTFALL NARRATIVE

Description of Existing Outfall

The Willow Oaks development has one outfall. The outfall channel begins at the proposed Willow Oaks SWM/BMP pond and proceeds in a southerly direction approximately 4,500 feet where it confluences with Accotink Creek. At Accotink Creek the drainage area is approximately 15 square miles. Based on field observations, the channel is predominantly natural channel, lightly meandering, 10'-15' wide bottom width, varying 3'-4' deep, and steep side slopes (1:1). Approximately 1500' of the outfall channel located just upstream of the Highland Lane culvert crossing was improved to reflect riprap and gabions to create an engineered rectangular channel. In addition, the Highland Lane culvert was upgraded to a triple 6' x 6' box culvert as part of that project. There are no signs of erosion at either the inlet or outlet of this culvert. These channel and culvert improvements were implemented by the County as recommended in the Parsons Brinckerhoff, Quade & Douglas report entitled, "Accotink Creek Watershed Immediate Action Plan", dated April 1978. Downstream of Highland Lane, the channel is natural and ends at Accotink Creek.

Description of Outfall Adequacy Requirements

In an effort to exceed minimum PFM requirements, NRCS Hydrology was used with a 24-hour duration storm for the 2-, 10- and 100-year events. This exceeds the minimum 2-hour duration storm as given under PFM section 6-1301.5. Using NRCS Hydrology, a rainfall-runoff model was developed using HEC-1 to determine 2-, 10- and 100-year peak flows at multiple points along the site outfall. Cross section computations for permissible velocity and channel capacity assuming normal depth were performed and the Highland Road culvert was checked for capacity and freeboard. In addition, the 100-year flood elevation was determined for each cross section and the resulting 100-year floodplain was mapped. The limits of the site outfall studied, cross section locations, and developed 100-year floodplain limits are provided in this Application. Under developed conditions (i.e. proposed Willow Oaks SWM/BMP facility with fully developed watershed), the outfall analysis reflects 5 key points:

1. All representative cross sections are adequate in terms of permissible velocity for the 2-yr storm.
2. All representative cross sections are adequate in terms of channel capacity with the exception of cross section 4 that represents the existing gabion-lined channel located just upstream of Highland Road. Here the 10-year storm is determined to be out of bank while the 2-year storm is contained.
3. All representative cross sections are adequate in terms of 100-year flooding with the exception of cross section 4 that represents the existing gabion-lined channel located just upstream of Highland Road. Here the 100-year floodplain encroaches on a single home.
4. The Highland Road culvert crossing is adequate for 10-year capacity and freeboard.
5. Even if the proposed Willow Oaks SWM/BMP facility could be designed to have infinite capacity, analysis confirms that the 10-year storm would still remain out of bank as described under point 2, and the home identified under point 3 would still flood at cross section 4. The analysis shows that this condition exists because the drainage that accumulates downstream of the Willow Oaks SWM/BMP facility is sufficient enough for the 10-year storm to exceed the capacity of the gabion-lined channel and also cause 100-year flooding of the home.

Given point 5 above, it can be concluded that increasing storage capacity at the proposed Willow Oaks SWM/BMP facility will not solve the existing 10-year capacity and 100-year flooding issues at the gabion-lined channel reflected by cross section 4. For these reasons it is appropriate to apply the concept of "no adverse impact and proportional improvement". That said the channel capacity method (PFM section 6-0203.4B) and 100-year flooding method (PFM section 6-0203.5) were used to evaluate proportional improvements. The proportional improvement computations for cross section 4 are found on this sheet.

The outfall analysis demonstrates that the proposed Willow Oaks SWM/BMP facility provides the required detention to demonstrate no adverse impact and proportional improvement for channel capacity and 100-year flooding at cross section 4. For these reasons, it is our judgment that the site outfall downstream of the development site together with the proposed Willow Oaks SWM/BMP facility function as an acceptable drainage system in accordance with criteria set forth in the PFM.

A summary of the natural and manmade channel adequacy along the study reach is given in Tables 1, 2 and 3 below.

Table 1 – Channel Capacity Check (Developed Conditions)

Section	Channel n-value	Max Capacity (cfs)	Flow (cfs)	Comments
1 (natural)	0.045 [A]	662	49 (2-yr)	capacity is adequate
2 (natural)	0.045 [A]	374	98 (2-yr)	capacity is adequate
3 (natural)	0.045 [A]	226	187 (2-yr)	capacity is adequate
4 (gabions)	**0.037 [B]**	**307**	**499 (10-yr)**	**capacity not adequate [D]**
5 (natural)	0.058 [C]	246	216 (2-yr)	capacity is adequate
6 (natural)	0.058 [C]	269	216 (2-yr)	capacity is adequate

Table 2 – Channel Velocity Check (Developed Conditions)

Section	Permissible Velocity (fps)	Velocity (fps)	Comments
1 (natural)	5.5 [E]	2.8 (2-yr)	velocity is adequate
2 (natural)	5.5 [E]	3.6 (2-yr)	velocity is adequate
3 (natural)	5.5 [E]	4.0 (2-yr)	velocity is adequate
4 (gabions)	>8.0	6.2 (2-yr)	velocity is adequate
5 (natural)	5.5 [E]	4.0 (2-yr)	velocity is adequate
6 (natural)	5.5 [E]	3.7 (2-yr)	velocity is adequate

Table 3 – 100-Year Water-Surface Elevation at Outfall Sections

Section	WSEL (ft)	Section	WSEL (ft)
1	299.36	4	**284.92** [F] **(100-year floods single home at Sec. 4)**
2	293.49	5	274.86
3	289.54	6	269.08

Where:

A : n = n1 + n2 + n3 + n4 + n5 + n6 = 0.02 + 0.010 + 0.00 + 0.01 + 0.005 + 0.00 = 0.045 (per Tables 5-16 - 5-21 of VA E&S Control Handbook)
B : n = 0.037 = weighted average of gabion sides (n = 0.030) and stone bottom (n = 0.045)
C : n = n1 + n2 + n3 + n4 + n5 + n6 = 0.02 + 0.010 + 0.005 + 0.01 + 0.005 + 0.0075 = 0.058 (per Tables 5-16 - 5-21 of VA E&S Control Handbook)
D : See computations for demonstration of no adverse impact and proportional improvement for channel capacity.
E : Per Table 5-22 of VA E&S Control Handbook for field verified soil type of Graded, Silt to Cobbles (noncolloidal).
F : See computations for demonstration of no adverse impact and proportional improvement for 100-year flooding

Opinion of Outfall Adequacy

Based on these computation and field observations of the outfall, it is the opinion of the engineer that:

1. Cross sections shown are reflective of the stream reach analyzed.
2. Adequacy of the downstream drainage system is met within the extent of review and the proposed Willow Oaks SWM/BMP facility provides the required detention to demonstrate no adverse impact and proportional improvement for 10-year channel capacity and 100-year flooding at cross section 4 where the 10-year storm is out of bank and a single home is flooded by the 100-year storm.
3. There will be no flooding of existing downstream dwellings, or buildings constructed under an approved building permit by the 100-year storm event with the exception of the home described under point 2 above.

WILLOW OAKS OUTFALL ANALYSIS FOR PROPOSED SWM/BMP POND
PROPORTIONAL IMPROVEMENT
CHANNEL CAPACITY METHOD

INADEQUATE CAPACITY SECTION 4

GIVEN:

Ad	=	Contributing drainage area of site	=	21.55 acres
Acs	=	Contributing drainage area to section	=	267.4 acres
CNd	=	Post run-off curve number for site	=	89
CNcs	=	Existing runoff curve number to section	=	83

THE CORRESPONDING PROPORTIONAL IMPROVEMENT IS CALCULATED AS:

$$PI = \frac{Cd\ Ad}{Ccs\ Acs} \times 100$$

Johnson and Meadows (1980) had developed and equation for converting CN values to C value.

$$C = 1 - \frac{S\,[1.2 - S/(P+0.8S)]}{P}$$

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

STORM EVENT	2-YR	OVERTOPPING	10-YR
P (inches)	3.20	3.30	5.20
CNd	89	89	89
Sd (inches)	1.236	1.236	1.236
Cd	0.66	0.66	0.78
CNcs	83	83	83
Scs	2.0482	2.0482	2.0482
Ccs	0.50	0.51	0.65
Ad (acres)	21.55	21.55	21.55
Acs (acres)	267.40	267.40	267.40
Existing peak flow at section (cfs)	234.00	250.00	568.00
PI (%)	10.48	10.43	8.42
Allowable peak flow at section (cfs)	209	224	514
Provided peak flow at section (cfs)	187	202	499

WILLOW OAKS OUTFALL ANALYSIS FOR PROPOSED SWM/BMP POND
PROPORTIONAL IMPROVEMENT

100-YR FLOODING AT SECTION 4

GIVEN:

Ad	=	Contributing drainage area of site	=	21.55 acres
Acs	=	Contributing drainage area to section	=	267.4 acres
CNd	=	Post run-off curve number for site	=	89
CNcs	=	Existing runoff curve number to section	=	83

THE CORRESPONDING PROPORTIONAL IMPROVEMENT IS CALCULATED AS:

$$PI = \frac{Cd\ Ad}{Ccs\ Acs} \times 100$$

Johnson and Meadows (1980) had developed and equation for converting CN values to C value.

$$C = 1 - \frac{S\,[1.2 - S/(P+0.8S)]}{P}$$

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

STORM EVENT	100-YR
P (inches)	7.30
CNd	89
Sd (inches)	1.236
Cd	0.82
CNcs	83
Scs	2.0482
Ccs	0.73
Ad (acres)	21.55
Acs (acres)	267.40
Existing peak flow leaving pond (cfs)	594.00
PI (%)	9.06
Allowable peak flow leaving pond (cfs)	540
Provided peak flow leaving pond (cfs)	532
Pre-dev. peak flow at section 4 (cfs)	1165
Post-dev. peak flow at section 4 (cfs)	1078

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

Special Permits (8-011 2J & 2L)	Special Exceptions (9-011 2J & 2L)
Cluster Subdivision (9-615 1G & 1H)	Commercial Revitalization Districts (9-622 2A (12) & 14))
Development Plans PRC District (16-302 3 & 4L)	PRC Plan (16-303 1E & 1O)
FDP P Districts (except PRC) (16-502 1F & 1Q)	Amendments (18-202 10F & 10I)

☒ 1. Plat is at a minimum scale of 1" = 50' (unless it is depicted on one sheet with a minimum scale of 1" = 100'.

☒ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 4.

☒ 3. Provide:

Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
Dry Pond (e.g. dry pond A, infil, trench, underground, vault, etc.)	16.13	113.97	130.1	206,200	1,879,800	18'
Totals	16.13	113.97	130.1	206,200	1,879,800	18'

☒ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 3, 4. Pond inlet and outlet pipe systems are shown on Sheet 10.

☒ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 10. Type of maintenance access road surface noted on the plat is 10 (e.g. asphalt, geoblock, gravel, etc.).

☒ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 12.

☒ 7. A stormwater management narrative which contains a description of how detention and best management practice requirements will be met is provided on Sheet 13.

☒ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 13.

☒ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 13.

☒ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 3.

☒ 11. A submission waiver is requested for N/A.

☒ 12. Stormwater management is not required because N/A.

Industry Letter 05-03 dated 02/02/05

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
ROBERT CHARLES CULLETON
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.06.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY: SCC
APPROVED BY: PGY
CHECKED BY: TCC
DATE: April 14, 2008

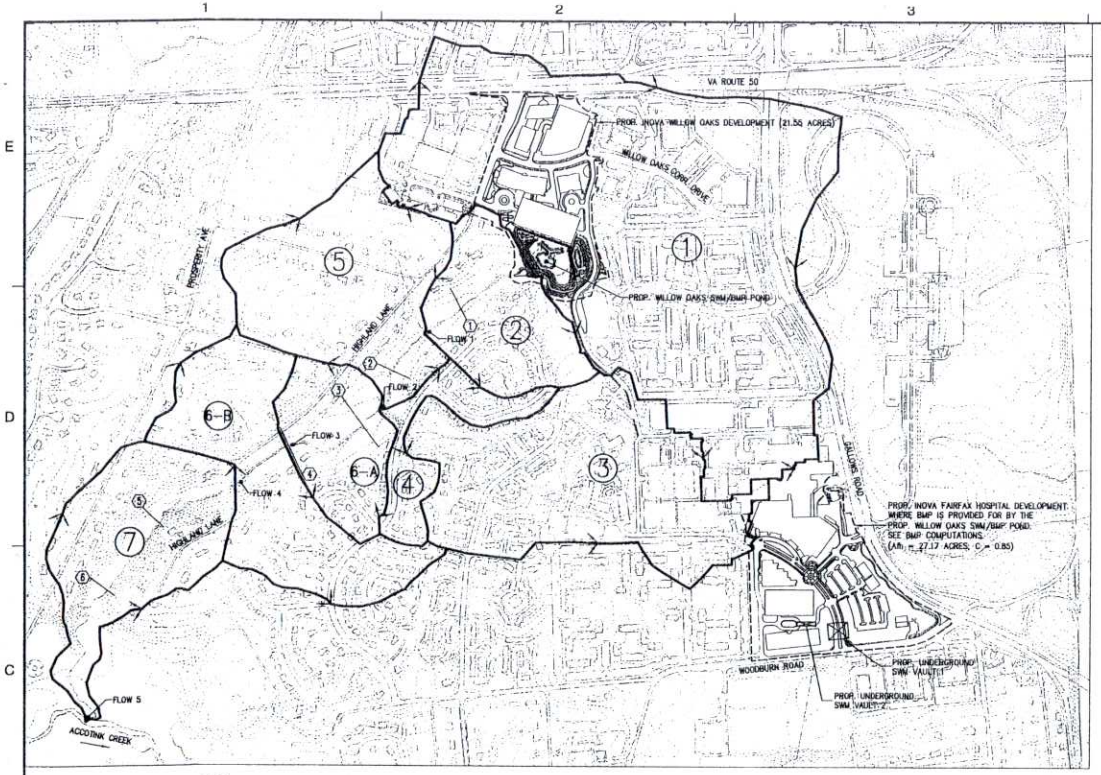
TITLE

Inova
Willow Oaks

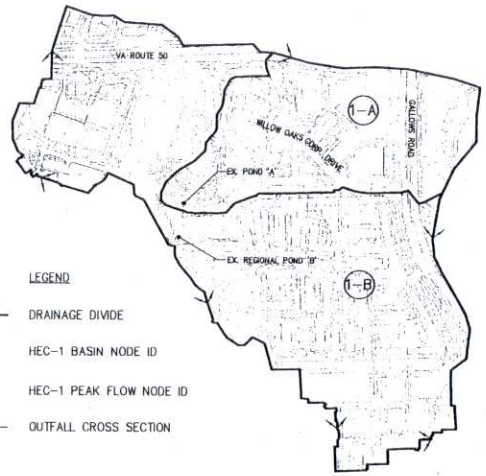
Partial Generalized Development
Stormwater Management
and Outfall Narratives

PROJECT NO.

15



DEVELOPED CONDITIONS TO PROPOSED WILLOW OAKS SWM/BMP POND AND OUTFALL TO ACCOTINK CREEK
SCALE: 1" = 400'



LEGEND

DRAINAGE DIVIDE

1 HEC-1 BASIN NODE ID

FLOW 3 HEC-1 PEAK FLOW NODE ID

3 OUTFALL CROSS SECTION

EXISTING CONDITIONS TO EXISTING REGIONAL POND 'B'
SCALE: 1" = 400'

HYDROLOGIC DATA

HEC-1 BASIN NODE ID	ACRES	RCN	Tc (min)
1-A	37.1	84	10
1-B	93.0	87	10
1 (FORESTED)	130.1	62	25
1 (DEVELOPED)	130.1	89	10
2	21.7	75	10
3	51.1	82	10
4	10.2	73	10
5	37.3	77	15
6-A	17.0	77	10
6-B	33.6	71	15
7	30.7	73	10

NRCS 24-HOUR PEAK FLOW SUMMARY ALONG WILLOW OAKS OUTFALL TO ACCOTINK CREEK

LOCATION **	2-YEAR PRE-DEV	2-YEAR POST-DEV	10-YEAR PRE-DEV	10-YEAR POST-DEV	100-YEAR PRE-DEV	100-YEAR POST-DEV
FLOW-1	96	49	278	136	689	500
FLOW-2	145	98	362	251	877	789
FLOW-3	234	187	568	499	1165	1078
FLOW-4	257	209	624	564	1255	1165
FLOW-5	263	216	628	558	1230	1145

** LOCATIONS SHOWN ON MAP THIS SHEET. ALSO REFER TO EXISTING AND ULTIMATE CONDITIONS HEC-1 MODELS PROVIDED IN THIS APPLICATION.

DEVELOPED CONDITIONS C-FACTOR TO PROP. WILLOW OAKS SWM/BMP POND

LAND USE	IMP (%)	ACRES	IMP x ACRES
COMMERCIAL	85	70.40	5984.0
OPEN SPACE	15	14.96	224.4
TOWNHOMES	70	34.57	2419.9
MAJOR ROADS	100	10.17	1017.0
		130.1	9645.3 IMP = 74 %

C = 0.05 + 0.009 (IMP) = 0.05 + 0.009 (74) = 0.72

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

INOVA
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PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
TIMOTHY CHARLES COLLETTONE
Lic. No. 28012
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

EDWARD J. KILROY
Lic. No. 33579
4/27/11

SCALE

AS SHOWN

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.26.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY LNR
APPROVED BY PGY
CHECKED BY TCC
DATE April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development
Drainage Divides
and Hydrologic Data

PROJECT NO.

16

SHEET NO. 16 OF 20

M-10690

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WILLOW OAKS OUTFALL ANALYSIS – CROSS SECTION COMPUTATION SUMMARY

Label	Discharge (ft^3/s)	Channel Slope (ft/ft)	Roughness Coefficient	Normal Depth (ft)	Water Surface Elevation (ft)	Velocity (ft/s)
Cross Section 1: MAX Q	662.45	0.01000	0.045	4.18	297.83	6.72
Cross Section 1: 2YR	49.00	0.01000	0.045	1.11	294.76	2.80
Cross Section 1: 100YR	800.00	0.01000	0.087	5.71	299.36	2.54
Cross Section 2: MAX Q	373.55	0.00770	0.045	4.10	291.73	5.49
Cross Section 2: 2YR	98.00	0.00770	0.045	2.10	289.73	3.64
Cross Section 2: 100YR	789.00	0.00770	0.075	5.86	293.49	3.41
Cross Section 3: MAX Q	225.89	0.00650	0.045	3.12	287.15	4.20
Cross Section 3: 2YR	187.00	0.00650	0.045	2.85	286.88	3.98
Cross Section 3: 100YR	1078.00	0.00650	0.053	5.51	289.54	3.51
Cross Section 4: MAX Q	307.44	0.01040	0.037	3.95	282.60	7.28
Cross Section 4: 2YR	187.00	0.01040	0.038	3.01	281.66	6.21
Cross Section 4: 10YR	499.00	0.01040	0.030	5.09	283.74	5.40
Cross Section 4: 100YR	1078.00	0.01040	0.048	6.27	284.92	4.39
Cross Section 5: MAX Q	246.33	0.00800	0.058	3.50	273.01	4.22
Cross Section 5: 2YR	216.00	0.00800	0.058	3.26	272.77	4.05
Cross Section 5: 100YR	1145.00	0.00800	0.078	5.35	274.86	3.39
Cross Section 6: MAX Q	268.73	0.00800	0.058	3.35	267.12	3.98
Cross Section 6: 2YR	216.00	0.00800	0.058	3.01	266.78	3.69
Cross Section 6: 100YR	1145.00	0.00800	0.067	5.31	269.08	3.41

HY-8 Culvert Analysis Report for Highland Lane

Site Data - 3-6X6 BOX AT HIGHLAND LANE

Site Data Option: Culvert Invert Data
Inlet Station: 0.00 ft
Inlet Elevation: 274.71 ft
Outlet Station: 42.00 ft
Outlet Elevation: 274.50 ft
Number of Barrels: 3

Culvert Data Summary - 3-6X6 BOX AT HIGHLAND LANE

Barrel Shape: Concrete Box
Barrel Span: 6.00 ft
Barrel Rise: 6.00 ft
Barrel Material: Concrete
Barrel Manning's n: 0.0130
Inlet Type: Conventional
Inlet Edge Condition: 1:1 Bevel (45° flare) Wingwall
Inlet Depression: None

Roadway Data for Crossing: EX HIGHLAND LANE

Roadway Profile Shape: Irregular Roadway Shape (coordinates)
Irregular Roadway Cross-Section:

Coord No.	Station (ft)	Elevation (ft)
1	0.00	295.61
2	7.00	294.56
3	45.00	290.31
4	84.00	286.22
5	124.00	283.64
6	164.00	282.51
7	203.00	282.78
8	240.00	283.86
9	277.00	285.06
10	287.00	285.52
11	321.00	287.63
12	357.00	290.10
13	394.00	293.12
14	429.00	296.75

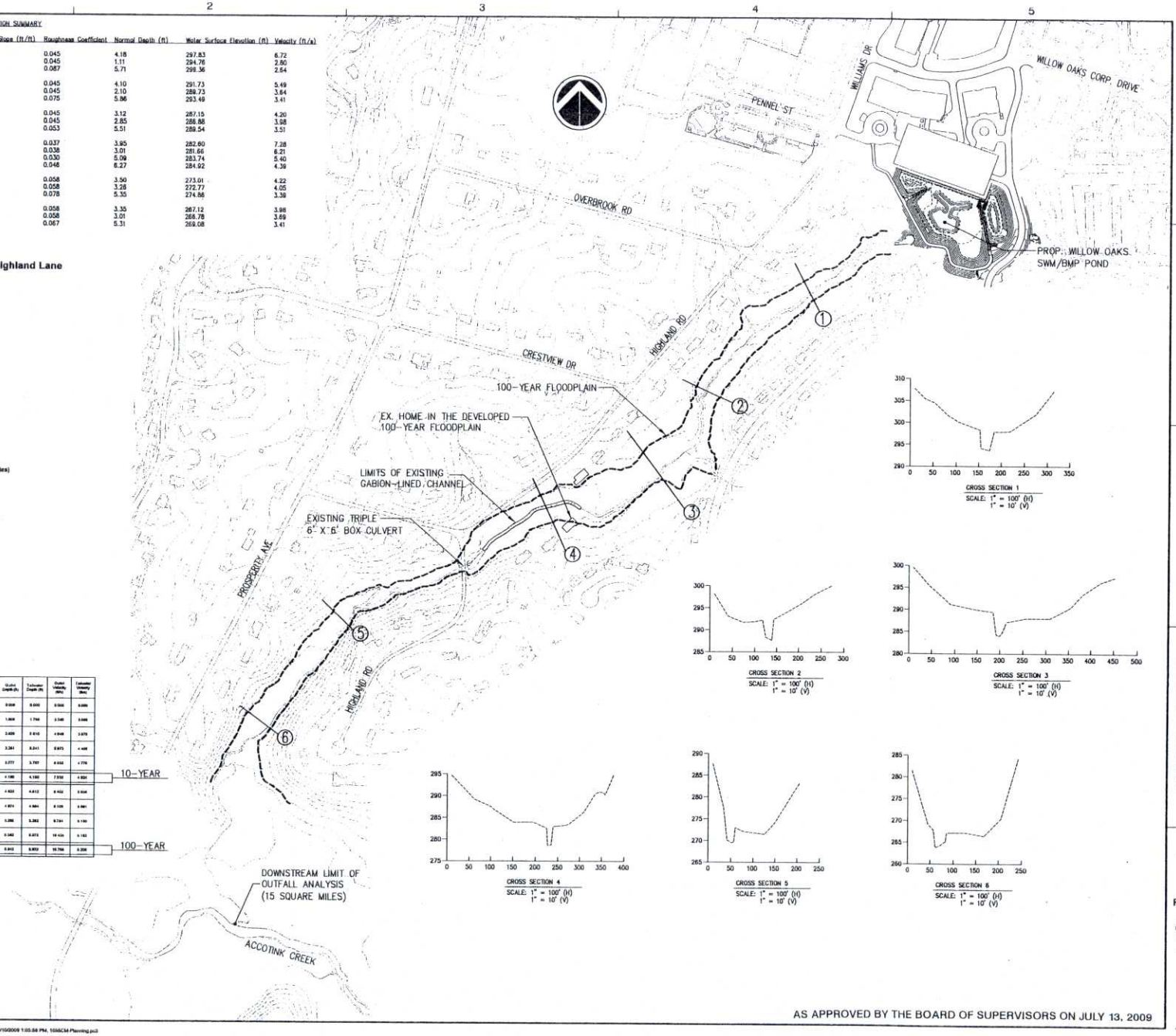
Roadway Surface: Paved
Roadway Top Width: 15.00 ft

Culvert Summary Table: 3-6X6 BOX AT HIGHLAND LANE

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (fps)	Tailwater Velocity (fps)
0.00	0.00	274.71	0.000	0.000	0+7	0.000	0.000	0.000	0.000	0.000	0.000
116.67	116.67	276.60	1.634	1.653	1-6(1)	0.837	1.004	1.000	1.744	3.545	3.000
233.33	233.33	277.66	2.679	2.899	1-6(1)	1.536	1.727	2.429	2.610	4.848	3.879
349.99	349.99	278.30	3.404	3.793	1-6(1)	2.061	2.276	3.261	3.241	5.973	4.488
466.66	466.66	279.26	4.173	4.641	1-6(1)	2.546	2.737	3.777	3.797	6.932	4.776
583.32	583.32	279.93	4.798	5.131	1-6(1)	2.963	3.131	4.180	4.150	7.732	4.924
699.98	699.98	280.27	5.004	5.457	1-6(1)	3.465	3.413	4.433	4.412	8.432	5.034
816.65	816.65	281.16	5.367	6.454	1-6(1)	3.834	4.055	4.874	4.844	9.126	5.081
932.98	932.98	281.73	7.006	7.833	1-6(1)	4.247	4.574	5.288	5.262	9.734	5.130
1049.98	1049.98	282.46	7.748	7.871	1-6(1)	4.792	4.733	5.542	5.672	10.424	5.183
1166.65	1166.65	282.97	8.268	7.884	1-6(1)	5.005	4.882	5.913	5.972	10.796	5.208

10–YEAR

100–YEAR



AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703 849 0100
FAX: 703 849 0518
www.dewberry.com

INOVA WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
TIMOTHY CHARLES COLLISTON
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

4/27/11

SCALE

0' 200' 400'

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE

Inova
Willow Oaks
Partial Generalized Development Plan Amendment
Outfall Plan and Cross Sections

PROJECT NO.

17

SHEET NO. 17 OF 20

M-10690

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Watershed Description

Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)		"C" (2)	Acres (3)
Awo	DEVELOPED WATERSHED TO PROPOSED WILLOW OAKS SWM/BMP POND (GOPA)	0.72	130.10
Afh	UNCONTROLLED FAIRFAX HOSPITAL DEVELOPMENT (SEA)	0.85	27.17

Phosphorus Removal Calculations (Part 2 - 4)

Part 2: Compute the Weighted Average "C" Factor for the Site

(A) Area of the site (a) 157.27 ac

Subarea Designation and Description (1)		"C" (2)		Acres (3)		Product (4)
Awo	DEVELOPED WATERSHED TO PROPOSED WILLOW OAKS SWM/BMP POND (GOPA)	0.72	x	130.10	=	93.67
Afh	UNCONTROLLED FAIRFAX HOSPITAL DEVELOPMENT (SEA)	0.85	x	27.17	=	23.09
			(b)	Total	=	116.76

(C) Weighted average "C" factor (b) / (a) = 0.74

Part 3: Compute the Total Phoshorus Removal for the Site

Subarea	BMP Type	Removal Eff (%)	"C"	Acres	Area Ratio	C-factor Ratio	Product (%)
Awo	SWM/BMP POND	50	0.72	130.10	0.827	0.973	40.23
Afh	NONE	0	0.85	27.17	0.173	1.149	0.00
				(a)	Total	=	40.23

Part 4: Determine Compliance with Phosphorus Removal

Select Requirement:

Water Supply Overlay District (Occoquan Watershed) = 50% (Fairfax County and Prince William County)

Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) 50% (Prince William County)

Chesapeake Bay Preservation Area (Redevelopment) = [1-0.9x("I"pre/"I"post)]x100 = ______ %

Requirement (a) 40.00 %

If Line 3(a) 40.23 >=Line 4(a) 40.00 then Phosphorus removal requirement is satisfied

BMP Storage Calculations (Part 7 - 8)

Part 7: Compute the Weighted Average "C" Factor for the Proposed BMP Facility

Subarea Designation and Description (1)		"C" (2)		Acres (3)		Product (4)
Awo	DEVELOPED WATERSHED TO PROPOSED WILLOW OAKS SWM/BMP POND (GOPA)	0.72	x	130.10	=	93.67
			(a)	130.10	(b)	93.67

(C) Weighted average "C" factor (b) / (a)=(c) = 0.72

BMP Outlet Computations

Part 9: Determine the Required Orifice Size for the Proposed BMP Facility

(A) BMP storage requirement from Part 8. (a) 295978 cf

(B) Maximum head (h) at the required BMP storage from the Stage-Storage curve for the facility. (b) 3.5 ft

(C) Peak Outflow Rate (Qp) at the maximum head for a drawdown time of 48 hrs [Qp=S/(0.5x3600x48)] 0.0000116xLine 9(a) 295978 = (c) 3.4257 cfs

(D) Required Orifice Area (A) [A=Qp/(0.6x(64.4xh)^0.5)] Line 9(c) 3.4257 / (0.6x(64.4xLine 9(b) 3.5)^0.5) = (d) 0.3803 sf

(E) Diameter of a circular orifice 2.0 x (Line 9(d) 0.3803 /3.14159(27))^0.5 = (e) 0.696 ft, 8.352 in; USE 8.0 in

Part 8: Determine the Storage Required for the Proposed BMP Facility

C = 0.72 (weighted "C" for area draining to Pond)
Chart A8-40 value (Appendix 4-3) for BMP storage per acre:
(4375 x C) - 875 = 2275.0 cf/ac

Design 1 (48hr Drawdown)
Effective Drainage Area to Pond = 130.10 ac
Storage Volume Required = 295,978 cf; 6.80 ac-ft

Storage Volume Provided = 483,952 cf - 181,863 cf = 302,089 cf; 2.21 ac-ft

At Stage Elevation = 304.50 ft

WILLOW OAKS SWM/BMP POND STAGE STORAGE

	Elev (ft)	Acres	Volume (ac-ft) Incremental	Cummulative	
	294.0	0.19	0.0000	0.0000	
	295.0	0.28	0.2350	0.2350	
	296.0	0.35	0.3150	0.5500	
	298.0	0.53	0.8800	1.4300	
	299.6	0.67	0.9000	2.3300	
	300.5	1.43	1.0600	3.3800	
(Marsh WSE)	301.0	1.76	0.7950	4.1750	181,863 cf
	302.0	1.88	1.8150	5.9900	
	304.0	2.15	4.0300	10.0200	
(BMP WSE)	304.5	2.21	1.0900	11.1100	483,952 cf
	306.0	2.33	3.4050	14.5150	
	308.0	2.49	4.8200	19.3350	
	310.0	2.6	5.0900	24.4250	
	312.0	2.77	5.3700	29.7950	
	314.0	2.95	5.7200	35.5150	
	316.0	3.12	6.0700	41.5850	
	316.5	3.16	1.5700	43.1550	

WILLOW OAKS SWM/BMP POND SPILLWAY RATING CURVE (UNCLOGGED CONDITION)

RISER ORIFICE FLOW

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION
1	301.33	0.349	0.6	8" EXT'D DETENTION INV=301.00
2	306	4.5	0.6	4.5' X 1' ORIFICE INV=304.50
3 (top)	310.75	260	0.6	TOP OF 26' X 10' RISER

RISER WEIR FLOW

WEIR NO.	CREST ELEV.	LENGTH	C
1	307	2	3
2 (top)	310.75	44	3
3 (headwall)	312.5	28	3

EMER. SPILLWAY FLOW: CREST ELEV. = ; WIDTH = ; Z = ; C =

CULVERT RATING CURVE — SIZE: DBL 10' X 8' RCBC

ELEV.	DISCHARGE
299	0
302.75	40
302.90	80
303.04	120
303.16	160
303.28	200
304.13	500
308.66	1500
311.48	2000
317.46	2800

ELEV.	ORIFICES Q1	Q2	Q3	WEIRS Q1	Q2	Q3	RISER FLOW	CULVERT CAPACITY	Q P.S.W. (Control)	Q E.S.W.	TOTAL FLOW	COMMENTS
301	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.3	0.0	0.0	0.0	
302	1.4	0.0	0.0	0.0	0.0	0.0	1.4	32.0	1.4	0.0	1.4	
306	3.8	21.7	0.0	0.0	0.0	0.0	25.3	913.2	25.3	0.0	25.3	
308	4.3	37.5	0.0	6.0	0.0	0.0	47.9	1354.3	47.9	0.0	47.9	
310.75	6.2	62.0	0.0	43.6	0.0	0.0	100.7	1871.0	100.7	0.0	100.7	
312	6.5	67.3	1399.7	87.1	184.5	0.0	314.4	2070.0	314.4	0.0	314.4	
314	6.0	66.0	2256.9	111.1	773.4	143.3	1098.8	2337.4	1098.8	0.0	1098.8	
316	6.4	71.9	2868.4	162.0	1587.9	510.7	2338.9	2604.8	2338.9	0.0	2338.9	
318.5	6.5	73.5	3001.9	175.7	1820.0	624.0	2699.7	2671.6	2671.6	0.0	2671.6	culvert control

WILLOW OAKS SWM/BMP POND SPILLWAY RATING CURVE (CLOGGED CONDITION)

RISER ORIFICE FLOW

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION
1	301.33	0	0.6	8" EXT'D DETENTION INV=301.00
2	306	0	0.6	4.5' X 1' ORIFICE INV=304.50
3 (top)	310.75	260	0.6	TOP OF 26' X 10' RISER

RISER WEIR FLOW

WEIR NO.	CREST ELEV.	LENGTH	C
1	307	0	3
2 (top)	310.75	44	3
3 (headwall)	312.5	28	3

EMER. SPILLWAY FLOW: CREST ELEV. = ; WIDTH = ; Z = ; C =

CULVERT RATING CURVE — SIZE: DBL 10' X 8' RCBC

ELEV.	DISCHARGE
299	0
302.75	40
302.90	80
303.04	120
303.16	160
303.28	200
304.13	500
308.66	1500
311.48	2000
317.46	2800

ELEV.	ORIFICES Q1	Q2	Q3	WEIRS Q1	Q2	Q3	RISER FLOW	CULVERT CAPACITY	Q P.S.W. (Control)	Q E.S.W.	TOTAL FLOW	COMMENTS
301	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.3	0.0	0.0	0.0	
302	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	0.0	
306	0.0	0.0	0.0	0.0	0.0	0.0	0.0	913.2	0.0	0.0	0.0	
308	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1354.3	0.0	0.0	0.0	
310.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1871.0	0.0	0.0	0.0	
312	0.0	0.0	1399.7	0.0	184.5	0.0	184.5	2070.0	184.5	0.0	184.5	
314	0.0	0.0	2256.9	0.0	773.4	143.3	916.7	2337.4	916.7	0.0	916.7	
316	0.0	0.0	2868.4	0.0	1587.9	510.7	2098.6	2604.8	2098.6	0.0	2098.6	
318.5	0.0	0.0	3001.9	0.0	1820.0	624.0	2444.0	2671.6	2444.0	0.0	2444.0	

EXISTING POND 'A' SPILLWAY RATING CURVE

ORIFICE FLOW

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION
1	307.96	3.142	0.6	24" ORIFICE AT INV=306.96
2				
3 (riser top)	316	28.274	0.6	6' DIA RISER AT TOP = 316.00

WEIR FLOW

WEIR NO.	CREST ELEV.	LENGTH	C
1			
2			
3 (riser top)	316	18.85	3

EMER. SPILLWAY FLOW: CREST ELEV. = 318.5; WIDTH = 170; Z = ; C = 2.6

CULVERT RATING CURVE — SIZE: 48" RCP

ELEV.	DISCHARGE
306.96	0
310.59	30
313.67	60
314.90	90
316.54	120
318.57	150
320.99	180
323.78	210
328.97	240

ELEV.	ORIFICES Q1	Q2	Q3	WEIRS Q1	Q2	Q3	RISER FLOW	CULVERT CAPACITY	Q P.S.W. (Control)	Q E.S.W.	TOTAL FLOW	COMMENTS
306.96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
308	15.4	0.0	0.0	0.0	0.0	0.0	15.4	16.8	15.4	0.0	15.4	
310	21.6	0.0	0.0	0.0	0.0	0.0	21.6	25.1	21.6	0.0	21.6	
312	30.4	0.0	0.0	0.0	0.0	0.0	30.4	43.7	30.4	0.0	30.4	
314	37.2	0.0	0.0	0.0	0.0	0.0	37.2	68.0	37.2	0.0	37.2	
316	42.9	0.0	0.0	0.0	0.0	0.0	42.9	110.1	42.9	0.0	42.9	
318	47.9	0.0	192.5	0.0	0.0	159.9	207.9	141.6	141.6	812.0	953.6	culvert control

EXISTING REGIONAL POND 'B' SPILLWAY RATING CURVE

ORIFICE FLOW

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION
1	300.47	4.909	0.6	30" ORIFICE AT INV=299.22
2				
3 (riser top)	311.02	19.635	0.6	5' DIA RISER AT TOP = 311.02

WEIR FLOW

WEIR NO.	CREST ELEV.	LENGTH	C
1			
2			
3 (riser top)	311.02	15.708	3

EMER. SPILLWAY FLOW: CREST ELEV. = 312.5; WIDTH = 95; Z = ; C = 2.6

CULVERT RATING CURVE — SIZE: 60" RCP

ELEV.	DISCHARGE
299.22	0
303.52	100
306.67	200
311.83	300
319.05	400
328.58	500
343.49	600
372.54	700
432.86	800
552.75	900

ELEV.	ORIFICES Q1	Q2	Q3	WEIRS Q1	Q2	Q3	RISER FLOW	CULVERT CAPACITY	Q P.S.W. (Control)	Q E.S.W.	TOTAL FLOW	COMMENTS
299.22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
302	37.6	0.0	0.0	0.0	0.0	0.0	37.6	88.0	37.6	0.0	37.6	
304	44.4	0.0	0.0	0.0	0.0	0.0	44.4	115.3	44.4	0.0	44.4	
306	55.6	0.0	0.0	0.0	0.0	0.0	55.6	178.7	55.6	0.0	55.6	
308	64.9	0.0	0.0	0.0	0.0	0.0	64.9	225.8	64.9	0.0	64.9	
310	73.0	0.0	0.0	0.0	0.0	0.0	73.0	284.6	73.0	0.0	73.0	
312	80.3	0.0	93.6	0.0	0.0	45.7	126.0	302.4	126.0	0.0	126.0	
312.5	82.0	0.0	115.0	0.0	0.0	84.8	166.8	308.3	166.8	0.0	166.8	
314	86.9	0.0	163.2	0.0	0.0	242.4	250.1	330.1	250.1	453.8	703.9	riser orifice control
316	90.1	0.0	186.6	0.0	0.0	374.2	278.7	343.9	278.7	976.4	1255.1	riser orifice control

EXISTING POND 'A' STAGE STORAGE

Elev (ft)	Acres	Volume (ac-ft) Incremental	Cummulative
306.96	0	0.0000	0.0000
308.0	0.03	0.0156	0.0156
310.0	0.46	0.4900	0.5056
312.0	0.58	1.0400	1.5456
314.0	0.69	1.2700	2.8156
316.0	0.81	1.5000	4.3156
318.0	0.81	1.6200	5.9356

EXISTING REGIONAL POND 'B' STAGE STORAGE

Elev (ft)	Acres	Volume (ac-ft) Incremental	Cummulative
299.22	0	0.0000	0.0000
302.0	0.03	0.0417	0.0417
304.0	0.13	0.1600	0.2017
306.0	0.63	0.7600	0.9617
308.0	0.83	1.4600	2.4217
310.0	1.31	2.1400	4.5617
312.0	1.82	3.1300	7.8917
314.0	2.44	4.2800	11.9517
316.0	2.44	2.4400	14.3917

Dewberry

Dewberry & Davis LLC
8405 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

INOVA WILLOW OAKS

PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL: COMMONWEALTH OF VIRGINIA — TIMOTHY CHARLES CULLETON, Lic. No. 28112, PROFESSIONAL ENGINEER — 6-10-09

KEY PLAN

4/27/11

SCALE

No.	DATE	BY	Description
10	06.10.09	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC

APPROVED BY

CHECKED BY PGY

DATE April 14, 2008

TITLE

Inova Willow Oaks

Partial Generalized Development BMP Computations and Rating Curves

PROJECT NO.

18

SHEET NO. M-10690 18 OF 20

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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X    X XXXXXXX   XXXXX          X
X    X X         X    X        XX
X    X X         X             X
XXXXXXX XXXX     X    XXXXX    X
X    X X         X             X
X    X X         X    X        X
X    X XXXXXXX   XXXXX          XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -ANSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBHYDROGRAPH , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

                                HEC-1 INPUT                                    PAGE  1

LINE          ID.......1.........2.........3.........4.........5.........6.........7.........8.........9.........10

  1           ID       WILLOW OAKS PROPOSED SWF/ENH POND AND OUTFALL
  2           ID       FAIRFAX COUNTY, VIRGINIA
  3           ID       SCS TYPE II, 24-HOUR RAINFALL DISTRIBUTION
  4           ID       FAIRFAX COUNTY PFM RAINFALL DEPTHS
  5           ID       EXISTING CONDITIONS DEVELOPMENT
              *DIAGRAM
  6           IT       5          300
  7           IO       5
              *                 2-YR      10-YR     100-YR   OVERTOP
  8           JR    PREC     3.2       5.2       7.3       3.3
              *

  9           KK    1-A
 10           KM    BASIN 1-A RUNOFF HYDROGRAPH TO EX POND A
 11           BA    0.058
 12           PB       1
              * SCS Type2 Rainfall Distribution Pattern
 13           IN       6
 14           PC     0.0   .00101   .00202   .00305   .00408   .00513   .00618   .00725   .00832   .00941
 15           PC   .01050   .01161   .01272   .01385   .01498   .01613   .01728   .01845   .01962   .02081
 16           PC    .022    .02321   .02442   .02565   .02688   .02813   .02938   .03065   .03192   .03321
 17           PC   .03450   .03581   .03712   .03845   .03978   .04113   .04248   .04385   .04522   .04661
 18           PC    .048    .04941   .05084   .05229   .05376   .05525   .05674   .05825   .05984   .06141
 19           PC    .063    .06461   .06624   .06789   .06956   .07125   .07296   .07468   .07644   .07821
 20           PC    .08     .08181   .08364   .08549   .08736   .08925   .09116   .09309   .09504   .09701
 21           PC    .099    .10101   .10304   .10509   .10716   .10925   .11136   .11349   .11564   .11781
 22           PC    .12     .12225   .12450   .12705   .12960   .13225   .135     .13785   .14080   .14385
 23           PC    .147    .1502    .15340   .1566    .1598    .163     .16628   .16972   .17332   .17708
 24           PC    .181    .18512   .18948   .19408   .19892   .204     .2094    .2152    .2214    .228
 25           PC    .235    .24248   .25132   .26092   .27148   .283     .30684   .35436   .43079   .56786
 26           PC    .663    .68196   .69864   .71304   .72516   .735     .74344   .75136   .75876   .76564
 27           PC    .772    .77796   .78364   .78904   .79416   .799     .8036    .808     .8122    .8162
 28           PC    .82     .82367   .82726   .83078   .83424   .83743   .84094   .84415   .84736   .85047
 29           PC   .85350   .85647   .85936   .86219   .86494   .86763   .87024   .87279   .87526   .87767
 30           PC    .88     .88229   .88455   .88679   .889     .89115   .89325   .89529   .8976    .89960
 31           PC   .90175   .90379   .9058    .90779   .90975   .91169   .9136    .91549   .91735   .91919
 32           PC    .921    .92279   .92455   .92629   .928     .92969   .93135   .93299   .9346    .93619
 33           PC   .93775   .93929   .9408    .94229   .94375   .94519   .9466    .94799   .94935   .95069
 34           PC    .952    .9533    .95459   .95588   .95716   .95844   .95971   .96098   .96224   .9635
 35           PC   .96475   .966     .96724   .96848   .96971   .97094   .97216   .97338   .97459   .9758
 36           PC    .977    .9782    .97939   .98058   .98176   .98294   .98411   .98528   .98644   .98760
 37           PC   .98875   .9899    .99104   .99218   .99331   .99444   .99556   .99668   .99779   .9989
 38           PC    1.0
 39           LS       84
 40           UD       0.1
              *

 41           KK    PA
 42           KM    ROUTE THROUGH EXISTING POND A
 43           KS       1    ELEV  306.96
 44           SA       0     0.03     0.46     0.58     0.69     0.81     0.81
 45           SE  306.96     308      310      312      314      316      318
 46           SQ       0      15.4     21.6     38.4     37.2     42.9    953.6
 47           SE  306.96     309      310      312      314      316      318
              *

                                HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.........2.........3.........4.........5.........6.........7.........8.........9.........10

 48           KK    1-B
 49           KM    BASIN 1-B RUNOFF HYDROGRAPH TO EX POND B
 50           BA    0.145
 51           LS       87
 52           UD       0.1
              *

 53           KK    TO B
 54           KM    COMBINE PA HYDROGRAPH TO BASIN 1-B HYDROGRAPH
 55           HC       2
              *

 56           KK    PB
 57           KM    ROUTE "TO B" HYDROGRAPH THROUGH EXISTING REGIONAL POND B
 58           KS       1    ELEV  299.22
 59           SA       0     0.03     0.13     0.63     0.83     1.31     1.82     2.44     2.44
 60           SE  299.22     302      304      306      308      310      312      314      315
 61           SQ       0      37.6     44.4     55.4     64.9       73      124    146.8    703.5   1255.1
 62           SE  299.22     303      304      306      308      310      312    312.5      314      315
              *

 63           KK    2
 64           KM    BASIN 2 EXISTING RUNOFF HYDROGRAPH
 65           BA    0.034
 66           LS       75
 67           UD       0.10
              *

 68           KK    FLOW-1
 69           KM    COMBINE BASIN 2 HYDROGRAPH TO PB HYDROGRAPH
 70           HC       2
              *

 71           KK    5
 72           KM    BASIN 5 EXISTING RUNOFF HYDROGRAPH
 73           BA    0.058
 74           LS       73
 75           UD       0.15
              *

 76           KK    FLOW-2
 77           KM    COMBINE BASIN 5 HYDROGRAPH TO FLOW-1 HYDROGRAPH
 78           HC       2
              *

 79           KK    3
 80           KM    BASIN 3 EXISTING RUNOFF HYDROGRAPH
 81           BA    0.08
 82           LS       82
 83           UD       0.10
              *

                                HEC-1 INPUT                                    PAGE  3

LINE          ID.......1.........2.........3.........4.........5.........6.........7.........8.........9.........10

 84           KK    X-POND
 85           KM    ROUTE BASIN 3 EXISTING RUNOFF HYDROGRAPH THROUGH EX POND AT MONARCH RD
 86           KS       1    ELEV      290
 87           SA       0     0.22     0.24     0.54     1.8
 88           SE     290      292      295      300      305
 89           SQ       0      9.3     14.1     17.3    134.7    329.1    368.4   1197.7
 90           SE     290      292      294      296      298      300      302      304
              *

 91           KK       4
 92           KM    BASIN 4 EXISTING RUNOFF HYDROGRAPH
 93           BA    0.014
 94           LS       73
 95           UD       0.10
              *

 96           KK    COMB1
 97           KM    COMBINE X-POND HYDROGRAPH TO BASIN 4 HYDROGRAPH
 98           HC       2
              *

 99           KK    COMB2
100           KM    COMBINE FLOW-2 HYDROGRAPH TO COMB1 HYDROGRAPH
101           HC       2
              *

102           KK    CR-1
103           KM    CHANNEL ROUTE COMB2 HYDROGRAPH TO FLOW-3 NODE
104           RD
105           RC     0.1    0.045      0.1      600   0.0045
106           RX       0      125      182      189      203      344      443
107           RY  299.58   290.12   289.47   284.27   284.77   287.15   290.44   297.29
              *
```

```
108           KK    4-A
109           KM    BASIN 4-A EXISTING RUNOFF HYDROGRAPH
110           BA    0.027
111           LS       77
112           UD       0.1
              *

113           KK    FLOW-2
114           KM    COMBINE BASIN 4-A HYDROGRAPHS TO CR-1 HYDROGRAPH
115           HC       2
              *

116           KK    CR-2
117           KM    CHANNEL ROUTE FLOW 3 HYDROGRAPH TO FLOW-4 NODE
118           RD
119           RC     0.1    0.045      0.1      635   0.0104
120           RX       0      142      215      217      225      229      264    366.07
121           RY  294.7   283.95   282.6   278.65   278.73      283   283.55   294.78
              *

                                HEC-1 INPUT                                    PAGE  4

LINE          ID.......1.........2.........3.........4.........5.........6.........7.........8.........9.........10

122           KK    6-B
123           KM    BASIN 6-B EXISTING RUNOFF HYDROGRAPH
124           BA    0.053
125           LS       71
126           UD       0.15
              *

127           KK    FLOW-4
128           KM    COMBINE BASIN 6-B HYDROGRAPHS TO CR-2 HYDROGRAPH
129           HC       2
              *

130           KK    CR-3
131           KM    CHANNEL ROUTE FLOW-4 HYDROGRAPH TO FLOW-5 NODE
132           RD
133           RC     0.1    0.0575      0.1     2550   0.008
134           RX       0       32       64       75       85       89      161    220.2
135           RY  285.54   278.13   272.61   265.49   264.48   268.98   272.76    286.5
              *

136           KK       7
137           KM    BASIN 7 EXISTING RUNOFF HYDROGRAPH
138           BA    0.046
139           LS       73
140           UD       0.1
              *

141           KK    FLOW-5
142           KM    COMBINE BASIN 7 HYDROGRAPH TO CR-3 HYDROGRAPH
143           HC       2
              *

144           ZZ

                SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
LINE    (V) ROUTING          (---->) DIVERSION OR PUMP FLOW
NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  9         1-A
            V
            V
 61         PA

 48                   1-B

 53         TO B
            V
            V
 56         PB

 63                      2

 68         FLOW-1

 71                      5

 76         FLOW-2

 79                      3
                         V
                         V
 84                   X-POND

 91                                  4

 96                   COMB1

 99         COMB2
            V
            V
102         CR-1

108                   6-A

113         FLOW-3
            V
            V
116         CR-2

122                   6-B

127         FLOW-4
            V
            V
130         CR-3

136                      7

141         FLOW-5

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

                                                  RATIOS APPLIED TO PRECIPITATION
OPERATION     STATION    AREA    PLAN              RATIO 1  RATIO 2  RATIO 3  RATIO 4
                                                     3.20     5.20     7.30     3.30
HYDROGRAPH AT
+                1-A     .06     1  FLOW              81.      143.     250.      85.
                                    TIME            12.00    12.00    12.00    12.00
ROUTED TO
+                PA      .06     1  FLOW              29.      40.      170.      29.
                                    TIME            12.25    12.25    12.08    12.25
                                 ** PEAK STAGES IN FEET **
                                 1  STAGE          311.55   314.83   316.28   311.77
                                    TIME            12.25    12.25    12.08    12.25
HYDROGRAPH AT
+                1-B     .14     1  FLOW             229.      436.     854.     239.
                                    TIME            12.00    12.00    12.00    12.00
2 COMBINED AT
+                TO B    .20     1  FLOW             253.      470.     695.     264.
                                    TIME            12.00    12.00    12.00    12.00
ROUTED TO
+                PB      .20     1  FLOW              77.      244.     594.      81.
                                    TIME            12.33    12.17    12.08    12.33
                                 ** PEAK STAGES IN FEET **
                                 1  STAGE          310.16   312.72   313.49   310.32
                                    TIME            12.33    12.17    12.08    12.33
HYDROGRAPH AT
+                2        .03     1  FLOW              30.      74.      123.      32.
                                    TIME            12.00    12.00    12.00    12.00
```

```
2 COMBINED AT
+                FLOW-1   .24     1  FLOW              94.      278.     689.      99.
                                    TIME            12.00    12.17    12.08    12.00
HYDROGRAPH AT
+                5        .06     1  FLOW              50.      115.     190.      53.
                                    TIME            12.08    12.08    12.00    12.08
2 COMBINED AT
+                FLOW-2   .29     1  FLOW             143.      362.     877.     150.
                                    TIME            12.08    12.17    12.08    12.08
HYDROGRAPH AT
+                3        .08     1  FLOW             102.      216.     334.     107.
                                    TIME            12.00    12.00    12.00    12.00
ROUTED TO
+                X-POND   .08     1  FLOW              76.      187.     294.      82.
                                    TIME            12.08    12.08    12.08    12.08
                                 ** PEAK STAGES IN FEET **
                                 1  STAGE          297.00   298.54   299.44   297.10
                                    TIME            12.08    12.08    12.08    12.08
HYDROGRAPH AT
+                4        .02     1  FLOW              13.      32.      55.      13.
                                    TIME            12.00    12.00    12.00    12.00
2 COMBINED AT
+                COMB1    .10     1  FLOW              84.      213.     349.      93.
                                    TIME            12.08    12.08    12.08    12.08
2 COMBINED AT
+                COMB2    .39     1  FLOW             231.      545.     1213.    243.
                                    TIME            12.08    12.08    12.08    12.08
ROUTED TO
+                CR-1     .39     1  FLOW             212.      528.     1094.    227.
                                    TIME            12.08    12.17    12.17    12.08
HYDROGRAPH AT
+                6-A      .03     1  FLOW              27.      62.      102.      28.
                                    TIME            12.00    12.00    12.00    12.00
2 COMBINED AT
+                FLOW-3   .42     1  FLOW             234.      548.     1165.    250.
                                    TIME            12.08    12.08    12.08    12.08
ROUTED TO
+                CR-2     .42     1  FLOW             226.      540.     1146.    241.
                                    TIME            12.17    12.17    12.17    12.08
HYDROGRAPH AT
+                6-B      .05     1  FLOW              32.      86.      150.      34.
                                    TIME            12.08    12.08    12.08    12.08
2 COMBINED AT
+                FLOW-4   .47     1  FLOW             257.      624.     1255.    275.
                                    TIME            12.08    12.17    12.17    12.08
ROUTED TO
+                CR-3     .47     1  FLOW             251.      607.     1196.    263.
                                    TIME            12.25    12.33    12.33    12.25
HYDROGRAPH AT
+                7        .05     1  FLOW              38.      97.      168.      40.
                                    TIME            12.00    12.00    12.00    12.00
2 COMBINED AT
+                FLOW-5   .52     1  FLOW             263.      628.     1230.    282.
                                    TIME            12.25    12.33    12.33    12.25

*** NORMAL END OF HEC-1 ***
```


```
X    X XXXXXXX   XXXXX          X
X    X X         X    X        XX
X    X X         X             X
XXXXXXX XXXX     X    XXXXX    X
X    X X         X             X
X    X X         X    X        X
X    X XXXXXXX   XXXXX          XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -ANSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBHYDROGRAPH , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

                                HEC-1 INPUT                                    PAGE  1

LINE          ID.......1.........2.........3.........4.........5.........6.........7.........8.........9.........10

  1           ID       WILLOW OAKS PROPOSED SWF/ENH POND AND OUTFALL
  2           ID       FAIRFAX COUNTY, VIRGINIA
  3           ID       SCS TYPE II, 24-HOUR RAINFALL DISTRIBUTION
  4           ID       FAIRFAX COUNTY PFM RAINFALL DEPTHS
  5           ID       2-YR AND 10-YR STORMS
  6           ID       FORESTED WATERSHED CONDITION
              *DIAGRAM
  7           IT       5          300
  8           IO       5
              *                 2-YR      10-YR
  9           JR    PREC     3.2       5.2
              *

 10           KK       1
 11           KM    BASIN 1 RUNOFF HYDROGRAPH - ASSUME 130.1 ACRE WATERSHED IS COMPLETELY FORESTED
 12           BA    0.203
 13           PB       1
              * SCS Type2 Rainfall Distribution Pattern
 14           IN       6
 15           PC     0.0   .00101   .00202   .00305   .00408   .00513   .00618   .00725   .00832   .00941
 16           PC   .01050   .01161   .01272   .01385   .01498   .01613   .01728   .01845   .01962   .02081
 17           PC    .022    .02321   .02442   .02565   .02688   .02813   .02938   .03065   .03192   .03321
 18           PC   .03450   .03581   .03712   .03845   .03978   .04113   .04248   .04385   .04522   .04661
 19           PC    .048    .04941   .05084   .05229   .05376   .05525   .05674   .05825   .05984   .06141
 20           PC    .063    .06461   .06624   .06789   .06956   .07125   .07296   .07468   .07644   .07821
 21           PC    .08     .08181   .08364   .08549   .08736   .08925   .09116   .09309   .09504   .09701
 22           PC    .099    .10101   .10304   .10509   .10716   .10925   .11136   .11349   .11564   .11781
 23           PC    .12     .12225   .12450   .12705   .12960   .13225   .135     .13785   .14080   .14385
 24           PC    .147    .1502    .15340   .1566    .1598    .163     .16628   .16972   .17332   .17708
 25           PC    .181    .18512   .18948   .19408   .19892   .204     .2094    .2152    .2214    .228
 26           PC    .235    .24248   .25132   .26092   .27148   .283     .30684   .35436   .43079   .56786
 27           PC    .663    .68196   .69864   .71304   .72516   .735     .74344   .75136   .75876   .76564
 28           PC    .772    .77796   .78364   .78904   .79416   .799     .8036    .808     .8122    .8162
 29           PC    .82     .82367   .82726   .83078   .83424   .83743   .84094   .84415   .84736   .85047
 30           PC   .85350   .85647   .85936   .86219   .86494   .86763   .87024   .87279   .87526   .87767
 31           PC    .88     .88229   .88455   .88679   .889     .89115   .89325   .89529   .8976    .89960
 32           PC   .90175   .90379   .9058    .90779   .90975   .91169   .9136    .91549   .91735   .91919
 33           PC    .921    .92279   .92455   .92629   .928     .92969   .93135   .93299   .9346    .93619
 34           PC   .93775   .93929   .9408    .94229   .94375   .94519   .9466    .94799   .94935   .95069
 35           PC    .952    .9533    .95459   .95588   .95716   .95844   .95971   .96098   .96224   .9635
 36           PC   .96475   .966     .96724   .96848   .96971   .97094   .97216   .97338   .97459   .9758
 37           PC    .977    .9782    .97939   .98058   .98176   .98294   .98411   .98528   .98644   .98760
 38           PC   .98875   .9899    .99104   .99218   .99331   .99444   .99556   .99668   .99779   .9989
 39           PC    1.0
 40           LS       62
 41           UD       0.25
              *

 42           ZZ
   PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
                                FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
                                TIME TO PEAK IN HOURS

                                                  RATIOS APPLIED TO PRECIPITATION
OPERATION     STATION    AREA    PLAN              RATIO 1  RATIO 2
                                                     3.20     5.20
HYDROGRAPH AT
+                1        .20     1  FLOW              29.      173.
                                    TIME            12.17    12.17

*** NORMAL END OF HEC-1 ***
```


AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

Q:\PROJECTS\OVA\Willow Oaks\Submissions\Development Plan\Definitive\19-SWM-HEC1.dwg, 8/10/2009 1:07:20 PM, 1:056C44-Planning.pc3

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0518
www.dewberry.com

INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CLIFFORD CHARLES COLLESTER
Lic. No. 20112
6-10-09
PROFESSIONAL ENGINEER

KEY PLAN

COMMONWEALTH OF VIRGINIA
PHILIP J. PLACIDO
No. 10-10-09
4/27/11

SCALE

No.	DATE	BY	Description
10	08.10.09	ARW	
9	08.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC
APPROVED BY
CHECKED BY PGY
DATE April 14, 2008

TITLE
Inova
Willow Oaks
Partial Generalized Development Plan Amendment
HEC-1 Models

PROJECT NO.

19

SHEET NO. 19 OF 20

M-10690

```
                    X    X  XXXXXXX   XXXXX          X
                    X    X  X        X    X        XX
                    X    X  X        X              X
                    XXXXXXX  XXXX    X        XXXXX  X
                    X    X  X        X              X
                    X    X  X        X    X         X
                    X    X  XXXXXXX  XXXXX          XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KM.

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KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

                              HEC-1 INPUT                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID        WILLOW OAKS PROPOSED BMP/SWM POND AND OUTFALL
  2           ID        FAIRFAX COUNTY, VIRGINIA
  3           ID        SCS TYPE II, 24-HOUR RAINFALL DISTRIBUTION
  4           ID        FAIRFAX COUNTY PFM RAINFALL DEPTHS
  5           ID        ULTIMATE CONDITIONS DEVELOPMENT
              *DIAGRAM
  6           IT     5                    300
  7           IO     5
              *            2-YR      10-YR     100-YR     OVERTOP
  8           JR   PREC     3.2       5.2       7.3       3.3
              *

  9           KK     1
 10           KM  BASIN 1 RUNOFF HYDROGRAPH - ASSUME DEVELOPED SITE AREA IS BUILT OUT
 11           BA  0.203
 12           PB     1
              * SCS TypeII Rainfall Distribution Pattern
 13           IN     6
 14           PC   0.0  .00101  .00202  .00305  .00408  .00513  .00618  .00725  .00832  .00941
 15           PC .01050  .01161  .01272  .01385  .01498  .01613  .01728  .01845  .01962  .02081
 16           PC  .022   .02331  .02442  .02565  .02688  .02813  .02938  .03065  .03192  .03321
 17           PC .03450  .03581  .03712  .03845  .03978  .04113  .04248  .04385  .04522  .04661
 18           PC  .048   .04941  .05084  .05228  .05376  .05525  .05676  .05829  .05984  .06141
 19           PC  .063   .06461  .06624  .06789  .06956  .07125  .07296  .07469  .07644  .07821
 20           PC  .08    .08181  .08364  .08549  .08736  .08925  .09116  .09309  .09504  .09701
 21           PC  .099   .10101  .10304  .10509  .10716  .10925  .11136  .11349  .11564  .11781
 22           PC  .12    .12225  .12440  .12705  .12940  .13225   .135  .13785  .14080  .14385
 23           PC  .147   .1502  .15340  .1566   .1598   .163   .16628  .16972  .17332  .17706
 24           PC  .181   .18512  .18948  .19408  .19892   .204   .2094   .2152   .2214   .228
 25           PC  .235   .24248  .25132  .26092  .27148   .283   .30684  .35436  .43079  .56786
 26           PC  .643   .68196  .69864  .71304  .72516   .735   .74344  .75136  .75876  .76564
 27           PC  .772   .77796  .78364  .78904  .79416   .799   .8036   .808   .8122   .8162
 28           PC  .82    .82367  .82726  .83079  .83424  .83763  .84094  .84419  .84736  .85047
 29           PC .85350  .85647  .85938  .86219  .86494  .86763  .87024  .87279  .87526  .87767
 30           PC  .88    .88229  .88455  .88679   .889   .89115  .89335  .89549   .8976   .89969
 31           PC  .9015  .90315   .9058   .90775  .90945   .9111   .9136   .91549  .91735  .91919
 32           PC  .921   .92279  .92455  .92629   .928   .92969  .93135  .93299   .9346   .93619
 33           PC .93775  .93929   .94078  .94225  .94375  .94519   .9466  .93785  .94935  .95065
 34           PC  .951   .9533   .95459  .95588  .95716  .95844  .95971  .96098  .96224   .9635
 35           PC .96475   .966   .96724  .96848  .96971  .97094  .97216  .97338  .97459   .9758
 36           PC  .977   .9782  .97939  .98058  .98176  .98294  .98411  .98528  .98644  .98760
 37           PC .98875  .9899  .99104  .99218  .99331  .99444  .99556  .99668  .99779   .9989
 38           PC   1.0
 39           LS     85
 40           UD   0.1
              *

 41           KK   POND
 42           KM  ROUTE BASIN 1 ULTIMATE RUNOFF HYDROGRAPH THROUGH PROPOSED SWM POND
 43           RS     1    ELEV   301
 44           SA  1.75    1.88    2.15    2.33    2.49     2.6    2.77    2.95    3.12    3.16
 45           SE   301     302     304     306     308     310     312     314     316   316.5
 46           SQ     0     1.4    25.3    47.5   100.7   314.4  1098.8  2338.9  2671.4
 47           SE   301     302     304     308  310.75     312     314     316   316.5
              *

                              HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 48           KK     2
 49           KM  BASIN 2 EXISTING RUNOFF HYDROGRAPH
 50           BA  0.034
 51           LS     75
 52           UD   0.10
              *

 53           KK  FLOW-1
 54           KM  COMBINE BASIN 2 HYDROGRAPH TO POND HYDROGRAPH
 55           HC     2
              *

 56           KK     5
 57           KM  BASIN 5 EXISTING RUNOFF HYDROGRAPH
 58           BA  0.054
 59           LS     77
 60           UD   0.15
              *

 61           KK  FLOW-2
 62           KM  COMBINE BASIN 5 HYDROGRAPH TO FLOW-1 HYDROGRAPH
 63           HC     2
              *

 64           KK     3
 65           KM  BASIN 3 EXISTING RUNOFF HYDROGRAPH
 66           BA  0.08
 67           LS     82
 68           UD   0.10
              *

 69           KK  X-POND
 70           KM  ROUTE BASIN 3 EXISTING RUNOFF HYDROGRAPH THROUGH EX POND AT MONARCH RD
 71           RS     1    ELEV   290
 72           SA     0    0.22    0.24    0.56     1.0
 73           SE   290     292     295     300     305
 74           SQ     0     8.3    14.1    17.7   134.7   329.1   368.4  1197.7
 75           SE   290     292     294     296     298     300     302     304
              *

 76           KK     4
 77           KM  BASIN 4 EXISTING RUNOFF HYDROGRAPH
 78           BA  0.016
 79           LS     73
 80           UD   0.10
              *

 81           KK  COMB1
 82           KM  COMBINE X-POND HYDROGRAPH TO BASIN 4 HYDROGRAPH
 83           HC     2
              *

                              HEC-1 INPUT                                    PAGE  3

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 84           KK  COMB2
 85           KM  COMBINE FLOW-2 HYDROGRAPH TO COMB1 HYDROGRAPH
 86           HC     2
              *

 87           KK  CR-1
 88           KM  CHANNEL ROUTE COMB2 HYDROGRAPH TO FLOW-3 NODE
 89           RS     1    ELEV   608
 90           RC   0.1   0.045     0.1     608   0.0065
 91           RX     0     125     175     182     189     203     344     443
 92           RY 299.18  290.12  288.47  284.27  284.77  287.15  290.44  297.29
              *

 93           KK     6-A
 94           KM  BASIN 6-A EXISTING RUNOFF HYDROGRAPH
 95           BA  0.027
 96           LS     77
 97           UD   0.1
              *

 98           KK  FLOW-3
 99           KM  COMBINE BASIN 6-A HYDROGRAPH TO CR-1 HYDROGRAPH
100           HC     2
              *

101           KK  CR-2
102           KM  CHANNEL ROUTE FLOW-3 HYDROGRAPH TO FLOW-4 NODE
103           RS     1    ELEV   608
104           RC   0.1   0.045     0.1     435   0.0104
105           RX     0     142     215     217     225     229     266   366.07
106           RY 294.7  283.95  282.4  278.45  278.73     283  283.59  294.78
              *
```

```
107           KK     6-B
108           KM  BASIN 6-B EXISTING RUNOFF HYDROGRAPH
109           BA  0.053
110           LS     71
111           UD   0.15
              *

112           KK  FLOW-4
113           KM  COMBINE BASIN 6-B HYDROGRAPH TO CR-2 HYDROGRAPH
114           HC     2
              *

115           KK  CR-3
116           KM  CHANNEL ROUTE FLOW-4 HYDROGRAPH TO FLOW-5 NODE
117           RS     1    ELEV   608
118           RC   0.1   0.0575     0.1    2550   0.008
119           RX     0      32      64      75      85      89     161   220.2
120           RY 285.54  278.13  272.61  265.49  268.68  268.58  272.76  286.5
              *

                              HEC-1 INPUT                                    PAGE  4

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

121           KK     7
122           KM  BASIN 7 EXISTING RUNOFF HYDROGRAPH
123           BA  0.048
124           LS     73
125           UD   0.1
              *

126           KK  FLOW-5
127           KM  COMBINE BASIN 7 HYDROGRAPH TO CR-3 HYDROGRAPH
128           HC     2
              *

129           ZZ

                 SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
LINE    (V) ROUTING          (---->) DIVERSION OR PUMP FLOW
NO.     (.) CONNECTOR        (<----) RETURN OF DIVERTED OR PUMPED FLOW

  9           V
              .
 41           POND
              .
              .
 48           .         2
              .         .
              .         .
 53           FLOW-1.....
              .         .
              .         .
 56           .         5
              .         .
              .         .
 61           FLOW-2.....
              .         .
              .         .
 64           .         3
              .         V
              .         V
 69           .       X-POND
              .         .
              .         .
 76           .         .         4
              .         .         .
              .         .         .
 81           .         COMB1.....
              .         .         .
              .         .         .
 84           .         COMB2.....
              .         V         .
              .         V         .
 87           .         CR-1      .
              .         .         .
              .         .         .
 93           .         .       6-A
              .         .         .
              .         .         .
 98           .         FLOW-3.....
              .         V         .
              .         V         .
101           .         CR-2      .
              .         .         .
              .         .         .
107           .         .       6-B
              .         .         .
              .         .         .
112           .         FLOW-4.....
              .         V         .
              .         V         .
115           .         CR-3      .
              .         .         .
              .         .         .
121           .         .         7
              .         .         .
              .         .         .
126           .         FLOW-5.....
              .         .         .
              .         .         .

 PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
                 FLOWS IN CUBIC FEET PER SECOND,  AREA IN SQUARE MILES
                          TIME TO PEAK IN HOURS

                                                   RATIOS APPLIED TO PRECIPITATION
OPERATION     STATION    AREA    PLAN              RATIO 1  RATIO 2  RATIO 3  RATIO 4
                                                      3.20     5.20     7.30     3.30
HYDROGRAPH AT
+                1       .20     1   FLOW            245.     636.     939.     359.
                                     TIME           12.00    12.00    12.00    12.00
ROUTED TO
+              POND      .20     1   FLOW             34.     106.     532.      37.
                                     TIME           12.67    12.42    12.17    12.58
                                 ** PEAK STAGES IN FEET **
                                 1   STAGE         306.81   310.78   312.56   307.02
                                     TIME           12.67    12.42    12.17    12.58
HYDROGRAPH AT
+                2       .03     1   FLOW             30.      74.     123.      32.
                                     TIME           12.00    12.00    12.00    12.00
2 COMBINED AT
+            FLOW-1      .24     1   FLOW             49.     136.     600.      52.
                                     TIME           12.00    12.08    12.08    12.00
HYDROGRAPH AT
+                5       .06     1   FLOW             50.     115.     190.      53.
                                     TIME           12.08    12.08    12.00    12.08
2 COMBINED AT
+            FLOW-2      .29     1   FLOW             98.     251.     789.     104.
                                     TIME           12.08    12.08    12.08    12.08
HYDROGRAPH AT
+                3       .08     1   FLOW            102.     214.     334.     107.
                                     TIME           12.00    12.00    12.00    12.00
ROUTED TO
+            X-POND      .08     1   FLOW             76.     187.     294.      82.
                                     TIME           12.08    12.08    12.08    12.08
                                 ** PEAK STAGES IN FEET **
                                 1   STAGE         297.00   298.54   299.64   297.10
                                     TIME           12.08    12.08    12.08    12.08
HYDROGRAPH AT
+                4       .02     1   FLOW             13.      32.      55.      13.
                                     TIME           12.00    12.00    12.00    12.00
2 COMBINED AT
+           COMB1       .10     1   FLOW             86.     213.     349.      93.
                                     TIME           12.08    12.08    12.00    12.08
2 COMBINED AT
+           COMB2       .39     1   FLOW            184.     464.    1125.     197.
                                     TIME           12.08    12.08    12.08    12.08
ROUTED TO
+            CR-1       .39     1   FLOW            168.     451.    1034.     179.
                                     TIME           12.17    12.08    12.17    12.08
HYDROGRAPH AT
+            6-A        .03     1   FLOW             27.      62.     102.      28.
                                     TIME           12.00    12.00    12.00    12.00
```

```
2 COMBINED AT
+           FLOW-3       .42     1   FLOW            187.     499.    1078.     202.
                                     TIME           12.08    12.08    12.17    12.08
ROUTED TO
+            CR-2       .42     1   FLOW            181.     478.    1055.     192.
                                     TIME           12.17    12.08    12.17    12.08
HYDROGRAPH AT
+            6-B        .05     1   FLOW             32.      86.     150.      34.
                                     TIME           12.08    12.08    12.08    12.08
2 COMBINED AT
+           FLOW-4       .47     1   FLOW            209.     564.    1165.     226.
                                     TIME           12.08    12.08    12.17    12.08
ROUTED TO
+            CR-3       .47     1   FLOW            204.     530.    1112.     220.
                                     TIME           12.25    12.25    12.33    12.25
HYDROGRAPH AT
+              7        .05     1   FLOW             38.      97.     164.      40.
                                     TIME           12.00    12.00    12.00    12.00
2 COMBINED AT
+           FLOW-5       .52     1   FLOW            216.     550.    1143.     233.
                                     TIME           12.25    12.25    12.33    12.25
1
*** NORMAL END OF HEC-1 ***

                 X    X  XXXXXXX   XXXXX          X
                 X    X  X        X    X        XX
                 X    X  X        X              X
                 XXXXXXX  XXXX    X        XXXXX  X
                 X    X  X        X              X
                 X    X  X        X    X         X
                 X    X  XXXXXXX  XXXXX          XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KM.

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KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

                              HEC-1 INPUT                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID        WILLOW OAKS PROPOSED BMP/SWM POND AND OUTFALL
  2           ID        FAIRFAX COUNTY, VIRGINIA
  3           ID        SCS TYPE II, 24-HOUR RAINFALL DISTRIBUTION
  4           ID        FAIRFAX COUNTY PFM RAINFALL DEPTHS
  5           ID        ULTIMATE CONDITIONS DEVELOPMENT
  6           ID        SPILLWAY DESIGN MODEL
  7           ID        SDF = 1.5 X 100-YR; FSH = 2.5 X 100-YR
              *DIAGRAM
  8           IT     5                    300
  9           IO     5
              *            SDF       FSH
 10           JR   PREC    10.55     18.25
              *

 11           KK   ULT
 12           KM  BASIN ULTIMATE RUNOFF
 13           BA  0.203
 14           PB     1
              * SCS TypeII Rainfall Distribution Pattern
 15           IN     6
 16           PC   0.0  .00101  .00202  .00305  .00408  .00513  .00618  .00725  .00832  .00941
 17           PC .01050  .01161  .01272  .01385  .01498  .01613  .01728  .01845  .01962  .02081
 18           PC  .022   .02331  .02442  .02565  .02688  .02813  .02938  .03065  .03192  .03321
 19           PC .03450  .03581  .03712  .03845  .03978  .04113  .04248  .04385  .04522  .04661
 20           PC  .048   .04941  .05084  .05228  .05376  .05525  .05676  .05829  .05984  .06141
 21           PC  .063   .06461  .06624  .06789  .06956  .07125  .07296  .07469  .07644  .07821
 22           PC  .08    .08181  .08364  .08549  .08736  .08925  .09116  .09309  .09504  .09701
 23           PC  .099   .10101  .10304  .10509  .10716  .10925  .11136  .11349  .11564  .11781
 24           PC  .12    .12225  .12440  .12705  .12940  .13225   .135  .13785  .14080  .14385
 25           PC  .147   .1502  .15340  .1566   .1598   .163   .16628  .16972  .17332  .17706
 26           PC  .181   .18512  .18948  .19408  .19892   .204   .2094   .2152   .2214   .228
 27           PC  .235   .24248  .25132  .26092  .27148   .283   .30684  .35436  .43079  .56786
 28           PC  .643   .68196  .69864  .71304  .72516   .735   .74344  .75136  .75876  .76564
 29           PC  .772   .77796  .78364  .78904  .79416   .799   .8036   .808   .8122   .8162
 30           PC  .82    .82367  .82726  .83079  .83424  .83763  .84094  .84419  .84736  .85047
 31           PC .85350  .85647  .85938  .86219  .86494  .86763  .87024  .87279  .87526  .87767
 32           PC  .88    .88229  .88455  .88679   .889   .89115  .89335  .89549   .8976   .89969
 33           PC .9015  .90315   .9058   .90775  .90945   .9111   .9136   .91549  .91735  .91919
 34           PC  .921   .92279  .92455  .92629   .928   .92969  .93135  .93299   .9346   .93619
 35           PC .93775  .93929  .94078  .94225  .94375  .94519   .9466  .93785  .94935  .95065
 36           PC  .951   .9533   .95459  .95588  .95716  .95844  .95971  .96098  .96224   .9635
 37           PC .96475   .966   .96724  .96848  .96971  .97094  .97216  .97338  .97459   .9758
 38           PC  .977   .9782  .97939  .98058  .98176  .98294  .98411  .98528  .98644  .98760
 39           PC .98875  .9899  .99104  .99218  .99331  .99444  .99556  .99668  .99779   .9989
 40           PC   1.0
 41           LS     89
 42           UD   0.10
              *
              * ASSUME PROP. RISER IS CLOGGED AND START ROUTING AT TOP OF EMERGENCY SPILLWAY
                              HEC-1 INPUT                                    PAGE  2
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 43           KK   POND
 44           KM  ROUTE BASIN ULT THROUGH PROPOSED SWM POND
 45           RS     1    ELEV   310.75
 46           SA  1.75    1.88    2.15    2.33    2.49     2.6    2.77    2.95    3.12    3.16
 47           SE   301     302     304     306     308     310     312     314     316   316.5
 48           SQ     0   184.5   916.7  2098.6    2444
 49           SE 310.75    312     314     316   316.5
              *

 50           ZZ

 PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
                 FLOWS IN CUBIC FEET PER SECOND,  AREA IN SQUARE MILES
                          TIME TO PEAK IN HOURS

                                                   RATIOS APPLIED TO PRECIPITATION
OPERATION     STATION    AREA    PLAN              RATIO 1  RATIO 2
                                                      10.95    18.25
HYDROGRAPH AT
+              ULT       .20     1   FLOW           1458.    2483.
                                     TIME           12.00    12.00
ROUTED TO
+              POND      .20     1   FLOW           1273.    2231.
                                     TIME           12.08    12.00
                                 ** PEAK STAGES IN FEET **
                                 1   STAGE         314.60   316.18
                                     TIME           12.08    12.00

*** NORMAL END OF HEC-1 ***
```

Dewberry

Dewberry & Davis LLC
8401 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.848.0100
FAX: 703.849.0518
www.dewberry.com

INOVA
WILLOW OAKS

PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
CHRISTOPHER CHARLES CALLISON
Lic. No. 20112
4-28-11
PROFESSIONAL ENGINEER

KEY PLAN

4/28/11

SCALE

No.	DATE	BY	Description
10	08.10.09	ARW	
9	08.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

DRAWN BY JMC

APPROVED BY

CHECKED BY PGY

DATE April 14, 2008

TITLE

Inova
Willow Oaks

Partial Generalized Development
Plan Amendment
HEC-1 Models

PROJECT NO.

20

SHEET NO. 20 OF 20

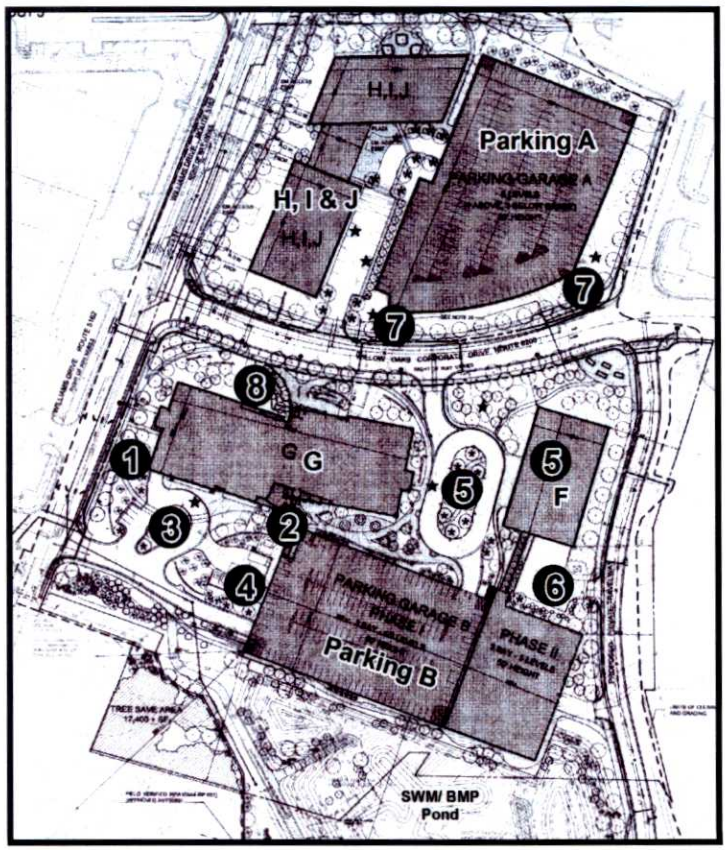
M-10690

A GLOSSARY OF TERMS FREQUENTLY USED IN STAFF REPORTS WILL BE FOUND AT THE BACK OF THIS REPORT

DESCRIPTION OF THE APPLICATION

The applicant, the Fairfax County Board of Supervisors (BOS), seeks to amend the proffers and General Development Plan (GDP) associated with RZ 88-P-0-038 previously approved for office and/or public uses at an overall floor area ratio (FAR) of 0.70 on 16.14 acres. The BOS is a contract purchaser of an approximately 5 acre-portion of the 16.14 acre subject property, which is owned by Inova Health Care Services (Inova). Four development options were approved on the subject property, which generally include 487,804 square feet of gross floor area (GFA) that could be divided into three to five buildings and two above-and below-grade parking structures. The applicant proposes to retain the previously approved development options and to add a fifth option to create an alternate layout for Building G (Fairfax County Mid-County building), Building F (INOVA Medical Office) and the associated above and below grade parking structure based on final engineering. Specific layout modifications are highlighted on Graphic 1 and corresponding descriptions are listed below:

Graphic 1: Proposed Development Option 5



1. Provision of an at-grade sallyport entrance on the southwest side of Building G to provide direct access for emergency vehicles to the mental health emergency services. This change is needed to separate services in the building and to allow an adjustment to the elevations of the grade at the rear of Building G and the area between Building G and F. The cellar space would be exposed on the south/southwest end and buried on the east.

2. Grade changes to allow the main entrance to Building G for customers accessing the Fairfax-Falls Church Community Services Board (CSB) services on the southeast side.

3. Reduction of the circular drop-off area on the south side of Building G.

4. Relocation of the trash, delivery loading spaces and emergency generator to the west of Parking Garage B. An earthwall, screenwall and landscaping have been added to screen these facilities from the residents.

5. A 90 degree rotation of Building F to open an entrance drive between Buildings G and F and allow for shared access. The circular loop between F & G could be used for additional Low Impact Development (LID).

6. Relocation of the trash, delivery loading spaces and emergency generator serving Building F to INOVA connector road.

7. A minor shift in the alignment of Willow Oaks Corporate Drive, resulting in the reduction of the setback for Buildings H, I and J from 50 feet to 40 feet.

8. New pedestrian access to the north side of Building G where a future bus stop would be located.

Due to the complexity of these proposed changes, which involve changes to the access and building orientations for Buildings F and G, a proffered condition amendment (PCA) application is required. The applicant's draft proffers, affidavit and statement of justification are included in Appendices 1, 2 and 3, respectively.

LOCATION AND CHARACTER

Site Description:

The 16.14 acre subject property is located in the southeast quadrant of the intersection of Route 50 (Arlington Blvd.) and Williams Drive on Tax Map Parcel

49-3 ((1)) 141. The site is currently vacant, undeveloped land. A portion of the site containing proposed Buildings F and G, and Garage B (approximately 70 percent of the site) is a forested environment with over-story vegetation consisting primarily of good quality white oak, tulip tree, black locust, cherry, hickory and red maple. The portion of the site containing proposed Buildings H, I, and J and Garage A (approximately 30 percent of the site) is a forested environment with over-story vegetation consisting primarily of southern red oak, tulip tree, black locust, white pine, hickory, and red maple in fair condition. The portion of the site containing the proposed improved regional pond is also a forested environment, with vegetation consisting primarily of red oak, white oak, tulip tree, sycamore, and black locust in good condition. Access to the site is currently from Williams Drive and Willow Oaks Corporate Drive.

Table 2: Surrounding Area Description

Surrounding Area Description			
Direction	**Use**	**Zoning**	**Plan**
North	Office (Across Rt. 50)	C-3	Office
South	Prosperity Heights (Single Family Detached)	R-3	Res. 2-3 du/ac
	INOVA Fairfax Child Care Center	R-12	Public Facilities
East	Willow Oaks Corporate Center	C-3	C-3
West	Office (Dewberry and Davis Building)	C-3	Office
	Residential (Single Family Detached)	R-1	Office

BACKGROUND

- On May 1, 1989, the Board of Supervisors approved rezoning application RZ 87-P-038 consisting of approximately 38.21 acres of land which was rezoned from the C-3, R-5, and R-1 Districts to the C-3 District, subject to proffered conditions. The application property for RZ 87-P-038 constitutes the area now known as the Willow Oaks Corporate Center. This action expanded the Willow Oaks Office Park westward to Williams Drive by expanding the area previously rezoned to office use pursuant to the approval of RZ 74-7-047 to include part of the area previously identified as the Seth Williams subdivision. The maximum gross floor area permitted for the Willow Oaks Corporate Center is 1,169,176 square feet and an FAR of 0.70. (Of the nine buildings shown on the proffered plan, Buildings B, C, D and the first phase of Building E, have been constructed and comprise 269,014 square feet).

- On August 5,1996, the Board of Supervisors approved PCA 87-P-038 and SE 96-P-004 which permitted an amendment to the proffered zoning to replace an office building approved on Tax Map Parcel 49-3 ((1)) 141D (Building D) with an extended stay hotel. The hotel has been constructed and is included in the gross floor area noted above.

- On August 2, 1999, the Board of Supervisors approved PCA 87-P-038-2, which permitted an amendment to the proffered zoning to reflect a redesign of proposed Building A located on Tax Map Parcel 49-3 ((1)) 140 at the northeast corner of the Corporate Center adjacent to Route 50 (Arlington Blvd.) and Gallows Road. There was no change in the approved gross floor area of this building, just a relocation of Building A to the western side of Parcel 140 with the parking structure located adjacent to Gallows Road.

- On October 25, 1999, the Board of Supervisors approved PCA 87-P-038-3 and SE 99-P-023 which permitted an amendment to the proffered GDP to replace an office building approved on Tax Map Parcel 49-3 ((1)) 141 (Building I) previously approved for 216,750 gross square feet with a 121,000 square foot assisted living facility (medical care facility) to accommodate 186 residents on the property. The remaining 95,750 square feet would be allocated to the approved office Buildings F through H. There was no change in the original approved gross floor area of 1,169,176 square feet (FAR of 0.70).

- On July 13, 2009, the Board of Supervisors approved PCA 87-P-038-4 which removed the assisted living facility use in Building I and reallocated the approved 487,804 square feet of GFA among four buildings (Building F, G, H and I) with no increase in the overall approved FAR. The approved FAR remained 0.69 (487,804 gross square feet) on the 16.14 acre subject property. The site was approved for construction of four (4) office buildings that may be used for office, medical office, and educational facilities, and to conceptually design a fifth building (Building G) for potential use by a new Mid-County Center building (which would include the Woodburn Center for Community Mental Health). Option 1 of the companion RZ 2008-PR-009 and SEA 80-P-078-15 applications anticipated that the Applicant would acquire additional land from Fairfax County through a Public-Private Education Facilities and Infrastructure Act (PPEA) proposal on the INOVA Hospital Campus site and facilitate the relocation of the Woodburn Center for Community Mental Health facility to the INOVA Willow Oaks Site. ***The proffers and GDP associated with this case currently govern the site. The applicant proposes to carry forward all previously approved proffers and to refine the proffers associated with the proposed fifth development option. A black-line version of the draft proffers highlighting the proposed changes from the previously approved*** **proffers is included in Appendix 1. Copies of the approved proffers**

and CDP/FDP for this PCA application are available on file with the Zoning Evaluation Division of the Department of Planning and Zoning.

COMPREHENSIVE PLAN PROVISIONS (See Appendix 4)

Plan Area: Area I

Planning Sector: Merrifield Suburban Center, Land Unit L, Sub Unit L-5

Plan Map: Office

Plan Text:

Fairfax County Comprehensive Plan, Area I, 2011 edition, The Merrifield Suburban Center, as amended through July 27, 2010, Sub-Unit L5, Land Use Recommendations, page 104:

"Sub-Unit L5 is located at the southwest quadrant of Route 50 and Gallows Road and is planned for office use up to .7 FAR. Any modification, expansion, and/or reuse of the existing buildings should be consistent with guidelines for Existing Uses and Buildings under the Area-Wide Land Use section. New office development should provide a 100-foot minimum buffer area adjacent to the Pine Ridge community.

Option: As an option, a portion of this Sub-Unit may be appropriate for development as an assisted living and medical care facility. Any development proposal under this option must address all applicable Area-Wide recommendations.

Height Limit: The maximum building height for the eastern portion (i.e., Parcels 138, 139 and 140) in this sub-unit is 105 feet or 8 stories. Heights should vary between 50 and 90 feet (4 to 7 stories) for the remainder of this sub-unit. The area immediately adjacent to single family detached residential use should provide a buffer area of 100 feet as noted above, and the building immediately adjacent to this buffer area and Parcel 49-3((10))6 should be no more than 4 stories in height in order to ensure that the tallest buildings are away from the adjacent residential areas. See the Building Heights Map, Figure 16, and the Building Height Guidelines under the Area-Wide Urban Design section."

ANALYSIS

Generalized Development Plan Amendment (GDP) (Copy at front of staff report)

Title of GDP: INOVA Willow Oaks

Prepared By: Dewberry and Davis LLC and VIKA, Inc

Original and Revision Dates: April 14, 2008, as revised through April 27, 2011

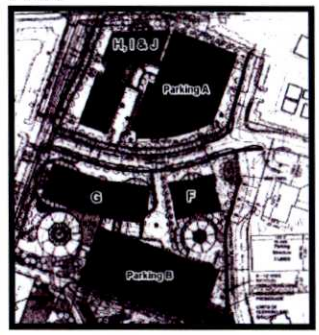
The GDP consists of (24) sheets. No changes are proposed to the design depicted on the previously approved GDP. Sheets 4a, 4b, 6a and 6b were added to the GDP to reflect the current proposal (new option) and add elevations of Building G (Fairfax County Mid-County building).

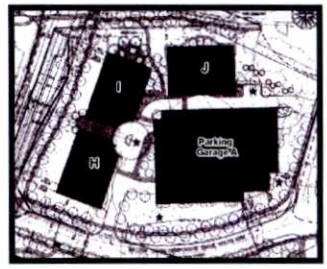
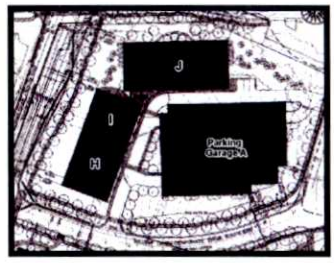
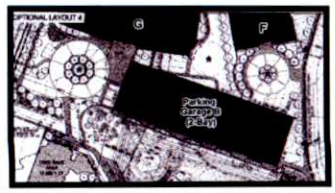
Description of the plan:

Previously Approved RZ/FDP Development Plan

The previously approved GDP for Willow Oaks permitted office and public uses with a maximum of 487,804 gross square feet at a 0.70 FAR. Four development options were approved and showed three to five buildings with two associated above and below grade parking structures. Table 1 summarizes these development options.

Table 1: Previously Approved Development Options

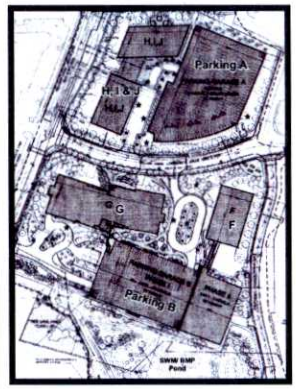
Proposed Options	Building	Use	Height (# stories)	Gross Floor Area (GFA)	Total
Option 1	F	Office	60 ft. (4 stories)	69,804 sq. ft.	**Total Bldgs. F – J 487,804 sq./ft. at 0.70 FAR** 
	G	Office (new Mid-County Center)	60 ft. (4 stories)	160,000 sq. ft.	
	H, I and J	Office	90 ft. (6 stories)	258,000 sq. ft.	
	Parking Spaces	Required = 1,297, Proposed = 2,430 Proposed Garage A = 1280 (6 levels above) Proposed Garage B ***(3 Bay)*** = 1150 (6 levels above)			

Proposed Options	Building	Use	Height (# stories)	Gross Floor Area (GFA)	Total
Option 2	F	Office	60 ft. (4 stories)	69,804 sq. ft.	**Total Bldgs. F – J 487,804 sq. ft. at 0.70 FAR** 
	G	Office (new Mid-County Center)	60 ft. (4 stories)	160,000 sq. ft.	
	H	Office	90 ft. (7 stories)	86,000 sq. ft.	
	I	Office	90 ft. (7 stories)	86,000 sq. ft.	
	J	Office	90 ft. (7 stories)	86,000 sq. ft.	
	Parking Spaces	Required = 1,400, Proposed = 2,650 Proposed Garage A = 1,500 (9 levels above, 2 below) Proposed Garage B ***(3 Bay)*** = 1150 (6 levels above)			
Option 3	F	Office	60 ft. (4 stories)	69,804 sq. ft.	**Total Bldgs. F – J 487,804 sq. ft. at 0.70 FAR** 
	G	Office (new Mid-County Center)	60 ft. (4 stories)	160,000 sq. ft.	
	H and I	Office	90 ft. (6 stories)	129,000 sq. ft.	
	J	Office	90 ft. (6 stories)	129,000 sq. ft.	
	Parking Spaces	Required = 1,298, Proposed = 2,650 Proposed Garage A = 1,500 (9 levels above, 2 below) Proposed Garage B ***(3 Bay)*** = 1150 (6 levels above)			
Option 4	F	Office	60 ft. (4 stories)	69,804 sq. ft.	**Total Bldgs. F – J 487,804 sq. ft. at 0.70 FAR** 
	G	Office (new Mid-County Center)	60 ft. (4 stories)	160,000 sq. ft.	
	H	Office	90 ft. (6 stories)	86,000 sq. ft.	
	I	Office	90 ft. (6 stories)	86,000 sq. ft.	
	J	Office	90 ft. (6 stories)	86,000 sq. ft.	
	Parking Spaces	Required = 1,400, Proposed = 2,650 Proposed Garage A = 1,500 (9 levels above, 2 below) Proposed Garage B ***(2 Bay)*** = 1150 (6 levels above, 2 below)			

Proposed Changes

The applicant proposes to retain Options 1 through 4 and to add a fifth option for Buildings G and F. Table 2 summarizes the use, height and gross floor area per building for this proposed fifth option.

Table 2: Proposed Development Options

Proposed Options	Building	Use	Height (# stories)	Gross Floor Area (GFA)	Total
Option 5	F	Office	60 ft. (4 stories)	69,804 sq. ft.	**Total Bldgs. F – J 487,804 sq. ft. at 0.70 FAR** 
	G	Office/ Public Use (new Mid-County Center)	60 ft. (4 stories)	160,000 sq. ft.	
	H, I and J	Office	90 ft. (6 stories)	258,000 sq. ft.	
	Parking Spaces	Required = 1,297, Proposed = 2,650 Proposed Garage A = 1,500 (6 levels above) Proposed Garage B ***(3 Bay)*** = 1150 (4/5 levels above)			

As shown in Table 1, the total amount of overall GFA does not change from the previously approved GFA of 487,804 square feet and the layout is generally the same as Option 1, but the access is re-oriented. Buildings H, I and J are combined into one 90 foot tall L-shaped building with 258,000 square feet, Building F continues to be a 60 foot tall rectangular shaped building with 69,804 square feet and Building G continues to be 60 foot tall rectangular shaped building with 160,000 square feet. Parking Garage B is proposed to be a 3-bay garage with 1150 parking spaces. The height of the garage is proposed to be reduced from six levels to four or five levels.

Intensity:

The Comprehensive Plan provides an option for the development of the subject property up to 0.70 FAR provided that, among other things, "the area immediately adjacent to single family detached residential use should provide a buffer area of 100 feet as noted above, and the building immediately adjacent to this buffer area and Parcel 49-3 ((10)) 6 should be no more than 4 stories in height in order to ensure that the tallest buildings are away from the adjacent residential areas." The applicant implemented the Plan Option in the previously

approved PCA application. This application merely seeks to add a fifth development option based on final engineering designs. No change to the overall FAR or general use of the site is proposed. No structures are proposed to be closer than 100 feet from the nearest residential property. Building G, which is proposed to be located closest to the residential use, continues to be 4 stories in all development options.

Cellar Space:

The applicant continues to proffer to limit the use of cellar space within Buildings F, G, H, I and J. Cellar space in these buildings shall not be occupied by uses that generate independent peak hour single occupancy vehicle trips to the Application Property.

Vehicular Access:

Access to the site is provided from Williams Drive, Willow Oaks Corporate Drive and a proposed private travelway. The applicant continues to proffer to grant ingress and egress easements for public access and for public emergency and maintenance vehicles over the proposed and existing internal roadways shown on the GDP.

In addition, the applicant has carried forward all previously approved road improvements which included the construction of a private Connector Travelway and bicycle/ pedestrian trail from Willow Oaks Corporate Drive along the eastern property line to Tax Map Parcels 49-3 ((1)) 136C and 136C1 until it reaches the existing roadway network of the INOVA Hospital Campus.

Parking:

The Zoning Ordinance requires 1,298 parking spaces for Options 1, 3 and 5 and 1,400 parking spaces for Option 2 and 4 for the proposed uses shown on the GDP (office, medical office, and/or educational facilities, and public uses, which include a new Mid-County Center building). The primary difference in the requirement between the options is the location, size and uses for Buildings H, I and J. The applicant proposes to provide 2,430 parking spaces in Option 1 and 2,650 parking spaces in Option 2, 3, 4 and 5. The majority of the parking for both options would be provided in two parking structures. The applicant continues to proffer to provide parking in a combination of parking structures and surface lots shown on the GDP and to provide the parking in accordance with the parking requirements of Article 11 of the Fairfax County Zoning Ordinance, as determined by the Department of Public Works and Environmental Services (DPWES), for the uses within the Application Property.

Pedestrian Access:

Pedestrian access to the proposed development continues to be provided through a comprehensive pedestrian circulation system throughout the subject property shown on Sheet 5 and as proffered. This pedestrian circulation system continues to be designed in a similar manner in all development options, which include the following features:

- 5 foot wide paved trails/ sidewalks along the property's entire frontage on Route 50, Williams Drive and on both sides of Willow Oaks Corporate Drive,

- An 8 to 10 foot wide bicycle and pedestrian trail along the west side of the proposed Connector Travelway,

- Several 5 foot wide sidewalks along the internal roadway driveways leading to the proposed buildings,

- A 5 foot wide sidewalk heading northward from the existing bus stop on the east side of Gallows Road (located approximately across from the INOVA Fairfax Hospital Emergency Department) to the proposed Gallows Road crosswalk at the southern side of the Willow Oaks Corporate Drive intersection,

- A new crosswalk crossing Williams Drive at the south side of the Route 50 (Arlington Blvd.) intersection, which includes a new pedestrian countdown signal subject to VDOT approval, and

- Designs for a new crosswalk and pedestrian countdown signal crossing Route 50 (Arlington Blvd.) on the east side of the Williams Drive intersection per a determination by FCDOT and VDOT as to whether the pedestrian crossing of Route 50 should most appropriately occur on the east or west side of Williams Drive, or on both sides, in light of signal timing considerations.

In addition to these improvements, the applicant continues to proffer to construct a standard concrete bus pad at any bus stop(s) located along Willow Oaks Corporate Drive. Proposed Option 5 shows a potential bus stop with a pedestrian waiting area on the north side of Building G. If bus service along Willow Oaks Corporate Drive has not been established before the issuance of a non-residential use permit, then the applicant continues to proffer to escrow the cost of such improvement for the benefit of Fairfax County.

The applicant has also agreed to carry forward all proffers related to bicycle facilities on the subject property. Indoor and/or outdoor bicycle racks will be provided in locations convenient to the main building entrances to each of

Buildings F, G, H, I and J and within Parking Garages A and B to serve employees of Buildings F, G, H, I and J. With respect to the number of bicycle parking spaces provided, the Applicant continues to proffer to provide a sufficient number of spaces to meet the applicable LEED credit (which is 5% or more of all building users as specified in Credit 4.2 of LEED NC under the Alternative Transportation section) for bicycle parking at the time of site plan submission and would provide lockers or cages for at least six (6) bicycles among Parking Garages A and B. A sign plan is also proffered to be provided for designating locations for "share the road" signs in areas on the subject property where bicycles would share the road with other vehicles. This sign plan would also designate locations for signs on the subject property directing bicyclists to the bicycle parking. Showers and changing rooms would be provided in Building G and at least one of Buildings F, H, I and J.

Landscaping and Open Space:

A minimum of 15% open space is required for the site in all development options; 43% open space would be provided in Options 1 and 5, 46% open space in Options 2 and 3 and 50% in Option 4. The difference in open space among the development options results from the design of Buildings H through J and Parking Garage B. Regardless of the option implemented, the applicant proffered to provide landscaping as generally shown on the GDP and proffered to a streetscape with street furnishings and lighting in conformance with the Merrifield Streetscape Design Manual. The Applicant also proffered to submit a detailed landscape and tree cover plan to Urban Forest Management Division (UFMD) for review and approval, which would include: 1) design details for tree wells and other similar planting areas above structures and along streets; 2) composition of the planting materials and/or structural soils used where plantings are to be located within or on top of structures and other methods to be used to ensure the viability of the proposed plantings; and 3) other information that may be requested by the UFMD.

The applicant also proffered to conform to the limits of clearing and grading as shown on the GDP and to provide a tree preservation plan as part of the site plan(s) and/or demolition plan(s) for development that includes the areas of "tree save" as shown on the GDP.

For parking lot landscaping, the Zoning Ordinance requires 5 percent of the parking area to be landscaped. The applicant meets the requirement as shown on Sheet 2 of the GDP. Final determination would be made at the time of site plan review.

Stormwater Management:

No changes are proposed to the previously approved stormwater management system. The stormwater narrative on Sheet 15 of GDP indicates that the site is

currently undeveloped, but contains two existing quasi-regional stormwater ponds. Stormwater runoff from the proposal would be conveyed to an enhanced extended dry pond. Two existing ponds will be combined into one enhanced extended detention pond that would be privately owned and maintained. This new facility would be designed to provide peak flow reduction for the 2 year and 10 year storms from developed conditions to good forested conditions for the entire 131 acre watershed it serves. The facility would also be designed to exceed the minimum phosphorous removal requirement (40%) by providing 50% removal. The facility would also provide enough BMP to cover the entire 130 acre watershed, including the INOVA Hospital site.

All previously approved proffers regarding maintenance will be carried forward. The applicant will maintain the Willow Oaks SWM/BMP pond as well as the portion of an on-site storm sewer running generally eastward from the south end of Williams Drive to the western side of the Willow Oaks SWM/BMP pond. In addition, the applicant will continue to install Fairfax County-accepted Low Impact Development (LID) facilities on the subject property in at least one of the locations shown on the GDP as "Possible LID Location". The LID facilities, which include pervious pavement or other techniques, would treat a total of 20,000 square feet of impervious surface and would have a minimum phosphorous removal efficiency of 40 percent. The LID facilities would be designed in accordance with the PFM and would not factor into the required calculations for stormwater management and BMPs.

In addition, two pond design options were approved on Sheet 14 of the GDP and are carried forward in this application. The primary difference between the two pond options is in the design of the pond layout due to the design of Parking Garage B as either a 2 bay garage or a 3 bay garage. Regardless of which Parking Garage B design would be implemented, the pond would be located in the same general area on the subject property and would be designed to meet the peak flow reductions, phosphorous removal and BMP as previously discussed. Landscaping is proposed to be incorporated in the pond designs as shown on Sheet 14 of the GDP.

Land Use/Environmental Analysis

No issues were identified.

Urban Forest Management Analysis (Appendix 5)

The Urban Forest Management Division (UFMD) of the Department of Public Works and Environmental Services (DPWES) has reviewed the application and identified the following issues.

Issue: Tree Preservation Target Calculations

Staff is concerned that the Tree Preservation Target Calculations shown on Sheet 2 of the GDP indicate that the tree preservation target minimum will not be met for the site. Approximately half of the required 10 year tree canopy to be preserved through tree preservation is proposed. Staff recommends that a deviation from the tree preservation target should be provided that addresses one or more of the justifications listed in PFM 12-0508.3, along with a narrative that provides a site-specific explanation of why the Tree Preservation Target can not be met. A sheet number should be provided identifying the location of the deviation request.

Resolution:

Note 20 on Sheet 3 of the GDP indicates that the applicant would seek a deviation from the tree preservation target at the time of site plan review.

Issue: Storm Drain Easements

Several trees located along Willow Oaks Corporate Drive, south of proposed Parking Garage A, appear to be planted either inside or on the proposed storm drain easement located in this area as shown on Optional Layout 5. Staff recommends that all trees should be relocated outside of all easements and at least 5 feet away from all storm drain easements containing pipes.

Resolution:

The applicant indicated that all landscaping for the development will comply with applicable easement provisions. This issue would also be addressed during site plan review.

Issue: Minimum Width for Planting Areas

Several trees are located inside the entry plaza to the east of Buildings H, I and J, and to the southwest of Building G, as shown on optional layouts 1, 4 and 5, appear to be planted in planters that are less than 8 feet wide with a minimum planting area of 48 sq. ft. It was unclear why the minimum planting width and planting area requirements could not be met, as a request to modify these requirements was not provided as part of the PCA. In addition, several trees located to the north of proposed Building G and to the southwest of proposed Parking Garage B, as shown on Optional Layout 5, appeared to be planted within 4 feet of a restrictive barrier such as a retaining wall or curb.

Resolution:

The Applicant proffered to submit a detailed landscape and tree cover plan to Urban Forest Management Division (UFMD) for review and approval, which would include: 1) design details for tree wells and other similar planting areas above structures and along streets; 2) composition of the planting materials and/or structural soils used where plantings are to be located within or on top of structures and other methods to be used to ensure the viability of the proposed plantings; and 3) other information that may be requested by the UFMD. Final dimensions of planting areas and any proposed areas of modification would be addressed at the time of site plan.

Issue: Preliminary Interior Parking Lot Landscaping

Preliminary interior parking lot landscaping calculations and associated graphics have been provided for Optional Layout 1. However, preliminary interior parking lot landscaping calculations and graphics were not provided for Optional Layouts 2, 3, 4 and 5.

Resolution:

The applicant has revised the GDP to include a preliminary parking lot landscaping calculation for Optional Layout 5. As previously discussed, the Applicant continues to proffer to submit a detailed landscape and tree cover plan to Urban Forest Management Division (UFMD) for review and approval. Final determination will be made during site plan review.

Transportation Analysis (Appendix 6**)**

No issues were identified. The applicant is carrying forward all previously approved proffers for road improvements and the transportation demand management (TDM) program. In the event that Fairfax County develops Building G as shown on the GDP as a Mid-County Community Services Center, the applicant agreed to implement an independent TDM program that substantially conforms with the goals, definitions, survey, trip counting, and reporting mechanisms, financial incentives, and enforcement mechanisms as set forth in the previously approved TDM program associated with the Inova Health Care Services development program for Buildings F, H, I and J.

Public Facility Analyses

Fairfax County Park Authority (Appendix 7)

No issues were identified. The applicant has carried forward a commitment to contribute $0.27 per square foot of new development to offset impacts to the limited public parks and recreational facilities in the Merrifield Suburban Center.

Stormwater Analysis (Appendix 8)

No changes are proposed to the previously approved stormwater management facility. All stormwater calculations will remain unchanged. No issues were identified.

Fairfax County Water Authority (Appendix 9)

The Fairfax County Water Authority has reviewed the applications and indicated that adequate domestic water service will be available at the site from a 12-inch water main approved on December 2, 2010. No issues from the proposed development were identified.

Fire and Rescue Analysis (Appendix 10)

The application property is serviced by the Fairfax County Fire and Rescue Department Station 430, Merrifield and currently meets fire protection guidelines.

Sanitary Sewer Analysis (Appendix 11)

The subject property is located within the Accotinck Creek watershed and would be sewered into the Noman M. Cole Pollution Control Plant (NMCPCP). There is an existing 8-inch line located on the subject property, which is deemed adequate for the proposed use at this time.

Conformance with the Previously Approved Proffers

As previously discussed in the background, the previous partial PCA application approved a reallocation of 487,804 square feet of the approved GFA for Buildings H through I on 16.14 acres of the original 38.21 acres of land. The applicant proffered to develop the property with four development options for office and public uses at a maximum 0.70 FAR (487,804 gross square feet). The proposed fifth development option will not impact the proffered FAR of 0.70.

ZONING ORDINANCE PROVISIONS (Appendix 12)

In order to amend the previously approved proffers to retain the approved development options for Buildings F, G, H, I and J and to add a fifth option based on final engineering for Buildings F and G with no increase in the overall approved FAR, the request must fulfill all applicable provisions of the Zoning Ordinance. The following chart depicts how the subject property meets the C-3 District zoning requirements:

Standard	Required (C-3)	Provided
Lot Size	20,000 sq ft	16.14 acres
Lot Width	100 ft	Williams Drive = greater than 100 ft Route 50 = greater than 100 ft Willow Oaks Corporate Drive = greater than 100 ft
Building Height	90 ft maximum which may be increased by the BOS subject to approval of an SE application	Buildings H, I and J = 90 ft in all options Buildings F and G = 60 ft in all options
Front Yard	Controlled by 25 degree angle but not less than 40 feet	Williams Drive = 40 ft. for closest building (Building G) in Option 5 and 62 ft. in Options 1 through 4. Route 50 = 40 ft for closest buildings (Building H, I and J) in all options Willow Oaks Corporate Drive = 40 ft for closest buildings (all buildings) in all options
Rear Yard	Controlled by 20 degree angle but not less than 25 feet	Greater than 25 ft for all buildings in all options*
FAR	1.0	0.70
Open Space	15%	Option 1 = 43% Option 2 = 46% Option 3 = 46% Option 4 = 50% Option 5 = 43%
Parking Spaces	Option 1 = 1,297 total Option 2 = 1,400 total Option 3 = 1,298 total Option 4 = 1,400 total Option 5 = 1,297 total	Option 1 = 2,430 Option 2 = 2,650 Option 3 = 2,650 Option 4 = 2,650 Option 5 = 2,650
Loading Spaces	In no instance shall more than five (5) off-street loading spaces be required for a given use or building except as may be determined by the Director.	Note 18 on Sheet 3 of the GDP indicates that the number of loading spaces would be 3 spaces per building.**

**Sheets 2, 3, 4 and 4A of the GDP provide the proposed setbacks and angle of bulk plane diagrams (Sheet 2) for each building on the site and show that each building meets the minimum yard requirements of the Zoning Ordinance.*

***The applicant has requested a modification of the loading space requirement in favor of the requested number of loading spaces per building.*

As shown in the chart above, the proposal continues to conform to all of the minimum bulk regulations for the C-3 District.

Waivers and Modifications:

Reaffirmation of a modification of transitional screening and a waiver of the barrier requirements along the south and east property lines in favor of that shown on the GDP.

The Zoning Ordinance requires a Transitional Screening Yard 2 (35-foot unbroken strip of open space) and Barrier requirement D, E or F along a portion of the south and east property boundaries to adequately screen the proposed office uses from the existing residential uses. The applicant is requesting a reaffirmation of the transitional screening and a waiver of the barrier requirements approved in the original rezoning in favor of the proposed landscaping shown on the GDP. In all of the development options, the applicant proposes a 28 foot wide Connector Travelway along the eastern property line with an 8 to 10 foot wide bicycle and pedestrian trail along the west side of the travelway and a single row of large deciduous trees to screen the proposed Parking Garage B. Along the southern property line, a large stormwater management pond is proposed and includes significant landscaping around the perimeter of the pond and with the pond banks. The applicant proffered to provide this landscaping in all development options. With these commitments, staff feels that the proposed uses would be adequately screened from the existing residential properties and supports the reaffirmation request.

Reaffirmation of the waiver of the service drive requirement along Rt. 50.

The applicant is requesting a reaffirmation of a waiver of the service drive requirement along Route 50 (Arlington Blvd.) This waiver request was previously approved with the original rezoning application and staff continues to support the waiver request.

Modification of the loading space requirement for office uses to permit a maximum of three loading spaces per building shown on the GDP.

The Zoning Ordinance requires no more than five (5) off-street loading spaces for a given use or building. The applicant proposes to provide a maximum of three (3) loading spaces for each building in each development option. Staff feels that this proposed number of loading spaces is sufficient for the proposed square footage on the subject property and does not object to the requested modification.

CONCLUSIONS AND RECOMMENDATIONS

Staff Conclusions

The application seeks to amend the proffers and General Development Plan (GDP) associated with RZ 88-P-038 previously approved for office and/or public uses at an overall floor area ratio (FAR) of 0.70 on 16.14 acres. The proposal seeks to retain the previously approved development options and to add a fifth development option to create an alternate layout for Building G (Fairfax County Mid-County building), Building F (INOVA Medical Office) and the associated above and below grade parking structure based on final engineering. Staff believes that the proposal does not adversely impact the previously approved general development plan and is conformance with the Comprehensive Plan, and with all applicable Zoning Ordinance provisions as proffered and conditioned.

Staff Recommendations

Staff recommends approval of PCA 87-P-038-05 subject to the execution of proffers consistent with those contained in Appendix 1.

Staff recommends reaffirmation of the modification of transitional screening and a waiver of the barrier requirements along the south and east property lines in favor of that shown on the GDP.

Staff recommends reaffirmation of the waiver of the service drive requirement along Route 50 (Arlington Boulevard).

Staff recommends approval of a modification of the loading space requirement for office uses to permit a maximum of three loading spaces per building shown on the GDP.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

The approval of this rezoning does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application.

It should be further noted that the content of this report reflects the analysis and recommendations of staff; it does not reflect the position of the Board of Supervisors.

APPENDICES

1. Draft Proffers (includes a black-line version of the draft proffers highlighting the proposed changes from the previously approved proffers)
2. Affidavit for PCA 87-P-038-05
3. Statement of Justification
4. Comprehensive Plan Recommendations
5. Urban Forest Management Analysis
6. Transportation Analysis
7. Fairfax County Park Authority Analysis
8. Stormwater Management (DPWES) Analysis
9. Fairfax County Water Authority Analysis
10. Fire and Rescue Analysis
11. Sanitary Sewer Analysis
12. Zoning Ordinance Provisions
13. Glossary of Terms

INOVA WILLOW OAKS

PROFFERS

PCA 87-P-038-405

~~July 6, 2009~~
June 20, 2011

Pursuant to Section 15.2-2303(A) of the Code of Virginia (1950, as amended) and Section 18-204 of the Zoning Ordinance of Fairfax County (1978, as amended), INOVA HEALTH CARE SERVICES ("Inova"), for themselves and their successors and/or assigns (hereinafter collectively referred to as the "Applicant"), hereby proffer that the development of the parcel under consideration and shown on the ~~2008~~2011 Fairfax County tax maps as Tax Map 49-3 ((1)) 141 (the "Application Property") shall be in accordance with the following conditions if, and only if, proffered condition amendment application PCA 87-P-038-405 is approved by the Board of Supervisors. In the event PCA 87-P-038-405 is approved, then all previous proffers for the Application Property are hereby deemed null and void and hereafter shall have no effect on the Application Property.

DEVELOPMENT PLAN

1. Partial Generalized Development Plan Amendment. The Application Property shall be developed in substantial conformance with the Inova Willow Oaks Partial Generalized Development Plan Amendment dated April 14, 2008 and revised through ~~June 10, 2009~~April 27, 2011, prepared by Dewberry & Davis LLC and VIKA, Inc. (the "GDPA"), consisting of Sheets 1 through 20.

2. Minor Modifications. Pursuant to Paragraph 5 of Section 18-204 of the Zoning Ordinance, minor modifications to the GDPA and these proffers may be permitted as determined by the Zoning Administrator.

GENERAL

3. Proposed Development. Development on the Application Property shall include a maximum of 487,804 square feet of gross floor area ("GFA"). This does not include cellar area as ~~provided~~defined in the Zoning Ordinance. The anticipated allocation of GFA among the various buildings to be constructed on the Application Property is represented on the GDPA. The Applicant reserves the right to reallocate GFA among the buildings and parking spaces within the garages depicted on the GDPA without requiring a proffered condition amendment ("PCA") so long as (1) the total maximum of 487,804 square feet of GFA is not exceeded; (2) the maximum building heights as set forth in Proffer 21.C. and as shown on the GDPA are not exceeded; and (3) any changes to the footprint ~~and~~or configuration of individual buildings ~~and~~or garages ~~remain in substantial~~

~~conformance to that shown on the GDPA~~are deemed to be allowable minor modifications as determined by the Zoning Administrator.

4. Uses. The Application Property may include the following uses, subject to special exception or special permit approval as may be required:

   A. Offices, including for example offices used for outpatient medical services;

   B. Public Uses, which may include, without limitation, a Mid-County Community Service Center providing programs and services operated by Fairfax County, the Fairfax – Falls Church Community Services Board (CSB) or other social, health or human services providers;

   C. Medical Care Facilities;

   D. Schools of Special Education;

   E. Colleges and Universities;

   F. Conference Centers;

   G. Eating Establishments, limited by the provisions of Section 4-305;

   H. Financial Institutions;

   I. Health Clubs;

   J. Mobile and land based telecommunications facilities, subject to the provisions of Sect. 2-514;

   K. Telecommunications facilities;

   L. Child care centers; and

   M. Accessory uses and accessory service uses.

   Helistops shall not be permitted on the Application Property.

5. Cellar Use. Notwithstanding anything in Note 24 on the GDPA to the contrary, cellar floor area within Buildings F, G, H, I and J shall not be occupied by uses that generate independent peak hour single occupancy vehicle trips to the Application Property. For purposes of this Proffer 5, the relevant peak hour(s) shall be 7:30 – 8:30 AM and 5:00 – 6:00 PM or as otherwise determined by the most recent analysis conducted pursuant to Proffer 12.A.(ii).

6. Parking

Parking shall be provided in a combination of garage structures and surface areas as shown on the GDPA and shall be provided in accordance with the parking requirements of Article 11 of the Fairfax County Zoning Ordinance, as determined by the Department of Public Works and Environmental Services ("DPWES"), for the uses within the Application Property. Temporary surface parking areas may be provided within the building envelope areas formed by the proposed office buildings, parking garages and related travelways and impervious areas to support construction activities on-site and in support of new development proposed at the adjacent Inova Fairfax Hospital Campus as reflected in RZ 2008-PR-009~~.~~, as it may be amended. The Applicant reserves the right to relocate above grade parking shown on the GDPA to a subsurface location provided that the building heights and footprints of Buildings F, G, H, I and J remain in substantial conformance with those shown on the GDPA. The Applicant reserves the right to request a parking reduction or shared parking agreement pursuant to Article 11 of the Zoning Ordinance. Any modification of the required parking as approved by such parking reduction or shared parking agreement may be accommodated without requiring a PCA provided that the parking structure footprint remains in substantial conformance with that depicted on the GDPA.

TRANSPORTATION IMPROVEMENTS

7. Road Improvements

A. Dedication. The Applicant shall dedicate to the Board of Supervisors fee simple right-of-way and/or easements necessary to allow for the construction of the improvements required in Proffers 7.B., 7.C., 7.D., and 7.G. If not sooner, such dedication shall occur consistent with the timing requirements of Proffer 7.F. and as part of the respective site plan approval that proposes such improvements. Should a road widening project in general conformance with these proffered improvements be constructed by others in advance of the improvements described herein, the Applicant shall dedicate fee simple right-of-way and/or easements from the Application Property necessary for the project upon demand of the County and/or VDOT.

B. Arlington Boulevard. The Applicant shall improve Arlington Boulevard to provide a fourth eastbound through lane from Williams Drive to the existing ramp to Gallows Road; a right-turn deceleration lane from eastbound Route 50 onto Williams Drive; and an extension of the left turn bay on westbound Route 50 for left turns onto Williams Drive. Such improvements are shown on Sheet 9 of the GDPA. The final design of such improvement shall be subject to Virginia Department of Transportation ("VDOT") and Fairfax County Department of Public Works and Environmental Services ("DPWES") approval.

C. Williams Drive. The Applicant shall improve Williams Drive adjacent to the Application Property frontage to provide two southbound lanes (consisting of a left and a through lane), two northbound left turn lanes, a through lane and two right turn lanes at the Arlington Boulevard intersection. The Applicant shall also restripe the southbound Williams Drive approach to Arlington Boulevard to

provide for an exclusive southbound left-turn lane and a shared through-right turn lane. This improvement is shown on Sheets 9 and 10 of the GDPA. The Applicant shall provide pavement markings in the reconstructed Williams Drive south of Arlington Boulevard to discourage vehicles from blocking the Willow Oaks Corporate Drive/Williams Drive intersection. The final design of such improvement shall be subject to VDOT and DPWES approval.

D. Willow Oaks Corporate Drive. The Applicant shall extend Willow Oaks Corporate Drive through the Application Property to intersect Williams Drive in the location and with a road section as shown on the GDPA. The final design of Willow Oaks Corporate Drive extended shall be subject to VDOT and DPWES approval. Willow Oaks Corporate Drive Extended shall be dedicated as a public street.

E. Connector Travelway to Inova Fairfax Hospital. The Applicant shall construct a new connector travelway and bicycle/pedestrian trail intersecting Willow Oaks Corporate Drive extended and continuing south through the Application Property and onto and across the adjacent site to the south identified as ~~2008~~2011 Tax Map 49-3 ((1)) 136C ("Parcel 136C") to connect into the existing travelway network on the Inova Fairfax Hospital campus. The final design of the Connector Travelway shall be subject to DPWES approval. Although not a public street, the Connector Travelway shall be constructed with materials and depth of pavement consistent with public street standards, in conformance with the Public Facilities Manual ("PFM"). The Applicant shall design and construct minimum intersection curb return radii for the Connector Road to allow single unit trucks (as defined by AASHTO) to make the turns without their wheelbases crossing into opposing lanes. The Applicant shall maintain the Connector Travelway. Prior to issuance of the first Non-RUP, exclusive of core and shell, for the first building constructed on the Application Property, the Applicant shall grant ingress and egress easements for public access and for public emergency and maintenance vehicles over the Connector Travelway and the bicycle/pedestrian trail.

F. Timing of Construction. Each of the road/travelway improvements set forth in Proffers 7.B., 7.C., 7.D., and 7.E. shall be substantially completed prior to issuance of the first Non-Residential Use Permit ("Non-RUP"), exclusive of shell and core, for the first building to be constructed on the Application Property. For purposes of this Proffer, "substantially completed" shall mean open and available for use by the public but not necessarily accepted by VDOT for maintenance purposes, where applicable. Final bond release for the last building constructed on the Application Property shall not occur until the improvements have been accepted into the State system, where applicable.

G. Traffic Signal Modifications.

(i) The Applicant shall modify or reconstruct the existing traffic signal at Route 50/Williams Drive as necessary to implement the street

improvements as required by these proffers. Such improvements shall be made concurrent with the requirements of the adjoining street improvements and shall be subject to the approval of VDOT.

(ii) Arlington Boulevard. The Applicant shall request VDOT to determine if a corridor evaluation of signal timings is needed. This request shall be submitted in writing with a copy submitted to FCDOT. This request shall be submitted between 180 and 365 days after the road/travelway improvements set forth in Proffers 7.B., 7.C., 7.D., and 7.E. are substantially completed. If VDOT determines that a corridor evaluation is necessary, the Applicant shall conduct a corridor evaluation of existing signal timings along Arlington Boulevard from Cedar Lane to Williams Drive to determine appropriate signal timing modifications along such corridor. Such signal timing study shall be subject to review and approval by VDOT and shall provide for sufficient pedestrian crossing times in accordance with established standards as determined by VDOT. The Applicant shall coordinate with VDOT to implement such signal timing modifications as may be approved by VDOT based on the findings of the evaluation. If required, this proffer shall be completed prior to final bond release for the last building constructed on the Application Property.

H. Off-Site Right-of-Way/Easements. In the event the Applicant is unable to obtain the necessary right-of-way or easements required to construct the improvements described in these Proffers, the Applicant shall proceed as follows:

(i) The Applicant shall request the County to acquire the right-of-way or easements by means of its condemnation powers, at the Applicant's expense. The Applicant's request will not be considered until it has forwarded, in writing, to the appropriate County agency accompanied by: (1) plans and profiles showing the necessary right-of-way or easements to be acquired, including all associated details of the proposed transportation improvements to be located on said property; (2) an independent appraisal of the value of the right-of-way or easements to be acquired and of all damages and benefits to the residue of the affected property; (3) a sixty (60) year title search certificate of the right-of-way or easements to be acquired; and (4) a Letter of Credit or cash (at the Applicant's discretion) in an amount equal to the appraised value of the right-of-way or easements to be acquired and of all damages to the residue, which Letter of Credit can be drawn upon by the County.

(ii) In the event the property owner of the right-of-way or easements to be acquired is awarded more than the appraised value of same and of the damages to the residue in a condemnation suit, the amount of the award in excess of the Letter of Credit or cash posted amount shall be paid to the County by the Applicant within fifteen (15) days of said award. All other costs incurred by the County in acquiring the right-of-way shall be paid to the County by the Applicant on demand.

(iii) In the event the County does not acquire the aforesaid right-of-way or easements by means of its condemnation powers, the Applicant is relieved of its responsibility to construct the off-site portion of the aforesaid improvements specifically affected by the unavailability of the right-of-way or easements. The Applicant shall complete the proffered improvements for which acquisition of right-of-way or easements is not necessary. In the event the Applicant is required to obtain necessary right-of-way or easements to implement the provisions of this proffer, then the timing requirements of these proffers as they relate to the improvements that necessitate such right-of-way or easements shall be automatically hereby adjusted to reflect the delays incurred by such proceedings, but in any event such improvements shall be completed prior to final bond release for the respective building.

I. Zoning Administrator Consideration. Upon demonstration by the Applicant that, despite diligent efforts and due to factors beyond the Applicant's control, any of the improvements proffered in this Proffer 7 (or an improvement in any other Proffer the timing of which is associated with an improvement proffered in this Proffer 7) have been delayed (due to, but not limited to an inability to secure necessary permission for utility relocations, and/or VDOT approval) beyond the timeframes provided by these proffers, the Zoning Administrator may approve a later date for completion of the improvement(s) without requiring a PCA.

8. Pedestrian Circulation Improvements. The Applicant shall construct a comprehensive pedestrian circulation system throughout the Application Property as shown on the GDPA. Such improvements shall be constructed concurrent with the development adjacent thereto.

9. Crosswalks.

A. Williams Drive. Concurrent with the construction of the Williams Drive improvements, and subject to the approval of VDOT, the Applicant shall install a painted crosswalk crossing Williams Drive at the south side of the Route 50 intersection. In addition the Applicant shall install a pedestrian countdown signal at such location and make modifications to the existing signal in such location as may be necessary, subject to the approval of VDOT.

B. Arlington Boulevard. There is an existing crosswalk and pedestrian countdown signal crossing Route 50 on the west side of the Williams Drive intersection. Upon submission of a site plan for the Arlington Boulevard improvements, the Applicant shall submit a design for a crosswalk and pedestrian countdown signal crossing Route 50 on the east side of the Williams Drive intersection for a determination by FCDOT and VDOT as to whether the pedestrian crossing of Route 50 should most appropriately occur on the east or west side of Williams Drive, or on both sides, in light of signal timing considerations. The Applicant

shall install the new crosswalk and countdown signal on the east side of Williams Drive if approved by FCDOT, VDOT and DPWES concurrent with construction of the Arlington Boulevard improvements.

10. Bus Facilities. The Applicant shall install a standard concrete bus pad at any bus stop(s) located along the Application Property's frontage on Willow Oaks Corporate Drive in final locations as approved by FCDOT. The bus pads shall be installed prior to the issuance of the first Non-RUP for the first building to be constructed on the Application Property. In the event bus service along Willow Oaks Corporate Drive has not been established by such time, then in lieu of such construction, the Applicant shall escrow the cost of such improvements for the benefit of Fairfax County, upon the issuance of the first Non-RUP, exclusive of core and shell, for the first building to be constructed. In addition, the Applicant shall install a standard concrete bus pad at the bus stop located on the north side of Arlington Boulevard, west of Williams Drive within existing right of way, if it is available. If such right-of-way is available, then the bus pad will be constructed concurrent with the construction of the Arlington Boulevard improvements. If such right-of-way is not available then there shall be no requirement to install the off-site bus pad.

11. Bicycle Facilities. The Applicant shall provide indoor and/or outdoor bicycle racks in locations convenient to the main building entrances to each of Buildings F, G, H, I and J. The Applicant shall also provide for indoor bicycle racks/storage within parking garages A and B to serve employees of Buildings F, G, H, I and J. In total, the Applicant shall provide a minimum of one (1) bicycle parking space for every 7,500 square feet or portion thereof of office GFA in the each building and one (1) visitor bicycle parking space for every 20,000 square feet or portion thereof of office GFA in each building. As part of this requirement, the Applicant shall provide lockers or cages for at least six (6) bicycles among Garages A and B. The Applicant shall prepare a sign plan for designating locations for "share the road" signs for areas on the Application Property where bicycles will share the road with other vehicles, subject to VDOT approval if necessary. This sign plan will also designate locations for signs to be located on the Application Property directing bicyclists to the bicycle parking. Subject to necessary approvals, if any, the Applicant shall install such signs prior to issuance of the first Non-RUP for the first of Buildings G, F, H, I or J, exclusive of shell and core. Both Building G and at least one of Buildings F, H, I and J shall include shower and changing room facilities for employees. If any of Buildings F, H, I or J does not include shower and changing room facilities, the employees of such Building shall be provided access to the shower and changing room facilities in at least one of such Building(s) that does have such facilities. Such improvements shall be provided prior to issuance of the first Non-RUP, exclusive of core and shell, for whichever building(s) provide such services. The final location and design of the signage, bike racks and bike lockers/cages shall be shown on the site plan for the respective buildings, and shall be subject to review by FCDOT.

TRANSPORTATION DEMAND MANAGEMENT

12. Transportation Demand Management.

A. The Applicant shall implement transportation demand management ("TDM") measures at the Application Property consistent with the following criteria.

(i) Employee Mode Split Goal. Mass transit, ride-sharing and other transportation strategies for the employees of the Application Property shall be utilized to achieve a minimum 15% mode split for employee trips to and from the Application Property during weekday Peak Hours, following full occupancy of the first building constructed on the Application Property. The Employee Mode Split Goal shall increase to 18% following full occupancy of the second building constructed on the Application Property, and the Employee Mode Split Goal shall increase to 20% following full occupancy of the last building constructed on the Application Property. For purposes of this Proffer 12, "full occupancy" shall be deemed to be the time upon which Non-RUPs have been issued for 80% or more of the floor area within the respective building.

(ii) Peak Hours Defined. For purposes of this Proffer 12, the relevant weekday "Peak Hours" shall be that 60-minute period during which the highest weekday volume of mainline trips occurs between 6:00 to 9:00 AM and 4:00 to 7:00 PM, as determined by mechanical and/or manual traffic counts conducted at two select locations along Arlington Boulevard between Prosperity Avenue and Gallows Road as approved in consultation with the Fairfax County Department of Transportation ("FCDOT"). To determine the Peak Hour, such counts shall be collected beginning on a Monday at 2400 hours and continuing to the following Thursday at 2400 hours at a time of year that reflects typical travel demand conditions (e.g. September to May, not during a holiday week or when area public schools are not in session). The relevant Peak Hours shall be defined in conjunction with each of the Employee Trip Counts (as defined below) required pursuant to this Proffer. The methodology for determining the Peak Hours may be modified subject to approval of FCDOT, but without requiring a PCA, in order to respond to technological and/or other improvements in trip counting.

(iii) TDM Components. In order to meet the applicable Employee Mode Split Goal, the Applicant shall implement a program of TDM strategies in coordination with FCDOT to include, without limitation, those items listed below. Such items may be adjusted from time to time as approved by FCDOT, without requiring a PCA, to reflect the ever-changing dynamic of transportation opportunities and constraints within the greater community.

(a) Participate in a shuttle service established by Inova Fairfax Hospital between the Dunn Loring Metro Station, Inova Fairfax Hospital and the Application Property;

(b) Provide a TDM Program Manager ("PM") to oversee all TDM elements and act as the liaison between the Applicant and FCDOT.

The PM may be employed directly by the Applicant or be an independent contractor to the Applicant. The PM position may be part of other duties assigned to the individual;

(c) Participate in the Fairfax County Ride Source Program, including registering with the Guaranteed Ride Home (GRH) program offered in connection with the Metropolitan Washington Council of Governments;

(d) Display in the building common areas transportation-related information for employees;

(e) Encourage employers to distribute an employee benefits package to all new employees, including site-specific transit-related information referencing the nearest Metro station and bus routes, and encouraging all employees to use Metrorail, bus service, shuttle service, carpool/vanpool, bicycling or walking;

(f) Encourage employer occupants to provide alternative work schedules, including staggered work hour programs, flex-time and telework programs, and to provide information to new employees on housing opportunities in the surrounding area;

(g) Provide reserved spaces for employee carpoolers and vanpoolers located proximate to building entrances;

(h) Provide for on-site bicycle storage, showers and changing facilities (See Proffer 11 above);

(i) Provide a sidewalk system designed to encourage/facilitate pedestrian circulation (See Proffer 8 above);

(j) Provide bus facilities (See Proffer 10 above); and

(k) Coordinate with TDM programs in place on the Inova Fairfax Hospital Campus that is subject to RZ 2008-PR-009.

(iv) Employee Surveys. Between September and November beginning with the year following issuance of the first Non-RUP for the first building on the Application Property, exclusive of shell and core, the PM shall conduct a survey of building employees (the "Employee Survey") designed to evaluate the effectiveness of the TDM measures in meeting the applicable Employee Mode Split Goal and to evaluate the need for changes, if any, to the TDM measures then in place. The PM shall coordinate the draft Employee Survey materials and the methodology for validating survey results with FCDOT at least thirty (30) days prior to each year's Employee Survey. The PM shall submit as part of each County Report (defined

below) an analysis of the Employee Surveys to FCDOT. Such analysis shall include at a minimum:

(1) A description of the TDM measures in effect for the survey period and a description of how such measures have been implemented;
(2) The number of people surveyed and the number of people who responded;
(3) The results of the surveys taken during the survey period;
(4) The number of employees participating in the TDM programs, displayed by category and mode of use;
(5) An evaluation of the effectiveness of the TDM program elements in place, including their effectiveness at achieving the applicable Employee Mode Split Goal, and, if necessary, proposed modifications; and
(6) A description of the uses constructed and occupied on the Application Property at the time the survey was conducted.

(v) County Report. The PM shall report annually to FCDOT on the TDM measures (the "County Report") no later than January 31st of the respective calendar year (beginning with the year following issuance of the first Non-RUP for the first of the buildings on the Application Property, exclusive of shell and core) after completion of the Employee Survey. The County Report shall include (a) a description of the prior year's TDM strategic efforts, including, as applicable, sample marketing materials; (b) a financial statement that includes the budget for the TDM measures and an accounting of TDM revenues and expenditures for the preceding year; (c) an analysis of the Employee Survey for the preceding year, (d) discussion of any changes to the TDM measures for the upcoming year; and (e) the budget for TDM implementation for the upcoming year.

(vi) Adjustments to Calendar and Due Dates. Upon mutual agreement between FCDOT and the PM, the due dates for the Employee Survey and/or delivery of the County Report may be extended by up to sixty (60) days.

(vii) Meetings with FCDOT. The PM shall meet with FCDOT annually, as applicable, or as mutually agreed, to discuss the results of the Employee Survey, the County Report and the TDM measures.

(viii) Trip Counts. If the Employee Survey reveals either: (a) an Employee Mode Split that is two (2) or more percentage points lower than the applicable Employee Mode Split Goal; or (b) a survey response rate that is less than 20%, then the PM shall conduct an Employee Trip Count to further evaluate the effectiveness of the TDM program. Such Employee Trip Counts shall be measured on three (3) days over a maximum two-week period (but not including a week containing a county/state/federal

holiday or when area public schools are not in session) during the weekday Peak Hours (as defined in Proffer 12.A.ii.). At least thirty (30) days prior to conducting the Employee Trip Counts, the PM shall meet with FCDOT to review and reach agreement on the dates and methodology for the Employee Trip Counts and the analyses to be done after the Employee Trip Counts are complete. The Employee Trip Counts shall include traffic counts at employee parking areas, employee vehicle occupancy counts, shuttle bus passenger counts, on-site Metro bus boarding and alighting counts, and pedestrian and bicycle counts. The Employee Trip Counts shall be conducted so that only trips generated by the employees on the Application Property shall be accounted for (i.e. visitor and cut-through trips, etc., shall be excluded).

(ix) Evaluation/Revisions to TDM Measures. In the event Employee Surveys and/or Trip Counts reveal that the applicable Employee Mode Split Goal is met, then the Applicant shall continue to administer the TDM measures in accordance with this Proffer. In the event Employee Surveys and Trip Counts reveal that the applicable Employee Mode Split Goal is not met, then the PM shall convene a meeting with FCDOT within thirty (30) days of the completion of the Employee Surveys and Trip Count to review the results of the Employee Surveys and Trip Count and the TDM measures then in place and to develop modifications to the TDM measures and/or additional TDM measures that may be implemented. Examples of such additional strategies may include the following:

(a) Provide one-time transit/vanpool/bike-to-work subsidies to employees through SmartBenefits or otherwise;

(b) Establish a program for individualized employee TDM marketing to educate and encourage employees with respect to commuting alternatives;

(c) Provide free parking for carpools/vanpools if paid parking is instituted;

(d) Coordination with Inova Fairfax Hospital with respect to the possible shared use by employees of the Application Property of bicycles purchased for the use of employees of Inova Fairfax Hospital, if any, and/or increase the amount of on site bicycle facilities as an analysis of demand for such facilities may warrant; and

(e) Coordination with Inova Fairfax Hospital with respect to the shared use of services of an independent provider for car-sharing services to be located at Inova Fairfax Hospital, if any.

The PM shall submit any such revisions to FCDOT within thirty (30) days following this meeting and request in writing FCDOT's review and concurrence. If no written response is provided by FCDOT within sixty (60) days, the PM's revisions shall be deemed approved. Following approval of the revisions, the PM shall implement the TDM provisions as developed in consultation with FCDOT.

(x) Financial Incentives. In the event Employee Surveys and/or Trip Counts conducted following full occupancy of the last building constructed on the Application Property reveal that the applicable Employee Mode Split Goal is not met for two consecutive years, then the Applicant shall contribute according to the following schedule:

(a) $1,000 for each one-tenth (1/10) of a percentage point less than the applicable Employee Mode Split Goal (which would be 20% at such time) but greater than or equal to a 15% mode split. For example a mode split of 16.3% would result in a contribution of $37,000. (20.0 – 16.3 x 10 x $1,000); plus

(b) $1,500 for each one-tenth (1/10) of a percentage point less than a 15% mode split but greater than or equal to a 10% mode split. For example a mode split of 12.5% would result in a contribution of $87,500. [(20.0 – 15.0 x 10 x $1,000) + (15.0 – 12.5 x 10 x $1,500)]; plus

(c) $2,000 for each one-tenth (1/10) of a percentage point less than a 10% mode split. For example a mode split of 7.5% would result in a contribution of $175,000. [(20.0 – 15.0 x 10 x $1,000) + (15.0 – 10.0 x 10 x $1,500) + (10.0 – 7.5 x 10 x $2,000).

This penalty provision shall remain in effect for so long as Proffer 12.A.(xi) requires the Survey and Reporting Requirements to be met; provided, however, that there shall be a cap of $200,000 on the aggregate of all contributions required to be paid hereunder. Any contribution payments made pursuant to this Proffer 12.A.(x) shall be utilized as follows: one-half (1/2) of any contribution payment shall be used by the Applicant to provide additional TDM measures on the Application Property such as those described in Proffer 12.A.(ix); and the other one-half (1/2) of any contribution payment shall be paid to Fairfax County for use in supporting TDM/transportation enhancements in the Merrifield area.

(xi) Continuation of Survey and Reporting Requirements. The PM shall continue the Employee Surveys, County Reports and, if applicable, the Trip Counts on an annual basis until such time as two (2) consecutive Employee Surveys conducted starting at least one (1) full calendar year after the last building on the Application Property has been fully occupied

show that the applicable Employee Mode Split Goal has been met. Following such time, the PM shall conduct additional Employee Surveys and make County Reports at three (3) year intervals. If it is reasonably determined through any of the tri-annual surveys/reports that the applicable Employee Mode Split Goal is no longer being met, the Applicant shall revert to the process of annual Employee Surveys and County Reports, as well as implementation of additional strategies and penalties if applicable, until such time as two (2) consecutive Employee Surveys show that the applicable Employee Mode Split Goal has been met, whereupon the process of tri-annual surveys/reports shall be resumed. Upon such time that three (3) consecutive tri-annual surveys/reports show that the applicable Employee Mode Split Goal continues to be met, no additional surveys/reports shall be required. Beyond such time, however, if FCDOT has reason to believe there are problems with the TDM program, the Applicant shall cooperate with FCDOT to review and reasonably address the concerns.

(xii) Enforcement. If the PM fails to timely submit the County Report for the Application Property to FCDOT as required by this Proffer, or as the requirement may be extended, the County may thereafter issue the PM a notice stating that the PM has violated the terms of this Proffer and providing the PM sixty (60) days within which to cure such violation. If after such sixty (60) day period the PM has not submitted the delinquent County Report, then the Applicant shall be subject to a penalty of $100 per day payable to Fairfax County to be used for transit or transportation related improvements in the vicinity of the Application Property until such time as the report is submitted to FCDOT.

B. Mid-County Community Services Center. In the event Fairfax County develops Building G as shown on the GDPA as a Mid-County Community Services Center, then Proffer 12.A. shall not apply to Building G. In such event, Fairfax County, as the Building G owner, shall implement an independent TDM program that substantially conforms with the goals; definitions; survey, trip counting, and reporting mechanisms; financial incentives; and enforcement mechanisms as set forth in Proffer 12.A.(i), (ii), (iv) – (viii), and (x) – (xii), but which adjusts the TDM Components and FCDOT coordination provisions as set forth in Proffer 12.A.(iii) and (ix), as approved by FCDOT, given the County ownership of the building.

SITE DESIGN

13. Limits of Clearing and Grading. The Applicant shall conform to the limits of clearing and grading as shown on the GDPA, subject to allowances for the installation of fences, utilities, and/or trails, which shall be located in the least disruptive manner necessary as determined by the Urban Forest Management Division of DPWES ("UFMD"). A

replanting plan shall be developed and implemented, subject to approval by UFMD for any areas protected by the limits of clearing and grading that must be disturbed.

14. Tree Preservation.

A. The Applicant shall submit a tree preservation plan as part of the site plan(s) for development that includes Parking Garage B, the Willow Oaks SWM/BMP Pond as described in Proffer 22.A. below and/or the Connector Travelway as described in Proffer 7.E . above.

B. The tree preservation plan(s) shall be prepared by a professional with experience in the preparation of tree preservation plans, such as a certified arborist or landscape architect, and shall be subject to the review and approval of UFMD. The tree preservation plan shall consist of a tree survey that includes the location, species, size, crown spread and condition rating percentage of all trees 8 inches in diameter and greater, located on the Application Property and on Parcel 136C, that are located up to 25 feet to either side of the limits of clearing and grading shown on the GDPA and as approved for Parcel 136C. The condition analysis ratings shall be prepared using methods outlined in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.

C. All tree preservation-related work occurring in or adjacent to tree preservation areas shall be accomplished in a manner that minimizes damage to vegetation to be preserved, including any woody, herbaceous or vine plant species that occurs in the lower canopy environment, and to the existing top soil and leaf litter layers that provide nourishment and protection to that vegetation. Removal of any vegetation, if any, or soil disturbance in tree preservation areas, including the removal of plant species that may be perceived as noxious or invasive, such as poison ivy, greenbrier, multi-floral rose, etc. shall subject to the review and approval of UFMD.

D. The Applicant shall retain the services of a certified arborist or landscape architect, and shall have the limits of clearing and grading in the areas of tree preservation marked with a continuous line of flagging prior to a walk-through meeting with the UFMD to be held prior to any clearing and grading. The Applicant shall invite the owners of Tax Map Parcels 49-3 ((10)) 6 and 59-1 ((27)) 161A to the tree preservation walk through meeting via written notice provided at least five (5) days in advance of the scheduled meeting. During the tree preservation walk-through meeting, the Applicant's certified arborist or landscape architect shall walk such limits of clearing and grading with an UFMD representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and to evaluate the opportunity for additional tree save in the view shed of Parking Garage B as seen

from Tax Map Parcel 49-3 ((10)) 6, and such adjustment shall be implemented; provided, however, that no adjustment shall be required that would affect the location and/or design of the southern parking garage or the improved regional stormwater pond or Connector Travelway including a requirement for additional retaining walls. Trees within the preservation areas that are identified specifically by UFMD in writing as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.

E. All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees, shall be erected at the limits of clearing and grading adjacent to the tree preservation areas as shown on the phase I & II erosion and sediment control sheets. All tree protection fencing shall be installed after the tree preservation walk-through meeting described in Proffer 14.D. above but prior to any clearing and grading activities. The installation of all tree protection fencing shall be performed under the direct supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. At least ten (10) days prior to the commencement of any clearing or grading activities adjacent to the tree preservation areas, but subsequent to the installation of the tree protection devices, the UFMD shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by UFMD.

F. The Applicant shall root prune, as needed to comply with the tree preservation requirements of these proffers. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the respective public improvement/site plan submission. The details for these treatments shall be reviewed and approved by UFMD, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following: (1) root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches; (2) root pruning shall take place prior to any clearing and grading; (3) root pruning shall be conducted with the supervision of a certified arborist; and (4) a UFMD representative shall be informed when all root pruning and tree protection fence installation is complete.

G. During any clearing or tree/vegetation removal in the areas adjacent to the tree preservation areas, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by UFMD. The Applicant shall retain the services of a certified arborist or landscape architect to monitor on-site all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation proffers, and UFMD approvals. The monitoring schedule shall be described and detailed in the Tree Preservation Plan, and reviewed and approved by UFMD.

H. The Applicant shall retain a professional arborist with experience in plant appraisal, to determine the replacement value of all trees that are 8 inches in diameter or greater that are located on the Application Property that are shown to be saved on the Tree Preservation Plan. These trees and their value shall be identified on the Tree Preservation Plan at the time of the first submission of the respective site plan(s). The replacement value shall take into consideration the age, size and condition of these trees and shall be determined by the so-called "Trunk Formula Method" contained in the latest edition of the Guide for Plan Appraisal published by the International Society of Arboriculture, subject to review and approval by UFMD.

I. At the time of the respective site plan approvals, the Applicant shall post a cash bond or a letter of credit payable to the County of Fairfax to ensure preservation and/or replacement of the trees for which a tree value has been determined in accordance with subparagraph H. above (the "Bonded Trees") that die or are dying due to unauthorized construction activities. The letter of credit or cash deposit shall be equal to 50% of the replacement value of the Bonded Trees. At any time prior to final bond release for the improvements on the Application Property constructed adjacent to the respective tree save areas, should any Bonded Trees die, be removed, or are determined to be dying by UFMD due to unauthorized construction activities, the Applicant shall replace such trees at its expense. The replacement trees shall be of equivalent size (at full growth), species and/or canopy cover as approved by UFMD. In addition to this replacement obligation, the Applicant shall also make a payment equal to the value (as defined in accordance with subparagraph H above) of any Bonded Tree that is dead or dying or improperly removed due to unauthorized construction activity. This payment shall be made to a fund established by the County for furtherance of tree preservation objectives in the Providence District. Upon release of the bond for the improvements on the Application Property constructed adjacent to the respective tree save areas, any amount remaining in the tree bonds required by this proffer shall be returned/released to the Applicant

J. The Applicant shall demonstrate compliance with the Tree Conservation During Land Development provisions of Article 2 of Chapter 122 of the Fairfax County Code prior to the first site plan approval for the Application Property.

15. Landscaping. Landscaping shall be provided as shown on the GDPA. Adjustments to the type and location of vegetation and the landscape design shall be permitted as may be

approved by UFMD. Streetscape shall be provided as shown on the GDPA. Street furnishings and lighting shall be in conformance with the Merrifield Streetscape Design Manual.

A. As part of each site plan submission, the Applicant shall submit to UFMD for review and approval a detailed landscape and tree cover plan, which shall include, among other things:

(i) Design details for tree wells and other similar planting areas above structures and along streets;

(ii) Composition of the planting materials and/or structural soils used where plantings are to be located within or on top of structures and other methods to be used to ensure the viability of the proposed plantings;

(iii) Other information that may be requested by the UFMD

B. Following the clearing and grading of the Application Property in the area of Parking Garage B, the Applicant shall meet on site with the owner of Tax Map 49-3 ((10)) 6 and develop a plan for supplemental landscaping to be installed by the Applicant within the "tree save" area as shown on the GDPA adjacent to such parcel and elsewhere in the view shed of Parking Garage B as seen from such parcel. Such landscaping plan shall be subject to approval by UFMD.

16. Building Setback. A 100 foot setback will be provided between Tax Map 49-3 ((10)) 6 and the southern parking structure. This setback shall consist of existing vegetation, with the exception of clearing and grading shown on the GDPA as required to construct the parking garage, access to the parking garage and to install and maintain utilities. A minimum 14 degree view angle will be provided from Tax Map 49-3 ((10)) 6 and the boundary of the Pine Ridge subdivision to Buildings F and G and Parking Garage B.

17. Fence. ~~Concurrent with construction of~~Prior to final bond release for the Willow Oaks SWM/BMP Pond site plan, the Applicant shall install a ~~six (6) foot tall~~ wooden fence in the area west of the pond as shown on the GDPA; provided, however, that, notwithstanding the fence as it is depicted on the GDPA, the following adjustments shall be made: (i) the section of such fence shown on the GDPA south of the spillway shall not be installed at the request of the owner of Tax Map Parcel 59-1 ((27)) 161A; and (ii) instead of the approximately 160 foot section of six (6) foot tall wooden fence shown on the GDPA running eastward from Williams Drive, the Applicant shall install a section of eight (8) foot tall wooden fence that runs from the western terminus of the fence in a northeasterly direction before turning southeasterly to cross the storm drainage easement and rejoin the course of the six (6) foot fence as it is shown on the GDPA. The purpose redirecting this section of fence is to locate the fence within the landscaped buffer area shown on the GDPA to provide for landscaping on both sides of the fence. The final location of the eight (8) foot portion of fence shall be field located and coordinated with DPWES and the owner of Tax Map Parcels 49-3 ((10)) 6.

18. Lighting. Outdoor lighting shall comply with the Outdoor Lighting Standards of Part 9 of Article 14 of the Zoning Ordinance. Building mounted security lighting shall utilize full cut-off fixtures with shielding such that the lamp surface is not directly visible All outdoor lighting fixtures associated with Parking Garage B shall be of a low intensity design and shall utilize full cut off fixtures which shall focus directly on the garage. Lighting within such parking structure shall be of low intensity and recessed design in order to mitigate the impact on adjacent residences. Lighting within the stair towers of such garage shall be fully shielded with full cut-off fixtures in order to mitigate the impact on adjacent residences. Parapet walls on each level of the southern and western walls of such parking garage shall be a minimum of 42 inches in height to provide adequate shielding of vehicle headlights. All new exterior pole mounted lighting fixtures on the Application Property shall be a maximum height of 12 feet, with fixtures directed away from, or otherwise shielded from view from, the Pine Ridge Community to the southwest. Light poles on top of Parking Garage B shall be no higher and no greater in number than the minimum required to provide adequate security lighting. The Applicant shall install a device to lower lighting levels for lights in and on Parking Garage B between the hours of 11 p.m. and 6 a.m. while maintaining reasonable and adequate security lighting.

19. Signage. Signage for the Application Property shall be provided in accordance with the requirements of Article 12 of the Zoning Ordinance.

20. Construction Hours/Trash Service.

~~20.~~A. Construction Hours. All outdoor construction activity related to Building G and Parking Garage B shall be limited to the hours of 7:00 a.m. to 6:00 p.m. Mondays through Fridays; and 9:00 a.m. to 6:00 p.m. on Saturdays. Sunday construction hours shall be limited to interior construction only from 10:00 a.m. to 6:00 p.m. The hours of construction shall be posted at the construction site in both Spanish and English. The Applicant shall designate a contact person for issues related to construction and provide the name and telephone number of this person to the Pine Ridge Civic Association, the Prosperity Heights Homeowners Association and the owner of Tax Map 49-3 ((10)) 6 prior to issuance of a site permit for Building G and or Parking Garage B whichever is first.

B. Trash Service. The use of the Building G loading area for trash/recycling services shall be restricted to the hours of 7:00 AM – 4:00 PM Mondays through Fridays or to such hours of use as may otherwise be agreed to by the Applicant and the owner of Tax Map 49-3 ((10)) 6.

ARCHITECTURAL DESIGN AND BUILDING MATERIALS

21. Building Design.

A. Architecture and Materials. Building architecture shall be of Class-A quality and shall be well-articulated and incorporate a series of vertical elements to break any

long horizontal walls. The façade treatment of buildings shall include a combination of building materials which may include glass, brick and/or precast concrete. Other materials, which may include (but not necessarily be limited to) stone, metal, and exterior insulation finish system, may be used to provide architectural detail and fenestration to the building façade.

B. Garage Facade. An architectural surface treatment that is consistent with the theme of the associated building architecture shall be used on ~~all~~ exposed ~~parking garage structures~~areas on the north, south and ~~garage walls.~~west elevations of Parking Garage B. For example, a mix of stone aggregate, special forming or scoring, a special mix of textures or polymer painted materials, brick, landscape screening materials, pre-cast concrete, architectural embellishment, and/or other treatments that are compatible with and complement the building architectural material shall be provided~~.~~ in such areas.

C. Building Height. Maximum building heights shall be as shown on the GDPA. Specifically, Buildings F and G, located south of Willow Oaks Corporate Drive extended, shall not exceed four (4) stories or sixty (60) feet above grade. Parking Garage B, located south of Willow Oaks Corporate Drive extended, shall not exceed six (6) levels or sixty (60) feet above grade. In accordance with the provisions set forth in Section 2-506 of the Zoning Ordinance, the Applicant reserves the right to install solar panels having a maximum height of fifteen (15) feet on top of any of the buildings and/or parking garages in excess of the maximum building heights proffered herein. Building rooftops will be designed so as to screen rooftop mechanical equipment from view from the public right of way.

D. Building G and F Entrances. If feasible given final grades and building security and operations issues, the Applicant shall provide building entrances on the north side of Buildings G and F with pedestrian links that connect to the sidewalk along Willow Oaks Corporate Drive. In the event that the Applicant develops Optional Layout 5 as shown on the GDPA then this Proffer 21.D. shall be deemed to have been met.

E. Alternate Energy/Utility Data.

~~E.~~(i) Alternate Energy. Each of the buildings shall be designed so as not to preclude the installation of solar panels or other alternate energy sources either on the buildings' exterior walls, rooftop or elsewhere on the respective sites. The Applicant shall identify a target alternate energy source and demonstrate the buildings' respective design capacity not to prelude the alternate energy source at the time of building permit approval. The Applicant shall either install such an alternate energy technology concurrent with the construction of the building, or, at the Applicant's discretion, the Applicant shall, at the time of building permit submission, submit to Environment and Development Review Branch of DPZ a return on investment (ROI) analysis of the alternate energy technology.

Subsequently, the Applicant shall prepare and submit to Environment and Development Review Branch of DPZ an updated ROI on an annual basis starting on July 1 of each year following the first full year after the initial ROI is submitted and continuing for a period of three (3) years. With each ROI submission, the Applicant shall include an analysis of external sources of funds, if any, that may be available to implement the alternate energy technology. If and when the ROI shows that implementation of the alternate energy technology is economically viable but the Applicant elects, at its discretion, not to implement the alternate energy technology, the Applicant shall issue a report to the Environment and Development Review Branch of DPZ explaining its reasoning. In the event the Applicant proceeds, at its discretion, to implement alternate energy technology, the Applicant shall report annually to Environment and Development Review Branch of DPZ for a period of three (3) years on the impact of the alternate energy source on the level of energy consumption at the building and provide an estimate of green house gas reductions resulting from the technology.

(ii) Utility Data. If requested by the Chief of the Environment and Development Review Branch of Department of Planning and Zoning, utility data for Building G will made available for energy and water consumption by Fairfax County Facilities Management Department. The data shall be aggregated by building and site, and performance of individual units and tenants will not be reported. The data will be in the format of gallons of water used and kWh used for Building G only and gallons of water used and kWh used for the Building G site.

This data will not be shared in dis-aggregated form with non-DPZ staff or Planning Commissioners without the written consent of the Director of Facilities Management Department. The information obtained shall be for information purposes only and provision of the information will not result in any negative consequences to the Applicant.

This Proffer 21.E.ii. may be modified related to the amount, type, format, frequency, and scope of data provided and the duration of the data provision requirement upon the mutual agreement of DPZ and the Applicant without requiring a PCA. Additionally, if the required data cannot be obtained by the Applicant from utility providers or tenants because of applicable law, the utility provider's policy, privacy issues, legal precedence or collection of the data is administratively burdensome to the Applicant or the County, then the Applicant or the County, as applicable, shall provide written notice to the Chief of the Environment and Development Review Branch of DPZ or the Applicant, as applicable, describing why the data cannot be obtained and/or why provision of that data is administratively burdensome. The Applicant and DPZ shall thereafter meet to discuss possible modifications to this Proffer 21.E.ii. If,

after the meeting between the Applicant and DPZ, the Applicant or DPZ determines that provision of the data, as provided herein or as modified, is not practicable, then they shall provide notice of the same and the Applicant shall be relieved of the obligation to provide the data required under this Proffer 21.E.ii

F. Smart Building. The Applicant shall design the buildings to include conduit to provide for the installation of information and communications technology that can operate throughout the building and that can connect to remote locations and networks. The Applicant shall demonstrate compliance with the design requirements of this Proffer prior to building permit approval for the respective building. This proffer shall not require the Applicant to equip the building with any particular application.

G. Green Building Practices.

(i) The Applicant will include, as part of the site plan submission and building plan submission for each of the buildings, a list of specific credits within the most current version of the U.S. Green Building Council's Leadership in Energy and Environmental Design—Core and Shell (LEED®-CS) rating system, or other LEED rating system determined to be applicable to the building by the U.S. Green Building Council (USGBC), that the Applicant anticipates attaining. At least one principal participant of the Applicant's project team shall be a LEED Accredited Professional, and such professional will provide certification statements at both the time of site plan review and the time of building plan review confirming that the items on the list are expected to meet at least the minimum number of credits necessary to attain LEED Silver certification for the buildings.

(ii) In addition, prior to site plan approval, the Applicant will designate the Chief of the Environment and Development Review Branch of the Department of Planning and Zoning as a team member in the USGBC's LEED Online system. This team member will have privileges to review the project status and monitor the progress of all documents submitted by the project team, but will not be assigned responsibility for any LEED credits and will not be provided with the authority to modify any documentation or paperwork.

(iii) Prior to building plan approval for the buildings, the Applicant will submit, to the Environment and Development Review Branch of DPZ, documentation from the U.S. Green Building Council demonstrating that LEED Silver precertification under the Core and Shell program has been attained for that building. Prior to release of the bond for that building, the Applicant shall provide documentation to the Environment and Development Review Branch of DPZ demonstrating the status of attainment of LEED Certification from the U.S. Green Building Council for the building.

(iv) As an alternative to and in lieu of the requirements of paragraphs i - iii above, or if the Applicant fails to attain LEED Silver precertification prior to building plan approval, the Applicant will, prior to building permit approval, execute a separate agreement and post a "green building escrow," in the form of cash or a letter of credit from a financial institute acceptable to DPWES as defined in the Public Facilities Manual, in the amount of $2.00 per gross square foot of building. This escrow will be in addition to and separate from other bond requirements and will be released upon demonstration of attainment of certification, by the U.S. Green Building Council, under the most current version of the LEED-CS rating system or other LEED rating system determined, by the U.S. Green Building Council, to be applicable to the building. The provision to the Environment and Development Review Branch of DPZ of documentation from the U.S. Green Building Council that the building has attained LEED certification will be sufficient to satisfy this commitment. If the applicant fails to provide documentation to the Environment and Development Review Branch of DPZ demonstrating attainment of LEED certification within two years (or such longer time if the Applicant provides documentation to the satisfaction of the Environment and Development Review Branch of DPZ that USGBC review of the LEED certification has been delayed through no fault of the Applicant) of issuance of the first Non-RUP, exclusive of core and shell, for the building, the escrow will be released to Fairfax County and will be posted to a fund within the county budget supporting implementation of county environmental initiatives.

(v) In the event that Building G is developed by Fairfax County as a public use, then, in accordance with the Fairfax County policy for sustainable public facilities greater than 10,000 square feet, such building will be designed and built with green building measures to attain at a minimum the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver certification rating and the provisions of paragraphs i. – iv. above shall not apply.

ENVIRONMENT

22. Stormwater Management Facilities.

A. Willow Oaks SWM/BMP Pond. The GDPA ~~proposes~~depicts a Stormwater Management Facility referred to as the Willow Oaks SWM/BMP pond that ~~will~~has been designed and approved pursuant to SP # 5544-SP-010 to provide both stormwater management (SWM) and Best Management Practices (BMPs) for its entire contributing watershed (approximately 130.1 acres), including the Application Property. In addition, the Willow Oaks SWM/BMP pond ~~can~~will provide for BMPs for the southern portion of the Inova Fairfax Hospital Campus, the Woodburn Site and the Woodburn Place Site as described in RZ 2008- PR-009~~ pending concurrently with this Application. The Willow Oaks SWM/BMP~~

~~pond will be~~. The Willow Oaks SWM/BMP pond is located partially on the Application Property and partially off-site, on Parcel 136C, as further described in Proffer 28 associated with RZ 2008-PR-009. The Willow Oaks SWM/BMP pond is designed as an enhanced extended detention pond with high and low marshes, sediment forebays, and a permanent micro pool. Post-development condition release rates from the Willow Oaks SWM/BMP pond will not exceed pre-development conditions for the 2-year and 10-year storms. Pre-development conditions ~~will~~ assume that the entire watershed upstream of the Willow Oaks SWM/BMP pond is equivalent to woods in good condition. The Applicant reserves the right to commence construction of the Willow Oaks SWM/BMP pond under a separate site plan in advance of development on the Application Property or concurrently with it. If not sooner, the Applicant shall construct the Willow Oaks SWM/BMP pond concurrently with the construction of the first of the buildings to be constructed on the Application Property. The Applicant reserves the right to seek reimbursement from property owners who utilize the Willow Oaks SWM/BMP pond. There is a temporary conservation easement that has been recorded on the Application Property for the purpose of providing an interim BMP for an adjacent property to the west. This conservation easement will be vacated with the approval of DPWES when it can be demonstrated that the BMP requirement is otherwise accommodated or will be deferred for an interim period during construction of the Willow Oaks SWM/BMP pond. Notwithstanding anything in Note 27 on the GDPA to the contrary, the Applicant shall not construct a gazebo on any portion of the Willow Oaks SWM/BMP pond or its related facilities.

B. Maintenance. The Applicant shall maintain the Willow Oaks SWM/BMP pond, and in the event the 3-Bay option for Parking Garage B is provided, the Applicant shall also maintain that portion of on-site storm sewer running generally eastward from the south end of Williams Drive to the western side of the Willow Oaks SWM/BMP pond. If required, prior to initial site plan approval, the Applicant shall execute an agreement with Fairfax County in a form satisfactory to the County Attorney (the "SWM Agreement") providing for the perpetual maintenance of the Willow Oaks SWM/BMP pond. The SWM Agreement shall address the following issues to the satisfaction of DPWES: (a) future maintenance/repair of the facility, when and as warranted; (b) requirement for liability insurance in an amount reasonably acceptable to DPWES; (c) agreement by owners and successors not to petition the County to take future maintenance responsibility for the facility; and (d) establishment of procedures to facilitate County inspection.

23. Low Impact Development. The Applicant shall install Fairfax County accepted Low Impact Development (LID) facilities, on the Application Property in Property in at least one of the locations shown on the GDPA as "Possible LID Location". The LID facilities (pervious pavement or other) shall treat a total of 20,000 square feet of impervious surface and shall have a minimum phosphorous removal efficiency of 40 percent. The LID facilities will be designed in accordance with the PFM. These LID facilities are

intended as demonstration facilities and shall not factor into the requisite calculations for stormwater management and BMPs.

PUBLIC FACILITIES

24. Parks and Public Schools. The Applicant shall make a contribution to the Board of Supervisors to be used for improvements in Pine Ridge Park, and also for athletic facilities and/or fields in the general vicinity of the Application Property as determined by the Providence District Supervisor in consultation with the Providence District Athletic Fields Task Force. Such contribution shall be calculated at a rate of $0.27 per square foot of GFA proposed for the respective building. One-half of the total contribution for the buildings approved on the Application Property shall be paid at the time of site plan approval for the second of the buildings to be constructed; the other one-half of the total contribution shall be paid at the time of site plan approval for the third of the buildings to be constructed.

MISCELLANEOUS

25. Advanced Density/Intensity Credit. Advanced density/intensity credit is reserved consistent with the provisions of Par. 4 of Section 2-308 of the Fairfax County Zoning Ordinance for all eligible dedications described herein or as may be required by Fairfax County or VDOT pursuant to the PFM, at the time of site plan approval for the Application Property.

26. Site Plan Copies to Supervisor and Planning Commissioner. The Applicant shall deliver copies of public improvement plans, site plans, landscape plans and tree preservation plans to the Providence District Supervisor and Planning Commissioner for review and comment upon submission of such plans to DPWES.

27. Compliance with Federal, State, and Other Local Laws/Severability. If it is found by a court of competent jurisdiction, that any portion of these Proffers violates any Federal, State or other local law, then the offending portion of these Proffers shall be deemed null and void and no longer in effect. All remaining conditions of these proffers shall remain in full force and effect.

28. Severability. Pursuant to Section 18-204 of the Zoning Ordinance, any portion of the Application Property may be the subject of a future proffered condition amendment ("PCA"), Special Exception ("SE"), or Special Permit ("SP") application without joinder and/or consent of the owner(s) of the other portion(s) of the Application Property.

29. Successors and Assigns. These Proffers will bind and inure to the benefit of the Applicant, the owners and their successors and assigns.

30. Counterparts. These Proffers may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, and all of which taken together shall constitute one and the same instrument.

[SIGNATURES BEGIN ON THE NEXT PAGE]

APPLICANT/TITLE OWNER OF TAX MAP 49-3 ((1)) 141

INOVA HEALTH CARE SERVICES

By: Inova Health System Foundation, its Sole Member

_____

By: Richard C. Magenheimer
Its: Chief Financial Officer

[SIGNATURES CONTINUE]

CONTRACT PURCHASER OF TAX MAP 49-3 ((1)) 141 pt.

FAIRFAX COUNTY BOARD OF SUPERVISORS

By: _____

Name: _____

Its: _____

[SIGNATURES END]

REZONING AFFIDAVIT

DATE: June 15, 2011
(enter date affidavit is notarized)

I, Ellen vanHully-Bronson, do hereby state that I am an
(enter name of applicant or authorized agent)

(check one) [ ] applicant
[✓] applicant's authorized agent listed in Par. 1(a) below

111532c

in Application No.(s): PCA 87-P-038-05
(enter County-assigned application number(s), e.g. RZ 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS,** and **LESSEES** of the land described in the application,* and, if any of the foregoing is a **TRUSTEE,**** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS,** and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

(**NOTE**: All relationships to the application listed above in **BOLD** print must be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

NAME (enter first name, middle initial, and last name)	**ADDRESS** (enter number, street, city, state, and zip code)	**RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above)
Fairfax County Board of Supervisors	12000 Government Center Parkway, Suite 530 Fairfax, VA 22035	Contract Purchaser of TM 49-3 ((1)) 141 pt. /Applicant
Department of Public Works and Environmental Services	12055 Government Center Parkway, Suite 659 Fairfax, VA 22035	Agents for Contract Purchaser
James W. Patteson, Director DPWES	12055 Government Center Parkway, Suite 659 Fairfax, VA 22035	Agent for Contract Purchaser
Ronald N. Kirkpatrick, Deputy Director DPWES, Capital Facilities	12000 Government Center Parkway, Suite 449 Fairfax, VA 22035	Agent for Contract Purchaser
Carey F. Needham, Acting Director Planning and Design Division	12000 Government Center Parkway, Suite 449 Fairfax, VA 22035	Agent for Contract Purchaser

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued on a "Rezoning Attachment to Par. 1(a)" form.

* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.

** List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

Rezoning Attachment to Par. 1(a)

111532c

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

(**NOTE**: All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

NAME (enter first name, middle initial, and last name)	**ADDRESS** (enter number, street, city, state, and zip code)	**RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above)
Ellen vanHully-Bronson, Project Coordinator, Building Design Branch, PDD	12000 Government Center Parkway, Suite 449 Fairfax, VA 22035	Agent for Contract Purchaser
Kimberly Callahan, Project Manager Building Desing Branch, PDD	12000 Government Center Parkway, Suite 449 Fairfax, VA 22035	Agent for Contract Purchaser
Fairfax County County Executive Anthony H. Griffin	12000 Government Center Parkway, Suite 552 Fairfax, VA 22035	Agent for Contract Purchaser
Fairfax County Deputy County Executives Robert A. Stalzer Pat Harrison	12000 Government Center Parkway, Suite 552 Fairfax, VA 22035	Agents for Contract Purchaser
George Braunstein, Director Community Service Board	12011 Government Center Parkway, Suite 836 Fairfax, VA 22035	Agent for Contract Purchaser
Noritake Associates, Inc. Rae F. Noritake Andrew C. Smith	605 Prince Street Alexandria, VA 22314	Agents for Contract Purchaser Architecture/Planning
VIKA, Inc. John P. Amatetti P. Christopher Champagne Edmund J. Ignacio	8180 Greensboro Drive, Suite 200 McLean, VA 22102	Agents for Contract Purchaser Engineering/Planning
Inova Health Care Services H. Patrick Walters James M. Scott (former) J. Knox Singleton Richard C. Magenheimer Jennifer W. Siciliano	8110 Gatehouse Road Suite 200 East Tower Falls Church, VA 22042	Title Owner of TM 49-3 ((1)) 141 Agents for Title Owner

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

111532c

Rezoning Attachment to Par. 1(a)

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

(**NOTE**: All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

NAME (enter first name, middle initial, and last name)	**ADDRESS** (enter number, street, city, state, and zip code)	**RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above)
Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.	2200 Clarendon Boulevard, 13th Floor Arlington, VA 22201	Attorneys/Planners/Agent for Inova Health Care Services
Martin D. Walsh Lynne J. Strobel Timothy S. Sampson M. Catharine Puskar Sara V. Mariska G. Evan Pritchard Elizabeth D. Baker Inda E. Stagg Kara M. W. Bowyer Elizabeth A. McKeeby		Agents for Title Owner
Sittler Development Associates, LLC	1856 Old Reston Avenue Reston, VA 20190	Agent for Title Owner
J. David Sittler		Agent for Title Owner
Dewberry & Davis LLC	8401 Arlington Boulevard Fairfax, VA 22031	Engineers/Planners/Agent for Inova Health Care Services
Philip G. Yates Dennis M. Couture Timothy C. Culleiton Andrea R. Walstrom Janice M. Cena Cody A. Pennetti Scott C. Clarke Daniela G. Medek		Agents for Title Owner

(check if applicable) [ ] There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

REZONING AFFIDAVIT

DATE: June 15, 2011
(enter date affidavit is notarized)

111532c

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number(s))

1(b). The following constitutes a listing*** of the **SHAREHOLDERS** of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders, **and if the corporation is an owner of the subject land, all of the OFFICERS and DIRECTORS of such corporation:**

(**NOTE:** Include **SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES,** and **REAL ESTATE INVESTMENT TRUSTS** herein.)

CORPORATION INFORMATION

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Inova Health Care Services
8110 Gatehouse Road, Suite 200, East Tower
Falls Church, VA 22042

DESCRIPTION OF CORPORATION: (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF SHAREHOLDERS: (enter first name, middle initial, and last name)
Inova Health Care Services, formerly Inova Health System Hospitals, formerly Inova Hospitals, formerly Fairfax Hospital System, Inc., formerly Fairfax Hospital Systems, Inc., formerly Fairfax Hospital Association, is a non-stock, non-profit corporation, the sole member of which is Inova Health System Foundation. InovaHealth System Foundation - continued on Par. 1(b) pg. 1 of 5.

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name & title, e.g. **President, Vice President, Secretary, Treasurer**, etc.)
Officers: J. Knox Singleton, President; Charles H. Smith III, Chairman; Lori Morris, Vice Chair; Charles Mann, Secretary; John F. Gaul, Asst. Secretary; Gregory S. Shields, Asst. Secretary; Richard C. Magenheimer, Treasurer
Board of Trustees: Mary Agee, Robert Ahmed, Charles E. Beard, Martha Calihan, Christopher Chiantella, Margaret Colon, Paula Darling, Jack C. Ebeler, Michael R. Frey, Maria V. Hopper, Betty Hudson, Gerald W. Hyland, Hooks Johnston, Al Khoury, Charles Mann, James McNeil, Dean Morehouse, Lori M. Morris, Carolyn Moss, Philip O. Nolan, Jon Peterson, Eric Reines, - continued on Par. 1(b) pg. 1 of 5.

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued on a "Rezoning Attachment 1(b)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

111532c

Rezoning Attachment to Par. 1(b)

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Inova Health Care Services (shareholders and directors, continued)
8110 Gatehouse Road, Suite 200, East Tower
Falls Church, VA 22042

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDER: (enter first name, middle initial, and last name)
(continued) - appoints the Board of Trustees of Inova Health Care Services.

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
(continued) - Arnold Rosenblatt, J. Knox Singleton, Mary E. Schmidt, Charles H. Smith III, Will Soza, Jill Stelfox, Shirley Travis, Robert Tsien.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)

DESCRIPTION OF CORPORATION: (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

Rezoning Attachment to Par. 1(b)

111532c

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Inova Health System Foundation
8110 Gatehouse Road
Falls Church, VA 22042

DESCRIPTION OF CORPORATION: (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDER: (enter first name, middle initial, and last name)
Inova Health System Foundation, formerly Inova Health Systems Foundation, which was formerly Inova Health Systems, Inc., which was formerly Fairfax Hospital Association Foundation, which was formerly The Fairfax Hospital Association Foundation, is a non-stock, non-profit corporation.

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
Officers: J. Knox Singleton, CEO; Mark S. Stauder, President; Stephen M. Cumbie, Chairman, Carl L. Biggs, Secretary; John F. Gaul, Asst. Secretary; Gregory S. Shields, Asst. Secretary; Nicholas Carosi, III, Vice Chair, Richard C. Magenheimer, Asst. Treasurer & CFO; Lydia Thomas, Treasurer.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Inova Health System Foundation [trustees, continued]
8110 Gatehouse Road
Falls Church, VA 22042

DESCRIPTION OF CORPORATION: (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)
Trustees: Carl L. Biggs, Nicholas Carosi, III, Margaret Colon, Stephen M. Cumbie, Jack C. Ebeler, Penelope A. Gross, Katherine K. Hanley, Paul Harbolick, Jr., Al Khoury; D. Mark Lowers; Alan G. Merten; Tony Nader; J. Knox Singleton; Charles H. Smith III; Mark E. Stavish; Maura Sughrue; Lydia Thomas; Winston Ueno

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

111532c

Rezoning Attachment to Par. 1(b)

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
VIKA, Inc.
8180 Greensboro Drive, Suite 200
McLean, VA 22102

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDER: (enter first name, middle initial, and last name)
John F. Amatetti, Charles A. Irish, Jr., Harry L. Jenkins, Robert R. Cochran, Mark G. Morelock, Jeffrey B. Amateau, Kyle U. Oliver, P. Christopher Champagne

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NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Noritake Associates, Inc.
605 Prince Street
Alexandria, VA 22314

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)
Rae F. Noritake

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

Rezoning Attachment to Par. 1(b)

111532 c

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Walsh, Colucci, Lubeley, Emrich, & Walsh, P.C.
2200 Clarendon Boulevard, 13th Floor
Arlington, VA 22201

DESCRIPTION OF CORPORATION: (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDER: (enter first name, middle initial, and last name)
David J. Bomgardner, E. Andrew Burcher, Thomas J. Colucci, Peter M. Dolan, Jr., Jay du Von, Jerry K. Emrich, William A. Fogarty, John H. Foote, H. Mark Goetzman, Bryan H. Guidash, Michael D. Lubeley, J. Randall Minchew, M. Catharine Puskar, John E. Rinaldi, Lynne J. Strobel, Garth M. Wainman, Nan E. Walsh, Martin D. Walsh.

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Sittler Development Associates, LLC
1856 Old Reston Avenue
Reston, VA 20190

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)
J. David Sittler

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

Rezoning Attachment to Par. 1(b)

111532c

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Dewberry & Davis LLC
8401 Arlington Boulevard
Fairfax, VA 22031

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDER: (enter first name, middle initial, and last name)
The Dewberry Companies LC, Member
James L. Beight, Member
Dennis M. Couture, Member

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
The Dewberry Companies LC
8401 Arlington Boulevard
Fairfax, VA 22031

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)
Sidney O. Dewberry, Barry K. Dewberry, Karen S. Grand Pre, Thomas L. Dewberry, Michael S. Dewberry Credit Shelter Trust u/a/d/ 11/23/05 (f/b/o/ Michael S. Dewberry II and 3 other minor children of Michael S. Dewberry)

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

(check if applicable) [ ] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

REZONING AFFIDAVIT

DATE: June 15, 2011
(enter date affidavit is notarized)

111532c

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number(s))

1(c). The following constitutes a listing*** of all of the **PARTNERS,** both **GENERAL** and **LIMITED**, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

PARTNERSHIP NAME & ADDRESS: (enter complete name, number, street, city, state and zip code)
None

(check if applicable) [ ] The above-listed partnership has no limited partners.

NAMES AND TITLE OF THE PARTNERS (enter first name, middle initial, last name, and title, e.g. **General Partner, Limited Partner, or General and Limited Partner**)

(check if applicable) [ ] There is more partnership information and Par. 1(c) is continued on a "Rezoning Attachment to Par. 1(c)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

REZONING AFFIDAVIT

DATE: June 15, 2011
(enter date affidavit is notarized)

111532c

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number(s))

1(d). One of the following boxes **must** be checked:

[ ] In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land:

[✓] Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

EXCEPT AS FOLLOWS: (**NOTE**: If answer is none, enter "**NONE**" on the line below.)

Fairfax County Board of Supervisors is the Contract Purchaser

(check if applicable) [ ] There are more interests to be listed and Par. 2 is continued on a "Rezoning Attachment to Par. 2" form.

REZONING AFFIDAVIT

DATE: June 15, 2011
(enter date affidavit is notarized)

111532c

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number(s))

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than $100, singularly or in the aggregate, with any of those listed in Par. 1 above.

EXCEPT AS FOLLOWS: (NOTE: If answer is none, enter "**NONE**" on line below.)

Supervisors Michael R. Frey and Gerald W. Hyland are both Trustees on the Inova Health Care Services Board.
Supervisor Penelope A. Gross is a Trustee on the Inova Health System Foundation Board

(NOTE: Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable) [✓] There are more disclosures to be listed and Par. 3 is continued on a "Rezoning Attachment to Par. 3" form.

4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.

WITNESS the following signature:

(check one) [ ] Applicant [✓] Applicant's Authorized Agent

Ellen vanHully-Bronson, Project Coordinator/Agent
(type or print first name, middle initial, last name, and title of signee)

Subscribed and sworn to before me this 15th day of June 2011, in the State/Comm. of VIRGINIA, County/City of FAIRFAX.

Notary Public

My commission expires: June 30, 2011

RICHARD A. FINNELL
COMMONWEALTH OF VIRGINIA
REGISTRATION NO. 7152205
NOTARY PUBLIC

Rezoning Attachment to Par. 3

111532c

DATE: June 15, 2011
(enter date affidavit is notarized)

for Application No. (s): PCA 87-P-038-05
(enter County-assigned application number (s))

- Chairman Sharon Bulova and Supervisors Penelope A. Gross, Patrick Herrity, Catherine M. Hudgins, and Jeffrey C. McKay and their spouses attended the Inova Health System Foundation's 2010 Annual Gala with complimentary tickets having a face value in excess of $100 each.
- Stephen M. Cumbie, Chairman and trustee on the Inova Health System Foundation Board, donated in excess of $100 to Sharon Bulova.
- Stephen M. Cumbie, Chairman and trustee on the Inova Health System Foundation Board, donated in excess of $100 to John Foust.
- Gerald W. Hyland, a member of the Fairfax County Board of Supervisors and a trustee on the Inova Health Care Services Board, donated in excess of $100 to Chairman Bulova.
- Dean Morehouse, a trustee on the Inova Health Care Services Board, donated in excess of $100 to Supervisor Patrick Herrity.
- James M. Scott, a former agent of Inova Health Care Services, made a gift to Supervisor Michael Frey of baseball tickets with a value in excess of $100.
- Jon Peterson, a trustee on the Inova Health Care Services Board, donated in excess of $100 to John Cook.

Supervisor Penelope A. Gross, a member of the Fairfax County Board of Supervisors and a Trustee on the Inova Health System Foundation Board, donated in excess of $100 to Chairman Sharon Bulova.

(check if applicable) [ ] There are more disclosures to be listed for Par. 3, and Par. 3 is continued further on a "Rezoning Attachment to Par. 3" form.

County of Fairfax, Virginia

MEMORANDUM

RECEIVED
Department of Planning & Zoning
MAR 08 2011
Zoning Evaluation Division

DATE: 28 February 2011

TO: Barbara C. Berlin, Director
Zoning Evaluation Division
Department of Planning & Zoning

FROM: Ellen vanHully-Bronson, R.A., Project Coordinator
Planning & Design Division
Department of Public Works & Environmental Services (DPWES)

SUBJECT: Partial Proffered Condition Amendment Application #PCA 87-P-038-05
Application Property: 49-3((1)) 141
Applicant: Fairfax County Board of Supervisors, Contract Purchaser

This memo serves as a statement of justification for a partial proffer condition amendment application for the above referenced Application Property. The Applicant is the contract purchaser of a portion of the Application Property, which is owned by Inova Health Care Services (Inova). The Application Property is zoned to the C-3 District and is subject to proffers approved pursuant to PCA 87-P-038-04 which was approved by the Board of Supervisors on July 13, 2009.

The Application Property is located within Sub-Unit L5 within the Merrifield Suburban Center, within Area I of the Fairfax County Comprehensive Plan (the "Comprehensive Plan"). The Comprehensive Plan recommends development of the Application Property with office uses up to 0.7 FAR. The Comprehensive Plan also recommends that development on the Application Property should provide a 100-foot buffer adjacent to the Pine Ridge community and that buildings be limited to 50-90 feet (4 to 7 stories) in height, with the building located nearest the 100-foot buffer (in the southwestern portion of the site) to be no more than 4 stories. The GDPA reflects a development program that meets the recommendations of the Comprehensive Plan.

The purpose of this PCA is to allow for an additional alternate layout for the southern land bay. This alternate results from final design efforts as described below. This Application does not propose any additional development to that previously approved, and the new alternate layout will continue to meet all standards for development on the Application Property as recommended by the Comprehensive Plan.

Department of Public Works and Environmental Services
Planning & Design Division
12000 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052
Phone: 703-324-5800, TTY: 1-800-828-1120, Fax: 703-324-4365
www.fairfaxcounty.gov/dpwes

Further, please note that all stormwater calculations remain unchanged and that the site permit for the pond is imminent. In addition the new alternative does not affect the previously approved Chapter 527 traffic impact statement dated December 23, 2008 and accepted February 5, 2009.

On September 28, 2010 the Board of Supervisors approved a Contract of Sale with Inova, Title Owner of 49-3 ((1)) 141, also referenced as Willow Oaks. The Contract of Sale provides for multiple closings with the second closing providing the transfer of an approximate 5 acre parcel/pad site at Willow Oaks from Inova to Fairfax County, on which Fairfax County will construct Building G and a portion of Parking Garage B as shown on the GDPA. Building G is being designed as the replacement facility for the Woodburn Mental Health Center and will also consolidate a number of Community Services Board (CSB) programs currently located in lease space.

As DPWES staff began to work on the space program with CSB staff, we found that several modifications were required to the current approved GDPA to allow Building G and Parking Garage B to provide the required functionality for the CSB programs. The modifications to the currently approved GDPA include:

- An at grade entrance sallyport on the south-west side of Building G. The sallyport provides direct access for emergency vehicles to the mental health emergency services department. The need for the sallyport to enter the cellar level necessitated an adjustment to the elevations of the grade at the rear of Building G and the area between Buildings G and F. This need effectively reversed the grading around the cellar level from what is shown on the currently approved GDPA. The cellar is now exposed on the south/southwest end and buried on the east end.

- The grade reversal raised the main entrance on the south/southeast side of Building G from the cellar level to the first floor. This change allows for the required separation of customers accessing CSB programs on levels 1 through 3 from those going to emergency services on the cellar level. This also provides a more direct access from the main level of Parking Garage B to the main entry, level 1, of Building G, and creates a central lobby that is visible from both the north and south entrance entrances.

- A reduction of the circular drop-off area on the south side of the building to reduce the prominence of this entrance as the southwest entrance is primarily for emergency services and one adult treatment program, and the majority of patrons enter on level 1. This will significantly reduce the number of vehicles entering the site from Williams Drive, thereby reducing traffic impact to the residences to the south.

- Relocation of the "back of house" services including trash, delivery loading spaces, and an emergency generator to the at grade cellar level directly adjacent to the west wall of Garage B. An earthberm, screenwall, and landscaping have been added to screen the view of this area from the residential area.

- The grading revision discussed in the initial bullet necessitated a ninety degree rotation of Building F to open up the entrance drive between Buildings G and F and allow for the Building F entrance closer to the grade level of the entrance drive. This will provide a larger area to facilitate customer drop-off at the main entrance on level 1 for both buildings and provide a clear view of the main entrance to Parking Garage B. The circular loop between Building F & G provides a place for an LID combined with pedestrian seating and clearly marks the main entrances to both Buildings G and F.

- The relocation of the entrance for Building F to the entrance driveway segregates the "back of house" services for Building F to be off of the Connector Road and away from the main entrance to Building F.

- Finally, the GDPA reflects the further engineered alignment of Willow Oaks Corporate Drive, resulting in a slight northerly shift in a portion of the roadway and the resultant reduction in the minimum setback to the buildings in the northern landbay from 50 to 40 feet.

These changes have ultimately made a positive impact to the overall PCA application by enhancing the organization, functionality, and character of the site while promoting a sense of place to the overall community.

G:\Capital-Projects\PDD-BDB\Mid County Comm Services\Proffers and Zoning\Application and Affidavit\Statement of Justification rev 4.doc

cc: Timothy S. Sampson, Walsh Colucci, Lubeley, Emrich & Walsh, PC
David Sittler, Sittler Development Associates, LLC
Carey Needham, Acting Director, Planning & Design Division, DPWES

Timothy S. Sampson
(703) 618-4135
tsampson@arl.thelandlawyers.com

RECEIVED
Department of Planning & Zoning
MAR 08 2011
Zoning Evaluation Division

February 13, 2008

By Hand Delivery

Regina Coyle, Director
Fairfax County Department of Planning & Zoning
Zoning Evaluation Division
12055 Government Center Parkway, 8th Floor
Fairfax, Virginia 22035

Re: Partial Proffered Condition Amendment Application (the "Application")
Application Property: 49-3((1)) 141
Applicant: Inova Health Care Services

Dear Ms. Coyle:

Please accept this letter as a statement of justification in support of a partial proffered condition amendment application for the above-referenced Application Property. The Applicant is the owner of the Application Property.

The Application Property is zoned to the C-3 District and is subject to applicable proffers approved pursuant to PCA 87-P-038-3. A portion of the Application Property is currently subject to SE 99-P-023 which was approved by the Board of Supervisors on October 25, 1999 to permit an Assisted Living Facility on the northern portion of the Application Property.

In total the Application Property is approved for a total of 487,804 square feet of gross floor area ("GFA"), including an assisted living facility (121,000 square feet) and office uses (366,804 square feet). The Applicant hereby proposes to reallocate the approved 487,804 square feet of GFA among five office buildings as shown on the enclosed generalized development plan amendment ("GDPA"). The Applicant also proposes a total of 100,400 square feet of cellar space allocated among the five buildings as shown on the GDPA.

As described on the GDPA, the Applicant proposes that one of the office buildings, consisting of 160,000 square feet of GFA and 40,000 square feet of cellar space, may be used by Fairfax County for a Mid-County Community Services Center Building. This building is proposed in conjunction with a proposal to relocate the County human service facility on parcel 59-2((1)) 1B (part) (Woodburn Mental Health) from its existing location as reflected in the concurrent rezoning and special exception amendment applications filed on the Inova Fairfax Hospital Campus. The Applicant proposes that the balance of the development program on the Application Property be available for office and/or educational uses. The Application also proposes to expand and improve the regional stormwater management pond located on the southern end of the Application Property as well as to provide for a new connector road linking the Application Property with the Inova Fairfax Hospital Campus to the south.

The Application Property is located within Sub-Unit L5 within the Merrifield Suburban Center, within Area I of the Fairfax County Comprehensive Plan (the "Comprehensive Plan"). The Comprehensive Plan recommends development of the Application Property with office uses up to 0.7 FAR. The Comprehensive Plan also recommends that development on the Application Property should provide a 100-foot buffer adjacent to the Pine Ridge community and that buildings be limited to 50-90 feet (4 to 7 stories) in height, with the building located nearest the 100-foot buffer (in the southwestern portion of the site) to be no more than 4 stories.

The GDPA reflects a development program that meets the recommendations of the Comprehensive Plan. In addition, the development proposal reflected in the Application is well justified by the need of a location for the County's Mid-County Community Services Center Building as well as an appropriate office/educational development program for the Applicant.

As always, thank you for your attention to this matter. If you have any questions or require additional information please do not hesitate to contact me.

Very truly yours,

WALSH, COLUCCI, LUBELEY, EMRICH & WALSH, P.C.

Timothy S. Sampson

Under all the above options, all applicable area-wide recommendations should apply as well as guidelines for development at the base Plan which include a minimum 75-foot buffer with a barrier wall or fence, access limitations, and structures having a residential appearance.

Height Limit: The maximum building height in this sub-unit is 35 feet. See the Building Heights Map, Figure 16, and the Building Height Guidelines under the Area-Wide Urban Design section.

Sub-Unit L5:

Sub-Unit L5 is located at the southwest quadrant of Route 50 and Gallows Road and is planned for office use up to .7 FAR. Any modification, expansion, and/or reuse of the existing buildings should be consistent with guidelines for Existing Uses and Buildings under the Area-Wide Land Use section. New office development should provide a 100-foot minimum buffer area adjacent to the Pine Ridge community.

Option: As an option, a portion of this Sub-Unit may be appropriate for development as an assisted living and medical care facility. Any development proposal under this option must address all applicable Area-Wide recommendations.

Height Limit: The maximum building height for the eastern portion (i.e., Parcels 138, 139 and 140) in this sub-unit is 105 feet or 8 stories. Heights should vary between 50 and 90 feet (4 to 7 stories) for the remainder of this sub-unit. The area immediately adjacent to single family detached residential use should provide a buffer area of 100 feet as noted above, and the building immediately adjacent to this buffer area and Parcel 49-3((10))6 should be no more than 4 stories in height in order to ensure that the tallest buildings are away from the adjacent residential areas. See the Building Heights Map, Figure 16, and the Building Height Guidelines under the Area-Wide Urban Design section.

LAND UNIT M

This Land Unit is approximately 109 acres and is located south of Land Unit L, west of Gallows Road, and north of Woodburn Road (see Figure 35). The northern portion of the land unit consists of Bedford Village, which is multi-family residential development. The southern portion consists of the Inova Fairfax Hospital, Northern Virginia Health Institute, Woodburn Mental Health Center, and the Fairfax House.

Inova Fairfax Hospital and related uses are envisioned to remain in this area and expand. The future hospital expansion should be coordinated with the expansion of County human service facilities as described below; some of which are currently provided at the Woodburn Mental Health Center. Bedford Village is envisioned to remain as currently developed, as multi-family residential use.

Transportation improvements within this land unit will primarily be circulation and access improvements associated with hospital expansion.

Guidance for evaluating development proposals is provided in the Area-Wide Recommendations under Land Use, Urban Design, Transportation, and Public Facilities/Infrastructure sections, as well as in the following specific sub-unit recommendations.

County of Fairfax, Virginia

MEMORANDUM

April 12, 2011

TO: William J. O'Donnell Jr., Planner II
Zoning Evaluation Division, DPZ

FROM: Todd Nelson, Urban Forester II
Forest Conservation Branch, DPWES

SUBJECT: INOVA Willow Oaks; PCA-87-P-038-05

RE: Request for assistance dated March 31, 2011

This review is based on the Partial Generalized Development Plan Amendment PCA 87-P-038-05 stamped "Received, Department of Planning and Zoning, March 23, 2011".

General Comment: Urban Forest Management Division comments and recommendations were provided in previous memos based on reviews of PCA 87-P-038-04. Comments and recommendations on PCA 87-P-038-05 are provided to address tree and landscape related issues related to the alternate layout for the southern land bay and planting space requirements adjacent to Buildings H, I, and J.

1. **Comment:** The Tree Preservation Target Calculations shown on sheet 2 indicate the tree preservation target minimum will not be met for this site.

   Recommendation: A deviation from the tree preservation target should be provided on the PCA that states one or more of the justifications listed in PFM 12-0508.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target can not be met. A sheet number should be provided identifying the location of the deviation request.

   In addition, proffer language containing a directive from the Board of Supervisors to the Urban Forest Management Division, DPWES, or Director of DPWES to permit a deviation from the tree preservation target percentage should be provided.

2. **Comment:** Several trees located along Willow Oaks Corporate Drive, south of proposed parking garage A, appear to be planted either inside or on the proposed storm drain easement located in this area as shown on optional layout 5.

   Recommendation: All trees should be relocated outside of all easements and at least 5 feet away from all storm drain easements containing pipes.

Department of Public Works and Environmental Services
Land Development Services, Urban Forest Management Division
12055 Government Center Parkway, Suite 518
Fairfax, Virginia 22035-5503
Phone 703-324-1770, TTY: 703-324-1877, Fax: 703-803-7769
www.fairfaxcounty.gov/dpwes

3. **Comment:** Several trees located inside the entry plaza to the east of Buildings H, I, and J, and to the southwest of Building G, as shown on optional layouts 1, 4, and 5, appear to be planted in planters that are less than 8 feet wide with a minimum planting area of 48 sq. ft. It is unclear why the minimum planting width and planting area requirements can not be met as a request to modify these requirements has not been provided as part of the PCA. In addition, several trees located to the north of proposed building G and to the southwest of proposed parking garage B, as shown on optional layout 5, appear to be planted within 4 feet of a restrictive barrier such as a retaining wall or curb.

   Recommendation: The minimum width of any planting area should be 8 ft., measured from the interior sides of the restrictive barrier and trees should be planted no closer than 4ft. from any restrictive barrier. In addition, minimum planting areas should be provided in accordance with PFM sections 12-0510.4E(5) and 12-0601.1B. If the Applicant wishes to pursue a modification of the planting width and planting area requirements, a detailed justification, containing an applicable PFM standard, that provides a site-specific explanation of why these requirements can not be met should be provided as part of the PCA.

   In addition to planting area width, the performance and ultimate size of trees is dependent on the soil volume available to the root system of the tree. To ensure trees have favorable conditions capable of supporting successful establishment and performance, a minimum soil volume should be established and met or exceeded. Where minimum planting width can not be provided, the modification request should include a detail for an alternative design that provides the maximum possible planting area. Planting width may be provided below paved surfaces using structural cell technology as detailed in the recommended proffer language below. In addition to a minimum 8-foot width, planting space design should provide a minimum soil volume of 700 cubic feet of soil for each Category III and Category IV tree (as categorized in PFM Table 12.19) planted in areas restricted by barriers to root growth such as buildings, curbs and sidewalks. Recommended proffer language where the 8 foot wide minimum planting widths can not be provided is as follows:

   Alternative Planting Width Details: Site plans submitted for the respective phases of development shall include a landscape plan for that phase of development in conformance with the SE. Tree species and planting sites are set forth on the SE, subject to revision as may be approved by the Urban Forest Management Division. Where minimum planting widths of 8 feet can not be provided, the Applicant shall use structural cell technology, or other measures acceptable to UFMD, to satisfy the following specifications for all planting sites:

   - A minimum of 4 feet open surface width and 16 square feet open surface area for Category III and Category IV trees, with the tree located in the center of the open area;

- A minimum rooting area of 8 feet wide (may be achieved with techniques to provide un-compacted soil below pavement), with no barrier to root growth within four feet of the base of the tree;
- Soil volume for Category III and Category IV trees shall be a minimum of 700 cubic feet per tree for single trees. For two trees planted in a contiguous planting area, a total soil volume of at least 1200 cubic feet shall be provided. For three or more trees planted in a contiguous area, the soil volume shall equal to at least 500 cubic feet per tree. A contiguous area shall be any area that provides root access and soil conditions favorable for root growth throughout the entire area;
- Soil specifications in planting sites shall be provided in the planting notes to be included in all subsequent site plan submissions.

4. **Comment:** Preliminary interior parking lot landscaping calculations and associated graphics have been provided for optional layout 1, however, preliminary interior parking lot landscaping calculations and graphics have not been provided for optional layouts 2, 3, 4 and 5, and it is unclear how the interior parking lot landscaping requirements for each of these optional layouts will be met.

   Recommendation: Preliminary interior parking lot landscaping calculations in accordance with Section 13-200 of the Zoning Ordinance and associated graphics should be provided for each of the optional layouts on the PCA demonstrating how these requirements will be fulfilled.

Please contact me at 703-324-1770 if you have any questions.

TLN/
UFMID #: 160060

cc: RA File
DPZ File

County of Fairfax, Virginia

MEMORANDUM

May 13, 2011

TO: William J. O'Donnell Jr., Planner II
Zoning Evaluation Division, DPZ

FROM: Todd Nelson, Urban Forester II
Forest Conservation Branch, DPWES

SUBJECT: INOVA Willow Oaks; PCA-87-P-038-05

RE: Request for assistance dated April 29, 2011

This review is based on the Partial Generalized Development Plan Amendment PCA 87-P-038-05 stamped "Received, Department of Planning and Zoning, April 27, 2011".

General Comment: Urban Forest Management Division comments and recommendations were provided in previous memos based on reviews of PCA 87-P-038-04. Comments and recommendations on PCA 87-P-038-05 to address tree and landscape related issues related to the alternate layout for the southern land bay and planting space requirements adjacent to Buildings H, I, and J were provided in the previous memo dated April 5, 2011. An additional comment and recommendation is provided to address minimum planting area requirements.

1. **Comment:** Several trees located inside the entry plaza to the east of Buildings H, I, and J, and to the southwest of Building G, as shown on optional layouts 1, 4, and 5, appear to be planted in planters that are less than 8 feet wide with a minimum planting area of 48 sq. ft. It is unclear why the minimum planting width and planting area requirements can not be met as a request to modify these requirements has not been provided as part of the PCA. The proposed note #2 on sheet 4A does not adequately address this comment and there could be a conflict with PCA conformance during site plan review. In addition, several trees located to the north of proposed building G and to the southwest of proposed parking garage B, as shown on optional layout 5, appear to be planted within 4 feet of a restrictive barrier such as a retaining wall or curb.

   Recommendation: The minimum width of any planting area should be 8 ft., measured from the interior sides of the restrictive barrier and trees should be planted no closer than 4ft. from any restrictive barrier. Minimum planting areas should be provided in accordance with PFM sections 12-0510.4E(5) and 12-0601.1B.

   In addition to planting area width, the performance and ultimate size of trees is dependent on the soil volume available to the root system of the tree. To ensure trees have favorable conditions capable of supporting successful establishment and performance, a minimum

Department of Public Works and Environmental Services
Land Development Services, Urban Forest Management Division
12055 Government Center Parkway, Suite 518
Fairfax, Virginia 22035-5503
Phone 703-324-1770, TTY: 703-324-1877, Fax: 703-803-7769
www.fairfaxcounty.gov/dpwes

soil volume should be established and met or exceeded. Where minimum planting width can not be provided, the modification request should include a detail for an alternative design that provides the maximum possible planting area. Planting width may be provided below paved surfaces using structural cell technology as detailed in the recommended proffer language below. In addition to a minimum 8-foot width, planting space design should provide a minimum soil volume of 700 cubic feet of soil for each Category III and Category IV tree (as categorized in PFM Table 12.19) planted in areas restricted by barriers to root growth such as buildings, curbs and sidewalks. Recommended proffer language, to avoid conflict at site plan, where the 8 foot wide minimum planting widths can not be provided is as follows:

Alternative Planting Width Details: Site plans submitted for the respective phases of development shall include a landscape plan for that phase of development in conformance with the SE. Tree species and planting sites are set forth on the SE, subject to revision as may be approved by the Urban Forest Management Division. Where minimum planting widths of 8 feet can not be provided, the Applicant shall use structural cell technology, or other measures acceptable to UFMD, to satisfy the following specifications for all planting sites:

- A minimum of 4 feet open surface width and 16 square feet open surface area for Category III and Category IV trees, with the tree located in the center of the open area;
- A minimum rooting area of 8 feet wide (may be achieved with techniques to provide un-compacted soil below pavement), with no barrier to root growth within four feet of the base of the tree;
- Soil volume for Category III and Category IV trees shall be a minimum of 700 cubic feet per tree for single trees. For two trees planted in a contiguous planting area, a total soil volume of at least 1200 cubic feet shall be provided. For three or more trees planted in a contiguous area, the soil volume shall equal to at least 500 cubic feet per tree. A contiguous area shall be any area that provides root access and soil conditions favorable for root growth throughout the entire area;
- Soil specifications in planting sites shall be provided in the planting notes to be included in all subsequent site plan submissions.

Please contact me at 703-324-1770 if you have any questions.

TLN/
UFMID #: 160060

cc: RA File
DPZ File

County of Fairfax, Virginia

MEMORANDUM

DATE: April 21, 2011

TO: Barbara Berlin, Director
Zoning Evaluation Division
Department of Comprehensive Planning

FROM: Angela Kadar Rodeheaver, Chief
Site Analysis Section
Department of Transportation

FILE: 3- 4 (RZ 87-P-038)

SUBJECT: Transportation Impact

REFERENCE: PCA 87-P-038-05; INOVA Willow Oaks
Traffic Zone: 1522
Land Identification Map: 49-3 ((01)) 141

The application proposes a partial Proffered Condition Amendment (PCA) to amend the proffers and the General Development Plan (GDP) to provide an alternate layout option (5th option) for building G (the Mid-County Building) and Building F (INOVA Medical Office) on the INOVA Willow Oaks site. No additional FAR is proposed.

Transmitted herewith are comments from the Department of Transportation with respect to the referenced application. These comments are based on the revised plan dated March 4, 2011.

- The applicant should carry forward all previous transportation proffers related to this application.

AKR/AK
c:\mword\pca87P038INOVAWillow Oaks
cc: Michele Brickner, Director, Office of Site Review, DPW & ES

Fairfax County Department of Transportation
4050 Legato Road, Suite 400
Fairfax, VA 22033-2895
Phone: (703) 877-5600 TTY: 711
Fax: (703) 877 5697
www.fairfaxcounty.gov/fcdot

FCDOT
Serving Fairfax County for 25 Years and More

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

GREGORY A. WHIRLEY
COMMISSIONER

May 17, 2011

To: Ms. Barbara Berlin
Director, Zoning Evaluation Division

From: Thomas B. Walker
Virginia Department of Transportation – Land Development Section

Subject: PCA-87-P-038-5; Fairfax County Board of Supervisors
Tax Map No: 49-3 ((1)) 141

All submittals subsequent to the first submittal shall provide a response letter to the previous VDOT comments. Submittals without comment response letters are considered incomplete and will be returned without review.

This office has reviewed the referenced application and we have no objection to approval of the Partial Proffer Condition Amendment.

FAIRFAX COUNTY PARK AUTHORITY

M E M O R A N D U M

TO: Barbara Berlin, Director
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Sandy Stallman, Manager
Park Planning Branch, PDD

DATE: June 24, 2011

SUBJECT: PCA 87-P-038-05, INOVA Health Care Services - FC Board of Supervisors
Tax Map Number: 49-3((1)) 141

The Park Authority staff has reviewed the above referenced plan. Based on that review, staff has determined that this application bears no adverse impact on land or resources of the Park Authority. However, the Park Authority would like to review and comment on proffers related to park and recreation issues. We request that draft and final proffers be submitted to the assigned reviewer noted below for review and comment prior to completion of the staff report and prior to final Board of Supervisors approval.

FCPA Reviewer: Andy Galusha
DPZ Coordinator: Billy O'Donnell

Copy: Cindy Walsh, Director, Resource Management Division
Chron Binder
File Copy

County of Fairfax, Virginia

MEMORANDUM

DATE: April 11, 2011

TO: Billy O'Donnell, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Elfatih Salim, Senior Engineer III ES
Stormwater and Geotechnical Section
Environmental and Site Review Division
Department of Public Works and Environmental Services

SUBJECT: Proffered Condition Amendment application #PCA 87-P-038-05; INOVA Willow Oaks; Partial Generalized Development Plan Amendment revised March 4, 2011; Accotink Creek Watershed; LDS Project #002513-ZONA-003-1; Tax Map #049-3-01-00-0141; Providence District

We have reviewed the subject application and offer the following stormwater management review comments.

Chesapeake Bay Preservation Ordinance
There is a 2003 Resource Protection Area (RPA) on the southern part of this site. Applicant needs to show on the partially amended Generalized Development Plan (GDP), the County-mapped RPA or a field delineated RPA boundaries. If it is a field verified RPA, applicant need to show approved RPA plan number and approval date.

Floodplain
There are regulated floodplains on the property. Applicant needs to show on the partially amended GDP; the floodplain boundaries, the approved floodplain study plan number, and the approval date.

Downstream Drainage Complaints
There are downstream drainage complaints on file that need to be resolved before stormwater management review is approved for this application.

Stormwater Detention Water Quality Control
Applicant claims on Page 2 of the memorandum that all stormwater calculations will remain unchanged with this Proffered Condition Amendment application.

Department of Public Works and Environmental Services
Land Development Services, Environmental and Site Review Division
12055 Government Center Parkway, Suite 535
Fairfax, Virginia 22035-5503
Phone 703-324-1720 • TTY 711 • FAX 703-324-8359

Downstream Drainage System

A stormwater outfall narrative and a description were provided on Sheets 15 and 17 of the GDP. A more detailed stormwater outfall analysis for the 2, 10, and 100-year storm events along the entire extent of review is a submission requirement for the construction plans.

Please contact me at 703-324-1720 if you require additional information.

ES/dah

cc: Craig Carinci, Director, Stormwater Planning Division, DPWES
Jeremiah Stonefield, Chief, Stormwater and Geotechnical Section, ESRD, DPWES
Hani Fawaz, Chief Site Review Engineer, ESRD East, DPWES
Zoning Application File

APPENDIX 9

Fairfax Water

FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

PLANNING & ENGINEERING DIVISION
Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

April 4, 2011

Ms. Barbara Berlin, Director
Fairfax County Department of Planning and Zoning
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5505

Re: PCA 87-P-038-05
INOVA Willow Oaks
Tax Map: 49-3

Dear Ms. Berlin:

The following information is submitted in response to your request for a water service analysis for the above application:

1. The property can be served by Fairfax Water.

2. Adequate domestic water service will be available at the site from a 12-inch water main that is being proposed with site plan 5544-SP-011, Willow Oaks Corporate Drive which was approved by Fairfax Water on December 2, 2010. See the enclosed water system.

3. Depending upon the configuration of the on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality concerns.

If you have any questions regarding this information please contact Dave Guerra at (703) 289-6343.

Sincerely,

Traci K. Goldberg

Traci K. Goldberg, P.E.
Manager, Planning Department

Enclosure
cc: Ed Ignacio, Vika, Inc.
Timothy S. Sampson, Walsh, Colucci, Lubeley, Emrich & Walsh

County of Fairfax, Virginia

MEMORANDUM

DATE: April 12, 2011

TO: Barbara C. Berlin, Director
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Eric Fisher, GIS Analyst III
Information Technology Section
Fire and Rescue Department

SUBJECT: Fire and Rescue Department Preliminary Analysis of Proffered Condition Amendment Application PCA 87-P-038-05

The following information is submitted in response to your request for a preliminary Fire and Rescue Department analysis for the subject:

1. The application property is serviced by the Fairfax County Fire and Rescue Department Station **#430, Merrifield**

2. After construction programmed _____ this property will be serviced by the fire station _____

3. In summary, the Fire and Rescue Department considers that the subject rezoning application property:

   _X_ a. currently meets fire protection guidelines.

   ____ b. will meet fire protection guidelines when a proposed fire station becomes fully operational.

   ____ c. does not meet current fire protection guidelines without an additional facility; however, a future station is projected for this area.

   ___ d. does not meet current fire protection guidelines without an additional facility. The application property is ____ of a mile outside the fire protection guidelines. No new facility is currently planned for this area.

Fire and Rescue Department
4100 Chain Bridge Road
Fairfax, VA 22030
703-246-2126
www.fairfaxcounty.gov

County of Fairfax, Virginia

MEMORANDUM

DATE: April 18, 2011

TO: Barbara Berlin, Director
Zoning Evaluation Division
Department of Planning & Zoning

FROM: Lana Tran (Tel: 703 324-5008)
Wastewater Planning & Monitoring Division
Department of Public Works & Environmental Services

SUBJECT: Sanitary Sewer Analysis Report

REFERENCE: Application No. PCA-87-P-038-05

Tax Map No. 049-3/01/ /0141

The following information is submitted in response to your request for a sanitary sewer analysis for above referenced application:

1. The application property is located in the Accotink Creek (M-2) watershed. It would be sewered into the Noman M. Cole Pollution Control Plant (NMCPCP).

2. Based upon current and committed flow, there is excess capacity in the NMCPCP. For purposes of this report, committed flow shall be deemed that for which fees have been paid, building permits have been issued, or priority reservations have been established by the Board of Supervisors. No commitment can be made, however, as to the availability of treatment capacity for the development of the subject property. Availability of treatment capacity will depend upon the current rate of construction and the timing for development of this site.

3. An existing 8" inch line located on the property is adequate for the proposed use at this time.

4. The following table indicates the condition of all related sewer facilities and the total effect of this application.

	Existing Use +Application		Existing Use + Application Previous Rezonings		Existing Use + Application + Comp Plan	
Sewer Network	Adeq.	Inadeq.	Adeq.	Inadeq.	Adeq.	Inadeq.
Collector	X		X		X	
Submain	X		X		X	
Main/Trunk	X		X		X	
Interceptor						
Outfall						

5. Other pertinent information or comments:

Department of Public Works and Environmental Services
Wastewater Planning & Monitoring Division
12000 Government Center Parkway, Suite 358
Fairfax, VA 22035-0052
Phone: 703-324-5030, Fax: 703-324-3946

COMMERCIAL DISTRICT REGULATIONS

PART 3 4-300 C-3 OFFICE DISTRICT

4-301 Purpose and Intent

The C-3 District is established to provide areas where predominantly non-retail commercial uses may be located such as offices and financial institutions; and otherwise to implement the stated purpose and intent of this Ordinance.

4-302 Permitted Uses

1. Accessory uses and accessory service uses as permitted by Article 10.
2. Churches, chapels, temples, synagogues and other such places of worship.
3. Commercial swimming pools, tennis courts and similar courts, indoor.
4. Cultural centers, museums.
5. Eating establishments, limited by the provisions of Sect. 305 below.
6. Financial institutions.
7. Funeral homes.
8. Health clubs.
9. Mobile and land based telecommunication facilities, subject to the provisions of Sect. 2-514.
10. New vehicle storage, limited by the provisions of Sect. 305.
11. Nursery schools and child care centers.
12. Offices, to include the display and sales of scientific, electronic or medical equipment of a type not customarily retailed to the general public.
13. Private schools of general education, private schools of special education.
14. Public uses.
15. Quasi-public athletic fields and related facilities, limited by the provisions of Sect. 305 below.
16. Telecommunication facilities.

4-303 Special Permit Uses

For specific Group uses, regulations and standards, refer to Article 8.

1. Group 4 - Community Uses, limited to:

4-306 Lot Size Requirements

1. Minimum lot area: 20,000 sq. ft.

2. Minimum lot width: 100 feet

3. The minimum lot size requirements presented in Par. 1 and 2 above may be waived by the Board in accordance with the provisions of Sect. 9-610.

4-307 Bulk Regulations

1. Maximum building height: 90 feet, subject to increase as may be permitted by the Board in accordance with the provisions of Sect. 9-607

2. Minimum yard requirements

   A. Front yard: Controlled by a 25° angle of bulk plane, but not less than 40 feet

   B. Side yard: No Requirement

   C. Rear yard: Controlled by a 20° angle of bulk plane, but not less than 25 feet

3. Maximum floor area ratio: 1.00

4. Refer to Sect. 13-301 for provisions that may qualify the minimum yard requirements set forth above.

4-308 Open Space

15% of the gross area shall be landscaped open space

4-309 Additional Regulations

1. Refer to Article 2, General Regulations, for provisions which may qualify or supplement the regulations presented above.

2. Refer to Article 11 for off-street parking, loading and private street requirements.

3. Refer to Article 12 for regulations on signs.

4. Refer to Article 13 for landscaping and screening requirements.

5. Refer to Article 17 for uses and developments which are subject to site plan provisions.

GLOSSARY

This Glossary is provided to assist the public in understanding
the staff evaluation and analysis of development proposals.
It should not be construed as representing legal definitions.
Refer to the Fairfax County Zoning Ordinance, Comprehensive Plan
or Public Facilities Manual for additional information.

ABANDONMENT: Refers to road or street abandonment, an action taken by the Board of Supervisors, usually through the public hearing process, to abolish the public's right-of-passage over a road or road right-of way. Upon abandonment, the right-of-way automatically reverts to the underlying fee owners. If the fee to the owner is unknown, Virginia law presumes that fee to the roadbed rests with the adjacent property owners if there is no evidence to the contrary.

ACCESSORY DWELLING UNIT (OR APARTMENT): A secondary dwelling unit established in conjunction with and clearly subordinate to a single family detached dwelling unit. An accessory dwelling unit may be allowed if a special permit is granted by the Board of Zoning Appeals (BZA). Refer to Sect. 8-918 of the Zoning Ordinance.

AFFORDABLE DWELLING UNIT (ADU) DEVELOPMENT: Residential development to assist in the provision of affordable housing for persons of low and moderate income in accordance with the affordable dwelling unit program and in accordance with Zoning Ordinance regulations. Residential development which provides affordable dwelling units may result in a density bonus (see below) permitting the construction of additional housing units. See Part 8 of Article 2 of the Zoning Ordinance.

AGRICULTURAL AND FORESTAL DISTRICTS: A land use classification created under Chapter 114 or 115 of the Fairfax County Code for the purpose of qualifying landowners who wish to retain their property for agricultural or forestal use for use/value taxation pursuant to Chapter 58 of the Fairfax County Code.

BARRIER: A wall, fence, earthen berm, or plant materials which may be used to provide a physical separation between land uses. Refer to Article 13 of the Zoning Ordinance for specific barrier requirements.

BEST MANAGEMENT PRACTICES (BMPs): Stormwater management techniques or land use practices that are determined to be the most effective, practicable means of preventing and/or reducing the amount of pollution generated by nonpoint sources in order to improve water quality.

BUFFER: Graduated mix of land uses, building heights or intensities designed to mitigate potential conflicts between different types or intensities of land uses; may also provide for a transition between uses. A landscaped buffer may be an area of open, undeveloped land and may include a combination of fences, walls, berms, open space and/or landscape plantings. A buffer is not necessarily coincident with transitional screening.

CHESAPEAKE BAY PRESERVATION ORDINANCE: Regulations which the State has mandated must be adopted to protect the Chesapeake Bay and its tributaries. These regulations must be incorporated into the comprehensive plans, zoning ordinances and subdivision ordinances of the affected localities. Refer to Chesapeake Bay Preservation Act, Va. Code Section 10.1-2100 et seq and VR 173-02-01, Chesapeake Bay Preservation Area Designation and Management Regulations.

CLUSTER DEVELOPMENT: Residential development in which the lots are clustered on a portion of a site so that significant environmental/historical/cultural resources may be preserved or recreational amenities provided. While smaller lot sizes are permitted in a cluster subdivision to preserve open space, the overall density cannot exceed that permitted by the applicable zoning district. See Sect. 2-421 and Sect. 9-615 of the Zoning Ordinance.

COUNTY 2232 REVIEW PROCESS: A public hearing process pursuant to Sect. 15.2-2232 (Formerly Sect. 15.1-456) of the Virginia Code which is used to determine if a proposed public facility not shown on the adopted Comprehensive Plan is in substantial accord with the plan. Specifically, this process is used to determine if the general or approximate location, character and extent of a proposed facility is in substantial accord with the Plan.

dBA: The momentary magnitude of sound weighted to approximate the sensitivity of the human ear to certain frequencies; the dBA value describes a sound at a given instant, a maximum sound level or a steady state value. See also Ldn.

DENSITY: Number of dwelling units (du) divided by the gross acreage (ac) of a site being developed in residential use; or, the number of dwelling units per acre (du/ac) except in the PRC District when density refers to the number of persons per acre.

DENSITY BONUS: An increase in the density otherwise allowed in a given zoning district which may be granted under specific provisions of the Zoning Ordinance when a developer provides excess open space, recreation facilities, or affordable dwelling units (ADUs), etc.

DEVELOPMENT CONDITIONS: Terms or conditions imposed on a development by the Board of Supervisors (BOS) or the Board of Zoning Appeals (BZA) in connection with approval of a special exception, special permit or variance application or rezoning application in a "P" district. Conditions may be imposed to mitigate adverse impacts associated with a development as well as secure compliance with the Zoning Ordinance and/or conformance with the Comprehensive Plan. For example, development conditions may regulate hours of operation, number of employees, height of buildings, and intensity of development.

DEVELOPMENT PLAN: A graphic representation which depicts the nature and character of the development proposed for a specific land area: information such as topography, location and size of proposed structures, location of streets trails, utilities, and storm drainage are generally included on a development plan. A development plan is s submission requirement for rezoning to the PRC District. A GENERALIZED DEVELOPMENT PLAN (GDP) is a submission requirement for a rezoning application for all conventional zoning districts other than a P District. A development plan submitted in connection with a special exception (SE) or special permit (SP) is generally referred to as an SE or SP plat. A CONCEPTUAL DEVELOPMENT PLAN (CDP) is a submission requirement when filing a rezoning application for a P District other than the PRC District; a CDP characterizes in a general way the planned development of the site. A FINAL DEVELOPMENT PLAN (FDP) is a submission requirement following the approval of a conceptual development plan and rezoning application for a P District other than the PRC District; an FDP further details the planned development of the site. See Article 16 of the Zoning Ordinance.

EASEMENT: A right to or interest in property owned by another for a specific and limited purpose. Examples: access easement, utility easement, construction easement, etc. Easements may be for public or private purposes.

ENVIRONMENTAL QUALITY CORRIDORS (EQCs): An open space system designed to link and preserve natural resource areas, provide passive recreation and protect wildlife habitat. The system includes stream valleys, steep slopes and wetlands. For a complete definition of EQCs, refer to the Environmental section of the Policy Plan for Fairfax County contained in Vol. 1 of the Comprehensive Plan.

ERODIBLE SOILS: Soils that wash away easily, especially under conditions where stormwater runoff is inadequately controlled. Silt and sediment are washed into nearby streams, thereby degrading water quality.

FLOODPLAIN: Those land areas in and adjacent to streams and watercourses subject to periodic flooding; usually associated with environmental quality corridors. The 100 year floodplain drains 70 acres or more of land and has a one percent chance of flood occurrence in any given year.

FLOOR AREA RATIO (FAR): An expression of the amount of development intensity (typically, non-residential uses) on a specific parcel of land. FAR is determined by dividing the total square footage of gross floor area of buildings on a site by the total square footage of the site itself.

FUNCTIONAL CLASSIFICATION: A system for classifying roads in terms of the character of service that individual facilities are providing or are intended to provide, ranging from travel mobility to land access. Roadway system functional classification elements include Freeways or Expressways which are limited access highways, Other Principal (or Major) Arterials, Minor Arterials, Collector Streets, and Local Streets. Principal arterials are designed to accommodate travel; access to adjacent properties is discouraged. Minor arterials are designed to serve both through traffic and local trips. Collector roads and streets link local streets and properties with the arterial network. Local streets provide access to adjacent properties.

GEOTECHNICAL REVIEW: An engineering study of the geology and soils of a site which is submitted to determine the suitability of a site for development and recommends construction techniques designed to overcome development on problem soils, e.g., marine clay soils.

HYDROCARBON RUNOFF: Petroleum products, such as motor oil, gasoline or transmission fluid deposited by motor vehicles which are carried into the local storm sewer system with the stormwater runoff, and ultimately, into receiving streams; a major source of non-point source pollution. An oil-grit separator is a common hydrocarbon runoff reduction method.

IMPERVIOUS SURFACE: Any land area covered by buildings or paved with a hard surface such that water cannot seep through the surface into the ground.

INFILL: Development on vacant or underutilized sites within an area which is already mostly developed in an established development pattern or neighborhood.

INTENSITY: The magnitude of development usually measured in such terms as density, floor area ratio, building height, percentage of impervious surface, traffic generation, etc. Intensity is also based on a comparison of the development proposal against environmental constraints or other conditions which determine the carrying capacity of a specific land area to accommodate development without adverse impacts.

Ldn: Day night average sound level. It is the twenty-four hour average sound level expressed in A-weighted decibels; the measurement assigns a "penalty" to night time noise to account for night time sensitivity. Ldn represents the total noise environment which varies over time and correlates with the effects of noise on the public health, safety and welfare.

LEVEL OF SERVICE (LOS): An estimate of the effectiveness of a roadway to carry traffic, usually under anticipated peak traffic conditions. Level of Service efficiency is generally characterized by the letters A through F, with LOS-A describing free flow traffic conditions and LOS-F describing jammed or grid-lock conditions.

MARINE CLAY SOILS: Soils that occur in widespread areas of the County generally east of Interstate 95. Because of the abundance of shrink-swell clays in these soils, they tend to be highly unstable. Many areas of slope failure are evident on natural slopes. Construction on these soils may initiate or accelerate slope movement or slope failure. The shrink-swell soils can cause movement in structures, even in areas of flat topography, from dry to wet seasons resulting in cracked foundations, etc. Also known as slippage soils.

OPEN SPACE: That portion of a site which generally is not covered by buildings, streets, or parking areas. Open space is intended to provide light and air; open space may be function as a buffer between land uses or for scenic, environmental, or recreational purposes.

OPEN SPACE EASEMENT: An easement usually granted to the Board of Supervisors which preserves a tract of land in open space for some public benefit in perpetuity or for a specified period of time. Open space easements may be accepted by the Board of Supervisors, upon request of the land owner, after evaluation under criteria established by the Board. See Open Space Land Act, Code of Virginia, Sections 10.1-1700, et seq.

P DISTRICT: A "P" district refers to land that is planned and/or developed as a Planned Development Housing (PDH) District, a Planned Development Commercial (PDC) District or a Planned Residential Community (PRC) District. The PDH, PDC and PRC Zoning Districts are established to encourage innovative and creative design for land development; to provide ample and efficient use of open space; to promote a balance in the mix of land uses, housing types, and intensity of development; and to allow maximum flexibility in order to achieve excellence in physical, social and economic planning and development of a site. Refer to Articles 6 and 16 of the Zoning Ordinance.

PROFFER: A written condition, which, when offered voluntarily by a property owner and accepted by the Board of Supervisors in a rezoning action, becomes a legally binding condition which is in addition to the zoning district regulations applicable to a specific property. Proffers are submitted and signed by an owner prior to the Board of Supervisors public hearing on a rezoning application and run with the land. Once accepted by the Board, proffers may be modified only by a proffered condition amendment (PCA) application or other zoning action of the Board and the hearing process required for a rezoning application applies. See Sect. 15.2-2303 (formerly 15.1-491) of the Code of Virginia.

PUBLIC FACILITIES MANUAL (PFM): A technical text approved by the Board of Supervisors containing guidelines and standards which govern the design and construction of site improvements incorporating applicable Federal, State and County Codes, specific standards of the Virginia Department of Transportation and the County's Department of Public Works and Environmental Services.

RESOURCE MANAGEMENT AREA (RMA): That component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

RESOURCE PROTECTION AREA (RPA): That component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline or water's edge that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. New development is generally discouraged in an RPA. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

SITE PLAN: A detailed engineering plan, to scale, depicting the development of a parcel of land and containing all information required by Article 17 of the Zoning Ordinance. Generally, submission of a site plan to DPWES for review and approval is required for all residential, commercial and industrial development except for development of single family detached dwellings. The site plan is required to assure that development complies with the Zoning Ordinance.

SPECIAL EXCEPTION (SE) / SPECIAL PERMIT (SP): Uses, which by their nature, can have an undue impact upon or can be incompatible with other land uses and therefore need a site specific review. After review, such uses may be allowed to locate within given designated zoning districts if appropriate and only under special controls, limitations, and regulations. A special exception is subject to public hearings by the Planning Commission and Board of Supervisors with approval by the Board of Supervisors; a special permit requires a public hearing and approval by the Board of Zoning Appeals. Unlike proffers which are voluntary, the Board of Supervisors or BZA may impose reasonable conditions to assure, for example, compatibility and safety. See Article 8, Special Permits and Article 9, Special Exceptions, of the Zoning Ordinance.

STORMWATER MANAGEMENT: Engineering practices that are incorporated into the design of a development in order to mitigate or abate adverse water quantity and water quality impacts resulting from development. Stormwater management systems are designed to slow down or retain runoff to re-create, as nearly as possible, the pre-development flow conditions.

SUBDIVISION PLAT: The engineering plan for a subdivision of land submitted to DPWES for review and approved pursuant to Chapter 101 of the County Code.

TRANSPORTATION DEMAND MANAGEMENT (TDM): Actions taken to reduce single occupant vehicle automobile trips or actions taken to manage or reduce overall transportation demand in a particular area.

TRANSPORTATION SYSTEM MANAGEMENT (TSM) PROGRAMS: This term is used to describe a full spectrum of actions that may be applied to improve the overall efficiency of the transportation network. TSM programs usually consist of low-cost alternatives to major capital expenditures, and may include parking management measures, ridesharing programs, flexible or staggared work hours, transit promotion or operational improvements to the existing roadway system. TSM includes Transportation Demand Management (TDM) measures as well as H.O.V. use and other strategies associated with the operation of the street and transit systems.

URBAN DESIGN: An aspect of urban or suburban planning that focuses on creating a desirable environment in which to live, work and play. A well-designed urban or suburban environment demonstrates the four generally accepted principles of design: clearly identifiable function for the area; easily understood order; distinctive identity; and visual appeal.

VACATION: Refers to vacation of street or road as an action taken by the Board of Supervisors in order to abolish the public's right-of-passage over a road or road right-of-way dedicated by a plat of subdivision. Upon vacation, title to the road right-of-way transfers by operation of law to the owner(s) of the adjacent properties within the subdivision from whence the road/road right-of-way originated.

VARIANCE: An application to the Board of Zoning Appeals which seeks relief from a specific zoning regulation such as lot width, building height, or minimum yard requirements, among others. A variance may only be granted by the Board of Zoning Appeals through the public hearing process and upon a finding by the BZA that the variance application meets the required Standards for a Variance set forth in Sect. 18-404 of the Zoning Ordinance.

WETLANDS: Land characterized by wetness for a portion of the growing season. Wetlands are generally delineated on the basis of physical characteristics such as soil properties indicative of wetness, the presence of vegetation with an affinity for water, and the presence or evidence of surface wetness or soil saturation. Wetland environments provide water quality improvement benefits and are ecologically valuable. Development activity in wetlands is subject to permitting processes administered by the U.S. Army Corps of Engineers

TIDAL WETLANDS: Vegetated and nonvegetated wetlands as defined in Chapter 116 Wetlands Ordinance of the Fairfax County Code: includes tidal shores and tidally influenced embayments, creeks, and tributaries to the Occoquan and Potomac Rivers. Development activity in tidal wetlands may require approval from the Fairfax County Wetlands Board.

Abbreviations Commonly Used in Staff Reports

A&F	Agricultural & Forestal District
ADU	Affordable Dwelling Unit
ARB	Architectural Review Board
BMP	Best Management Practices
BOS	Board of Supervisors
BZA	Board of Zoning Appeals
COG	Council of Governments
CBC	Community Business Center
CDP	Conceptual Development Plan
CRD	Commercial Revitalization District
DOT	Department of Transportation
DP	Development Plan
DPWES	Department of Public Works and Environmental Services
DPZ	Department of Planning and Zoning
DU/AC	Dwelling Units Per Acre
EQC	Environmental Quality Corridor
FAR	Floor Area Ratio
FDP	Final Development Plan
GDP	Generalized Development Plan
GFA	Gross Floor Area
HC	Highway Corridor Overlay District
HCD	Housing and Community Development
LOS	Level of Service
Non-RUP	Non-Residential Use Permit
OSDS	Office of Site Development Services, DPWES
PCA	Proffered Condition Amendment
PD	Planning Division
PDC	Planned Development Commercial
PDH	Planned Development Housing
PFM	Public Facilities Manual
PRC	Planned Residential Community
RC	Residential-Conservation
RE	Residential Estate
RMA	Resource Management Area
RPA	Resource Protection Area
RUP	Residential Use Permit
RZ	Rezoning
SE	Special Exception
SEA	Special Exception Amendment
SP	Special Permit
TDM	Transportation Demand Management
TMA	Transportation Management Association
TSA	Transit Station Area
TSM	Transportation System Management
UP & DD	Utilities Planning and Design Division, DPWES
VC	Variance
VDOT	Virginia Dept. of Transportation
VPD	Vehicles Per Day
VPH	Vehicles per Hour
WMATA	Washington Metropolitan Area Transit Authority
WS	Water Supply Protection Overlay District
ZAD	Zoning Administration Division, DPZ
ZED	Zoning Evaluation Division, DPZ
ZPRB	Zoning Permit Review Branch