County of Fairfax, Virginia

MEMORANDUM

DATE: January 21, 2014

TO: Chairman Bulova and Members
Board of Supervisors

FROM: Joe Gorney, AICP, Senior Staff Coordinator
DPZ, Zoning Evaluation Division

SUBJECT: Revised and Supplemental Materials,
SEA 2009-DR-008 (Oakcrest School)

PUBLIC HEARING: January 28, 2014

At the September 10, 2013 Board of Supervisors' meeting, the Board of Supervisors deferred the public hearing for the Oakcrest School Special Exception Amendment (SEA 2009-DR-008) to September 24, 2013. At the September 24, 2013 Board of Supervisors' meeting, the Board of Supervisors again deferred the public hearing to January 28, 2014. The additional time allowed the formation of the Oakcrest School Outreach Committee, which was comprised of community members, Oakcrest School representatives, and staff members. The purpose of the Committee was to gain consensus and to develop solutions that addressed the needs and concerns of both the School and the community members.

The Committee met four times over the course of several months (October 28, 2013; November 7, 2013; December 5, 2013; and January 9, 2014). A fifth meeting is tentatively scheduled for January 25, 2014, to share information regarding the outreach effort with the larger community.

In response to the committee discussions, the application materials have been updated, including the plat and the proposed development conditions, and supplemental information has been submitted by the applicant. The following summarizes both the revisions to the previous materials and the supplemental information.

1. **Revised Plat (dated January 14, 2014)**
   - Plat revised to reflect new date of January 14, 2014; and
   - Addition of a possible future interparcel connection to Tax Map 18-4 ((1)) 26, which is located on the western property line.

2. **Supplemental Traffic Analysis (dated January 9, 2014)**
   - Traffic Analysis submitted to determine what level of trip generation by the school could be accommodated with an all-way stop at the intersection of Hunter Mill Road and Crowell Road and with school driveway access from/to Crowell Road.

3. **Revised Proposed Development Conditions (dated January 21, 2014)**
   - Development Conditions revised to reflect new date of January 21, 2014;
   - Development Condition#3 revised to reflect new plat date of January 14, 2014;
   - Development Condition #19.g. revised to eliminate references to Hunter Road access;
   - Development Condition #24 added to refine trip generation limits, in the event that transportation improvements associated with Conditions 20 through 23 are unable to be constructed;
   - Development Condition #25 added to address interparcel access;
   - Development Condition #26 added to address the disposition of the berm in the event that the berm is removed from the neighboring properties; and
   - Development Conditions subsequent to new Condition #26 renumbered.

4. **Transportation Management Plan (TMP) (2014-2015 School Year)**

5. **Oakcrest School Memorandum (dated January 16, 2014)**
   - Preliminary strategies defined to ensure compliance with Development Condition #24; and
   - Busing requirements included as an attachment.

No other changes have been proposed. Staff continues to find that the proposal is in conformance with the Comprehensive Plan and all applicable Zoning Ordinance provisions. Staff continues to recommend approval of SEA 2009-DR-008, as conditioned.

Attachments:
1. Special Exception Amendment Plat – Oakcrest School, dated December 2012, and revised through January 14, 2014.
2. Traffic Analysis, dated January 9, 2014
3. Proposed Development Conditions (strike-through), dated January 21, 2014
4. Proposed Development Conditions, dated January 21, 2014
5. Transportation Management Plan (2014-2015 School Year)
6. Oakcrest School Memorandum, dated January 16, 2014

ATTACHMENT 1

SPECIAL EXCEPTION AMENDMENT
OAKCREST SCHOOL
HUNTER MILL DISTRICT
FAIRFAX CO., VIRGINIA
(SEA 2009-DR-008)

SPECIAL EXCEPTION PLAN NOTES

1. THIS SPECIAL EXCEPTION AMENDMENT (SEA) APPLICATION IS TO MODIFY THE PREVIOUSLY APPROVED APPLICATION (SE 2009-DR-008) WHICH PERMITTED CONSTRUCTION OF A PRIVATE SCHOOL ON THE SUBJECT SITE.
2. THE PROPERTIES, WHICH ARE THE SUBJECT OF THIS APPLICATION, ARE IDENTIFIED ON THE FAIRFAX COUNTY TAX MAP AS PARCELS 18-4-((1)) PARCEL 26C, 18-4-((8)) PARCEL 4 AND 18-4-((8)) PARCEL A.
3. THE SUBJECT PROPERTY IS ZONED R-E RESIDENTIAL ESTATE.
4. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON A GROUND FIELD SURVEY PERFORMED BY VIKA, INC. IN DECEMBER 2003. THE PHYSICAL IMPROVEMENTS SHOWN HEREON ARE BASED UPON A GROUND FIELD SURVEY PERFORMED BY VIKA, INC. IN SEPTEMBER 2004 AND BY AN AERIAL SURVEY PROVIDED BY MCKENZEE/SCHNIDER ON DECEMBER 29, 2003. THE LAST FIELD DATE WAS JUNE 6, 2008.
5. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS AT A CONTOUR INTERVAL OF TWO (2) FEET AND IS BASED ON GROUND SURVEY AND AERIAL SURVEY REFERENCED ABOVE.
6. THE LOCATION AND SIZE OF THE ON-SITE STORMWATER MANAGEMENT FACILITIES SHOWN HEREON ARE APPROXIMATE AND SUBJECT TO REVISION AT THE TIME OF FINAL ENGINEERING. STORM SEWER LAYOUT IS PRELIMINARY & SUBJECT TO FINAL ENGINEERING.
7. THE PROPERTY WILL BE SERVED BY BOTH PUBLIC WATER AND SEWER.
8. THE PROPOSED LIMITS OF CLEARING AND GRADING ARE APPROXIMATE AND SUBJECT TO ADJUSTMENT DUE TO FINAL ENGINEERING AND LOCATION OF UTILITIES BUT WILL BE IN SUBSTANTIAL CONFORMANCE WITH THAT WHICH IS PRESENTED HEREON.
9. THE BUILDINGS SHOWN HEREON APPEAR TO PLOT IN FLOOD ZONE "X" AREA, DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN AS SHOWN ON F.E.M.A. MAP PANEL NO. 515525 0050 D, DATED MARCH 5, 1990.
10. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO RESOURCE PROTECTION AREAS (RPA). ENVIRONMENTAL QUALITY CORRIDORS (EQC) OR FLOODPLAINS BASED ON FAIRFAX COUNTY MAPS.
11. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO UTILITY EASEMENTS GREATER THAN TWENTY-FIVE (25) FEET IN WIDTH, OTHER THAN SHOWN ON THIS SE PLAN. ALL EXISTING MAJOR UNDERGROUND UTILITIES ARE SHOWN.
12. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES ON THIS SITE.
13. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES, HAZARDOUS WASTE OR PETROLEUM PRODUCTS STORED ON THE SUBJECT PROPERTY.
14. DEVELOPMENT WILL COMMENCE UPON APPROVAL OF ALL REQUIRED PERMITS AND FUNDING.
15. TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS.
16. MINOR MODIFICATIONS TO THE SIZES, DIMENSIONS, FOOTPRINTS, AND LOCATIONS OF THE BUILDINGS, SIDEWALKS, AND UTILITIES AS PRESENTED ON THE SE PLAN MAY OCCUR WITH FINAL ENGINEERING AND DESIGN.
17. IT IS TO BE UNDERSTOOD THAT ADDITIONAL SITE FEATURES SUCH AS TRASH/RECYCLING FACILITIES, PLANTERS, FENCES, RETAINING WALLS, AND GATES, IF SHOWN, ARE APPROXIMATE AND MAY BE ADJUSTED WITH FINAL ENGINEERING AND LANDSCAPE DESIGN AND, IF NOT REPRESENTED HEREON, MAY BE PROVIDED.
18. THE APPLICANT RESERVES THE RIGHT TO INSTALL ACCESSORY STRUCTURES AND USES DEFINED IN ARTICLE 10 OF THE ZONING ORDINANCE, INCLUDING, BUT NOT LIMITED TO FLAGPOLES, DECORATIVE FENCING, SCULPTURES, COMMUNICATION EQUIPMENT IN LOCATIONS THAT ARE NOT IN CONFLICT WITH THE LOCATIONAL REQUIREMENTS OF THE ZONING ORDINANCE OR THIS SPECIAL EXCEPTION.
19. BUILDING ELECTRIC, GAS, COMMUNICATION LINES TO BE SERVED VIA UNDERGROUND CONDUITS.
20. THE APPLICANT RESERVES THE RIGHT TO DEVELOP THE PROPERTY IN PHASES, PROVIDED THAT ALL APPLICABLE REQUIREMENTS OF THE SE FOR LANDSCAPING AND TRANSITIONAL SCREENING AND ALL COUNTY REQUIREMENTS FOR MINIMUM PARKING AND STORM WATER MANAGEMENT SHALL BE FULFILLED IN CONNECTION WITH EACH INDIVIDUAL PHASE.
21. PARKING LOT LIGHTING SHALL BE A MAXIMUM OF TWENTY (20) FEET IN HEIGHT FROM THE BOTTOM OF THE POLES TO THE BASE OF THE FIXTURE AND ALL PARKING LOT LIGHTING FIXTURES SHALL BE FULL CUT-OFF AND DIRECTED DOWNWARD.

STORMWATER MANAGEMENT NARRATIVE (THE FOLLOWING NARRATIVE FROM THE ORIGINAL S.E. APPROVAL IS HEREBY RESTATED).

THE OAKCREST SCHOOL PROPERTY IS LOCATED WITHIN THE DIFFICULT RUN WATERSHED. A MAJORITY OF THE SITE IS TRIBUTARY TO THE MIDDLE DIFFICULT RUN BRANCH WITH THE REMAINDER TRIBUTARY TO THE COLVIN RUN BRANCH. THE AREA TRIBUTARY TO THE MIDDLE DIFFICULT RUN BRANCH DISCHARGES TO A CONSTRUCTED REGIONAL DETENTION BASIN, BASIN NO. D-52. THE REGIONAL BASIN WAS CONSTRUCTED BY THE DEVELOPER OF THE HUNTER MILL ESTATES SUBDIVISION IN OR AROUND 1991. THE REGIONAL POND WAS DESIGNED TO PROVIDE FLOOD CONTROL VOLUME UP TO THE 10-YEAR EVENT AND BMP VOLUME TO MEET THE 40% PHOSPHORUS REMOVAL REQUIREMENT PER THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL (PFM). THE DESIGN VOLUME WAS BASED ON ANTICIPATED FUTURE CONDITIONS USING THE FUTURE LAND USE PROJECTIONS. THE AMOUNT OF IMPERVIOUS SURFACE ASSOCIATED WITH THE OAKCREST SCHOOL PROJECT SLIGHTLY EXCEEDS THE AMOUNT PROJECTED FOR THE REGIONAL BASIN, HOWEVER, THE OVERALL "C" COEFFICIENT DOES NOT APPRECIABLY CHANGE AND PROVIDES THE REQUIRED BMP VOLUME FOR THIS PROJECT. THE REGIONAL POND DISCHARGES TO A STREAM THAT IS APPROXIMATELY 700 FEET UPSTREAM OF THE JUNCTION WITH MIDDLE BRANCH OF THE DIFFICULT RUN DRAIN WHERE THERE IS A FLOODPLAIN IN EXCESS OF THE 1 SQUARE MILE REQUIREMENT.

WITH RESPECT TO THE MIDDLE DIFFICULT RUN WATERSHED, THE OAKCREST SCHOOL SITE DRAINS TO TWO CULVERTS THAT CONVEY RUNOFF WATER ACROSS THE DULLES AIRPORT ACCESS ROAD AND THROUGH THE HUNTER MILL ESTATES SUBDIVISION TO THE REGIONAL BASIN. THE WESTERLY OUTLET POINT (TRIBUTARY A) IS A 36-INCH CONCRETE CULVERT. THE EASTERLY OUTLET POINT (TRIBUTARY B) IS A 42-INCH CONCRETE CULVERT. THE CULVERTS DISCHARGE TO NATURAL DRAINAGE CHANNELS WITH SEVERAL ROAD CROSSINGS BETWEEN THE DULLES AIRPORT ACCESS ROAD AND THE REGIONAL BASIN. FIELD EVALUATION OF THE DRAINAGE CHANNELS INDICATE THAT THEY ARE EXPERIENCING EROSION, INCISIONS, AND UNDERCUTTING, AND DO NOT MEET THE REQUIREMENTS OF AN ADEQUATE OUTLET PER THE FAIRFAX COUNTY PFM DUE TO THE RELATIVE STEEPNESS OF THE CHANNELS AND THE ERODIBILITY OF THE INCLINED CHANNELS.

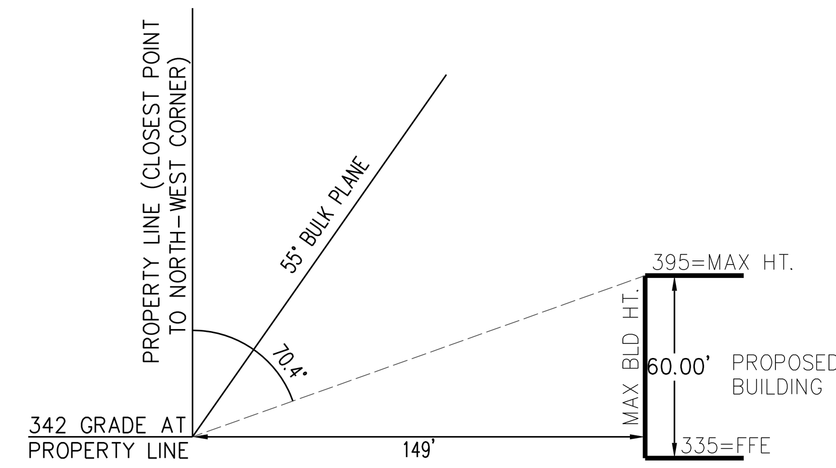
IN ORDER TO ACHIEVE AN ADEQUATE OUTLET PER THE PFM, IT IS PROPOSED TO PROVIDE DETENTION VOLUME IN ORDER TO RESTRICT THE POST DEVELOPMENT FLOW RATES BELOW THAT OF A SITE IN GOOD FORESTED CONDITION IN ACCORDANCE WITH THE PROPORTIONAL IMPROVEMENT REQUIREMENT OF THE PFM. THE STORMWATER MANAGEMENT POND (SWM POND #1) IN THE SOUTHWEST CORNER OF THE SITE WILL PROVIDE APPROXIMATELY 75,439 CUBIC FEET (1.73 AC-FT) STORAGE. THE POND WILL HAVE AN OUTLET CONTROL STRUCTURE WILL BE A COMBINED CONTROL AND SPILLWAY STRUCTURE SIMILAR TO FAIRFAX COUNTY STANDARDS PFM PLATE #53-6 OR #54-6. THE OUTLET CONTROL STRUCTURE AND DAM/SPILLWAY WILL MEET THE REQUIREMENTS OF THE PFM DAM STANDARDS. THE AREA THAT DISCHARGES TO TRIBUTARY B WILL UTILIZE LOW IMPACT DEVELOPMENT (LID) TECHNIQUES SUCH AS VEGETATED SWALES, BIO-RETENTION BASINS AND A PERCOLATION TRENCH. THE ESTIMATED STORAGE TO BE PROVIDED BY THE VEGETATED SWALE IS 1,467 CUBIC FEET (0.3 AC-FT). THE BIO-RETENTION BASINS ARE 15,415 CUBIC FEET (0.35 AC-FT) OF STORAGE AND THE PERCOLATION TRENCH WILL PROVIDE 7,783 CUBIC FEET (0.18 AC-FT) OF FLOOD STORAGE RESPECTIVELY. OTHER LID TECHNIQUES MAY BE UTILIZED DURING FINAL DESIGN TO MINIMIZE THE AMOUNT OF STORAGE IN THE FACILITIES.

ALSO, THE APPLICANT RESERVES THE RIGHT TO COMBINE OR UTILIZE JOINT STORMWATER FACILITIES WITH MWAA IF IT IS DETERMINED DURING DESIGN THAT IT IS BENEFICIAL TO MWAA AND OAKCREST SCHOOLS PROVIDED THAT ALL APPLICABLE REQUIREMENTS OF THE PFM ARE MET. WITH THIS IN MIND, THE UNCONTROLLED AREA IN THE SOUTHWEST HAS NOT BEEN DESIGNED. DEPENDING ON THE FINAL COORDINATION WITH MWAA, ADDITIONAL LID MEASURES IN THIS AREA MAY BE NECESSARY TO MEET THE PFM REQUIREMENTS.

A SMALL PORTION OF THE SITE (0.10 ACRES) DRAINS NORTH AND WEST ALONG CROWELL ROAD AND IS TRIBUTARY TO COLVIN RUN BRANCH. IT IS NOT ANTICIPATED THAT RUNOFF FROM THESE AREAS WILL INCREASE RUNOFF INTO COLVIN RUN BRANCH.

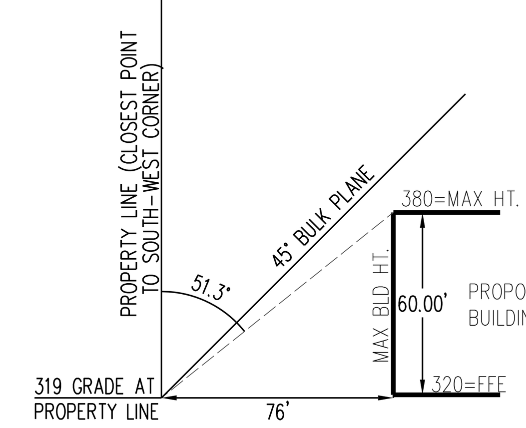
VICINITY MAP

SCALE: 1" = 1000'



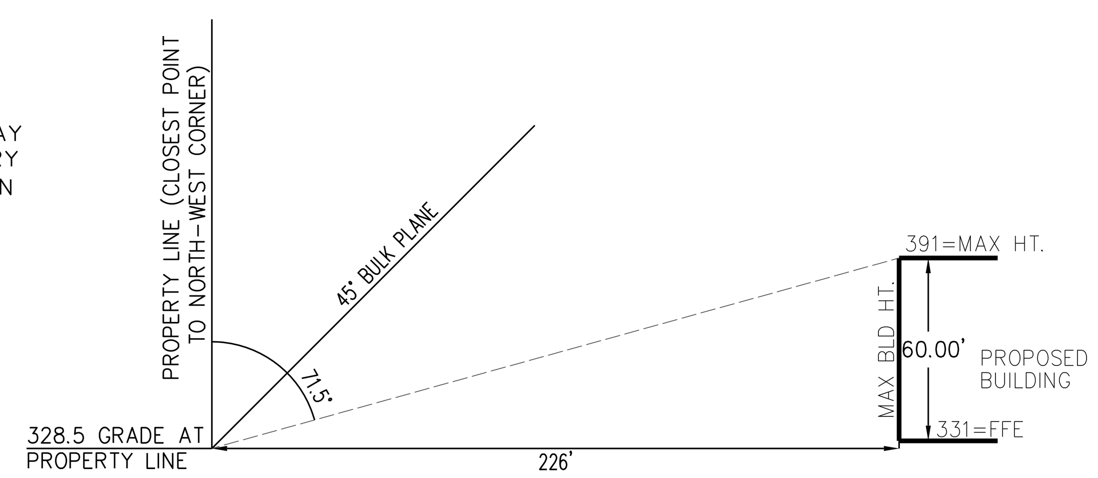
BULK PLANE FRONT YARD

REQUIRED: 55 DEGREES
PROVIDED: 70.4 DEGREES



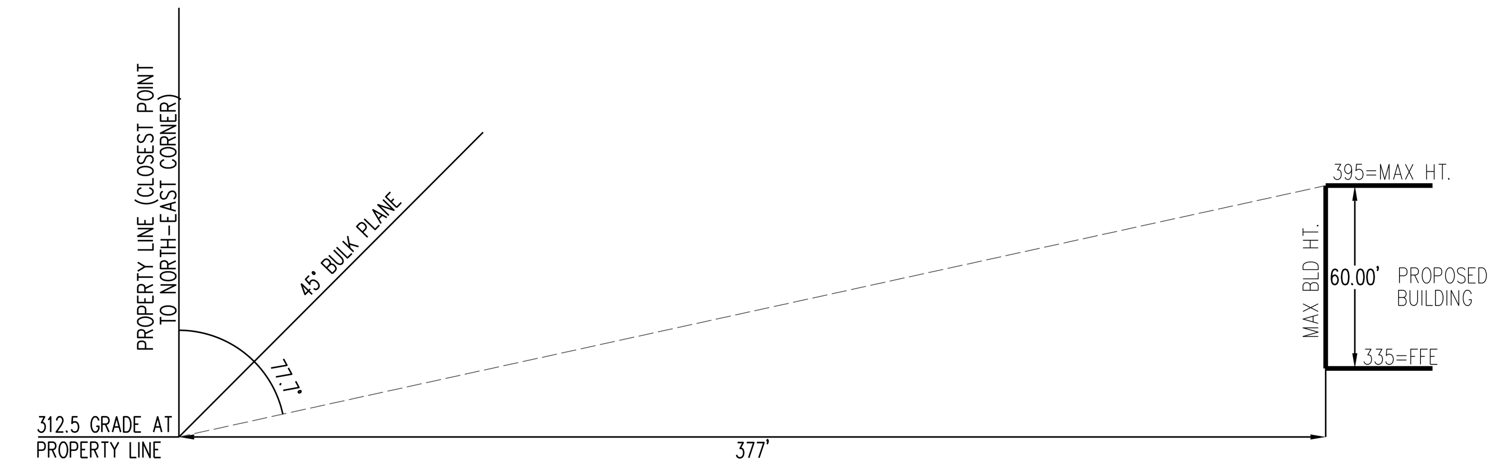
BULK PLANE REAR YARD

REQUIRED: 45 DEGREES
PROVIDED: 51.3 DEGREES



BULK PLANE WEST YARD

REQUIRED: 45 DEGREES
PROVIDED: 71.5 DEGREES



BULK PLANE EAST YARD

REQUIRED: 45 DEGREES
PROVIDED: 77.7 DEGREES

BULK PLANE DIAGRAMS

SPECIAL EXCEPTION PLAN NOTES

EXISTING ZONING — R-E RESIDENTIAL REAL ESTATE

MINIMUM LOT REQUIREMENTS
- MINIMUM LOT AREA = 75,000 S.F.
- PROVIDED LOT AREA = 987,324 S.F.
- MINIMUM LOT WIDTH = 200 FT
- PROVIDED LOT WIDTH = 200 FT

TOTAL AREA OF SITE FOR SPECIAL EXCEPTION
- PARCEL 1 (OUTLOT A) = 0.57 AC. (24,838 S.F.)
- PARCEL 2 (PARCEL A) = 20.14 AC. (877,486 S.F.)*
- PARCEL 2 (OUTLOT 4) = 1.95 AC. (85,000 S.F.)
- *EXCLUDES AREA PREVIOUSLY INCLUDED IN PRIOR SE APPROVAL, WHICH HAS SINCE BEEN ACQUIRED BY MWWA (0.29 AC./12,700 S.F.)

*TOTAL SITE AREA FOR THIS SPECIAL PERMIT = 22.67 AC. (987,324 S.F.)

MAXIMUM PERMITTED GROSS FLOOR AREA: R-E FARM – 0.15
SITE AREA 989,120 S.F. X 0.15 = 148,368 MAX. CFA
(INCLUDES DENSITY CREDIT FOR MWWA TAKING)

PROPOSED GROSS FLOOR AREA
PROPOSED BUILDING = 134,500 S.F.
(DOES NOT INCLUDE NATATORIUM)

MAXIMUM PERMITTED FLOOR AREA RATIO = 0.15
*PROPOSED FLOOR AREA RATIO = 0.136

MAXIMUM PERMITTED BUILDING HEIGHT = 60 FT
PROPOSED BUILDING HEIGHT = 60 FT

REQUIRED MINIMUM YARDS (USING ZONING R-E CRITERIA):
- FRONT YARD: CONTROLLED BY 55° ANGLE OF BULK PLANE BUT NOT LESS THAN 50 FT
- REAR YARD: CONTROLLED BY 45° ANGLE OF BULK PLANE BUT NOT LESS THAN 20 FT
- SIDE YARD: CONTROLLED BY 45° ANGLE OF BULK PLANE BUT NOT LESS THAN 25 FT

PARKING

REQUIRED PARKING:
- 450 STUDENTS X .3 SPACES/STUDENT = 135 SPACES

OR
- SPECTATOR GYMNASIUM (300 SEATS) 300 X 0.3 SPACES/SEAT = 90 SPACES

PROVIDED PARKING:
- PAVED AUTOMOBILE PARKING AROUND BUILDING = 195 SPACES
- REINFORCED TURF OVERFLOW PARKING = 37 SPACES

OUTDOOR RECREATION AREA:

REQUIRED: 430 S.F. PER STUDENT
NO. OF STUDENTS = 450
REQUIRED RECREATION AREA = 193,500 S.F.

PROVIDED: 193,500 S.F. HAS BEEN PROVIDED AS SHOWN ON THE SE PLAN

PREVIOUSLY GRANTED MODIFICATIONS HEREBY CARRIED FORWARD

1. A MODIFICATION TO THE REQUIRED TRANSITIONAL SCREENING REQUIREMENT IS REQUESTED ALONG THE EAST AND A PORTION OF THE SOUTH PROPERTY LINE. IN LIEU OF THE TRANSITIONAL SCREENING REQUIREMENT, THIS AREA WILL BE DESIGNATED A TREE PRESERVATION AREA WITH SUPPLEMENTAL PLANTINGS WHERE VEGETATION IS SPARSE AS DETERMINED BY FAIRFAX COUNTY URBAN FORESTRY AT TIME OF SITE PLAN.
2. A MODIFICATION TO THE LOCATION OF THE REQUIRED BARRIER, PER SECTION 13-309 OF THE ZONING ORDINANCE IS REQUESTED ALONG THE SOUTHERLY PROPERTY LINES. THE SOUTHERN LOT LINE IS ADJACENT TO THE TOLL ROAD AND A FENCE ON THE RIGHT-OF-WAY LINE WILL PROVIDE A MORE EFFECTIVE BARRIER.

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REVISIONS

No.	DATE	DESCRIPTION

PLAN DATE: 12/17/12, 03/28/13, 06/04/13, 07/18/13, 09/05/13, 01/14/14

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COMMONWEALTH OF VIRGINIA
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01/14/14
PROFESSIONAL ENGINEER

COVER SHEET
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINA

DATE: DEC, 2012
SCALE: 1"=AS NOTED
C.I.: N/A

SHEET 1 OF 19

SE-12643

NOTES

1. THE PROPERTIES SHOWN HEREON ARE IDENTIFIED ON FAIRFAX COUNTY TAX ASSESSMENT MAP NO. 018-4((01)) AS PARCEL 26C AND ON TAX ASSESSMENT MAP NO. 018-4((08)) AS PARCEL 4 AND OUTLOT "A" AND ALL ARE ZONED R-E.
2. THE HORIZONTAL DATUM SHOWN HEREON IS BASED UPON VIRGINIA STATE GRID NORTH 1983 (VCS 83)
3. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON A GROUND FIELD SURVEY PERFORMED BY VIKA, INC. IN DECEMBER 2003. THE PHYSICAL IMPROVEMENTS SHOWN HEREON ARE BASED UPON A GROUND FIELD SURVEY PERFORMED BY VIKA, INC. IN SEPTEMBER 2004 AND BY AN AERIAL SURVEY PROVIDED BY MCKENZEE/SNYDER ON DECEMBER 29, 2003. THE LAST FIELD DATE WAS OCTOBER 30, 2008.
4. THE SUBJECT PROPERTIES LIE IN FLOOD ZONE "X" (AREA TO BE DETERMINED OUTSIDE OF 500-YEAR FLOOD PLAIN) AS SHOWN ON FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 515525 0050 0, DATED MARCH 5, 1990.
5. PARCEL 4, OUTLOT "A", AND PARCEL A ARE CURRENTLY OWNED BY OAKCREST SCHOOL BY DEED RECORDED IN DEED BOOK 19650 AT PAGE 1542 AMONG THE LAND RECORDS OF FAIRFAX COUNTY VIRGINIA.
6. THERE IS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
7. THERE IS NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
8. THERE IS NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

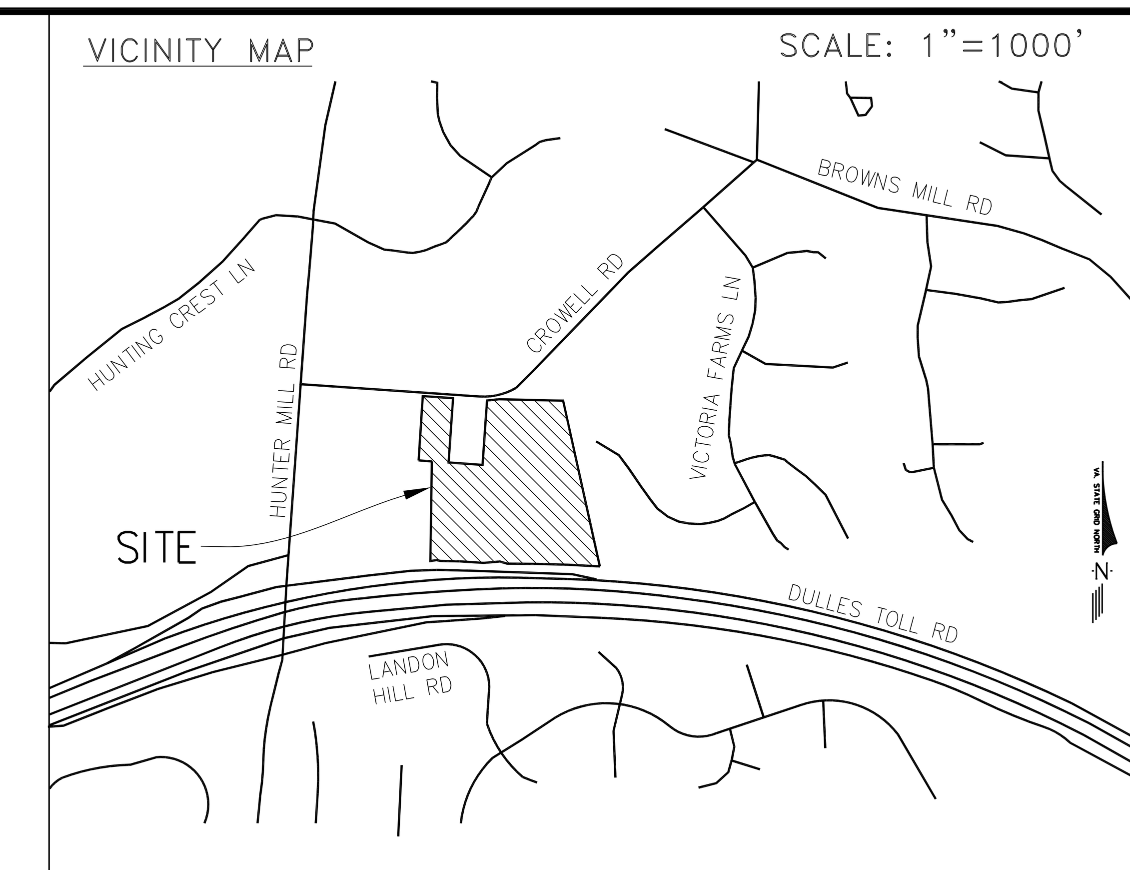
AREA TABULATION

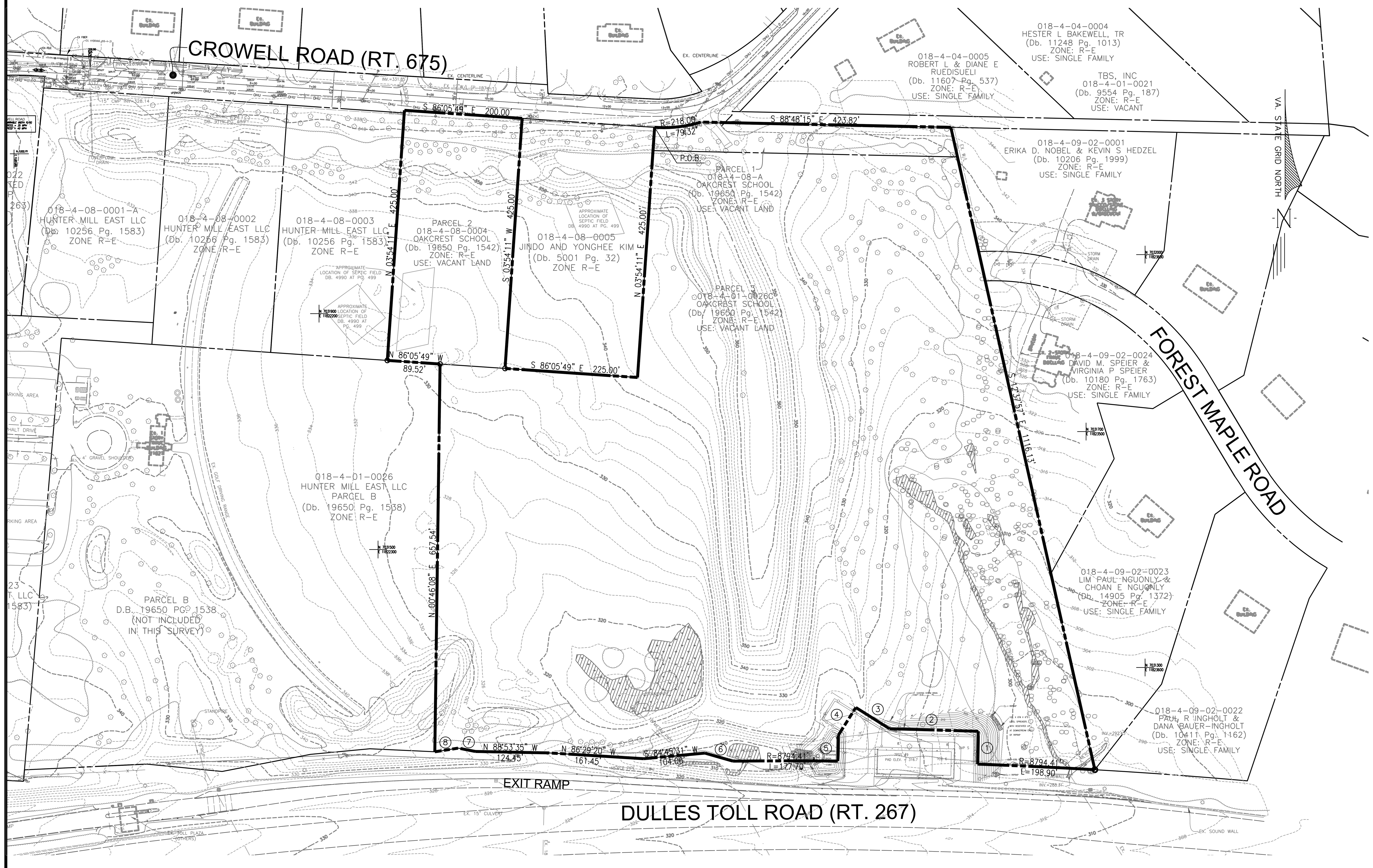
OUTLOT A (PARCEL 1)................................24,838 SF, OR 0.57020 ACRES
LOT 4 (PARCEL 2)......................................85,000 SF, OR 1.95133 ACRES
PARCEL A (PARCEL 3)................................877,486 SF, OR 20.144 ACRES

TOTAL AREA..987,324 SF, OR 22.666 ACRES

CURVE DATA

NO.	RADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
1	218.00'	79.32'	20°50'47"	40.10'	78.88'	N 83°33'11" E
2	8794.41'	198.90'	01°17'45"	99.45'	198.90'	N 87°18'02" W
3	8794.41'	177.70'	01°09'28"	88.86'	177.70'	S 89°55'44" W





LEGAL DESCRIPTION

OAKCREST SCHOOL
ALL THE PROPERTY OF
DEED BOOK 19650 PAGE 1542
FAIRFAX COUNTY, VIRGINIA
JANUARY 22, 2009

BEING ALL OF PARCEL 1 (ALSO KNOWN AS OUTLOT "A" ROLLING HEIGHTS – SECTION ONE). PARCEL 2 (ALSO KNOWN AS LOT FOUR (4), SECTION 1 OF THE SUBDIVISION KNOWN AS ROLLING HEIGHTS) AND PARCEL 3 (ALSO KNOWN AS PARCEL A, PROPERTY OF HUNTER MILL EAST, LLC) AS DESCRIBED IN A DEED CONVERTED TO OAKCREST SCHOOL FROM HUNTER MILL EAST, LLC., BY DEED DATED NOVEMBER 7, 2007 AND RECORDED IN DEED BOOK 19650 AT PAGE 1542, AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING FOR THE SAME AT A POINT MARKING THE NORTHEASTERLY CORNER OF LOT 5, ROLLING HEIGHTS – SECTION ONE AS RECORDED IN DEED BOOK 4990 AT PAGE 499, AMONG THE AFORESAID LAND RECORDS, THENCE RUNNING WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF CROWELL ROAD (WIDTH VARIES).

1. 79.32 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 218.00 FEET, A CHORD BEARING AND DISTANCE OF NORTH 83 DEGREES 33 MINUTES 11 SECONDS EAST, 78.88 FEET TO A POINT; THENCE CONTINUING WITH CROWELL ROAD AND THE SOUTHERLY LINE OF THE PROPERTY OF TBS, INC. AS RECORDED IN DEED BOOK 9554 AT PAGE 187, AMONG THE AFORESAID LAND RECORDS.
2. SOUTH 88 DEGREES 48 MINUTES 15 SECONDS EAST A DISTANCE OF 423.82 FEET TO A POINT; THENCE LEAVING THE AFORESAID CROWELL ROAD AND TBS, INC PROPERTY AND RUNNING WITH THE WESTERLY LINE OF VICTORIA FARMS, SECTION 2 AS RECORDED IN DEED BOOK 9707 AT PAGE 1041, AMONG THE AFORESAID LAND RECORDS.
3. SOUTH 12 DEGREES 37 MINUTES 57 SECONDS EAST A DISTANCE OF 1116.13 FEET TO AN IRON PIPE FOUND ON NORTHERLY RIGHT-OF-WAY LINE OF THE DULLES AIRPORT ACCESS ROAD (ROUTE 267 – VARIABLE WIDTH RIGHT-OF-WAY), PASSING OVER AN IRON PIPE FOUND 3.10 FEET FROM THE BEGINNING OF SAID LINE, ALSO PASSING OVER AND IRON PIPE FOUND 220.33 FEET FROM THE BEGINNING OF SAID LINE AND ALSO PASSING OVER AN IRON PIPE FOUND 775.49 FEET FROM THE BEGINNING OF SAID LINE; THENCE LEAVING THE AFORESAID WESTERLY LINE OF VICTORIA FARMS AND RUNNING WITH SAID NORTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THIRTEEN (13) COURSES AND DISTANCES
4. 198.90 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8794.41 FEET, A CHORD BEARING AND DISTANCE OF NORTH 87 DEGREES 18 MINUTES 02 SECONDS WEST, 198.90 FEET TO A POINT; THENCE
5. NORTH 01 DEGREES 05 MINUTES 31 SECONDS EAST A DISTANCE OF 55.65 FEET TO A POINT; THENCE
6. NORTH 88 DEGREES 19 MINUTES 39 SECONDS WEST A DISTANCE OF 150.56 FEET TO A POINT; THENCE
7. NORTH 57 DEGREES 48 MINUTES 59 SECONDS WEST A DISTANCE OF 67.38 FEET TO A POINT; THENCE
8. SOUTH 32 DEGREES 11 MINUTES 01 SECONDS WEST A DISTANCE OF 55.55 FEET TO A POINT; THENCE
9. SOUTH 01 DEGREES 08 MINUTES 01 SECONDS WEST A DISTANCE OF 43.73 FEET TO A POINT; THENCE
10. 177.70 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8794.41 FEET, A CHORD BEARING AND DISTANCE OF SOUTH 89 DEGREES 55 MINUTES 44 SECONDS WEST, 177.70 FEET TO A POINT; THENCE
11. NORTH 74 DEGREES 00 MINUTES 15 SECONDS WEST A DISTANCE OF 49.60 FEET TO A POINT; THENCE
12. SOUTH 84 DEGREES 45 MINUTES 31 SECONDS WEST A DISTANCE OF 104.06 FEET TO A POINT; THENCE
13. NORTH 86 DEGREES 29 MINUTES 20 SECONDS WEST A DISTANCE OF 161.45 FEET TO A POINT; THENCE
14. NORTH 88 DEGREES 53 MINUTES 35 SECONDS WEST A DISTANCE OF 124.45 FEET TO A POINT; THENCE
15. NORTH 78 DEGREES 46 MINUTES 20 SECONDS WEST A DISTANCE OF 29.23 FEET TO A POINT; THENCE
16. SOUTH 81 DEGREES 05 MINUTES 38 SECONDS WEST A DISTANCE OF 40.30 FEET TO A POINT MARKING THE SOUTHWESTERLY CORNER OF THE AFORESAID PARCEL A; THENCE LEAVING THE AFORESAID NORTHERLY RIGHT-OF-WAY LINE OF THE DULLES AIRPORT ACCESS ROAD AND RUNNING WITH THE WESTERLY LINE OF SAID PARCEL A.
17. NORTH 00 DEGREES 46 MINUTES 08 SECONDS EAST A DISTANCE OF 657.54 FEET TO A POINT ON THE SOUTHERLY LINE OF THE AFORESAID LOT 4; THENCE LEAVING THE AFORESAID WESTERLY LINE OF PARCEL A AND RUNNING WITH SAID SOUTHERLY LINE OF LOT 4.
18. NORTH 86 DEGREES 05 MINUTES 49 SECONDS WEST A DISTANCE OF 89.52 FEET TO THE SOUTHEASTERLY CORNER OF LOT 3 OF AFORESAID ROLLING HEIGHTS – SECTION ONE; THENCE LEAVING THE AFORESAID SOUTHERLY LINE OF LOT 4 AND RUNNING WITH THE WESTERLY LINE OF SAID LOT 3.
19. NORTH 03 DEGREES 54 MINUTES 11 SECONDS EAST A DISTANCE OF 425.00 FEET TO A POINT ON THE AFORESAID SOUTHERLY RIGHT-OF-WAY LINE OF CROWELL ROAD, THENCE LEAVING THE AFORESAID WESTERLY LINE OF LOT 3 AND RUNNING WITH SAID SOUTHERLY RIGHT-OF-WAY LINE
20. SOUTH 86 DEGREES 05 MINUTES 49 SECONDS EAST A DISTANCE OF 200.00 FEET TO THE NORTHWESTERLY CORNER OF AFORESAID LOT 5; THENCE LEAVING THE AFORESAID SOUTHERLY RIGHT-OF-WAY LINE OF CROWELL ROAD AND RUNNING WITH SAID LOT 5 THE FOLLOWING THREE (3) COURSES AND DISTANCES
21. SOUTH 03 DEGREES 54 MINUTES 11 SECONDS WEST A DISTANCE OF 425.00 FEET TO THE SOUTHWESTERLY CORNER OF THE AFORESAID LOT 6, THENCE
22. SOUTH 86 DEGREES 05 MINUTES 49 SECONDS EAST A DISTANCE OF 225.00 FEET TO THE SOUTHEASTERLY CORNER OF THE AFORESAID LOT 6, THENCE
23. NORTH 03 DEGREES 54 MINUTES 11 SECONDS EAST 425.00 FEET TO THE POINT OF BEGINNING CONTAINING 987,324 SQUARE FEET OR 22.666 ACRES OF LAND, MORE OR LESS

LEGEND

EXISTING STORM DRAIN	EXISTING ROAD SIGN
EXISTING MAJOR CONTOUR	EXISTING MANHOLE
EXISTING MINOR CONTOUR	EXISTING FENCE
EXISTING SANITARY SEWER	EXISTING OVERHEAD UTILITY
EXISTING WATER LINE	EXISTING WETLANDS
EXISTING TREE LINE	PROPERTY LINE
EXISTING FIBER OPTICS LINE	LIMITS OF SPECIAL EXCEPTION
EXISTING TELEPHONE LINE	PROP. CURB & GUTTER
EXISTING POWER POLE	PROP. FENCE
EXISTING LIGHT POLE	PEDESTRIAN CIRCULATION

LINE TABLE

NO.	BEARING	DISTANCE
1	N 01°05'31" E	55.65'
2	N 88°19'39" W	150.56'
3	N 57°48'59" W	67.38'
4	S 32°11'01" W	55.55'
5	S 01°08'01" W	43.73'
6	N 74°00'15" W	49.60'
7	N 78°46'20" W	29.23'
8	S 81°05'38" W	40.30'

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

No.	DATE	DESCRIPTION

REVISIONS

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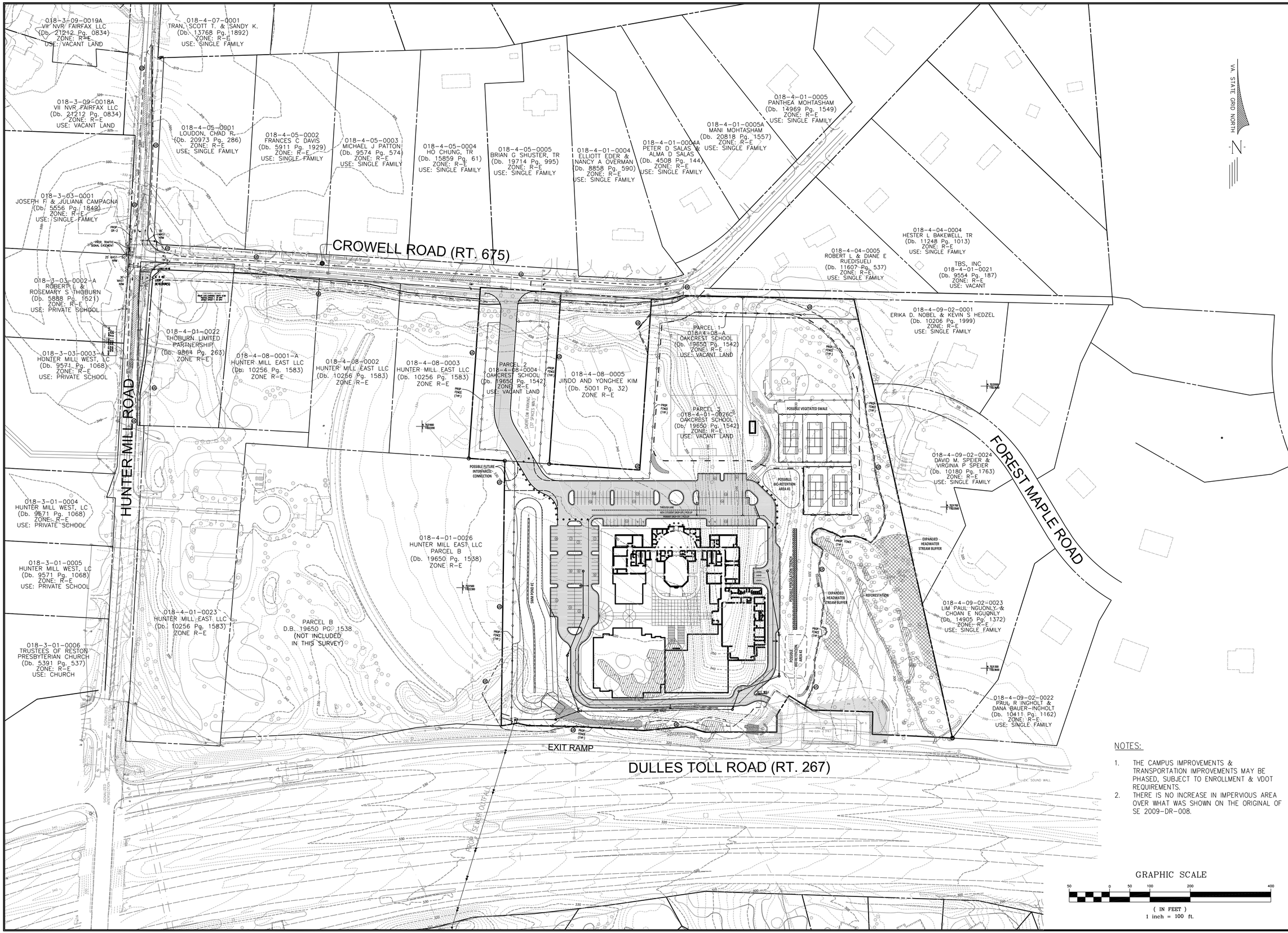
BOUNDARY & TOPOGRAPHIC SURVEY
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=AS NOTED C.I.: 2' DATE: DEC, 2012

SHEET 2 OF 19

SE-12643



NOTES:

1. THE CAMPUS IMPROVEMENTS & TRANSPORTATION IMPROVEMENTS MAY BE PHASED, SUBJECT TO ENROLLMENT & VDOT REQUIREMENTS.
2. THERE IS NO INCREASE IN IMPERVIOUS AREA OVER WHAT WAS SHOWN ON THE ORIGINAL OF SE 2009-DR-008.

GRAPHIC SCALE

50 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

No.	DATE	DESCRIPTION

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SPECIAL EXCEPTION PLAT OVERALL

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=100'
C.L.: 1'
DATE: DEC, 2012

SHEET 3 OF 19

SE-12643

SEE SHEET #5 FOR CONTINUATION

No.	DATE	DESCRIPTION
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SPECIAL EXCEPTION PLAT

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=50'
C.I.: 1'
DATE: DEC, 2012

SHEET 4 OF 19

SE-12643

SEE SHEET #4 FOR CONTINUATION

018-4-08-0003
HUNTER MILL EAST LLC
(Db. 10256 Pg. 1583)
ZONE R-E

PARCEL 2
018-4-08-0004
OAKCREST SCHOOL
(Db. 19650 Pg. 1542)
ZONE: R-E
USE: VACANT LAND

018-4-08-0005
JINDO AND YONGHEE KIM
(Db. 5001 Pg. 32)
ZONE R-E

PARCEL 3
018-4-01-0026C
OAKCREST SCHOOL
(Db. 19650 Pg. 1542)
ZONE: R-E
USE: VACANT LAND

018-4-09-02-0024
DAVID M. SPEIER &
VIRGINIA P SPEIER
(Db. 10180 Pg. 1763)
ZONE: R-E
USE: SINGLE FAMILY

018-4-09-02-0023
LIM PAUL NGUONLY &
CHOAN-E NGUONLY
(Db. 14905 Pg. 1372)
ZONE: R-E
USE: SINGLE FAMILY

018-4-09-02-0022
PAUL R INGHOLT &
DANA BAUER-INGHOLT
(Db. 10411 Pg. 1162)
ZONE: R-E
USE: SINGLE FAMILY

018-4-01-0026
HUNTER MILL EAST LLC
PARCEL B
(Db. 19650 Pg. 1538)
ZONE R-E

POSSIBLE VEGETATED SWALE
POSSIBLE BIO-RETENTION AREA #1
POSSIBLE BIO-RETENTION AREA #2
POSSIBLE PERCOLATION TRENCH
POSSIBLE FUTURE INTERPARCEL CONNECTION
OVERFLOW PARKING (37 SPACES MIN.)
SWM POND #1
EXPANDED HEADWATER STREAM BUFFER
REFORESTATION
FOREST MAPLE ROAD
EX. 2-STORY FRAME DWELLING
EX. BUILDING
THROUGH LANE
HOV-2 STUDENT DROP-OFF / PICK-UP
PRIMARY DROP-OFF / PICK-UP
LOADING
RET. WALL
EXIT RAMP
DULLES TOLL ROAD (RT. 267)
EX. 15" CULVERT
EX. 18" CULVERT
18" RCP PIPE
PROP. FENCE (TYP.)
STORM DRAIN
DRIVEWAY
VA. STATE GRID NORTH
N 7031900 E 11822200
N 7031500 E 11822300
N 7031700 E 11823500
N 7031300 E 11823600
N 7032000 E 11823600
INV.=292.31
INV.=288.31
HEADWALL 4
PAD ELEV. = 316.7

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

No.	DATE	DESCRIPTION

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SPECIAL EXCEPTION PLAT

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

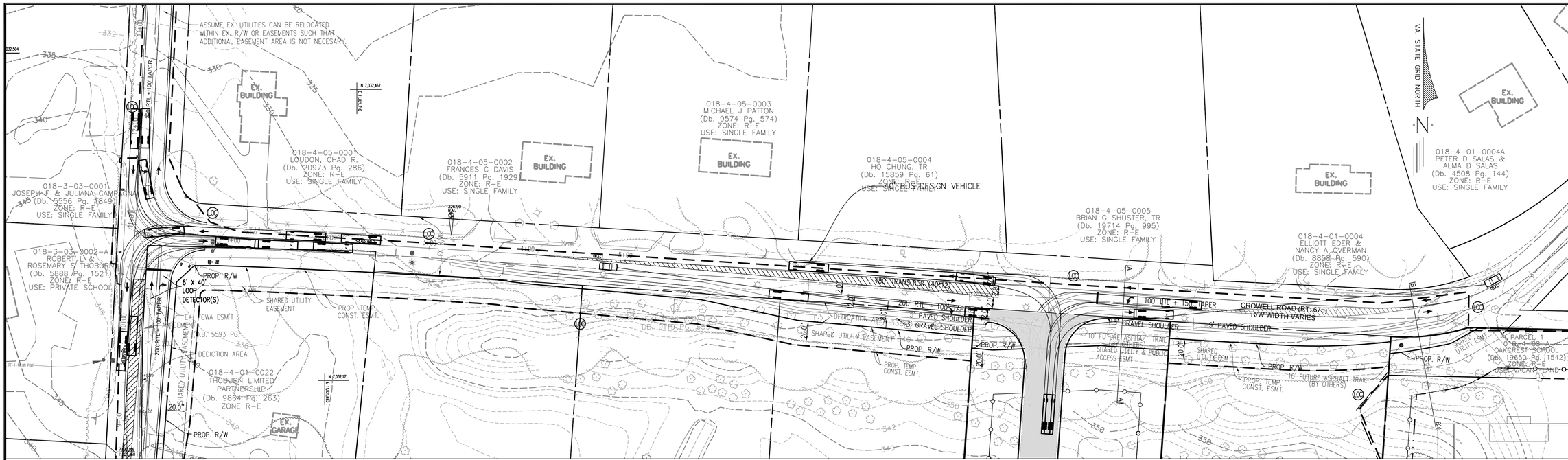
DATE: DEC, 2012

SCALE: 1"=30'

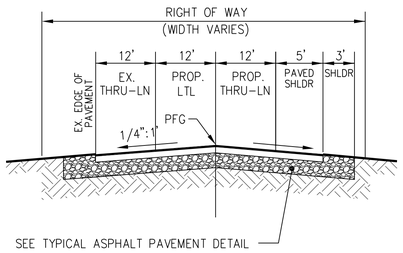
C.I.: 1'

SHEET 5 OF 19

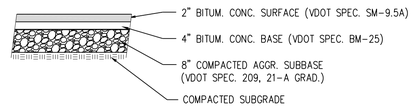
SE-12643



CROWELL ROAD TYPICAL SECTION EAST OF SITE ENTRANCE

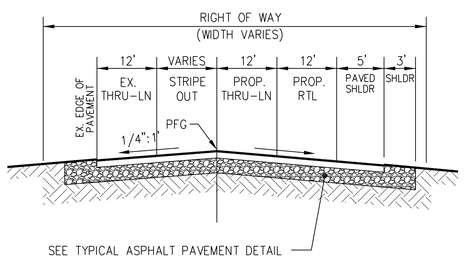


TYPICAL ASPHALT PAVING SECTION

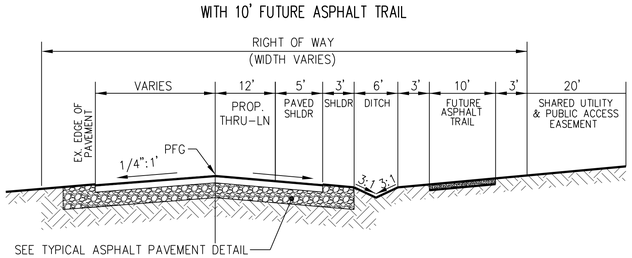


GRAPHIC SCALE

CROWELL ROAD TYPICAL SECTION WEST OF SITE ENTRANCE

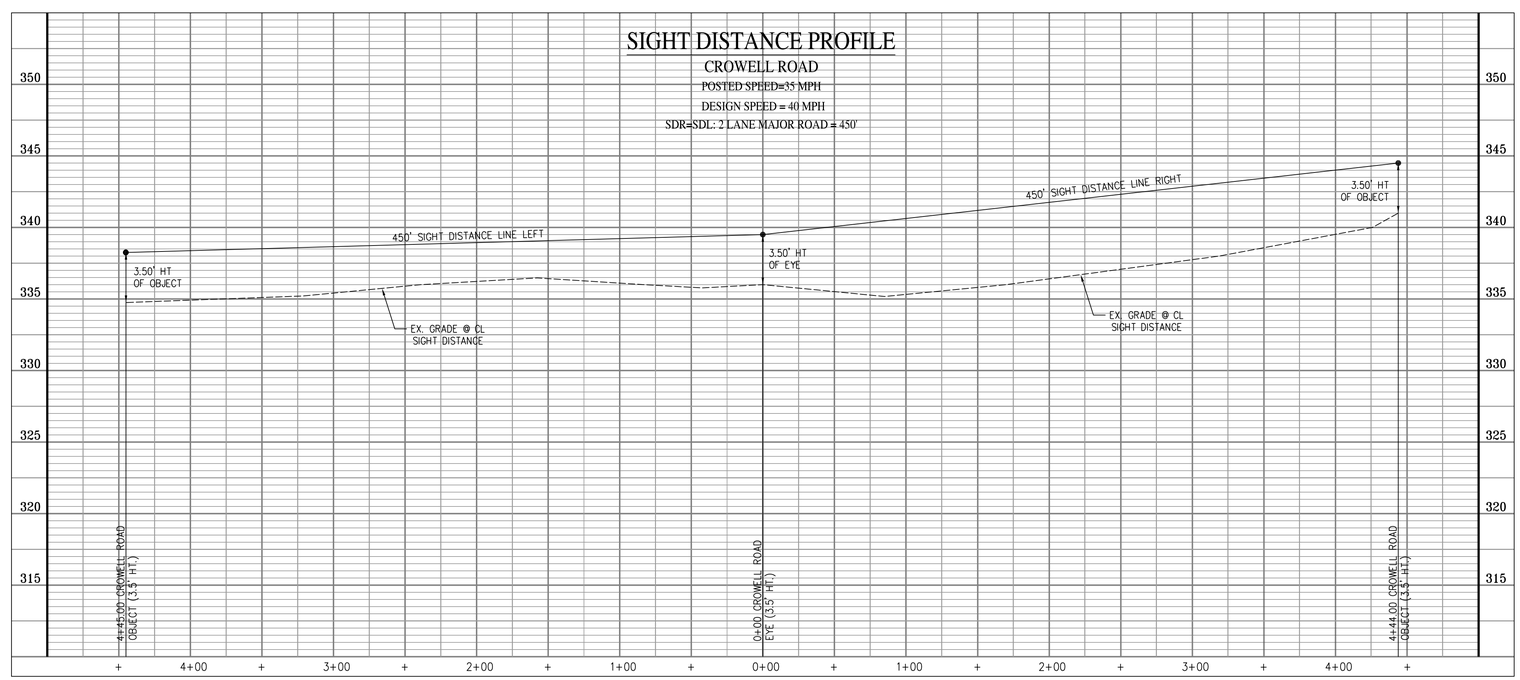


CROWELL ROAD TYPICAL SECTION WITH 10' FUTURE ASPHALT TRAIL



SIGHT DISTANCE PROFILE

CROWELL ROAD
POSTED SPEED=35 MPH
DESIGN SPEED = 40 MPH
SDR=SDL: 2 LANE MAJOR ROAD = 450'



No.	DATE	DESCRIPTION

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CROWELL ROAD ENTRANCE DETAIL

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

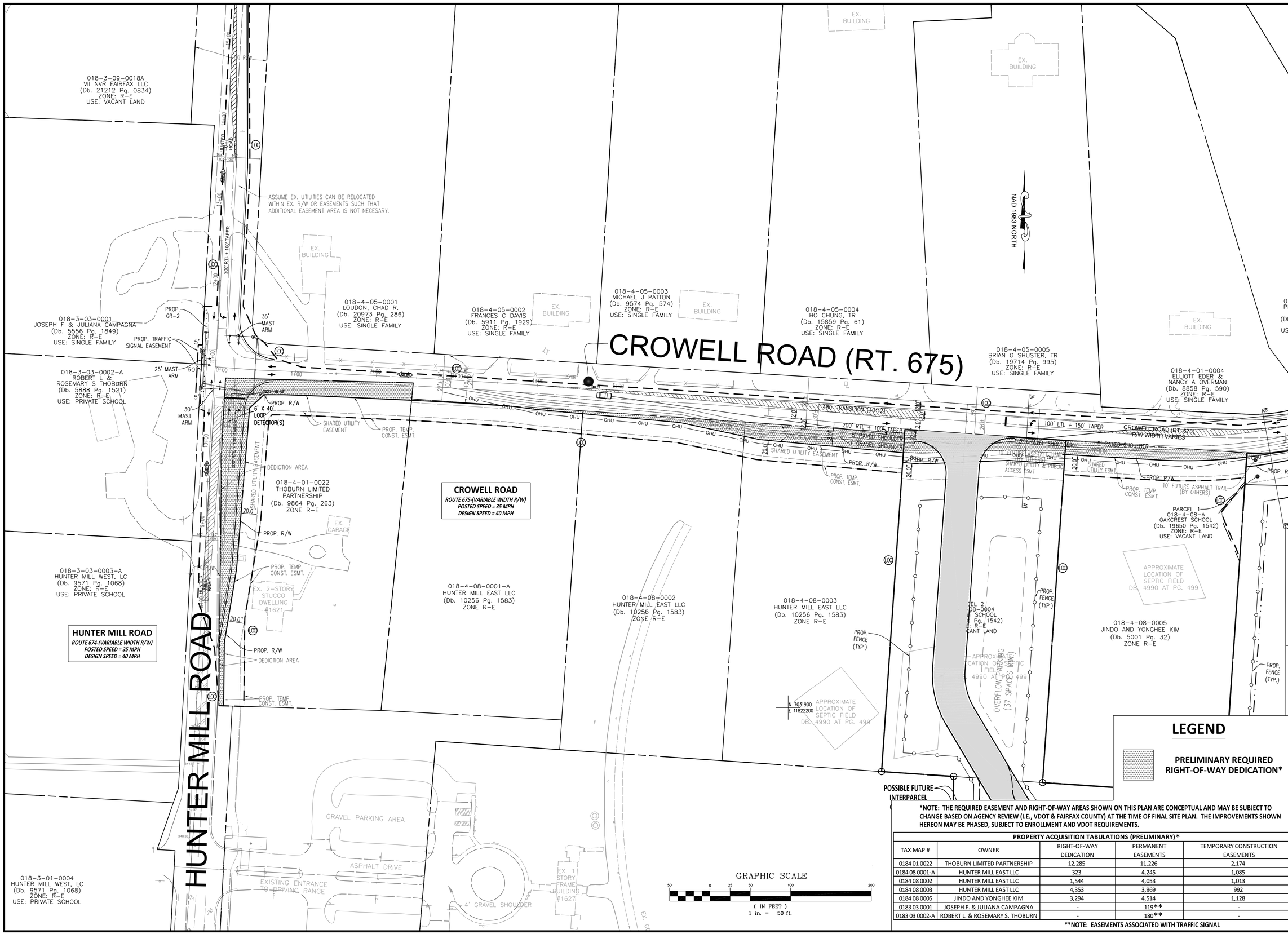
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: DEC, 2012

SCALE: AS NOTED

C.I.: 2'

SE-12643



LEGEND

PRELIMINARY REQUIRED RIGHT-OF-WAY DEDICATION*

*NOTE: THE REQUIRED EASEMENT AND RIGHT-OF-WAY AREAS SHOWN ON THIS PLAN ARE CONCEPTUAL AND MAY BE SUBJECT TO CHANGE BASED ON AGENCY REVIEW (I.E., VDOT & FAIRFAX COUNTY) AT THE TIME OF FINAL SITE PLAN. THE IMPROVEMENTS SHOWN HEREON MAY BE PHASED, SUBJECT TO ENROLLMENT AND VDOT REQUIREMENTS.

PROPERTY ACQUISITION TABULATIONS (PRELIMINARY)*

TAX MAP #	OWNER	RIGHT-OF-WAY DEDICATION	PERMANENT EASEMENTS	TEMPORARY CONSTRUCTION EASEMENTS
0184 01 0022	THOBURN LIMITED PARTNERSHIP	12,285	11,226	2,174
0184 08 0001-A	HUNTER MILL EAST LLC	323	4,245	1,085
0184 08 0002	HUNTER MILL EAST LLC	1,544	4,053	1,013
0184 08 0003	HUNTER MILL EAST LLC	4,353	3,969	992
0184 08 0005	JINDO AND YONGHEE KIM	3,294	4,514	1,128
0183 03 0001	JOSEPH F. & JULIANA CAMPAGNA	-	119**	-
0183 03 0002-A	ROBERT L. & ROSEMARY S. THOBURN	-	180**	-

**NOTE: EASEMENTS ASSOCIATED WITH TRAFFIC SIGNAL

No.	DATE	DESCRIPTION

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ILLUSTRATIVE RIGHT-OF-WAY DEDICATION EXHIBIT

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=50'
C.I.: N/A
DATE: DEC, 2012

SHEET 7 OF 19

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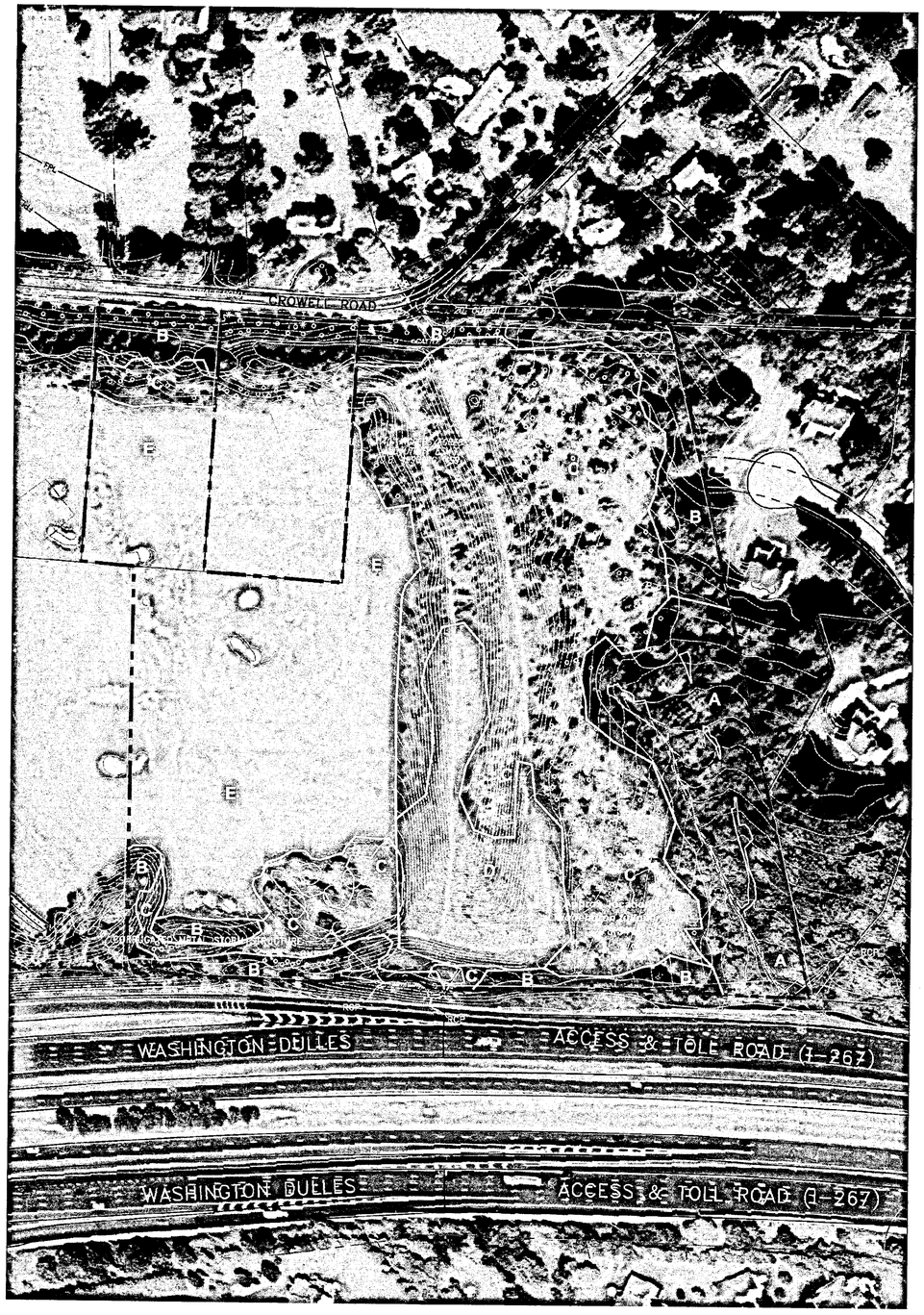

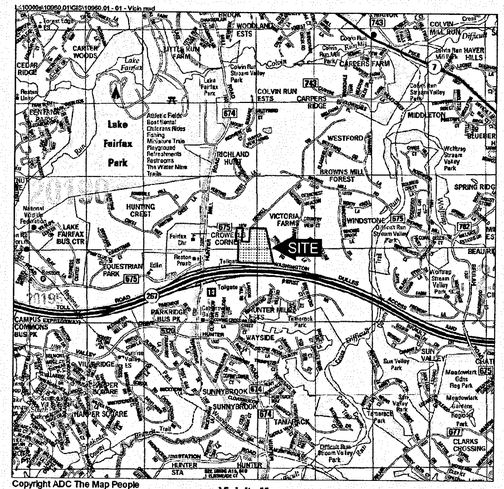

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Vicinity Map
Oakcrest School
WSSI #10960.01
Scale: 1" = 2000'

N E S W

LEGEND

- SITE BOUNDARY
- VEGETATION COMMUNITY BOUNDARY
- INTERMITTENT STREAM (PER WSSI FIELD INVESTIGATION AND FAIRFAX COUNTY CHESAPEAKE BAY MAPPING, SEE NOTE 3)
- WETLAND BOUNDARY (SEE NOTE 3)
- APPROXIMATE LOCATION OF SPECIMEN TREE

NORTH

NOTES:

1. This Existing Vegetation Map is based upon examination of background materials, such as existing topography, the 1994 USGS Vienna, VA-MD topographic quadrangle map, the Fairfax County Soils Map, the 1998 Vienna, VA-MD National Wetlands Inventory Map, and aerial photography, as well as a field verification performed by Jennifer D. Feese, WPIT and Sean D. Sipple, PWS, CT of Wetland Studies and Solutions, Inc. (WSSI) on June 3, 2008.

2. Topography and boundary information from VIKA Inc. and Fairfax County Digital Data, and an Aerials Express October 2007 Natural Color Imagery orthophotograph, were used as the base for this exhibit.

3. Waters of the U.S. delineation information shown hereon, was performed by WSSI as described in a report dated January 22, 2004 and approved by the U.S. Army Corps of Engineers (COE) in a jurisdictional determination dated February 25, 2004 (COE #04-R0440). This report was revised on June 17, 2008. Confirmation from the COE is pending.

	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION*	ACREAGE	COMMENTS
A	Bottomland Hardwood	Red Maple	Sub-Climax	Good	2.75	See condition description; Area contains one specimen tree.
B	Upland Forest	White Pine and Red Maple	Sub-Climax	Fair	2.75	See condition description.
C	Old Field	Sweet Gum	Pioneer	Fair	9.05	See condition description.
D	Open Field	Fescue	N/A	Good	2.05	See condition description.
E	Maintained	Fescue	N/A	N/A	6.40	See condition description.
TOTAL ACREAGE					23.00	

*CONDITION DESCRIPTION:

A. Area A is a sub-climax bottomland hardwood forest in good overall condition and comprises a part of the southeastern portion of the site. The canopy is dominated by red maple (*Acer rubrum*). Sub-dominants include black locust (*Robinia pseudoacacia*), black walnut (*Juglans nigra*), persimmon (*Diospyros virginiana*) and tulip poplar (*Liriodendron tulipifera*). The Diameter Breast Height (DBH) of these overstory species ranges from 3 to 34 inches. The understory includes black-haw (*Viburnum prunifolium*) and greenbriar (*Smilax rotundifolia*). A tulip poplar with a DBH of 34 inches is present in the southern portion of Area A. Exotic species are present in small numbers in the groundcover, including garlic mustard (*Alliaria petiolata*) and Nepal microstegium (*Eulalia viminia*).

B. Area B consists of a sub-climax upland forest in fair overall condition along the southern, northeastern and northwestern portions of the site. The canopy is dominated by red maple and white pine (*Pinus strobus*). Subdominants include black locust and black walnut. The DBH of these overstory species ranges from 5 to 25 inches. The understory is overgrown and includes eastern red cedar (*Juniperus virginiana*) and the exotic species autumn olive (*Elaeagnus umbellata*) and multiflora rose (*Rosa multiflora*). Exotic species are present in the groundcover, including garlic mustard, Nepal microstegium, and Japanese honeysuckle (*Lonicera japonica*).

C. Area C consists of an old field in the eastern and southwestern portions of the site. Dominant sapling species include sweet gum (*Liquidambar styraciflua*), eastern red cedar and the exotic species autumn olive, all greater than 12 inches in height. Herbaceous dominants include meadow fescue (*Festuca pratensis*), sweet vernal grass (*Anthoxanthum odoratum*) and crown vetch (*Securigera varia*). Exotic species are present in the groundcover, including garlic mustard, Nepal microstegium, and Japanese honeysuckle.

D. Area D consists of an open field in the central portion of the site. Herbaceous dominants include meadow fescue, sweet vernal grass, crown vetch, and broomsedge (*Andropogon virginicus*).

E. Area E consists of a maintained field associated with a golf course driving range on the western portion of the site. Meadow fescue is the dominant herbaceous plant species in this area.

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Lic. No. 027044
PROFESSIONAL ENGINEER
01/14/14

EXISTING VEGETATION MAP

Prepared For: paradigm design

Oakcrest School
Fairfax County, Virginia

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REVISIONS

No.	Date	Description	Rev. By	App. By
1	8-24-09	FINAL REVISIONS PER STAFF COMMENTS	JDF	MH
2	9-25-09	SE Resubmission	JDF	MH

DATE: June 2008 | SCALE: 1" = 100'

Horizontal Datum: VCS NAD 83
Vertical Datum: NGVD 29
Boundary and Topo Source: Fairfax County Digital Data and VIKA, Inc.

Design	Draft	Approved
SDS	SDS	JDF/MH

Sheet # 4 of 19

Computer File Name: L:\10200\10960.01\CAD\DWG-SDV\EXVM_(2004).dwg

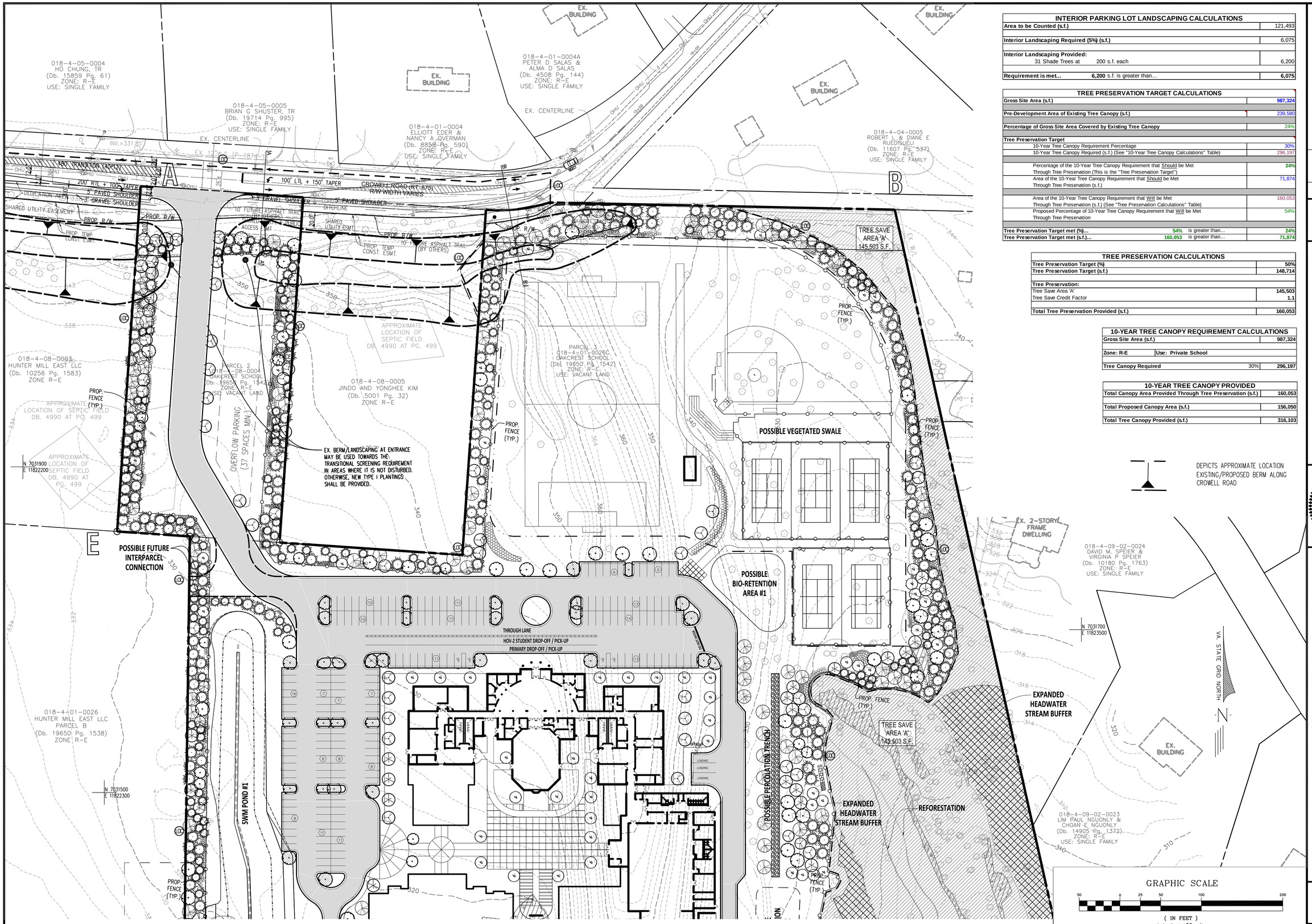
EXISTING VEGETATION MAP
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINA

SCALE: 1"=AS NOTED | C.I.: N/A | DATE: DEC, 2012

SHEET 8 OF 19

SE-12643

FOR INFORMATION PURPOSES ONLY! NO CHANGES MADE TO THIS SHEET!



SEE SHEET #10 FOR CONTINUATION

INTERIOR PARKING LOT LANDSCAPING CALCULATIONS

Area to be Counted (s.f.)	121,493
Interior Landscaping Required (5%) (s.f.)	6,075
Interior Landscaping Provided: 31 Shade Trees at 200 s.f. each	6,200
Requirement is met... **6,200** s.f. is greater than...	**6,075**

TREE PRESERVATION TARGET CALCULATIONS

Gross Site Area (s.f.)	**987,324**
Pre-Development Area of Existing Tree Canopy (s.f.)	239,580
Percentage of Gross Site Area Covered by Existing Tree Canopy	24%
Tree Preservation Target	
10-Year Tree Canopy Requirement Percentage	30%
10-Year Tree Canopy Required (s.f.) (See "10-Year Tree Canopy Calculations" Table)	296,197
Percentage of the 10-Year Tree Canopy Requirement that Should be Met Through Tree Preservation (This is the "Tree Preservation Target")	**24%**
Area of the 10-Year Tree Canopy Requirement that Should be Met Through Tree Preservation (s.f.)	71,874
Area of the 10-Year Tree Canopy Requirement that Will be Met Through Tree Preservation (s.f.) (See "Tree Preservation Calculations" Table)	160,053
Proposed Percentage of 10-Year Tree Canopy Requirement that Will be Met Through Tree Preservation	54%
Tree Preservation Target met (%)... **54%** is greater than...	**24%**
Tree Preservation Target met (s.f.)... **160,053** is greater than...	**71,874**

TREE PRESERVATION CALCULATIONS

Tree Preservation Target (%)	**50%**
Tree Preservation Target (s.f.)	**148,714**
Tree Preservation:	
Tree Save Area 'A'	**145,503**
Tree Save Credit Factor	**1.1**
Total Tree Preservation Provided (s.f.)	**160,053**

10-YEAR TREE CANOPY REQUIREMENT CALCULATIONS

Gross Site Area (s.f.)		**987,324**
Zone: R-E	**Use: Private School**	
Tree Canopy Required	30%	**296,197**

10-YEAR TREE CANOPY PROVIDED

Total Canopy Area Provided Through Tree Preservation (s.f.)	**160,053**
Total Proposed Canopy Area (s.f.)	**156,050**
Total Tree Canopy Provided (s.f.)	**316,103**

No.	DATE	DESCRIPTION
		REVISIONS

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LANDSCAPE PLAN

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=50'
C.I.: 1'
DATE: DEC, 2012

SHEET 9 OF 19

SE-12643

SEE SHEET #9 FOR CONTINUATION

018-4-08-0003
HUNTER MILL EAST LLC
(Db. 10256 Pg. 1583)
ZONE R-E

PARCEL 2
018-4-08-0004
OAKCREST SCHOOL
(Db. 19650 Pg. 1542)
ZONE: R-E
USE: VACANT LAND

LOCATION OF SEPTIC FIELD DB. 4990 AT PG. 499

018-4-08-0005
JINDO AND YONGHEE KIM
(Db. 15001 Pg. 32)
ZONE R-E

PARCEL 3
018-4-01-0026C
OAKCREST SCHOOL
(Db. 19650 Pg. 1542)
ZONE: R-E
USE: VACANT LAND

APPROXIMATE LOCATION OF SEPTIC FIELD DB. 4990 AT PG. 499

APPROXIMATE LOCATION OF SEPTIC FIELD DB. 4990 AT PG. 499

N 7031900
E 11822200

PROP. FENCE (TYP.)

OVERFLOW PARKING (37 SPACES MIN.)

POSSIBLE FUTURE INTERPARCEL CONNECTION

POSSIBLE VEGETATED SWALE

POSSIBLE BIO-RETENTION AREA #1

FOREST MAPLE ROAD

STORM DRAIN

VA. STATE GRID NORTH
N 7032000
E 11823600

DRIVEWAY

EX. 2-STORY FRAME DWELLING

018-4-09-02-0024
DAVID M. SPEIER &
VIRGINIA P SPEIER
(Db. 10180 Pg. 1763)
ZONE: R-E
USE: SINGLE FAMILY

N 7031700
E 11823500

THROUGH LANE
HOV-2 STUDENT DROP-OFF / PICK-UP
PRIMARY DROP-OFF / PICK-UP

LOADING

018-4-01-0026
HUNTER MILL EAST LLC
PARCEL B
(Db. 19650 Pg. 1538)
ZONE R-E

N 7031500
E 11822300

SWM POND #1

POSSIBLE PERCOLATION TRENCH

TREE SAVE 'AREA 'A'. 145,503 S.F.

EXPANDED HEADWATER STREAM BUFFER

REFORESTATION

EX. BUILDING

018-4-09-02-0023
LIM PAUL NGUONLY &
CHOAN E NGUONLY
(Db. 14905 Pg. 1372)
ZONE: R-E
USE: SINGLE FAMILY

POSSIBLE BIO-RETENTION AREA #2

N 7031300
E 11823600

RET. WALL

018-4-09-02-0022
PAUL R INGHOLT &
DANA BAUER-INGHOLT
(Db. 10411 Pg. 1162)
ZONE: R-E
USE: SINGLE FAMILY

EXTENDED DETENTION BASIN

IPSS #9
PAD ELEV. = 316.7

INV.=292.0

HEADWALL

INV.=288.31

18" RCP PIPE

EXIT RAMP

EX. 15" CULVERT

DULLES TOLL ROAD (RT. 267)

OUTFALL

EX. 18" CULVERT

INTERIOR PARKING AREA

INTERIOR PARKING LOT TREE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
12/17/12
03/28/13
06/04/13
07/18/13
09/24/13
01/14/14
-
-

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COMMONWEALTH OF VIRGINIA
ROBERT W. BROWN
Lic. No. 027041
01/14/14
PROFESSIONAL ENGINEER

LANDSCAPE PLAN

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINA

SCALE: 1"=AS NOTED

C.I.: N/A

DATE: DEC, 2012

SHEET 10 OF 19

SE-12643

PLANTING SPECIFICATIONS

1. QUALITY ASSURANCE:
   A. Landscape planting and related work shall be performed by a firm with a minimum of five years experience specializing in this type and scale of work.
   B. Applicable Specifications and Standards:
      Fairfax County Zoning Ordinance,
      American Joint Committee on Horticultural Nomenclature
      American Standard for Nursery Stock, latest edition
      American Association of Nurserymen Landscape Specification Guidelines for Baltimore Washington Metropolitan Areas, latest edition, Landscape Contractors Association.

2. SUBMITTALS: Submit the following to the Owner's Representative prior to beginning work:
   A. Copies of manufacturer's data for all materials required.
   B. Samples of required mulch material.
   C. Chemical and mechanical analysis and samples of all existing soil, topsoil, organic matter and soil mix to be used.
   D. Planting schedule showing the dates (earliest and latest) proposed for each type of plant specified, schedule each type of planting within the normal planting seasons for such work. Include requests for any proposed changes in the approved planting season and a list of proposed sources for all plant materials.
   E. List of proposed sources for all plant material.
3. DELIVERY, HANDLING, AND STORAGE:
   A. Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type, weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter.
   B. Dig balled and burlapped (B& B) plants with firm, natural balls of earth, of a diameter not less than that shown on the plant list nor less than recommended by the American Standard for Nursery Stock, and of sufficient depth to include the fibrous and feeding roots. B&B plants will not be accepted if the ball is cracked or broken before or during planting operation.
   C. Deliver trees and shrubs after preparations for planting have been completed. Do not bend, bind, or tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by heeling-in bare root stock and covering plant balls with soil, peat moss or other acceptable material for balled stock. Plants shall be kept well watered and shall not remain unplanted for longer than ten (10) days after delivery.
   D. Plants shall be lifted and handled from the bottom of the ball only.
   E. Do not remove container-grown stock from containers until planting time.
4. DRAINAGE: Before planting, determine that areas to receive plant material have adequate subdrainage.
   A. The landscape contractor is responsible for drainage tests as necessary to identify any problems prior to beginning planting operations. Upon commencement of planting operations the landscape contractor assumes responsibility for soil conditions.
   B. Dig planting pits to full depth and dimensions indicated on drawings.
   C. At bottom of planting pit, excavate rectangular pit 12 inches by 12 inches by 18 inches deep. Quickly pour water into pit to a depth of 6 inches (approximately 3-3 3/4 gallon). Note time required for water to be completely absorbed. Divide time noted by 6 to achieve average rate of absorption for 1 inch of water. Where rate of absorption exceeds 60 minutes per inch, notify owner immediately for directions on how to proceed.
5. PLANTING DATES: Planting shall be done only within the following dates except as approved by Owner.
   A. Deciduous Trees and Shrubs: March 1 to May 31 and October 15 to December 15.
   B. Evergreen Trees, Shrubs and Vines: March 1 to May 31 and September 1 to November 15.
   C. All plant material shall be guaranteed by the Contractor for a period of 1 year from the date final acceptance to be in good, healthy and flourishing condition.
6. MATERIALS FOR PLANTING:
   A. Topsoil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1 inch in diameter, capable of sustaining vigorous plant growth. Soil shall be harvested at a single source from the O and/or A horizons of the soil profile.
      1) Topsoil shall have a pH range of 5.5 to 7.5.
      2) Topsoil shall contain 1.5-5% organic matter by dry weight .
      3) Soil Texture: sandy loam, sandy clay loam with the following particle size distribution:
         Gravel — Less than 10%
         Silt — 15-30%
         Clay — 20-35%
         Chemical Levels shall be:
         Magnesium Mg — 100+ units
         Phosphorus P205 — 150+ units
         Potassium - K20 — 120+ units
      4) Soluble Salts/ Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)
      5) Cation exchange capacity shall be a minimum of 8 meq/100g.
   B. Clay Loam to Sandy Clay Loam Soil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1 inch in diameter, capable of sustaining vigorous plant growth.
      1) Soil shall have a pH range of 5.5 to 6.5.
      2) Soil shall contain 2-5% organic content by volume.
      3) Soil Texture: Clay loam to sandy clay loam with the following particle size distribution:
         Gravel — Less than 10%
         Sand — 20-50%
         Silt — <35%%
         Clay — 20-40%
      4) Chemical Levels shall be:
         Magnesium Mg — 100+ units
         Phosphorus P205 — 150+ units
         Potassium - K20 — 120+ units
      5) Soluble Salts/ Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)
      6) Cation exchange capacity shall be 20-35 meq/100g.
   C. Compost: Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock shall be plant matter, such as high lignin forestry products or yard waste (leaves, brush and yard trimmings).
      1) The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight.
      2) Compost shall be sampled and tested as required by the Seal of Testing Assurance Program of the United States Composting Council (USCC) and shall meet the physical requirements for compost as determined by USCC.
      3) The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids.
      4) The moisture level shall be such that no visible water or dust is produced when handling the material.
   D. Composted Pine Bark Fines: Shall be approved composted, ground pine bark having no particle with a dimension greater than 3/4 inch. No more than 10% shall be wood.
   E. Sand: Shall be quartz based sharp concrete sand, ASTM C-33 Fine Aggregate, with a Fines Modulus Index between 2.8 and 3.2.
   F. Trace Elements: Shall be commercially available slow release materials containing zinc (Zn), Molybdenum (Mo), Copper (Cu), Boron (B), and Magnesium (Mn).
   G. Fertilizer: A commercial fertilizer for ornamental trees, shrubs and ground cover with an analysis of 10% Nitrogen, 6% Phosphorus and 4% Potassium shall be used. This fertilizer shall be granular with a minimum of 50% of the total Nitrogen in organic form. 14-14-14-Osmocote (or approved equal) shall be applied at a rate of 10 lbs. per square foot, tilled to a depth of 8 inch, shall be used for perennials.
   H. Soil Separator: Shall be rot resistant non-woven polypropylene filter fabric, water permeable, and unaffected by freezing and thawing. Acceptable products include: Mirafi 140N, Mirafi Civil Engineering Co., or Stabilenka Type T-80, American Enka Co., Enka, N.C.
   I. Planter Drainage Fabric: Shall be prefabricated planter drainage fabric Miradrain 9000, a composite system consisting of a Mirafi drainage fabric bonded to a three-dimensional highly impact-resistant plastic core. The core shall have the following attributes:
      1) Compressive Strength: (ASTM D-1621), 15,000 + PSF.
      2) Overlaps: Shall be capable of mechanically interlocking so as to prevent separation of the overlaps during backfill.
7. PLANT MATERIALS: (Refer to the PLANT LIST on the drawings for specific types and quantities of plants):
   H. Plants shall be nursery grown in accordance with good horticultural practices. Plants shall either be obtained from local nurseries and/or others, which have soil (heavy clay) and climatic conditions similar to those in the locality of the project.
   I. Plant material grown in sandy, well-drained soil will not be approved for this project. Plants shall be true to species and variety and unless specifically noted otherwise, all plants shall be of specimen quality, exceptionally heavy, symmetrical, tightly-knit plants, so trained or favored in their development and appearance as to be superior in form, number of branches, compactness and symmetry.
   C. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf, free of disease, insect pests, eggs or larvae and shall have healthy, well-developed root systems. They shall be free from physical damage or any conditions that would prevent thriving health and the desired appearance.
   D. Trees, which have a damaged or crooked leader, or multiple leaders, unless specified in the plant list, will be rejected. Trees with abrasion of the bark, sun scald, disfiguring knots, or pruning cuts more than 1 1/4 inch diameter which have not completely callused, will be rejected.
   E. Plants shall conform to measurements specified in the plant schedules except that plants larger than specified may be used if acceptable to the Landscape Architect or owner. Use of such plants shall not increase the contract price. If larger plants are accepted, the root ball shall be sized for the larger plant.
   F. Caliper Measurement: Shall be taken at a point on the trunk 6 inches above natural ground line for trees up to 4 inches diameter, and at a point 12 inches above the natural ground line for trees over 4 inches diameter.
   G. Plants shall be measured when branches are in the normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip.
8. SOIL MIXING PROCEDURES:
   A. Topsoil used in sand/soil mixes shall be screened or shredded prior to mixing in sands. Maximum clod inclusion for soil mixes shall not exceed:

Clod size (largest dimension)	% of the soil mix volume
Less than 1"	Unlimited
1 to 3 inches	20%
3 to 6 inches	5%
>6 inches	Less than 2%

   B. Source material and soil mix stockpiles shall be protected from rain by covering with filter cloth.
9. INSPECTION:
   A. Examine the areas and conditions where soil mix is to be installed and notify the Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.
   B. Cooperate with other Contractors and trades working in and adjacent to other work areas. Examine drawings which show development of entire project and become familiar with scope of other work required.
10. SOIL INSTALLATION - GENERAL PROCEDURES:
   A. If subgrade soil compaction exceeds 80%, existing soil shall be ripped to a depth of 12 inch to alleviate compaction which has taken place during construction. Prior to loosening of soil, Contractor must locate existing utilities and coordinate with Owner any underground electric lines, drainage pipes, conduits, etc.
   B. Prepare the subgrade by roughening the top 3" of the subsoil by dragging the teeth of a backhoe bucket across the surface.
   C. Begin soil installation as soon as subsoil is prepared. Use low impact equipment with track belts, large tires, or low tire pressure to lower compaction and soil damage during installation.
   D. Monitor compaction during installation and loosen soils as needed if compaction exceeds 80%.
   E. Install specified soil in 12"-18" thick lifts. Compact each lift sufficiently to reduce settling but not enough to prevent the movement of water and feeder roots through the soil. The soils in each lift should feel firm to the foot in all areas and make only slight heel prints.
11. INSTALLATION OF SOIL MIX FOR LAWN AREAS ON GRADE:
   A. Soil Mix for Lawns on Grade: shall consist of 10% compost and 90% topsoil, by volume. These materials must meet specifications described in Section 2.00.
   B. Loosen subgrade lawn areas to a minimum of 3". Remove stones more than 1-1/2" in any dimension and sticks, roots, rubbish, and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.
   C. Spread soil mix for lawn areas on grade to a minimum depth of 8" as required to meet grade and elevations shown on drawings, after lightly rolling and natural settlement. Allow for sod thickness in areas to be sodded.
12. INSTALLATION OF SOIL MIX FOR TREE PITS ON GRADE
   A. Confirm that native subsoil drains at a rate of at least ½" per hour. If drainage is less than ½" per hour, provide subsurface drainage lines.
   B. Install 30-36" of Soil Mix for Tree Pit Backfill on Grade:
      1) Shall consist of clay loam to sandy clay loam soil, sand, and composted pine bark fines at a rate of 5:5:1 to 10:5:1.5 to achieve the following:
         (a) Clay content of Soil Mix shall be 10-20% of the soil mix, by volume.
         (b) Minimum amount of coarse to medium sand in the mix shall be 55%
         (c) Minimum infiltration rate at 80-85% compaction shall be 1-3 inches per hour.
   A. Composted pine bark fines shall not exceed 10% of the total soil mix by volume.
   B. Till 4" of compost into the top 6" of the installed Soil Mix for Tree Pit Backfill on Grade.
13. INSTALLATION OF SOIL MIX FOR MULCHED SHRUB AND PERENNIAL BEDS:
   A. Confirm that native subsoil drains at a rate of at least ½" per hour. If drainage is less than ½" per hour, provide subsurface drainage lines.
   B. Install 14" of Soil Mix for Mulched Shrub and Perennial Beds on Grade:
      1) Shall consist of clay loam to sandy clay loam soil, sand, and composted pine bark fines at a rate of 5:5:1 to 10:5:1.5 to achieve the following:
         (a) Clay content of Soil Mix shall be 10-20% of the soil mix, by volume.
         (b) Minimum amount of coarse to medium sand in the mix shall be 55%
         (c) Minimum infiltration rate at 80-85% compaction shall be 1-3 inches per hour.
      2) Composted pine bark fines shall not exceed 10% of the total soil mix by volume.
   C. Till 4" of compost into the top 6" of the installed Soil Mix for Tree Pit Backfill on Grade.
14. INSTALLATION OF SILVA CELL PLANTING SOIL MIX:
   A. Soil Mix shall be installed per Manufacturer's recommendations.
   B. Planting Soil Mix shall consist of Topsoil, Compost, and coarse sand mixed to the following proportion:

Material	% by volume
Compost	12-17%
Coarse Sand	35-50%
Topsoil	35-50%

      1) Ratio shall be adjusted to achieve a water permeability between 0.75 and 1.75 inches per hour when compacted to 80-85% of maximum dry density. The permeability of the allowable topsoil materials will vary the overall permeability of the final mix. Submit multiple mix ratios for permeability to establish the correct mix ratio for the available topsoil.
      2) Final Mix shall have a pH between 5.5 and 6.5.
      3) Final mix shall have an organic matter content of between 3 and 5%.
15. GENERAL PLANT INSTALLATION:
   A. Excavation: Excavate all tree pits and planting areas to the width and depth shown in the planting details.
   B. Center plant in pit and orient for the best visual effect. Set plants plumb and hold rigidly in position until soil has been tamped firmly around root ball.
   C. Mulch within 48 hours after planting and after applying the pre-emergent herbicide, except ground cover areas (which shall have organic material placed before planting) with a 2" layer of mulch immediately after planting. All bed lines shall be cut with a smooth consistent edge to a minimum depth of 3 inches. Keep mulch out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.
   D. All planting areas to conform to specified grades after full settlement has occurred and mulch has been applied. Provide saucers around tree pits as shown on planting details. Remove all tags, labels, strings, etc. from all plants.
16. PERMANENT SEEDING OR SODDING FOR GRASS AREAS:
   A. Lawn Seed or Sod varieties shall be an improved variety turf-type tall fescue blend. The landscape contractor shall select from varieties approved by the Maryland or Virginia Department of Agriculture.
   B. Refer to the Virginia Erosion and Sediment Control Handbook, for guidelines, specifications and installation techniques of seed and sod.
   C. Maintenance shall begin immediately after each plant and lawn area is installed and shall continue until 90 days after final acceptance of the last section.

TRANSITIONAL SCREENING AND BARRIER CALCULATIONS

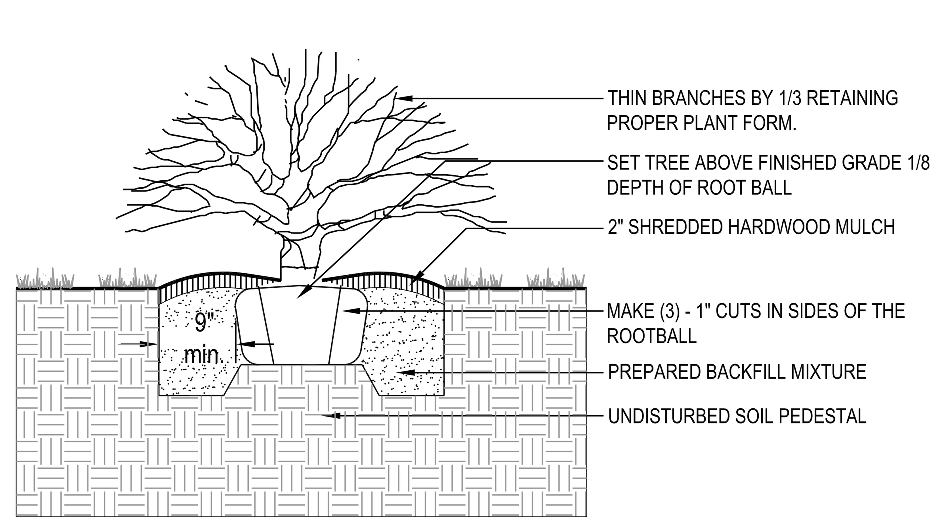
Adjacent Use (Group)	Required Transitional Screening / Barrier	Width (l.f.)	Length (l.f.)	Area (s.f.)	Required 10-Year Canopy Cover (75%)	Provided Trees and Shrubs			Total Canopy
North: Buffer A-B		25	1,171	29,275	21,956	58	Med. Evergreen @	100.00 s.f.	5,800 s.f.
Single Family Detached (Group 1)	Transitional Screening 1		300 l.f. has			37	Lrg. Deciduous@	200.00 s.f.	7,400 s.f.
	Barrier D,E, or F		existing trees			52	Lrg. Evergreen @	200.00 s.f.	10,400 s.f.
			to remain		3 Shrubs /10 l.f. (441 required)	441	Evergreen Shrubs		
Total									23,600 s.f.
Requirement is met...	**23,600** s.f. is greater than…			**21,956**					
East: Buffer B-C		25	1,116	27,900	20,925	26	Med. Evergreen @	100.00 s.f.	2,600 s.f.
Single Family Detached (Group 1)	Transitional Screening 1					42	Lrg. Deciduous@	200.00 s.f.	8,400 s.f.
	Barrier D,E, or F					54	Lrg. Evergreen @	200.00 s.f.	10,800 s.f.
					3 Shrubs /10 l.f. (335 required)	335	Evergreen Shrubs		
Total									21,800 s.f.
Requirement is met...	**21,800** s.f. is greater than…			**20,925**	**The entire length of the buffer consists of existing trees to remain.**				
South: Buffer C-C'									
Single Family Detached (Group 1)	REQUIREMENT WAIVED								
South: Buffer C'-D		25	665	16,625	12,469	42	Med. Evergreen @	100.00 s.f.	4,200 s.f.
Single Family Detached (Group 1)	Transitional Screening 1					21	Lrg. Deciduous@	200.00 s.f.	4,200 s.f.
	Barrier D,E, or F					21	Lrg. Evergreen @	200.00 s.f.	4,200 s.f.
					3 Shrubs /10 l.f. (200 required)	200	Evergreen Shrubs		
Total									12,600 s.f.
Requirement is met...	**12,600** s.f. is greater than…			**12,469**					
Southwest: Buffer D-E		25	745	18,625	13,969	35	Med. Evergreen @	100.00 s.f.	3,500 s.f.
Single Family Detached (Group 1)	Transitional Screening 1					18	Lrg. Deciduous@	200.00 s.f.	3,600 s.f.
	Barrier D,E, or F					35	Lrg. Evergreen @	200.00 s.f.	7,000 s.f.
					3 Shrubs /10 l.f. (224 required)	224	Evergreen Shrubs		
Total									14,100 s.f.
Requirement is met...	**14,100** s.f. is greater than…			**13,969**					
Northwest: Buffer E-A		25	338	8,450	6,338	10	Med. Evergreen @	100.00 s.f.	1,000 s.f.
Single Family Detached (Group 1)	Transitional Screening 1					10	Lrg. Deciduous@	200.00 s.f.	2,000 s.f.
	Barrier D,E, or F					19	Lrg. Evergreen @	200.00 s.f.	3,800 s.f.
					3 Shrubs /10 l.f. (102 required)	102	Evergreen Shrubs		
Total									6,800 s.f.
Requirement is met...	**6,800** s.f. is greater than…			**6,338**					

PLANT SCHEDULE

Qty.	Symbol	Botanical Name	Common Name	Size	Type	Remarks	Multiplier	10 yr. Canopy Total
		Cat. IV Deciduous Trees						
62	AR	Acer rubrum	Red Maple	2" Cal.	B & B	Uniform branching pattern	Wildlife Benefits: 1.50	18,600
60	CV	Carya ovata	Shagbark hickory	2" Cal.	B & B	Uniform branching pattern	Native: 1.50	18,000
60	QP	Quercus palustris	Pin Oak	2" Cal.	B & B	Uniform branching pattern	Native: 1.50	18,000
		Cat. III Deciduous Trees						
35	CO	Celtis occidentalis	Hackberry	2" Cal.	B & B	Uniform branching pattern	Native: 1.50	7,875
34	NS	Nyssa sylvatica	Black Gum	2" Cal.	B & B	Uniform branching pattern	Native: 1.50	7,650
33	DV	Diospiros virginiana	Persimmon	2" Cal.	B & B	Uniform branching pattern	Native: 1.50	7,425
		Cat. IV Evergreen Trees						
44	MG	Magnolia grandiflora	Southern Magnolia	8' Ht.	B & B	Full to ground, Dense		8,800
54	PR	Pinus rigida	Pitch Pine	8' Ht.	B & B	Full to ground, Dense	Native: 1.50	16,200
54	PT	Pinus taeda	Loblolly Pine	8' Ht.	B & B	Full to ground, Dense	Native: 1.50	16,200
52	PV	Pinus virginiana	Virginia Pine	8' Ht.	B & B	Full to ground, Dense	Native: 1.50	15,600
		Cat. II Evergreen Trees						
54	IO	Ilex opaca	American Holly	8' Ht.	B & B	Full to ground, Dense	Native: 1.50	8,100
54	JV	Juniperus virginiana	Eastern Redcedar	8' Ht.	B & B	Full to ground, Dense	Native 1.50	8,100
55	PP	Picea pungens	Colorado Blue Spruce	8' Ht.	B & B	Full to ground, Dense		5,500
		Shrubs						
186	BS	Buxus x 'Green Mountain'	Green Mountain Boxwood	18"-36" Ht.	B & B	Dense		
204	CL	Chamaecyparis lawsoniana	Lawson False Cypress	18"-36" Ht.	B & B	Dense		
201	IC	Ilex crenata	Japanese Holly	18"-36" Ht.	B & B	Dense		
130	IG	Ilex glabra	Inkberry Holly	18"-36" Ht.	B & B	Dense		
213	KL	Kalmia latifolia	Mountain Laurel	18"-36" Ht.	B & B	Dense		
232	MC	Morella cariliniensis	Southern Bayberry	18"-36" Ht.	B & B	Dense		
							Total (s.f.)	156,050

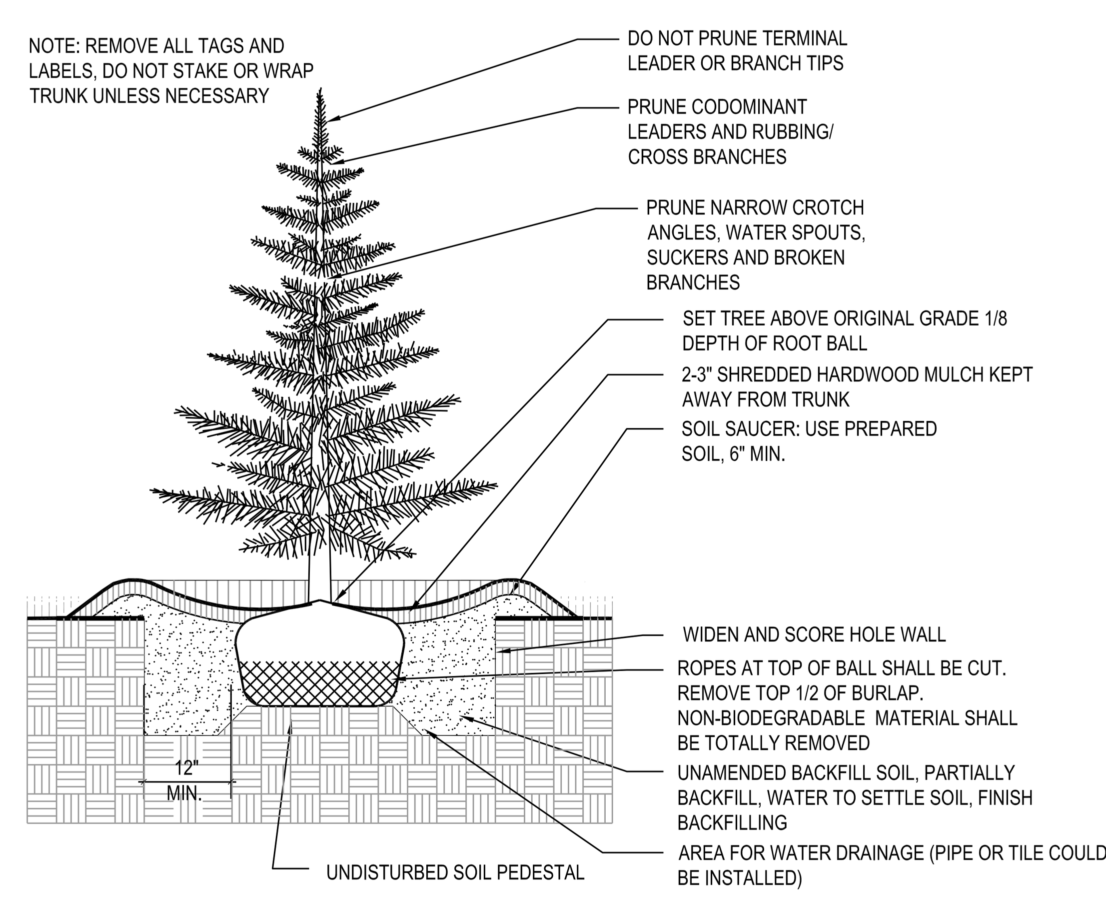
NOTE: IN ORDER TO RECEIVE NATIVE TREE CREDIT, A LETTER CERTIFYING THAT "ALL PLANT MATERIAL USED TO GAIN THE ADDITIONAL CREDITS HAS BEEN PROPAGATED FROM SEED OR NON-GENETICALLY MODIFIED GERMOPLASM COLLECTED WITHIN THE MID-ATLANTIC REGION" IS REQUIRED PRIOR TO INSTALLATION.

NOTE: REMOVE ALL TAGS AND LABELS



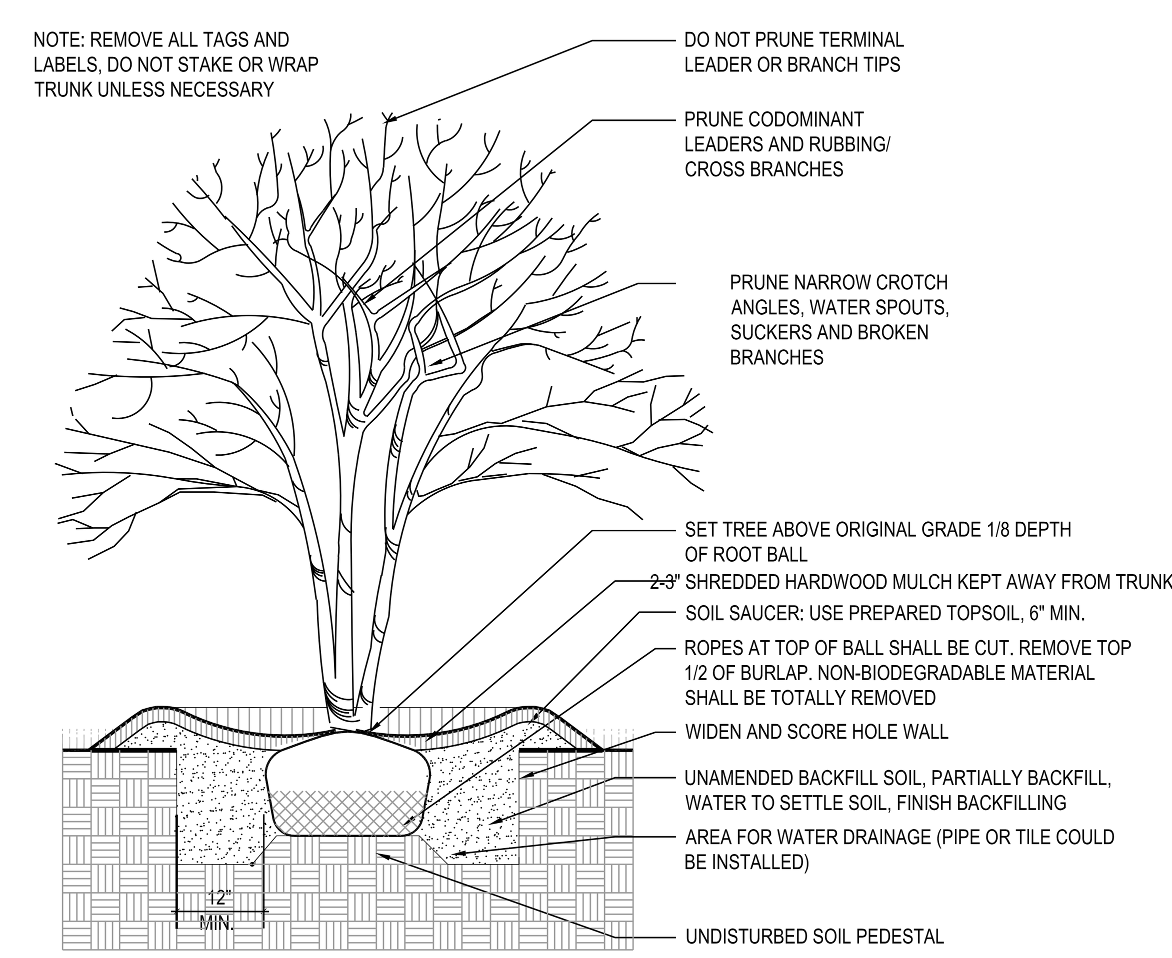
1 TYP. B&B SHRUB PLANTING
N.T.S.

NOTE: REMOVE ALL TAGS AND LABELS, DO NOT STAKE OR WRAP TRUNK UNLESS NECESSARY



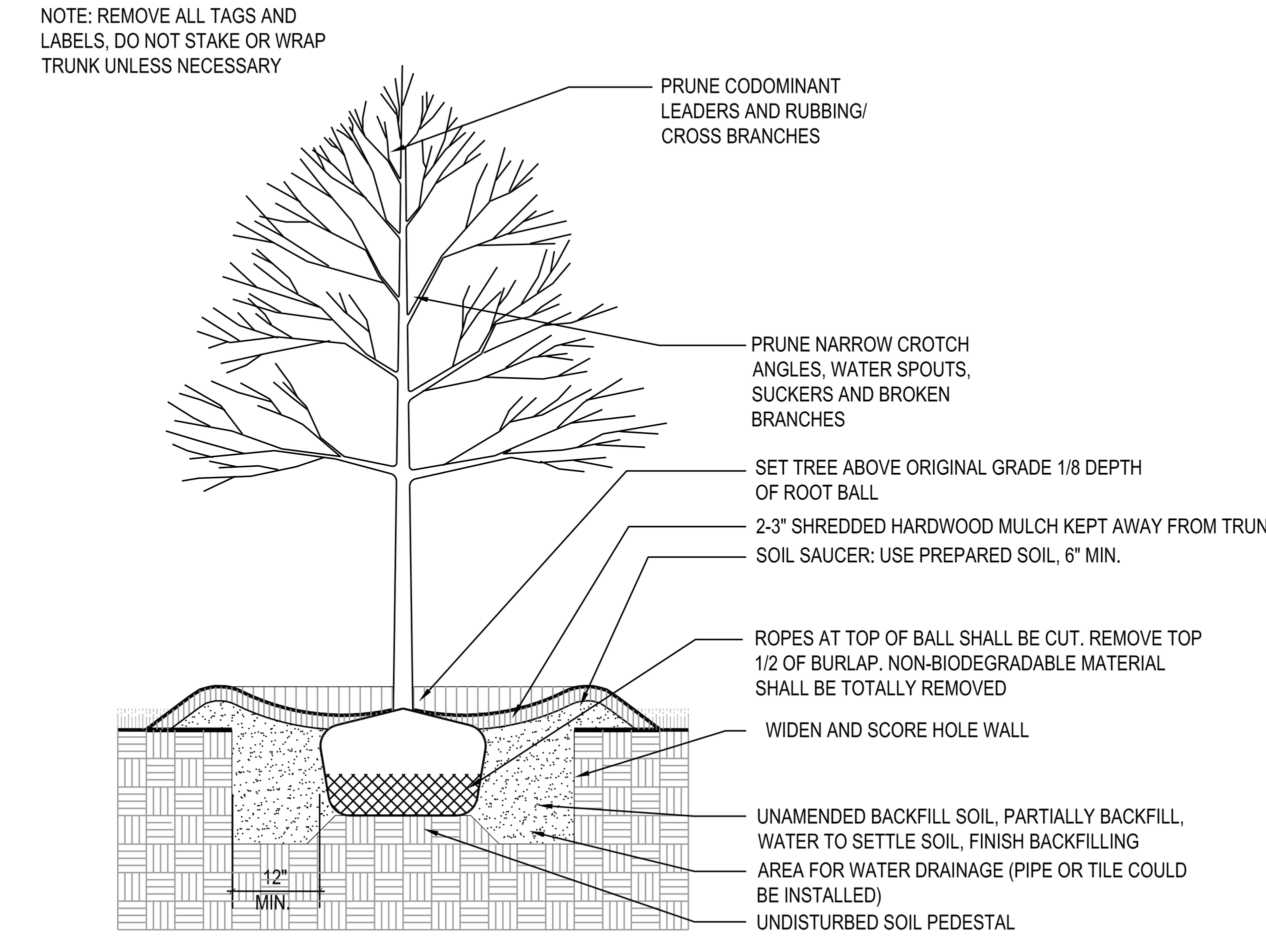
2 EVERGREEN TREE PLANTING
NTS

NOTE: REMOVE ALL TAGS AND LABELS, DO NOT STAKE OR WRAP TRUNK UNLESS NECESSARY



3 ORNAMENTAL TREE PLANTING
NTS

NOTE: REMOVE ALL TAGS AND LABELS, DO NOT STAKE OR WRAP TRUNK UNLESS NECESSARY



4 DECIDUOUS TREE PLANTING
NTS

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
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03/28/13
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01-14-14
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LANDSCAPE DETAILS

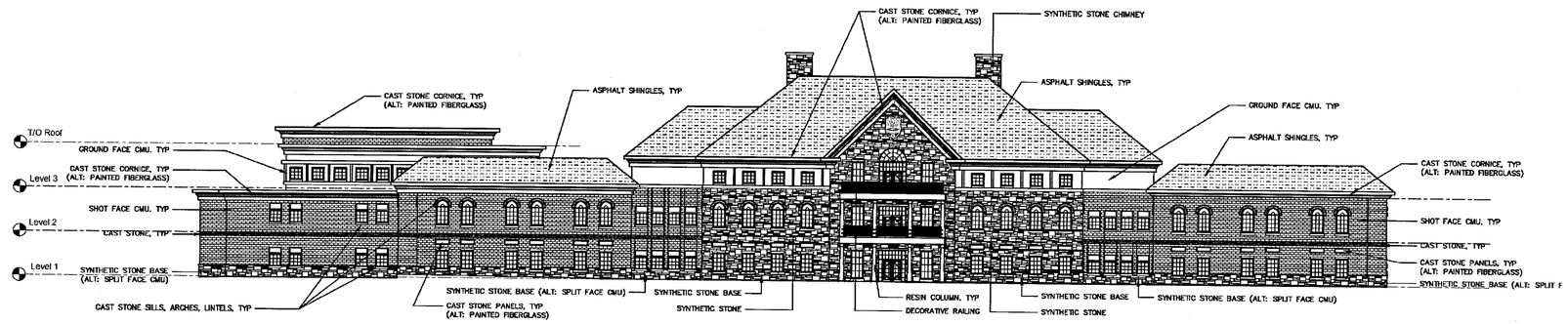
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT

HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

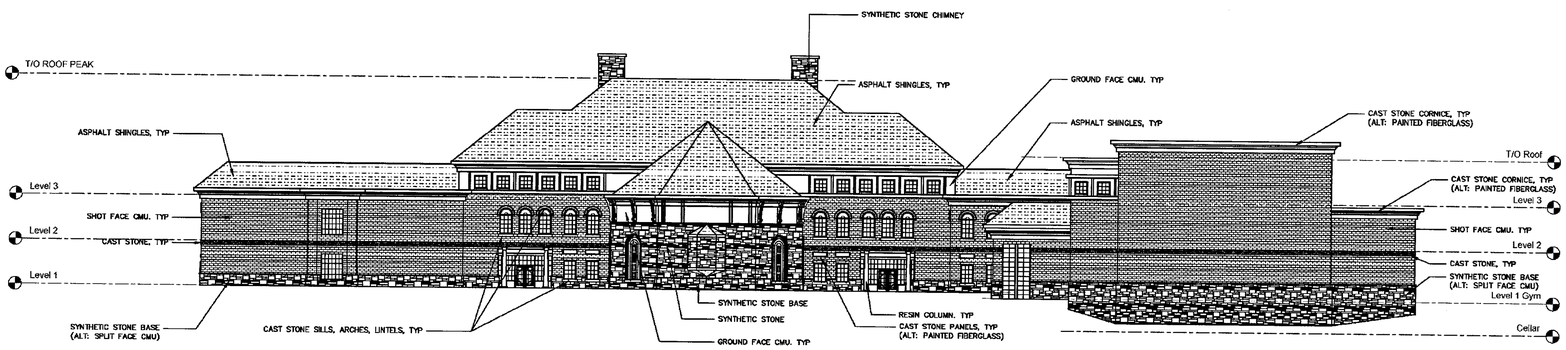
SCALE: 1"=AS NOTED C.I.: N/A DATE: DEC, 2012

SHEET 11 OF 19

SE-12643



1 NORTH ELEVATION
1/16"=1'-0"



2 SOUTH ELEVATION
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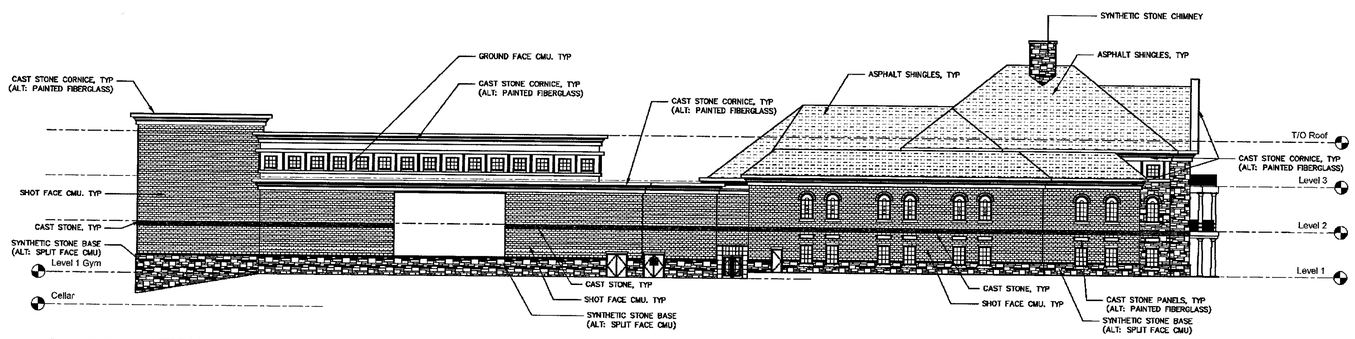

3 EAST ELEVATION
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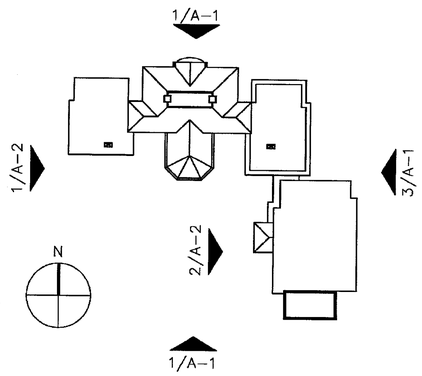

dcs DESIGN

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OAKCREST SCHOOL

No.	DATE	DESCRIPTION

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01-14-14
PROFESSIONAL ENGINEER

PRINT DATE 12/14/12, 3:26 pm

ISSUE DATE

REVISION DATE

PROJECT TITLE
OAKCREST SCHOOL
1627 CROWELL ROAD
VIENNA, VA 22101

PROJECT NO. 312188.01

DRAWING TITLE
EXTERIOR ELEVATIONS

DRAWN BY
CHECKED BY
QA REVIEWED BY

DRAWING NUMBER
A-1
SHEET OF
186_Elevation 1.dwg

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EXTERIOR ELEVATIONS
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: DEC. 2012
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C.L.: N/A

SHEET 12 OF 19

SE-12643

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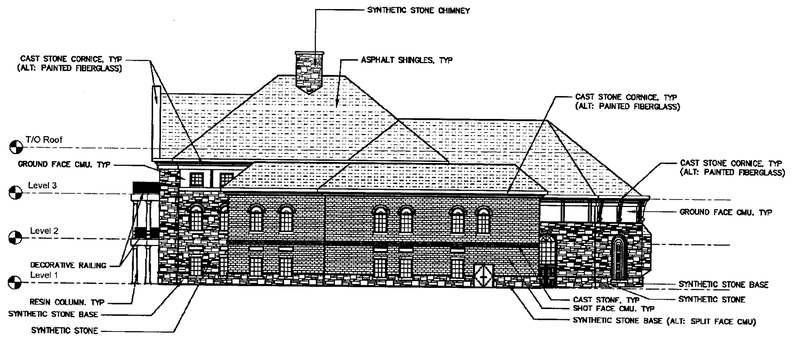
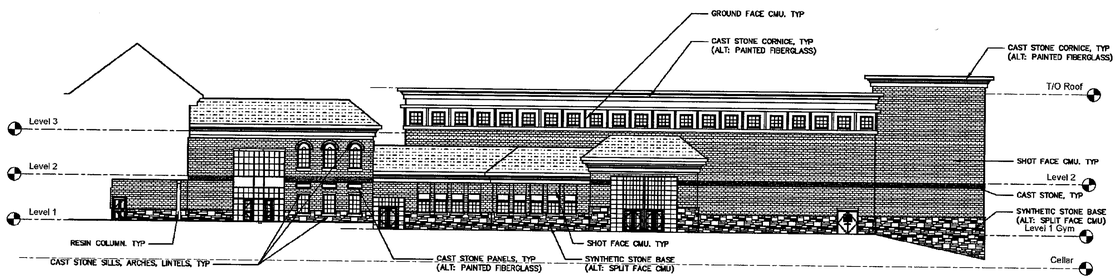
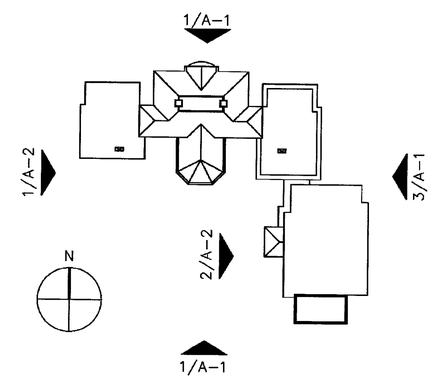


1 WEST ELEVATION
1/16"=1'-0"



2 WEST ELEVATION
1/16"=1'-0"



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OAKCREST SCHOOL

PRINT DATE 12/14/12, 3:26 pm

ISSUE DATE

REVISION DATE

PROJECT TITLE
OAKCREST SCHOOL

1627 CROWELL ROAD
VIENNA, VA 22101

PROJECT NO. 312166.01

DRAWING TITLE
EXTERIOR ELEVATIONS

DRAWN BY
CHECKED BY
QA REVIEWED BY

DRAWING NUMBER
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166_Elevation 2.dwg

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EXTERIOR ELEVATIONS

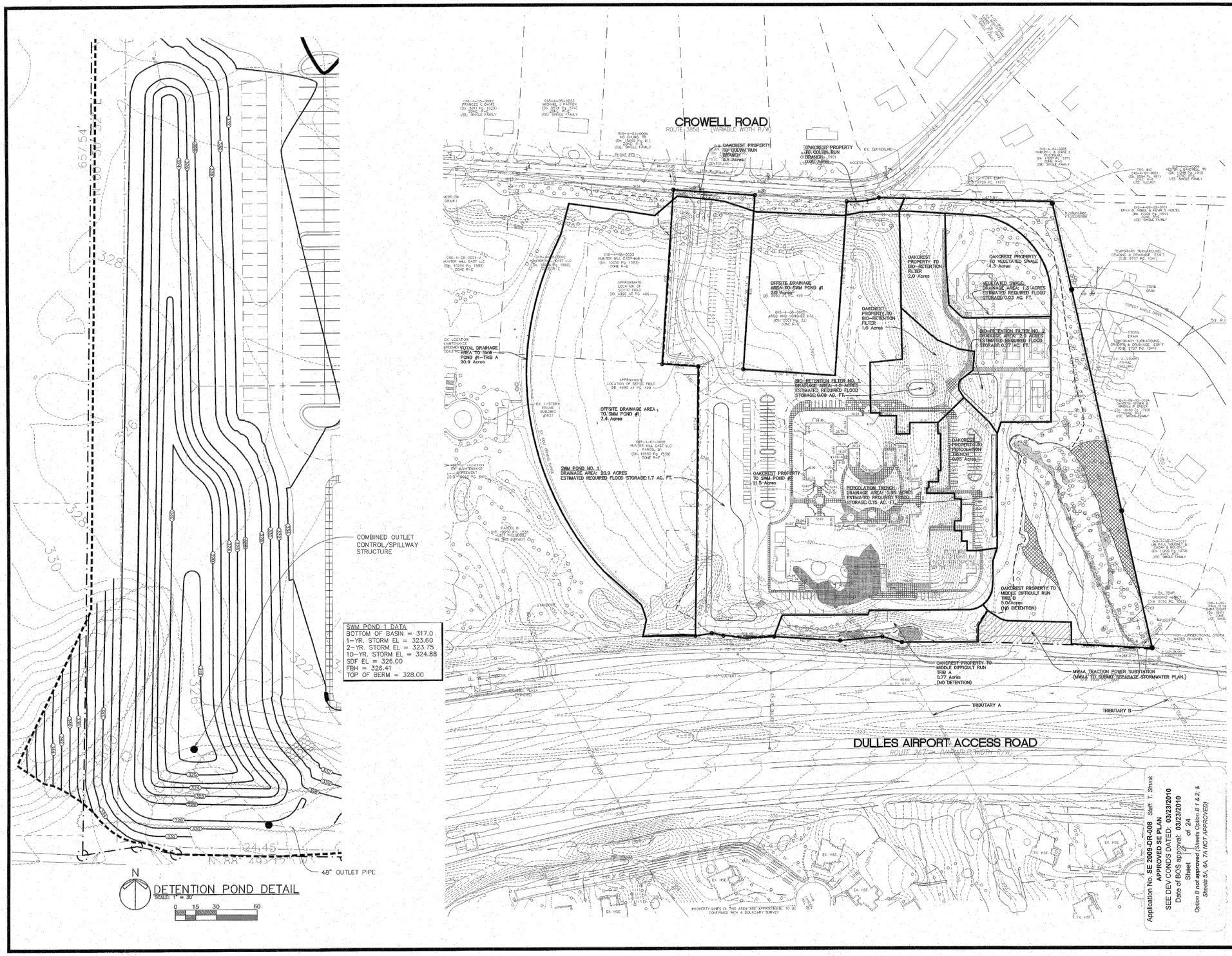
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINA

SCALE: N.T.S.
C.I.: N/A
DATE: DEC, 2012

SHEET
13
OF
19

SE-12643

FOR INFORMATION PURPOSES ONLY!



RELEASE DATES	
1-26-09	SE SUBMITTAL PACKAGE
3-20-09	COUNTY RE - SUBMISSION
7-17-09	REVISION PER STAFF REPORTS
8-24-09	FINAL REVISIONS PER STAFF REPORTS
9-23-09	SE RE - SUBMITTAL
12-16-09	SE RE-SUBMITTAL

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OAKCREST SCHOOL
SPECIAL EXCEPTION PLAT

Checked by: BMH Date:

Project No. 0802017 | Sheet No. 14 of 19

Application No. SE 2009-DR-008 Staff: T. Strunk
APPROVED SE PLAN
SEE DEV CONDS DATED: 03/23/2010
Date of BOS approval: 03/23/2010
Sheet 1 of 24
Option B not approved (Sheets Option B 1 & 2, & Sheets 5A, 6A, 7A NOT APPROVED)

DRAINAGE AREA MAP

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
12/17/12
03/28/13
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DRAINAGE AREA MAP
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=AS NOTED | DATE: DEC, 2012 | C.I.: N/A

SHEET 14 OF 19

SE-12643

FOR INFORMATION PURPOSES ONLY! – NO CHANGE FROM ORIGINAL SE.

SUBASIN DESIGNATION: Tributary A - Oakcrest School In Good Forested Condition
SUBASIN AREA: 12.3 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 67.5%	C 27.2%	D 5.4%	CN
Woods - Good Forested Cond	12.3	100%	30	55	70	77	60.3

RUNOFF CURVE NUMBER = 60

SUBBASIN DESIGNATION: Tributary A - Oakcrest School Developed Property
SUBASIN AREA: 11.5 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 65.2%	C 29.1%	D 5.7%	CN
Oakcrest:							
Lawn Areas - Good (Incl. Overflow Prkg and athletic fields)	5.6	48%	39	61	74	80	31.9
Building	2.2	19%	98	98	98	98	18.9
Asphalt Parking Area	2.8	24%	98	98	98	98	23.9
Concrete/Walks	0.9	8%	98	98	98	98	7.8

RUNOFF CURVE NUMBER = 83

SUBASIN DESIGNATION: Tributary A - Undetained Area
SUBASIN AREA: 0.8 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 100.0%	C 0.0%	D 0.0%	CN
Oakcrest:							
Lawn Areas - Good (Grass Slope)	0.8	100%	39	61	74	80	61.0

RUNOFF CURVE NUMBER = 61

SUBASIN DESIGNATION: Tributary B - Good Forested Condition
SUBASIN AREA: 10.3 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 77.7%	C 0.0%	D 21.9%	CN
Woods	10.3	100%	30	55	70	77	59.6

RUNOFF CURVE NUMBER = 60

SUBASIN DESIGNATION: Tributary B - Post Developed Condition
SUBASIN AREA: 10.3 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 77.7%	C 0.0%	D 21.9%	AREA X CN
Oakcrest:							
Parking Lot / Walks	0.9	9%	98	98	98	98	8.3
Tennis Courts	0.8	8%	98	98	98	98	7.8
Lawn Areas - Good (Incl. P.E. Fields)	3.6	35%	39	61	74	80	22.7
Meadow	2.6	25%	30	58	71	78	15.7
Woods (Tree Preservation Area)	2.4	23%	30	55	70	77	13.9

RUNOFF CURVE NUMBER = 68

SUBASIN DESIGNATION: Tributary B - Percolation Trench
SUBASIN AREA: 0.95 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 100.0%	C 0.0%	D 0.0%	AREA X CN
Parking Lot / Walks	0.74	78%	98	98	98	98	76.3
Lawn Areas - Good (Incl. P.E. Fields)	0.21	22%	39	61	74	80	13.5

RUNOFF CURVE NUMBER = 90

SUBASIN DESIGNATION: Tributary B - Vegetated Swale
SUBASIN AREA: 1.30 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 100.0%	C 0.0%	D 0.0%	AREA X CN
Lawn Areas - Good (Incl. P.E. Fields)	1.30	100%	39	61	74	80	61.0

RUNOFF CURVE NUMBER = 61

SUBASIN DESIGNATION: Tributary B - Bio-Retention Filter No. 1
SUBASIN AREA: 1.00 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 100.0%	C 0.0%	D 0.0%	AREA X CN
Parking Lot / Walks	0.33	33%	98	98	98	98	32.7
Lawn Areas - Good (Incl. P.E. Fields)	0.67	67%	39	61	74	80	40.9

RUNOFF CURVE NUMBER = 74

SUBASIN DESIGNATION: Tributary B - Bio-Retention Filter No. 2
SUBASIN AREA: 2.00 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 100.0%	C 0.0%	D 0.0%	AREA X CN
Tennis Courts	0.8	40%	98	98	98	98	39.2
Lawn Areas - Good (Incl. P.E. Fields)	1.20	60%	39	61	74	80	36.6

RUNOFF CURVE NUMBER = 76

SUBASIN DESIGNATION: Tributary B - Post Developed Condition
SUBASIN AREA: 5.0 ACRES

COVER DESCRIPTION	Area (acres)	Area (%)	HYDROLOGIC SOIL GROUP A 0%	B 54.8%	C 0.0%	D 45.2%	AREA X CN
Meadow	1.1	22%	30	58	71	78	14.7
Woods (Tree Preservation Area)	2.4	48%	30	55	70	77	31.2
Lawn Areas - Good (Incl. P.E. Fields)	1.2	24%	39	61	74	80	16.7
Woods (Trees Per Landcape Plan)	0.3	6%	30	55	70	77	4.2

RUNOFF CURVE NUMBER = 67

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 1

Trib A: Oakcrest -Forested - Good Condition

Description		A	B	C	Totals
Sheet Flow					
Manning's n-value	=	0.400	0.400	0.011	
Flow length (ft)	=	65.0	235.0	0.0	
Two-year 24-hr precip. (in)	=	3.20	3.20	0.00	
Land slope (%)	=	22.00	3.20	0.00	
Travel Time (min)	=	5.83 +	35.25 +	0.00 =	41.08
Shallow Concentrated Flow					
Flow length (ft)	=	1553.00	0.00	0.00	
Watercourse slope (%)	=	2.50	0.00	0.00	
Surface description	=	Unpaved	Paved	Paved	
Average velocity (ft/s)	=	2.55	0.00	0.00	
Travel Time (min)	=	10.15 +	0.00 +	0.00 =	10.15
Channel Flow					
X sectional flow area (sqft)	=	0.00	0.00	0.00	
Wetted perimeter (ft)	=	0.00	0.00	0.00	
Channel slope (%)	=	0.00	0.00	0.00	
Manning's n-value	=	0.015	0.015	0.015	
Velocity (ft/s)	=	0.00	0.00	0.00	
Flow length (ft)	=	0.0	0.0	0.0	
Travel Time (min)	=	0.00 +	0.00 +	0.00 =	0.00
Total Travel Time, Tc					51.22 min

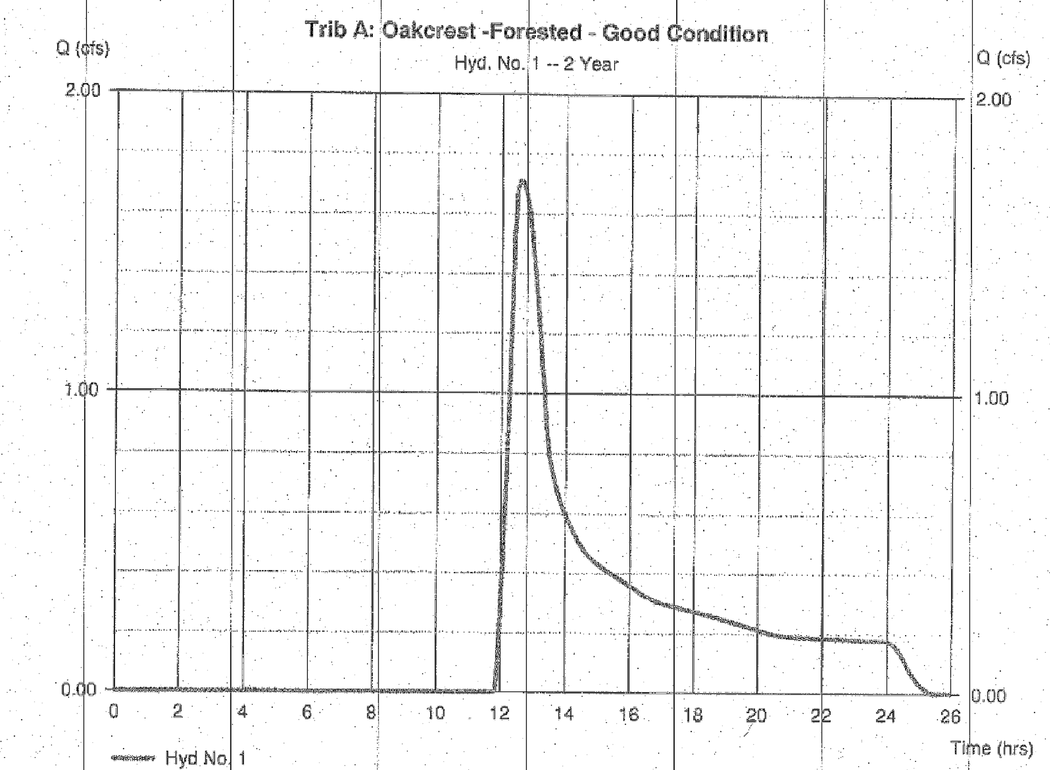
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 Thursday, Aug 20, 2009

Hyd. No. 1

Trib A: Oakcrest -Forested - Good Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 1.712 cfs
Storm frequency	= 2 yrs	Time to peak	= 755 min
Time interval	= 5 min	Hyd. volume	= 18,495 cuft
Drainage area	= 12.300 ac	Curve number	= 60
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 51.20 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



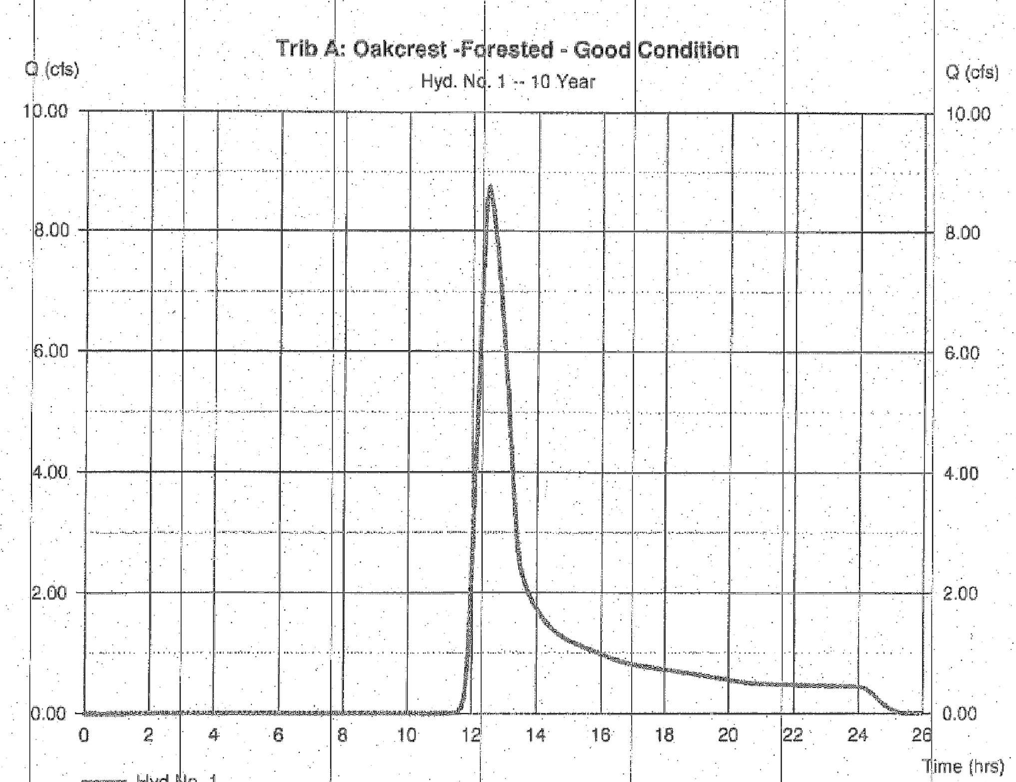
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 Thursday, Aug 20, 2009

Hyd. No. 1

Trib A: Oakcrest -Forested - Good Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 8.745 cfs
Storm frequency	= 10 yrs	Time to peak	= 750 min
Time interval	= 5 min	Hyd. volume	= 64,507 cuft
Drainage area	= 12.300 ac	Curve number	= 60
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 51.20 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 3

Trib A - Offsite

Description		A	B	C	Totals
Sheet Flow					
Manning's n-value	=	0.150	0.150	0.011	
Flow length (ft)	=	50.0	250.0	0.0	
Two-year 24-hr precip. (in)	=	3.20	3.20	0.00	
Land slope (%)	=	22.00	3.00	0.00	
Travel Time (min)	=	2.16 +	17.34 +	0.00 =	19.50
Shallow Concentrated Flow					
Flow length (ft)	=	660.00	250.00	0.00	
Watercourse slope (%)	=	2.00	3.50	0.00	
Surface description	=	Unpaved	Unpaved	Paved	
Average velocity (ft/s)	=	2.28	3.02	0.00	
Travel Time (min)	=	4.82 +	1.38 +	0.00 =	6.20
Channel Flow					
X sectional flow area (sqft)	=	0.00	0.00	0.00	
Wetted perimeter (ft)	=	0.00	0.00	0.00	
Channel slope (%)	=	0.00	0.00	0.00	
Manning's n-value	=	0.015	0.015	0.015	
Velocity (ft/s)	=	0.00	0.00	0.00	
Flow length (ft)	=	0.0	0.0	0.0	
Travel Time (min)	=	0.00 +	0.00 +	0.00 =	0.00
Total Travel Time, Tc					25.70 min

Hydrograph Report

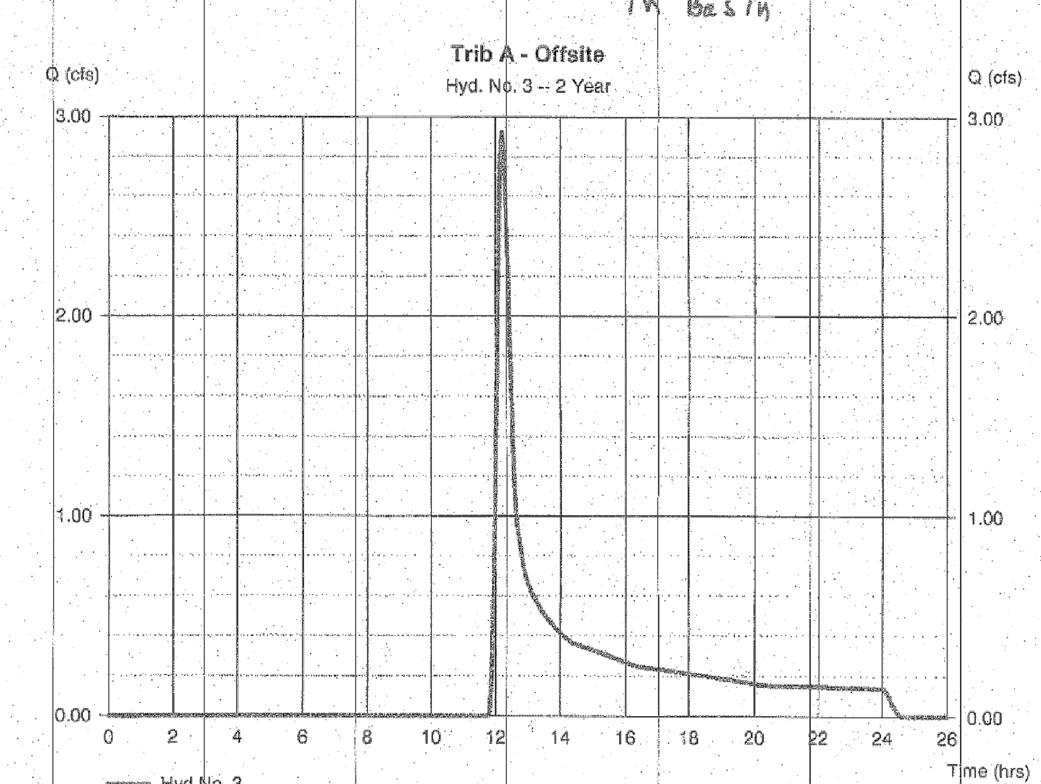
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 Thursday, Aug 20, 2009

Hyd. No. 3

Trib A - Offsite

Hydrograph type	= SCS Runoff	Peak discharge	= 2.922 cfs
Storm frequency	= 2 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 15,808 cuft
Drainage area	= 9.200 ac	Curve number	= 62
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.70 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

This flow to be passed thru in Basin



Application No. SE 2009-DR-008 Staff: T. Strunk
APPROVED SE PLAN
SEE DEV CONDS DATED: 03/23/2010
Date of BOS approval: 03/23/2010
Sheet 20 of 24
Option B not approved (Sheets Option B 1 & 2; & Sheets 5A, 6A, 7A NOT APPROVED)

RELEASE DATES

8-24-09	FINAL REVISIONS PER STAFF REPORTS
9-23-09	SE RE - SUBMISSION
12-16-09	SE RE - SUBMISSION

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CIVIL ENGINEERS

FAIRFAX COUNTY, VIRGINIA

OAKCREST SCHOOL SPECIAL EXCEPTION PLAT

Checked by: BMH Date:

Project No. 0802017 Sheet No. 15 of 19

STORM WATER CALCULATIONS

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No.	DATE	DESCRIPTION

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PLAN DATE
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STORMWATER CALCULATIONS
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINA

SCALE: 1"=AS NOTED C.I.: N/A DATE: DEC, 2012

SHEET 15 OF 19

SE-12643

Hydrograph Report

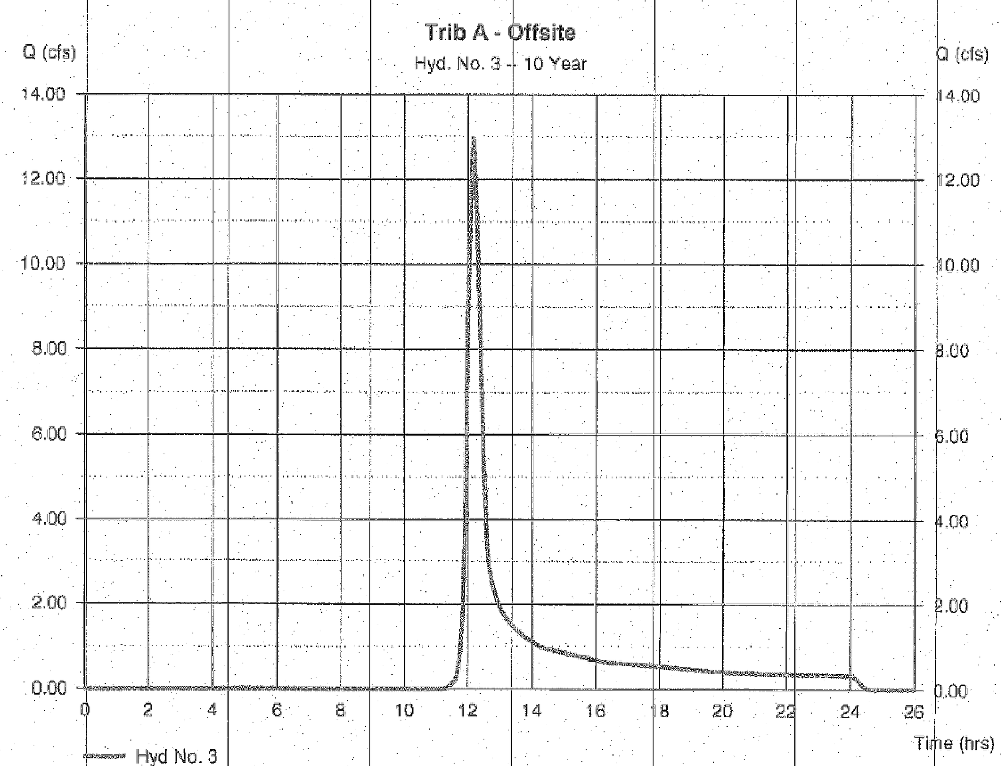
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 3

Trib A - Offsite

Hydrograph type	= SCS Runoff	Peak discharge	= 12.95 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 51,392 cuft
Drainage area	= 9.200 ac	Curve number	= 62
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.70 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

This flow to be bypassed in basin.



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 2

Proposed Trib. A

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.016		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.00		0.00		0.00		
Travel Time (min)	=	3.94	+	0.00	+	0.00	=	3.94
Shallow Concentrated Flow								
Flow length (ft)	=	0.00		0.00		0.00		
Watercourse slope (%)	=	0.00		0.00		0.00		
Surface description	=	Paved		Paved		Paved		
Average velocity (ft/s)	=	0.00		0.00		0.00		
Travel Time (min)	=	0.00	+	0.00	+	0.00	=	0.00
Channel Flow								
X sectional flow area (sqft)	=	2.40		0.00		0.00		
Wetted perimeter (ft)	=	3.00		0.00		0.00		
Channel slope (%)	=	0.01		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.60		0.00		0.00		
Flow length (ft)	=	320.0		0.0		0.0		
Travel Time (min)	=	8.82	+	0.00	+	0.00	=	8.82

Total Travel Time, Tc .... 12.76 min

Hydrograph Report

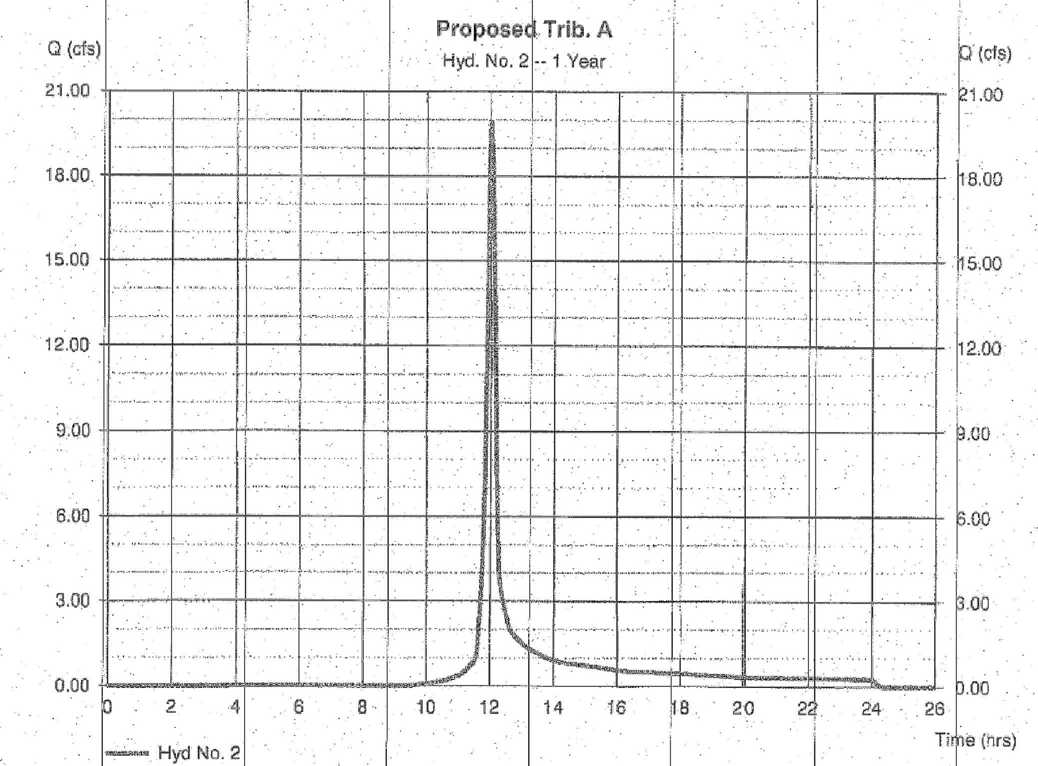
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 2

Proposed Trib. A

Hydrograph type	= SCS Runoff	Peak discharge	= 19.95 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 52,051 cuft
Drainage area	= 11.500 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.80 min
Total precip.	= 2.70 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Extended Detention volume over 24 hours → Hyd. volume
→ 3" orifice



Hydrograph Report

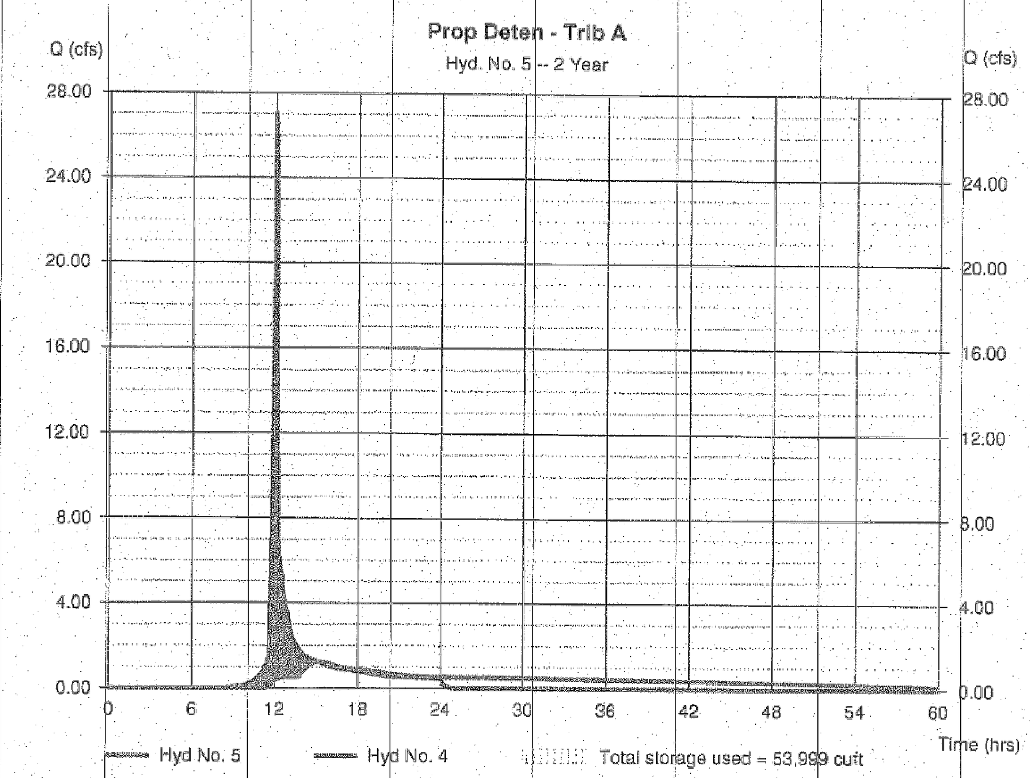
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 5

Prop Deten - Trib A

Hydrograph type	= Reservoir	Peak discharge	= 1.218 cfs
Storm frequency	= 2 yrs	Time to peak	= 914 min
Time interval	= 2 min	Hyd. volume	= 82,347 cuft
Inflow hyd. No.	= 4 - Trib A - Comb Offsite/Onsite	Max. Elevation	= 323.75 ft
Reservoir name	= Proposed SWM POND 1	Max. Storage	= 53,999 cuft

Storage Indication method used.



Hydrograph Report

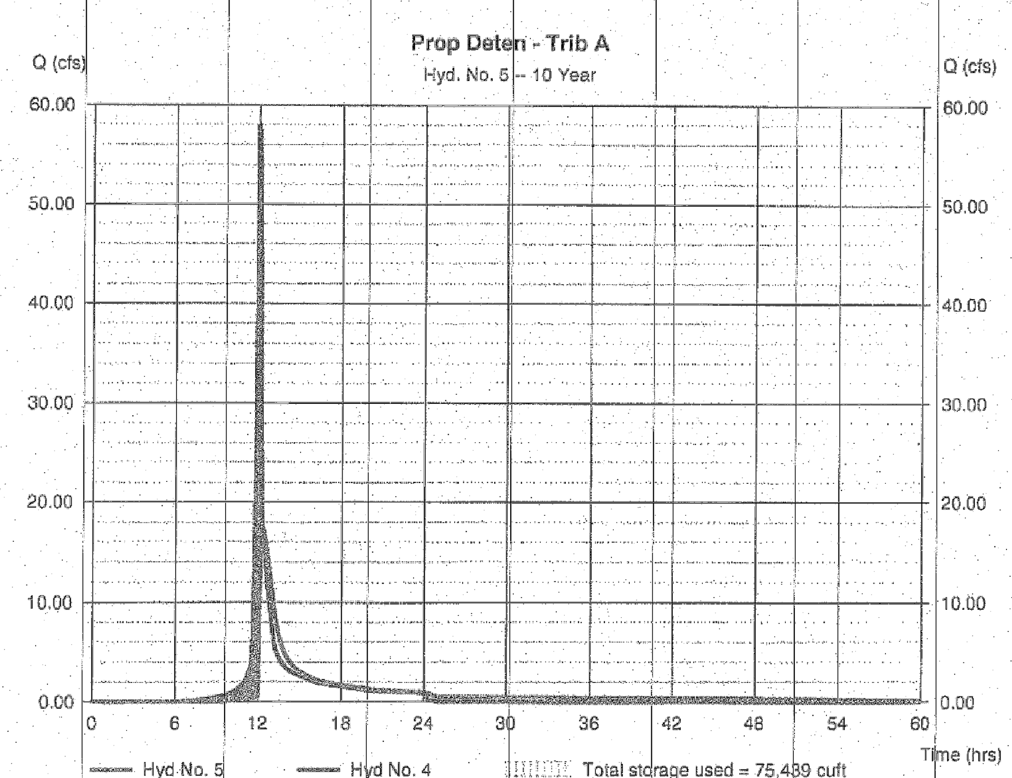
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 5

Prop Deten - Trib A

Hydrograph type	= Reservoir	Peak discharge	= 17.39 cfs
Storm frequency	= 10 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 193,678 cuft
Inflow hyd. No.	= 4 - Trib A - Comb Offsite/Onsite	Max. Elevation	= 324.88 ft
Reservoir name	= Proposed SWM POND 1	Max. Storage	= 75,439 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Pond No. 1 - Proposed SWM POND 1

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 317.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	317.00	399	0	0
1.00	318.00	2,009	1,204	1,204
2.00	319.00	5,106	3,557	4,761
3.00	320.00	7,124	6,115	10,876
4.00	321.00	8,854	7,989	18,865
5.00	322.00	11,153	10,004	28,868
6.00	323.00	14,698	12,926	41,794
7.00	324.00	18,038	16,368	58,162
8.00	325.00	21,441	19,740	77,901
9.00	326.00	24,900	23,171	101,072
10.00	327.00	28,417	26,659	127,730
11.00	328.00	31,990	30,204	157,934

Culvert / Orifice Structures

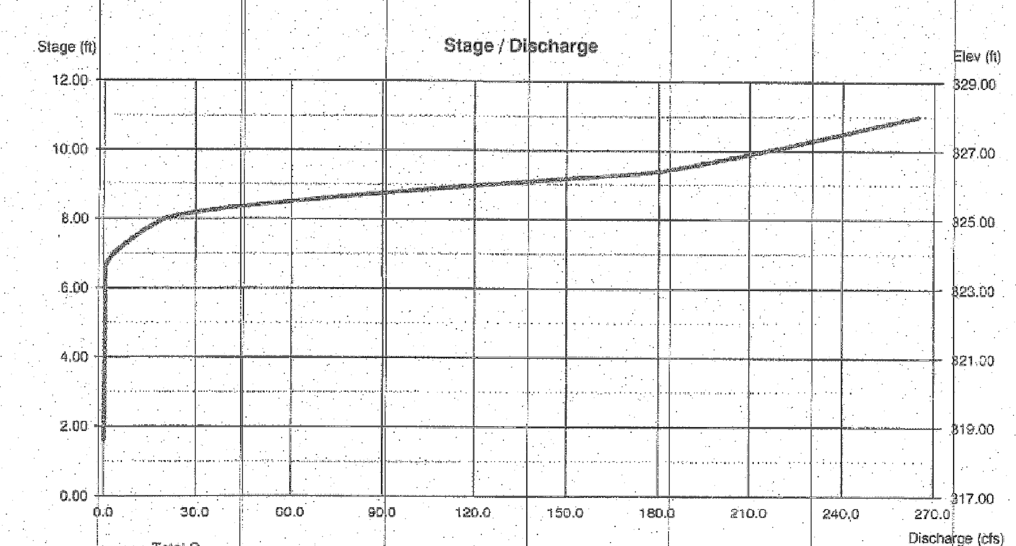
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 48.00	3.00	0.00	0.00
Span (in)	= 48.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 317.00	317.00	0.00	0.00
Length (ft)	= 269.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 24.00	3.50	0.00	0.00
Crest El. (ft)	= 326.00	323.60	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)
TW Elev. (ft) = 318.50

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Pond No. 1 - Proposed SWM POND 1

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 317.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	317.00	399	0	0
1.00	318.00	2,009	1,204	1,204
2.00	319.00	5,106	3,557	4,761
3.00	320.00	7,124	6,115	10,876
4.00	321.00	8,854	7,989	18,865
5.00	322.00	11,153	10,004	28,868
6.00	323.00	14,698	12,926	41,794
7.00	324.00	18,038	16,368	58,162
8.00	325.00	21,441	19,740	77,901
9.00	326.00	24,900	23,171	101,072
10.00	327.00	28,417	26,659	127,730
11.00	328.00	31,990	30,204	157,934

Culvert / Orifice Structures

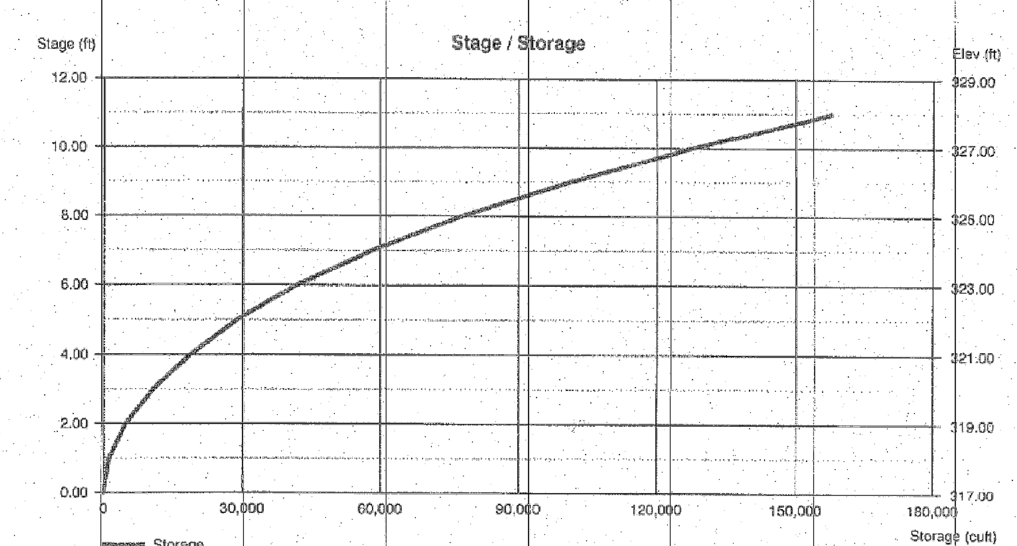
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 48.00	3.00	0.00	0.00
Span (in)	= 48.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 317.00	317.00	0.00	0.00
Length (ft)	= 269.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 24.00	3.50	0.00	0.00
Crest El. (ft)	= 326.00	323.60	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Riser	Rect	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)
TW Elev. (ft) = 318.50

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Application No. SE 2009-DR-008 Staff: T. Strunk
APPROVED SE PLAN
SEE DEV CONDS DATED: 03/23/2010
Date of BOS approval: 03/23/2010
Sheet 21 of 24
Option B not approved (Sheets Option B 1 & 2; & Sheets 5A, 6A, 7A NOT APPROVED)

RELEASE DATES	
8-24-09	FINAL REVISIONS PER STAFF REPORTS
9-23-09	SE RE - SUBMISSION
12-16-09	SE RE - SUBMISSION

Bouma Construction

paradigm design inc.
550 3 Mile Road N.W., Suite B, Grand Rapids, MI 49544
Phone: (616) 785 - 5656
Fax: (616) 785 - 5657
www.ParadigmAE.com
CIVIL ENGINEERS

FAIRFAX COUNTY, VIRGINIA

OAKCREST SCHOOL SPECIAL EXCEPTION PLAT

Checked by: BMH Date:

Project No. 0802017 — Sheet No. 16 of 19

STORM WATER CALCULATIONS

FOR INFORMATION PURPOSES ONLY! - NO CHANGE FROM ORIGINAL SE.

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE: 12/17/12, 03/28/13, 06/04/13, 07/18/13, 09/05/13, 01/14/14

urban — Urban, Ltd., 4200 D Technology Court, Chantilly, Virginia 20151, Tel. 703.642.2306, www.urban-ltd.com — Planners Engineers Landscape Architects Land Surveyors

COMMONWEALTH OF VIRGINIA — ROBERT W. BROWN, Lic. No. 037041 — PROFESSIONAL ENGINEER — 01-14-14

STORMWATER CALCULATIONS
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINA

DATE: DEC, 2012
SCALE: 1"=AS NOTED C.I.: N/A

SHEET 16 OF 19

SE-12643

Hydrograph Report

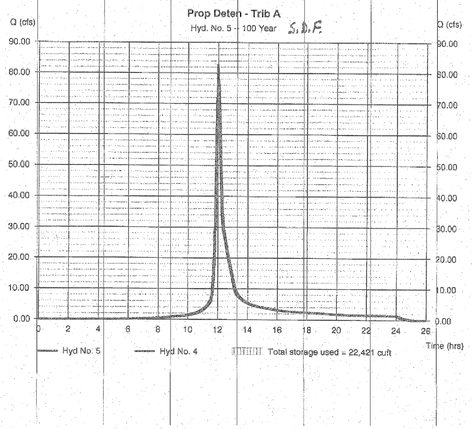
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 5

Prop Deten - Trib A

Hydrograph type	= Reservoir	Peak discharge	= 76.26 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 5 min	Hyd. volume	= 308,840 cuft
Inflow hyd. No.	= 4 - Trib A - Comb Offsite/Onsite	Max. Elevation	= 326.00 ft
Reservoir name	= SWM Pond 1 - SDF-FBH	Max. Storage	= 22,421 cuft

Storage indication method used.



Hydrograph Report

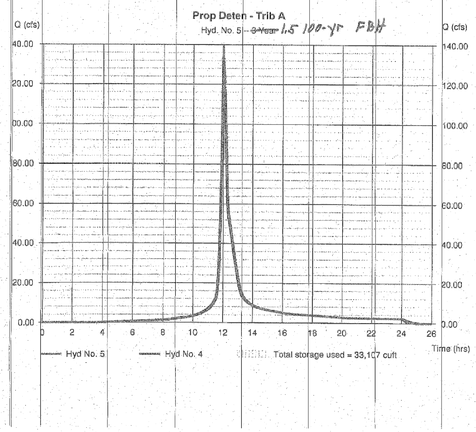
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 5

Prop Deten - Trib A

Hydrograph type	= Reservoir	Peak discharge	= 128.76 cfs
Storm frequency	= ~~5 yrs~~ 1.5 Yr.	Time to peak	= 725 min
Time interval	= 5 min	Hyd. volume	= 544,586 cuft
Inflow hyd. No.	= 4 - Trib A - Comb Offsite/Onsite	Max. Elevation	= 326.41 ft
Reservoir name	= SWM Pond 1 - SDF-FBH	Max. Storage	= 33,107 cuft

Storage indication method used.



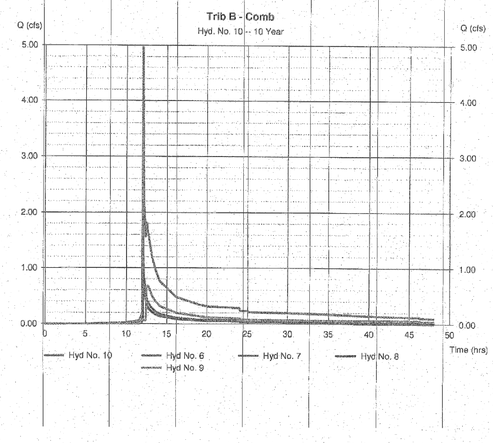
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 10

Trib B - Comb

Hydrograph type	= Combine	Peak discharge	= 4.965 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 1 min	Hyd. volume	= 40,847 cuft
Inflow hyds.	= 6, 7, 8, 9	Contrib. drain. area	= 0.000 ac



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 1

Trib B - Good Forested Condition

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	3.76		0.00		0.00		
Travel Time (min)	=	40.17	+	0.00	+	0.00	=	40.17
Shallow Concentrated Flow								
Flow length (ft)	=	330.00		537.00		0.00		
Watercourse slope (%)	=	3.90		4.50		0.00		
Surface description	=	Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=	3.19		3.42		0.00		
Travel Time (min)	=	1.73	+	2.61	+	0.00	=	4.34
Channel Flow								
X sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	=	0.00	+	0.00	+	0.00	=	0.00

Total Travel Time, Tc ..... 44.51 min

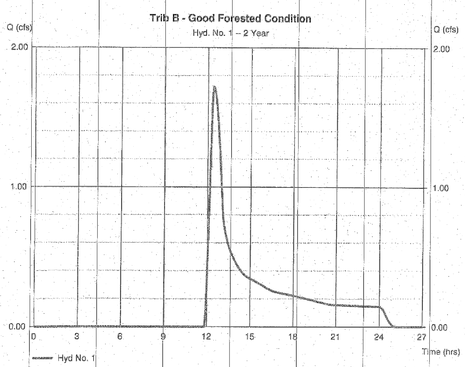
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 1

Trib B - Good Forested Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 1.718 cfs
Storm frequency	= 2 yrs	Time to peak	= 744 min
Time interval	= 3 min	Hyd. volume	= 15,256 cuft
Drainage area	= 10.300 ac	Curve number	= 60
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 44.50 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



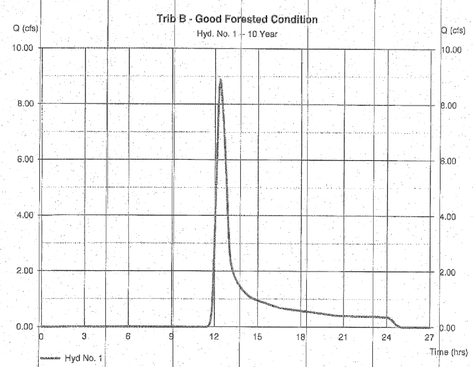
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 1

Trib B - Good Forested Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 8.879 cfs
Storm frequency	= 10 yrs	Time to peak	= 741 min
Time interval	= 3 min	Hyd. volume	= 53,070 cuft
Drainage area	= 10.300 ac	Curve number	= 60
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 44.50 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 2

Percolation Trench

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.016		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.00		0.00		0.00		
Travel Time (min)	=	3.94	+	0.00	+	0.00	=	3.94
Shallow Concentrated Flow								
Flow length (ft)	=	0.00		0.00		0.00		
Watercourse slope (%)	=	0.00		0.00		0.00		
Surface description	=	Paved		Paved		Paved		
Average velocity (ft/s)	=	0.00		0.00		0.00		
Travel Time (min)	=	0.00	+	0.00	+	0.00	=	0.00
Channel Flow								
X sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	=	0.00	+	0.00	+	0.00	=	0.00

Total Travel Time, Tc ..... 3.94 min

Application No. SE 2009-DR-008 Staff: T. Shunk
APPROVED SE PLAN
SEE DEV CONDS DATED: 03/23/2010
Date of BOS approval: 03/23/2010
Sheet 22 of 24
Option B not approved (Sheets Option B 1 & 2, & Sheets 9A, 9A, 7A NOT APPROVED)

RELEASE DATES	
8-24-09	FINAL REVISIONS PER STAFF REPORTS
9-23-09	SE RE - SUBMISSION
12-16-09	SE RE - SUBMISSION

Bouma Construction

paradigm design inc.
550 3 Mile Road N.W. Suite B Grand Rapids, MI 49544
Phone: (616) 785 - 5656 Fax: (616) 785 - 5657 www.ParadigmAE.com
CIVIL ENGINEERS

FAIRFAX COUNTY, VIRGINIA

OAKCREST SCHOOL
SPECIAL EXCEPTION PLAT

Checked by: BMH Date:

Project No. 0802017 — Sheet No. 17 of 19

STORM WATER CALCULATIONS

No.	DATE	REVISIONS DESCRIPTION

PLAN DATE: 12/17/12, 03/28/13, 06/04/13, 07/18/13, 09/04/13, 01/14/14

urban
Urban, Ltd.
4200-D Technology Court
Chantilly, Virginia 20151
(703) 642-1286
www.urban-ltd.com
Planners Engineers Landscape Architects Land Surveyors

COMMONWEALTH OF VIRGINIA — ROBERT W. BROWN — Lic. No. 029040 — PROFESSIONAL ENGINEER — 01-14-14

STORMWATER CALCULATIONS

OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=AS NOTED — C.I.: N/A — DATE: DEC, 2012

SHEET 17 OF 19

SE-12643

FOR INFORMATION PURPOSES ONLY! – NO CHANGE FROM ORIGINAL SE.

Hydrograph Report

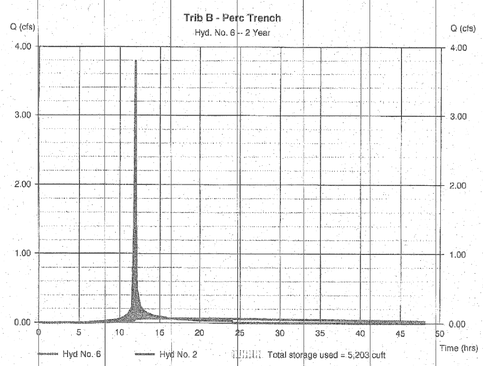
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 6

Trib B - Perc Trench

Hydrograph type	= Reservoir	Peak discharge	= 0.061 cfs
Storm frequency	= 2 yrs	Time to peak	= 992 min
Time interval	= 1 min	Hyd. volume	= 6,435 cuft
Inflow hyd. No.	= 2 - Percolation Trench	Max. Elevation	= 325.42 ft
Reservoir name	= Trib B - Perc Trench	Max. Storage	= 5,203 cuft

Storage Indication method used.



Hydrograph Report

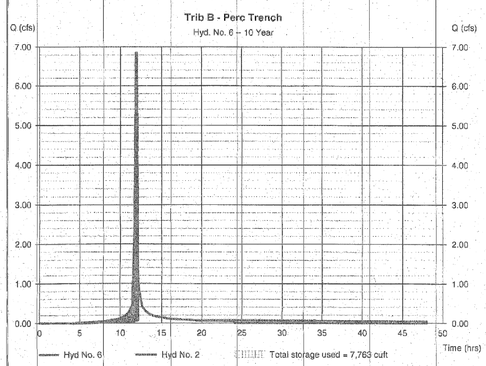
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 6

Trib B - Perc Trench

Hydrograph type	= Reservoir	Peak discharge	= 1.217 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 11,549 cuft
Inflow hyd. No.	= 2 - Percolation Trench	Max. Elevation	= 328.09 ft
Reservoir name	= Trib B - Perc Trench	Max. Storage	= 7,763 cuft

Storage Indication method used.



Hydrograph Report

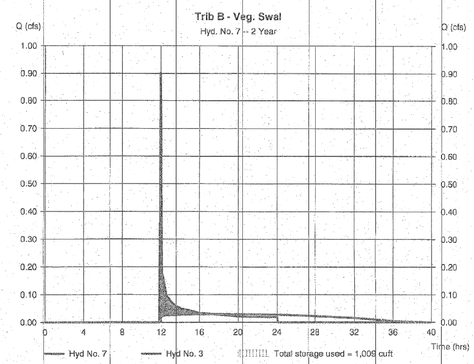
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 7

Trib B - Veg. Swal

Hydrograph type	= Reservoir	Peak discharge	= 0.030 cfs
Storm frequency	= 2 yrs	Time to peak	= 1054 min
Time interval	= 1 min	Hyd. volume	= 2,062 cuft
Inflow hyd. No.	= 3 - Trib B - Vegetated Swale	Max. Elevation	= 339.31 ft
Reservoir name	= Trib B - Veg. Swale	Max. Storage	= 1,009 cuft

Storage Indication method used.



Hydrograph Report

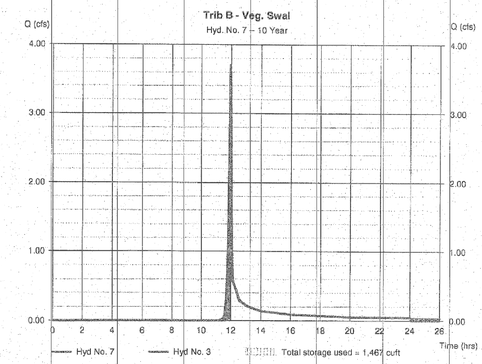
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 7

Trib B - Veg. Swal

Hydrograph type	= Reservoir	Peak discharge	= 3.405 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 1 min	Hyd. volume	= 7,001 cuft
Inflow hyd. No.	= 3 - Trib B - Vegetated Swale	Max. Elevation	= 339.69 ft
Reservoir name	= Trib B - Veg. Swale	Max. Storage	= 1,467 cuft

Storage Indication method used.



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 4

Trib B - Bio Filter 1

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.016		0.011		0.011		
Flow length (ft)	=	50.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.00		0.00		0.00		
Travel Time (min)	=	**0.94**	+	**0.00**	+	**0.00**	=	**0.94**
Shallow Concentrated Flow								
Flow length (ft)	=	30.00		0.00		0.00		
Watercourse slope (%)	=	2.00		0.00		0.00		
Surface description	=	Paved		Paved		Paved		
Average velocity (ft/s)	=	2.87		0.00		0.00		
Travel Time (min)	=	**0.17**	+	**0.00**	+	**0.00**	=	**0.17**
Channel Flow								
X sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	=	**0.00**	+	**0.00**	+	**0.00**	=	**0.00**

Total Travel Time, Tc ..... **1.11 min**

Hydrograph Report

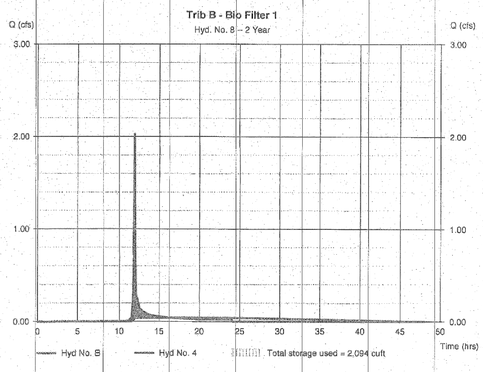
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 8

Trib B - Bio Filter 1

Hydrograph type	= Reservoir	Peak discharge	= 0.041 cfs
Storm frequency	= 2 yrs	Time to peak	= 982 min
Time interval	= 1 min	Hyd. volume	= 3,502 cuft
Inflow hyd. No.	= 4 - Trib B - Bio Filter 1	Max. Elevation	= 331.49 ft
Reservoir name	= Trib B - Bio Filter 1	Max. Storage	= 2,094 cuft

Storage Indication method used.



Hydrograph Report

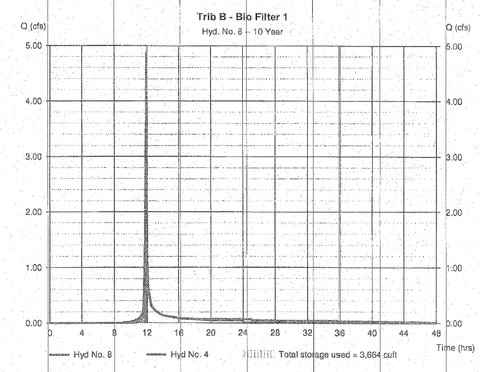
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 8

Trib B - Bio Filter 1

Hydrograph type	= Reservoir	Peak discharge	= 1.792 cfs
Storm frequency	= 10 yrs	Time to peak	= 721 min
Time interval	= 1 min	Hyd. volume	= 8,386 cuft
Inflow hyd. No.	= 4 - Trib B - Bio Filter 1	Max. Elevation	= 336.12 ft
Reservoir name	= Trib B - Bio Filter 1	Max. Storage	= 3,664 cuft

Storage Indication method used.



Application No.: SE 2009-DR-008 Staff: T. Strunk
APPROVED SE PLAN
SEE DEV CONDS DATED: 03/23/2010
Date of BOS approval: 03/23/2010
Sheet 2 of 24
Option B not approved (Sheets Option B1 & 2 & Sheets 5A, 5A.1, 7A NOT APPROVED)

RELEASE DATES	
8-24-09	FINAL REVISIONS PER STAFF REPORTS
9-23-09	SE RE - SUBMISSION
12-16-09	SE RE - SUBMISSION

Bouma Construction

paradigm design inc.
350 9 Mile Road N.W. Suite B Grand Rapids, MI 49544
Phone: (616) 785 - 5656 Fax: (616) 785 - 5657 www.ParadigmAE.com
CIVIL ENGINEERS

FAIRFAX COUNTY, VIRGINIA

OAKCREST SCHOOL
SPECIAL EXCEPTION PLAT

Checked by: BMH Date:

Project No. 0802017 | Sheet No. 18 of 19

STORM WATER CALCULATIONS

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE: 12/17/12, 03/28/13, 06/04/13, 07/18/13, 09/04/13, 01/14/14

urban
Urban, Ltd.
4200-D Technology Court
Chantilly, Virginia 20151
(703) 642-1286
www.urban-ltd.com
Planners Engineers Landscape Architects Land Surveyors

COMMONWEALTH OF VIRGINIA — ROBERT W. BROWN — Lic. No. 029041 — PROFESSIONAL ENGINEER — 01-14-14

STORMWATER CALCULATIONS
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=AS NOTED | C.I.: N/A | DATE: DEC. 2012

SHEET 18 OF 19

SE-12643

FOR INFORMATION PURPOSES ONLY! – NO CHANGE FROM ORIGINAL SE.

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 5

Trib B - Bio-Retention No.2

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.016		0.011		0.011		
Flow length (ft)	=	300.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.00		0.00		0.00		
Travel Time (min)	=	3.94	+	0.00	+	0.00	=	3.94
Shallow Concentrated Flow								
Flow length (ft)	=	50.00		0.00		0.00		
Watercourse slope (%)	=	5.00		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.61		0.00		0.00		
Travel Time (min)	=	0.23	+	0.00	+	0.00	=	0.23
Channel Flow								
X-sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	=	0.00	+	0.00	+	0.00	=	0.00

Total Travel Time, Tc ..... **4.17 min**

Hydrograph Report

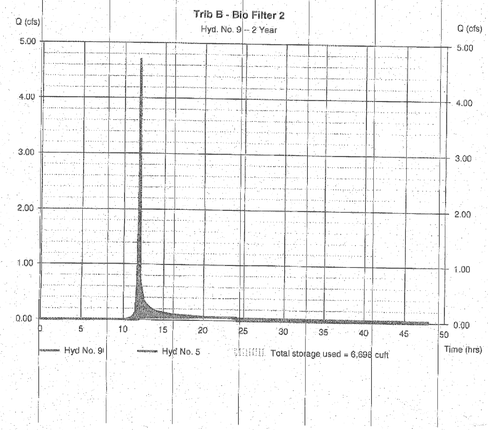
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 9

Trib B - Bio Filter 2

Hydrograph type	= Reservoir	Peak discharge	= 0.059 cfs
Storm frequency	= 2 yrs	Time to peak	= 1204 min
Time interval	= 1 min	Hyd. volume	= 5,282 cuft
Inflow hyd. No.	= 5 - Trib B - Bio-Retention No.2	Max. Elevation	= 334.01 ft
Reservoir name	= Trib B - Bio Filter 2	Max. Storage	= 6,698 cuft

Storage indication method used.



Hydrograph Report

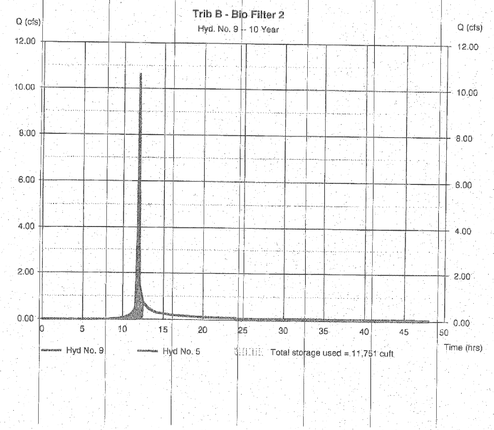
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 9

Trib B - Bio Filter 2

Hydrograph type	= Reservoir	Peak discharge	= 0.674 cfs
Storm frequency	= 10 yrs	Time to peak	= 757 min
Time interval	= 1 min	Hyd. volume	= 13,909 cuft
Inflow hyd. No.	= 5 - Trib B - Bio-Retention No.2	Max. Elevation	= 335.05 ft
Reservoir name	= Trib B - Bio Filter 2	Max. Storage	= 11,751 cuft

Storage indication method used.



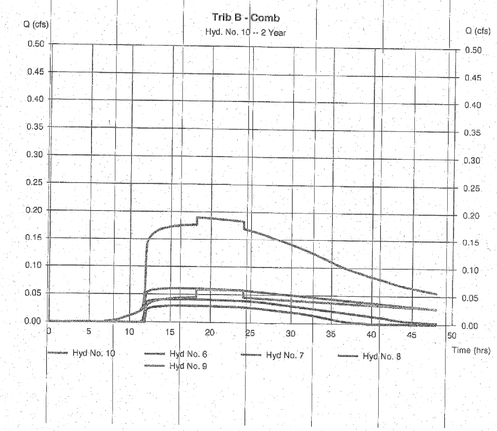
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066 — Thursday, Aug 20, 2009

Hyd. No. 10

Trib B - Comb

Hydrograph type	= Combine	Peak discharge	= 0.190 cfs
Storm frequency	= 2 yrs	Time to peak	= 1095 min
Time interval	= 1 min	Hyd. volume	= 17,280 cuft
Inflow hyds.	= 6, 7, 8, 9	Contrib. drain. area	= 0.000 ac



OAKCREST SCHOOL - SPECIAL EXCEPTION AMENDMENT PRELIMINARY SWM/BMP INFORMATIONAL CHART						
FACILITY NAME/TYPE	ON-SITE AREA SERVED (ACRES)	OFF-SITE AREA SERVED (ACRES)	DRAINAGE AREA (ACRES)	FOOTPRINT AREA (SF)	STORAGE VOLUME (CF)	IF POND, DAM HEIGHT (FT)
SWM POND NO. 1	11.50	9.40	20.90	51,750	157,934	11.0
BIO-RETENTION FILTER NO. 1	1.00	0.00	1.00	5,600	2,094	N/A
BIO-RETENTION FILTER NO. 2	2.00	0.00	2.00	6,500	6,698	N/A
PERCOLATION TRENCH	0.95	0.00	0.95	2,500	5,203	N/A
VEGETATED SWALE	1.30	0.00	1.30	5,350	1,009	N/A
TOTAL:	16.75	9.40	26.15	71,700	172,938	-

Application No. **SE 2009-DR-008** Staff: T. Strunk
APPROVED SE PLAN
SEE DEV CONDS DATED: **03/23/2010**
Date of BOS approval: **03/23/2010**
Sheet 24 of 24
Option B not approved (Sheets Option B 1 & 2; & Sheets 5A, 6A, 7A NOT APPROVED)

RELEASE DATES

8-24-09	FINAL REVISIONS PER STAFF REPORTS
9-23-09	SE RE - SUBMISSION
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550 3 Mile Road N.W. Suite B Grand Rapids, MI 49544
Phone: (616) 785 - 5656 Fax: (616) 785 - 5657 www.ParadigmAE.com
CIVIL ENGINEERS

FAIRFAX COUNTY, VIRGINIA

OAKCREST SCHOOL
SPECIAL EXCEPTION PLAT

Checked by: BMH Date:

Project No. 0802017 — Sheet No. 19 of 19

STORM WATER CALCULATIONS

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
12/17/12
03/28/13
06/04/13
07/18/13
09/25/13
01/14/14
-
-

urban
Urban, Ltd.
4200-D Technology Court
Chantilly, Virginia 20151
(703) 904-9566
www.urban-ltd.com
Planners Engineers Landscape Architects Land Surveyors

COMMONWEALTH OF VIRGINIA
ROBERT W. BROWN
Lic. No. 029041
PROFESSIONAL ENGINEER
01-14-14

STORMWATER CALCULATIONS
OAKCREST SCHOOL
SPECIAL EXCEPTION AMENDMENT
HUNTER MILL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=AS NOTED — C.I.: N/A — DATE: DEC, 2012

SHEET 19 OF 19

SE-12643

FOR INFORMATION PURPOSES ONLY! – NO CHANGE FROM ORIGINAL SE.

WELLS + ASSOCIATES

MEMORANDUM

TO: Martha Coello – Fairfax County Department of Transportation
Ariel Yang – Fairfax County Department of Transportation

FROM: Jami L. Milanovich, P.E.

DATE: January 9, 2014

COPY: Joe Gorney, Fairfax County Department of Planning and Zoning
Paul Kraucunas, P.E./Randy Dittberner, P.E., PTOE, P.E. – VDOT
Mary Ortiz/Matt Buonocore/Miriam Buono, Oakcrest School
Greg Riegle, McGuire Woods LLP
Chip Ranno, Clear RES

RE: Oakcrest School (SEA 2009-DR-008)
Analysis of All-way Stop Control at Hunter Mill Road/Crowell Road
Fairfax County, Virginia

As a follow-up to recent meetings between County staff and the Oakcrest team regarding our December 16, 2013 memorandum, we understand that County staff believes that the increase in delay projected for the Hunter Mill Road/Crowell Road intersection, as presented in that memo, is too high. Therefore, we have revised the analysis to further reduce the trip generation for the school. The results of the revised analysis are presented herein. As before, the analysis was conducted with a full access on Crowell Road, no access on Hunter Mill Road, and an all-way stop at the Hunter Mill Road/Crowell Road intersection.

Background and total future traffic forecasts for the Hunter Mill Road/Crowell Road intersection were taken from our January 15, 2013 memo (note that updated counts at this intersection were conducted in December 2012 and were used in developing the traffic forecasts in the January 15, 2013 analysis).

An iterative analysis was conducted to determine what level of traffic could reasonably be accommodated with the all-way stop and access on Crowell Road. For consistency with the December analyses, 2020 was used as the baseline. Figure 1 shows the 2020 background traffic forecasts for the study area.

Trip Generation

The following table summarizes the number of trips that could be reasonably accommodated at the Hunter Mill Road/Crowell Road intersection. The trip generation was conducted in accordance with the Institute of Transportation Engineers' Trip Generation, 9th Edition, using Land Use Code (LUC) 536 (Private School K-12).

Table 1
Trip Generation Summary

AM Peak Hour			**PM School Peak Hour**			**PM Peak Hour**		
In	Out	Total	In	Out	Total	In	Out	Total
25	16	41	12	17	29	4	5	9

In accordance with the current proposed development conditions, the school would be permitted to operate with an enrollment of up to 295 students with no improvements to the Hunter Mill Road/Crowell Road intersection as long as the trip caps outlined in Table 1 are met (as measured each semester in accordance with the development conditions).

Trip Distribution and Assignment

Consistent with the 2008 TIS and the various subsequent analyses, the distribution of peak hour trips generated by the proposed school was based on existing traffic patterns in the study area, zip code information for the school's students at the time, and locations of surrounding residential developments that might house potential students of the school. The following directional distributions were agreed upon by the County and VDOT during the scoping process for the 2008 TIS:

- 15 percent to/from the northeast on Crowell Road
- 10 percent to/from the north on Hunter Mill Road
- 10 percent to/from the west on Sunset Hills Road
- 20 percent to/from the west on the Dulles Toll Road
- 30 percent to/from the east on the Dulles Toll Road
- 15 percent to/from the south on Hunter Mill Road

The site generated trips were assigned to the roadway network based on the directional distributions described above. The site trip distribution and assignment are shown on Figure 2. Total future traffic forecasts for the year 2020 were determined by combining the background traffic forecasts shown on Figure 1 with the site trip volumes shown on Figure 2. The 2020 total future forecasts are shown on

Figure 3.

Level of Service Analysis

Levels of service were calculated for the AM peak hour, PM School peak hour, and PM commuter peak hour at the Hunter Mill Road/Crowell Road intersection and the Crowell Road/School Driveway intersection using Synchro.

Background and total future traffic forecasts shown on Figure 1 and Figure 3 were used for the analyses. Additionally, peak hour factors and heavy vehicle percentages were determined from the traffic counts conducted at the study intersections and used in the analyses. The traffic counts (showing the heavy vehicle counts and the calculation of the peak hour factors) are included in Attachment I. The results of the level of service analysis are presented in Table 2. Synchro printouts are included in Attachment II.

As stated previously, the Hunter Mill Road/Crowell Road intersection was analyzed as an all-way stop controlled intersection with a single lane on each approach (i.e. under the existing lane use and traffic control). Due to the significantly reduced volumes, the Crowell Road access was analyzed without exclusive left and right turn lanes on Crowell Road.

Table 2
Level of Service Summary - 2020 Conditions
All-way Stop at Hunter Mill Road/Crowell Road Intersection and Full Access on Crowell Road

Intersection	**Lane Group**	**2020 Background Conditions**			**2020 Total Future Conditions**		
		AM Peak	**PM School Peak**	**PM Peak**	**AM Peak**	**PM School Peak**	**PM Peak**
Hunter Mill Road/Crowell Road	WBLR	F [50.5]	C	F [65.2]	F [56.5]	D	F [67.6]
	NBTR	F [135.3]	F [119.7]	F [219.4]	F [154.2]	F [131.9]	F [222.1]
	SBLT	F [228.6]	C	C	F [236.9]	C	C
	OVERALL	**F [151.3]**	**F [71.1]**	**F [131.6]**	**F [162.0]**	**F [77.6]**	**F [133.7]**
Crowell Road/Site Access	WBL	-	-	-	A	A	A
	NBLR	-	-	-	C	B	C

(x.x) = signalized intersection control delay in sec/veh
[x.x] = unsignalized intersection control delay in sec/veh

As shown in Table 2, under background conditions, the Hunter Mill Road/Crowell Road intersection would operate at capacity during each of the three peak hours. With the addition of traffic generated by the school, the levels of service would remain unchanged. For approaches where levels of service are at a LOS F under background conditions, the level of service under total future conditions with the school would remain at a LOS F with some increase in delay.

I trust this memorandum provides adequate information for you to evaluate the appropriateness of retaining the all-way stop control at the Hunter Mill Road/Crowell Road intersection for certain enrollment levels of operation of Oakcrest School. Should you have any questions or require additional information, please do not hesitate to contact me at jlmilanovich@mjwells.com.

W:\Projects\3962 Oakcrest School\2012 OAKCREST\Documents\Full Access on Crowell w 20-20 Baseline\Trip Cap Limit\3962_All-way Stop Condition with School Memorandum - January 2014.docx

FIGURES

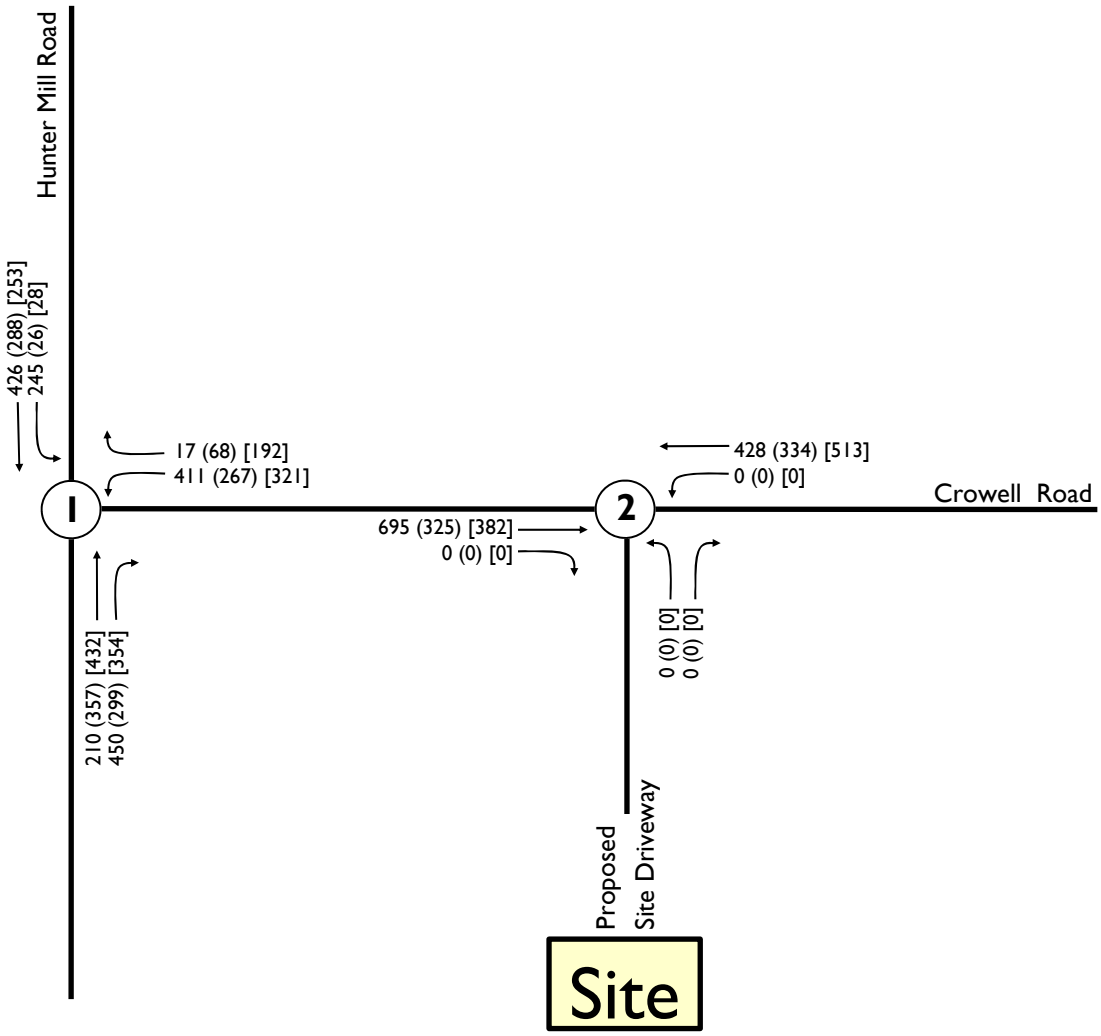


Figure 1
2020 Background Traffic Forecasts

North

Oakcrest School
Fairfax County, VA

WELLS + ASSOCIATES

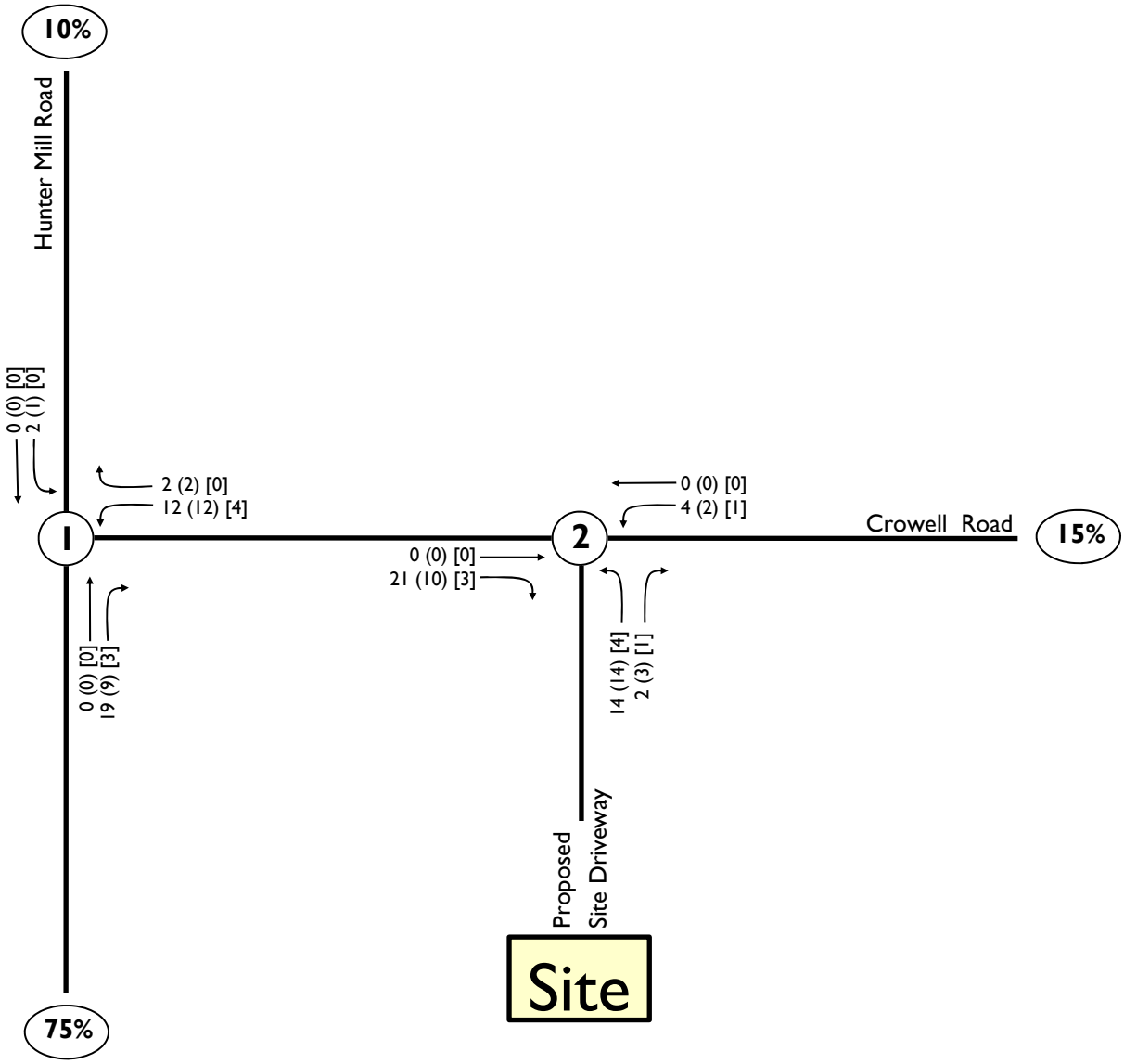


Figure 2
Site Distribution and Assignment

North

Oakcrest School
Fairfax County, VA

WELLS + ASSOCIATES

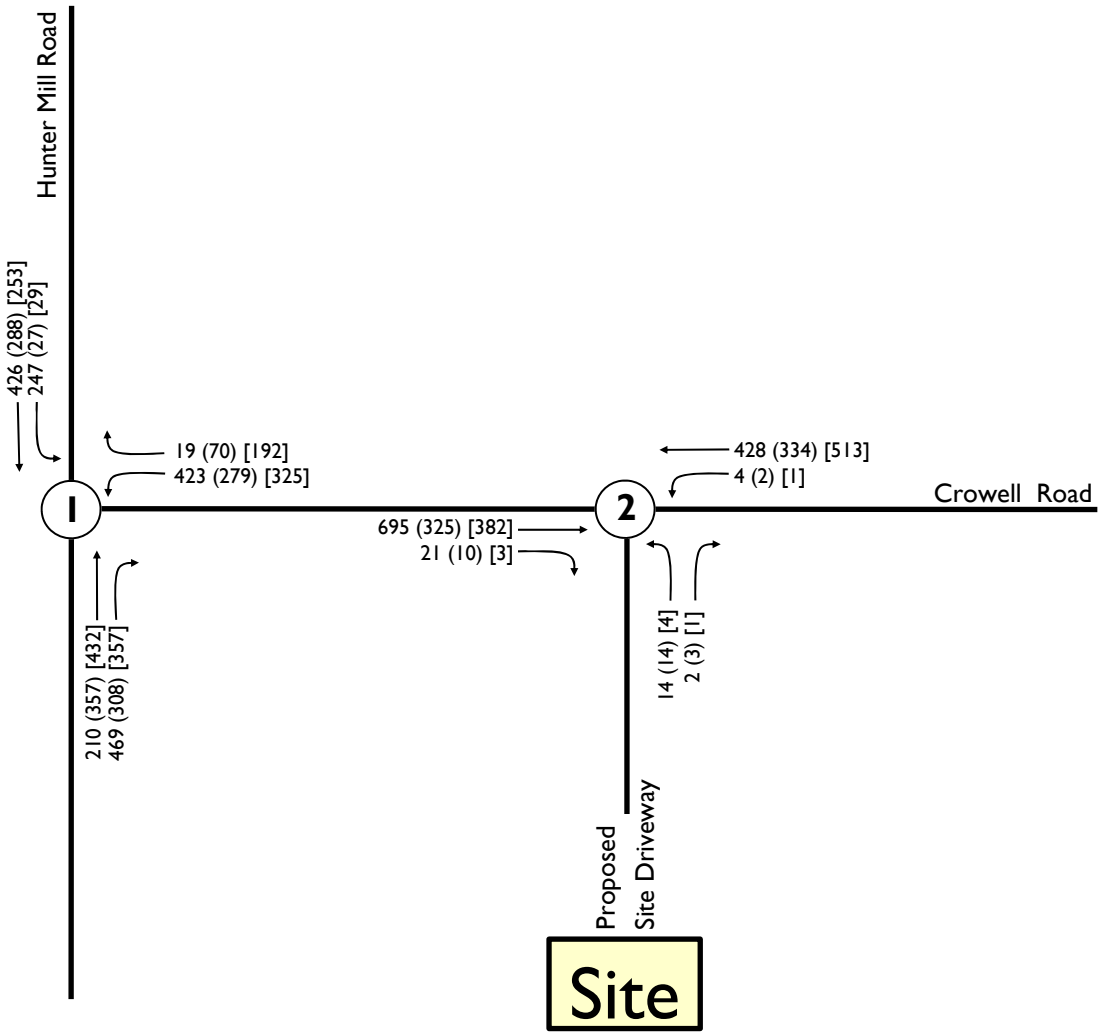


Figure 3
2020 Total Future Traffic Forecasts

North

Oakcrest School
Fairfax County, VA

WELLS + ASSOCIATES

Attachment I
Traffic Counts

Project:	Oakcrest
Wells + Associates Job No:	3962
Intersection:	Hunter Mill Rd. & Crowell Rd.
Location:	Fairfax County,VA
Date:	12/11/2012
Day:	Tuesday
Weather:	clear
Inputed by:	agan
Intersection Count by:	Roberto & Geraldin
Pedestrian Count by:	Roberto & Geraldin
Bicycle County by:	Geraldine

Southbound Road:	Hunter Mill Road
Northbound Road:	Hunter Mill Road
Westbound Road:	Crowell Road
Eastbound Road:	

AM Count Start Time:	7:00 AM
PM Count Start Time:	4:00 PM
Study AM Peak Hour:	7:30 AM - 8:30 AM
Study PM Peak Hour:	5:00 PM - 6:00 PM

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Passenger Cars

PROJECT:	Oakcrest	**DATE:**	12/11/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Tuesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Roberto & Geraldin	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound Hunter Mill Road				Westbound Crowell Road				Northbound Hunter Mill Road				Eastbound 0				North & South	East & West	Total
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
AM 15 Minute Volumes																			
7:00 AM - 7:15 AM		92	52	144	2		33	35	50	14		64				0	208	35	243
7:15 AM - 7:30 AM		102	53	155	5		79	84	85	31		116				0	271	84	355
7:30 AM - 7:45 AM		87	67	154	3		73	76	112	36		148				0	302	76	378
7:45 AM - 8:00 AM		88	46	134	2		92	94	106	39		145				0	279	94	373
8:00 AM - 8:15 AM		74	59	133	5		75	80	93	44		137				0	270	80	350
8:15 AM - 8:30 AM		79	47	126	2		90	92	90	45		135				0	261	92	353
8:30 AM - 8:45 AM		96	46	142	3		91	94	75	45		120				0	262	94	356
8:45 AM - 9:00 AM		96	35	131	9		107	116	60	50		110				0	241	116	357
9:00 AM - 9:15 AM		99	24	123	5		80	85	68	34		102				0	225	85	310
9:15 AM - 9:30 AM		106	36	142	4		66	70	85	44		129				0	271	70	341
9:30 AM - 9:45 AM		65	16	81	10		51	61	75	34		109				0	190	61	251
9:45 AM - 10:00 AM		67	11	78	2		59	61	48	36		84				0	162	61	223
Total	0	1051	492	1543	52	0	896	948	947	452	0	1399	0	0	0	0	2942	948	3890
AM One Hour Volumes																			
7:00 AM - 8:00 AM	0	369	218	587	12	0	277	289	353	120	0	473	0	0	0	0	1060	289	1349
7:15 AM - 8:15 AM	0	351	225	576	15	0	319	334	396	150	0	546	0	0	0	0	1122	334	1456
7:30 AM - 8:30 AM	**0**	**328**	**219**	**547**	**12**	**0**	**330**	**342**	**401**	**164**	**0**	**565**	**0**	**0**	**0**	**0**	**1112**	**342**	**1454**
7:45 AM - 8:45 AM	0	337	198	535	12	0	348	360	364	173	0	537	0	0	0	0	1072	360	1432
8:00 AM - 9:00 AM	0	345	187	532	19	0	363	382	318	184	0	502	0	0	0	0	1034	382	1416
8:15 AM - 9:15 AM	0	370	152	522	19	0	368	387	293	174	0	467	0	0	0	0	989	387	1376
8:30 AM - 9:30 AM	0	397	141	538	21	0	344	365	288	173	0	461	0	0	0	0	999	365	1364
8:45 AM - 9:45 AM	0	366	111	477	28	0	304	332	288	162	0	450	0	0	0	0	927	332	1259
9:00 AM - 10:00 AM	0	337	87	424	21	0	256	277	276	148	0	424	0	0	0	0	848	277	1125
PM 15 Minute Volumes																			
4:00 PM - 4:15 PM		44	8	52	19		47	66	66	71		137				0	189	66	255
4:15 PM - 4:30 PM		55	3	58	26		58	84	69	70		139				0	197	84	281
4:30 PM - 4:45 PM		46	10	56	22		73	95	64	83		147				0	203	95	298
4:45 PM - 5:00 PM		59	1	60	42		53	95	70	76		146				0	206	95	301
5:00 PM - 5:15 PM		50	4	54	36		78	114	79	85		164				0	218	114	332
5:15 PM - 5:30 PM		57	6	63	44		81	125	71	79		150				0	213	125	338
5:30 PM - 5:45 PM		56	8	64	51		67	118	68	88		156				0	220	118	338
5:45 PM - 6:00 PM		47	5	52	39		57	96	66	88		154				0	206	96	302
6:00 PM - 6:15 PM		35	7	42	39		52	91	68	72		140				0	182	91	273
6:15 PM - 6:30 PM		37	2	39	45		92	137	67	96		163				0	202	137	339
6:30 PM - 6:45 PM		39	3	42	26		71	97	72	95		167				0	209	97	306
6:45 PM - 7:00 PM		32	6	38	23		41	64	61	61		122				0	160	64	224
Total	0	557	63	620	412	0	770	1182	821	964	0	1785	0	0	0	0	2405	1182	3587
PM One Hour Volumes																			
4:00 PM - 5:00 PM	0	204	22	226	109	0	231	340	269	300	0	569	0	0	0	0	795	340	1135
4:15 PM - 5:15 PM	0	210	18	228	126	0	262	388	282	314	0	596	0	0	0	0	824	388	1212
4:30 PM - 5:30 PM	0	212	21	233	144	0	285	429	284	323	0	607	0	0	0	0	840	429	1269
4:45 PM - 5:45 PM	0	222	19	241	173	0	279	452	288	328	0	616	0	0	0	0	857	452	1309
5:00 PM - 6:00 PM	**0**	**210**	**23**	**233**	**170**	**0**	**283**	**453**	**284**	**340**	**0**	**624**	**0**	**0**	**0**	**0**	**857**	**453**	**1310**
5:15 PM - 6:15 PM	0	195	26	221	173	0	257	430	273	327	0	600	0	0	0	0	821	430	1251
5:30 PM - 6:30 PM	0	175	22	197	174	0	268	442	269	344	0	613	0	0	0	0	810	442	1252
5:45 PM - 6:45 PM	0	158	17	175	149	0	272	421	273	351	0	624	0	0	0	0	799	421	1220
6:00 PM - 7:00 PM	0	143	18	161	133	0	256	389	268	324	0	592	0	0	0	0	753	389	1142

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Heavy Vehicles

PROJECT:	Oakcrest	**DATE:**	12/11/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Tuesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Roberto & Geraldin	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound				Westbound				Northbound				Eastbound				North &	East &	Total
	Hunter Mill Road				Crowell Road				Hunter Mill Road				0						
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	South	West	
AM 15 Minute Volumes																			
7:00 AM - 7:15 AM		0	1	1	0		1	1	2	2		4				0	5	1	6
7:15 AM - 7:30 AM		3	0	3	1		1	2	1	1		2				0	5	2	7
7:30 AM - 7:45 AM		1	0	1	0		1	1	0	2		2				0	3	1	4
7:45 AM - 8:00 AM		1	1	2	0		0	0	2	2		4				0	6	0	6
8:00 AM - 8:15 AM		3	1	4	2		0	2	2	7		9				0	13	2	15
8:15 AM - 8:30 AM		4	0	4	0		0	0	4	6		10				0	14	0	14
8:30 AM - 8:45 AM		4	0	4	1		0	1	3	3		6				0	10	1	11
8:45 AM - 9:00 AM		2	0	2	1		2	3	1	3		4				0	6	3	9
9:00 AM - 9:15 AM		6	1	7	0		2	2	2	2		4				0	11	2	13
9:15 AM - 9:30 AM		2	3	5	0		0	0	4	4		8				0	13	0	13
9:30 AM - 9:45 AM		3	3	6	0		2	2	2	2		4				0	10	2	12
9:45 AM - 10:00 AM		2	1	3	0		0	0	2	7		9				0	12	0	12
Total	0	31	11	42	5	0	9	14	25	41	0	66	0	0	0	0	108	14	122
AM One Hour Volumes																			
7:00 AM - 8:00 AM	0	5	2	7	1	0	3	4	5	7	0	12	0	0	0	0	19	4	23
7:15 AM - 8:15 AM	0	8	2	10	3	0	2	5	5	12	0	17	0	0	0	0	27	5	32
7:30 AM - 8:30 AM	**0**	**9**	**2**	**11**	**2**	**0**	**1**	**3**	**8**	**17**	**0**	**25**	**0**	**0**	**0**	**0**	**36**	**3**	**39**
7:45 AM - 8:45 AM	0	12	2	14	3	0	0	3	11	18	0	29	0	0	0	0	43	3	46
8:00 AM - 9:00 AM	0	13	1	14	4	0	2	6	10	19	0	29	0	0	0	0	43	6	49
8:15 AM - 9:15 AM	0	16	1	17	2	0	4	6	10	14	0	24	0	0	0	0	41	6	47
8:30 AM - 9:30 AM	0	14	4	18	2	0	4	6	10	12	0	22	0	0	0	0	40	6	46
8:45 AM - 9:45 AM	0	13	7	20	1	0	6	7	9	11	0	20	0	0	0	0	40	7	47
9:00 AM - 10:00 AM	0	13	8	21	0	0	4	4	10	15	0	25	0	0	0	0	46	4	50
PM 15 Minute Volumes																			
4:00 PM - 4:15 PM		3	0	3	0		3	3	1	4		5				0	8	3	11
4:15 PM - 4:30 PM		5	1	6	1		1	2	2	0		2				0	8	2	10
4:30 PM - 4:45 PM		4	0	4	1		1	2	0	3		3				0	7	2	9
4:45 PM - 5:00 PM		1	0	1	0		0	0	0	3		3				0	4	0	4
5:00 PM - 5:15 PM		2	0	2	0		1	1	0	1		1				0	3	1	4
5:15 PM - 5:30 PM		0	0	0	1		1	2	1	3		4				0	4	2	6
5:30 PM - 5:45 PM		1	0	1	1		2	3	0	1		1				0	2	3	5
5:45 PM - 6:00 PM		0	0	0	0		1	1	1	1		2				0	2	1	3
6:00 PM - 6:15 PM		1	0	1	0		3	3	0	1		1				0	2	3	5
6:15 PM - 6:30 PM		0	0	0	1		1	2	0	0		0				0	0	2	2
6:30 PM - 6:45 PM		1	0	1	0		0	0	0	0		0				0	1	0	1
6:45 PM - 7:00 PM		0	0	0	0		1	1	0	0		0				0	0	1	1
Total	0	18	1	19	5	0	15	20	5	17	0	22	0	0	0	0	41	20	61
PM One Hour Volumes																			
4:00 PM - 5:00 PM	0	13	1	14	2	0	5	7	3	10	0	13	0	0	0	0	27	7	34
4:15 PM - 5:15 PM	0	12	1	13	2	0	3	5	2	7	0	9	0	0	0	0	22	5	27
4:30 PM - 5:30 PM	0	7	0	7	2	0	3	5	1	10	0	11	0	0	0	0	18	5	23
4:45 PM - 5:45 PM	0	4	0	4	2	0	4	6	1	8	0	9	0	0	0	0	13	6	19
5:00 PM - 6:00 PM	**0**	**3**	**0**	**3**	**2**	**0**	**5**	**7**	**2**	**6**	**0**	**8**	**0**	**0**	**0**	**0**	**11**	**7**	**18**
5:15 PM - 6:15 PM	0	2	0	2	2	0	7	9	2	6	0	8	0	0	0	0	10	9	19
5:30 PM - 6:30 PM	0	2	0	2	2	0	7	9	1	3	0	4	0	0	0	0	6	9	15
5:45 PM - 6:45 PM	0	2	0	2	1	0	5	6	1	2	0	3	0	0	0	0	5	6	11
6:00 PM - 7:00 PM	0	2	0	2	1	0	5	6	0	1	0	1	0	0	0	0	3	6	9

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT:	Oakcrest	**DATE:**	12/11/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Tuesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Roberto & Geraldin	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound Hunter Mill Road					Westbound Crowell Road					Northbound Hunter Mill Road					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
7:00 AM - 7:15 AM	0	92	53	145		2	0	34	36		52	16	0	68		0	0	0	0		213	36	249
7:15 AM - 7:30 AM	0	105	53	158		6	0	80	86		86	32	0	118		0	0	0	0		276	86	362
7:30 AM - 7:45 AM	0	88	67	155		3	0	74	77		112	38	0	150		0	0	0	0		305	77	382
7:45 AM - 8:00 AM	0	89	47	136		2	0	92	94		108	41	0	149		0	0	0	0		285	94	379
8:00 AM - 8:15 AM	0	77	60	137		7	0	75	82		95	51	0	146		0	0	0	0		283	82	365
8:15 AM - 8:30 AM	0	83	47	130		2	0	90	92		94	51	0	145		0	0	0	0		275	92	367
8:30 AM - 8:45 AM	0	100	46	146		4	0	91	95		78	48	0	126		0	0	0	0		272	95	367
8:45 AM - 9:00 AM	0	98	35	133		10	0	109	119		61	53	0	114		0	0	0	0		247	119	366
9:00 AM - 9:15 AM	0	105	25	130		5	0	82	87		70	36	0	106		0	0	0	0		236	87	323
9:15 AM - 9:30 AM	0	108	39	147		4	0	66	70		89	48	0	137		0	0	0	0		284	70	354
9:30 AM - 9:45 AM	0	68	19	87		10	0	53	63		77	36	0	113		0	0	0	0		200	63	263
9:45 AM - 10:00 AM	0	69	12	81		2	0	59	61		50	43	0	93		0	0	0	0		174	61	235
Total	0	1082	503	1585		57	0	905	962		972	493	0	1465		0	0	0	0		3050	962	4012
AM One Hour Volumes																							
7:00 AM - 8:00 AM	0	374	220	594	0.94	13	0	280	293	0.78	358	127	0	485	0.81	0	0	0	0	0.00	1079	293	1372
7:15 AM - 8:15 AM	0	359	227	586	0.93	18	0	321	339	0.90	401	162	0	563	0.94	0	0	0	0	0.00	1149	339	1488
7:30 AM - 8:30 AM	**0**	**337**	**221**	**558**	**0.90**	**14**	**0**	**331**	**345**	**0.92**	**409**	**181**	**0**	**590**	**0.98**	**0**	**0**	**0**	**0**	**0.00**	**1148**	**345**	**1493**
7:45 AM - 8:45 AM	0	349	200	549	0.94	15	0	348	363	0.96	375	191	0	566	0.95	0	0	0	0	0.00	1115	363	1478
8:00 AM - 9:00 AM	0	358	188	546	0.93	23	0	365	388	0.82	328	203	0	531	0.91	0	0	0	0	0.00	1077	388	1465
8:15 AM - 9:15 AM	0	386	153	539	0.92	21	0	372	393	0.83	303	188	0	491	0.85	0	0	0	0	0.00	1030	393	1423
8:30 AM - 9:30 AM	0	411	145	556	0.95	23	0	348	371	0.78	298	185	0	483	0.88	0	0	0	0	0.00	1039	371	1410
8:45 AM - 9:45 AM	0	379	118	497	0.85	29	0	310	339	0.71	297	173	0	470	0.86	0	0	0	0	0.00	967	339	1306
9:00 AM - 10:00 AM	0	350	95	445	0.76	21	0	260	281	0.81	286	163	0	449	0.82	0	0	0	0	0.00	894	281	1175
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	0	47	8	55		19	0	50	69		67	75	0	142		0	0	0	0		197	69	266
4:15 PM - 4:30 PM	0	60	4	64		27	0	59	86		71	70	0	141		0	0	0	0		205	86	291
4:30 PM - 4:45 PM	0	50	10	60		23	0	74	97		64	86	0	150		0	0	0	0		210	97	307
4:45 PM - 5:00 PM	0	60	1	61		42	0	53	95		70	79	0	149		0	0	0	0		210	95	305
5:00 PM - 5:15 PM	0	52	4	56		36	0	79	115		79	86	0	165		0	0	0	0		221	115	336
5:15 PM - 5:30 PM	0	57	6	63		45	0	82	127		72	82	0	154		0	0	0	0		217	127	344
5:30 PM - 5:45 PM	0	57	8	65		52	0	69	121		68	89	0	157		0	0	0	0		222	121	343
5:45 PM - 6:00 PM	0	47	5	52		39	0	58	97		67	89	0	156		0	0	0	0		208	97	305
6:00 PM - 6:15 PM	0	36	7	43		39	0	55	94		68	73	0	141		0	0	0	0		184	94	278
6:15 PM - 6:30 PM	0	37	2	39		46	0	93	139		67	96	0	163		0	0	0	0		202	139	341
6:30 PM - 6:45 PM	0	40	3	43		26	0	71	97		72	95	0	167		0	0	0	0		210	97	307
6:45 PM - 7:00 PM	0	32	6	38		23	0	42	65		61	61	0	122		0	0	0	0		160	65	225
Total	0	575	64	639		417	0	785	1202		826	981	0	1807		0	0	0	0		2446	1202	3648
PM One Hour Volumes																							
4:00 PM - 5:00 PM	0	217	23	240	0.94	111	0	236	347	0.89	272	310	0	582	0.97	0	0	0	0	0.00	822	347	1169
4:15 PM - 5:15 PM	0	222	19	241	0.94	128	0	265	393	0.85	284	321	0	605	0.92	0	0	0	0	0.00	846	393	1239
4:30 PM - 5:30 PM	0	219	21	240	0.95	146	0	288	434	0.85	285	333	0	618	0.94	0	0	0	0	0.00	858	434	1292
4:45 PM - 5:45 PM	0	226	19	245	0.94	175	0	283	458	0.90	289	336	0	625	0.95	0	0	0	0	0.00	870	458	1328
5:00 PM - 6:00 PM	**0**	**213**	**23**	**236**	**0.91**	**172**	**0**	**288**	**460**	**0.91**	**286**	**346**	**0**	**632**	**0.96**	**0**	**0**	**0**	**0**	**0.00**	**868**	**460**	**1328**
5:15 PM - 6:15 PM	0	197	26	223	0.86	175	0	264	439	0.86	275	333	0	608	0.97	0	0	0	0	0.00	831	439	1270
5:30 PM - 6:30 PM	0	177	22	199	0.77	176	0	275	451	0.81	270	347	0	617	0.95	0	0	0	0	0.00	816	451	1267
5:45 PM - 6:45 PM	0	160	17	177	0.85	150	0	277	427	0.77	274	353	0	627	0.94	0	0	0	0	0.00	804	427	1231
6:00 PM - 7:00 PM	0	145	18	163	0.95	134	0	261	395	0.71	268	325	0	593	0.89	0	0	0	0	0.00	756	395	1151

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT:	Oakcrest	**DATE:**	12/11/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Tuesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Geraldine	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

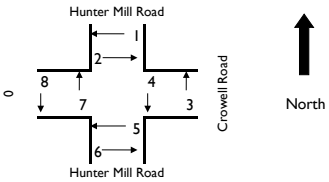
Time	Southbound				Westbound				Northbound				Eastbound				North	East	Total
	Hunter Mill Road				Crowell Road				Hunter Mill Road				0				&	&	
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	South	West	
AM 15 Minute Volumes																			
7:00 AM - 7:15 AM				0				0				0				0	0	0	0
7:15 AM - 7:30 AM				0				0				0				0	0	0	0
7:30 AM - 7:45 AM				0				0				0				0	0	0	0
7:45 AM - 8:00 AM				0				0				0				0	0	0	0
8:00 AM - 8:15 AM				0				0				0				0	0	0	0
8:15 AM - 8:30 AM				0				0				0				0	0	0	0
8:30 AM - 8:45 AM				0				0				0				0	0	0	0
8:45 AM - 9:00 AM				0				0				0				0	0	0	0
9:00 AM - 9:15 AM				0				0				0				0	0	0	0
9:15 AM - 9:30 AM				0				0				0				0	0	0	0
9:30 AM - 9:45 AM				0				0				0				0	0	0	0
9:45 AM - 10:00 AM				0				0				0				0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM One Hour Volumes																			
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 15 Minute Volumes																			
4:00 PM - 4:15 PM				0				0				0				0	0	0	0
4:15 PM - 4:30 PM				0				0				0				0	0	0	0
4:30 PM - 4:45 PM				0				0				0				0	0	0	0
4:45 PM - 5:00 PM				0				0				0				0	0	0	0
5:00 PM - 5:15 PM				0				0				0				0	0	0	0
5:15 PM - 5:30 PM				0				0				0				0	0	0	0
5:30 PM - 5:45 PM				0				0				0				0	0	0	0
5:45 PM - 6:00 PM				0				0				0				0	0	0	0
6:00 PM - 6:15 PM				0				0				0				0	0	0	0
6:15 PM - 6:30 PM				0				0				0				0	0	0	0
6:30 PM - 6:45 PM				0				0				0				0	0	0	0
6:45 PM - 7:00 PM				0				0				0				0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM One Hour Volumes																			
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM - 6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Oakcrest
W+A JOB NO: 3962
INTERSECTION: Hunter Mill Rd. & Crowell Rd.
LOCATION: Fairfax County,VA
DATE: 12/11/2012
DAY: Tuesday
WEATHER: clear
COUNTED BY: Roberto & Geraldin
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
7:00 AM - 7:15 AM													
7:15 AM - 7:30 AM													
7:30 AM - 7:45 AM													
7:45 AM - 8:00 AM													
8:00 AM - 8:15 AM													
8:15 AM - 8:30 AM													
8:30 AM - 8:45 AM													
8:45 AM - 9:00 AM													
9:00 AM - 9:15 AM													
9:15 AM - 9:30 AM													
9:30 AM - 9:45 AM													
9:45 AM - 10:00 AM													
Total	0	0	0	0	0	0	0	0					
AM One Hour Volumes													
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 15 Minute Volumes													
4:00 PM - 4:15 PM													
4:15 PM - 4:30 PM													
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM													
5:00 PM - 5:15 PM													
5:15 PM - 5:30 PM													
5:30 PM - 5:45 PM													
5:45 PM - 6:00 PM													
6:00 PM - 6:15 PM													
6:15 PM - 6:30 PM													
6:30 PM - 6:45 PM													
6:45 PM - 7:00 PM													
Total	0	0	0	0	0	0	0	0					
PM One Hour Volumes													
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM - 6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

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Heavy Vehicle Percentages

PROJECT:	Oakcrest	**DATE:**	12/11/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Tuesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Roberto & Geraldin	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Eastbound 0				Westbound Crowell Road				Northbound Hunter Mill Road				Southbound Hunter Mill Road			
Period	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM One Hour Heavy Vehicle Percentages																
7:00 AM - 8:00 AM					1%		8%	1%		6%	1%	2%	1%	1%		1%
7:15 AM - 8:15 AM					1%		17%	1%		7%	1%	3%	1%	2%		2%
7:30 AM - 8:30 AM					**0%**		**14%**	**1%**		**9%**	**2%**	**4%**	**1%**	**3%**		**2%**
7:45 AM - 8:45 AM					0%		20%	1%		9%	3%	5%	1%	3%		3%
8:00 AM - 9:00 AM					1%		17%	2%		9%	3%	5%	1%	4%		3%
8:15 AM - 9:15 AM					1%		10%	2%		7%	3%	5%	1%	4%		3%
8:30 AM - 9:30 AM					1%		9%	2%		6%	3%	5%	3%	3%		3%
8:45 AM - 9:45 AM					2%		3%	2%		6%	3%	4%	6%	3%		4%
9:00 AM - 10:00 AM					2%		0%	1%		9%	3%	6%	8%	4%		5%
PM One Hour Heavy Vehicle Percentages																
4:00 PM - 5:00 PM					2%		2%	2%		3%	1%	2%	4%	6%		6%
4:15 PM - 5:15 PM					1%		2%	1%		2%	1%	1%	5%	5%		5%
4:30 PM - 5:30 PM					1%		1%	1%		3%	0%	2%	0%	3%		3%
4:45 PM - 5:45 PM					1%		1%	1%		2%	0%	1%	0%	2%		2%
5:00 PM - 6:00 PM					**2%**		**1%**	**2%**		**2%**	**1%**	**1%**	**0%**	**1%**		**1%**
5:15 PM - 6:15 PM					3%		1%	2%		2%	1%	1%	0%	1%		1%
5:30 PM - 6:30 PM					3%		1%	2%		1%	0%	1%	0%	1%		1%
5:45 PM - 6:45 PM					2%		1%	1%		1%	0%	0%	0%	1%		1%
6:00 PM - 7:00 PM					2%		1%	2%		0%	0%	0%	0%	1%		1%

Project:	Oakcrest
Wells + Associates Job No:	3962
Intersection:	Hunter Mill Rd. & Crowell Rd.
Location:	Fairfax County,VA
Date:	12/12/2012
Day:	Wednesday
Weather:	clear
Inputed by:	agan
Intersection Count by:	Majda
Pedestrian Count by:	Majda
Bicycle County by:	Majda

Southbound Road:	Hunter Mill Road
Northbound Road:	Hunter Mill Road
Westbound Road:	Crowell Road
Eastbound Road:	

Count Start Time:	2:00 PM
Count Length (In hours):	3.00
Study PM School Peak Hour:	3:00 PM - 4:00 PM

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Passenger Cars

PROJECT:	Oakcrest	**DATE:**	12/12/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Wednesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Majda	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time Period	Southbound Hunter Mill Road				Westbound Crowell Road				Northbound Hunter Mill Road				Eastbound 0				North & South	East & West	Total
	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
15 Minute Volumes																			
2:00 PM - 2:15 PM		55	8	63	1		41	42	47	43		90					153	42	195
2:15 PM - 2:30 PM		57	3	60	9		47	56	46	57		103					163	56	219
2:30 PM - 2:45 PM		34	6	40	7		53	60	27	51		78					118	60	178
2:45 PM - 3:00 PM		56	6	62	6		48	54	51	60		111					173	54	227
3:00 PM - 3:15 PM		45	9	54	7		44	51	54	71		125					179	51	230
3:15 PM - 3:30 PM		66	6	72	18		54	72	67	70		137					209	72	281
3:30 PM - 3:45 PM		69	5	74	10		66	76	62	65		127					201	76	277
3:45 PM - 4:00 PM		58	2	60	20		63	83	65	90		155					215	83	298
4:00 PM - 4:15 PM		52	9	61	21		61	82	65	86		151					212	82	294
4:15 PM - 4:30 PM		48	6	54	19		62	81	80	64		144					198	81	279
4:30 PM - 4:45 PM		43	7	50	24		69	93	75	89		164					214	93	307
4:45 PM - 5:00 PM		41	12	53	26		57	83	78	94		172					225	83	308
Total	0	624	79	703	168	0	665	833	717	840	0	1557	0	0	0	0	2260	833	3093
One Hour Volumes																			
2:00 PM - 3:00 PM		202	23	225	23		189	212	171	211		382					607	212	819
2:15 PM - 3:15 PM		192	24	216	29		192	221	178	239		417					633	221	854
2:30 PM - 3:30 PM		201	27	228	38		199	237	199	252		451					679	237	916
2:45 PM - 3:45 PM		236	26	262	41		212	253	234	266		500					762	253	1015
3:00 PM - 4:00 PM		**238**	**22**	**260**	**55**		**227**	**282**	**248**	**296**		**544**					**804**	**282**	**1086**
3:15 PM - 4:15 PM		245	22	267	69		244	313	259	311		570					837	313	1150
3:30 PM - 4:30 PM		227	22	249	70		252	322	272	305		577					826	322	1148
3:45 PM - 4:45 PM		201	24	225	84		255	339	285	329		614					839	339	1178
4:00 PM - 5:00 PM		184	34	218	90		249	339	298	333		631					849	339	1188

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Turning Movement Count - Heavy Vehicles

PROJECT:	Oakcrest	**DATE:**	12/12/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Wednesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Majda	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound Hunter Mill Road				Westbound Crowell Road				Northbound Hunter Mill Road				Eastbound 0				North & South	East & West	Total
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
15 Minute Volumes																			
2:00 PM - 2:15 PM		5	0	5	0		0		1	1		2					7		7
2:15 PM - 2:30 PM		3	1	4	0		4	4	2	5		7					11	4	15
2:30 PM - 2:45 PM		5	0	5	1		0	1	0	4		4					9	1	10
2:45 PM - 3:00 PM		0	0		1		2	3	3	4		7					7	3	10
3:00 PM - 3:15 PM		3	0	3	0		3	3	0	1		1					4	3	7
3:15 PM - 3:30 PM		2	0	2	3		1	4	2	2		4					6	4	10
3:30 PM - 3:45 PM		2	0	2	2		3	5	2	2		4					6	5	11
3:45 PM - 4:00 PM		4	0	4	0		0		1	1		2					6		6
4:00 PM - 4:15 PM		0	0		0		2	2	1	1		2					2	2	4
4:15 PM - 4:30 PM		2	1	3	1		1	2	1	2		3					6	2	8
4:30 PM - 4:45 PM		2	0	2	0		1	1	1	2		3					5	1	6
4:45 PM - 5:00 PM		3	0	3	3		1	4	0	1		1					4	4	8
Total	0	31	2	33	11	0	18	29	14	26	0	40	0	0	0	0	73	29	102
One Hour Volumes																			
2:00 PM - 3:00 PM		13	1	14	2		6	8	6	14		20					34	8	42
2:15 PM - 3:15 PM		11	1	12	2		9	11	5	14		19					31	11	42
2:30 PM - 3:30 PM		10		10	5		6	11	5	11		16					26	11	37
2:45 PM - 3:45 PM		7		7	6		9	15	7	9		16					23	15	38
3:00 PM - 4:00 PM		**11**		**11**	**5**		**7**	**12**	**5**	**6**		**11**					**22**	**12**	**34**
3:15 PM - 4:15 PM		8		8	5		6	11	6	6		12					20	11	31
3:30 PM - 4:30 PM		8	1	9	3		6	9	5	6		11					20	9	29
3:45 PM - 4:45 PM		8	1	9	1		4	5	4	6		10					19	5	24
4:00 PM - 5:00 PM		7	1	8	4		5	9	3	6		9					17	9	26

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Turning Movement Count - Total Vehicles

PROJECT:	Oakcrest	**DATE:**	12/12/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Wednesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Majda	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound Hunter Mill Road					Westbound Crowell Road					Northbound Hunter Mill Road					Eastbound 0					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
2:00 PM - 2:15 PM		60	8	68		1		41	42		48	44		92							160	42	202
2:15 PM - 2:30 PM		60	4	64	`	9		51	60		48	62		110							174	60	234
2:30 PM - 2:45 PM		39	6	45		8		53	61		27	55		82							127	61	188
2:45 PM - 3:00 PM		56	6	62		7		50	57		54	64		118							180	57	237
3:00 PM - 3:15 PM		48	9	57		7		47	54		54	72		126							183	54	237
3:15 PM - 3:30 PM		68	6	74		21		55	76		69	72		141							215	76	291
3:30 PM - 3:45 PM		71	5	76		12		69	81		64	67		131							207	81	288
3:45 PM - 4:00 PM		62	2	64		20		63	83		66	91		157							221	83	304
4:00 PM - 4:15 PM		52	9	61		21		63	84		66	87		153							214	84	298
4:15 PM - 4:30 PM		50	7	57		20		63	83		81	66		147							204	83	287
4:30 PM - 4:45 PM		45	7	52		24		70	94		76	91		167							219	94	313
4:45 PM - 5:00 PM		44	12	56		29		58	87		78	95		173							229	87	316
Total	0	655	81	736		179	0	683	862		731	866	0	1597		0	0	0	0		2333	862	3195
One Hour Volumes																							
2:00 PM - 3:00 PM		215	24	239	0.879	25		195	220	0.902	177	225		402	0.852						641	220	861
2:15 PM - 3:15 PM		203	25	228	0.891	31		201	232	0.951	183	253		436	0.865						664	232	896
2:30 PM - 3:30 PM		211	27	238	0.804	43		205	248	0.816	204	263		467	0.828						705	248	953
2:45 PM - 3:45 PM		243	26	269	0.885	47		221	268	0.827	241	275		516	0.915						785	268	1053
3:00 PM - 4:00 PM		**249**	**22**	**271**	**0.89**	**60**		**234**	**294**	**0.89**	**253**	**302**		**555**	**0.88**						**826**	**294**	**1120**
3:15 PM - 4:15 PM		253	22	275	0.905	74		250	324	0.964	265	317		582	0.927						857	324	1181
3:30 PM - 4:30 PM		235	23	258	0.849	73		258	331	0.985	277	311		588	0.936						846	331	1177
3:45 PM - 4:45 PM		209	25	234	0.914	85		259	344	0.915	289	335		624	0.934						858	344	1202
4:00 PM - 5:00 PM		191	35	226	0.926	94		254	348	0.926	301	339		640	0.925						866	348	1214

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Turning Movement Count - Bicycles

PROJECT:	Oakcrest	**DATE:**	12/12/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Wednesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Majda	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Southbound				Westbound				Northbound				Eastbound				North	East	Total
	Hunter Mill Road				Crowell Road				Hunter Mill Road				0				&	&	
Period	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	South	West	
15 Minute Volumes																			
2:00 PM - 2:15 PM																			
2:15 PM - 2:30 PM																			
2:30 PM - 2:45 PM																			
2:45 PM - 3:00 PM																			
3:00 PM - 3:15 PM																			
3:15 PM - 3:30 PM		1		1													1		1
3:30 PM - 3:45 PM																			
3:45 PM - 4:00 PM																			
4:00 PM - 4:15 PM																			
4:15 PM - 4:30 PM																			
4:30 PM - 4:45 PM																			
4:45 PM - 5:00 PM																			
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
One Hour Volumes																			
2:00 PM - 3:00 PM																			
2:15 PM - 3:15 PM																			
2:30 PM - 3:30 PM		1		1													1		1
2:45 PM - 3:45 PM		1		1													1		1
3:00 PM - 4:00 PM		**1**		**1**													**1**		**1**
3:15 PM - 4:15 PM		1		1													1		1
3:30 PM - 4:30 PM																			
3:45 PM - 4:45 PM																			
4:00 PM - 5:00 PM																			

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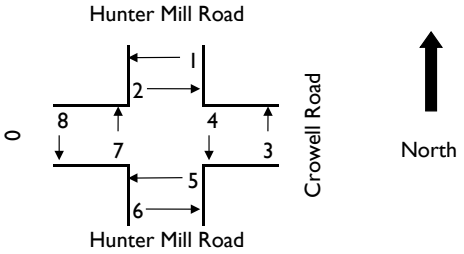
Pedestrian Volume Survey

PROJECT: Oakcrest
W + A JOB NO: 3962
INTERSECTION: Hunter Mill Rd. & Crowell Rd.
LOCATION: Fairfax County,VA
DATE: 12/12/2012
DAY: Wednesday
WEATHER: clear
COUNTED BY: Majda
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
2:00 PM - 2:15 PM													
2:15 PM - 2:30 PM													
2:30 PM - 2:45 PM													
2:45 PM - 3:00 PM													
3:00 PM - 3:15 PM													
3:15 PM - 3:30 PM													
3:30 PM - 3:45 PM													
3:45 PM - 4:00 PM													
4:00 PM - 4:15 PM													
4:15 PM - 4:30 PM													
4:30 PM - 4:45 PM													
4:45 PM - 5:00 PM													
Total	0	0	0	0	0	0	0	0					
One Hour Volumes													
2:00 PM - 3:00 PM													
2:15 PM - 3:15 PM													
2:30 PM - 3:30 PM													
2:45 PM - 3:45 PM													
3:00 PM - 4:00 PM													
3:15 PM - 4:15 PM													
3:30 PM - 4:30 PM													
3:45 PM - 4:45 PM													
4:00 PM - 5:00 PM													

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Heavy Vehicle Percentages

PROJECT:	Oakcrest	**DATE:**	12/12/2012	**SOUTHBOUND ROAD:**	Hunter Mill Road
W+A JOB NO:	3962	**DAY:**	Wednesday	**NORTHBOUND ROAD:**	Hunter Mill Road
INTERSECTION:	Hunter Mill Rd. & Crowell Rd.	**WEATHER:**	clear	**WESTBOUND ROAD:**	Crowell Road
LOCATION:	Fairfax County,VA	**COUNTED BY:**	Majda	**EASTBOUND ROAD:**	0
		INPUTED BY:	agan		

Time	Eastbound 0				Westbound Crowell Road				Northbound Hunter Mill Road				Southbound Hunter Mill Road			
Period	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
One Hour Heavy Vehicle Percentages																
2:00 PM - 3:00 PM					3%		8%	4%		6%	3%	5%	4%	6%		6%
2:15 PM - 3:15 PM					4%		6%	5%		6%	3%	4%	4%	5%		5%
2:30 PM - 3:30 PM					3%		12%	4%		4%	2%	3%	0%	5%		4%
2:45 PM - 3:45 PM					4%		13%	6%		3%	3%	3%	0%	3%		3%
3:00 PM - 4:00 PM					3%		8%	4%		2%	2%	2%	0%	4%		4%
3:15 PM - 4:15 PM					2%		7%	3%		2%	2%	2%	0%	3%		3%
3:30 PM - 4:30 PM					2%		4%	3%		2%	2%	2%	4%	3%		3%
3:45 PM - 4:45 PM					2%		1%	1%		2%	1%	2%	4%	4%		4%
4:00 PM - 5:00 PM					2%		4%	3%		2%	1%	1%	3%	4%		4%

Attachment 11
Synchro Reports

HCM Unsignalized Intersection Capacity Analysis
1: Crowell Road & Hunter Mill Road

1/9/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	423	19	210	469	247	426
Peak Hour Factor	0.92	0.92	0.98	0.98	0.90	0.90
Hourly flow rate (vph)	460	21	214	479	274	473

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	480	693	748
Volume Left (vph)	460	0	274
Volume Right (vph)	21	479	0
Hadj (s)	0.18	-0.34	0.11
Departure Headway (s)	7.2	6.6	7.0
Degree Utilization, x	0.96	1.26	1.46
Capacity (veh/h)	497	557	516
Control Delay (s)	56.5	154.2	236.9
Approach Delay (s)	56.5	154.2	236.9
Approach LOS	F	F	F

Intersection Summary			
Delay	162.0		
HCM Level of Service	F		
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	695	21	4	428	14	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.92	0.92	0.90	0.90
Hourly flow rate (vph)	732	22	4	465	16	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			754		1217	743
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			754		1217	743
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	99
cM capacity (veh/h)			856		199	415

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	754	470	18
Volume Left	0	4	16
Volume Right	22	0	2
cSH	1700	856	213
Volume to Capacity	0.44	0.01	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.1	23.5
Lane LOS		A	C
Approach Delay (s)	0.0	0.1	23.5
Approach LOS			C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	279	69	357	308	27	288
Peak Hour Factor	0.89	0.89	0.88	0.88	0.89	0.89
Hourly flow rate (vph)	313	78	406	350	30	324

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	391	756	354
Volume Left (vph)	313	0	30
Volume Right (vph)	78	350	0
Hadj (s)	0.11	-0.24	0.08
Departure Headway (s)	6.7	5.8	6.4
Degree Utilization, x	0.72	1.22	0.63
Capacity (veh/h)	523	629	540
Control Delay (s)	25.1	131.9	19.9
Approach Delay (s)	25.1	131.9	19.9
Approach LOS	D	F	C

Intersection Summary			
Delay	77.6		
HCM Level of Service	F		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	325	10	2	334	14	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.89	0.89	0.90	0.90
Hourly flow rate (vph)	369	11	2	375	16	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			381		755	375
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			381		755	375
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1178		376	671

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	381	378	19
Volume Left	0	2	16
Volume Right	11	0	3
cSH	1700	1178	407
Volume to Capacity	0.22	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.1	14.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	14.3
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	325	192	432	357	29	253
Peak Hour Factor	0.91	0.91	0.96	0.96	0.91	0.91
Hourly flow rate (vph)	357	211	450	372	32	278

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	568	822	310
Volume Left (vph)	357	0	32
Volume Right (vph)	211	372	0
Hadj (s)	-0.07	-0.25	0.04
Departure Headway (s)	6.4	6.3	7.0
Degree Utilization, x	1.02	1.43	0.60
Capacity (veh/h)	553	578	500
Control Delay (s)	67.6	222.1	20.2
Approach Delay (s)	67.6	222.1	20.2
Approach LOS	F	F	C

Intersection Summary			
Delay	133.7		
HCM Level of Service	F		
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	382	3	1	513	4	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	398	3	1	564	4	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			401		965	399
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			401		965	399
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1158		282	650

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	401	565	6
Volume Left	0	1	4
Volume Right	3	0	1
cSH	1700	1158	318
Volume to Capacity	0.24	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	16.5
Lane LOS		A	C
Approach Delay (s)	0.0	0.0	16.5
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

PROPOSED DEVELOPMENT CONDITIONS
SEA 2009-DR-008
~~July 30, 2013~~
January 21, 2014

If it is the intent of the Board of Supervisors (Board) to approve SEA 2009-DR-008, located on the south side of Crowell Road, Tax Map 18-4 ((1)) 26C and 18-4 ((8)) 4 and A, for a private school of general education, pursuant to Sect. 3-E04 of the Fairfax County Zoning Ordinance, the staff recommends that the Board condition the approval by requiring conformance with the following development conditions to supersede all previous conditions. (Those conditions that are identical to conditions that were included in the previous approval or that contain only minor editorial changes are marked with an asterisk*).

1. This Special Exception Amendment (SEA) is granted for and runs with the land indicated in this application and is not transferable to other land.*

2. This Special Exception Amendment is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.*

3. This Special Exception Amendment is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPWES). Any plan submitted pursuant to this special exception amendment shall be in substantial conformance with the approved Special Exception Amendment Plat entitled "Oakcrest School," consisting of 19 sheets dated December 2012, and revised through January 14, 2014 ~~July 18, 2013~~, and these conditions. Minor modifications to the approved special exception amendment may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.*

4. As long as the applicant continues to permit Golf Park, Inc., to use and/or occupy any part of the Application property, pursuant to SP 91-C-070 and its subsequent amendments (collectively "SP-91-C-070"), no land disturbance activity associated with this SEA may occur.

   The following is a non-exhaustive list of such land disturbance activity: clearing activities; grading activities; and requests for the issuance or release of any construction or grading permit and any inspections related thereto.

5. A copy of these special exception amendment conditions shall be posted in a conspicuous place on the property, and made available to the public and all departments of the County of Fairfax during hours of operation.*

6. Architecture shall be in general conformance with that shown on Sheets 12 and 13 of the SEA Plat.*

7. Any retaining walls provided which are not shown on the SEA Plat shall not exceed three feet in height.*

8. The architectural treatment of the portions of any retaining walls over two feet in height that face the eastern, northern, or western lot lines shall consist of a split face, landscape block, masonry, concrete, concrete tie or stone finish, and shall be of a color compatible with the other structures on the property.*

9. The maximum daily enrollment shall be limited to 450 students, grades 6-12.*

10. The maximum number of staff on-site at any one time shall be 90.*

11. (a) The primary hours of operation, to include regular extracurricular activities, shall be limited to 7:00 am to 6:00 pm, Monday - Friday.*

    (b) Evening hours of operation for parent/teacher conferences and similar meetings shall be permitted Monday - Friday, but shall be scheduled to end by 10:00 pm.*

    (c) Other evening activities shall be permitted Monday - Friday, but shall be scheduled to end by 10:00 pm, Monday – Thursday and by 11:00 pm Friday, and shall be limited to a maximum of eight occurrences per month.*

    (d) Weekend activities shall be limited to 9:00 am to 11:00 pm on Saturday and 9:00 am to 5:00 pm on Sunday. Weekend activities with an anticipated attendance of 30 or more shall be limited to four events per month. No more than twice a year an indoor event on a Saturday may extend until 12:00 midnight.*

    (e) Weekend outdoor activities shall not extend beyond 7:30 pm.*

    (f) The school buildings and outdoor playing fields shall not be leased, rented, or otherwise made available to groups not affiliated with or sponsored by the school.*

12. Any on-site summer camp or summer school activities shall be subject to the following restrictions:

    (a) The total maximum daily enrollment shall be limited to 450 children, limited to children entering 1st grade through those who have just graduated from 12th grade.*

    (b) The hours of operation of the summer camp / summer school shall be limited to 8:00 am to 6:00 pm, Monday - Friday.*

13. Prior to the first day of school each year, a neighborhood liaison committee shall be established to coordinate and meet with interested neighbors to discuss and address neighborhood concerns regarding the school. Prior to the first day of school, the neighborhood liaison committee shall designate a contact person, and the name and phone number of the contact person shall be provided to the presidents of surrounding civic associations and the office of the Hunter Mill District Supervisor or another local District Supervisor if the District is no longer the Hunter Mill District due to future redistricting or some other reason.*

14. No lighting shall be provided for the outdoor playing fields/tennis courts, and the use of outdoor public address speaker systems or bull horns shall be prohibited. However, this shall not preclude the use of a temporary public address speaker system to be used for outdoor graduation/baccalaureate ceremonies.*

15. All lighting, including security lighting, shall be in conformance with Part 9 of Article 14 of the Zoning Ordinance. Any light fixtures provided on the site shall be limited to a maximum height of 12 feet, from ground level to the top of the fixture.*

16. Indoor recreation space shall be provided for each student enrolled in accordance with the provisions of Chapter 30 of the Code.*

17. All vehicular parking shall be provided on-site. If additional parking is required during any special event, off-site parking and shuttle service shall be provided.*

18. The applicant shall designate an individual as the applicant's transportation coordinator to administer and encourage participation in a transportation management program designed to reduce the number of vehicle trips to and from the school during peak hours as a mechanism to minimize daily vehicular trips. The name of the transportation coordinator shall be provided to the Fairfax County Department of Transportation (FCDOT) within 30 days after the issuance of the first Non-Residential Use Permit (Non-RUP) for the school and at any such time as the

coordinator changes. A transportation management plan shall be submitted to FCDOT within 90 days after the issuance of the initial Non-RUP for the school.

19. Trip Generation Limits:

(a) The initial Non-RUP for Oakcrest School on the Application property may not be issued for more than 245 students (referred to herein as "Tier 1 Enrollment" or "Tier 1"). A subsequent Non-RUP shall be required for an enrollment increase above 245 students (referred to herein as "Tier 2 Enrollment" or "Tier 2").

(b) The following vehicle trip generation limits onto Crowell Road shall be maintained during both the regular school year and summer activities:

	Tier 1: ≤ 245 students	Tier 2: 246-450 students
AM Commuter Peak Hour	198 vehicle trips	255 vehicle trips
PM Commuter Peak Hour	43 vehicle trips	65 vehicle trips

(c) During Tier 1 Enrollment, a record of the School's trip generation by semester, using study methodology as established in subparagraphs (d) and (e) below, shall be maintained. These records and associated reports shall be made available upon request by FCDOT, the Department of Planning and Zoning (DPZ), and/or the Hunter Mill Supervisor's office.

If a Non-RUP for Tier 2 is attained, these studies shall occur annually. All studies conducted during Tier 2 Enrollment shall be submitted to FCDOT, DPZ, and the Hunter Mill Supervisor's office. After the first three years of annual studies and demonstration that the applicant has met the trip reduction goal each year, these studies may occur every two years. Once the 450 student enrollment is reached and the applicant has demonstrated that they have met the trip reduction goal for three consecutive years, these studies may be suspended altogether if mutually agreed to by the applicant and FCDOT.

(d) The weekday AM Commuter Peak Hour shall be from 7:30 AM to 8:30 AM. The weekday PM Commuter Peak Hour shall be from 5:00 PM to 6:00 PM.

(e) For purposes of determining whether the trip generation limits identified in subparagraph (b) are met, the number of vehicles entering and exiting the School shall be recorded during the AM and PM Commuter Peak Hours as identified in subparagraph (d). Counts of vehicles entering and exiting the school shall be conducted on a typical school day during a typical school week (i.e. no holidays, parent/teacher conferences, teacher in-service days, etc.) and shall be averaged over three consecutive school days (excluding Monday and Friday). Trip counts shall be determined by mechanical and/or manual traffic counts conducted by an independent contractor.

(f) No enrollment increase above Tier 1 shall be permitted until it has been demonstrated, using study methodology as established in subparagraphs (d) and (e) above, that the number of vehicle trips generated by the School does not exceed the trip generation limits established in subparagraph (b) for the two consecutive semesters in the regular school session immediately preceding the request. A Non-RUP shall not be issued until FCDOT determines that the terms of this condition have been met.

(g) Trip generation reductions may be met through the use of busing, shuttles, staggered pick-ups, carpools, ~~an additional access point onto Hunter Mill Road,~~ and/or other means. ~~A second access point would require an SEA.~~

20. The applicant shall acquire and dedicate sufficient right-of-way along the east side of Hunter Mill Road for the construction of a northbound right turn lane and associated taper approaching the Hunter Mill Road and Crowell Road intersection. These facilities shall be constructed prior to the issuance of a Non-RUP for the school.

21. The applicant shall construct a southbound left turn lane and associated taper approaching the Hunter Mill Road and Crowell Road intersection. These facilities shall be constructed prior to the issuance of a Non-RUP for the school.

22. The applicant shall acquire and dedicate sufficient right-of-way along the south side of Crowell Road for the construction of an eastbound right turn lane, a westbound left turn lane, and the respective tapers approaching the school driveway. For on-site areas along the south side of Crowell Road, the applicant shall dedicate sufficient right-of-way for turn lanes, tapers, buffers, a major paved trail, and clear zones, which are border areas starting at the edge of a traveled way available for safe use by an errant vehicle, according to VDOT and/or FCDOT standards, and as generally shown on the SEA plat.

23. Prior to the issuance of a Non-RUP, and with the exception of off-road paved trails, all transportation improvements shown on the SEA Plat (including, but not limited to, frontage improvements, turn lanes, tapers, the relocation of utilities, and a traffic signal at the intersection of Hunter Mill Road and Crowell Road), as approved by VDOT, shall be completed. The applicant shall construct the proposed transportation improvements and relocate utilities by using existing right-of-way or obtaining additional right-of-way through voluntary private agreements.

24. Notwithstanding the vehicle trip generation limits contained in Condition 19, if, at the time of site plan approval, the Applicant is not able to implement Conditions 20, 21, 22, and 23, a Non-RUP may be issued for Tier 1 enrollment (245 students) provided that the following vehicle trip generation limits onto Crowell Road are maintained:

AM Commuter Peak Hour	41 vehicle trips
PM Commuter Peak Hour	9 vehicle trips

The parameters for measuring the vehicle trip generation limits shall be as outlined in paragraphs (c) through (e) and (g) of Condition 19.

A subsequent Non-RUP may be issued for enrollment above Tier 1, not to exceed a maximum enrollment of 295 students, provided that the vehicle trip generation limits onto Crowell Rd noted above, are maintained.

If Conditions 20, 21, 22, and 23, inclusive, are implemented by others or the applicant, the vehicle trip generation limits in Condition 19 shall apply and the vehicle trip generation limits in Condition 24 shall no longer apply.

25. The applicant shall permit the recording of a public or private access easement to permit the future connection of the private driveway to the adjacent property identified as Tax Map 18-4 ((1)) 26. The future connection and expansion are to be provided by others. The location of the interparcel connection shall be as generally depicted on the Special Exception Amendment Plat associated with this SEA as a "Possible Future Interparcel Connection." The location of this future connection may shift from the northern-most point of SWM Pond #1 to the northern-most limit of Tax Map 18-4 ((1)) 26, subject to final engineering, without the need for an interpretation or SEA.

26. In the event that the berm along the Crowell Road frontage is removed on the neighboring properties (Tax Map 18-4 ((8)) 3 and Tax Map 18-4 ((8)) 5), the applicant shall be allowed to remove that portion of the berm adjacent to said neighboring properties on the land indicated in this

application, provided that the transitional screening designated on the Special Exception Amendment Plat associated with this SEA is replaced.

~~24.~~27. Pedestrian paths shall be provided as generally annotated on the SEA Plat, including those to the overflow parking lot, located to the northwest of the school, and to the athletic facilities, located to the northeast of the school.

~~25.~~28. Americans with Disabilities Act (ADA)-compliant pathways shall be provided from accessible parking spaces to the building entrances.

~~26.~~29. Before the issuance of the first Non-RUP for the school, the applicant shall install school zone flashing beacon lights within the existing right-of-way, if such lights are approved by VDOT, along Crowell Road at the eastbound and westbound approaches to the school driveway. These signs shall comply with Sect. 46.2-873 of the Code of Virginia.

~~27.~~30. Within 60 days of the filing of the first site plan on the property, the applicant shall submit the necessary plats, plans, deeds, and other supporting documents to Fairfax County to cause the temporary cul-de-sac of Forest Maple Drive to be converted to a permanent cul-de-sac. The applicant shall be responsible for the preparation and processing of the necessary documents, the cost of the physical conversion of the cul-de-sac, and the reconstruction, if necessary, of the cul-de-sac. In the event the applicant is unable to obtain consent from the affected property owners for the filing of the dedication and vacation of right-of-way request, the applicant shall escrow with Fairfax County the projected cost of the preparation and processing of the necessary documents and the physical conversion of the cul-de-sac, such cost to be determined by the applicant in consultation with Fairfax County based on the unit price schedule for the improvement that is applicable on the date that the conversion of the cul-de-sac is to be commenced.

~~28.~~31. Vehicular access to the Traction Power Substation Site (TPSS) shown on the SEA Plat may be provided from the internal road system without amendment of the special exception amendment.*

~~29.~~32. In conjunction with the dedication/sale of the land for the TPSS, an access easement shall be provided to Metropolitan Washington Airports Authority (or, as appropriate, the Washington Metropolitan Area Transit Authority) to permit periodic access to the TPSS from the internal road system.*

~~30.~~33. If sewer service is not available to the site, a special exception amendment shall be required to provide a septic system, or other alternative system as approved by the Health Department, on the property.*

~~31.~~34. The applicant shall conform strictly to the limits of clearing and grading as shown on the SEA Plat, subject to the installation of utilities and/or trails as determined necessary by the Director of DPWES. If it is determined necessary to install utilities and/or trails within the limits of clearing and grading as shown on the SEA Plat, they shall be located in the least disruptive manner necessary as determined by the Urban Forest Management Division (UFM) of the Department of Public Works and Environmental Services (DPWES). A replanting plan shall be developed and implemented, subject to approval by UFM, for any areas within the limits of clearing and grading that must be disturbed.*

~~32.~~35. Dead, dying, or invasive vegetation may be removed from the areas protected by the limits of clearing and grading, if approved by UFM.*

~~33.~~36. The applicant shall request approval from the property owners of Tax Map Parcels 18-4 ((8)) 2, 3, and 5 to remove portions of the off-site berm as depicted on the SEA plat and stabilize the area. If such approval is granted, the applicant shall remove portions of the berm as depicted on the SEA plat and stabilize the area, as described in Condition 34. If such approval is not granted, the applicant shall demonstrate that the grading and landscaping on the application property is in substantial conformance with that shown on the SEA Plat, or shall apply for a special exception amendment to modify those elements.

~~34.~~37. Following the removal of any portions of the berm on Tax Map Parcels 18-4 ((8)) 2, 3, and 5, and in order to stabilize the disturbed area, the applicant shall reseed the area in coordination with DPWES and in consultation with the Fairfax County Park Authority (FCPA) in accordance with the following:

(a) The applicant shall use the following native seed mix:

Indian grass - Sorghastrum nutans – 25%
Little bluestem – Schizachyrium scoparium – 10%
Virginia wild rye – Elymus virginicus – 10%
Deer tongue - Panicum clandestinum – 15%
Purple top – Tridens flavus – 10%
Common milkweed – Asclepias syriaca – 5 %
Joe-Pye weed – Eupatorium fistulosum – 5%
New York ironweed – Vernonia noveboracensis – 5%
Heath aster – Aster pilosus – 3%
Purple mist flower – Conoclinium coelestinum – 2%
Early goldenrod – Solidago juncea – 3%
Grass-leaved goldenrod – Euthamia graminifolia – 3%
Black-eyed Susan – Rudbeckia hirta – 2%

Narrowleaf mountainmint – Pycnanthemum tenuifolium – 2%

(b) The native seed mix for this project must be obtained from Ernst Conservation Seeds of Meadville, Pennsylvania or a Fairfax County Park Authority (FCPA) approved alternate vendor. Bag tags that show what seed was used must be provided to the Park Authority.

(c) The native seed mix shall be seeded at a rate of 0.5 pounds/1,000 square feet (about 20 lbs/acre) with a cover crop of annual rye (Lolium multiflorum) at 1.5 lbs/1,000 square feet.

(d) Prior to seeding the contractor shall prepare the site using disking or raking.

(e) For broadcast application, in which seeds are spread uniformly across a broad area, the native seed mix shall be mixed with weed-free compost (Soilmate or equivalent). If organic compost is used, native seed mix may be sown directly onto the compost and no additional mulching is required. For broadcasting over bare soil, the native seed mix shall be mixed with clean moist sand. Native seed mix may also be drilled or shot by an operator who knows how to apply native seed mix and has the proper equipment (e.g., a Truax type seed drill intended for native seed mixes).

(f) Following application of the native seed mix, the contractor shall immediately overseed (note that hyrodseeding with fiber mulch may be best on steep slopes, and coir or straw mats shall be used in steep slope areas) with annual rye (Lolium multiflorum) at a rate of 60 pounds per acre (about 1.5 lbs/1,000 square feet) in order to get coverage and stabilization prior to germination and establishment of native warm season grasses. Winter wheat may be substituted for annual rye if seeding is done after October 1st.

(g) Following application of the native seed mix and the annual rye, the area shall be covered with clean wheat straw to a depth of about 1 inch. No straw needs to be applied if the native seed mix is sown into a SoilMate or equivalent compost blanket or hydroseeded.

(h) No matting containing plastic mesh is allowed.

~~35.~~38. To provide an effective, year round screen along the northernmost 550 feet of the eastern property boundary, the vegetation shown on the SEA Plat shall be further supplemented by understory plantings to provide ground level screening, as recommended and approved by UFM.*

~~36.~~39. If it is determined by UFM that the landscaping shown on the SEA Plat outside of the preservation area along the eastern boundary of the site, along with the additional plantings required by these conditions, does not meet the intent of Transitional Screening I, as defined by the Zoning Ordinance, such landscaping shall be further supplemented with additional plantings to meet the intent of Transitional Screening I, as determined by UFM.*

~~37.~~40. A landscape plan shall be submitted concurrent with site plan review and shall provide for the number, sizes, and locations of trees and plantings consistent with that shown on the SEA Plat and the additional requirements of these conditions. The landscape plan shall be subject to the review and approval of UFM. Minor modifications may be permitted by UFM to the extent that these do not result in significant physical impacts to the areas designated to be left undisturbed.*

~~38.~~41. At the time of site plan submission, a tree survey shall be submitted that identifies the trunk location, species, size, crown spread and condition analysis rating for all individual and groups of trees shown on the SEA Plat to be preserved, as well as all on and off-site trees, living or dead with trunks 8 inches in diameter and greater (measured at 4 ½ feet from the base of the trunk or as otherwise allowed in the 9th or latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet of the approved limits of clearing and grading for review by UFM. This tree survey shall be prepared by a Certified Arborist or Landscape Architect with experience in the preparation of tree preservation plans.*

~~39.~~42. The applicant shall take necessary steps and actions to ensure the long-term survival, and continuing structural integrity and health of trees designated on the SEA Plat to be preserved. If any of these trees is found to be dead, dying, diseased, or hazardous (as determined by UFM) at or prior to, the final release of the project bond, and that such was not the result of unapproved construction practices, the applicant shall provide for restoration and remuneration by:

(a) Providing for the removal of the above ground portions of trees.

(b) Restoring understory plants and/or soil conditions damaged during tree removal activities (as determined by UFM).

(c) Providing for the restoration of the associated loss in canopy coverage in accordance with the tree cover guidance found in the Public Facilities Manual.*

~~40.~~43. The applicant shall: a) root prune the roots of trees to be preserved that may be damaged during clearing, demolition, grade changes, utility installation and/or the installation of retaining walls; b) mulch to a minimum depth of 3 inches within the areas to be left undisturbed where soil conditions are poor, lacking leaf litter or prone to soil erosion; and c) then provide tree protection fencing approved by UFM and where deemed necessary by UFM. The areas that will be root pruned and mulched shall be clearly identified on the Tree Designation Plan. All treatments for such trees and vegetation shall be clearly specified, labeled, and detailed on the erosion and sediment control sheets and demolition plan (if provided) sheets of the site plan submission. The details for these treatments shall be included in the Tree Designation Plan and shall be subject to the review and approval of UFM.*

All root pruning and mulching work shall be performed in a manner that protects adjacent trees and vegetation that are required to be preserved as shown on the SEA plat and may include, but not be limited to, the following:

- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
- Root pruning shall take place prior to any clearing and grading and/or demolition of structures.
- Root pruning shall not sever or significantly damage structural or compression roots in a manner that may compromise the structural integrity of trees or the ability of the root system to provide anchorage for the above ground portions of the trees.
- Root pruning shall be conducted with the on-site supervision of a certified arborist.
- 14 gauge welded wire tree protection fencing shall be installed immediately after root pruning, and shall be positioned directly in the root pruning trench and backfilled for stability, or just outside the trench within the disturbed area.
- Immediately after the Phase II E&S activities are complete, mulch shall be applied at a depth of 3 inches within designated areas without the use of motorized equipment.
- Mulch shall consist of wood chips, shredded hardwood, and/or pine bark mulch. Hay or straw mulch shall not be used within tree preservation areas.
- UFM shall be informed in writing when all root pruning and tree protection fence installation is complete.*

~~41.~~44. All signage shall conform to Sect. 12-208 of the Zoning Ordinance.*

~~42.~~45. Outdoor construction activities shall be limited to the hours of 7:00 am – 7:00 pm, Monday through Friday and 9:00 am – 6:00 pm, Saturday. No

outdoor construction activities shall take place on Sundays or Federal Holidays.*

~~43.~~46. If porta-potties are provided for temporary use at the outdoor athletic fields/tennis courts, they shall not be located within 100 feet of any property line.*

~~44.~~47. If a scoreboard is provided at the outdoor athletic fields/tennis courts, no more than one shall be permitted at a time on the entire site. It shall not be located within 100 feet of any property line and shall be fully screened from view so that it may not be viewed by any neighboring property off-site.*

The above proposed conditions are staff recommendations and do not reflect the position of the Board unless and until adopted by the Board.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be responsible for obtaining the required Non-RUP through established procedures, and this use shall not be established until this has been accomplished.

Pursuant to Section 9-015 of the Zoning Ordinance, this special exception shall automatically expire, without notice, 36 months after the date of approval unless, at a minimum, the use has been established or construction has commenced and been diligently prosecuted. The Board may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the special exception. The request must specify the amount of additional time requested, the basis for the amount of time requested, and an explanation of why additional time is required.

PROPOSED DEVELOPMENT CONDITIONS
SEA 2009-DR-008
January 21, 2014

If it is the intent of the Board of Supervisors (Board) to approve SEA 2009-DR-008, located on the south side of Crowell Road, Tax Map 18-4 ((1)) 26C and 18-4 ((8)) 4 and A, for a private school of general education, pursuant to Sect. 3-E04 of the Fairfax County Zoning Ordinance, the staff recommends that the Board condition the approval by requiring conformance with the following development conditions to supersede all previous conditions. (Those conditions that are identical to conditions that were included in the previous approval or that contain only minor editorial changes are marked with an asterisk*).

1. This Special Exception Amendment (SEA) is granted for and runs with the land indicated in this application and is not transferable to other land.*

2. This Special Exception Amendment is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.*

3. This Special Exception Amendment is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPWES). Any plan submitted pursuant to this special exception amendment shall be in substantial conformance with the approved Special Exception Amendment Plat entitled "Oakcrest School," consisting of 19 sheets dated December 2012, and revised through January 14, 2014, and these conditions. Minor modifications to the approved special exception amendment may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.*

4. As long as the applicant continues to permit Golf Park, Inc., to use and/or occupy any part of the Application property, pursuant to SP 91-C-070 and its subsequent amendments (collectively "SP-91-C-070"), no land disturbance activity associated with this SEA may occur.

   The following is a non-exhaustive list of such land disturbance activity: clearing activities; grading activities; and requests for the issuance or release of any construction or grading permit and any inspections related thereto.

5. A copy of these special exception amendment conditions shall be posted in a conspicuous place on the property, and made available to the public and all departments of the County of Fairfax during hours of operation.*

6. Architecture shall be in general conformance with that shown on Sheets 12 and 13 of the SEA Plat.*

7. Any retaining walls provided which are not shown on the SEA Plat shall not exceed three feet in height.*

8. The architectural treatment of the portions of any retaining walls over two feet in height that face the eastern, northern, or western lot lines shall consist of a split face, landscape block, masonry, concrete, concrete tie or stone finish, and shall be of a color compatible with the other structures on the property.*

9. The maximum daily enrollment shall be limited to 450 students, grades 6-12.*

10. The maximum number of staff on-site at any one time shall be 90.*

11. (a) The primary hours of operation, to include regular extracurricular activities, shall be limited to 7:00 am to 6:00 pm, Monday - Friday.*

    (b) Evening hours of operation for parent/teacher conferences and similar meetings shall be permitted Monday - Friday, but shall be scheduled to end by 10:00 pm.*

    (c) Other evening activities shall be permitted Monday - Friday, but shall be scheduled to end by 10:00 pm, Monday – Thursday and by 11:00 pm Friday, and shall be limited to a maximum of eight occurrences per month.*

    (d) Weekend activities shall be limited to 9:00 am to 11:00 pm on Saturday and 9:00 am to 5:00 pm on Sunday. Weekend activities with an anticipated attendance of 30 or more shall be limited to four events per month. No more than twice a year an indoor event on a Saturday may extend until 12:00 midnight.*

    (e) Weekend outdoor activities shall not extend beyond 7:30 pm.*

    (f) The school buildings and outdoor playing fields shall not be leased, rented, or otherwise made available to groups not affiliated with or sponsored by the school.*

12. Any on-site summer camp or summer school activities shall be subject to the following restrictions:

    (a) The total maximum daily enrollment shall be limited to 450 children,

limited to children entering 1st grade through those who have just graduated from 12th grade.*

(b) The hours of operation of the summer camp / summer school shall be limited to 8:00 am to 6:00 pm, Monday - Friday.*

13. Prior to the first day of school each year, a neighborhood liaison committee shall be established to coordinate and meet with interested neighbors to discuss and address neighborhood concerns regarding the school. Prior to the first day of school, the neighborhood liaison committee shall designate a contact person, and the name and phone number of the contact person shall be provided to the presidents of surrounding civic associations and the office of the Hunter Mill District Supervisor or another local District Supervisor if the District is no longer the Hunter Mill District due to future redistricting or some other reason.*

14. No lighting shall be provided for the outdoor playing fields/tennis courts, and the use of outdoor public address speaker systems or bull horns shall be prohibited. However, this shall not preclude the use of a temporary public address speaker system to be used for outdoor graduation/baccalaureate ceremonies.*

15. All lighting, including security lighting, shall be in conformance with Part 9 of Article 14 of the Zoning Ordinance. Any light fixtures provided on the site shall be limited to a maximum height of 12 feet, from ground level to the top of the fixture.*

16. Indoor recreation space shall be provided for each student enrolled in accordance with the provisions of Chapter 30 of the Code.*

17. All vehicular parking shall be provided on-site. If additional parking is required during any special event, off-site parking and shuttle service shall be provided.*

18. The applicant shall designate an individual as the applicant's transportation coordinator to administer and encourage participation in a transportation management program designed to reduce the number of vehicle trips to and from the school during peak hours as a mechanism to minimize daily vehicular trips. The name of the transportation coordinator shall be provided to the Fairfax County Department of Transportation (FCDOT) within 30 days after the issuance of the first Non-Residential Use Permit (Non-RUP) for the school and at any such time as the coordinator changes. A transportation management plan shall be submitted to FCDOT within 90 days after the issuance of the initial Non-RUP for the school.

19. Trip Generation Limits:

(a) The initial Non-RUP for Oakcrest School on the Application property may not be issued for more than 245 students (referred to herein as "Tier 1 Enrollment" or "Tier 1"). A subsequent Non-RUP shall be required for an enrollment increase above 245 students (referred to herein as "Tier 2 Enrollment" or "Tier 2").

(b) The following vehicle trip generation limits onto Crowell Road shall be maintained during both the regular school year and summer activities:

	Tier 1: ≤ 245 students	Tier 2: 246-450 students
AM Commuter Peak Hour	198 vehicle trips	255 vehicle trips
PM Commuter Peak Hour	43 vehicle trips	65 vehicle trips

(c) During Tier 1 Enrollment, a record of the School's trip generation by semester, using study methodology as established in subparagraphs (d) and (e) below, shall be maintained. These records and associated reports shall be made available upon request by FCDOT, the Department of Planning and Zoning (DPZ), and/or the Hunter Mill Supervisor's office.

If a Non-RUP for Tier 2 is attained, these studies shall occur annually. All studies conducted during Tier 2 Enrollment shall be submitted to FCDOT, DPZ, and the Hunter Mill Supervisor's office. After the first three years of annual studies and demonstration that the applicant has met the trip reduction goal each year, these studies may occur every two years. Once the 450 student enrollment is reached and the applicant has demonstrated that they have met the trip reduction goal for three consecutive years, these studies may be suspended altogether if mutually agreed to by the applicant and FCDOT.

(d) The weekday AM Commuter Peak Hour shall be from 7:30 AM to 8:30 AM. The weekday PM Commuter Peak Hour shall be from 5:00 PM to 6:00 PM.

(e) For purposes of determining whether the trip generation limits identified in subparagraph (b) are met, the number of vehicles entering and exiting the School shall be recorded during the AM and PM Commuter Peak Hours as identified in subparagraph (d). Counts of vehicles entering and exiting the school shall be conducted on a

typical school day during a typical school week (i.e. no holidays, parent/teacher conferences, teacher in-service days, etc.) and shall be averaged over three consecutive school days (excluding Monday and Friday). Trip counts shall be determined by mechanical and/or manual traffic counts conducted by an independent contractor.

(f) No enrollment increase above Tier 1 shall be permitted until it has been demonstrated, using study methodology as established in subparagraphs (d) and (e) above, that the number of vehicle trips generated by the School does not exceed the trip generation limits established in subparagraph (b) for the two consecutive semesters in the regular school session immediately preceding the request. A Non-RUP shall not be issued until FCDOT determines that the terms of this condition have been met.

(g) Trip generation reductions may be met through the use of busing, shuttles, staggered pick-ups, carpools, and/or other means.

20. The applicant shall acquire and dedicate sufficient right-of-way along the east side of Hunter Mill Road for the construction of a northbound right turn lane and associated taper approaching the Hunter Mill Road and Crowell Road intersection. These facilities shall be constructed prior to the issuance of a Non-RUP for the school.

21. The applicant shall construct a southbound left turn lane and associated taper approaching the Hunter Mill Road and Crowell Road intersection. These facilities shall be constructed prior to the issuance of a Non-RUP for the school.

22. The applicant shall acquire and dedicate sufficient right-of-way along the south side of Crowell Road for the construction of an eastbound right turn lane, a westbound left turn lane, and the respective tapers approaching the school driveway. For on-site areas along the south side of Crowell Road, the applicant shall dedicate sufficient right-of-way for turn lanes, tapers, buffers, a major paved trail, and clear zones, which are border areas starting at the edge of a traveled way available for safe use by an errant vehicle, according to VDOT and/or FCDOT standards, and as generally shown on the SEA plat.

23. Prior to the issuance of a Non-RUP, and with the exception of off-road paved trails, all transportation improvements shown on the SEA Plat (including, but not limited to, frontage improvements, turn lanes, tapers, the relocation of utilities, and a traffic signal at the intersection of Hunter Mill Road and Crowell Road), as approved by VDOT, shall be completed. The applicant shall construct the proposed transportation improvements

and relocate utilities by using existing right-of-way or obtaining additional right-of-way through voluntary private agreements.

24. Notwithstanding the vehicle trip generation limits contained in Condition 19, if, at the time of site plan approval, the Applicant is not able to implement Conditions 20, 21, 22, and 23, a Non-RUP may be issued for Tier 1 enrollment (245 students) provided that the following vehicle trip generation limits onto Crowell Road are maintained:

AM Commuter Peak Hour	41 vehicle trips
PM Commuter Peak Hour	9 vehicle trips

The parameters for measuring the vehicle trip generation limits shall be as outlined in paragraphs (c) through (e) and (g) of Condition 19.

A subsequent Non-RUP may be issued for enrollment above Tier 1, not to exceed a maximum enrollment of 295 students, provided that the vehicle trip generation limits onto Crowell Rd noted above, are maintained.

If Conditions 20, 21, 22, and 23, inclusive, are implemented by others or the applicant, the vehicle trip generation limits in Condition 19 shall apply and the vehicle trip generation limits in Condition 24 shall no longer apply.

25. The applicant shall permit the recording of a public or private access easement to permit the future connection of the private driveway to the adjacent property identified as Tax Map 18-4 ((1)) 26. The future connection and expansion are to be provided by others. The location of the interparcel connection shall be as generally depicted on the Special Exception Amendment Plat associated with this SEA as a “Possible Future Interparcel Connection.” The location of this future connection may shift from the northern-most point of SWM Pond #1 to the northern-most limit of Tax Map 18-4 ((1)) 26, subject to final engineering, without the need for an interpretation or SEA.

26. In the event that the berm along the Crowell Road frontage is removed on the neighboring properties (Tax Map 18-4 ((8)) 3 and Tax Map 18-4 ((8)) 5), the applicant shall be allowed to remove that portion of the berm adjacent to said neighboring properties on the land indicated in this application, provided that the transitional screening designated on the Special Exception Amendment Plat associated with this SEA is replaced.

27. Pedestrian paths shall be provided as generally annotated on the SEA Plat, including those to the overflow parking lot, located to the northwest of

the school, and to the athletic facilities, located to the northeast of the school.

28. Americans with Disabilities Act (ADA)-compliant pathways shall be provided from accessible parking spaces to the building entrances.

29. Before the issuance of the first Non-RUP for the school, the applicant shall install school zone flashing beacon lights within the existing right-of-way, if such lights are approved by VDOT, along Crowell Road at the eastbound and westbound approaches to the school driveway. These signs shall comply with Sect. 46.2-873 of the Code of Virginia.

30. Within 60 days of the filing of the first site plan on the property, the applicant shall submit the necessary plats, plans, deeds, and other supporting documents to Fairfax County to cause the temporary cul-de-sac of Forest Maple Drive to be converted to a permanent cul-de-sac. The applicant shall be responsible for the preparation and processing of the necessary documents, the cost of the physical conversion of the cul-de-sac, and the reconstruction, if necessary, of the cul-de-sac. In the event the applicant is unable to obtain consent from the affected property owners for the filing of the dedication and vacation of right-of-way request, the applicant shall escrow with Fairfax County the projected cost of the preparation and processing of the necessary documents and the physical conversion of the cul-de-sac, such cost to be determined by the applicant in consultation with Fairfax County based on the unit price schedule for the improvement that is applicable on the date that the conversion of the cul-de-sac is to be commenced.

31. Vehicular access to the Traction Power Substation Site (TPSS) shown on the SEA Plat may be provided from the internal road system without amendment of the special exception amendment.*

32. In conjunction with the dedication/sale of the land for the TPSS, an access easement shall be provided to Metropolitan Washington Airports Authority (or, as appropriate, the Washington Metropolitan Area Transit Authority) to permit periodic access to the TPSS from the internal road system.*

33. If sewer service is not available to the site, a special exception amendment shall be required to provide a septic system, or other alternative system as approved by the Health Department, on the property.*

34. The applicant shall conform strictly to the limits of clearing and grading as shown on the SEA Plat, subject to the installation of utilities and/or trails as determined necessary by the Director of DPWES. If it is determined necessary to install utilities and/or trails within the limits of clearing and

grading as shown on the SEA Plat, they shall be located in the least disruptive manner necessary as determined by the Urban Forest Management Division (UFM) of the Department of Public Works and Environmental Services (DPWES). A replanting plan shall be developed and implemented, subject to approval by UFM, for any areas within the limits of clearing and grading that must be disturbed.*

35. Dead, dying, or invasive vegetation may be removed from the areas protected by the limits of clearing and grading, if approved by UFM.*

36. The applicant shall request approval from the property owners of Tax Map Parcels 18-4 ((8)) 2, 3, and 5 to remove portions of the off-site berm as depicted on the SEA plat and stabilize the area. If such approval is granted, the applicant shall remove portions of the berm as depicted on the SEA plat and stabilize the area, as described in Condition 34. If such approval is not granted, the applicant shall demonstrate that the grading and landscaping on the application property is in substantial conformance with that shown on the SEA Plat, or shall apply for a special exception amendment to modify those elements.

37. Following the removal of any portions of the berm on Tax Map Parcels 18-4 ((8)) 2, 3, and 5, and in order to stabilize the disturbed area, the applicant shall reseed the area in coordination with DPWES and in consultation with the Fairfax County Park Authority (FCPA) in accordance with the following:

(a) The applicant shall use the following native seed mix:

Indian grass - Sorghastrum nutans – 25%
Little bluestem – Schizachyrium scoparium – 10%
Virginia wild rye – Elymus virginicus – 10%
Deer tongue - Panicum clandestinum – 15%
Purple top – Tridens flavus – 10%
Common milkweed – Asclepias syriaca – 5 %
Joe-Pye weed – Eupatorium fistulosum – 5%
New York ironweed – Vernonia noveboracensis – 5%
Heath aster – Aster pilosus – 3%
Purple mist flower – Conoclinium coelestinum – 2%
Early goldenrod – Solidago juncea – 3%
Grass-leaved goldenrod – Euthamia graminifolia – 3%
Black-eyed Susan – Rudbeckia hirta – 2%
Narrowleaf mountainmint – Pycnanthemum tenuifolium – 2%

(b) The native seed mix for this project must be obtained from Ernst Conservation Seeds of Meadville, Pennsylvania or a Fairfax County

Park Authority (FCPA) approved alternate vendor. Bag tags that show what seed was used must be provided to the Park Authority.

(c) The native seed mix shall be seeded at a rate of 0.5 pounds/1,000 square feet (about 20 lbs/acre) with a cover crop of annual rye (Lolium multiflorum) at 1.5 lbs/1,000 square feet.

(d) Prior to seeding the contractor shall prepare the site using disking or raking.

(e) For broadcast application, in which seeds are spread uniformly across a broad area, the native seed mix shall be mixed with weed-free compost (Soilmate or equivalent). If organic compost is used, native seed mix may be sown directly onto the compost and no additional mulching is required. For broadcasting over bare soil, the native seed mix shall be mixed with clean moist sand. Native seed mix may also be drilled or shot by an operator who knows how to apply native seed mix and has the proper equipment (e.g., a Truax type seed drill intended for native seed mixes).

(f) Following application of the native seed mix, the contractor shall immediately overseed (note that hyrodseeding with fiber mulch may be best on steep slopes, and coir or straw mats shall be used in steep slope areas) with annual rye (Lolium multiflorum) at a rate of 60 pounds per acre (about 1.5 lbs/1,000 square feet) in order to get coverage and stabilization prior to germination and establishment of native warm season grasses. Winter wheat may be substituted for annual rye if seeding is done after October 1st.

(g) Following application of the native seed mix and the annual rye, the area shall be covered with clean wheat straw to a depth of about 1 inch. No straw needs to be applied if the native seed mix is sown into a SoilMate or equivalent compost blanket or hydroseeded.

(h) No matting containing plastic mesh is allowed.

38. To provide an effective, year round screen along the northernmost 550 feet of the eastern property boundary, the vegetation shown on the SEA Plat shall be further supplemented by understory plantings to provide ground level screening, as recommended and approved by UFM.*

39. If it is determined by UFM that the landscaping shown on the SEA Plat outside of the preservation area along the eastern boundary of the site, along with the additional plantings required by these conditions, does not meet the intent of Transitional Screening I, as defined by the Zoning Ordinance, such landscaping shall be further supplemented with additional

plantings to meet the intent of Transitional Screening I, as determined by UFM.*

40. A landscape plan shall be submitted concurrent with site plan review and shall provide for the number, sizes, and locations of trees and plantings consistent with that shown on the SEA Plat and the additional requirements of these conditions. The landscape plan shall be subject to the review and approval of UFM. Minor modifications may be permitted by UFM to the extent that these do not result in significant physical impacts to the areas designated to be left undisturbed.*

41. At the time of site plan submission, a tree survey shall be submitted that identifies the trunk location, species, size, crown spread and condition analysis rating for all individual and groups of trees shown on the SEA Plat to be preserved, as well as all on and off-site trees, living or dead with trunks 8 inches in diameter and greater (measured at 4 ½ feet from the base of the trunk or as otherwise allowed in the 9th or latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet of the approved limits of clearing and grading for review by UFM. This tree survey shall be prepared by a Certified Arborist or Landscape Architect with experience in the preparation of tree preservation plans.*

42. The applicant shall take necessary steps and actions to ensure the long-term survival, and continuing structural integrity and health of trees designated on the SEA Plat to be preserved. If any of these trees is found to be dead, dying, diseased, or hazardous (as determined by UFM) at or prior to, the final release of the project bond, and that such was not the result of unapproved construction practices, the applicant shall provide for restoration and remuneration by:

    (a) Providing for the removal of the above ground portions of trees.

    (b) Restoring understory plants and/or soil conditions damaged during tree removal activities (as determined by UFM).

    (c) Providing for the restoration of the associated loss in canopy coverage in accordance with the tree cover guidance found in the Public Facilities Manual.*

43. The applicant shall: a) root prune the roots of trees to be preserved that may be damaged during clearing, demolition, grade changes, utility installation and/or the installation of retaining walls; b) mulch to a minimum depth of 3 inches within the areas to be left undisturbed where soil conditions are poor, lacking leaf litter or prone to soil erosion; and c) then provide tree protection fencing approved by UFM and where deemed

necessary by UFM. The areas that will be root pruned and mulched shall be clearly identified on the Tree Designation Plan. All treatments for such trees and vegetation shall be clearly specified, labeled, and detailed on the erosion and sediment control sheets and demolition plan (if provided) sheets of the site plan submission. The details for these treatments shall be included in the Tree Designation Plan and shall be subject to the review and approval of UFM.*

All root pruning and mulching work shall be performed in a manner that protects adjacent trees and vegetation that are required to be preserved as shown on the SEA plat and may include, but not be limited to, the following:

- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
- Root pruning shall take place prior to any clearing and grading and/or demolition of structures.
- Root pruning shall not sever or significantly damage structural or compression roots in a manner that may compromise the structural integrity of trees or the ability of the root system to provide anchorage for the above ground portions of the trees.
- Root pruning shall be conducted with the on-site supervision of a certified arborist.
- 14 gauge welded wire tree protection fencing shall be installed immediately after root pruning, and shall be positioned directly in the root pruning trench and backfilled for stability, or just outside the trench within the disturbed area.
- Immediately after the Phase II E&S activities are complete, mulch shall be applied at a depth of 3 inches within designated areas without the use of motorized equipment.
- Mulch shall consist of wood chips, shredded hardwood, and/or pine bark mulch. Hay or straw mulch shall not be used within tree preservation areas.
- UFM shall be informed in writing when all root pruning and tree protection fence installation is complete.*

44. All signage shall conform to Sect. 12-208 of the Zoning Ordinance.*

45. Outdoor construction activities shall be limited to the hours of 7:00 am – 7:00 pm, Monday through Friday and 9:00 am – 6:00 pm, Saturday. No outdoor construction activities shall take place on Sundays or Federal Holidays.*

46. If porta-potties are provided for temporary use at the outdoor athletic fields/tennis courts, they shall not be located within 100 feet of any property line.*

47. If a scoreboard is provided at the outdoor athletic fields/tennis courts, no more than one shall be permitted at a time on the entire site. It shall not be located within 100 feet of any property line and shall be fully screened from view so that it may not be viewed by any neighboring property off-site.*

The above proposed conditions are staff recommendations and do not reflect the position of the Board unless and until adopted by the Board.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be responsible for obtaining the required Non-RUP through established procedures, and this use shall not be established until this has been accomplished.

Pursuant to Section 9-015 of the Zoning Ordinance, this special exception shall automatically expire, without notice, 36 months after the date of approval unless, at a minimum, the use has been established or construction has commenced and been diligently prosecuted. The Board may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the special exception. The request must specify the amount of additional time requested, the basis for the amount of time requested, and an explanation of why additional time is required.

ATTACHMENT 5

RECEIVED
Department of Planning & Zoning
MAR 2 8 2013
Zoning Evaluation Division

Appendix to Student/Parent Handbook:

Transportation Management Plan

2014-2015 School Year

OAKCREST SCHOOL

Hunter Mill Road Campus

1619 Crowell Road, Vienna, VA 22182

Phone: (703) 790-5450 ▯ Fax: (703) 790-5380 ▯ oakcrest.org

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SECTION 1: INTRODUCTION

A Transportation Management Plan (TMP) is a set of procedures or strategies designed to safely and efficiently accommodate traffic for a particular development or project. In addition to establishing procedures that describe how traffic operations for a particular site work, a TMP often includes transportation demand management (TDM) strategies. TDM is a general term for strategies and/or policies that help make more efficient use of transportation resources. TDM strategies and policies improve transportation options available, provide incentives to change trip scheduling, route, or mode of travel, and/or reduce the need for physical travel through more efficient land use or transportation substitutes.

Oakcrest is committed to doing its part to help reduce congestion and to ensure the safe and efficient flow of traffic on and around campus. To that end, Oakcrest has developed this TMP, which sets forth policies and procedures for the drop-off/pick-up operation and parking on campus. Additionally, the TMP includes TDM strategies that promote the use of non-single occupant vehicles by providing a ride matching service designed to assist parents and guardians in forming carpools, establishing preferential drop-off/pick-up operations for carpools, and by providing shuttle bus service.

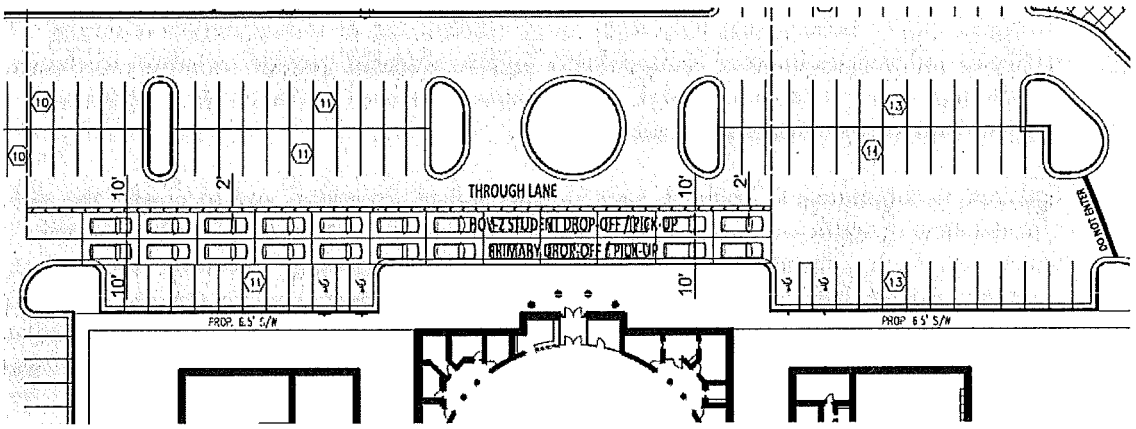
The Special Exception (SE) granted to Oakcrest requires that the school establish procedures and policies to mitigate school traffic in the Hunter Mill neighborhood and promote the use of carpools. The purpose of this document is to clearly establish Oakcrest's transportation procedures. These procedures reflect the transportation requirements established in the SE as approved by the Fairfax County Board of Supervisors. It is important that all drivers, including staff, parents, grandparents, caregivers and siblings, understand and abide by the transportation procedures described in this manual.

Please carefully review the policies and procedures set forth in this manual. It is very important to Oakcrest's ongoing and future operations that all drivers abide by these procedures. Every member of the Oakcrest community plays an essential role in ensuring that Oakcrest School fulfills its responsibility regarding traffic mitigation.

Section 2: ACCESS AND CIRCULATION

When dropping off or picking up students, please follow the established drop-off/pick-up patterns as described below.

2.1 STUDENT DROP-OFF AND PICK-UP



- All persons dropping-off or picking-up students enter the drop-off/pick-up lane (located in front of the school) in a one-way eastbound direction.
- There are 2 lanes in front of the building. The outside (left) lane is an HOV-2S express lane (see Section 6) and may be used only by vehicles dropping-off or picking-up two or more students. The inside lane is a non-express lane, which is used for all other vehicles dropping off or picking up students.
- When driving up to the front of the school, pull forward as far as possible, following the directions of the traffic monitor
- During morning drop-off and afternoon dismissal, no parking is permitted in or near the carpool lanes.
- All drivers are expected to obey speed limits, drive with caution, and observe the signs and arrows indicating traffic flow as they approach and leave the school.

2.2 MORNING ARRIVAL

- Oakcrest opens for students at 7:15 AM.
- Students may be dropped off between 7:15AM and 7:45 AM.
- Classes begin at 7:50 AM.
- Students should be should be ready to unload as upon arrival and as soon as the traffic monitor signal for students to alight their vehicles.
- When all the cars have stopped, the students will get out of their respective cars at the same time and enter the building with the guidance of the traffic monitor.
- Drivers must wait in line until the traffic monitor signals that it is safe to drive away.
- The HOV-2S express lanes will be released first, followed by the non-express lanes.
- *Since students and student drivers will be leaving their cars and walking through the carpool lanes to enter the building, it is important that all drivers obey the traffic monitor and do not pull away from the curb before the traffic monitor has given the signal.*

2.3 AFTERNOON DISMISSAL

- Classes end at 3:00 PM. The building remains open for students until 4:30 PM.
- Students not participating in after school activities should be picked up between 3:00 and 3:30 PM.
- Students with after school activities must be picked up within 10 minutes of their conclusion.
- Drive into the carpool area *only* if your student(s) is ready to be picked up.
    - The carpool lanes are for immediate loading and unloading only.
    - If you arrive to campus before your student(s) is ready to be picked up, park in the overflow parking area.
- When your student(s) is ready to be picked up, drive into one of the carpool lanes.
    - Drivers picking up more than one Oakcrest student may use the HOV-2S express lane.
    - Drivers picking up only one Oakcrest student must use the non-express lane.
- When all the cars have stopped, the students will board their respective vehicles at the same time, upon direction from the traffic monitor.
- Wait in line until the traffic monitor signals that it is safe to drive away.
- The HOV-2S express lanes will be released first, followed by the non-express lanes.
- *Since students and student drivers will be exiting the building and walking through the carpool lanes to enter their cars, it is important that all drivers obey the traffic monitor and do not pull away from the curb before the traffic monitor has given the signal.*

2.4 EARLY DISMISSAL

- On scheduled Early Dismissal days, classes end at 12:10 PM. The building remains open for students with no after school activities until 1:00 PM.
- Students may be picked up between 12:10pm and 1:00pm.
- Follow the same procedures as Afternoon Dismissal (Section 2.3)

2.5 Delayed Opening

- On scheduled Delayed Opening days, the building opens at 9:15 AM, classes begin at 9:50 AM
- Students may be dropped off between 9:15 AM and 9:45 AM
- Follow the same procedures as Morning Arrival (Section 2.2)

2.6 FACULTY AND STAFF ARRIVAL AND DEPARTURE

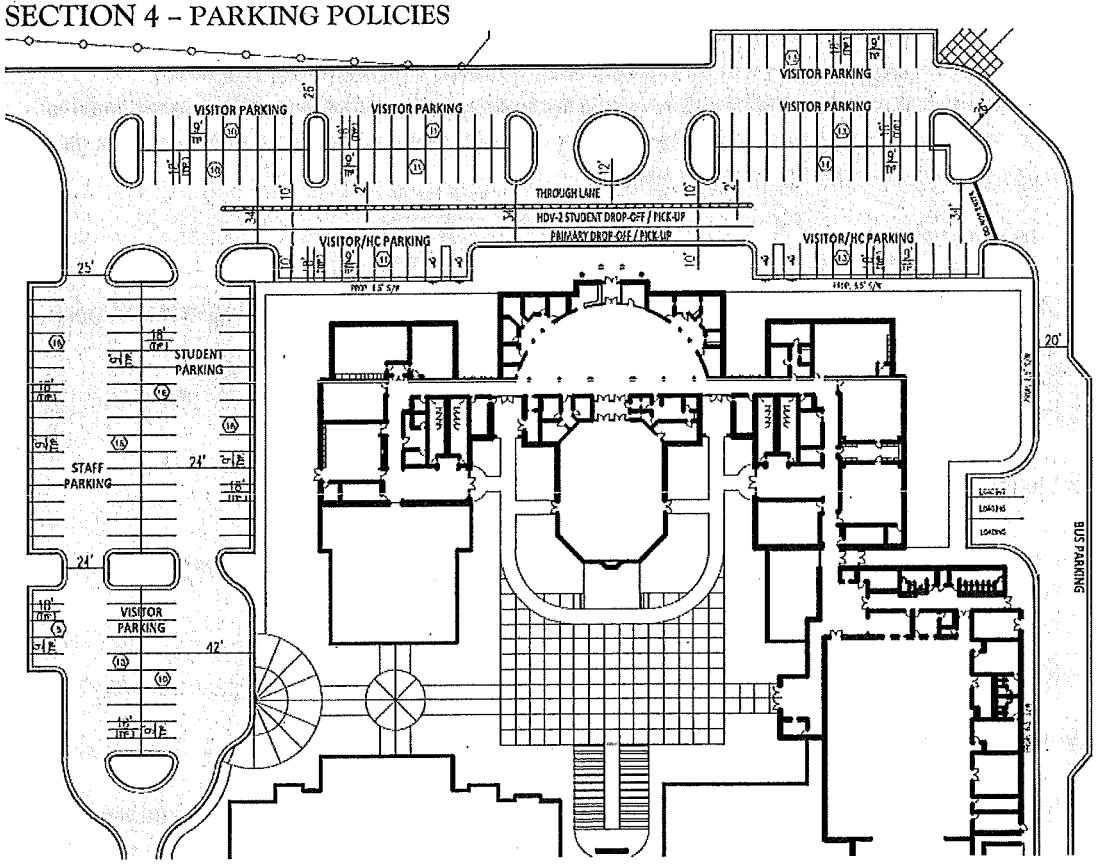
- Faculty and staff (full-time and part-time with a first period class) may arrive on campus before 7:15 AM. Part-time faculty and staff members who do not have a first period class may arrive before 7:15 AM or after 7:45 AM. Faculty and staff (full-time and part-time with a last period class) may depart the campus any time after 3:30 PM. Part-time faculty and staff members who do not have a last period class may leave before 3:00 PM or after 3:30 PM.
- On scheduled Early Dismissal days, faculty and staff may depart after 1:00 PM.
- On scheduled Delayed Opening Days, faculty and staff may arrive before 9:15 AM.

SECTION 3- TRANSPORTATION COORDINATOR

The Transportation Coordinator will be responsible for the following:

- Assist parents and guardians with forming carpools through Oakcrest's ride matching program, using Oakcrest's existing parent database
- Maintain and update Oakcrest's ride matching database
- Administer carpool registration
- Administer vehicle registration for student drivers and faculty/staff
- Act as designated contact regarding TMP (for Oakcrest Community, FCDOT, and community)
- Act as liaison with the community regarding parking and traffic issues
- Disseminate information regarding carpool program and traffic and parking policies
- Maintain record of trip counts conducted under this TPM

SECTION 4 – PARKING POLICIES



- All parking for staff, visitors and volunteers must be accommodated on-site.
- Faculty and staff should park in the designated faculty/staff spaces on campus.
- Spaces reserved for visitors, Head of School and the chaplain should not be used by faculty, staff, or students.

- Students should park in the undesignated spaces.

- Parking along neighborhood streets is not permitted.

- During morning drop off and afternoon dismissal, no parking is permitted in or near carpool lanes. Vehicles cannot be unattended in the pick-up/drop-off lane.

- The handicapped parking spots are reserved for cars identified with the appropriate license plate or placard. Please do not use these spaces unless your vehicle is properly identified.

Section 5 – Driver Operations

5.1 VEHICLE REGISTRATION

- Vehicles used for carpools must register their vehicle as a carpool vehicle.

- Faculty/staff who drive to school must complete an Automobile Identification Form.

- Students who drive to school must complete an Automobile Identification Form and park in the student-designated parking spaces in parking lot.
    - Driving to school is a privilege for students. Student violations of the traffic policies and procedures in this manual will be subject to disciplinary measures (See Section 8).

5.2 SAFE DRIVING STANDARDS

- It is essential to the success of Oakcrest School that every driver in the Oakcrest community drives safely at all times, especially in the neighborhood surrounding the school.

- Each Oakcrest driver is an ambassador for the school. Please be extra courteous when driving through our neighborhood and obey all posted speed limits and all other traffic laws.

- By enrolling at Oakcrest School, you are agreeing to abide by the following Safe Driving Standards:
    - Obey speed limits, drive with caution, and observe the signs and arrows indicating traffic flow as they approach and leave the school.
    - The community streets, which access Oakcrest, are narrow, hilly, and lack sidewalks. Be careful and courteous of pedestrian traffic on these streets. In the interest of safety for all, we also urge you to comply with all traffic signs and posted speed limits.
    - Come to a complete stop at all stop signs (no rolling stops).
    - Yield right-of-way as required by law.
    - Look for traffic cones identifying appropriate parking spaces. Use extreme caution around pedestrians.
    - Obey school bus laws.
    - Do not turn around in neighborhood driveways or make U-turns in neighborhood intersections.
    - Do not drive in an unlawful manner, which includes DUI, DWI, street racing, road rage, and reckless driving.

- Pedestrians have the right-of-way.
- During carpool, please pull all of the way forward so that the maximum number of vehicles possible can fit. Do not pass cars that are already waiting in line. (See Section2)
- Drive extremely slowly and exercise great caution in the parking lot as the safety of people (especially students) walking among parked and moving cars is of extreme importance.
- Occasionally traffic cones may block off the parking lot. Do not drive into the area when students are using these areas for outdoor activities.

Section 6: Ridesharing

- Various ridesharing options are available to Oakcrest families, including carpooling and buses.
- It is important for as many families as possible participate in a rideshare option.
- It is up to individual families to determine the rideshare option that works best for them.
- Parents are encouraged to choose among the following options in order for Oakcrest to adhere to the limited number of vehicle trips each day:
    - HOV-2S
    - Ride Matching Program
    - An Oakcrest shuttle bus.
- These options are described in more detail in subsequent subsections.

6.1 HOV-2S

- Oakcrest recommends a High Occupancy Vehicle-2 Student (HOV-2S) policy for students.
- Each vehicle carrying students to Oakcrest for the morning drop-off and afternoon dismissal are encouraged to transport at least two Oakcrest students in the vehicle.
- HOV-2S vehicles may use the express carpool lane during morning drop off and afternoon dismissal.
- If you only have one Oakcrest child in your family, there are three options available to you:

    (1) Arrange to carpool with another Oakcrest family. If you need help, contact the Transportation Coordinator
    (2) Utilize an Oakcrest shuttle bus (see Section 2.4).
    (3) Request a special consultation with the Transportation Coordinator to discuss your specific circumstances.

6.2 RIDE MATCHING PROGRAM

- Oakcrest School's Transportation Coordinator maintains a Ride Matching database to assist parents in forming carpools.
- If you need any assistance in forming a carpool, please contact the Transportation Coordinator.

6.3 SHUTTLE BUS SERVICE

- With a minimum number of families participating, Oakcrest offers fee-based bus service to transport students to and from school as a convenience to families and to help reduce traffic in the neighborhood.
- The bus schedule is posted on the parent portal of the School's website.
- Specific schedules and drop-off points may vary from time to time, but will be announced by email and posted on the parent portal.

6.3.1 MARYLAND BUS

- If at least 15 students participate, Oakcrest will offer a fee-based bus service to and from Montgomery County, Maryland.

6.3.2 VIRGINIA BUS

- If at least 28 students participate, Oakcrest will offer fee-based bus service to and from Alexandria, Arlington and/or Loudoun County, Virginia.

6.3.3. METRO SHUTTLE

- When the student enrollment reaches 350 students, Oakcrest will offer a shuttle bus to and from the Wiehle-Reston East Metro station if a sufficient number of students and/or faculty and staff elect to participate on a regular basis.

SECTION 7: TRIP THRESHOLDS

The Special Exception (SE) requires Oakcrest to minimize the number of vehicular trips generated by the school during the weekday morning and afternoon peak hours. The total number of vehicles that enter and exit the school during the morning and afternoon peak hours and on a daily basis must not exceed the thresholds prescribed in the conditions of the SE approval.

Each semester, Oakcrest is required to conduct counts of the number of vehicles entering and exiting the school for 24 hours and during the morning and afternoon peak hours. Oakcrest is then required to report these numbers to the Fairfax County Department of Transportation to show that the school is in compliance with the conditions of approval.

Details regarding the conditions of approval can be obtained through the school administrative office.

Section 8 – Enforcement.

These traffic and parking policies are part of the Student/Parent Handbook referred to in the Enrollment Contract. By signing the Enrollment Contract, you are agreeing to abide by these policies and procedures.

Oakcrest School reserves the right, at the discretion of the Head of School, to withdraw a student due to disregard for rules and regulations or reasonable evidence of lack of parental/guardian cooperation. Withdrawal of a family may be required as a result of violation of state laws that pertain to adult responsibilities for safeguarding the well-being of children as well as the well-being of other parents

Student violations of these traffic policies and procedures will be considered unacceptable conduct, and will be subject to disciplinary measures, including removal of driving privileges or withdrawal from the school.

ATTACHMENT 6

OAKCREST SCHOOL

January 16, 2014

Ms. Ariel Yang
Fairfax County Department of Transportation
4050 Legato Road, 4th Floor
Fairfax, VA 22033

RE: **Oakcrest School (SEA 2009-DR-008)**
Proposed Development Conditions – Vehicle Trips

Dear Ariel:

As per your request of Jami Milanovich, I am happy to provide you with additional information concerning our preliminary strategies for complying with the vehicle trip limits in Section 24 of the Proposed Development Conditions we submitted to County staff for review (note that these are the same trip limits analyzed in Wells + Associates' January 9, 2014 memo). As indicated in our Transportation Management Plan (TMP) previously submitted to the County, we would employ a mandatory program of student busing, carpooling, class scheduling, restricted staff arrival/departure times, and other measures to ensure compliance with trip limits during the AM and PM Commuter Peak Hours.

For the AM Commuter Peak Hour, the attached analysis specifically demonstrates how the TMP measures would be implemented to ensure compliance with the vehicle trip thresholds outlined in Section 24. Please note that we are using data provided by Wells + Associates based upon the numerous analyses they have conducted during our SEA process.

For the PM Commuter Peak Hour, we have evaluated various options for complying with the vehicle trip limits. In addition to maintaining the same percentage of busing as in the AM Peak Hour, outlined below is a summary of some of the procedures we would implement to ensure compliance with the PM Commuter Peak trip counts:

1. Non-athletic after school activities would be completed in time to allow afternoon activity buses to exit the facility well before the start of the PM Commuter Peak Hour at 5:00 pm.

2. Athletic practices and games would be scheduled to ensure that students could use the afternoon activity bus or a minimal number of parent driven vehicles to depart the facility prior or subsequent to the PM Commuter Peak Hour.

3. For home games, visiting school teams would be required to bus their students to our facility. Some parent spectators would be bused to the campus from an offsite location.

4. As noted in the TMP, faculty and staff would be required to depart the facility outside of the PM Commuter Peak Hour.

I trust that this information is helpful and demonstrates our willingness to continue working in good faith to ensure compliance with County standards and ultimately the development conditions to be approved by the Board of Supervisors. Please feel free to contact me if you have any questions or require additional information.

Kind regards,

Matthew Buonocore, CPA, CGMA
Business Manager
mbuonocore@oakcrest.org
703.790.5450 ext. 125

Oakcrest School - Busing Requirements
Full Access on Crowell Road - No Traffic Signal
Max Enrollment of 295 Students

Per Wells & Associates, these are the maximum trip counts permitted based upon full access at Crowell Road with No Traffic Signal

AM Commuter Peak Hour (7:30 - 8:30 am)			PM School Peak Hour (3:00 - 4:00 pm)			PM Commuter Peak Hour (5:00 - 6:00 pm)		
In	Out	Total	In	Out	Total	In	Out	Total
25	16	41	12	17	29	4	5	9

Notes:

1. Consistent with previous iterations of the development conditions, trip thresholds apply only to the AM and PM Commuter Peak Hours; therefore, the PM School Peak was not evaluated.
2. Compliance with the PM Peak Commuter Hour trip counts will be achieved by managing faculty/staff departure times, start/end times for school sports, as well as other "regular" after school activities.
3. The analyses below demonstrate potential busing requirements to comply with the AM Peak Hour trip count limits.
4. In order to demonstrate compliance with the AM Peak Hour trip count limits, we must meet the lowest threshold established. Therefore, the analyses focus on outbound trips of 16.
5. All assumptions have been provided by Wells & Associates based upon 2013 trip counts analysis for Oakcrest at Balls Hill Campus

Projected Enrollment Level at Day 1 - 195 Domestic Students Requires Approximately 77% Busing

1. Faculty and staff must arrive outside of the AM Peak Hour (i.e., before 7:30 or after 8:30)
2. Assume 18 student drivers (current number of student drivers today)
3. Assume Average Vehicle Occupancy (AVO) for student drivers is 1.9 students / vehicle
4. Therefore, 18 vehicle trips will bring in 34 students. Since these are student drivers, there is no impact on outbound trips.
5. This leaves 161 students (195 enrolled less 34 driven by students) that must be driven by parents or bused
6. Assume 4 buses will be needed for busing
7. 16 AM outbound trips minus 4 bus trips leaves 12 AM outbound parent trips. However, 18 student drivers leaves only 7 inbound trips.
8. Assume AVO of 1.6 students per parent driven vehicle (7 parent driven vehicles). Note that the AVO was estimated based on counts of the number of students in parent driven vehicles at the existing school conducted in December 2013.
9. Therefore, 11 students could be driven by parents
10. The remaining 150 students (195-34-11) must be bused or need to carpool with other student drivers or parents
11. If no additional carpooling takes place, then 150 students (77% of enrolled) must be bused.

Maximum Enrollment Level - 295 Domestic Students Requires Approximately 85% Busing

1. Faculty and staff must arrive outside of the AM Peak Hour (i.e., before 7:30 or after 8:30)
2. Assume 18 student drivers (current number of student drivers today)
3. Assume Average Vehicle Occupancy (AVO) for student drivers is 1.9 students / vehicle
4. Therefore, 18 vehicle trips will bring in 34 students. Since these are student drivers, there is no impact on outbound trips.
5. This leaves 261 students (295 enrolled less 34 driven by students) that must be driven by parents or bused
6. Assume 6 buses will be needed for busing
7. 16 AM outbound trips minus 6 bus trips leaves 10 AM outbound parent trips. However, 18 student drivers leaves only 7 inbound trips.
8. Assume AVO of 1.6 students per parent driven vehicle (7 parent driven vehicles). Note that the AVO was estimated based on counts of the number of students in parent driven vehicles at the existing school conducted in December 2013.
9. Therefore, 11 students could be driven by parents
10. The remaining 250 students (295-34-11) must be bused or need to carpool with other student drivers or parents
11. If no additional carpooling takes place, then 250 students (85% of enrolled) must be bused.