

ENGINEERING SITE ASSESSMENT

Falls Church City Public Schools Master Plan

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Prepared for:

The City of Falls Church, Virginia

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George Mason High School and Mary Ellen Henderson Middle School

Site Description

George Mason High School and Mary Ellen Henderson Middle School are located adjacent to each other in Fairfax County on Tax Map Parcels 40-3 ((1)) 91, 93 and 94. Lots 91 and 94 are zoned R-1; Lot 93 is split-zoned R-1 and C-8. The total site acreage is 34.46 acres. The schools are bounded by Leesburg Pike (Route 7) to the south, Custis Memorial Parkway (I-66) to the west, the West Falls Church Metro Station to the north and Haycock Road (Route 703) to the east. Site access is from Leesburg Pike and Haycock Road.

According to the County tax records, the total gross floor area of the two schools is 292,686 SF. A total of 434 surface parking spaces are provided, of which 12 spaces are accessible and designated for handicap parking. The site includes a 60 foot softball diamond, a 90 foot baseball diamond, 8 tennis courts, 2 outdoor basketball courts, and a football stadium with turf field.

Zoning Requirements

Maximum FAR

According to the Fairfax County Department of Tax Administration records, Lot 91 contains 560,739 square feet in area, Lot 94 contains 1,078,851 square feet in area, and Lot 93 contains 71,566 square feet in area. According to a boundary survey completed by PHR&A dated January 10, 1999, Lot 91 contains 362,202 square feet in area, Lot 94 contains 1,069,514 square feet in area, and Lot 93 contains 69,542 square feet in area. Lots 91 and 94 are zoned R-1 and may be developed with a public use to a maximum floor area ratio (FAR) of 0.20. Lot 93 is split zoned R-1 and C-8. The portion of Lot 93 that is zoned R-1 contains 56,510 square feet; the portion of Lot 93 that is zoned C-8 is 12,932 square feet. FAR is a bulk regulation and pursuant to Par. 1 of Section 2-307 of the Zoning Ordinance, no structure or part thereof may be built or moved on a lot which does not meet all the maximum bulk regulations of the zoning district in which the structure is located. Therefore, if a structure is located in the R-1 portion of the lot then only that square footage Zoned R-1 may be used to calculate the maximum permitted GFA on the property.

Based on the boundary survey, the entire site area would include 1,501,258 square feet. Of this, approximately 1,488,326 is Zoned R-1, and approximately 297,665 square feet of GFA would be permitted on this portion of the site. Based upon the approved site plans for the site, 292,686 square feet of GFA exists on the site. Therefore it appears that only additional 4,979 square feet of GFA could be constructed on the property under the existing zoning.

Provided	130,125 SF
Tree Cover in the C-8 District	
Required	1,123 SF
Provided	1,156 SF

It is likely that future additions to the existing schools would require additional landscaping, since the County requirements for tree cover and parking lot landscaping are currently being met with little additional coverage.

Countywide Trail Requirement

Any improvements on the property that require a site permit must comply with the Fairfax County Countywide Trail Plan. This Plan requires an 8' asphalt or concrete trail along Leesburg Pike and Hancock Road. There is an existing 5' sidewalk along portions of Leesburg Pike and a 4'-5' sidewalk along Hancock Road that ties into an 8' trail at the northeast property line. The existing sidewalks will need to be reconstructed to meet the current trail requirement or a trail waiver will be required to reaffirm the existing configuration.

Parking Requirements

The requirement as set forth in Article 10 of the Zoning Ordinance reads as follows for "Other Uses - High School": As determined by the Director, based on a review of each proposal to include such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, proposed special education programs, and student-teacher ratios, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than three-tenths (0.3) space per student, based on the maximum number of students attending classes at any one time. Based on this requirement, the minimum number of parking spaces will be determined by the maximum number of students attending classes at any one time.

The parking totals reflected on the most recently approved site plan for the middle and high school reflects the following:

High School	650 Students
Required Parking	0.3 Spaces / Student
Required Parking	195 Spaces
Middle School	80 staff/600 Students
Required Parking	1 Space/Staff+ 4 Spaces for Visitors
Required Parking	84 Spaces
Total Required Parking	279 Spaces
Total Provided Parking	434 Spaces
Total H/C Parking Required	9 Spaces
Total HC Parking Provided	12 Spaces

Total H/C Van Parking Required	2 Spaces
Total H/C Van Parking Provided	8 Spaces
Total Loading Spaces Required	3 Spaces
Total Loading Spaces Provided	5 Spaces

Existing parking areas are asphalt paved and constructed in accordance with VDOT/Fairfax County specifications. The following standard pavement section was utilized for recently paved asphalt parking areas:

Top Course:	2" Asphalt Surface Course SM-9.5A
Intermediate:	3" Asphalt Base Course BM-25.0
Base:	6" Aggregate Material Type 21B

Fairfax County Comprehensive Plan

George Mason High School and Mary Ellen Henderson Middle School located with the McLean Planning District of the Fairfax County Comprehensive Plan. The schools are within a specialized planning area around the West Falls Church Transit Station, particularly land unit "A". The intention of the Transit Area designation is to capitalize on the opportunity to provide transit focused housing employment locations, while still maintaining the existing, nearby land uses.

A copy of the County's Comprehensive Plan language for the area around the West Falls Church Transit Station is included in the appendix of this report.

Site Utilities

Water

Service is provided by Falls Church Department of Public Utilities. An existing 8" and 20" water main is located across the site frontage within the west bound lane of Leesburg Pike (Route 7). Both mains turn northeast at the intersection of Haycock Road (Route 703) and Leesburg Pike. At this point, the water mains enter the southeast corner of the site within the existing eastern parking lots that parallel Haycock Road and continue north. A 8"X20" tap of the 20" main in Leesburg Pike brings water into the site within an existing access road that runs north between the Mary Ellen Henderson Middle School and George Mason High School and turns east along the northern access road to connect into the existing 20" water main located along the eastern property line. Two 6" lines tap off this 8" line to feed the Falls Church City Park to the northwest and an existing offsite building to the northwest. Two fire hydrants are located on the 8" line; one on the east side and one on the north side of the high school. An 8"X8" tap and 8"X20" tap of the 8" and 20" water mains located in Leesburg Pike feed two

separate onsite fire hydrants located to the south of the Mary Ellen Henderson Middle School and in the southern parking lot of the George Mason High School, respectively. Additionally, an existing fire hydrant is located along Haycock Road at the southeast corner of the site.

A 3" domestic connection and 4" fire line for the high school is located on the southeastern side of the existing building that taps off the 8" water main in Leesburg Pike. An additional 8" fire line tees off the onsite 8" line that connects at the western side of the high school. It is anticipated that these connections can be maintained with construction of any expansion of the existing facilities.

A 4" domestic connection and 6" fire line for the middle school is located on the south side of the existing building that taps off the 8" water line in the access road. It is anticipated that these connections can be maintained with construction of any expansion of the existing facilities.

Sanitary Sewer

Existing service is provided by the City of Falls Church Department of Environmental Services. An existing sanitary sewer is located in Leesburg Pike (Route 7) at the south west corner of the site and continues west. Dual 4" sanitary sewer laterals located on the south side of the middle school tie into a 3" force main that is located along the site frontage of Leesburg Pike. An existing sanitary sewer lateral for the high school ties to the terminal end of the sanitary sewer main. There are no known inadequacies of the existing sewer line. It is anticipated that the existing sanitary sewer lateral can be maintained with construction of any expansion of the existing facilities.

Storm Drainage

Three existing storm sewer systems provide the outfall for the school site. Two of the existing storm sewer outfalls are located at the Route 7 right-of-way at the southwest corner of the site and at the Route 703 right-of-way at the south east corner of the site. The third storm sewer system outfalls at the northwest corner of the site to an existing concrete ditch that runs east along I- 66. Adequacy of these storm sewer systems will need to be verified upon any future site development. Offsite improvements to these storm sewer systems are not presently anticipated.

The existing storm drainage system on the northern side of the existing building will need to be reworked to adequately drain the site if the building is expanded to the north. Where possible, the existing stormwater management facilities should be maintained to address a portion of the overall storm water management requirements.

Storm Water Management

With relocation of the onsite athletic fields to ready the site for construction of the Middle School and construction of additional onsite parking, stormwater management facilities were constructed to meet the minimum County requirements for stormwater management. Stormwater detention was provided using underground detention in the form of a two 96" diameter corrugated metal pipes. Best Management Practices (BMP's) were addressed with the

use of a DC Sandfilter, Stormfilters, and Filterras (water quality inlets). Both SWM detention and BMP's were located in the transfer site. The water quality requirement with the site improvements required a 19.1% phosphorous removal and the stormwater management facilities met this requirement with no surplus capacity for future expansion.

Stormwater detention for the site as summarized in the most recent site plan for the site, reflects the following:

Allowable Runoff:

$$Q (2\text{-year}) = 20.05 \text{ CFS}$$

$$Q (10\text{-year}) = 26.08 \text{ CFS}$$

Calculated Peak Discharge:

$$Q (2\text{-year}) = 8.17 \text{ CFS}$$

$$Q (10\text{-year}) = 19.61 \text{ CFS}$$

As a result, it appears that some over-detention is occurring within the constructed stormwater detention facilities which may allow a minor amount of additional impervious area to be constructed without upgrading the stormwater detention facilities.

Any future site development/expansion would be subject to the storm water management requirements as identified within the Fairfax County Public Facilities Manual (PFM). These requirements include both storm water detention (peak flow reduction) and water quality enhancement.

Where possible, the existing stormwater management facilities located beneath the existing parking lots on the north and east side of the school will be maintained to help address the stormwater detention requirement. With any future site development, the 2-year and 10-year peak flow from the site will need to be reduced to at or below the existing peak flow for these recurrence interval storms. Additional onsite measures will be required to address peak flow detention, beyond that which can be accommodated in the stormwater management conduits that will be maintained.

If the proposed development has a net increase of impervious area less than 20% then the redevelopment formula can be utilized for computing the BMP requirement of any future site enhancements:

$$[1 - 0.9(I_{pre}/I_{post})] \times 100\% = \% \text{ P Removal}$$

If the proposed development has a net increase of impervious area less than 20% then the above formula can be utilized for computing the BMP requirement.

In order to address the BMP requirement for the site, the following measures may be incorporated:

- utilization of percolation trenches within proposed parking areas to promote infiltration
- utilization of a bioretention filter to promote infiltration
- dedication of natural open space (Water Quality Management Area)
- consideration of green roof elements to promote infiltration.

Verification of the infiltration capacity of the onsite soils is required to analyze the design requirements.

Site Access

There are two main access points to the site. One is located on Leesburg Pike and the other is at the northeast corner along Hancock Road. Additionally, access to the parking lots is provided off of Leesburg Pike and Hancock Road. It is anticipated that the four entrances will be maintained. Sight distance for the existing entrances will be confirmed with the final site plan.

The following standard pavement section is assumed for new asphalt access roads and travel aisles within the parking areas:

Top Course: 1.5" Asphalt Surface Course SM-9.5A
Intermediate: 4" Asphalt Base Course BM-25.0
Base: 8" Aggregate Material Type 21B

Environmental

Floodplains

Based on the Fairfax County Chesapeake Bay Preservation Map there are no identified 100-year floodplains in the vicinity of the lots that comprise the High School and Middle School Site.

Resource Protection Areas

Resource Protection Area (RPA) is the component of the Chesapeake Bay Preservation Area comprised of lands adjacent to water bodies with perennial flow that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction, or assimilation of sediments, nutrients, and potentially harmful or toxic substances from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. RPA's shall include any land characterized by the following features:

- A tidal wetland
- A tidal shore

- A water body with perennial flow
- A nontidal wetland connected by surface flow and contiguous to a tidal wetland or a water body with perennial flow
- A buffer area as follows
 - Any land with a major floodplain
 - Any land within 100 feet within an RPA feature

RPA's cannot be cleared without special permitting.

Based on the Fairfax County Chesapeake Bay Preservation Map, there are no identified RPA's within the lots that comprise the High School and Middle School.

Wetlands

There were no identified wetland areas on the site plan for the Middle School. The site should be field inspected to confirm that the area that will be impacted with construction of any proposed expansion is void of jurisdictional wetlands. If wetlands are identified, they will be field confirmed by the USACE and the Virginia Department of Environmental Quality (DEQ), surveyed and reflected on a Jurisdictional Determination (JD) that is approved by the USACE. Disturbance of any wetlands, if identified, will be avoided to the extent possible with site construction.

Mount Daniel Elementary School

Site Description

Mount Daniel Elementary School is located adjacent in Fairfax County on County Tax Map Parcel 40-4 ((1)) 22, Parcel 40-4 ((15)) A, and Parcel 40-4 ((19)) 41. All three lots are zoned R-4. The total site acreage is 7.31 acres. The school is bounded by Woodland Drive (Route 2768) to the northwest, Custis Memorial Parkway (I-66) to the northeast and Oak Street (Route 1746) to the south. Access to the existing school is from Oak Street.

According to the County tax records, the total gross floor area of the schools is 44,068 square feet. A total of 63 surface parking spaces are provided, of which 3 spaces are accessible and designated for handicap parking. Two (2) loading spaces are provided.

Zoning Requirements

Maximum FAR

The R-4 zoned property and may be developed with a public use to a maximum floor area ratio (FAR) of 0.35. The Gross Floor Area of existing school is 44,068 square feet which equates to a FAR of 0.138.

Yard Requirements/Setbacks

In the R-4 zoning district the maximum building height for public uses is 60'. The minimum yard requirements include:

Front yard:	Controlled by a 35° angle of bulk plane, but not less than 25'
Side yard:	Controlled by a 30° angle of bulk plane, but not less than 10'
Rear yard:	Controlled by a 30° angle of bulk plane, but not less than 25'

Landscaping/Screening Requirement

Any development program on the subject property must comply with the applicable provisions set forth in Article 13 of the Fairfax County Zoning Ordinance. The requirements include:

Interior Parking Lot Landscaping:	5%
Peripheral Parking Lot Landscaping:	Abuts Property – 4 feet Abuts Street – 10 feet
Tree Cover	20%
Open Space	NA

Transitional Screening/Barrier

North Property Line	TSY 2 (35'), Barrier D, E, or F
East Property Line	TSY 2 (35'), Barrier D, E, or F
South Property Line	TSY 2 (35'), Barrier D, E, or F
West Property Line	TSY 2 (35'), Barrier D, E, or F

According to the last site plan permitted for the property, the following summarizes the landscape coverages required to address parking lot and peripheral landscaping requirements:

Interior Parking Lot Landscaping Required (5%)	1,035 SF
Interior Parking Lot Landscaping Provided	1,200 SF
Tree Cover in the R-4 District:	
Required	55,789 SF
Provided	122,870 SF

Parking

The requirement as set forth in Article 10 of the Zoning Ordinance reads as follows for “Other Uses - Elementary School”: As determined by the Director, based on a review of each proposal to include such factors as the occupancy load of all classroom facilities, auditoriums and stadiums, proposed special education programs, and student-teacher ratios, and the availability of areas on site that can be used for auxiliary parking in times of peak demand; but in no instance less than 1 space per faculty and staff and other full time employee plus 4 spaces for visitors. Based on this requirement, the minimum number of parking spaces will be determined by the maximum number of students attending classes at any one time.

The required number of loading spaces is based on the amount of GFA. An increase of GFA may require an additional loading space.

The parking totals reflected on the most recently approved site plan for elementary school reflects the following:

Elementary School	50 Staff
Required Parking	1 Space/Staff+ 4 Spaces for Visitors
Required Parking	54 Spaces
Total Required Parking	54 Spaces
Total Provided Parking	63 Spaces
Total H/C Parking Required	3 Spaces
Total H/C Parking Provided	3 Spaces
Total H/C Van Parking Required	1 Space
Total H/C Van Parking Provided	2 Spaces

Total Loading Spaces Required	2 Spaces
Total Loading Spaces Provided	2 Spaces

Existing parking areas are asphalt paved and constructed in accordance with VDOT/Fairfax County specifications. The following standard pavement section was utilized for recently paved asphalt parking areas:

Top Course:	2" Asphalt Surface Course SM-9.5A
Intermediate:	3" Asphalt Base Course BM-25.0
Base:	6" Aggregate Material Type 21B

Fairfax County Comprehensive Plan

Mount Daniel Elementary School is located with the McLean Planning District of the Fairfax County Comprehensive Plan. It is within a specialized planning area around the West Falls Church Transit Station, particularly land unit "E". The intention of the Transit Area designation is to capitalize on the opportunity to provide transit focused housing employment locations, while still maintaining the existing, nearby land uses.

Land Unit "E" is characterized as a stable, residential community that is planned at a density of R-4, which is the existing zoning of the parcel. Since less than half of the allowable FAR of 0.35 is utilized (the existing FAR is 0.18), expansion of the existing facilities in the future is not likely restricted due to FAR limitations. The Comprehensive Plan does encourage special efforts to provide pedestrian amenities which would allow access to Metro.

A copy of the County's Comprehensive Plan language for the area around the West Falls Church Transit Station is included as an attachment to this report.

Site Utilities

Water

Service is provided by Falls Church Department of Public Utilities. An existing 6" water main enters the site at the southwest corner from Oak Street (Route 1746) and wraps around the western portion of the existing building and exits the site at the northwest corner. An existing fire hydrant offsite along Oak Street provides fire coverage for the existing building. An additional fire hydrant located to the northeast of the site taps off the 6" water main in Woodland Drive.

A 4" domestic connection is located on the side south of the existing building and taps off the existing 6" water main that enters the site at the southwest corner. The 4" line continues east and reduces to a 2" line that connects to the southwest side of the building. A 4" fire line tees off the

onsite 6" line that wraps around the west side of the existing building. It is anticipated that these connections can be maintained with construction of any expansion of the current facilities.

Sanitary Sewer

Existing service is provided by the City of Falls Church Department of Environmental Services. An existing 8" terracotta sanitary sewer located in Oak Street enters the south west corner of the site and connects to the south of the building. Additionally, a 4" sanitary sewer lateral connection on the southwest side of the building ties into the 8" terracotta sewer line. An existing 8" DIP sanitary sewer enters the site from Oak Street. This line provides service for two 4" DIP connections at the southeast side of the existing building. There are no known inadequacies of the existing sewer line. It is anticipated that the existing sanitary sewer lateral can be maintained with any expansion of the current facilities.

Storm Drainage

Two existing storm sewer systems provide outfall for the project site. An existing 18" storm sewer outfall is located in Woodland Drive right-of-way at the northeast corner of the site. An existing 15" storm sewer outfall is located at the Highland Avenue right-of-way to the west of the site. Adequacy of these storm sewer systems will be verified upon any expansion of the current facilities. Offsite improvements to these storm sewer systems are not presently anticipated.

The existing storm drainage system on the northwest side of the existing building will need to be reworked if the northwest corner of the building is to be expanded. Where possible, the existing stormwater management box culverts shall be maintained to address a portion of the overall storm water management requirements.

Storm Water Management

The site improvements (addition to the existing school building and parking expansion) addressed the minimum stormwater management requirements as mandated by the Fairfax County Public Facilities Manual. Stormwater management peak flow reduction requirements (detention) mandate that the 2-year and 10-year peak flow from the site be reduced at or below the existing peak flow for these recurrence interval storms. Water quality requirements or Best Management Practices (BMP's) require a 40% phosphorous removal rate (unless the site development qualifies for re-development with an increase of impervious area less than 20% of the existing impervious area of the site).

The site currently addresses Best Management Practices (BMP's) by reducing the phosphorus loads by two different methods:

- dedication of natural open space (Water Quality Management Area)
- utilization of two Filterra units

The Filterra units and dedicated open space meet the 40% requirement with no excess capacity. Stormwater detention requirements were met with the use of two underground, privately maintained detention structures. These structures consist of standard box culverts, a minimum of six feet in height with a weirwall at the lower end to regulate the release of storm flows.

Any proposed addition to the site that requires a site permit and generates additional impervious area on site will be subject to the storm water management requirements as identified within the Fairfax County Public Facilities Manual (PFM). Where possible, the existing stormwater management box culverts located to the northwest and east of the school should be maintained to address the stormwater detention requirement. Additional onsite measures will be required to address peak flow detention, beyond that which can be accommodated in the stormwater management box culverts.

Any addition to the site that requires a site permit with a net increase of impervious area will also require BMP's. If the net increase of impervious area less is less than 20%, then the redevelopment formula can be utilized for computing the BMP requirement which may afford a reduction of phosphorous load of less than 40%:

$$[1 - 0.9(Ipre/Ipost)] \times 100\% = \% P \text{ Removal}$$

In order to address the BMP requirement for the site, the following measures may be incorporated:

- utilization of percolation trenches within proposed parking areas to promote infiltration
- utilization of a bioretention filter to promote infiltration
- dedication of natural open space (Water Quality Management Area)
- consideration of green roof elements to promote infiltration.

Verification of the infiltration capacity of the onsite soils is required to analyze the design requirements. The Water Quality Management Area (Conservation Areas) recorded with the most recent site improvements must be preserved with future development of the site, unless the express written permission of the Director of the Fairfax County Department of Public Works and Environmental Services is obtained.

Environmental

Floodplains

Based on the Fairfax County Chesapeake Bay Preservation Map there are no identified 100-year floodplains in the vicinity of the lots that comprise the Mount Daniel Elementary Site.

Resource Protection Areas

Resource Protection Area (RPA) is the component of the Chesapeake Bay Preservation Area comprised of lands adjacent to water bodies with perennial flow that have an intrinsic water

quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction, or assimilation of sediments, nutrients, and potentially harmful or toxic substances from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. RPA's shall include any land characterized by the following features:

- A tidal wetland
- A tidal shore
- A water body with perennial flow
- A nontidal wetland connected by surface flow and contiguous to a tidal wetland or a water body with perennial flow
- A buffer area as follows
 - Any land with a major floodplain
 - Any land within 100 feet within an RPA feature

RPAs cannot be cleared without special permitting.

Based on the Fairfax County Chesapeake Bay Preservation Map, there are no identified RPAs within the lots that comprise the Mount Daniel Elementary School.

Wetlands

There were no identified wetland areas on the site plan for the Mount Daniel Elementary School. The site should be field inspected to confirm that the area that will be impacted with construction of any proposed expansion is void of jurisdictional wetlands. If wetlands are identified, they will be field confirmed by the USACE and the Virginia Department of Environmental Quality (DEQ), surveyed and reflected on a Jurisdictional Determination (JD) that is approved by the USACE. Disturbance of any wetlands, if identified, will be avoided to the extent possible with site construction.

Thomas Jefferson Elementary School

Site Description

The Thomas Jefferson Elementary School is located in the City of Falls Church on City Tax Map Parcels 50-2. The parcel is zoned R-1A low density residential. The total site acreage is 5.83 acres. The school is bounded by Seaton Lane to the south and South Oak Street to the northwest. Site access is from Seaton Lane.

Based on an approximate measurement, the building area occupied by the existing school is 37,000 SF. A total of 38 surface parking spaces are provided, of which 2 spaces are accessible and designated for handicap parking.

Zoning Requirements

Maximum Building Coverage

The R-1A zoned property may be developed with a public use to a maximum building coverage of 30%. Therefore, the maximum allowable building footprint area is 76,199 square feet.

Yard Requirements/Setbacks

In the R-1A zoning district the maximum building height for public uses is 45' with no more than 3 stories. The minimum yard requirements include:

Front yard: Not less than 30'
Side yard: Not less than 25'
Rear yard: Not less than 40'

Landscaping/Screening Requirement

The proposed expansion of the development program on the subject property must comply with the applicable provisions set forth in Article IV of the City of Falls Church Zoning Ordinance. The requirements include:

Interior Parking Lot Landscaping	No Requirement
Peripheral Parking Lot Landscaping	No Requirement
Tree Cover	20%
Open Space	No Requirement

Transitional Screening/Barrier

North Property Line	No Requirement
East Property Line	No Requirement
South Property Line	No Requirement
West Property Line	No Requirement

Parking Requirements

The requirement as set forth in Article IV of the City of Falls Church Zoning Ordinance reads as follows for “Public Elementary School”: One parking space for each teacher, employee or administrator whether full or part-time, plus one for every ten students of maximum enrollment or capacity. Based on this requirement, the minimum number of parking spaces will be determined by the number of employees and the maximum number of students attending classes at any one time.

The parking totals reflected on the most recently approved site plan for the elementary school reflects the following:

Elementary School	25 Staff/400Students
Required Parking	1 Space/Staff + 1 Space/10 Students
Required Parking	65 Spaces
Total Required Parking	65 Spaces
Total Provided Parking	38 Spaces
Total H/C Parking Required	2 Spaces
Total H/C Parking Provided	2 Spaces
Total H/C Van Parking Required	2 Spaces
Total H/C Van Parking Provided	2Spaces

Existing parking areas are asphalt paved and constructed in accordance with VDOT/Fairfax County specifications. The following standard pavement section was utilized for recently paved asphalt parking areas:

Top Course:	2” Asphalt Surface Course SM-9.5A
Intermediate:	3” Asphalt Base Course BM-25.0
Base:	6” Aggregate Material Type 21B

Site Utilities

Water

Service is provided by the Falls Church Department of Public Utilities. An existing 6" water main is located in Seaton Lane, south of the project site. An existing 16" water main that runs along South Oak Street enters the parcel on the north side of the site. The 16" line continues along South Oak Street and exits the site at the northeast corner. Two fire hydrants are located on the 16" line; one on the north side of South Oak Street at the northwest corner of the site and the other at the northeast corner of the site. An additional fire hydrant may need to be installed if the two existing fire hydrant locations do not provide adequate fire coverage for the expanded facility.

Sanitary Sewer

Sanitary sewer is provided by the Falls Church Department of Public Utilities. There are no known capacity issues.

Site Access

The main access to the site is located at the intersection of Seaton Lane and West Greenway Boulevard. Additionally, access to the parking lot south of the building is provided off of Seaton Lane. It is anticipated that the entrances will be maintained. Sight distance for the existing entrances will be confirmed with the final site plan.

The following standard pavement section is assumed for new asphalt access roads and travel aisles within the parking areas:

Top Course: 1.5" Asphalt Surface Course SM-9.5A
Intermediate: 4" Asphalt Base Course BM-25.0
Base: 8" Aggregate Material Type 21B

Environmental

Floodplains

Based on the City of Falls Church Mapping System, the project site encompasses an existing stream, Tripps Run, which flows north to south on the eastern portion of the site. The 100-year floodplain for Tripps Run take up nearly half of the parcel area and the limits are located approximately 15' away from the existing buildings.

Resource Protection Areas

Resource Protection Area (RPA) is the component of the Chesapeake Bay Preservation Area comprised of lands adjacent to water bodies with perennial flow that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction, or assimilation of sediments, nutrients, and potentially harmful or toxic substances from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. RPA's shall include any land characterized by the following features:

- A tidal wetland
- A tidal shore
- A water body with perennial flow
- A nontidal wetland connected by surface flow and contiguous to a tidal wetland or a water body with perennial flow
- A buffer area as follows
 - Any land with a major floodplain
 - Any land within 100 feet within an RPA feature

RPAs cannot be cleared without special permitting.

Based on the City of Falls Church Mapping System, the project site encompasses an existing stream, Tripp Run, which flows north to south on the eastern portion of the site. Limits of the RPA for Tripps Run are located approximately 100' from the stream and are within the 100-year floodplain limits.

Wetlands

There were no identified wetland areas on the site plan for the Middle School. The site should be field inspected to confirm that the area that will be impacted with construction of any proposed expansion is void of jurisdictional wetlands. If wetlands are identified, they will be field confirmed by the USACE and the Virginia Department of Environmental Quality (DEQ), surveyed and reflected on a Jurisdictional Determination (JD) that is approved by the USACE. Disturbance of any wetlands, if identified, will be avoided to the extent possible with site construction.