MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

April 21, 2011

Memorandum

TO: Montgomery County Planning Board
VIA: John A. Carter, Chief, Area 3 JAC
FROM: Mary Beth O'Quinn mboq
Planner Coordinator (301-495-1322)

SUBJECT: Mandatory Referral No. 2011304-MCPS-1:
Beverly Farms Elementary School Modernization
8501 Postoak Road, Potomac, MD 20854
R-90 Zone
Potomac Subregion Master Plan (2002)

SUMMARY

The Montgomery County Public Schools has applied under Mandatory Referral to replace the existing Beverly Farms Elementary School located at 8501 Postoak Road, Potomac, MD. Consideration of a 35-year life cycle cost analysis evaluating modernization of the existing facility, constructed in 1965, compared with a totally new facility, demonstrated significant savings in favor of the new replacement facility. The school's location, adjoining the M-NCPPC Beverly Farms Local Park, offered an opportunity to pursue an efficient, sustainable design solution in partnership with the Parks Department accommodating the multiple functions of park facilities, school recreation and geothermal infrastructure.

Approval signatures

RECOMMENDATION

The Staff recommends approval of the Mandatory Referral for the Beverly Farms Elementary School Modernization and to transmit the following comments to the Montgomery County Public Schools:

1. Site Design and Environment:
    a. Provide details for retaining walls, including materials, top and bottom heights.
    b. Provide details for furnishings and fixtures.

2. Landscape and Lighting:
    a. Provide street trees within the curbside grass panel along the northern frontage of Postoak Road, extending from Milbern Avenue to the Pepco property; trees should be large leaf deciduous species sized at 2-1/2-3 inches caliper at the time of planting; trees should be spaced at a minimum 45 feet on center.
    b. Provide additional shade trees, planted at 35-foot spacing for the surface parking areas as follows:
        i. Perimeters of the east and west parking lots and the bus loop.
    c. The Department of Parks requires the following regarding planting within Beverly Farms Local Park:
        i. Arrange for tree installation per M-NCPPC Plant Installation Specifications and Details, to include an inspection, prior to planting, of plant materials by M-NCPPC Horticulturist.
        ii. Trees must include a one-year warranty and be provided with aftercare during the growing season. Aftercare must include watering for 26 weeks during the growing season. Each tree shall receive 30 gallons of water per week (based on the 10 gallons per caliper inch formula).
        iii. Upon one year warranty inspection, trees shall be de-staked and dead and unacceptable plant material replaced for acceptance.
    d. Provide lighting details indicating fixture type, mounted height, fixture base detail, and performance specifications for cut off shields that directs light toward the school and limits light spill to adjoining residential lots; show any lighting proposed for the outdoor play areas and ball fields.
    e. Provide a lighting photometric plan showing point-by-point levels extended to the property lines.

3. Pedestrian and Bicycle Access and Safety:
    a. Increase the width of the lead sidewalk on the eastern edge of the MCPS site along the surface parking area and enlarge the pedestrian refuge islands to accommodate pedestrians more comfortably;
    b. Provide four bicycle racks, including a least one rack sited at the park boundary.
    c. Retain the existing access to Beverly Farms Park from the adjoining residential neighborhood.

4. Parks:
    a. Obtain a Park Construction Permit from the Department of Parks (Parks) for all construction activity on M-NCPPC parkland. Submittals to Parks will include all existing recreation facilities on parkland.
    b. During the period of closure of Beverly Farms Local Park to accommodate the demolition and construction of Beverly Farms Elementary School, MCPS must perform the following:
        i. Construct geothermal wells underground the existing Softball Fields Number 1 and 2,
        ii. Reorient Softball Field Number 2.
        iii. Replace backstop for Softball Field Number 2 per Department of Parks Construction Standard Details.
        iv. Remove Softball Field #1 backstop and skinned infield and replace with a 3-panel 10-foot high backstop.
        v. Install a new playground behind the newly constructed school building at MCPS expense after removal of the existing playground by the Parks Department. The playground construction and landscaping must employ standard tree protection and restoration measures. The playground design must be approved by the Department of Parks and the equipment vendor will be chosen from both the MCPS and Department of Parks list of qualified vendors. Utilize Parks specifications for under drain specifications for the subject project.
    c. Obtain a Park Construction Permit per the Department of Parks authorization for the installation of the geothermal heating system (approximately 170 geothermal heat pumps in a vertical ground loop system) below ground of Beverly Farms Local Park, Softball Fields Numbers 1 and 2. The issuance of the permit requires delineation of an easement defining the location of the wells, and outlining MCPS maintenance and replacement responsibilities for the geothermal wells.
    d. Fulfill the Department of Parks requirements to ensure satisfactory ball field relocations, removals, upgrades and restorations:
        i. Replace backstops and home plates on Softball Field Number 2; the size and specification are to be approved by the Park Manager.
        ii. Provide player protection fencing and benches are at Softball Field 2, per specifications approved by the Park Manager.
        iii. Restore the infield skin at Softball Field 2.
        iv. Submit a Phasing Plan for Parks approval demonstrating sufficient lead time for knitting in new turf and infield restoration before field is re-opened for permitted public use.
        v. Restore the soccer field per Department of Park's specification.
        vi. Determine and specify whether the fields will be restored as seeded grass or sod.
        vii. Provide grading for fields at a 1% slope for positive drainage.

f. Provide permanent and secured maintenance access to the Park from the school parking lot. Parks requests two removable bollards at the beginning of the park maintenance access north of the sidewalk. The Sidewalk parallel to the maintenance access should be reinforced due to heavy park maintenance vehicles. MCPS will provide detailed design, signage and stripping plan for Parks approval. The entrance including stripping detail shall be shown on the Park Construction Permit plans.

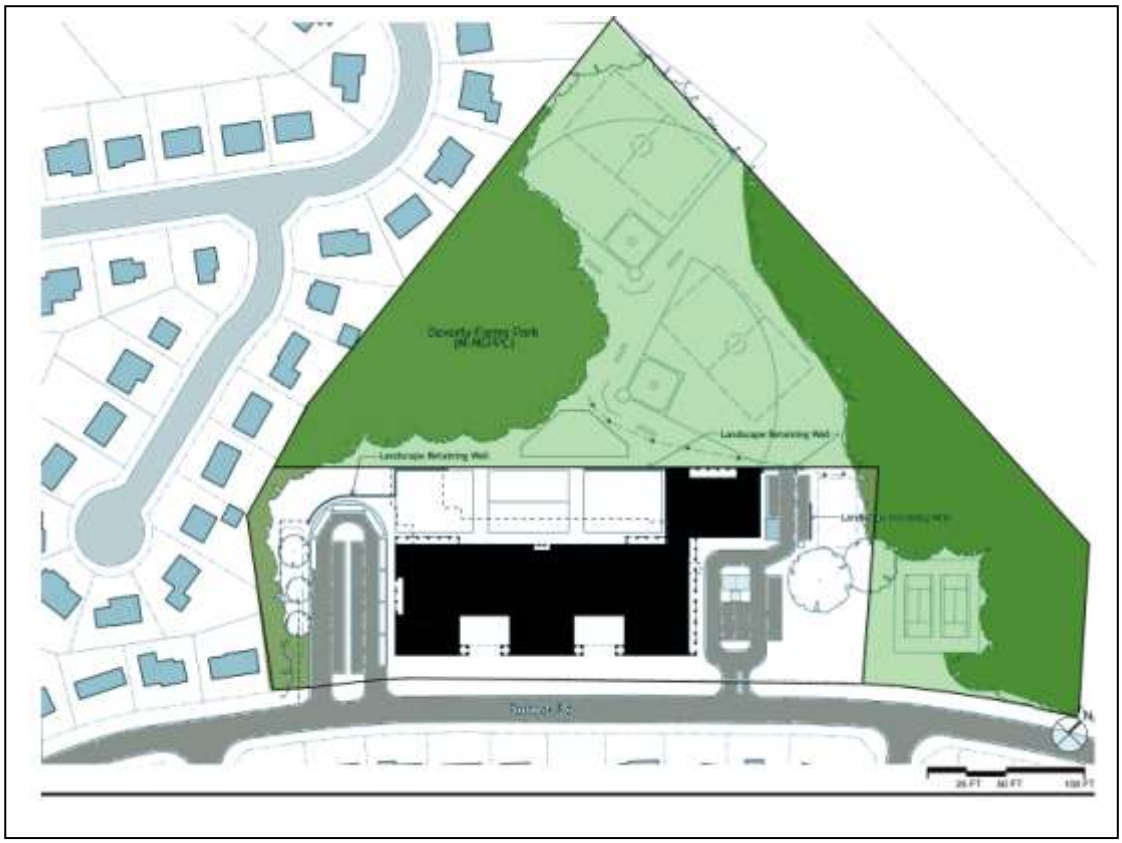
6. Stormwater Management:
   a. Comply with conditions of Stormwater Management Concept Approval dated March 22, 2011, issued by the Montgomery County Department of Permitting Services.
   b. Conduct maintenance, inspection and life cycle replacement for all stormwater facilities, both above ground and below ground, located on park property.

7. Transportation:
   a. Any mandatory referral submission for future improvements at the school must include a traffic study if those improvements will increase school's student core capacity beyond 740 students.
   b. MCPS must manage parent drop-off/pick-up of students entirely within the school property and must strongly discourage any drop-off/pick-up of students along Postoak Road, or any other neighboring streets.
   c. MCPS must coordinate with Montgomery County Department of Transportation (MCDOT) on site access and any need to remove parking along southbound Postoak Road (towards Tuckerman Lane) along school frontage.

INTRODUCTION

Project Summary

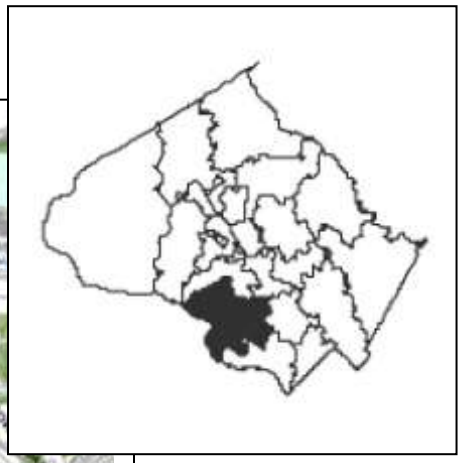
The applicant, the Montgomery County Public Schools (MCPS) proposes replacement of the existing Beverly Farms Elementary School, located at 8501 Postoak Road, within the Potomac Planning Area that lies within the larger Potomac Subregion Master Plan boundary. The site's location, adjoining the Beverly Farms Local Park, suggests a project that optimizes each facility's assets, resulting in joint Parks-Schools design and development. The site improvements propose to replace the existing school with a larger, more efficient structure, reconfigure the parking lots, loading and circulation patterns, install geothermal heating/cooling system within parkland, and finally, reorienting and reprogramming the ball fields to achieve maximum, flexible utilization of the two sites. The facility is part of the Winston Churchill Cluster that includes the Beverly Farms, Potomac, Wayside, Seven Locks, and Bells Mill Elementary Schools. Receiving facilities in the Cluster are: Cabin John and Herbert Hoover Middle Schools. Increasing enrollments from rising school aged children and the absorption of transferring student from private schools in this planning area have caused significant and unacceptable levels of crowded classes, along with the use of portables classrooms. Montgomery County Public Schools administration is eager to complete the new school in order to provide adequate levels of classroom attention to the children in the Winston Churchill Cluster.



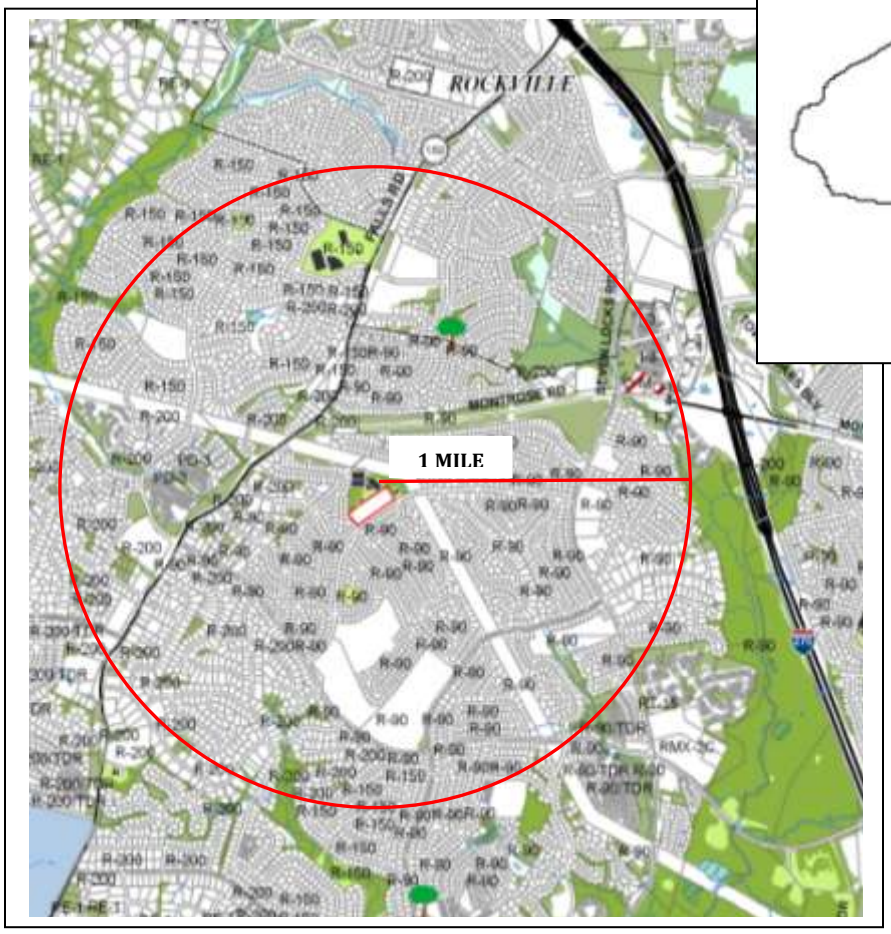
Vicinity

Beverly Farms represents a typology of neighborhood and school that is the hallmark of Montgomery County post-war suburban land planning, in particular the General Plan for Wedges and Corridors. Here, the road corridors are set in linear patterns with residential wedges fitting the resulting form. The fabric woven of residential lots is balanced by corresponding wedges of forestation and the warp of local streets and parks, creating an expansive pattern featuring lots that increase in size and vegetation toward the Potomac River. The pattern is consistent in its disposition, and dense, yet tranquil in character, contrasted sharply by the Pepco power transmission lines that slice across the fabric. Beverly Farms Elementary School and the adjoining Local Park lie at the heart of the suburban enclave built west of the I-270 Corridor in the 1960's. Strategically placed, equidistant from Montrose Road to the north and Falls Road to the west, the site lies within the quadrant bounded by the two streets, with Tuckerman Lane on the south and Seven Locks Road, a further distance to the east. The vicinity's neighborhoods, Beverly Farms, Regent Park, Regency Estates, and Highland are zoned primarily R-90 within the quadrant, with small pockets of cul-de-sacs with larger R-200 lots. The City of Rockville's southern boundary lies ½ mile to the north. The closest major retail is located within Rockville or the Westfield Montgomery Mall area.

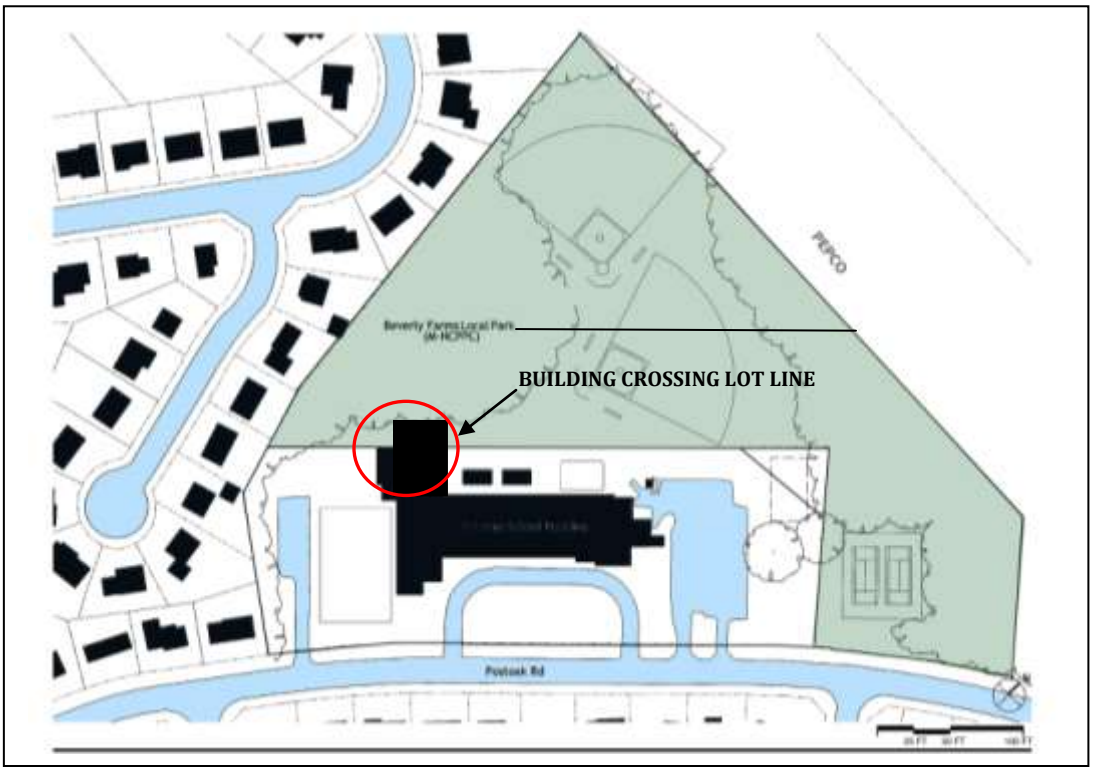
Left: MCPS Winston Churchill Cluster



Below: Vicinity Zoning in the Beverly Farms Area



The Site



The existing 5-acre school site forms 766 linear feet of road frontage on the north side of Postoak Road. The site is wrapped on its two sides by Beverly Farms Local Park (8.42 acres) and parcels together form a pentagonal, "house-shaped" tract, whose "gable" is lined on one side by the Pepco Transmission Lines and the other with generous, R-200 residential lots. Both properties were acquired and developed by MCPS and M-NCPPC in 1965. The original structure from that year comprised 37,245 square feet, to which a gymnasium was added in 1968 of 7,013 square feet. So rapid was housing developed in the vicinity that ensuing school enrollments required a classroom addition by 1969 with 14,169 square feet, almost doubling the original square footage of the school.

Natural features of the tract, namely the forest, frame the central axis of the site, currently visible from the street because of the building location, slightly offset from center. The forest buffers activities from the adjoining houses. Site grading rises to a central plateau that provides the foundation for the existing school; the slope descends more rapidly on the eastern side, forming natural paths for run-off. Of particular note is the existing building footprint crossing three feet over the lot line.

Description of the Project

MCPS proposes to replace the existing school and provide teaching spaces to support functions for an enrollment that will expand to accommodate 740 students under the full capacity. The proposed 2-story structure provides program spaces for Pre-Kindergarten through fifth grade. The design will encourage a flexible approach that accommodates the educational programs and maximum connectivity to the surrounding public park.

Beverly Farms Elementary School - Beverly Farms Local Park - Modernization
8501 Postoak Road, Potomac, MD

R-90 Zone	Development Data		R-90 Zone Std.	Existing	Proposed
§59-C-1.322(a)	**Lot and Tract Area**	min.			
	Lot Area sf		9,000 sf	MCPS 219,542 sf/ MNCPPC 366,975 sf	MCPS 219,542 sf/ MNCPPC 366,975 sf
	Lot Area - acres		0.20 ac.	5.04 MCPS / 8.42 MNCPPC	5.04 MCPS / 8.42 MNCPPC
§59-C-1.322(b)	**Lot Width**	min.			
	Lot Width - front building line		75 feet	766 LF	766 LF
	Lot width - proposed street line		25 feet	766 LF	766 LF
§59-C-1.328	**Lot Coverage**	max.			
	Sum of building coverage		0.30	17.00%	24.00%
§59-C-1.323(a)	**Setbacks**	min.			
	Street (front)		30 feet	72	33
	Side [one side]		8 feet	150	160
	Side [sum of two]		25 feet	372	330
	Rear		25 feet	3' Over Property (MNCPPC)	1' (From MNCPPC)
§59-C-1.327	**Building Height** [1]	max.			
	Main Building - feet		30-35 feet [1]	30'	38'-2" gable median
	Main Building - stories		2.5 stories	2	2
Additional Info	Site Area Cleared: Total LOD	sf		N/A	357,000
	Forest Clearing	ac		NA	0.09 Acres
	Impervious Area	sf		116,741 MCPS / 3,050 MNCPPC	103,950 MCPS / 2,950 MNCPPC
	Impervious Area	%		54.79% / 0.83%	48.79% / 0.80%
	Forest Protection			NA	165,964 Sf
	Building area	sf		58,397	98,916
	Parking - Staff			69 Staff/Visitor	80 Staff/Visitor
	Parking - Visitor				
	Parking - Buses			6	8

[1] *measured from the measurement control point, the height must not exceed 1-1/2 stories or 30-35 feet, depending on the method of measurement. The height may be increased to either 3 stories or 40 feet if approved by the Planning Board in a site plan.*

The replacement building will be in full compliance with the American with Disabilities Act and will be designed for an initial capacity of 648 students with a future interior finishing for classroom intended for expansion to the master-planned core capacity for 740 students.

Architectural Program: The new addition will provide for 31 new teaching stations: 23 classrooms for grades 1-5 and five Kindergarten/Pre-K classrooms. The school philosophy of adaptable classrooms seeks to achieve maximum flexibility for forming varied-size groups of students, presentation formats, and access to alternative media and resources, music and art, special education facilities, and student counseling space. Staff and administrative support spaces are strategically located throughout the school to enhance visual proximity, accessibility and security. The proposed expansion design provides for these key interior program spaces:

Beverly Farms Elementary School

Modernization Project

Architectural Program: Teaching Stations, Educational Space, Outdoor Facilities

Classrooms		**Support Space**	
Kindergarten/Pre-K	5	Team Conference Room	1
Classrooms Grades 1-5	23	Resource Room	1
Special Education Classrooms	3	Speech/Language Room	1
Computer lab	1	Therapy/Support Room	1
Music	1	Testing/Conference Room	1
Instrumental Music	1	Small Group Instruction (ESOL)	3
Art	1	Reading/Language Arts Room	1
Dual Purpose Room	1	Training Room	1
Core Facilities		Instructional Data Assistant	1
Administrative Suite	1	Support Staff Offices	2
Health Suite	1	Staff Lounge	1
Multi-purpose Room	1	Facilities Management	0
Kitchen	1	Building Services	1
Instructional Media Center	1	Trash Compactor Room	1
Gymnasium	1	General Storage	4
Athletic Facilities		Recycling Room	1
Outdoor Soccer	2	Workroom	3
Indoor Gymnasium	1		
Basketball	2		

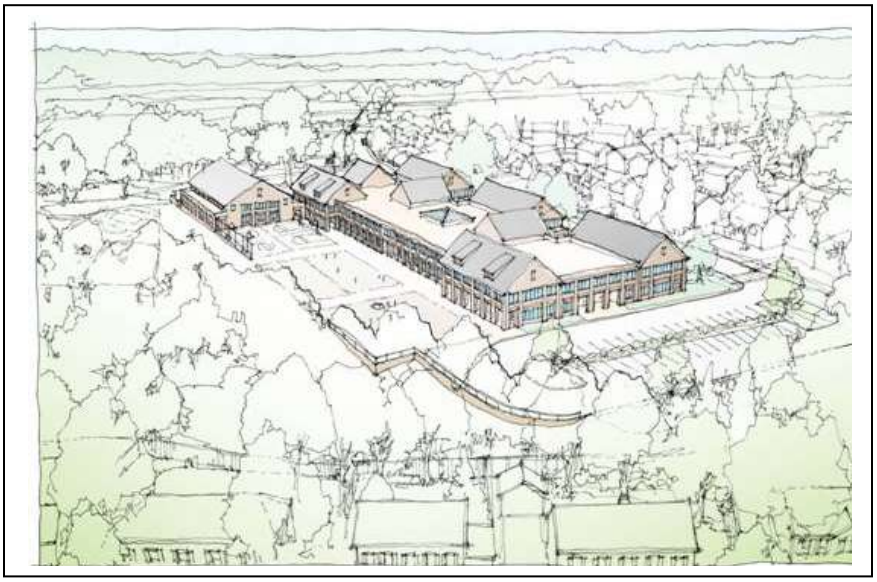
Site Design:

So integrated are the program elements for Beverly Farms, that the primary design concept treats the park and the school site as a unified entity. Site design for the replacement school and park features a compact scheme that, like its predecessor, uses the existing plateau, the highest elevation, for its footprint. It is a placement, that in moving the building closer to the street, establishes the presence of public education within a residential neighborhood of traditional two-story colonial homes, and invites, almost as a porch, use of the neighborhood amenities offered by its companion park.

Building form and placement further responds to environmental conditions, in its solar orientation, the site grading and drainage, as well as its roof, designed as part of the storm water system. Although the building placement does not provide the 30 feet rear setback for the MCPS lot, the three parcels considered together meet the zoning standards.

The linear building form, a rotated "E," features a double loaded corridor, linked to an end "handle," whose massing effectively defines the parent drop-off loop and parking. This arrangement successfully achieves the task of enclosing the drop-off/pick-up zone, safely directs pedestrian movement to the entrance, and efficiently sites the kitchen with direct access to loading and delivery. Visually, the street elevation achieves an interesting balance through the contrast of built and unbuilt: the double-height "handle" terminates the linear form on the western, open aspect, while the forest at the eastern edge extends to the street, punctuating its role as a residential buffer.

The plan separates pedestrian, bus, and automobile traffic, minimizing pedestrian-vehicular conflict. Visual supervision is provided for all play areas, observation of arrivals/departures, and access to the adjoining park. Critical priorities of safety, handicapped-accessibility, and direct access to play areas for Kindergarten classes dictate, to a large degree, design of the "inner recreation envelope", that is, the paved and mulched play areas. To this end, retaining walls provide grade-level access and visual survey of the outdoor areas. The retaining walls are segmented, and function structurally in two ways: firstly, to support the loads of the outdoor playgrounds and the basketball court, and secondly, to provide a vertical backstop for stray balls.



The varied constrictions of the site, its limited size, the adjoining Pepco property, placement of the forest stands, topography, and essential infrastructure demand thoughtful and efficient disposition of the program requirements for engineering, architecture and site design. The resulting balance accommodates the program with minimal imposition on the existing natural environment and achieves sustainable design that is attractive, safe and efficient.

Architectural Design

The building design features a brick-faced, 2-story steel structure with structural concrete block. The linear form features a double-loaded corridor that is linked to a service "node" that affects a strategic, functional, and aesthetic role. Functionally, this "node," works as a spatial backstop, containing the intersection of outdoor circulation patterns in front, and providing an enclosed, rationalized east-west zone for the Kindergarten playgrounds in the rear; in doing so, node visually integrates the architecture across the site, side-to-side and front-to-back. That these physical necessities are met fulfills the functional aspects; however, the placement and articulation of this node, allows the artistic shaping of this space, whose primary visual role is to engage the building's relationship to the park and natural surroundings.

The building design employs a well-developed vocabulary using the surrounding residential vernacular and, more interestingly, historical reference to "The Little Red Schoolhouse." This is seen in the inspired use of materials, brick facades with double-hung windows references the facing colonials; the skillful, modulated massing articulated by the rhythmic placing of the gabled roof lines that scale the building in proportion to its neighbors; gentle grading and landscaping with a finished floor level that separate, yet connect the building to the park. Functional program elements such as the loading dock

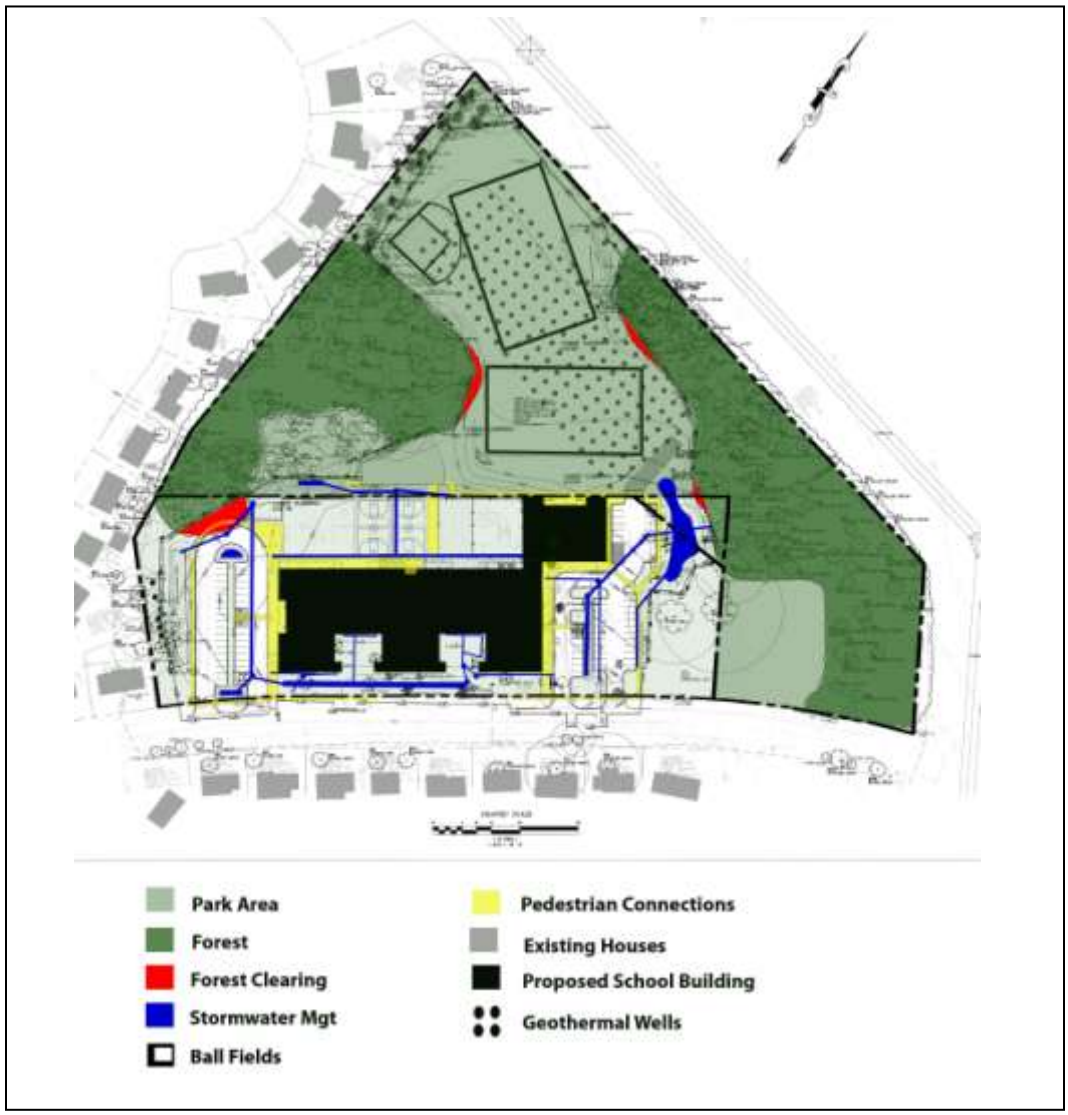
are derived from the dual use of the automobile drop-off loop, serving the multipurpose room/kitchen on the east end; at the west end, the bus loop with parking, serves the gymnasium. Use of this form offers a generous space in which to accommodate the arrival and departure of students, with adequate visual security, and allows appropriately separation private functions such as the health office and counseling facilities.

The floor plan provides optimal organization of the classroom program along the longitudinal axes with visible public spaces, while individual, inter-connected classrooms flank the short, perpendicular corridors, with support spaces, counseling offices, workrooms and storage. Services, bathrooms, elevator, computer server room, are located strategically at on each floor providing ease of access throughout the school day. The kindergarten classrooms are strategically located on the lower level with dedicated outdoor play space and restrooms.

These thoughtful aspects of this design solution achieves multiple goals: use of natural lighting, allowing secure public use of the media facilities, gymnasium and multi-purpose room on weekends and evenings, and effective integration of the functional school program and its services. The sensitive handling of materials and roof massing, interplay of volumes, the scaling of outdoor courtyards with the articulated roof volumes create architecture that relates back-to-front, side-to-side, and top-to-bottom.

The rhythmic use of "The Little Red Schoolhouse," knits together the ensemble of solid and void with historical reference that visually simulates the original, yet in modern language and technology. The timeless precedent, PS 15, Bronx, NY, built in 1877, remains vital to its community amidst the surrounding housing of its day.

Schematic Site Plan and Infrastructure: The schematic plan below illustrates the general disposition of building area and outdoor uses. Tree protection areas at the site edges are denoted in dark green, while the play fields are depicted in lighter green. Also shown are the storm water system (dark blue), stream bed (light blue), stream valley buffer (red), and areas of clearing (red). Note the small areas of forest clearing along edges of the athletic fields.



Energy Efficiency, Utilities and Infrastructure: The proposed structure will be registered and certified for silver or higher rating in conformance with LEED (Leadership in Energy and Environmental Design) standards for sustainable design. One of the primary factors pursued via design decisions addresses conservation of energy, as seen in the following:

- *Building Orientation and Configuration:* The classroom corridors are sited in a north-south orientation to maximize natural light and minimize heat gain; south-facing facades will be fitted with sun screens to shade the rooms from direct, heat gain. Light wells and a court yard bring daylight into interior rooms. All regularly inhabited rooms will have access to daylight.

- *Building Materials & Disposal of Demolition Materials:* A Construction Waste Management Plan will be implemented. The project will utilize material with recycled content, regional materials, and certified wood. Highly reflective roof materials and a vegetated roof will be installed to reduce heat-island effect and heat gain to the building. The building is heavily insulated and uses low-e glass.

- *Energy Conservation and HVAC:* A primary design factor in the conservation of energy. The building will be heated and cooled by a two-pipe hydronic heat pump (HHP) system. The HHP system consists of individual, vertical water-cooled units for each classroom. Heating and cooling are provided by geothermal ground source heat pump system.

  The geothermal system features wells located under the playing fields on parkland. Mechanical systems will optimize energy performance, achieving notable improvement over the ASHRAE/IESNA baseline. The mechanical systems will achieve the Enhanced Refrigerant Management LEED point. Direct digital automatic temperature control will monitor all new HVAC equipment and provide a high level of occupant control over individual lighting and thermal comfort. Classroom ventilation will be provided by and HHP integrated energy-recovery unit mounted on the roof. Equipment selection, installation and operation of HVAC equipment will be optimized through enhanced commissioning of energy systems.

- *Site Utilities:* Site utilities upgrades include a new environmental site designed stormwater management system for both quantity and quality control; all services will be upgraded, including new gas line connections, electrical supply upgrade and new transformer; Water supply will be provided via an 8-inch water line connected to the existing 10" water main. This connection will service the on-site fire hydrant as well.

- *Technology Infrastructure and Security:* The building design features an upgraded power feed, public address system, fire suppression system, fiber-optic backbone cable system(5E UTP for station drop connectivity) supporting switched 1-/100/100 Mbps Ethernet for the switching system, data/voice/VoIP network. The system is designed to provide a gigabyte Ethernet to accommodate future changes in technology. Also provided is a bidirectional broadband system for full spectrum broadcast to all parts of the building with five dedicated channels. Security and safety provisions include a visitor management system that offer office staff the ability to monitor and control visitor access, with a computer based sign-in system. Motion and contact sensors at all exterior doors will be monitored by MCPS Department of Safety and Security.

- *Public Address and Fire Alarm Systems:* A new public address system will be integrated into the building, with each classroom equipped with a call back switch and speakers. The new addressable voice evacuation fire alarm system will be sized to accommodate expansion for the master planned future addition.

- *Power and Lighting:* The electrical plan proposes a 277/480V, 3-phase, 4-wire electrical service. Emergency power will be provided by a natural gas-fueled generator to handle fire alarm, emergency lighting, telecom, kitchen stores as well as the energy recovery units that provide freeze protection. Lighting will be energy efficient 2' x 4 'fluorescent fixtures in common areas with direct and indirect pendant lighting in classrooms.

The lighting plan proposed standard single shoebox fixtures on 16-foot high poles. Photocell fixtures are proposed as wall mounted lighting on the exterior walls. The lighting plan shows no light spill at the south and east property boundaries; however, it is recommended that the lighting fixtures near the north property ROW at the entrance be equipped with cut-off shields to prevent light spillage beyond the site boundaries. Photometric readings should be provided for light levels of 0.01 foot-candles well within the site's boundaries.

Hours of Operation: School hours are from 8:50 a.m. to 3:05 p.m.; staff hours are from 7:30 a.m. to 4:00 p.m. These facilities are also available for community use. After hours activities scheduled through the Montgomery County Use of Public Facilities program generally conclude by 9:30 p.m., and may be scheduled for two weekends per month.

Vehicular and Pedestrian Circulation: The site design intends to improve vehicular and pedestrian circulation to and from the school by creating separated drop-off/pick-up areas for automobiles and buses, automobiles at the east end, buses at the west end. Loading and delivery are provided through the automobile loop at the east end to increase efficient delivery of food and supplies to the kitchen. The pedestrian routes are generous, with good visibility and adequate dimensions and efficient crossing distances. The parking islands form part of the stormwater management system of micro bio-retention areas, complete with attractive, native plantings. [See *Traffic Queuing Plan*, Attachment 11.]

Noise: The project is in compliance with the Montgomery County Noise Ordinance, Section 31(b) of the County Code and should not impose objectionable noise levels.

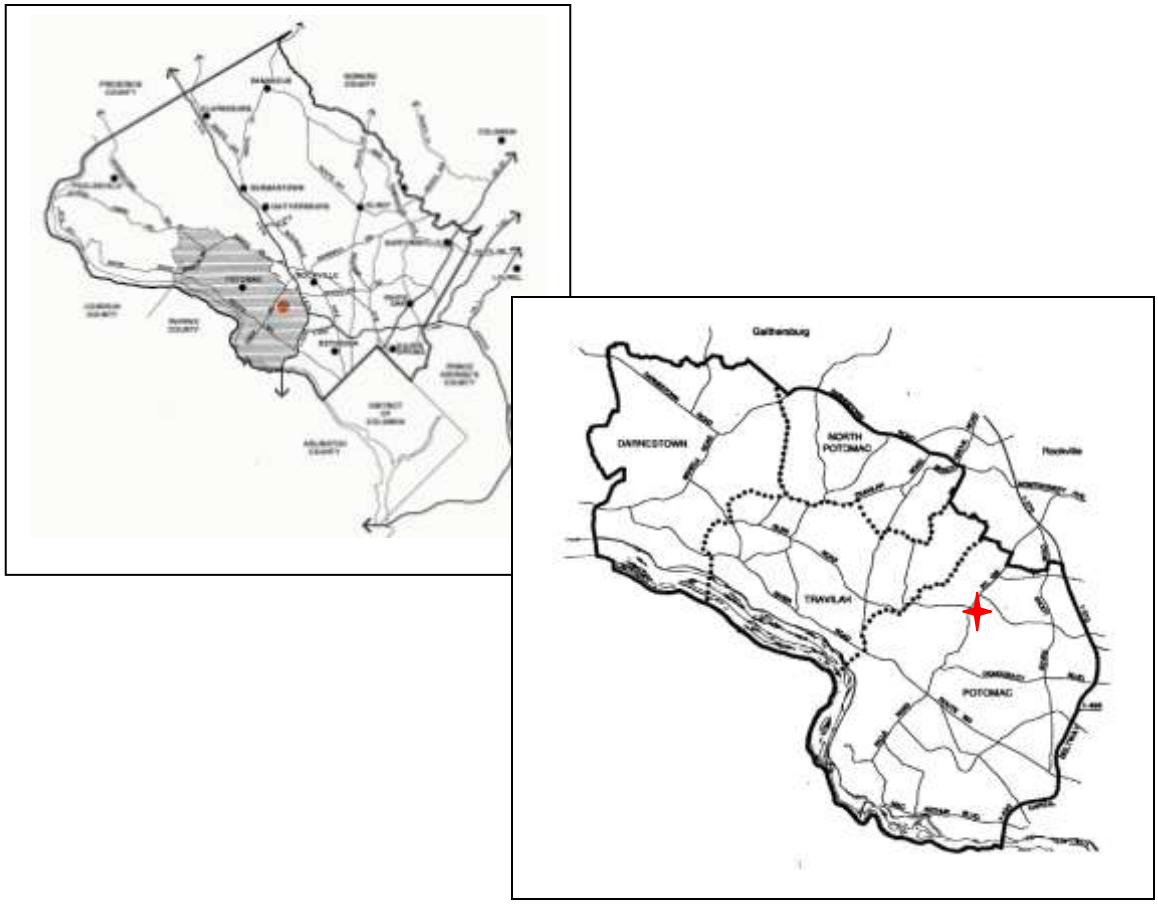
Stormwater Management (SWM): Stormwater management is a significant issue on this site, due to required grading and placement of the playground and ball fields. A new stormwater management system is proposed for quantity and quality control measures on site. The building design makes utilizes of rainwater for the vegetated roof, collecting the runoff at specified points for conveyance to a series of micro-scale water quality and quantity ponds that are distributed around the site, per environmental site design regulations. Porous paving, infiltration, rain gardens and bio-retention ponds are also used as part of the site design.

ANALYSIS

Relationship to the Master Plan

The *2002 Approved and Adopted Potomac Subregion Master Plan* recognizes that:

> Public schools are an essential component of community life and an integral part of community structure. Montgomery County's public schools are divided into clusters of elementary, middle, and high schools, with cluster boundaries drawn to serve their surrounding residential communities, while maintaining a balanced socio-economic student population.



Likewise, the plan continues:

> The Board of Education programs funds for school modernizations through its capital budget, with funds set aside to improve the quality of existing schools and to building new schools. The Board of Education also modifies service areas to balance enrollment with facility space. As growth has varied in each of the Subregion's four community areas, so has school capacity.

The plan carries no specific recommendations regarding Carderock Springs Elementary School, nor for the Elementary School classification in general.

Development Standards in the R-90 Zone – Regulatory Analysis

Beverly Farms Elementary School - Beverly Farms Local Park - Modernization 8501 Postoak Road, Potomac, MD					
R-90 Zone	**Development Data**		**R-90 Zone Std.**	**Existing**	**Proposed**
§59-C-1.322(a)	**Lot and Tract Area**	min.			
	Lot Area sf		9,000 sf	MCPS 219,542 sf/ MNCPPC 366,975 sf	MCPS 219,542 sf/ MNCPPC 366,975 sf
	Lot Area - acres		0.20 ac.	5.04 MCPS / 8.42 MNCPPC	5.04 MCPS / 8.42 MNCPPC
§59-C-1.322(b)	**Lot Width**	min.			
	Lot Width - front building line		75 feet	766 LF	766 LF
	Lot width - proposed street line		25 feet	766 LF	766 LF
§59-C-1.328	**Lot Coverage**	max.			
	Sum of building coverage		0.30	17.00%	24.00%
§59-C-1.323(a)	**Setbacks**	min.			
	Street (front)		30 feet	72	33
	Side [one side]		8 feet	150	160
	Side [sum of two]		25 feet	372	330
	Rear		25 feet	3' Over Property (MNCPPC)	1' (From MNCPPC)
§59-C-1.327	**Building Height** [1]	max.			
	Main Building - feet		30-35 feet [1]	30'	38'-2" gable median
	Main Building - stories		2.5 stories	2	2
Additional Info	Site Area Cleared: Total LOD	sf		N/A	357,000
	Forest Clearing	ac		NA	0.09 Acres
	Impervious Area	sf		116,741 MCPS / 3,050 MNCPPC	103,950 MCPS / 2,950 MNCPPC
	Impervious Area	%		54.79% / 0.83%	48.79% / 0.80%
	Forest Protection			NA	165,964 Sf
	Building area	sf		58,397	98,916
	Parking - Staff			69 Staff/Visitor	80 Staff/Visitor
	Parking - Visitor				
	Parking - Buses			6	8

[1] *measured from the measurement control point, the height must not exceed 1-1/2 stories or 30-35 feet, depending on the method of measurement. The height may be increased to either 3 stories or 40 feet if approved by the Planning Board in a site plan.*

Transportation Analysis

Transportation planning staff reviewed the Mandatory Referral traffic study of the above traffic study according to the requirements of the LATR/PAMR Guidelines and the traffic study scope and recommends approval with conditions. Relevant comments are excerpted below.

The consultant for the applicant submitted a traffic study that presented traffic-related impacts of the new school with a core capacity for 740 students during the weekday morning and afternoon peak-periods. The study analyzed internal school traffic circulation, internal/external student drop-offs and pick-ups, existing and projected

queuing along school driveways and operation of the driveway intersections with Tuckerman Lane and Post oak Road. Staff review of the above traffic study indicated that the study complied with the requirements of the LATR/PAMR Guidelines and the required traffic study scope provided by the staff.

Capacity analysis presented in the traffic study indicated that the intersections would at satisfactory levels during the weekday morning school drop-off and afternoon school pick-up peak periods for the Potomac Policy Area. The mandatory referral therefore satisfies the LATR requirements of the APF test. The PAMR study indicates that the proposed plan will achieve a trip reduction of approximately 51 percent, below the Policy Area requirement of 45 percent.

Staff finds MCPS to be satisfying the PAMR requirement for the policy area, primarily through bussing of students and encouraging walking to the school. The mandatory referral therefore satisfies the LATR/PAMR requirements of the APF test.

Forest Conservation
Of the existing 3.9 acres of forest on the two sites, the plan proposes to retain 3.81 acres of forest in conformance with the Chapter 22, Forest Conservation Law. Forest clearing will be limited to 0.09 acres, below the threshold requiring plan. All forest retained is located within the M-NCPPC Parks property; therefore, no easements will be placed on the forestation remaining. . The plan proposes the removal of five trees, with root zone impacts to 10 trees which requires a Maryland State variance. Staff recommends approval of the variance request subject to mitigation measures providing 14 three-inch DBH native species trees on site. The site lies within the Cabin John Creek Watershed.

Parks
Beverly Farms Elementary School is one of three Mandatory Referral projects featuring joint design and development by MCPS and the Parks Department. The schools, including Cannon Road Elementary and Garrett Park Elementary Schools, each achieve sustainable design for constricted sites, in which significant site efficiencies are achieved through the installation of geothermal wells below the grade of recreational playing fields. The thoughtful resolution of design issues on tight, infill sites have produced resourceful, multi-functional uses throughout the site design, including stormwater management, landscaping, field restoration, parking, loading and delivery.

COMMUNITY OUTREACH
MCPS developed the plans for the replacement facility based on specific education facility specifications. MCPS staff conducted work sessions beginning in February 2010 with members of the Beverly Farms Facility Advisory Committee that included parents, eight neighborhood residents, school officials, project architects, faculty and staff, and PTA members. Six Design Review Work Sessions were held between February 3, 2010 and June 24, 2010.

The proposed plans represent the evaluations and modifications made in accordance with the suggestions and recommendations of the Committee. No public comments were received at the time of the writing of this memorandum.

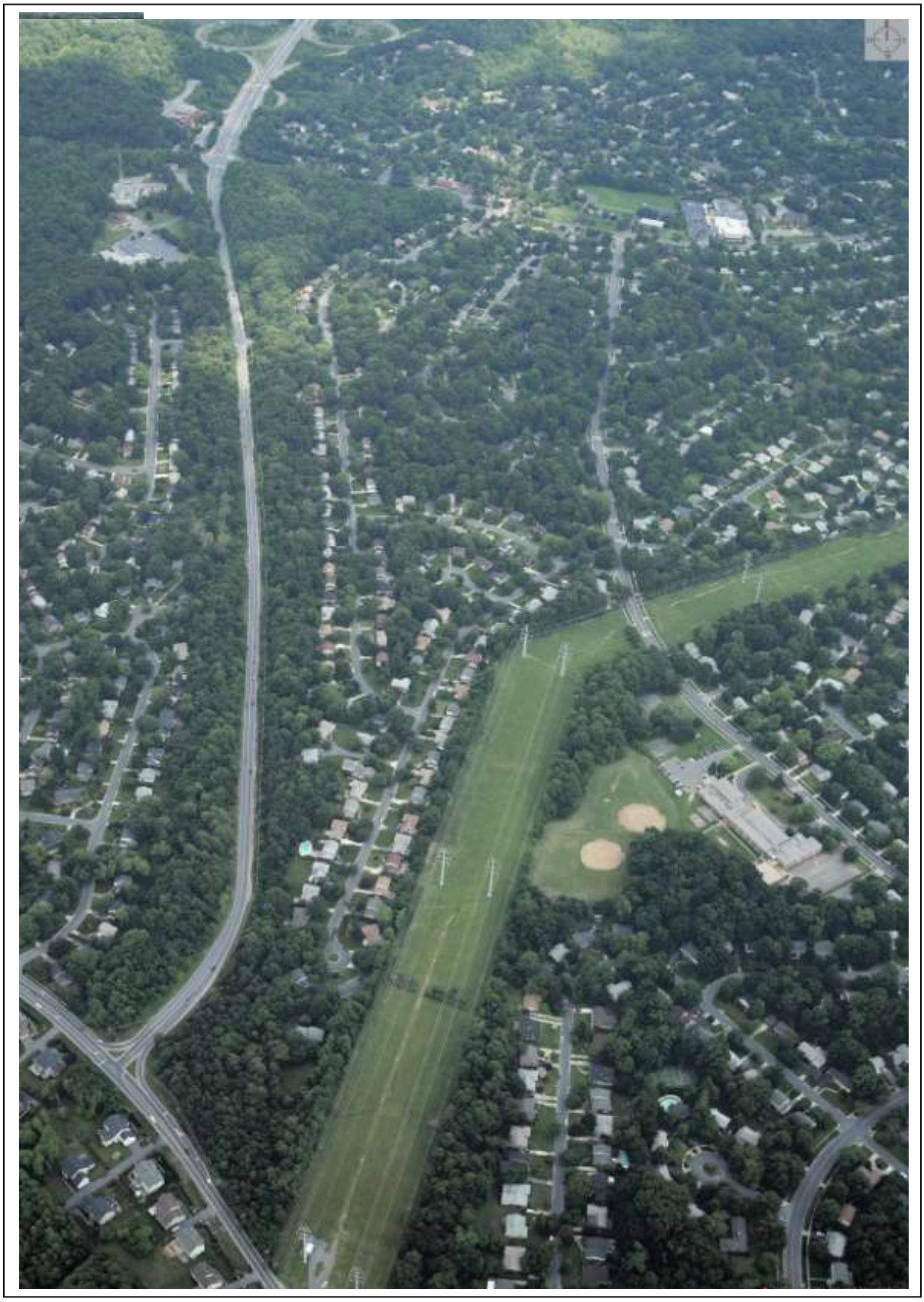
CONCLUSION

Staff recommends approval of the Mandatory Referral Staff subject to the conditions as stated.

ATTACHMENTS

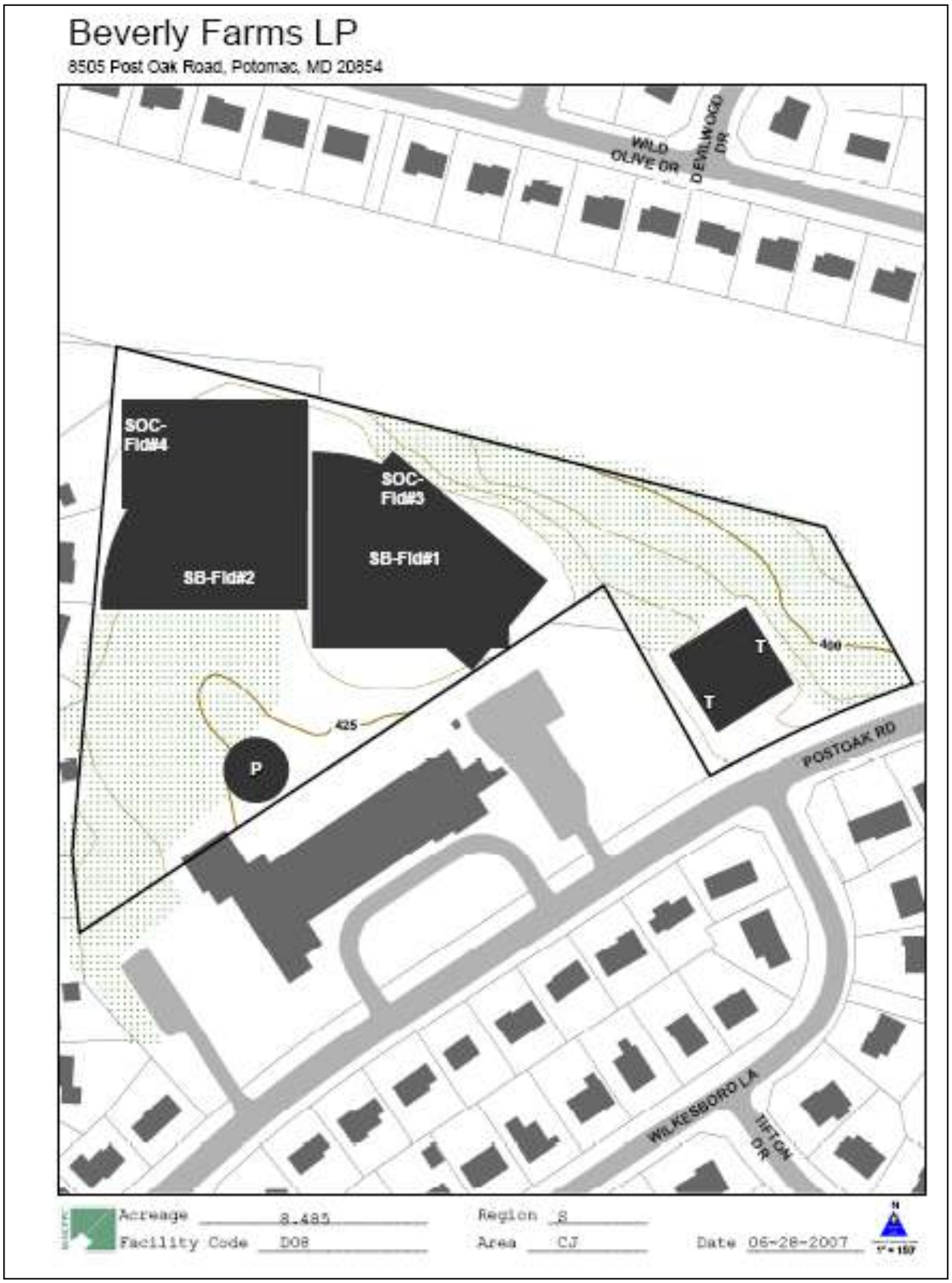
1. Vicinity: Oblique Aerial Site Photograph
2. Site Photographs
3. Park Map: Beverly Farms Local Park
4. MCPS: Winston Churchill Cluster Map
5. Beverly Farms Elementary School Feeder System
6. Site Plan
7. Landscape Plan
8. Architectural Plans
9. Architectural Elevations:
10. Architectural Elevations
11. Traffic Queuing Plan
12. Retaining Wall Exhibit
13. Transportation Planning Staff Memorandum, dated April 13, 2011
14. Department of Parks, Staff Memorandum, dated April 15, 2011
15. Montgomery County Department of Permitting Services, Storm Water Concept Approval, dated March 31, 2011

Attachment 1: Oblique Aerial Photography

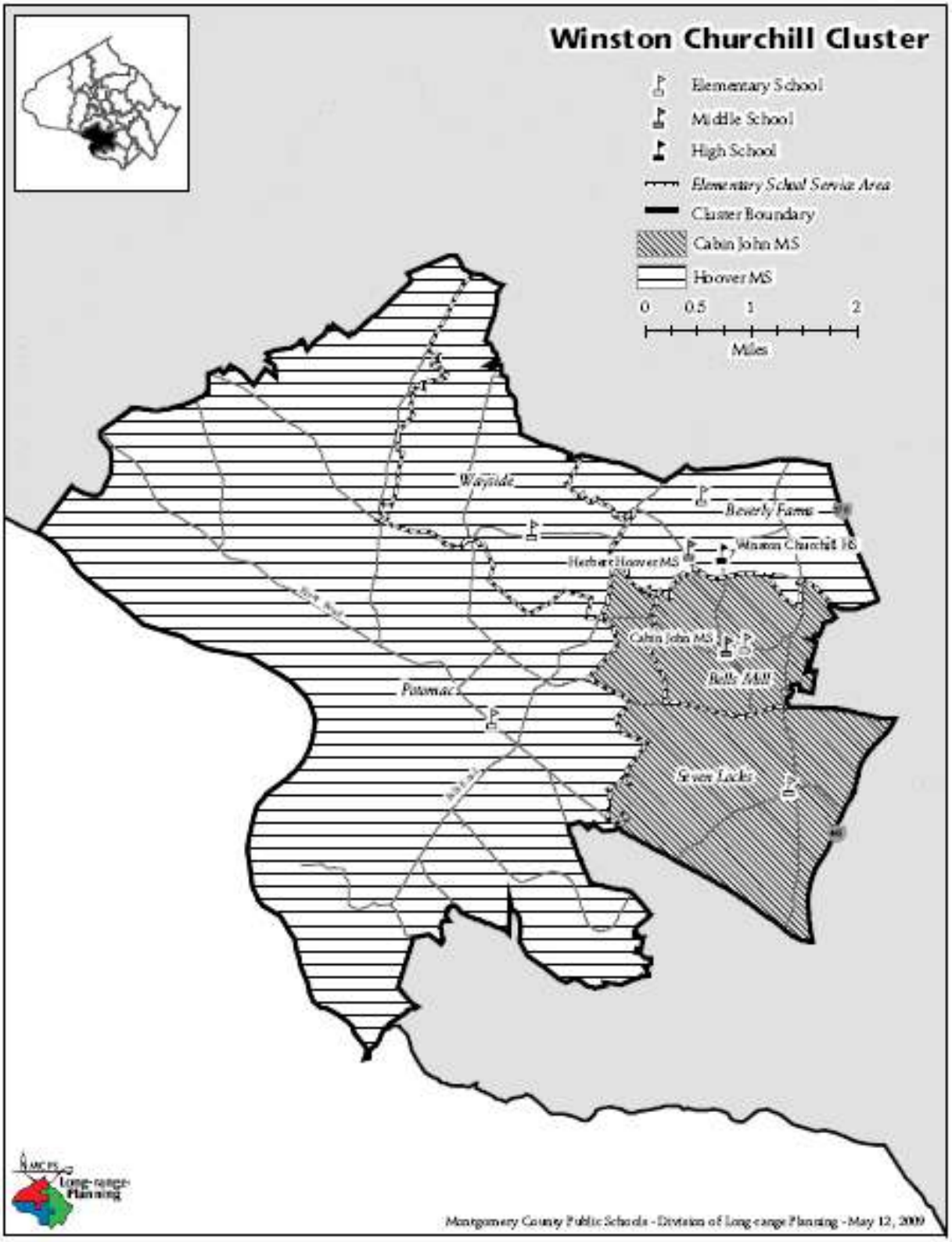


Attachment 2: Site Photographs

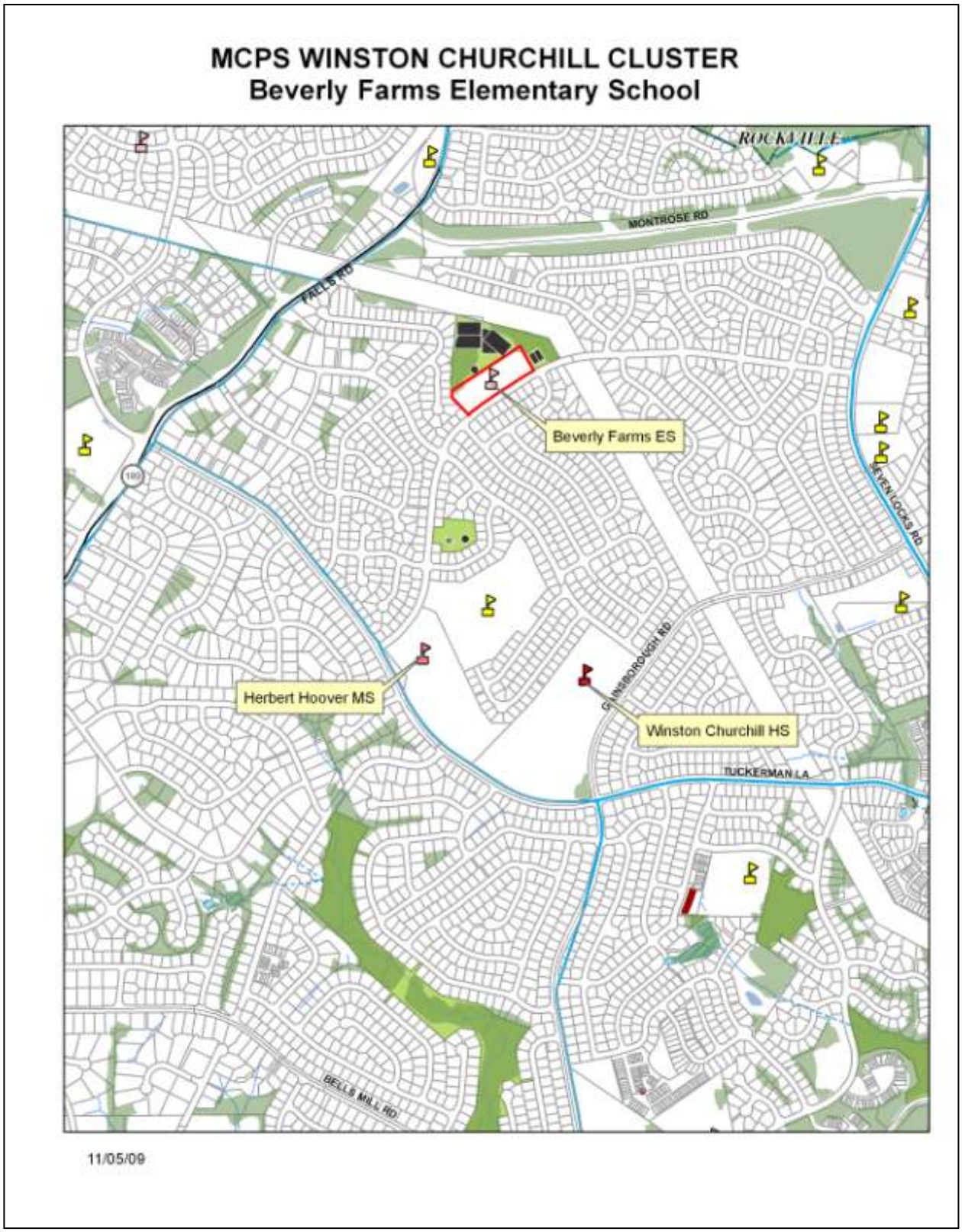
Attachment 3: Beverly Farms Local Park Map



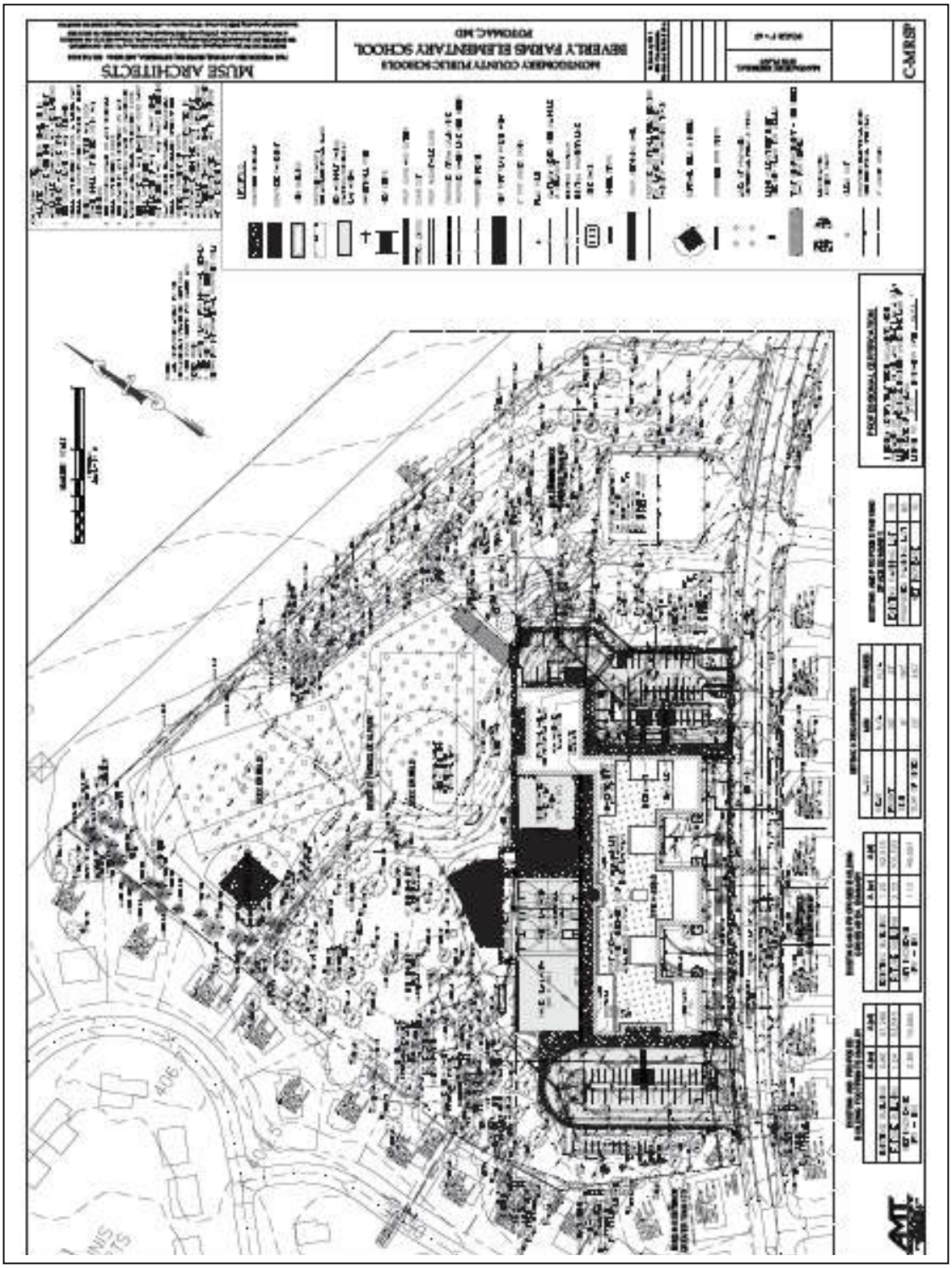
Attachment 4: Montgomery County Public School: Churchill Cluster



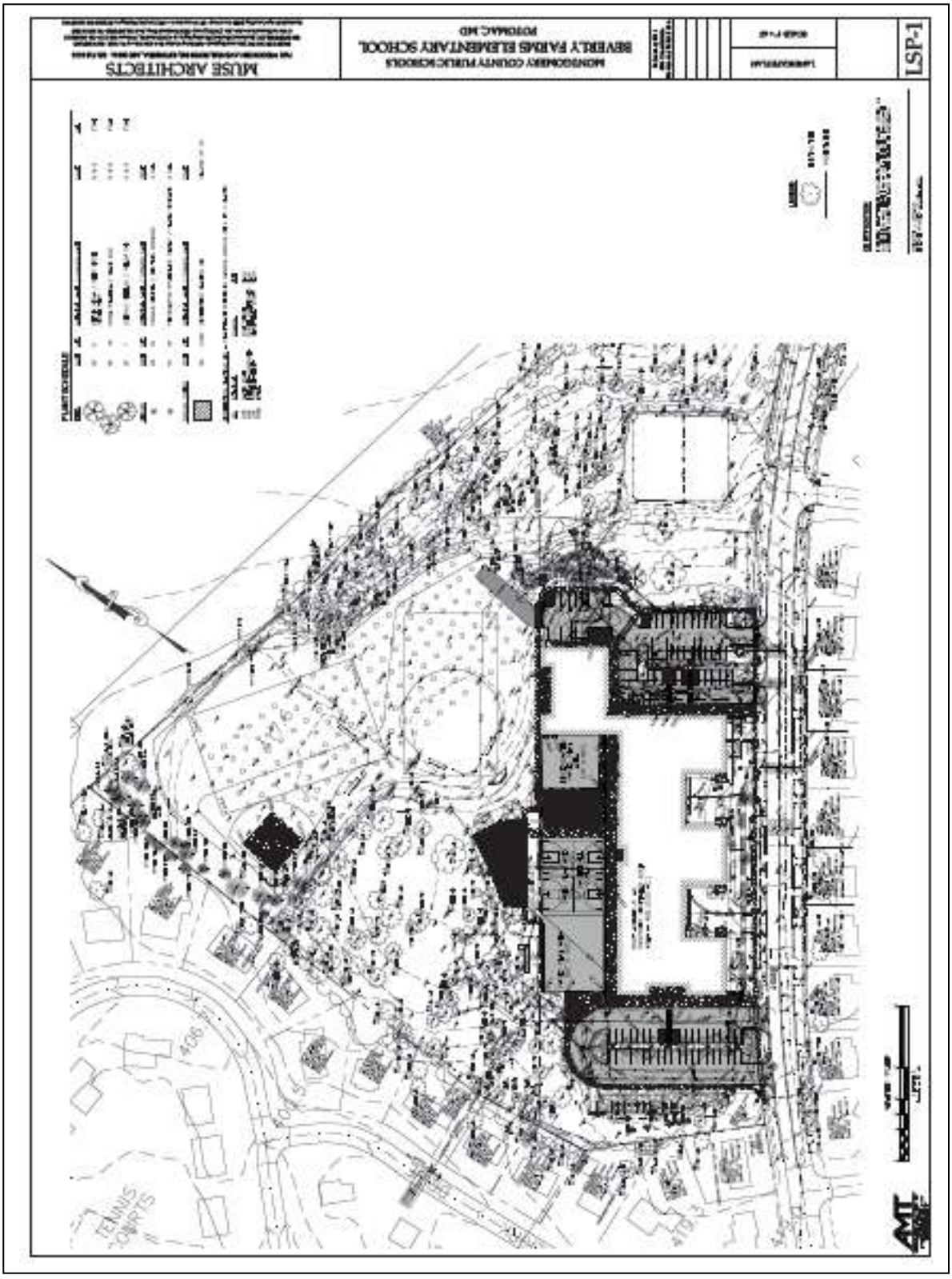
Attachment 5: Beverly Farms Elementary School Feeder System



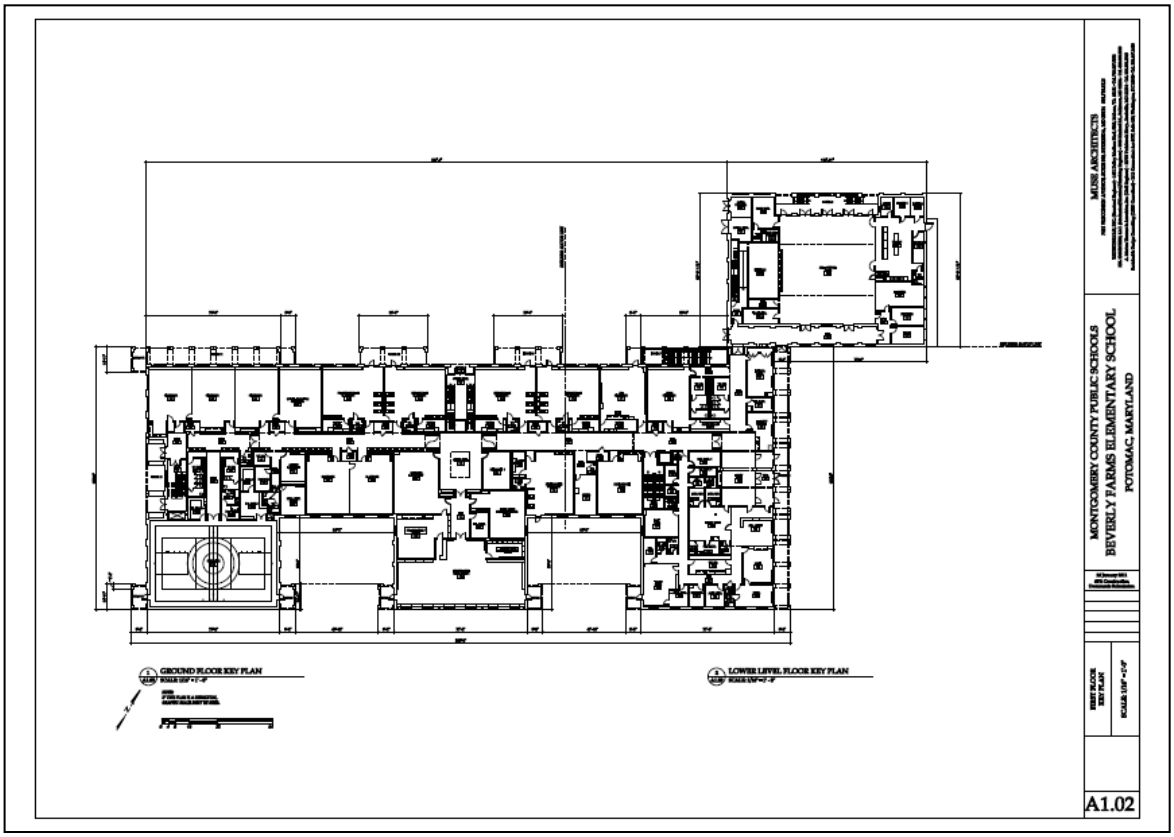
Attachment 6: Site Plan

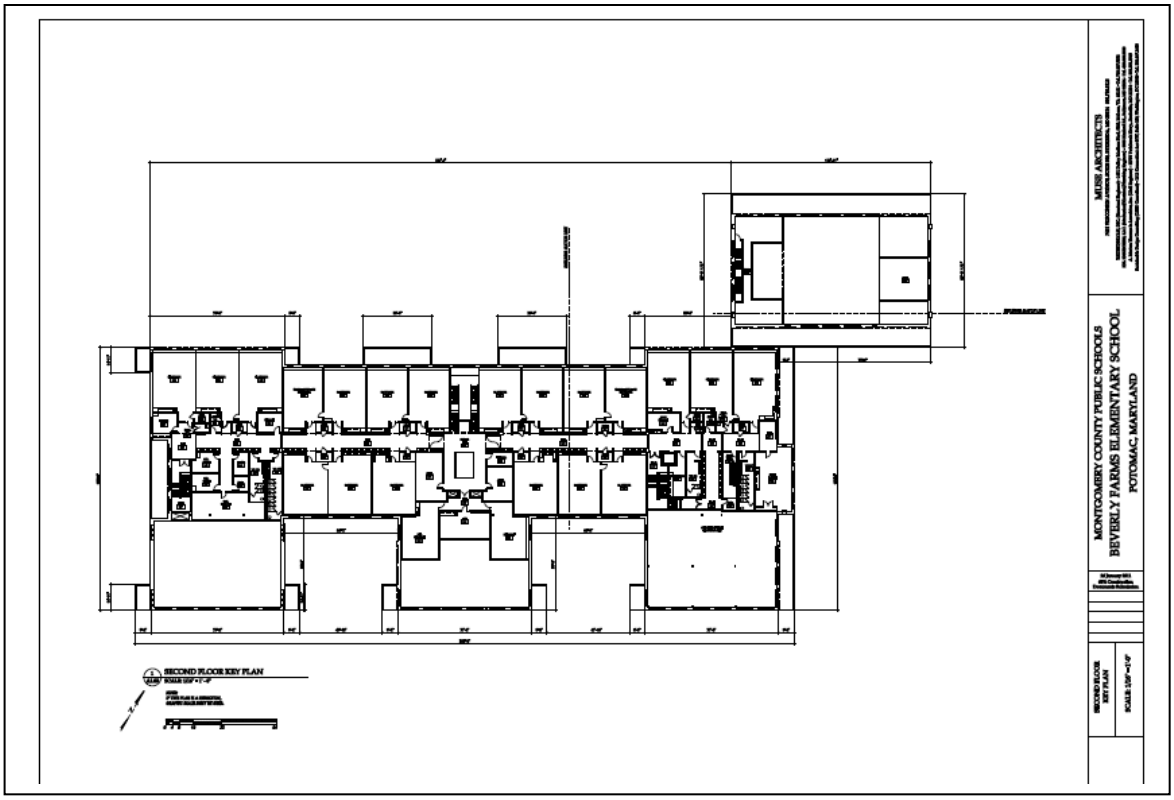


Attachment 7: Landscape Plan

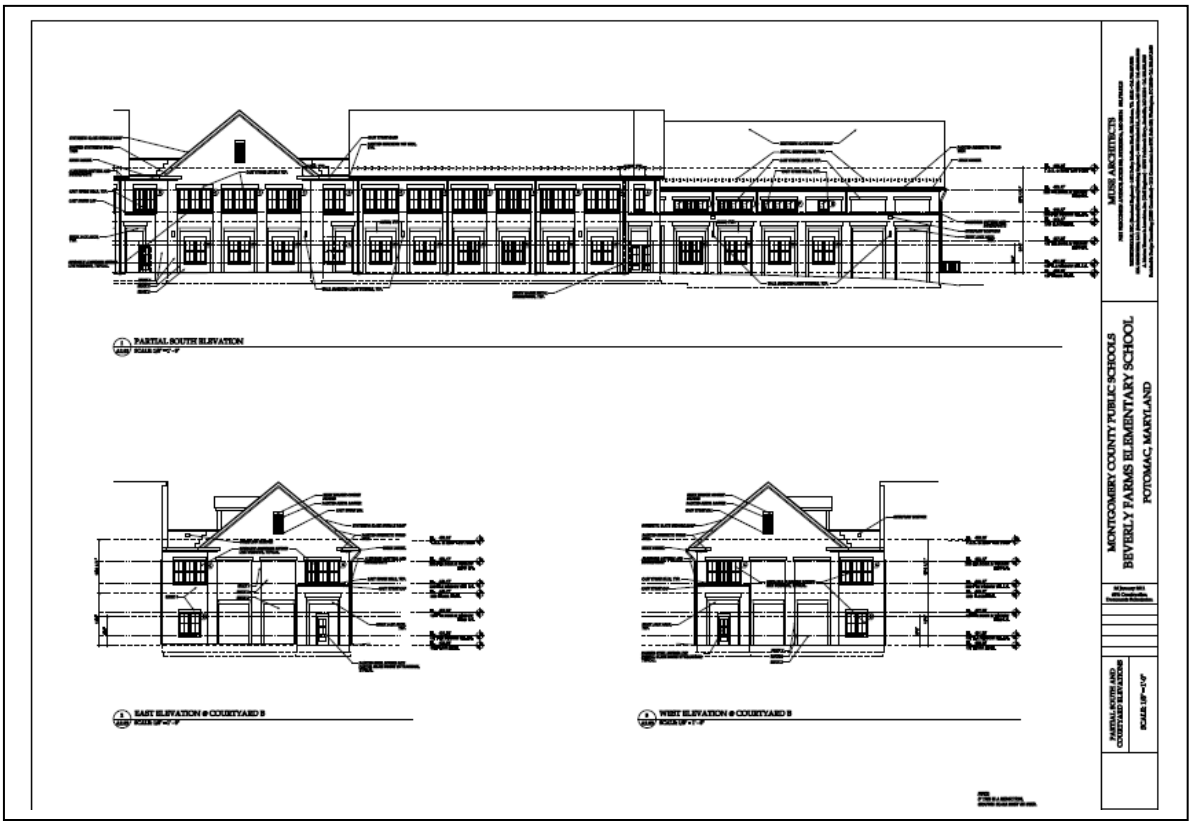


Attachment 8: Architectural Plans

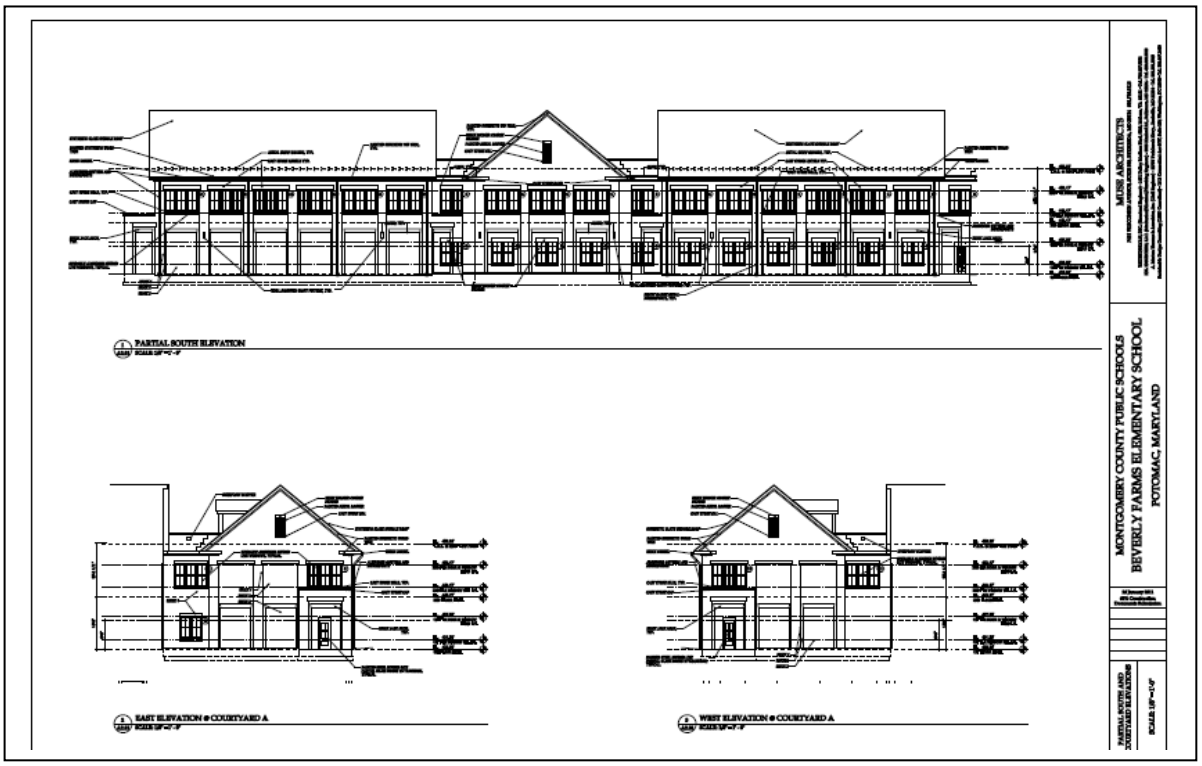


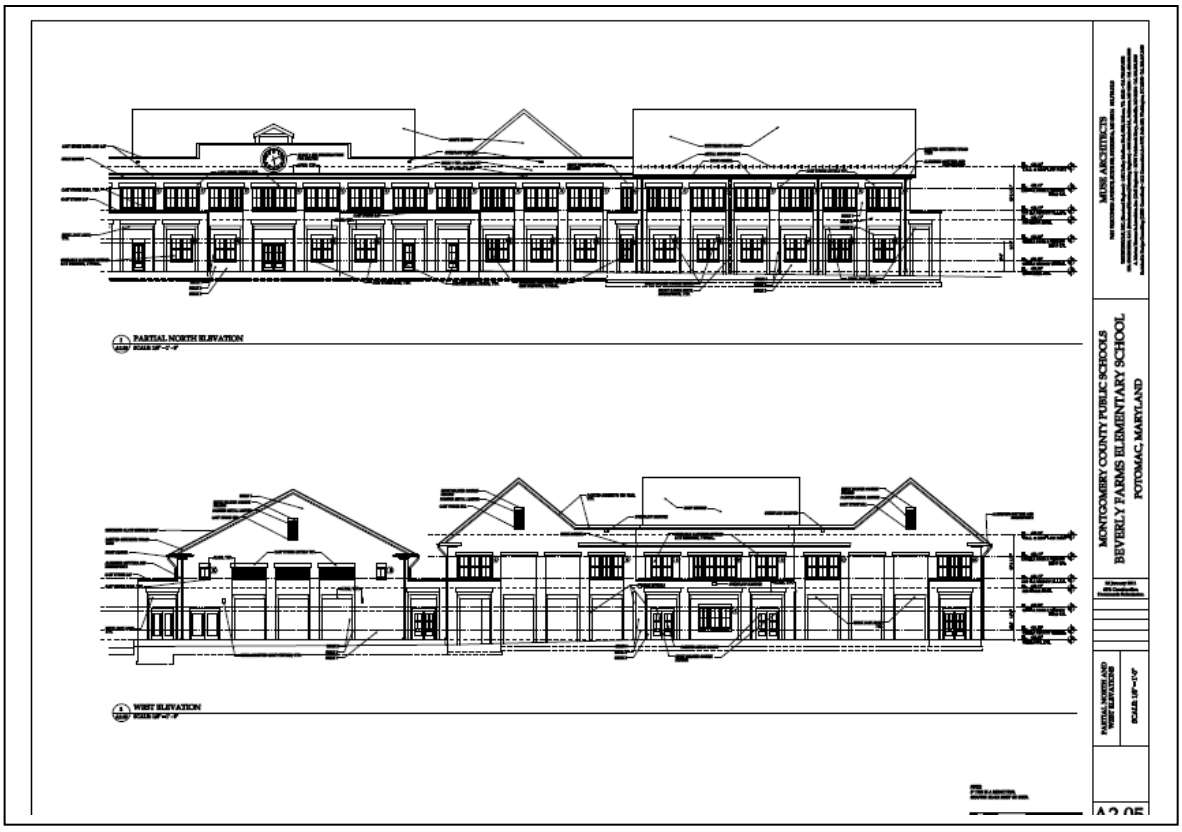


Attachment 9: Architectural Elevations

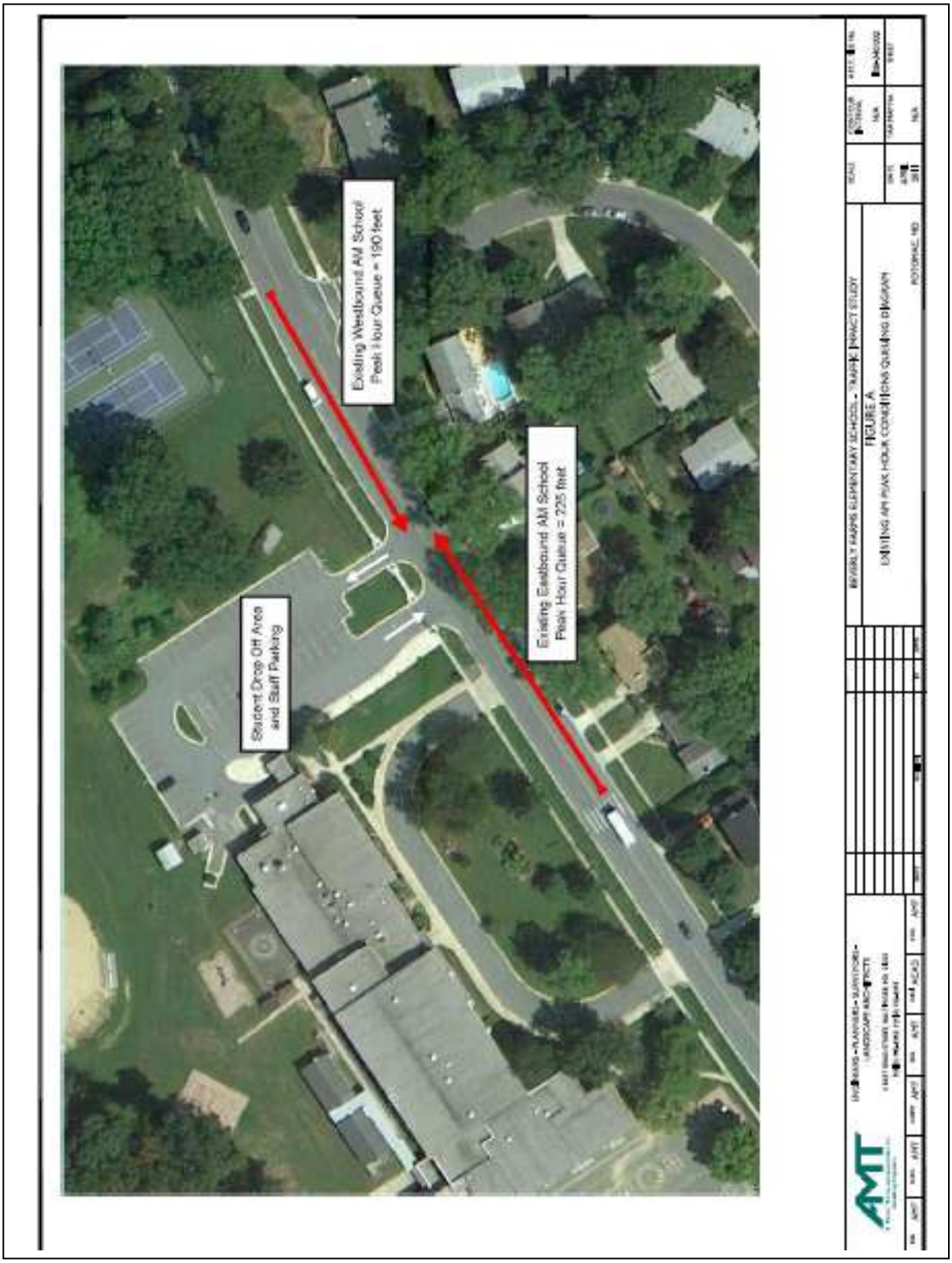


Attachment 10: Architectural Elevations

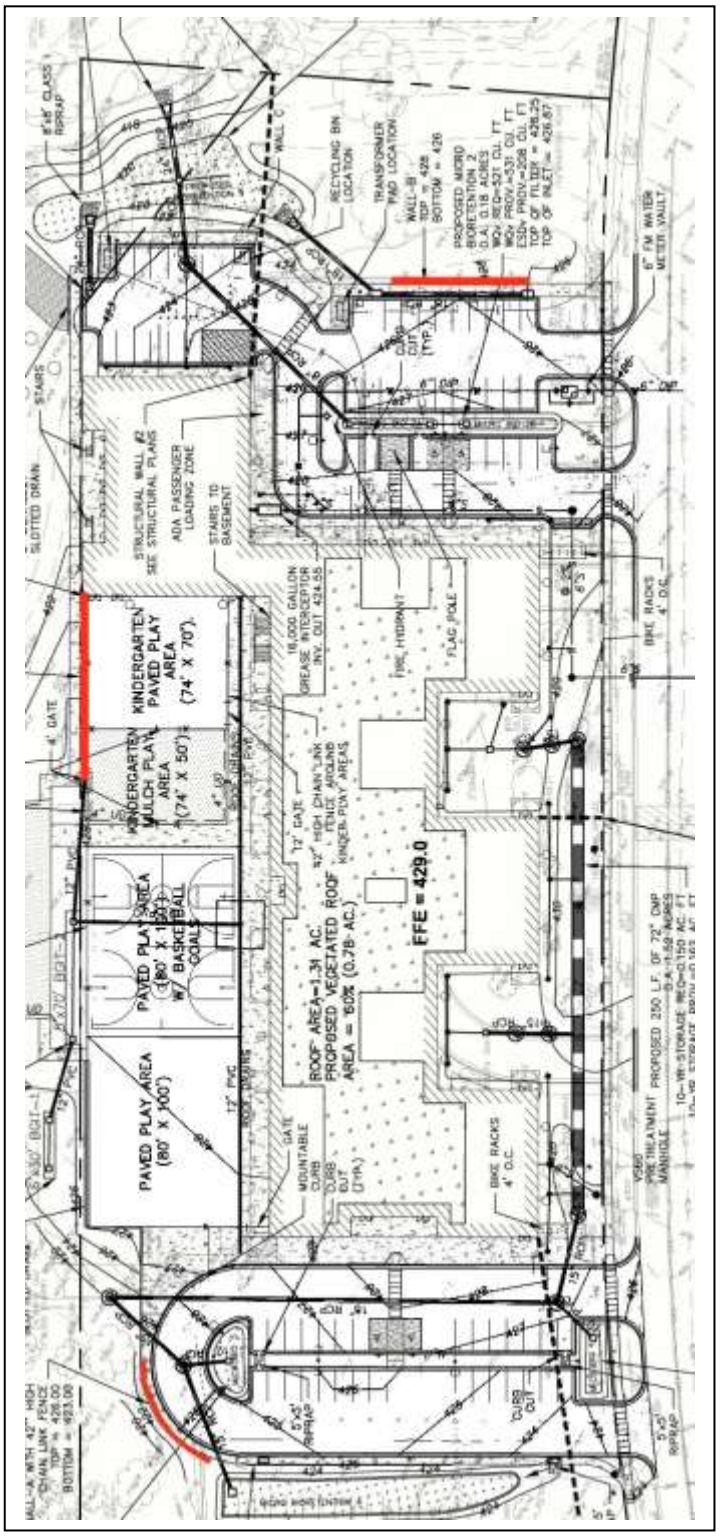




Attachment 11: Traffic Queuing Plan



Attachment 12: Retaining Wall Exhibit



MONTGOMERY COUNTY PLANNING DEPARTMENT

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

April 19, 2011

MEMORANDUM

TO: Mary Beth O'Quinn, Planner/Coordinator
Planning Area 3 Team

FROM: Ki H. Kim, Transportation Planner KHK
Planning Area 3 Team

SUBJECT: Mandatory Referral 2011304-MCPS-1
Beverly Farms Elementary School Modernization Project
Montgomery County Public Schools
Potomac Policy Area

This memorandum presents Transportation Planning staff's review of the mandatory referral for the Beverly Farms Elementary School modernization project. Herbert Hoover Middle School is located at 8501 Postoak Road within the Potomac Policy Area. The proposed new school building will be located in the same general location of the existing building.

RECOMMENDATIONS

I have completed our review of the materials submitted for the subject mandatory referral and recommend that the Planning Board transmit the following comments to Montgomery County Public Schools (MCPS):

1. Any mandatory referral submission for future improvements at the school must include a traffic study if those improvements will increase school's student core capacity beyond 740 students.

2. MCPS must manage parent drop-off/pick-up of students entirely within the school property and must strongly discourage any drop-off/pick-up of students along Postoak Road, or any other neighboring streets.

3. MCPS must coordinate with Montgomery County Department of Transportation (MCDOT) on site access and any need to remove parking along southbound Postoak Road (towards Tuckerman Lane) along school frontage.

DISCUSSION

School Location, Area Roadways, Pedestrian Facilities, Public Transportation

Beverly Farms Elementary School is located along Postoak Road in close proximity to Seven Lucks Road to the east and Tuckerman Lane to the west in Potomac.

Montgomery County Public Schools (MCPS) is planning to modernize the existing Beverly Farms Elementary School. This modernization project will demolish the original school building and construct a new replacement building in the site. The school currently serves a population of 571 students. Once completed, the new school will have a core capacity for 740 students with an initial capacity of 648 students.

Postoak Road is a primary residential street between Seven Locks Road to the northeast and Tuckerman Lane to the southwest, and has a posted speed limit of 25 mph in the vicinity of the school. Parking is permitted along the southbound side of Postoak Road near the school. Tuckerman Lane is an arterial roadway between Falls Road to the west and Rockville Pike (MD 355) to the east, and has a posted speed limit of 35 mph (25 mph when flashing) in the vicinity of the school.

The intersection of Tuckerman Lane and Postoak Road has STOP-sign control on the Postoak Road approach to the intersection. Cross-walks are provided across the north and east legs of the intersection. Pedestrian and school warning signs currently exist along the Postoak Road approach to the school.

Sidewalks currently exist along both sides of Postoak Road between Tuckerman Lane and Seven Locks Road. Tuckerman Lane has a sidewalk along its north side between Postoak Road and Gainsborough Road.

Postoak Road is serviced by RideOn route 38, which runs between Victory Lane and Seven Locks Road. Route 38 has stops at the intersection of Postoak Road and Victory Lane.

School Access, Circulation, Parking

Vehicular access to the existing school is via five driveways along Postoak Road. The northern two access driveways and southern access driveway currently provides access to the school parking lots and bus driveway loop located between these two school parking lots.

As part of the modernization project, school access points are being reconfigured. Under the proposed plan, the school bus in/out loop is located to the southern parking lot which will be accessed by two driveways from Postoak Road. The northern two driveways is proposed to provide access to the new school building and the northern school parking lot, as well as to the parent drop-off/pick-up loop. Staff finds that the proposed traffic circulation and access points are adequate and efficient.

The school currently has 70 parking spaces and once the modernization project is completed, the school will have 80 parking spaces.

Local Area Transportation Review (LATR)/Policy Area Mobility Review (PAMR)

The *LATR/PAMR Guidelines* requires a traffic study for all uses that generate **30** or more total peak-hour trips during the typical weekday morning (6:30 a.m. – 9:30 a.m.) and/or evening (4:00 p.m. – 7:00 p.m.) peak periods.

As required in the traffic study scope letter, the traffic study for the mandatory referral submission was required to analyze internal school traffic circulation, internal/external student drop-off's and pick-ups, existing and projected queuing along school driveways, and operation of school driveway intersections with Tuckerman Lane and Postoak Road during the morning and afternoon peak school arrival/dismissal hours.

Using trip generation rates developed for the existing school, it was estimated in the traffic study that the proposed modernization project (providing an increase in core capacity to enroll up to 740 students) would result in 123 additional trips to the school during the morning school peak-hour and 104 additional trips during the afternoon school peak-hour.

The traffic study indicated that intersections in the immediate vicinity of the proposed school will operate satisfactorily during the weekday morning school drop-off and afternoon school pick-up peak periods.

The PAMR study included in the traffic study notes that the school is achieving a trip reduction of approximately 51 percent. This is well below the Potomac Policy Area requirement of 45 percent. Staff therefore find that the mandatory referral for the proposed modernization of the Beverly Farms Elementary School satisfies the LATR/PAMR requirements of the Transportation APF test.

MONTGOMERY COUNTY DEPARTMENT OF PARKS
THE MARYLAND - NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MEMORANDUM

April 20, 2011

TO: Mary Beth O'Quinn, Area 3
Department of Planning

VIA: Dr. John E. Hench, Chief, Park Planning and Stewardship (PPS) Division

FROM: Brooke Farquhar, Supervisor, Park and Trail Planning, PPS Division
Mark S. Wallis, Planner Coordinator, PPS Division

SUBJECT: Beverly Farms Elementary Park/School Mandatory Referral – MR # 2011304-MCPS-1

Introduction

The Beverly Farms Park/School located at 8501 Post Oak Road in Potomac is scheduled to be demolished and rebuilt during the period between July 2011 and December 2012. As is typical in a park/school site, certain facilities such as parking, ballfields, and playground are currently shared between the two sites. Some park facilities will be reoriented, re-purposed, and relocated to provide maximum and flexible utilization of the reconstructed site.

Current facilities include two softball fields each with a soccer overlay field, two tennis courts, and one playground. **(See Attachment A).** The existing playground, due for renovation, is located in a wooded area and should be relocated away from mature trees to reduce the possibility limbs falling on children.

Geothermal well heating and cooling technology will be installed in the reconstructed school site. The approximately 170 wells will be drilled vertically underground approximately 400 feet deep and will be located underneath Softball Fields 1 and 2 as illustrated in **Attachment B**. The installation, field restoration and school-related parking improvements will require the entire park to be closed with the exception of the tennis courts. Tennis courts, which require little parking, are at the extreme southeast portion of the park. On-street parking will remain available during construction.

As part of the field restoration process, a grass drainage swale separating Softball Fields 1 and 2 will be eliminated and stormwater will be redirected. This change will create the largest flat area possible on the site, providing flexibility for various field configurations. Softball Field Number 2 will be reoriented while still providing a Fall rectangular sports field overlay. Softball Field Number 1 will be converted to a grassed infield with a kickball sized backstop and sized to allow a rectangular sports field as illustrated in **Attachment C.**

Conditions of Approval

The following items should be added as conditions of approval for the above subject Mandatory Referral. These conditions will be restated and enforced during the Park Construction Permit approval process under the auspices of the Park Development Division.

General Conditions

- Montgomery County Public Schools (MCPS) must obtain a Park Construction Permit from M-NCPPC Department of Parks (Parks) for all construction activity on Parkland. Submittals to Parks will include all existing recreation facilities on parkland. The Park Construction Permit can be located at: http://www.montgomeryparks.org/pdd/documents/application_revised_001.pdf

- Beverly Farms Local Park will be closed from June 20, 2011 until construction, field restoration and facility replacement activities are determined to be complete enough to safely re-open the park to the general public. The school is expected to re-open December 2012 and the fields ready for permitted play by April 1, 2013.

- The following events will occur during the closure period:

    1. Demolition and construction of Beverly Farms Road Elementary School,
    2. Geothermal well construction underneath current Softball Fields Number 1 and 2,
    3. Reorientation of Softball Field Number 2,
    4. Backstop replacement of Softball Field Number 2 per Parks Construction Standard Details,
    5. Removal of Softball Field Number 1 backstop and skinned infield and replace with a 3-panel, 10- foot high backstop.

Playground

- The existing playground will be removed during the summer of 2011 by Parks. Standard tree protection and restoration measures will be employed. A new playground will be installed behind the school at MCPS expense. The playground design will be approved by the Department of Parks and the equipment vendor will be chosen from both the MCPS and Department of Parks list of qualified vendors.

- Parks will provide a playground under-drain specification to MCPS.

Geothermal Well Installation

- Parks authorizes installation of approximately 170 geothermal heat pumps (vertical ground loop system) under current Softball Fields Numbers 1 and 2.

- Parks will require that the Park Construction Permit issuance include an easement requirement that delineates the location, and outlines maintenance and replacement responsibilities of the geothermal wells.

Ballfield Relocations, Removals, Upgrades and Restorations

- Backstops and home plates are to be replaced on Softball Field Number 2. The size and specification are to be approved by the Park Manager.
- Player protection fencing and benches are to be provided at Softball Field Number 2 per specifications approved by the Park Manager.
- The infield skin will be restored at Softball Field Number 2.
- Sufficient time (i.e., one full growing season) must be provided for knitting in new turf and infield restoration before field is re-opened for permitted public use.
- Soccer Field to be restored per Department of Park's specifications.
- Grading for fields must be a 1% slope for positive drainage.
- MCPS will determine and specify whether the fields will restored as seeded grass or sod.

Stormwater Management and Sidewalk Maintenance

- All stormwater facilities, both above ground and below ground, located on park property will be responsibility of MCPS for periodic maintenance, inspection and life cycle replacement.
- Sidewalks north of the school building located on park property leading to and from the playground will be responsibility of MCPS for periodic maintenance, inspection and life cycle replacement.

Park Maintenance Access

- MCPS will provide a permanent and secured maintenance access to the park from the school parking lot. The Department of Park's requests two removable bollards at the beginning of the park maintenance access north of the sidewalk. The sidewalk parallel to the maintenance access should be reinforced due to heavy park maintenance vehicles. MCPS will provide detailed design, signage and striping plan for Parks approval. The entrance including striping detail shall be shown on the Park Construction Permit plans.

Trees Planting and Aftercare Requirements

- Trees must be installed per the Department of Park's Plant Installation Specifications and Details which include an inspection pre planting of plant materials by Parks Horticulturist.
- Trees must include a one year warranty and be provided with aftercare during the growing season. Aftercare must include watering for 26 weeks during the growing season. Each tree shall receive 30 gallons of water per week (based on the 10 gallons per caliper inch formula).
- Upon one-year warranty inspection, trees shall be de-staked and dead and unacceptable plant material replaced for acceptance.

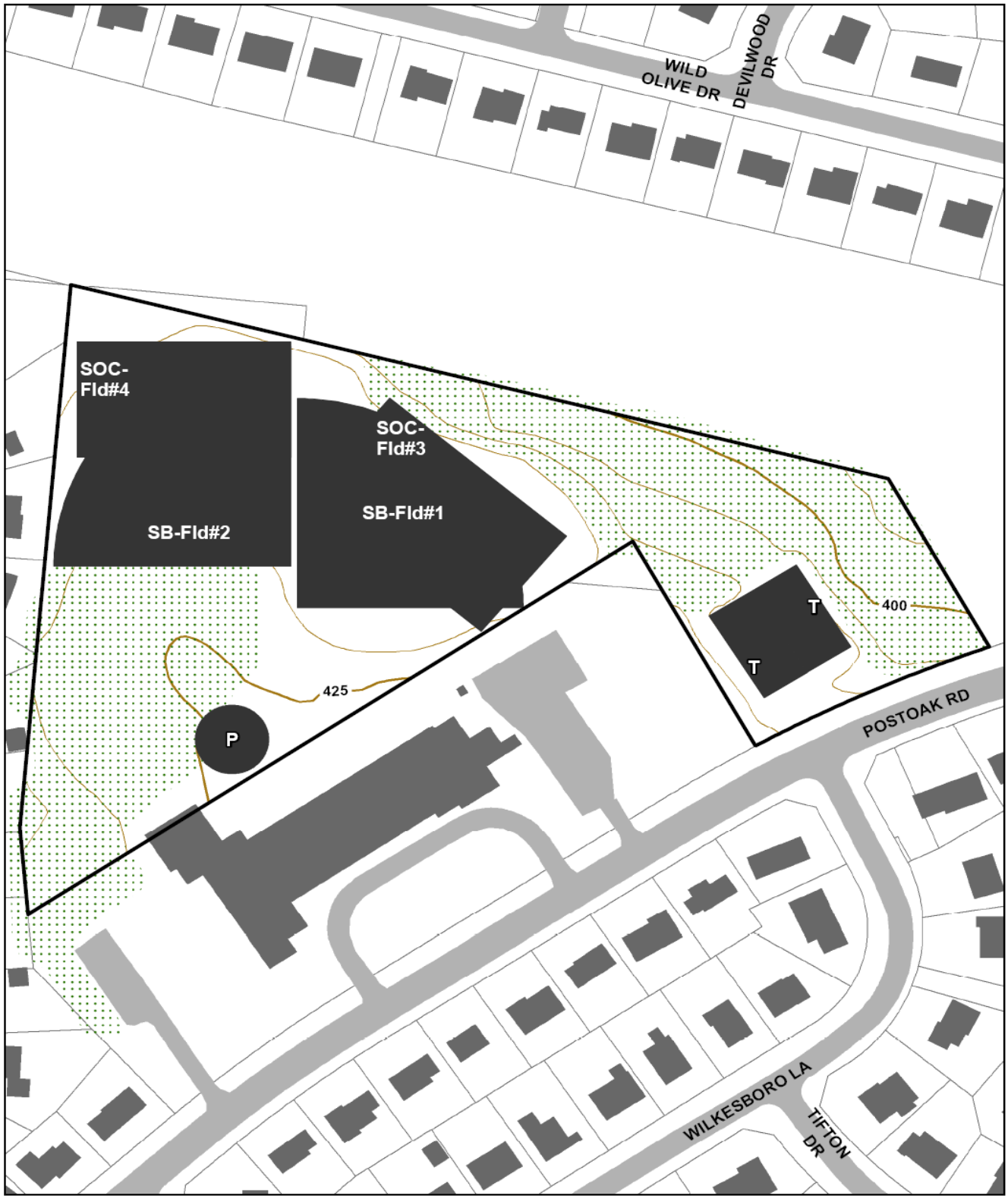
This concludes the Mandatory Referral review comments on this project.

cc. Mary Bradford, Director, M-NCPPC Department of Parks, Montgomery County
Mike Riley, Deputy Director of Administration, M-NCPPC Department of Parks, Montgomery County
Gene Giddens, Acting Deputy Director for Operations, M-NCPPC Department of Parks, Montgomery County
Brain Woodward, Chief, Southern Parks
John Nissel, Chief, Facilities Management
Kate Stookey, Chief, Park Affairs and Community Partnerships
Mitra Pedoeem, Chief, Park Development
Michael Ma, Supervisor Construction Section, Park Development
Darren Manley, Chief, Park Police
Jeff Delvin, Park Manager, Cabin John Regional Park
Holly Thomas, Horticulture, Forestry and Environmental Education

ATTACHMENT A

Beverly Farms LP

8505 Post Oak Road, Potomac, MD 20854



M-NCPPC

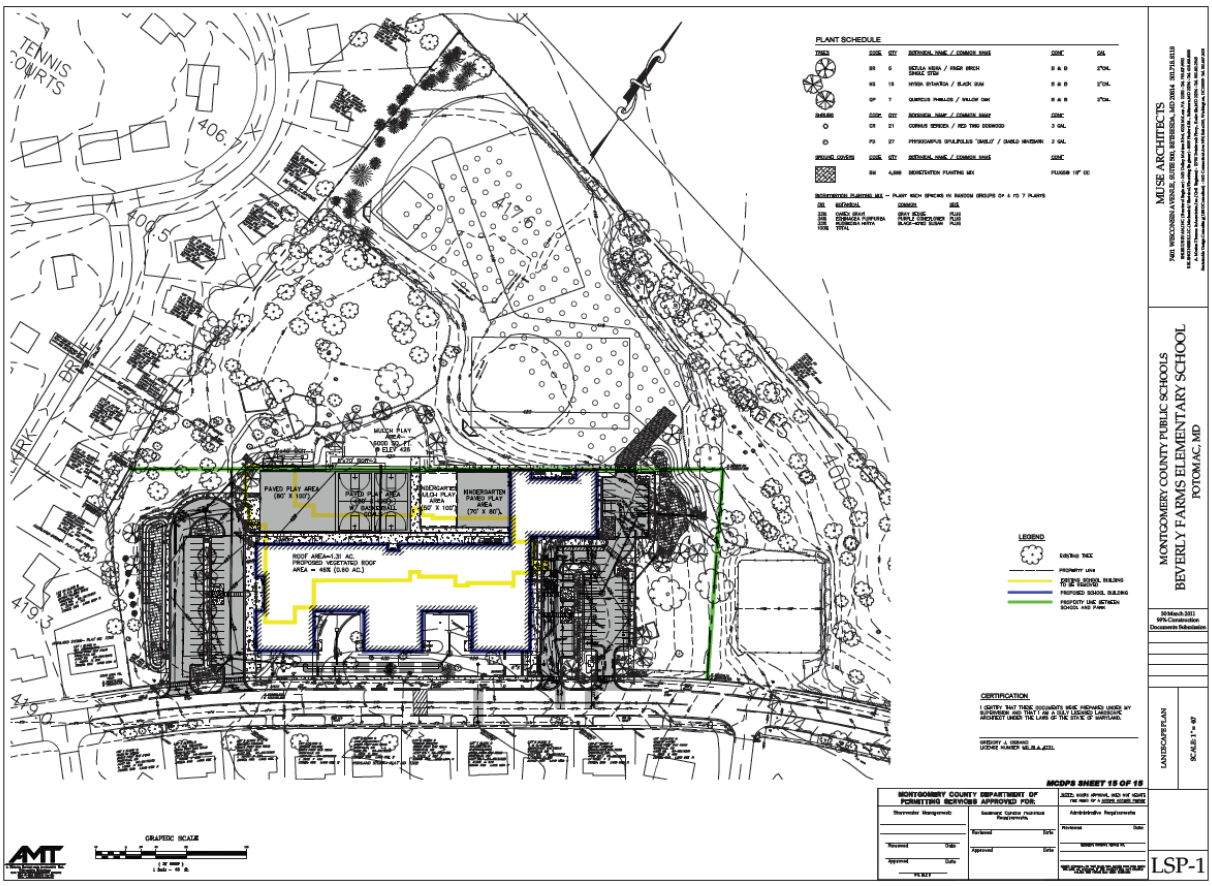
Acreage 8.485 Region S

Facility Code D08 Area CJ Date 06-28-2007

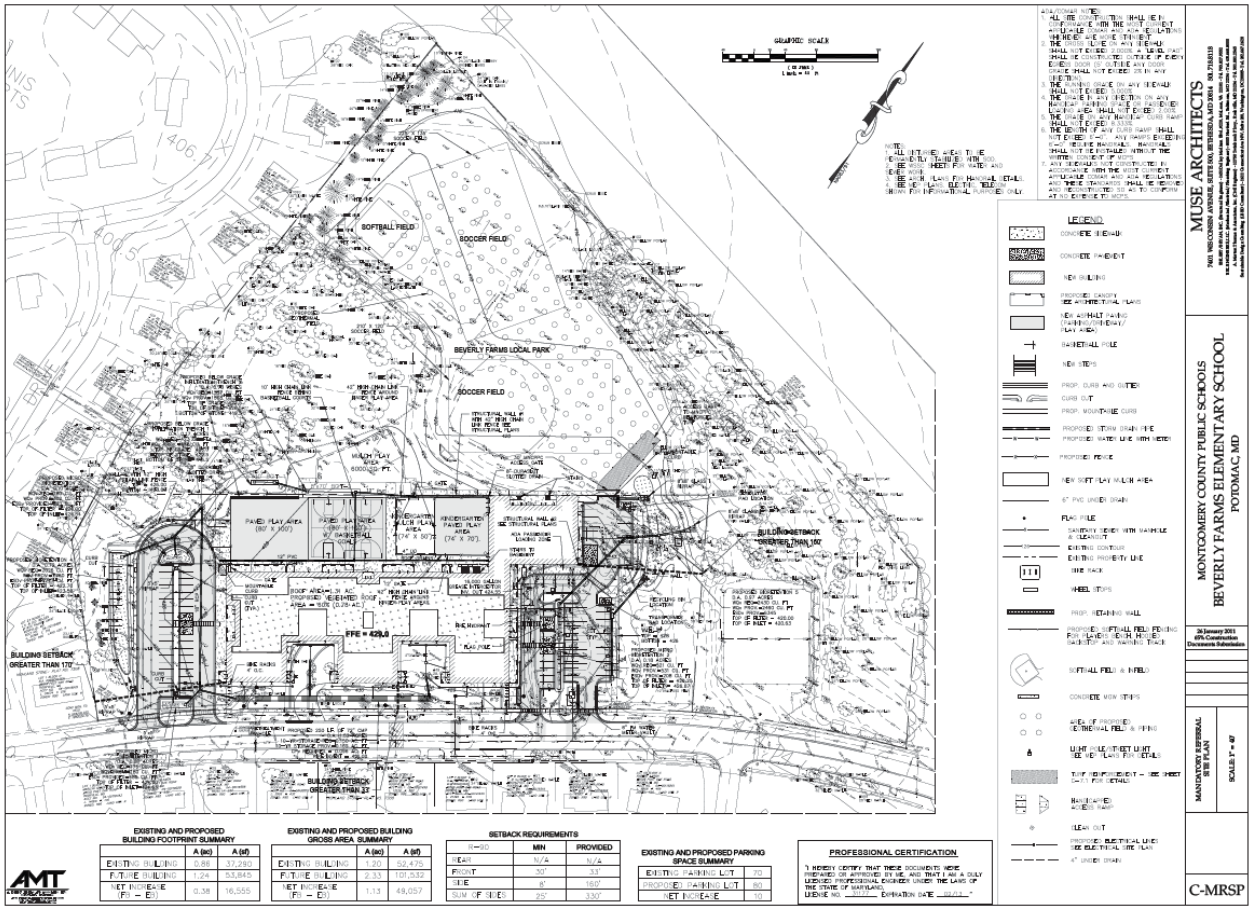
N

1" = 150'

ATTACHMENT B



Attachment C



DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Carla Reid
Director

March 22, 2011

Josh Poulin
A. Morton Thomas & Associates, Inc.
12750 Twinbrook Parkway
Rockville, MD 20852

Re: Stormwater Management ***CONCEPT*** Request
for Beverly Farms Elementary School
Preliminary Plan #: NA
SM File #: 239108
Tract Size/Zone: 13.46 acres/R-90
Total Concept Area: 4.35 acres
Lots/Block: NA
Parcel(s): P212/P156/P113
Watershed: Cabin John

Dear Mr. Poulin:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above mentioned site is **acceptable**. The stormwater management concept consists of Environmental Site Design in accordance with the latest revisions to the MDE Storm Water Design manual.

The following **item** will need to be addressed **during** the detailed sediment control/stormwater management plan stage:

1. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.

2. A detailed review of the stormwater management computations will occur at the time of detailed plan review.

3. An engineered sediment control plan must be submitted for this development.

4. All filtration media for manufactured best management practices, whether for new development or redevelopment, must consist of MDE approved material.

5. Apply four inches of topsoil to the ballfield area that drains to Study Point #3 to promote better infiltration. That will satisfy Storm Water requirements for this area.

6. Specific sediment control measures will need to be designed for the Geothermal Well installation. The contractor installing the wells should be able to provide this information.

This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 is not required.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact William Campbell at 240-777-6345.

Sincerely,

Richard R. Brush, Manager
Water Resources Section
Division of Land Development Services

RRB:tla

cc: C. Conlon
M. Pfefferle
SM File # 293108

QN -onsite; Acres: 4.35
QL - onsite; Acres: 4.35
Recharge is provided