

MASTER PLAN STUDY
FOR THE
BEL AIR SCHOOLS CAMPUS

Harford County Public Schools

Bel Air, Maryland

August 2009

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Project No. 2081110.00

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1.0 INTRODUCTION

Property Description

The Bel Air Schools Campus is located south of downtown Bel Air. It is currently a three school complex with an integrated campus including the new Bel Air High School, Bel Air Middle School and Homestead/Wakefield Elementary Schools.

| Tax Map | Parcel | Deed Ref. | Owner | Plat | Zoning | Acreage |
|----------------|---------------|--------------------|--------------------------------------|-------------|----------------|----------------|
| 301 | 1268 | 303/176 338/593 | Board of Education of Harford County | 126/31 | R3 | 31.1 |
| 49 | 132 | 478/392 | Board of Education of Harford County | None | R3 | 49.5 |
| 49 | 224 | 459/238 | Board of Education of Harford County | 100/82 | R3 | 11.5 |
| 49 | ROW | 1175/70 | Board of Education of Harford County | 47/01 | R2 (County) | 0.04 |

The total acreage for the campus is 92.14 acres.

The surrounding land use is a mix of commercial/residential to the east, intense commercial facing US Route 1 to the north, high density residential (townhouses) to the west and single family residential to the south. The corresponding zoning is B1 (limited Business) & R2 (Medium Density Residential) to the east. This area contains an overlay zone called the ‘Gateway Zone’ which controls the scale and appearance of the development. To the north is B3 (General Business) which is the highest intensity for commercial zoning. The Route 1 overlay zone controls the appearance, signage, and landscape in this area. A apartment development called Wakefield Manor is located to the west and is zoned R3 (high Density Residential). The Town of Bel Air limit corresponds with the property line to the south and R2 (Urban Residential) zoning is found there (Wakefield Meadows).

Beyond the properties immediately adjacent to the campus is Maryland Route 924 (South Main Street) to the east and US Route 1 (Baltimore Pike) to the north. These are the main feeder roads to the site. Atwood Road is located to the west and offers a potential connection to areas west and south.

Bel Air High School

The High School is located at 100 Heighe Street and has recently been replaced by a three-story brick building this year with a capacity of 1668 students. The main entrance to the new High School is located on the east side closest to Kenmore Avenue where parents drop off students and visitors/students/staff park. The buses deliver in the rear of the building through a separate access to Kenmore. A separate entrance for



Bel Air High School

service only accesses Bel Air Road (US Route 1). The service uses are located on the north side of the building. A previous access from Homestead Street has been closed as part of the improvements to the High School. The total number of parking spaces is 425 with an additional 90 spaces striped within the bus parking area and access road for special events.

Pedestrian traffic originates from downtown Bel Air and various parking opportunities which students use in the surrounding neighborhood. There are two main off-campus parking areas; one is located at the Bel Air United Methodist Church to the east and the other is parallel parking along cross campus drive (the frontage road between the middle and elementary schools). There are also pedestrian linkages from the building to the athletic fields, between facilities and to the surrounding neighborhood.

Athletic facilities are sited to the south of the high school and include six tennis courts, two basketball courts, two baseball fields, two softball fields, two soccer/lacrosse fields, one additional field and track located in the old stadium complex and an artificial turf field for football/soccer in the middle of the complex. Some of the fields are for practice use and are shared between fall and spring sports.

Bel Air Middle School

The Middle School is located at 99 Idlewild Street in the middle of the campus and faces the western end Idlewild. The building is one-story brick built in 1961. Most traffic will use this street and the MacPhail entrance to the south via the cross campus connector. Buses deliver pupils to the main entrance with parents dropping off in the parking lot to the north. Service is located on the north side of the building adjacent to the athletic fields. Bel Air Middle School has a capacity of 1318 students with 184 parking spaces for visitors and staff. Overflow parking areas include parallel parking on the cross campus connector and grass areas to the south.



Bel Air Middle School.

Pedestrian traffic is similar to Bel Air High School except it consists of local walkers with most of the students using bus transportation or parent drop-off. It is anticipated that the Middle School will use some of the high school fields, a multi-purpose field and small baseball field to the west and possibly other fields to the south.

Homestead/Wakefield Elementary School

The Homestead / Wakefield Elementary Schools are located at the southern end of the campus. Homestead Elementary School is addressed at 900 South Main Street and is a single-story brick building. Wakefield Elementary

School is also identified by the same address and is also a single-story brick building with a smaller building which houses the kindergarten classrooms.

Both schools combined have a state-rated capacity of 907 students. One relocatable classroom is located on the north side of the main Homestead Elementary School building and six others are located on the west side of the Wakefield Elementary School main building.



Wakefield Elementary School.



Homestead Elementary School.

The Homestead Elementary School building is closest to the Bel Air Middle School. Students are dropped off by parents and buses in a looped access drive on the north side of the building. There are various other ingress/egress points around the building including service on the east side. There are 49 marked spaces with additional parking along the existing access road from cross campus drive and loop in front of the building.

Wakefield Elementary School is primarily accessed on the east side of the building where parents and buses drop off students via a looped driveway. The parking lot has recently been improved to accommodate 78 spaces. There are other ingress/egress points around the building including the service access on the north side.

Both elementary schools are accessed from Maryland Route 924 at the MacPhail Road intersection. This is considered the main access point with a 27 foot paved driveway from Route 924 opposite East MacPhail Road. Another access point is also from Route 924 at Idlewild Street. This entrance (a 39-foot paved public right-of-way) is shared with the Bel Air Middle School. Connecting these entrances is a 27 foot wide paved drive that runs north and south between the Middle School and the Elementary Schools. As a result of the construction of the new Bel Air High School and its athletic fields, the vehicle circulation no longer continues to the connect with Kenmore Avenue.

Pedestrian traffic originates from homes located in close proximity to campus with sidewalks leading to the kindergarten building and play areas as well as between Homestead Elementary School and Wakefield Elementary School. One playground, hard surface play area, and one small baseball / multi-purpose play field are located behind and adjacent to both schools.

Zoning Requirements

The campus is located in the Town of Bel Air and is zoned R-3 (High Density Residential). The bulk requirements for a school use within this district are as follows:

- Minimum Lot Area 15,000 square feet
- Minimum Lot Width 100 feet
- Front Yard Setback 30 feet
- Side Yard Setback 20 feet
- Rear Yard Setback 40 feet
- Maximum Height 40 feet

A Special Exception is required for a school use within the R3 district. This applies to changes to existing uses or new schools. Development must adhere to performance standards outlined in Section 8.04 B 3 (Institutional Uses) of the Town of Bel Air Zoning Code. These requirements include the following:

1. The subject property shall have frontage on and direct vehicular access to an existing street with sufficient capacity to accommodate any traffic generated by the proposed use.
2. All trash and refuse should be stored in a self-enclosed storage area.
3. The site should be of sufficient size to accommodate the use without adversely affecting adjacent land uses.
4. The location of the subject property shall be suitable for the type and scope of the development proposed, taking into account such factors as the existing urbanization of the neighborhood, traffic, the character of surrounding properties and the neighborhood in general.
5. A Lighting Plan shall be submitted to the Director of Public Works for review and approval. When adjacent to an 'R' district, lights shall be shielded to minimize glare on any adjoining residential uses.
6. Proposed development adjoining historic structures or sites shall be compatible in color, size, material, and mass with said historic properties.
7. The proposed development shall be designed to provide a transition near the periphery of the site, either with open space areas and landscaping, or by designing the buildings near the periphery to be harmonious in density and type with the surrounding neighborhood.
8. The applicant should provide a written explanation of the character of the facility, the program's policies, goals and means to accomplish these goals, characteristics of the service population, number of residents served, operating methods and procedures,

and any other aspects pertinent to the facility's program and how the facility will serve the neighborhood.

9. The reviewing agency/body may require a parking impact study if deemed necessary to assure the adequacy of the proposed number of parking spaces.

In addition, a school use must adhere to requirements outlined in Section 8.04 B 3 (xv) (Schools, College's and Universities). These requirements are outlined below.

1. If the school offers general academic instruction below the college level, an outdoor play area shall be required which shall meet minimum state requirements for such outdoor play area. The area shall be located at least twenty-five feet from any adjoining lot.
2. The Board of Appeals may specify the maximum number of students to be enrolled.

The development process in the Town of Bel Air for a Special Exception use first requires a Concept Meeting. At this meeting, a sketch plan is reviewed by representatives of various Town agencies and informal comments are given regarding the design. Following this meeting a formal submission of a Site Plan, Architectural Elevations, Sign Elevations and a Landscape/Lighting Plan to the Board of Appeals is made for review of the proposed use. The Board of Appeals will review the Site Plan and grant approval with conditions (if any) for the use. Following approval by the Board, the Planning Commission will review the materials for approval of the Site and Landscape/Lighting Plans. This process should take approximately three to four months.

Town of Bel Air Comprehensive Master Plan

The Bel Air Comprehensive Plan adopted in 2009 shows the campus as High Density Residential and describes the vision for further growth in the area as apartments and condominiums as well as community service and institutional uses. The Town recognizes the need for schools in their Community Facilities Element and pronounces several goals to ensure quality education.

'Provide quality education for all students in Bel Air through a strong, diverse, public and private school system'

'Maximize use of school facilities to leverage opportunities to partner with libraries, museums, theaters, arts centers and recreational facilities'

The Transportation Element describes the desire to see MacPhail Road extended from Route 924 to Route 24 to provide a bypass and relieve the east/west traffic on US Route 1. This extension is shown on the transportation plan as planned improvement #4 (Possible Extension of MacPhail Road). The connection of MacPhail is also described in the Implementation Summary of the Comprehensive Plan.

In addition, the Town has indicated a perceived need in their Planned Bicycle and Pedestrian Projects plan to extend a trail along the same route as the planned MacPhail Road. This trail is designed to connect walking paths east and west of the campus and would be a positive addition to the pedestrian network on the grounds.

As described in our environmental section, the Bel Air Comprehensive Plan has identified several tree stands in their Sensitive Areas plan which requires protection if possible, especially if several factors are present in the same area such as erodible soils, steep slopes, specimen trees, wetlands and floodplain.

2.0 ENVIRONMENTAL CONSIDERATIONS

Soils

The project area is underlain with the Aldino silt loam (AdB), Aldino very stony silt loam (AsB), Chester silt loam (CcB2, CcC2), Neshaminy silt loam (NeB2), and the Watchung silt loam (WaA) soil types. According to the National Technical Committee on Hydric Soils (NTCHS), the Watchung silt loam is known as a hydric soil, and the Aldino soil types are listed as potentially containing small inclusions of soils noted as hydric in depressions, low areas, drainage ways and seepage areas. In addition, the AdB mapping unit is listed as being potentially erodible due to a combination of high K value and moderate slopes. Specific soil engineering constraints should be evaluated prior to construction by conducting a geotechnical investigation.

Topography / Wetlands / Vegetation

The topography of the project area varies from relatively flat areas in the sports-fields and playgrounds to steeply sloped forested areas. The elevations within the project area range from 317 to 378 feet above sea level. High-points occur at the eastern property line near East MacPhail Road and at the southern-most property corner adjacent to the Wakefield Meadows subdivision. The site is currently sports fields, open grass areas, parking lots, existing school buildings and forested areas. The forested areas contain the majority of the steep slopes found on-site.

This school site was investigated for the presence of nontidal wetlands and waters of the United States. There is an intermittent stream/ ephemeral channel at the northern most corner of the project area carrying storm flow from the adjacent properties to the on-site stormdrain system. This system is then discharged into an existing on-site perennial stream along the western project boundary, which then connects off-site to the main branch of Plumtree Run. In addition, an ephemeral channel carries storm-flow from the area surrounding the basketball court behind Homestead Elementary to the onsite perennial stream.

According to FEMA FIRM map 24025C0163D, there is no 100-year floodplain within the project area. However, on FEMA FIRM 24025C0164D, there is an area of 'Zone A' 100-year floodplain on-site. The floodplain area is located along the stream in the northeastern corner of the project area.



Steep Slopes.

Frederick Ward Associates has inspected the property for specimen trees and forested areas. The school site contains 65 State specimen (>30" diameter at breast height (DBH)) trees, an additional 158 Town trees (individual trees over 10" DBH) and 7.03 ac± of forested area. There are five areas of forest on-site, please see the Site Analysis for forest locations.

Forest Area 1 contains mature trees with the majority of trees having a DBH of 24" or greater. The canopy species found in this forested area include Tulip Poplar, Northern Red Oak, Black Oak, White Oak, American Beech, Hickory spp., Green Ash, Red Maple, and Black Locust. There is an open understory containing seedlings of the above mentioned canopy species, Virginia Creeper, Poison Ivy, Honeysuckle, Multiflora Rose and Christmas Fern.

Forest Area 2 is similar to Area 1, but canopy species White Oak, American Beech, Red Maple, Hickory spp. and Green Ash. The understory consists mainly of grass due to the high amount of foot traffic this area receives as it is adjacent to multiple playground areas.

Forest Area 3 contains smaller diameter trees and has a thick, overgrown understory. Canopy species include Green Ash, Red Maple, Tulip Poplar, Black Walnut, Black Locust, and Black Cherry. The understory includes Greenbrier, Wild Grape, Multiflora Rose, and Honeysuckle.



Specimen Trees.

Forest Area 4 contains both large and small diameter trees with areas of moderately thick understory. American Beech, Tulip Poplar, and Red Maple dominate the canopy species, with additional species including Black Locust, Black Cherry, Musclewood, and Black Walnut. The understory is comprised of Poison Ivy, Wild Grape, Multiflora Rose, May Apple, Arrowwood, Spicebush, and Jack-in-the-Pulpit.

Forest Area 5 contains a large amount of mature trees with diameters of 20" or greater and the understory contains several worn trails. American Beech and Tulip Poplar dominate the canopy species, with additional species including American Elm, Hickory spp., Flowering Dogwood, Black Cherry and Red Maple. The understory contains Multiflora Rose, Poison Ivy, Arrowwood, Staghorn Sumac, and Wild Grape.

Significant landscaping has taken place within the proposed project area and throughout the property. Trees found in these landscaped areas included Red Maple, Pin Oak, Ornamental Cherry, Flowering Dogwood, White Pine, Tulip Poplar, White Oak and Red Oak. See the accompanying Site Analysis for detailed size/species and location information.

Rare, Threatened or Endangered Species

Frederick Ward Associates has contacted the Maryland Department of Natural Resources Natural Heritage Program and the U.S. Fish & Wildlife Service for information regarding the existence of any rare, threatened or endangered species for the subject property and nearby vicinity. The Maryland Natural Heritage Program responded on July 21, 2008, "there are no State or

Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated.” Based on this information along with several field visits and site investigations conducted by Frederick Ward Associates, we are of the opinion that no State or Federally listed plants or animals present.

Landscape and Forest Issues

A ten-foot landscape strip is required between parking areas and road right-of-way. This strip must contain an average of one shade tree and ten shrubs every forty feet. This requirement can vary depending on grade difference, berming, fences and existing vegetation. The same requirement is applied to perimeter buffering between more intensive and less intensive land uses. In this case, buffering existing residential areas will be required. All service areas must be screened by a buffer strip of at least five feet in width. Eight percent of the interior of all parking areas must be landscaped. Shade trees are preferred in these areas when dealing with large expanses of asphalt.

New development in environmentally sensitive areas (properties which contain wetlands or floodplain, are near a stream or have large wooded areas) in the Town of Bel Air will be required to prepare an Environmental Impact Assessment Report. This report should address identification, protection, impact mitigation, and enhancement of environmental resources of the project site. Given the scale of the potential development, a report will be required as part of the Site Plan submission.

The project is subject to the requirements of the Town of Bel Air Forest Conservation Ordinance (529). According to Article VII, Section I-701, this project has an afforestation threshold of 15%, which requires 9.15 acres of forest. This project will need to provide 2.12 acres of afforestation. In addition, there will be some forest and specimen trees removed as part of this overall project. The amount of clearing varies from 2.5 to 4 acres depending on the development option; this means a possibility of 7 to 10 acres of forest planting with the construction of the two schools.

3.0 ENGINEERING CONSIDERATIONS

Utilities

Water services for both schools are provided by the Maryland American Water Company. There is an existing 16 inch water main in South Main Street that is owned by Harford County as well as a 4 inch water main that extends west from the MacPhail/Rt. 942 intersection east of MacPhail Road that provides water services to the Bel Air Senior Center. There are interconnections at the common property line between the Town of Bel Air and Harford County to provide back-up service between the two providers. An 8 inch water main extends west from the Route 924/MacPhail Road intersection that is the

Maryland American Water Company owned line that provides water and fire service to the Bel Air Schools. Two fire hydrants are located near Wakefield Elementary School as well as two fire hydrants are located on the southeast and southwest sides of Homestead Elementary School.

Sanitary sewer service is provided via an existing 8" terracotta sewer main that runs in an existing 50 foot sanitary sewer easement between Bel Air Middle School and Homestead Elementary School. Adjacent to this sanitary sewer easement, there is an existing 30-inch to 36-inch RCP storm drain that picks up the wetlands along the north property line and discharges at the southern wetland area. The existing on-site storm drain system, inlets, manholes, etc. connect to this existing main storm drainage system.

There are existing overhead electric lines, utility poles and gas main located on-site. Dependent upon the various layouts options, existing utilities may need to be relocated or upgraded.



Utilities.

Storm Water Management



Storm Drainage.

Storm Water management was not required when the schools were built. Facility expansions and upgrades have not been comprehensive enough to require quantity management. Because of new regulations adopted by the State of Maryland in 2009 they will be in effect for any development without permits prior to May 4, 2010, any major renovations will require quantity and quality management which will need to meet these new regulations.

Storm water management (SWM) will be provided on site to comply with the "Storm Water Management Ct Of 2007" (Act), which establishes a new procedure for SWM approval within the State of Maryland and all of its jurisdictions. The Act is in the process of development and Codes are being drafted by the Town and County for implementation in 2010. Its ramifications at this time are not fully known. However, given the guidelines set forth in the new "MDE Design Manual Supplement" accompanying the Act, SWM will be provided to mirror natural hydrology to the maximum extent practicable.

Necessary components of the SWM design will include the following:

- Water quality control (WQV) to minimize pollutants in SWM runoff. This will require treatment for all new impervious surfaces and 50% of all existing impervious surfaces within the limits of the project.
- Groundwater recharge volume to closely match natural hydrologic conditions
- Channel Protection volume storage to protect downstream channel degradation and erosion
- Potentially manage ten year peak discharge to pre-developed conditions. This criteria is not required by the State but may be required by the local review authority.
- Provide safe conveyance of the 100 year storm water runoff

Two possible quantitative/qualitative SWM facilities are proposed in option three: one near the loading area/service entrance of the John Archer School, and one near the parking area south of the John Archer School. As final design progresses, the type and quantity of SWM facilities will be determined. In addition, bio-swales, micro bio-retention areas and green roof areas are proposed to mitigate pollutants close to the origin of its flow path. Median areas will be depressed within parking lots where feasible to collect and filter runoff. Bio-retention areas near the HWES Day Care area and within the Archer drop off circle are viable and should be pursued.

An existing storm drain system runs through the center of the site and will require relocation or maintenance and repair. It is essential that this system be televised for maintenance issues to determine whether it is viable to remain in place, and analyzed for adequate capacity. This system is located between the Bel Air Middle School and the new John Archer School. The system runs within a 50 foot wide drainage and utility easement.



0 200 FEET

FWA
FREDERICK WARD ASSOCIATES

HARFORD COUNTY PUBLIC SCHOOLS
HARFORD COUNTY, MARYLAND

PHOTOGRAPHY | PLANNING | DESIGN | CONSTRUCTION | PROJECT MANAGEMENT | LANDSCAPE ARCHITECTURE

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January 22, 2025



Aerial Photo



Site Analysis

FREderick WARD ASSOCIATES

HARFORD COUNTY PUBLIC SCHOOLS
HARFORD COUNTY, MARYLAND

ARCHITECTS | CIVIL ENGINEERS | PLANNERS | SURVEYORS

PROJECT: 2013 BEL AIR MIDDLE SCHOOL
151.00 HARFORD COUNTY, MD
DATE: 07/31/2016

July 31, 2016

Site Analysis

4.0 PROPOSED DEVELOPMENT

Frederick Ward Associates, Inc. was tasked with the assignment to review the overall Bel Air Schools Campus in the context of the scope studies for Homestead/Wakefield Elementary School and John Archer School addition to the Bel Air Middle School. This effort is centered on creating a cohesive and harmonious campus for all the Bel Air schools where circulation, access, parking, landscape, utilities, recreation and environmental considerations are balanced with the need to provide an attractive and stimulating educational setting.

The Master Plan proposes three options for the future development of the site. These options have combined two separate studies for the John Archer School and the Homestead/Wakefield School. These two scope studies have established program requirements including access needs, parking needs, and recreation requests for their facilities. Many of these program elements are universal to all three options for development. These are listed below:

Facilities and Utilities

- The existing overhead electric line, water lines, storm drain and sewer line running through the property should be respected, but due to the need for programmed space, may be re-aligned around proposed buildings.
- The new 6 inch sanitary sewer line running from the High School athletic complex to the existing sewer line should be avoided if possible.
- Storm Water Management can be located at the low point where there is a ready outfall into the existing wetland system. There is an area adjacent to the existing wetlands available for environmental education projects.



Trails.



Connections.

- Plantings by high school students have been moved to a field northeast of the Middle School and may be utilized for reforestation and education.
- Pedestrian access throughout the campus is given a priority over vehicle traffic.
- The existing kindergarten building adjacent to Wakefield should be removed.

- Sustainable storm water techniques such as green roofs, permeable paving, bio-swales, and bioretention rain garden areas should be incorporated into all designs for both sustainability and educational purposes.
- The parking and buildings will be buffered to the residential areas.
- Area for needed reforestation is provided along the east boundary of the campus. Approximately 2.7 acres are provided for potential planting. Additional required planting can be done along the perimeter where buffers are required and as part of the landscape installation.

Access and Parking

The master plan assumes the need for three access points, the two from Route 924 via Idlewild and MacPhail intersection and one from Atwood/MacPhail.



Idlewild Access.



MacPhail at Rt. 924 Access.

- Access to the Atwood/MacPhail intersection is a high priority due to the severe strain already on the existing intersections and the need to avoid traffic through residential areas. This access also is an integral need for the student population of John Archer to provide easy access to the medical center along Route 24.
- MacPhail and Idlewild access drives will need to be widened as necessary to accommodate the anticipated amount of traffic, the intersection radius should be extended to make easy accommodation for bus and service traffic and sidewalks should be provided for pedestrian linkages to local neighborhoods.
- Service areas must have easy truck access and separation from children and other vehicle traffic if possible.
- Bus parking, staff parking and parent drop-off should separate if possible.
- A 1.5 mile walking/jogging path connects the entire campus between the high school, middle school and elementary schools.
- The entire campus will be made accessible in accordance with the Americans with Disabilities Act (ADA).
- Middle School parking and bus drop-off should be addressed as part of the retrofit of the John Archer facility.
- The visitor/faculty parking areas should be located in a visible and well lit area for security and be convenient to the main entrance.

- The bus parking will allow for substantial queuing and be converted to car parking for athletic and other events.
- A permeable surface area will be provided along the cross campus drive to accommodate 75 overflow parking spaces for special events.
- The existing dirt paths and trails should be eliminated or converted to an accessible surface and integrated into the overall trail system.
- Shade trees will be chosen that will assist in shading parking lot areas for reduction of the heat island effect.

Athletic Fields and Playgrounds

The current athletic fields and recreation areas are not built to regulated size requirements and are difficult to access. Playgrounds should be age appropriate and have proper drainage and built to current safety requirements.

- All the athletic fields must be oriented north/south if possible and constructed to a minimum specification to allow for parks & recreation play and middle school play.
- The John Archer program requires separate play areas to be well secured, however close access to the ball fields and other recreational amenities is not a necessity.
- Each elementary school will have access to a ball field and multi-purpose field, two playgrounds and a hard surface play area. These will be separated from parking and access drives as much as possible.



Playground.



Athletic Fields.

- Each kindergarten will have separate access to a tot lot and the daycare will have its own outdoor play area.
- Athletic fields should be close to parking areas for parks and recreation use.
- No impact will be made to the existing wetland and stream areas and their buffers. Impacts to the steep slope areas and areas of specimen trees should be minimized.
- The proposed walking trail throughout the campus should contain markers and information related to fitness and other education opportunities.

Option Number One

The first option explored eliminates Homestead Elementary School and expands Wake field to the north. The John Archer School is combined with the Bel Air Middle School on the west side. The Homestead/Wakefield Elementary School is positioned for maximum solar gain with the main entrance designed to be the focal point down the entrance drive from Route 924. The north side of the middle school is revised as service is extended further west into the site.

This option provides maximum flexibility for multiple access points and vehicular circulation to all facilities. Access to the Atwood/MacPhail intersection is provided for the John Archer School. The possibility of a MacPhail connection from Route 924 to Route 24 is maintained, however, this connection would most likely be at the cost of two athletic fields. In addition, a link through the parking lots and drives to provide emergency or service connection is also possible.

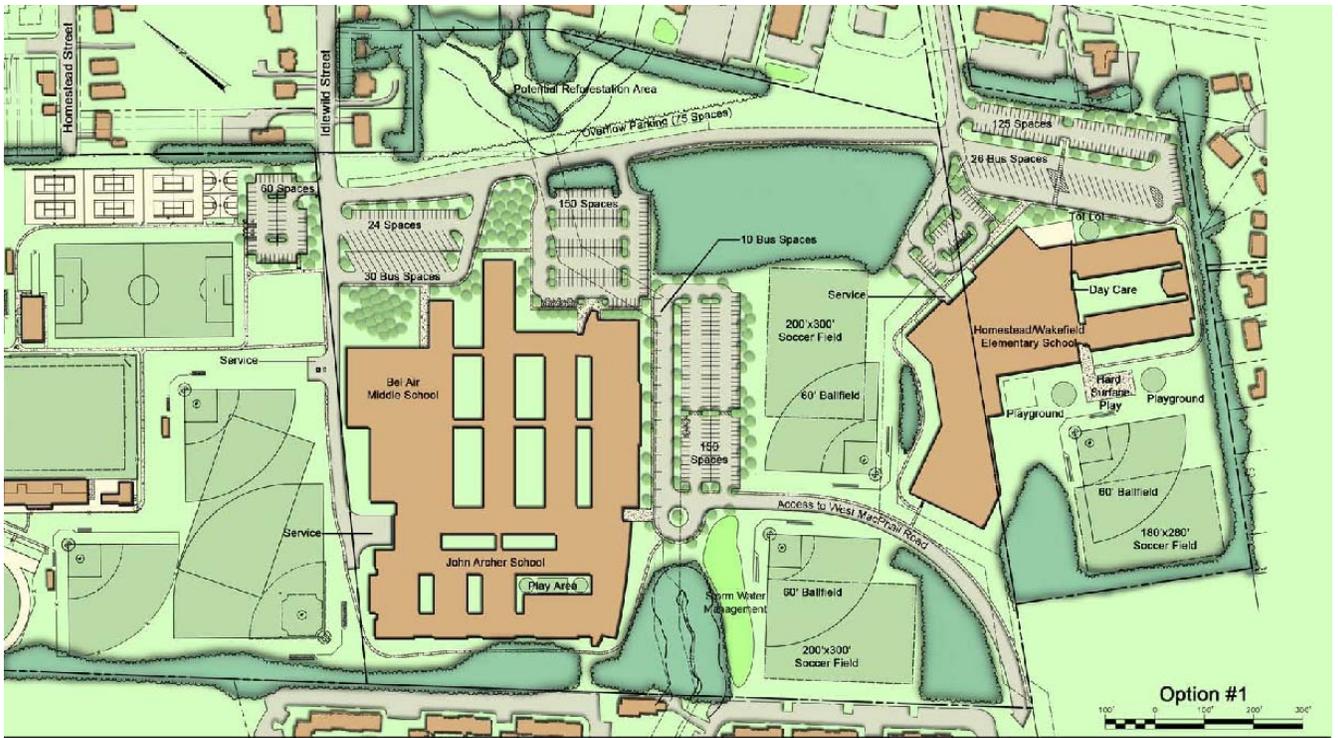
Parking is provided for Homestead/Wakefield on the other side of the bus drop-off requiring a crossing of the bus parking area. This parking is low compared to the desired number but cannot be acquired across the access road. The middle school and John Archer parking areas are in close proximity and may be able to share during special events.

- Homestead/Wakefield pkg 125 spaces 26 bus spaces
- John Archer parking 150 spaces 10 bus spaces
- Bel Air Middle School 234 spaces 30 bus spaces

This option requires the most grading due to the expansion of the Wakefield school to the north and into the severe slope area. This building will be two stories to ease the transition down the slope but the layout still requires a great deal of earthwork.

Only one storm water management area is provided to handle the runoff from the proposed improvements and this is located in the lowest point of the site. The steep slope area adjacent to Wakefield is impacted by the athletic fields and the entrance drop-off area for Wakefield. The sanitary sewer and storm drain must be relocated to accommodate the John Archer expansion. A new 6-inch sanitary sewer also needs to be relocated around the expansion area. Along the elementary school, the water line and overhead electric must be relocated to accommodate the combining Homestead/Wakefield programs.

Six athletic fields are provided with most being readily accessible from parking areas. Pedestrian connectivity is considered with paths linking all facilities, parking areas and surrounding access routes.



Option One Plan

Option Number Two

The second option proposes to renovate Homestead and Wakefield Elementary Schools in place. The John Archer School would combine with the Bel Air Middle School on the east and south side of the existing building. A portion of the middle school would need to be renovated to allow for a reorientation of the main entrance to the southwest corner of the building.

There is no access to the Atwood/MacPhail intersection to the west in this option because of the location of John Archer School on the east side of Bel Air Middle School. All traffic would need to access Route 924 via Idlewild or MacPhail. This will require major upgrades to these intersections and expansions to the entrance drives to accommodate the increase in traffic. The 'T' intersection near Wakefield will be replaced with a more direct curve to make traffic flow better.

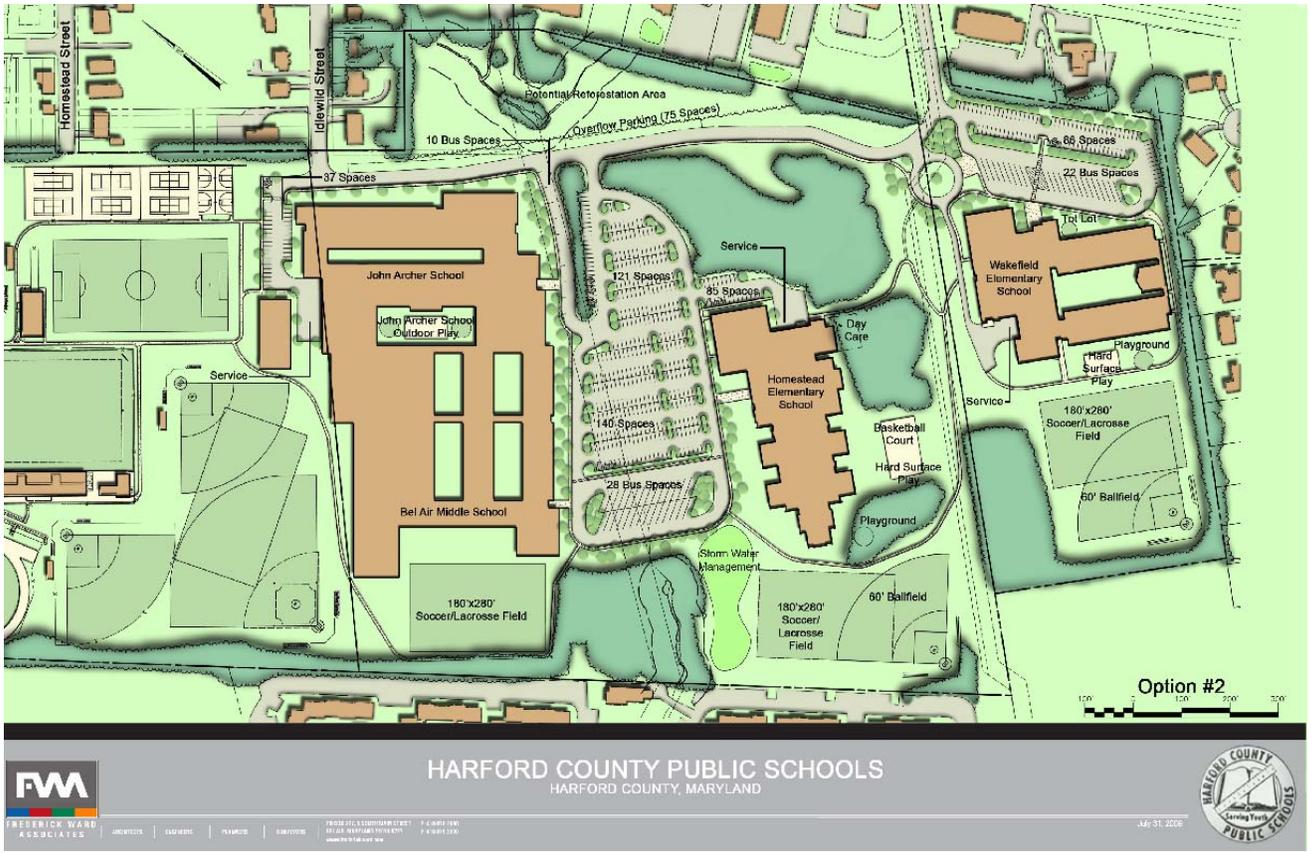
No existing utilities will need to be relocated with the possible exception of the new 6-inch sanitary sewer line running behind the existing middle school.

Many facilities are redundant between Homestead and Wakefield buildings in this option including programmed interior space, bus drop-off, service area, some staff/visitor parking, hard surface play area, and tot lot for the kindergarten. However, the site development costs would most likely be low due to the minimal grading and changes to the parking/access.

Much of the vehicular traffic is brought interior to the campus instead of leaving it on the periphery. All three entrances for John Archer, Bel Air Middle and Homestead would be oriented to the same parking lot. This will allow for parking sharing during times of high use and allow for sharing of the bus drop-off area between Homestead and Bel Air. Unfortunately, all the parking located in the same area prevents maximizing of the desired spaces and creates a 'shopping center' look to this area. This option requires impact to the new 60 space parking area on the northern side of the middle school and replaces it with a parked access to the service area.

- Wakefield parking 86 spaces 22 bus spaces
- Homestead parking 85 spaces 28 bus spaces (shared)
- John Archer parking 121 spaces 10 bus spaces
- Middle School parking 177 spaces 28 bus spaces (shared)

This option provides for the least amount of athletic fields and those provided are limited in size. Access is fair with the fields on the western side somewhat close to parking.



Option Two Plan
Formerly Option Three

Option Number Three

Option Number Three also proposes to demolish Homestead Elementary School and expand Wakefield to the east. The John Archer School is attached to the Bel Air Middle School on the south side. The combined Homestead/Wakefield Elementary School is situated so the main entrance becomes the focal point for those entering the site from the Route 924 and MacPhail intersection. The orientation of the building footprint is chosen for best solar orientation and also to minimize cut and fill on the site.

A connection to the Atwood/MacPhail intersection is a must with this option due to the limited opportunity to wind the road between the schools and provide a Route 924 access. However, the separation of the John Archer traffic is a positive because of its unique traffic requirements such as longer off-loading for buses, large itinerant staff and need for additional security in loading areas.

This option provides for easy expansion of parking and keeps most of the spaces to the perimeter of the campus. All desired parking requirements for each use are met in addition to bus drop-off needs. This is the only option which separates bus and parent drop-off areas and parking areas for every facility. The Homestead/Wakefield parking lot must respect the slope as it falls to the west. The parking will be terraced and the pedestrian path will adjust to not exceed the maximum allowable slope of five percent. Most parking areas are small and have ample landscape areas to provide water quality opportunities for storm water management. Bel Air Middle School receives a much needed bus drop-off area and locates the parking south of the main entrance. Clear pedestrian and vehicular circulation is provided for community connectivity including bike racks and signage.

- Homestead/Wakefield pkg 145 spaces 26 bus spaces
- John Archer parking 150 spaces 10 bus spaces
- Middle School parking 234 spaces 30 bus spaces

Storm water management is split into two areas since the John Archer School divides the campus into east and west zones. There are easy outfalls for both but limited room for expansion.

The existing sanitary sewer and storm drain running south of the middle school must be relocated. Day lighting as much of the stream as possible should be explored for storm water, environmental and cost considerations. The water line running north of Wakefield will most likely need to be relocated for a portion of the alignment. The overhead electric line will also need relocation.

The athletic fields are maximized with three baseball, two multi-purpose and one soccer/lacrosse field. A couple athletic fields have easy access to parking with the others at a fair distance with improved pedestrian paths.



Option #3



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HARFORD COUNTY PUBLIC SCHOOLS
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JUN 31, 2009

Option Three Plan
Formerly Option Two

5.0 MASTER PLAN COMMITTEE RECOMENDATION

After careful review of the impacts to the existing campus, the environmental issues associated with each option, the individual facility needs including parking, access for parents/students/staff and services, and the program needs for each school, the Master Plan team has determined that Option Three best satisfies the criteria described in this report.